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Monitoring of Harmful Interference to the HF Broadcasting Service: I. Results of the October 1984 and March/April 1985 Coordinated Monitoring Periods

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MONITORING OF HARMFUL INTERFERENCE TO THE HF BROADCASTING SERVICE: I. RESULTS OF THE OCTOBER 1984 AND MARCH/APRIL 1985 COORDINATED MONITORING PERIODS

Mary W. Sowers, Gregory R. Hand, and Charles M. Rush*

The results of a detailed investigation to isolate the location of sources of intentional interference to the HF broadcasting service are presented. The investigation was conducted using observations of intentional harmful interference observed at numerous locations around the world during international coordinated monitoring periods operated under the auspices of the International Frequency Registration Board--a permanent organ of the International Telecommunication Union. The types of data used, the methods of analysis employed, and the results obtained are given. In addition to the location of emitters that are the sources of intentional harmful interference to the HF broadcast service, statistics of the occurrence of intentional interference to the HF broadcast service, and statistics of the occurrence of intentional interference directed against specific broadcast operations and languages during the monitoring periods are presented.

Key Words: direction finding; harmful interference; HF broadcasting; HF jamming; HF propagation

1. INTRODUCTION

The high frequency (HF) portion of the radio spectrum--3 to 30 MHz--is used to provide various types of telecommunication services throughout the world. It is used extensively to provide broadcasting services on both national and international scales. The national broadcasting service is geared toward an audience that is located within the same political boundaries as the broadcast facility. The international broadcasting service is directed at an audience comprised of listener communities that are located outside the political boundaries of the broadcast facility that is providing the service. Both the national and international high frequency broadcast services are considered equal within the rules and regulations governing the activities of the International Telecommunication Union (ITU).

High frequency broadcast services rely upon the reflection of radio waves from the ionosphere. This sky-wave reflection enables programming to be supplied in a cost-effective manner to audiences in large areas that are long distances

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from the broadcasting facility. Also, because radio waves are not sensitive to political boundaries, high frequency broadcasting provides a means to supply services to listeners in parts of the world where unimpeded access to the free flow of information is limited.

Because of the heavy reliance on HF broadcasting by Administrations throughout the world, the World Administrative Radio Conference of 1979 (WARC-79) agreed to suggestions of certain Administrations to hold a World Administrative Radio Conference (WARC) devoted to the high frequency broadcasting service. The purpose of this broadcasting WARC was(is) to develop procedures to be used in planning the use of the HF spectrum for the broadcasting service. The First Session of the WARC for HF Broadcasting, hereafter referred to as the HFBC in accord with the familiar designation High Frequency Broadcasting Conference, was held in January/February 1984. The Second Session of the HFBC will be held January through March 1987.

One of the major outcomes of the First Session of the HFBC was a decision relating to harmful interference to the HF broadcasting service (ITU, 1984). Harmful interference, arising either from intentional actions to disrupt the service provided by a particular broadcaster to his audience or from unintentional actions, severely limits the amount of spectrum that can be used to provide the required broadcast services worldwide. The First Session of the HFBC called upon the International Frequency Registration Board (IFRB) to undertake the monitoring of harmful interference to the broadcast services and to make available its findings to the Second Session of the HFBC. Specifically, the IFRB has been instructed in Resolution COM 5/1 of the Report of the First Session (ITU, 1984):

"1. to organize monitoring programs in the bands allocated to the high frequency broadcasting service with a view to identifying stations causing harmful interference;

2. to seek, as appropriate, the cooperation of administrations in identifying the sources of emissions which cause harmful interference and to provide this information to administrations;

3. to inform the second session of the Conference of the results of the activities referred to in 1 and 2 above."

In addition, the IFRB has been instructed to invite Administrations (Resolution COM 5/1):

"1. to take part in monitoring programmes set up by the IFRB in accordance with the provisions of this Resolution;

2. to apply the provisions of Article 22 of the Radio Regulations in case of harmful interference."

In keeping with the direction provided in Resolution COM 5/1, the IFRB has established coordinated monitoring exercises in which Administrations who are member nations of the ITU were requested to participate. The IFRB set out the specifics of the bands to be monitored and the manner in which the results are to be reported (IFRB, 1984; IFRB, 1985a). The observations that are made during the monitoring periods are to be sent to the IFRB for their subsequent analysis and inclusion in their report to the Second Session of the HFBC. Thus far, the IFRB has established two coordinated monitoring periods: October 1-21, 1984, and March 18-April 7, 1985. The data received by the IFRB for the October 1984 monitoring period were published in IFRB Circular-letter No. 609 (IFRB, 1985b). The data received by the IFRB for the March/April 1985 monitoring period were published in IFRB Circular-letter No. 630 (IFRB, 1985c).

Shortly after the conclusion of the First Session of the HFBC, concern was raised by numerous Administrations about the level of detail of the analysis that would be undertaken by the IFRB. Broadcasters in the United States, United Kingdom, Federal Republic of Germany, and State of Israel have long been subjected to intentional harmful interference (jamming). This intentional harmful interference not only adversely impacts the performance of the broadcasting service against which it is directed, it also adversely impacts the performance of non-targeted other broadcast services by virtue of the propagation characteristics of HF radio waves. As stated above, HF sky waves can travel great distances and can reach areas of the world that are well beyond the regions to which they are primarily directed. In order to help determine the magnitude of the intentional harmful interference and the sources and locations of the emitters causing intentional harmful interference, a major effort has been initiated by the Institute for Telecommunication Sciences under support from the United States Information Agency, Voice of America, to address these issues. In this report, a description of the work that has been undertaken and the results that have been obtained is provided.

The types of data that have been obtained and the manner in which they are being used to isolate the sources of jamming to the HF broadcast service are discussed in the next section. The equipment that is being used to provide the measurements of interference and the location of the stations where the measurements are made are also described. Most of the observations provide information about the frequency, an identification marker, and the bearing (azimuthal angle) of the received signal causing interference at the monitoring station. The procedures used to determine the locations of the emitters giving rise to the

observed intentional harmful interference are presented in Section 3. These procedures make use of the bearing information provided by each of the monitoring stations and are identical with those developed over the years by the high-frequency direction-finding community. Also in Section 3, we describe the types of errors that can be found in the data available for this investigation and the impact of these errors on the calculation of the locations of the emitters we are attempting to isolate. In Section 4, we describe how the data are grouped and processed in order to be used in the numerical procedures to determine emitter location. The methodology employed to obtain consistent locations will be illustrated in detail. Section 5 provides a discussion of the results obtained thus far. The locations of specific emitters of intentional harmful interference will be shown. Also provided are numerous summaries of the occurrence of jamming activities as a function of broadcaster and language that is broadcast during the monitoring periods. In Section 6, we describe the results of detailed propagation analyses that have been undertaken to corroborate the results presented in the previous section. We also describe, in Section 6, the effect of the errors of ionospheric origin mentioned in Section 3 on the determination of the emitter location. Finally in Section 7, we summarize the findings of this study and lay out recommendations for future work to support the United States positions in preparation for the Second Session of the HF Broadcasting Conference.

2. DATA COLLECTION

A coordinated effort has been established through the IFRB to monitor the occurrence of harmful interference in the high frequency spectrum. This objective is accomplished through a series of 3-week monitoring periods, where the participating Administrations monitor jamming activities by following a prescribed schedule. The participating Administrations provide their results directly to the IFRB. In addition, a number of Administrations have agreed to undertake an enhanced coordinated effort during the 3-week monitoring periods. These data were sent to both the IFRB and ITS for subsequent analysis. Thus far, extensive data have been collected from stations in Germany, United Kingdom, Norway, Netherlands, Israel, Canada, South Korea, Japan, and United States. Figures 1 and 2 illustrate the locations of the monitoring stations within the United States and Canada and within Europe and Israel. A listing of all the locations of the monitoring sites along with their two-letter codes and an indication of the types of equipment employed is given in Table 1.

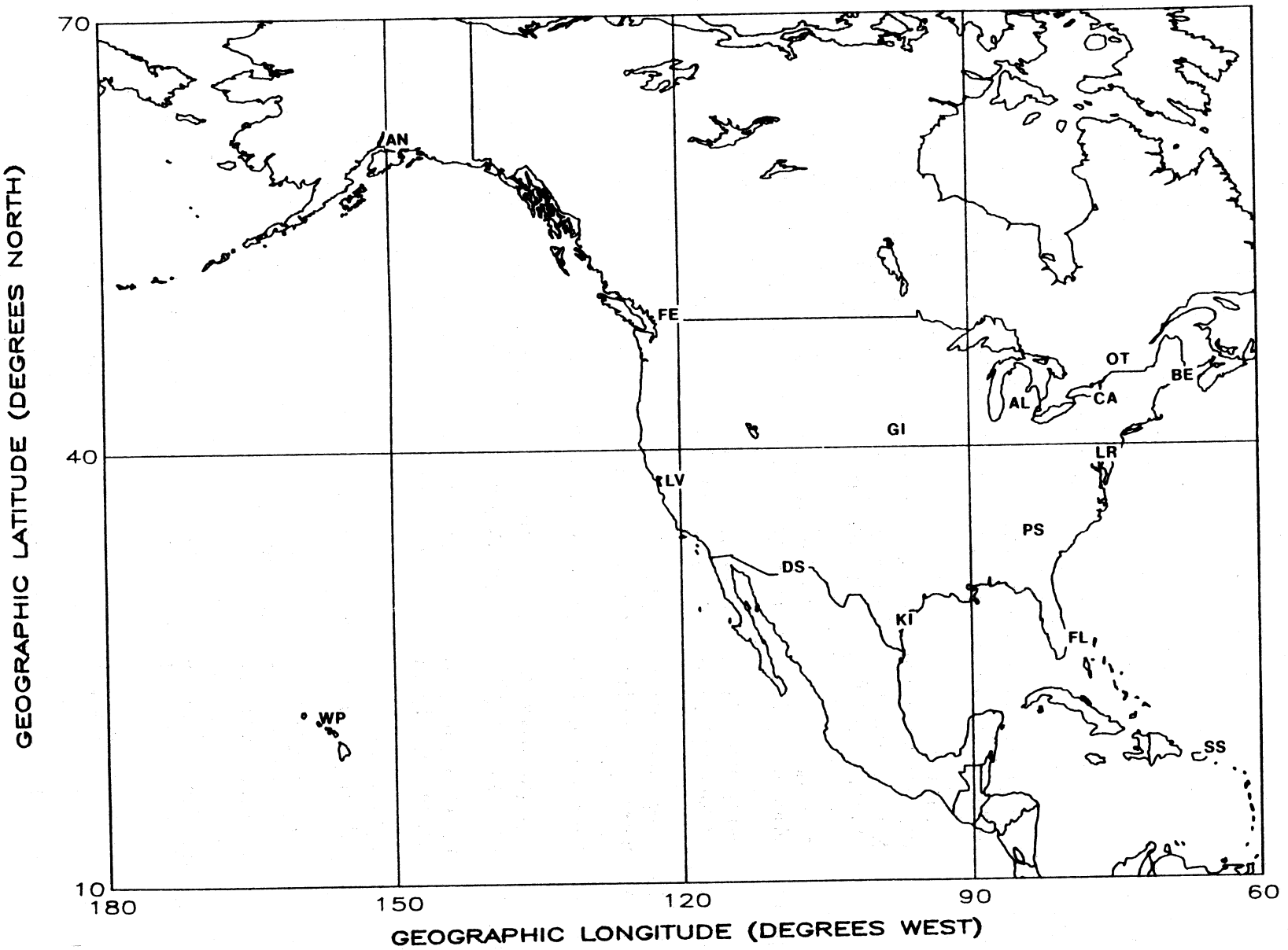


Figure 1. Map of cooperating monitoring stations in the United States and Canada.

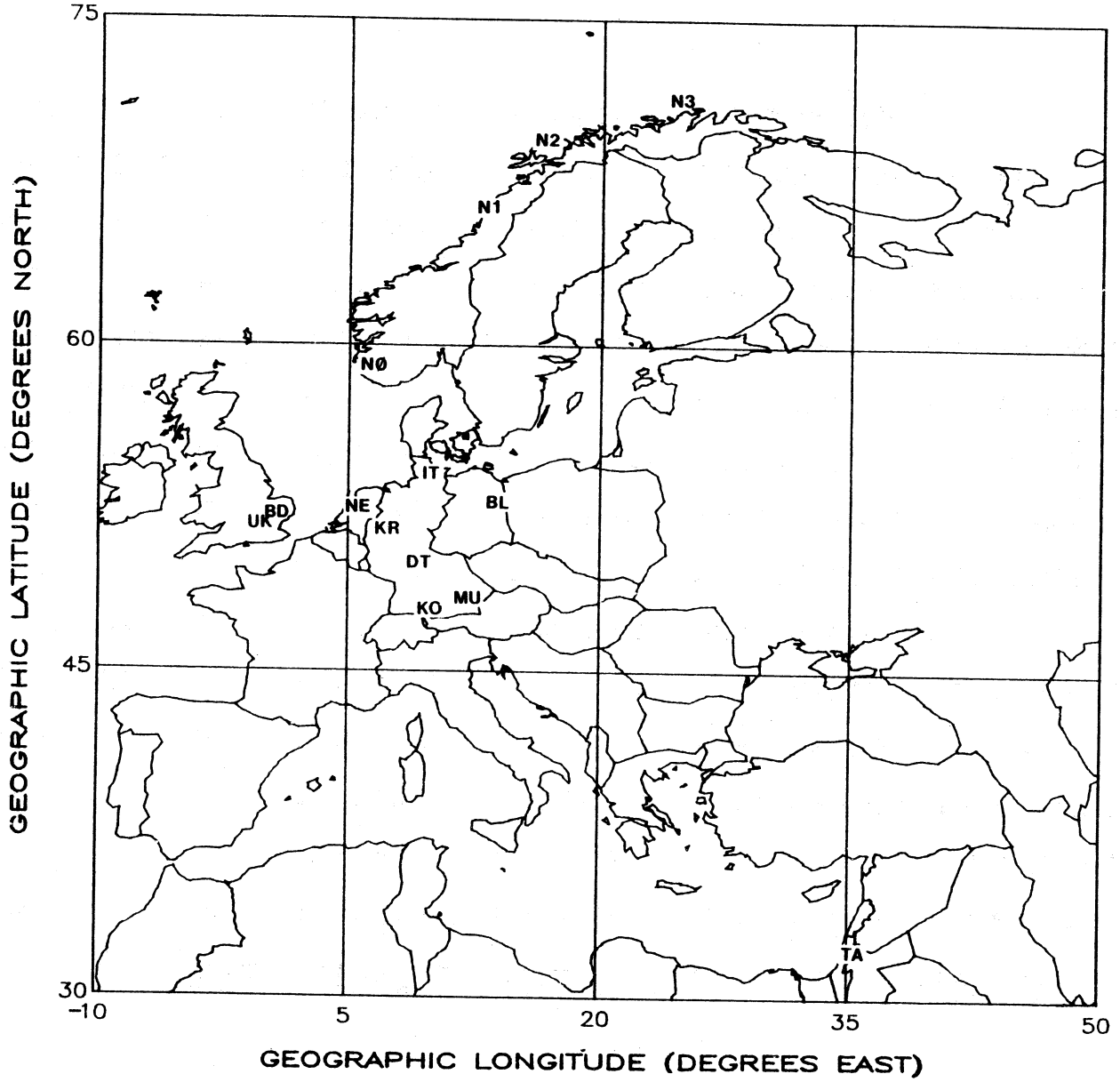


Figure 2. Map of cooperating monitoring stations in Europe and Israel.

Table 1. Locations of Direction-Finding Stations and Antenna Type

STATION	CODE	LATITUDE	LONGITUDE	ANTENNA TYPE
ANCHORAGE, ALASKA	AN	61°09'43"N	149°59'55"W	FIXED MONOPOLES WITH GONIOMETER (WIDE APERTURE)
BELFAST, MAINE	BE	44°26'42"N	69°04'58"W	FIXED MONOPOLES WITH GONIOMETER (WIDE APERTURE)
DOUGLAS, ARIZONA	DS	31°30'02"N	109°39'12"W	FIXED MONOPOLES WITH GONIOMETER (WIDE APERTURE)
FERNDALE, WASHINGTON	FE	48°57'21"N	122°33'12"W	FIXED MONOPOLES WITH GONIOMETER (WIDE APERTURE)
FT. LAUDERDALE, FLORIDA	FL	26°06'08"N	80°16'42"W	FIXED MONOPOLES WITH GONIOMETER (WIDE APERTURE)
GRAND ISLAND, NEBRASKA	GI	40°55'21"N	98°25'42"W	ROTATING ADCOCK TYPE
KINGSVILLE, TEXAS	KI	27°26'29"N	97°53'00"W	FIXED MONOPOLES WITH GONIOMETER (WIDE APERTURE)
LAUREL, MARYLAND	LR	39°09'54"N	76°49'17"W	FIXED MONOPOLES WITH GONIOMETER (WIDE APERTURE)
LIVERMORE, CALIFORNIA	LV	37°43'30"N	121°45'12"W	FIXED MONOPOLES WITH GONIOMETER (WIDE APERTURE)
POWDER SPRINGS, GEORGIA	PS	33°51'44"N	84°43'26"W	FIXED MONOPOLES WITH GONIOMETER (WIDE APERTURE)
SABANA SECA, PUERTO RICO	SS	18°27'23"N	66°13'37"W	FIXED MONOPOLES WITH GONIOMETER (WIDE APERTURE)
WAIPAHU, HAWAII	WP	21°22'45"N	157°59'54"W	FIXED MONOPOLES WITH GONIOMETER (WIDE APERTURE)
OTTAWA, CANADA	OT	45°25'00"N	75°43'00"W	NO BEARING INFORMATION
NEDHORST DEN BERG, NETH.	NE	52°14'31"N	05°04'38"E	8-ELEMENT ADCOCK ANTENNA
KREFELD, GERMANY	KR	51°26'00"N	06°28'00"E	ADCOCK ANTENNA

Table 1. Locations of Direction-Finding Stations and Antenna Type (Continued)

STATION	CODE	LATITUDE	LONGITUDE	ANTENNA TYPE
NORWAY	NO	58°48'48"N	05°40'09"E	ADCOCK ANTENNA
NORWAY, STATION 1	N1	66°10'48"N	12°33'33"E	ADCOCK ANTENNA
NORWAY, STATION 2	N2	69°16'34"N	16°08'40"E	ADCOCK ANTENNA
NORWAY, STATION 3	N3	71°04'34"N	24°06'58"E	ADCOCK ANTENNA
CROWSLEY PARK, U.K.	UK	51°30'55"N	00°57'13"W	BANDWIDTH MEASUREMENTS ONLY
SEOUL, SOUTH KOREA	SO	37°30'00"N	128°54'00"E	LOG PERIODIC ANTENNA
OSAKA, JAPAN	OS	34°30'00"N	135°30'00"E	CIRCULAR ARRAY OF MONOPOLES
TOKYO, JAPAN	TU	35°34'00"N	139°45'00"E	8-ELEMENT ADCOCK
TEL AVIV, ISRAEL	TA	32°04'00"N	34°47'00"E	UNKNOWN
ITZEHOE, GERMANY	IT	53°54'00"N	09°31'00"E	ADCOCK ANTENNA
KONSTANZ, GERMANY	KO	47°41'00"N	09°12'00"E	ADCOCK ANTENNA
MUNCHEN, GERMANY	MU	48°10'00"N	11°28'00"E	ADCOCK ANTENNA (8-30 MHZ ONLY)
BERLIN, GERMANY	BL	52°34'00"N	13°18'00"E	ADCOCK ANTENNA
BALDOCK, U.K.	BD	52°00'00"N	00°08'00"E	FIXED MONOPOLES WITH GONIOMETER (WIDE APERTURE)
DARMSTADT, GERMANY	DT	49°51'00"N	08°40'00"E	ADCOCK ANTENNA

To date, two periods of monitoring have been completed--one from October 1 to October 21, 1984, and another from March 18 to April 7, 1985. An example of the monitoring schedule that was followed is given in Figure 3. This schedule was followed by the Administrations listed above and specifies a frequency band to be monitored for each half-hour of the day, where each half-hour frequency band is selected to reflect the daily changes in the ionosphere for the particular season of monitoring. The stations scan the band and observe as many jammed frequencies as they are able to receive. For the October monitoring period, the 6 MHz and 11 MHz bands were monitored in week 1; the 7 MHz, 15 MHz, and 21 MHz bands were monitored for week 2; and the 9 MHz, 17 MHz, and 26 MHz bands were monitored during the third week of operation. These bands were further broken down as shown in Figure 3 and were assigned to specific half-hour blocks.

The same philosophy was applied to the development of the March/April monitoring schedule but for one addition. The schedule was arranged to monitor a single frequency during the first 5 minutes of each half-hour. This helped to ensure that the maximum amount of corroborating evidence was collected on a particular jamming signal. The 5-minute frequency was chosen from a list of probable jammed frequencies compiled by the broadcasters over the years.

During the monitoring periods, information was gathered on the particulars of the jamming signal as well as the broadcast signal that was subject to interference. For a copy of the report form on which the data were recorded, refer to Figure 4. Following this format, the observer records information on the frequency, class of emission, signal strength, bearing, and accuracy classification for the bearing of the jammed signal. Also, most of the jamming signals are accompanied by a two-character Morse code identifier. This two-character identifier is usually a two-letter or a number/letter combination transmitted by the jamming Administration. Finally, the monitoring station may record information such as transmitter site, language, and Administration assigned the frequency being observed. A sample of the original data set may be found in Table 2. For the U.S. stations that were FCC stations, data were supplied on magnetic tape. Hard copy was provided for the other stations.

The standards for collecting HF monitoring data have been outlined in Appendix 2 of the Radio Regulations (ITU, 1985). Bearings are measured east of north and classifications are attached to each bearing to assess the accuracy of each signal. A bearing of Class A is accurate to $\pm$ 2°, and Classes B, C, and D are accurate to $\pm$ 4°, 6°, and 10° respectively. The class of emission of the

		Oct 1	Oct 2	Oct 3	Oct 4	Oct 5	Oct 6	Oct 7
1	0000-0029	5955- 6070	6075- 6195	11705-11835	11840-11970			
2	0030-0059				5955- 6070	6075- 6195	11705-11835	11840-11970
3	0100-0129	11705-11835	11840-11970				5955- 6070	6075- 6195
4	0130-0159		5955- 6070	6075- 6195	11705-11835	11840-11970		
5	0200-0229	11840-11970				5955- 6070	6075- 6195	11705-11835
6	0230-0259	5955- 6070	6075- 6195	11705-11835	11840-11970			
7	0300-0329	11885-11970			5955- 6070	6075- 6195	11705-11790	11795-11880
8	0330-0359	11705-11790	11795-11880	11885-11970			5955- 6070	6075- 6195
9	0400-0429			5955- 6070	6075- 6195	11705-11790	11795-11880	11885-11970
10	0430-0459	11795-11880	11885-11970			5955- 6070	6075- 6195	11705-11790
11	0500-0529	6075- 6195	11705-11835	11840-11970				5955- 6070
12	0530-0559			5955- 6070	6075- 6195	11705-11835	11840-11970	
13	0600-0629	5955- 6070	6075- 6195	11705-11835	11840-11970			
14	0630-0659				5955- 6070	6075- 6195	11705-11835	11840-11970
15	0700-0729	11705-11835	11840-11970				5955- 6070	6075- 6195
16	0730-0759		5955- 6070	6075- 6195	11705-11835	11840-11970		
17	0800-0829	11840-11970				5955- 6070	6075- 6195	11705-11835
18	0830-0859	5955- 6070	6075- 6195	11705-11835	11840-11970			
19	0900-0929			5955- 6070	6075- 6195	11705-11835	11840-11970	
20	0930-0959	11705-11835	11840-11970				5955- 6070	6075- 6195
21	1000-1029	5955- 6070	6075- 6195	11705-11835	11840-11970			
22	1030-1059				5955- 6070	6075- 6195	11705-11835	11840-11970
23	1100-1129	6075- 6195	11705-11835	11705-11835				5955- 6070
24	1130-1159			5955- 6070	6075- 6195	11705-11835	11840-11970	
25	1200-1229	11705-11835	11840-11970				5955- 6070	6075- 6195
26	1230-1259		5955- 6070	6075- 6195	11705-11835	11840-11970		
27	1300-1329	11840-11970				5955- 6070	6075- 6195	11705-11835
28	1330-1359	5955- 6070	6075- 6195	11705-11835	11840-11970			
29	1400-1429				5955- 6070	6075- 6195	11705-11835	11840-11970
30	1430-1459	6075- 6195	11705-11835	11840-11970				5955- 6070
31	1500-1529			5955- 6070	6075- 6195	11705-11790	11795-11880	11885-11970
32	1530-1559	11795-11880	11885-11970		11705-11790		5955- 6070	6075- 6195
33	1600-1629	6075- 6195	11705-11790	11795-11880	11885-11970			5955- 6070
34	1630-1659	11705-11790		5955- 6070	6075- 6195	11795-11880	11885-11970	
35	1700-1729	11705-11790	11795-11880	11885-11970			5955- 6070	6075- 6195
36	1730-1759		5955- 6070	6075- 6195	11795-11880	11885-11970		11705-11790
37	1800-1829	11795-11880	11885-11970			5955- 6070	6075- 6195	11705-11790
38	1830-1859	5955- 6070	6075- 6195	11795-11880	11885-11970		11705-11790	
39	1900-1929	11885-11970			5955- 6070	6075- 6195	11705-11790	11795-11880
40	1930-1959	6075- 6195	11795-11880	11885-11970		11705-11790		5955- 6070
41	2000-2029			5955- 6070	6075- 6195	11705-11790	11795-11880	11885-11970
42	2030-2059	11795-11880	11885-11970		11705-11790		5955- 6070	6075- 6195
43	2100-2129	6075- 6195	11705-11790	11795-11880	11885-11970			5955- 6070
44	2130-2159	11705-11790		5955- 6070	6075- 6195	11795-11880	11885-11970	
45	2200-2229	6125- 6195	11705-11790	11795-11880	11885-11970		5955- 6035	6040- 6120
46	2230-2259	11705-11790		6125- 6195	6040- 6120	5955- 6035	11885-11970	11795-11880
47	2300-2329	11885-11970			5955- 6070	6075- 6195	11705-11790	11795-11880
48	2330-2359	6075- 6195	11795-11880	11885-11970		11705-11790		5955- 6070

Figure 3. Example of monitoring schedule for October 1984. Time is in UT and frequency is in kHz.

Monitoring Station: _____ Location: _____ Page____ of ____

		Station Causing Interference						Transmitting Station Interfered With			
Date	Time (UTC)	Frequency (kHz)	Class of Emission	Identification	Class of Station	Signal Strength	Bearings	Name	Frequency Measured	Class of Emission	Transmitter Site

Figure 4. Sample form used to record monitoring information.

Table 2. Example of Monitoring Data Obtained During the March/April 1985 Period

Stations Causing Interference										Transmitting Station Interfered With		
Monitoring Station	Date	Time (UTC)	Frequency (kHz)	Class of Emission	Identification	Class of Station	Signal Strength	Bearing	Class of Bearing	Name	Frequency (kHz)	Transmitter Site
BE	040185	0025	7155	AXX	WA	HARM INF	S3	050	C	***	99999	***
AL	040185	0040	7180	AXX	US	HARM INF	S2	042	C	***	99999	***
BE	040185	0040	7180	AXX	US	HARM INF	S3	048	C	***	99999	***
PS	040185	0040	7180	AXX	US	HARM INF	S1	065	C	***	99999	***
NE	040185	0000	9505	JAM	FU	HARM-INF	S3	062	B	***	99999	
NE	040185	0000	9505	JAM	FU	HARM-INF	S3	070	B	***	99999	
U2	040185	0035	9505	JAM	FU	HARM-INF	50	070	A	D/U	09505	LAMPERTHEIM
NO	040185	0047	9505	JAM	HP	HARM-INF	S*	108	B			
NE	040185	0030	9520	JAM	MU	HARM-INF	S4	072	B	***	9520	?
U2	040185	0038	9520	JAM	MU	HARM-INF	60	076	B	POR	09520	LISBONNE
LV	040185	0016	9555	AXX	IG	HARM INF	S3	316	C	***	99999	***
NE	040185	0000	9555	JAM	TK	HARM-INF	S3	078	B	***	99999	
NE	040185	0030	9555	JAM	TK	HARM-INF	S3	078	B	***	99999	
U2	040185	0041	9555	JAM	TK	HARM-INF	50	079	A	POR	09555	LISBONNE
NE	040185	0000	9620	JAM	VI	HARM-INF	S2	072	B	***	99999	
NE	040185	0030	9620	JAM	VI	HARM-INF	S2	072	B	***	99999	
U2	040185	0008	9625	JAM	UQ	HARM-INF	20	069	B	D/U	09625	BIBLIS
NE	040185	0030	9625	JAM	UQ	HARM-INF	S3	070	B	***	9625	?
U2	040185	0011	9635	JAM	MP	HARM-INF	40	094	A	GRC	09635	KAVALLA
U2	040185	0014	9660	JAM	WE	HARM-INF	20	078	B	D/U	09660	HOLZKIRCHEN
U2	040185	0017	9680	JAM	LK	HARM-INF	40	070	C	POR	09680	LISBONNE
NO	040185	0013	9680	JAM	TK	HARM-INF	S*	088	B			
U2	040185	0005	9695	JAM	FG	HARM-INF	30	086	A	E	09695	PLAYADEPALS
NO	040185	0000	9695	JAM	MG	HARM-INF	S*	115	A			
NO	040185	0000	9695	JAM	MG	HARM-INF	S*	142	A			
U2	040185	0020	9750	JAM	HP	HARM-INF	30	073	B	D/U	09750	LAMPERTHEIM
TO	040185	0100	11770	AXX	KB	HARM-INF	**	340	B			
AL	040185	0121	11840	AXX	FU	HARM INF	S2	012	C	***	99999	***
TO	040185	0150	11885	AXX	IG	HARM-INF	**	353	B			
AL	040185	0148	11970	AXX	TK	HARM INF	S3	006	C	***	99999	***
FL	040185	0148	11970	AXX	TK	HARM INF	S2	020	C	***	99999	***
KI	040185	0148	11970	AXX	TK	HARM INF	S3	005	C	***	99999	***
SS	040185	0148	11970	AXX	TK	HARM INF	S3	033	C	***	99999	***
WP	040185	0148	11970	AXX	TK	HARM INF	S2	150	C	***	99999	***
AL	040185	0127	11970	AXX	UQ	HARM INF	S4	006	C	***	99999	***
FE	040185	0127	11970	AXX	UQ	HARM INF	S2	170	C	***	99999	***
FL	040185	0127	11970	AXX	UQ	HARM INF	S3	003	C	***	99999	***
GI	040185	0127	11970	AXX	UQ	HARM INF	S2	002	C	***	99999	***
KI	040185	0127	11970	AXX	UQ	HARM INF	S2	005	C	***	99999	***

Table 2. Example of Monitoring Data Obtained During the March/April 1985 Period (Continued)

Stations Causing Interference										Transmitting Station Interfered With		
Monitoring Station	Date	Time (UTC)	Frequency (kHz)	Class of Emission	Identification	Class of Station	Signal Strength	Bearing	Class of Bearing	Name	Frequency (kHz)	Transmitter Site
LV	040185	0127	11970	AXX	UQ	HARM INF	S2	134	C	***	99999	***
PS	040185	0127	11970	AXX	UQ	HARM INF	S3	003	C	***	99999	***
AL	040185	0110	6170	AXX	MP	HARM INF	S2	042	C	***	99999	***
PS	040185	0110	6170	AXX	MP	HARM INF	S2	042	C	***	99999	***
SS	040185	0110	6170	AXX	MP	HARM INF	S3	040	C	***	99999	***
U2	040185	0108	9505	JAM	DR	HARM-INF	30	070	C	D/U	09505	LAMPERTHEIM
NE	040185	0100	9505	JAM	HP	HARM-INF	S2	070	C	***	9505	?
NE	040185	0130	9505	JAM	HP	HARM-INF	S2	073	C	***	9505	?
U2	040185	0138	9505	JAM	HP	HARM-INF	30	073	B	D/U	09505	LAMPERTHEIM
NE	040185	0100	9520	JAM	MU	HARM-INF	S4	078	B	***	9520	?
U2	040185	0111	9520	JAM	MU	HARM-INF	60	076	A	POR	09520	LISBONNE
NE	040185	0130	9520	JAM	MU	HARM-INF	S4	075	B	***	9520	?
U2	040185	0141	9520	JAM	MU	HARM-INF	50	075	C	POR	09520	LISBONNE
U2	040185	0135	9540	JAM	MP	HARM-INF	20	090	D	GRC	09540	KAVALLA
U2	040185	0135	9540	JAM	TK	HARM-INF	20	075	D	GRC	09540	KAVALLA
U2	040185	0114	9555	JAM	RK	HARM-INF	40	079	B	E	09555	PLAYADEPALS
NE	040185	0100	9555	JAM	TK	HARM-INF	S3	079	B	***	99999	
NE	040185	0130	9555	JAM	TK	HARM-INF	S3	072	B	***	99999	

station causing the interference is given as either AXX or JAM, where either of these implies destructive emission. The signal strength on the emission is reported on a scale of 1-5, where 5 is the most audible and 1 is barely audible.

Assigning a class to each of the bearings requires some special consideration by the individual responsible for recording the information from the jamming signal. The classification of the bearing depends on factors other than the resolution of the signal and is defined in Table 3. The signal often is not clear, and some amount of fading will cause downgrading the classification of the signal. Also, a clear signal with a distinct identifier may have a weak signal strength, which will limit the confidence in the accuracy of the bearing.

When three or four jammers are emitting signals at one time, there is a possibility of data being taken on the wrong target or marker. Three or four emitters on the same frequency at one time especially limit the resolution when the jammers are on colinear paths from the monitoring station. For example, Table 4 lists great circle paths from monitoring stations to some of the major cities and jamming areas in the Soviet Union and Eastern Europe. It can be seen that from Norway, for example, the great circle path to Moscow and Tashkent are separated by only one degree. If these two areas are active at the same time, the resolution of the signal in Norway will be greatly decreased and it may be impossible to record reliable data. It is possible for the communications specialist to manually tune out ambiguous signals (or noise) by ear but this, too, is only a rough estimate and leads to a Class D bearing.

The type of equipment used at the monitoring sites has a significant effect on the accuracy of the measurements that can be ultimately achieved. For the most part, only two different types of direction finder (DF) systems, fixed monopoles with goniometer (Wullenweber) and Adcock, are used at each of the sites. The Adcock DF system is a type employed often in many of the European stations. One type of Adcock antenna system employs two monopole sampling elements, usually about 20 ft long, spaced 20 ft apart (about a tenth of a wavelength). The usable frequency range is around 2 to 40 MHz. The system effectively rotates with a rotational frequency of 20 to 30 revolutions per minute and may be controlled either manually or automatically. Automatic selection of the antenna rotation averages the signal for each pass; the time averaging continues to average each signal for as long as the device runs freely. Tests taken on two-element Adcocks over distances from a few hundred km to 1600 km have produced results with accuracies of 2° for 82 percent of the tests taken (CCIR, 1982).

Table 3. Accuracy Classification for the Bearing According to Observational Characteristics

Class	Bearing Error (Degrees)	Observational Characteristics					
		Signal Strength	Bearing Indication	Fading	Interference	Bearing Swing (Degrees)	Duration of Observation
A	± 2	very good or good	definite (sharp null)	negligible	negligible	less than 3	adequate
B	± 5	fairly good	blurred	slight	slight	more than 3 less than 5	short
C	±10	weak	severely blurred	severe	strong	more than 5 less than 10	very short
D	more than ±10	scarcely perceptible	ill-defined	very severe	very strong	more than 10	inadequate

Table 4. Bearings and Great Circle Distances from Selected Monitoring Stations to Selected Major Cities in the Soviet Union and Eastern Europe

Monitoring Station	City	Bearing (°) From Monitoring Station	Distance km	Monitoring Station	City	Bearing (°) From Monitoring Station	Distance km
Belfast	Tashkent	30.1	9604	Baldock	Khabarovsk	28.9	8147
Belfast	Leningrad	36.2	6314	Baldock	Leningrad	52.0	2143
Belfast	Moscow	37.5	6933	Baldock	Moscow	64.2	2548
Belfast	Stalingrad	39.9	7806	Baldock	Tashkent	73.4	5277
Belfast	Warsaw	47.3	6273	Baldock	Stalingrad	77.3	3200
Belfast	Bucharest	52.5	7075	Baldock	Warsaw	78.4	1503
Belfast	Khabarovsk	344.2	9430	Baldock	Bucharest	100.7	2150
Powder Sprgs	Tashkent	19.7	11232	Tokyo	Tashkent	299.0	6006
Powder Sprgs	Leningrad	28.5	8023	Tokyo	Stalingrad	314.6	7464
Powder Sprgs	Moscow	29.1	8650	Tokyo	Bucharest	318.4	8883
Powder Sprgs	Stalingrad	30.8	9539	Tokyo	Moscow	323.4	7491
Powder Sprgs	Warsaw	38.2	8046	Tokyo	Warsaw	326.6	8590
Powder Sprgs	Bucharest	42.7	8858	Tokyo	Leningrad	329.4	7605
Powder Sprgs	Khabarovsk	334.9	10056	Tokyo	Khabarovsk	346.1	1471
Netherlands	Khabarovsk	32.7	7866	Tel Aviv	Moscow	3.9	2641
Netherlands	Leningrad	51.3	1768	Tel Aviv	Stalingrad	20.9	2024
Netherlands	Moscow	66.6	2139	Tel Aviv	Khabarovsk	43.2	8085
Netherlands	Tashkent	77.9	4856	Tel Aviv	Tashkent	61.5	3208
Netherlands	Stalingrad	82.2	2779	Tel Aviv	Bucharest	333.9	1566
Netherlands	Warsaw	83.8	1082	Tel Aviv	Warsaw	337.6	2501
Netherlands	Bucharest	110.8	1773	Tel Aviv	Leningrad	355.2	3113
Norway #0	Khabarovsk	34.5	7236	Munich	Khabarovsk	35.7	7985
Norway #0	Leningrad	74.4	1394	Munich	Leningrad	35.9	1782
Norway #0	Tashkent	85.3	4712	Munich	Warsaw	52.8	813
Norway #0	Moscow	86.3	1928	Munich	Moscow	54.8	1962
Norway #0	Stalingrad	96.9	2735	Munich	Stalingrad	76.0	2416
Norway #0	Warsaw	120.7	1207	Munich	Tashkent	77.4	4508
Norway #0	Bucharest	130.0	2115	Munich	Bucharest	104.7	1199
Norway #1	Khabarovsk	41.8	6375	Berlin	Khabarovsk	37.7	7515
Norway #1	Tashkent	100.1	4396	Berlin	Leningrad	45.3	1325
Norway #1	Moscow	119.1	1758	Berlin	Moscow	67.7	1610
Norway #1	Leningrad	119.7	1127	Berlin	Tashkent	83.9	4300
Norway #1	Stalingrad	120.8	2664	Berlin	Stalingrad	88.5	2221
Norway #1	Bucharest	154.5	2551	Berlin	Warsaw	91.2	523
Norway #1	Warsaw	159.1	1621	Berlin	Bucharest	128.6	1305

Wullenweber systems, with a frequency range of .5 to 50 MHz frequency range, are employed in all 13 of the United States FCC sites. The Wullenweber direction finder employs 60 antenna elements spaced around a circle (every 6°) of 140 m in diameter. A rotating device termed a goniometer samples each element at a rate of several revolutions per minute. The system has the capability of sampling 100 percent, 50 percent, or 25 percent (25 percent is used commonly in HF DF) of the elements on a given pass and forms a visual 360° pattern on a screen by comparing the signal strength of opposing elements. For direction finders of this type, the bearings are determined in 180° increments but a priori knowledge can be used to determine the actual direction. The visual screen set on the automatic sampling function will integrate signals for each pass for as long as the device is allowed to run freely.

Several studies were made to assess the accuracy of the Wullenweber systems when they were first installed (CCIR, 1982). The results show that site errors are a prominent factor in the overall bearing error estimation and that the errors may range from one-half of a degree to around one degree for the poorest site tested. These figures vary with frequency, and generally the results obtained on the higher frequencies are more accurate because the antenna elements are able to sample more wavelengths. The classification of the bearings show that for the higher class of the bearings, the errors are minimized. Bearings with weak signal strengths may introduce errors of a few degrees while strong signal strengths are associated with bearing accuracies of less than one-half of a degree.

3. COMPUTER ALGORITHM

Once the data have been obtained, the next step in the analysis process is to combine the bearings from the monitoring stations to determine the location of the emitters of harmful interference. Several algorithms have already been developed to utilize the data in an efficient computer-ready format. The algorithm in use at ITS is called FFIX for fast fix, and was developed by the Department of Defense (Charles T. Lempke, private communication). Another algorithm developed at the Air Force Academy, named FALCONFIX (Hodson and Smith, 1979), utilizes the bearing information in a vastly different format than the FFIX algorithm. Tests have shown that under limited circumstances the FFIX and FALCONFIX algorithms give roughly the same results (Ross, 1981); therefore, it was decided to limit the current analysis to the FFIX algorithm.

The computer program FFIX treats the bearings from the monitoring sites as statistical samples whose bearing errors are normally distributed. The assumption is made that an error will be associated with each of the recorded bearings. Bearing errors arise from the recording station as well as from the medium in which the signal is propagated. Also associated with the data set are "wild" bearings or bearings that are not valid because they are scattered or taken on the wrong target. The program FFIX determines the statistical fit of the given data set to a theoretical curve and instigates a procedure to throw out "wild" bearings automatically.

The FFIX program utilizes the recorded bearing and class information associated with a particular monitoring site; latitude and longitude of the monitoring station are also input to FFIX. The FFIX algorithm requires data from three or more different monitoring sites to determine a fix or location. Locations determined from two bearings are called crosses and are included in the program but are not considered to be a fix. The FFIX triangulates the pieces of data to determine a point estimation of the location of the emitter. This point estimation is termed the "best point estimate" and will hereafter be referred to as the BPE. If the data set associated with the BPE passes a chi-square consistency test, then a confidence region is calculated for the set of bearings excluding the "wilds."

In the fix process, the geometry of the monitoring stations is crucial. The monitoring station geometry eventually determines the accuracy to which the FFIX routine will be able to provide reliable locations of the emitters. The ideal system would employ monitoring stations at widely varying geographic locations with respect to the emitters. As seen in Figure 5, three stations with an east-west orientation with respect to an emitter can cause large changes in the location of the emitter for only slight perturbations in a given bearing. Also, this particular station geometry creates highly elliptical confidence regions.

In computation of the BPE, it is necessary to look at the data set as a whole. By simultaneously minimizing the bearing errors from the respective stations to a target, the algorithms will determine the BPE of the emitter. Most fix algorithms accomplish this through the minimization of the function $f(\phi, \lambda)$ where:

$$f(\phi, \lambda) = \sum_{i=1}^{m} \varepsilon_i/(\sigma_i)^2 \qquad (1)$$

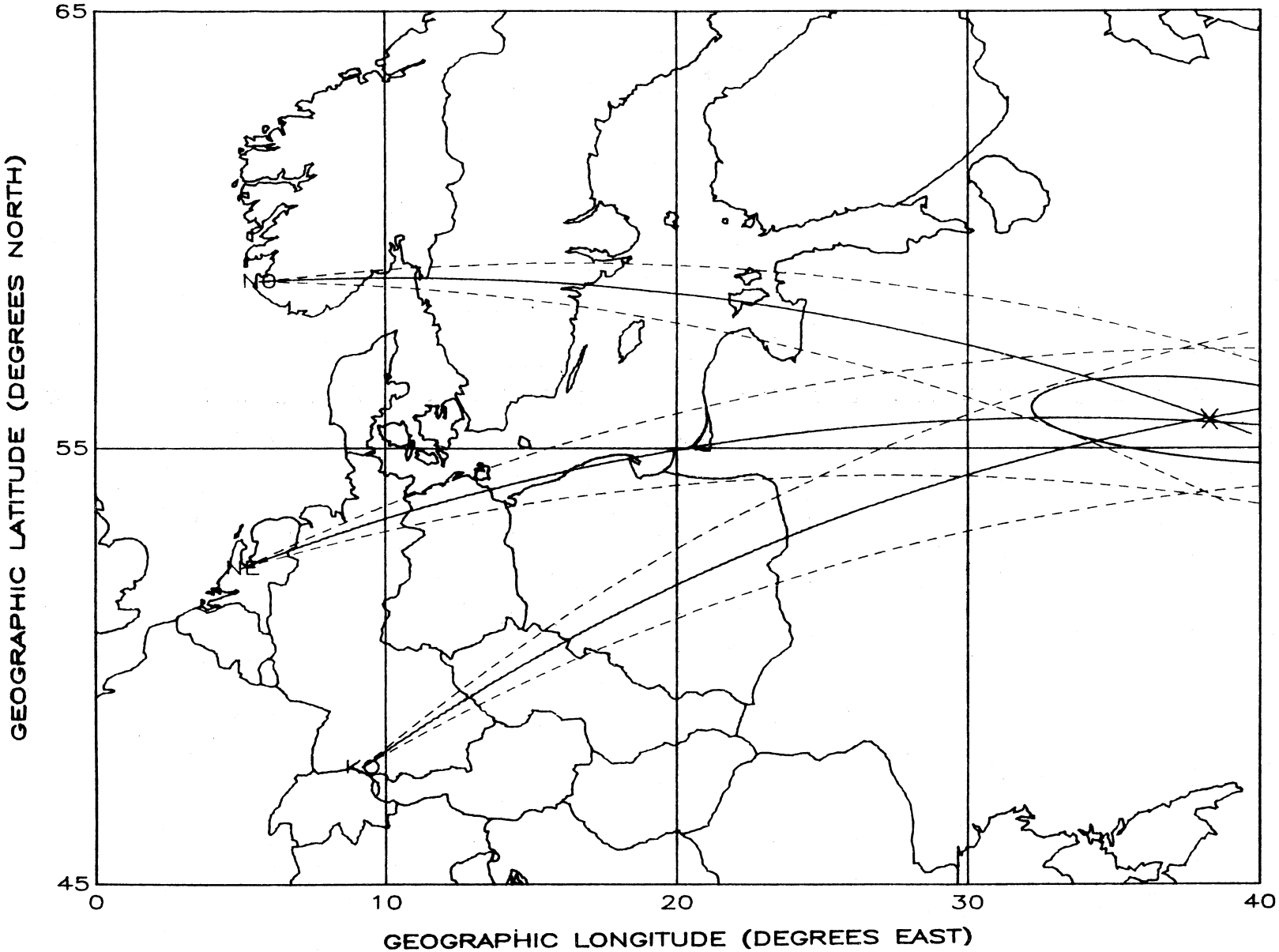


Figure 5. Great circle bearing plots (solid lines) from Norway, Netherlands, and Munich to Moscow. The dotted lines show the effect of a ± 5° error in the bearing on the location of the assumed emitter. The 90-percent confidence region is also shown.

where

ϕ = latitude of the BPE,

λ = longitude of the BPE,

$\varepsilon_i = \beta_i - b_i$,

β_i = true bearing,

b_i = reported bearing,

σ_i = standard deviation of the bearing errors for the monitoring station located at ϕ_i, λ_i, and

m = total number of bearings.

Although routines of this nature are fairly simple to calculate iteratively, they are inefficient and time consuming to run on a computer because they involve the use of many trigonometric functions. The program FFIX has incorporated vector algebraic operations to speed the computations of the BPE.

In order to understand the mathematical reasoning incorporated in FFIX, it is worthwhile to first look at the model upon which the functions were built. FFIX looks at the bearing set and minimizes the sum of the normals converging at some point within as illustrated in Figure 6. In the model built by FFIX, each of the reported bearings describes a line on the surface of the Earth. This line may be used to describe the edge of a plane whose third point lies through the center of the Earth as shown in Figure 7. Each individual station and bearing constitutes a unique bearing plane. The location of the emitter (or target) is defined as the vector from the center of the Earth to the geographic latitude and longitude of the calculated BPE. Since there are generally errors associated with the recorded data, the target will not likely be located on all or any one of the bearing planes. The target vector is chosen iteratively through FFIX algorithms that apply the method of weighted least squares to minimize the function F(t), where

$$F(t) = \sum_{i=1}^{M} W_i |\vec{T} \cdot \vec{N}_i|^2 \qquad (2)$$

and

W_i = range-dependent weights assigned to each bearing and is discussed below,

$\vec{T}$ = target vector, and

$\vec{N}_i$ = bearing plane normal vector.

This method minimizes the weighted sum of the deviations between the reported bearing planes from the true bearing planes. This minimizes the variance of the BPE.

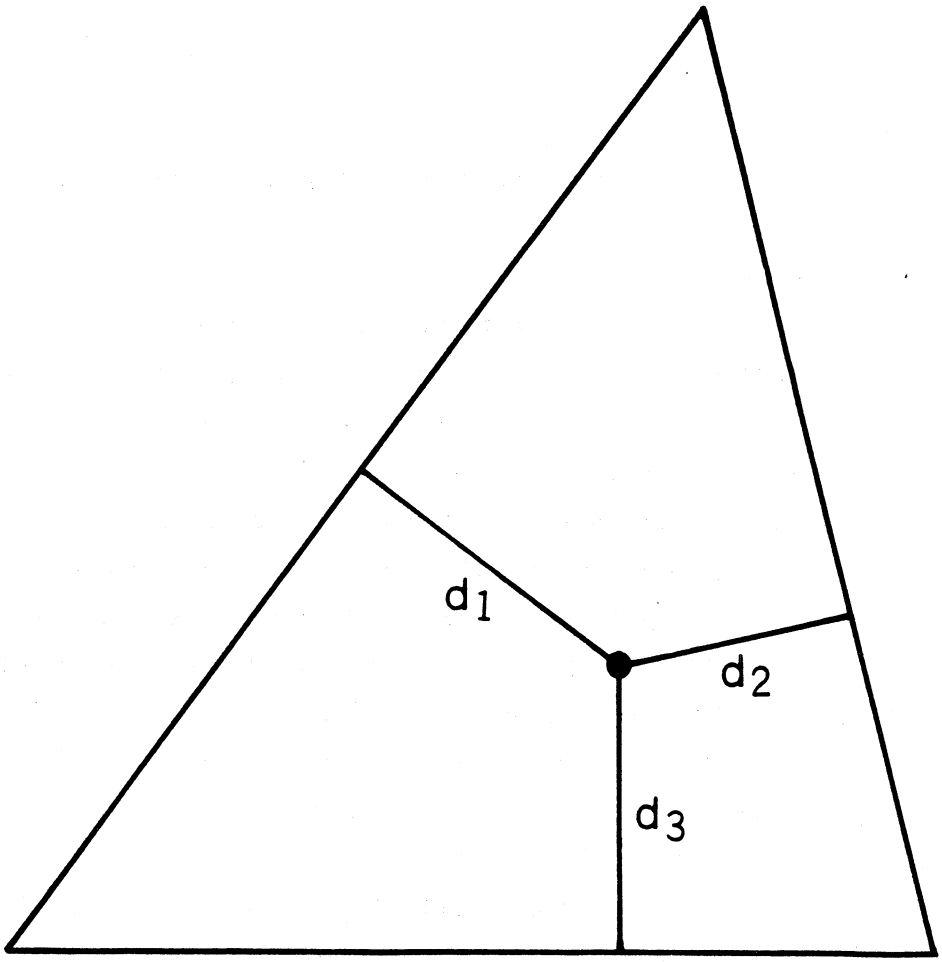


Figure 6. Illustration of the hypothetical errors associated with the location of a target within a triangle determined by a set of three bearing planes forming the sides of the triangle.

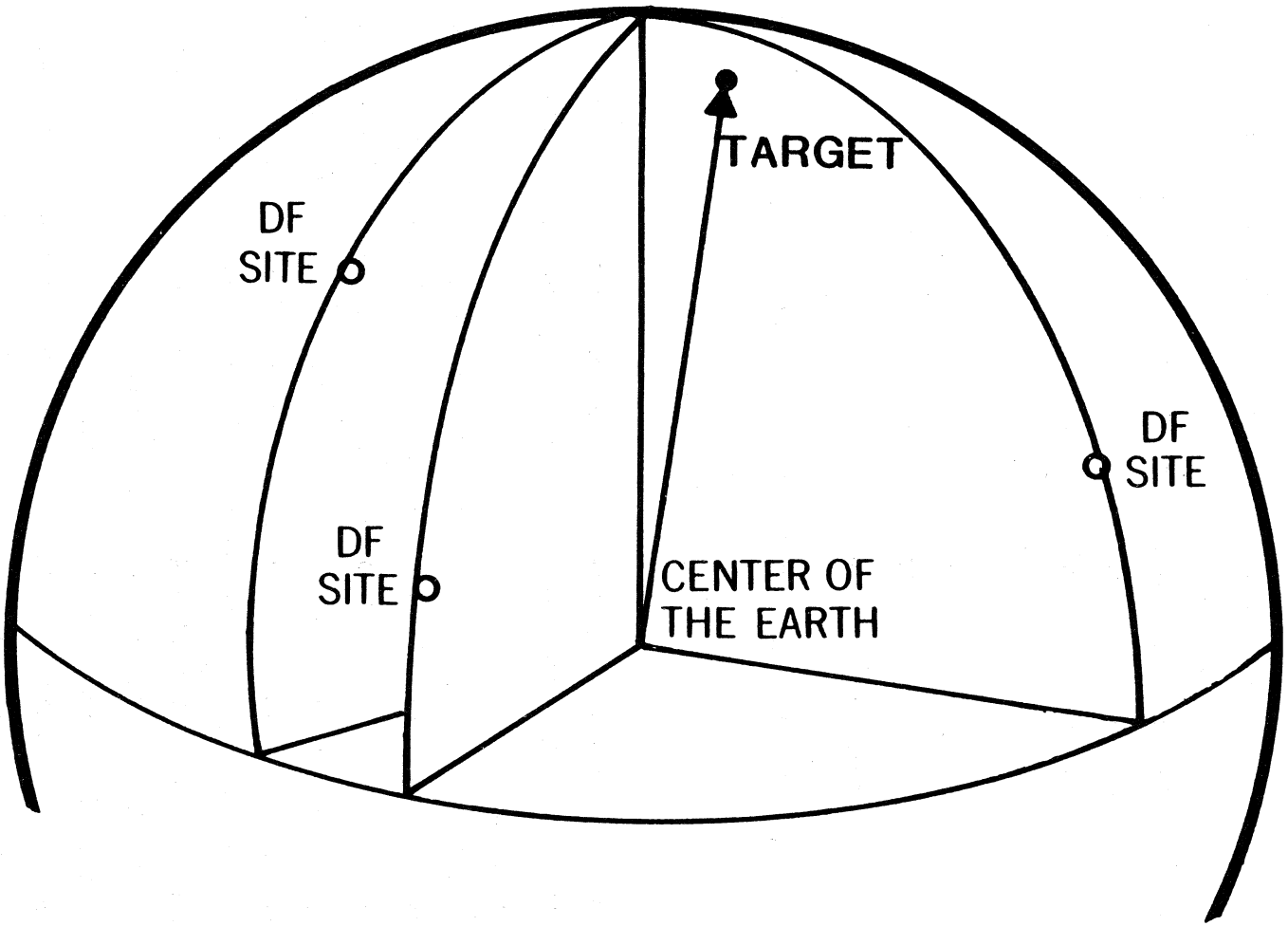


Figure 7. Illustration of the relationship between the bearing planes, the target location, and the center of the Earth.

The matrix of weights associated with each individual bearing, W_i, is determined by the reported standard deviation of the bearing and a range-weighted function. Initially, the standard deviations of the bearings are used for the bearing weights. Upon subsequent iterations, W_i is updated by a range-dependent function that uses the previous BPE as the target. The range-weighted function is an empirical result based on a series of tests conducted on a few monitoring stations to estimate the degree of error in a bearing associated with increasing range. The results of this test are shown in Figure 8. This figure shows the function used to model the statistical data. The range-weighting function then becomes

$$\begin{aligned} \sigma^* &= \sigma(.285 + .0714R) && R > 10 \\ &= \sigma(3. - .402R + .0204R^2) && R \leq 10 \end{aligned} \qquad (3)$$

where R is in units of 100 nautical miles.

The actual values of the range-weighting functions are

$$Wi - (1/\sigma^{*2}) \, |\vec{T} \times \vec{S}_i|^2 \qquad (4)$$

where $\vec{S}_i$ is the vector from the center of the Earth to the monitoring station. This function describes the dependency upon the geometry of the signal rebounding off the ionosphere.

The program FFIX utilizes the reported standard deviations from the stations to measure the accuracy of the calculated location by weighting each individual bearing error (or deviation from the BPE) according to its estimated accuracy. This weighted error is then used to determine if the entire data set is consistent with the BPE. The procedure employed calculates the discrepancy between the observed and the estimated probability density functions of the bearing errors. In the FFIX algorithm, any set of K bearings has K-2 degrees of freedom. For the applications used in this study, the chi-square consistency test is at the 80 percent confidence level.

If the initial data set does not pass the chi-square consistency test, then the data are subdivided and all subsets of the K bearings are examined for consistency and data are rejected until the largest set of consistent data (at 80 percent confidence) is found. The philosophy behind rejecting bearing data is to reject "wild" bearings and to use only the good bearings for the determination of the best point estimate. The "wild" bearings are edited either by an exhaustive method or by a sequential method for sets containing more than 25 bearings.

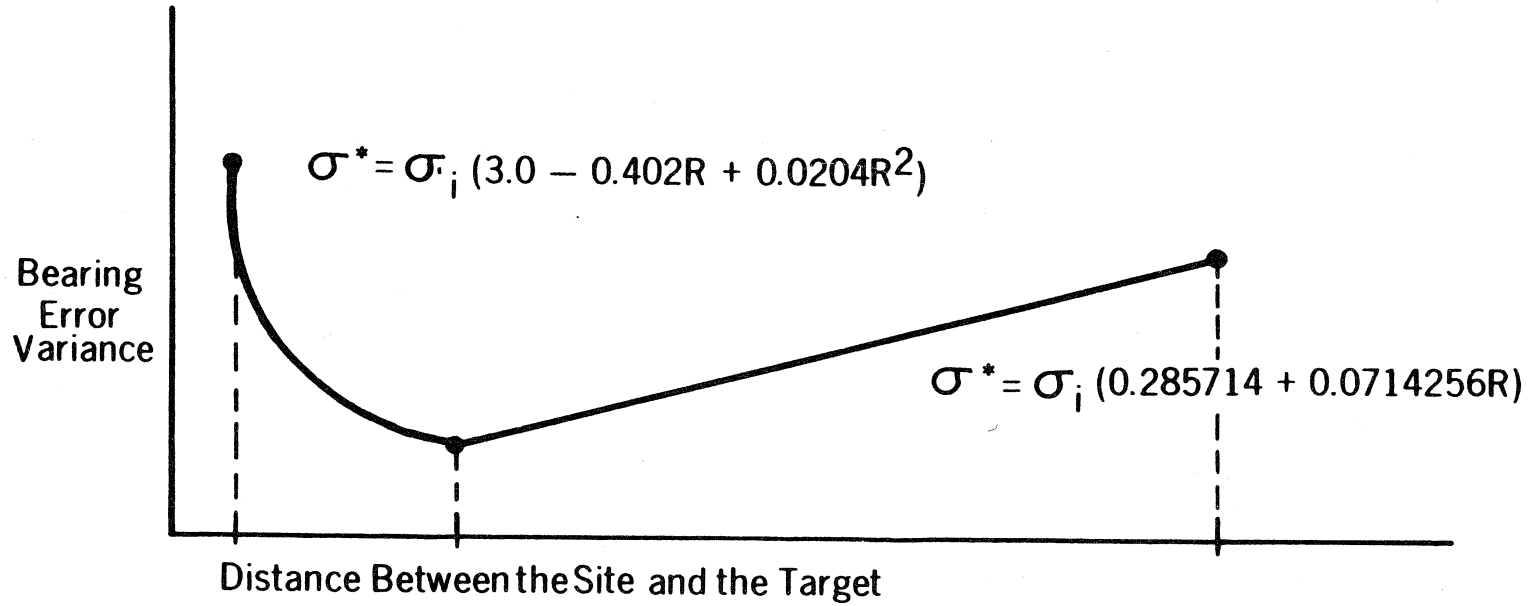


Figure 8. Weighting function used to specify the bearing accuracy as a function of distance.

For sets of data with 25 or less bearings, the program examines all subsets of the bearings until the largest subset is found that will pass the chi-square test. For example, in a set containing K bearings not conforming to a fit, the second pass will examine all sets of possible K-1 bearings and take the one with minimum error and test it for "consistency." If the case with the minimum error associated with it does not pass the chi-square test, then the next set of K-2 bearings is used. The program continues to step down until there are at least half of the bearings remaining in the fix, or $K-N \geq K/2$, where N is number of bearings that are rejected. At this point, the program indicates that an unacceptable number of the bearings were deemed "wild" and the bearing set is not consistent.

At each level of K-N bearings, the exhaustive method must calculate $K!/(N!(K-N)!)$ number of BPE's. For large values of K, this requires a large amount of computer time and, therefore, a heuristic approach is incorporated. For data sets containing greater than 25 bearings, the sequential method is used. In this method if the function given in (1) is too large, the bearing associated with the largest term in the summation is rejected at each level of the K-N bearings. As before, the process is terminated when either a consistent set is found or the lower limit is passed.

Once the BPE and associated bearing set are established, an estimation is made of the confidence in the bearing set to locate the emitter. A confidence region is needed because each bearing has an associated error. The confidence interval is dependent on the geometry of the incoming signals. For signals converging at highly acute angles, the confidence ellipse is elongated along the axis of the bearings.

The confidence region is calculated from a linear approximation in which the target location errors are linear combinations of the bearing errors, and consequently has a bivariate normal distribution. Therefore, the desired confidence region is elliptical in shape. The confidence region is calculated by the perturbations in latitude and longitude around the calculated BPE. Since the calculated bearings (to the BPE) are used, the target lies within each of the respective bearing planes. This assumption allows a two-dimensional solution for the equation of the ellipse. The solution includes a semimajor axis (SMA), a semiminor axis (SMI), and an orientation of the ellipse.

A flow chart of the entire process is shown in Figure 9. The program reads in the list of monitoring sites with a set of associated bearings and classes. If there are more than 25 bearings, the program steps to the sequential method of

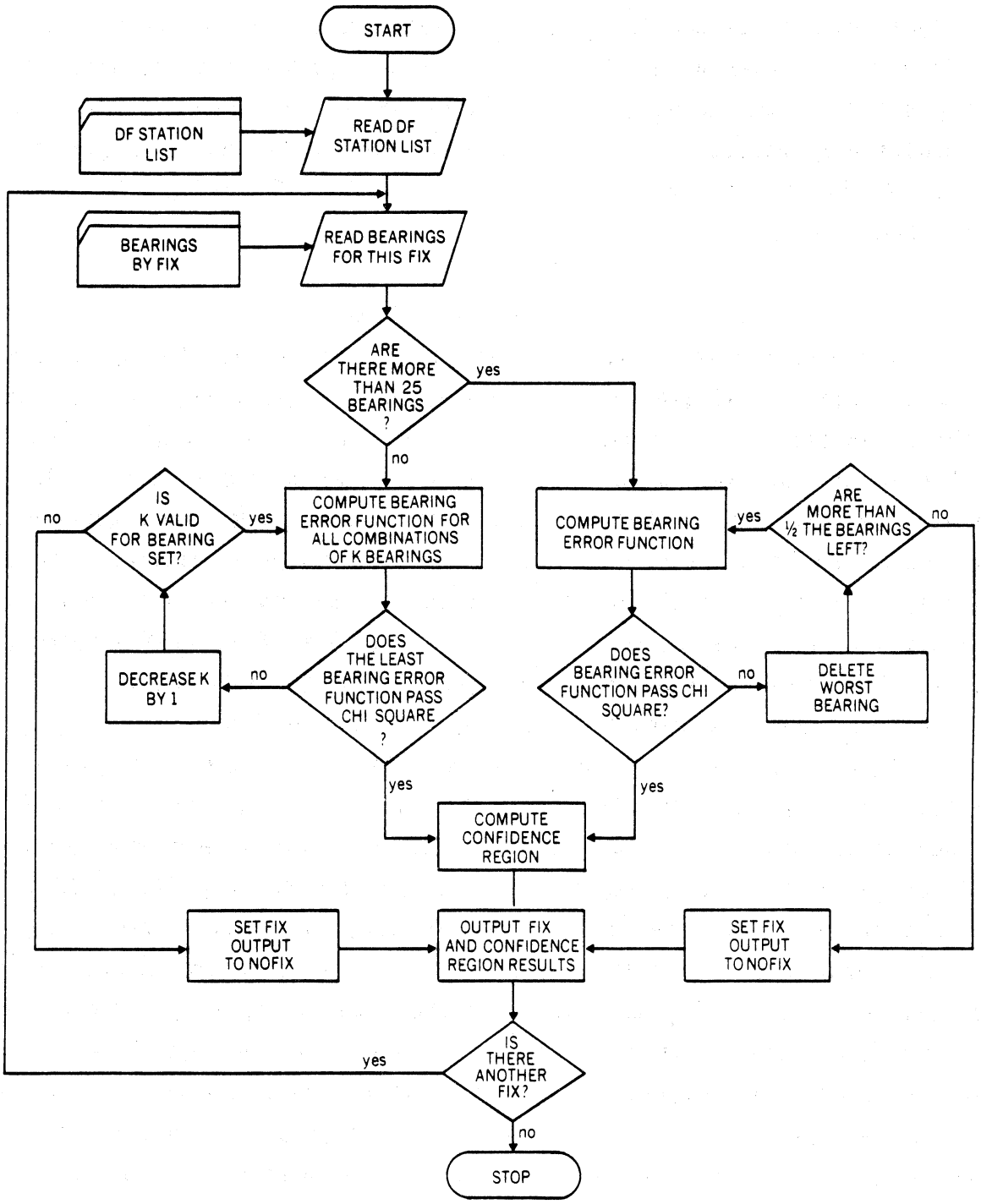


Figure 9. Flow chart of the FFIX algorithm.

rejecting bearings and calculates a BPE. If the BPE fails the statistical test, the program eliminates one bearing and repeats the process until the statistical test is either passed or an insufficient number of bearings remain. Once the bearing set is deemed acceptable, then a region of confidence is calculated and the results are output. The results are the BPE in latitude and longitude, the SMA and SMI in nautical miles, and the orientation of the confidence region in degrees from north.

4. DATA PROCESSING

The methods described in the previous section dictate the procedures that must be adopted in utilizing bearing observations to determine the location of HF emitters. In Section 2, it was mentioned that the data available for this study are observations of signals recorded at specific monitoring stations. The observations generally include the frequency that was measured, the bearing of the measurement, an identifier or marker (a two-character alphanumeric symbol, if present), an estimate of the signal strength, and an indication as to whether the observation corresponds to an unintentional instance of harmful interference or intentional harmful interference (jamming). If bearing information is not available, the data cannot be used to determine emitter location.

The data that have been provided were initially cast into computer-ready format. Observations from the United States FCC monitoring stations were provided on magnetic tape. Data from all other stations were provided on forms consistent with the IFRB monitoring instructions (IFRB, 1984; IFRB, 1985a). Once the original data were entered into the computer, they were sorted by day, hour, frequency, and jammer identifier (marker). Utlimately, the data were grouped into half-hour blocks. By assuming that the signals for a specific marker come from only one location in a given half-hour period, the data observed at the different monitoring stations can be grouped by those frequencies and markers that are the same within the half-hour. A sample of a grouped data set is shown on Table 5. These data were obtained during the March/April monitoring period. Any observation whose frequency and marker does not match the observation of the same frequency and marker from another monitoring station is not used for this portion of the analysis. By setting this criterion, it is possible to minimize errors in the data set due to false identification of a marker or due to bearings taken on a wrong target.

The data from each of the groupings of frequency and marker were then input into the FFIX program and a first estimate of the position of the jammer was

Table 5. Example of Monitoring Data Grouped According to Marker Identifier

Stations Causing Interference										Transmitting Station Interfered With		
Monitoring Station	Date	Time (UTC)	Frequency (kHz)	Class of Emission	Identification	Class of Station	Signal Strength	Bearing	Class of Bearing	Name	Frequency (kHz)	Transmitter Site
3												
AL	040185	0040	7180	AXX	US	HARM INF	S2	42	C	***	99999	***
BE	040185	0040	7180	AXX	US	HARM INF	S3	48	C	***	99999	***
PS	040185	0040	7180	AXX	US	HARM INF	S1	65	C	***	99999	***
3												
NE	040185	0000	9505	JAM	FU	HARM-INF	S3	62	B	***	99999	
NE	040185	0000	9505	JAM	FU	HARM-INF	S3	70	B	***	99999	
U2	040185	0035	9505	JAM	FU	HARM-INF	50	70	A	D/U	09505	LAMPERTHEIM
2												
NE	040185	0030	9520	JAM	MU	HARM-INF	S4	72	B	***	9520	?
U2	040185	0038	9520	JAM	MU	HARM-INF	60	76	B	POR	09520	LISBONNE
3												
NE	040185	0000	9555	JAM	TK	HARM-INF	S3	78	B	***	99999	
NE	040185	0030	9555	JAM	TK	HARM-INF	S3	78	B	***	99999	
U2	040185	0041	9555	JAM	TK	HARM-INF	50	79	A	POR	09555	LISBONNE
2												
U2	040185	0008	9625	JAM	UQ	HARM-INF	20	69	B	D/U	09625	BIBLIS
NE	040185	0030	9625	JAM	UQ	HARM-INF	S3	70	B	***	9625	?
5												
AL	040185	0148	11970	AXX	TK	HARM INF	S3	6	C	***	99999	***
FL	040185	0148	11970	AXX	TK	HARM INF	S2	20	C	***	99999	***
KI	040185	0148	11970	AXX	TK	HARM INF	S3	5	C	***	99999	***
SS	040185	0148	11970	AXX	TK	HARM INF	S3	33	C	***	99999	***
WP	040185	0148	11970	AXX	TK	HARM INF	S2	150	C	***	99999	***
7												
AL	040185	0127	11970	AXX	UQ	HARM INF	S4	6	C	***	99999	***
FE	040185	0127	11970	AXX	UQ	HARM INF	S2	170	C	***	99999	***
FL	040185	0127	11970	AXX	UQ	HARM INF	S3	3	C	***	99999	***
GI	040185	0127	11970	AXX	UQ	HARM INF	S2	2	C	***	99999	***
KI	040185	0127	11970	AXX	UQ	HARM INF	S2	5	C	***	99999	***
LV	040185	0127	11970	AXX	UQ	HARM INF	S2	134	C	***	99999	***
PS	040185	0127	11970	AXX	UQ	HARM INF	S3	3	C	***	99999	***
3												
AL	040185	0110	6170	AXX	MP	HARM INF	S2	42	C	***	99999	***
PS	040185	0110	6170	AXX	MP	HARM INF	S2	42	C	***	99999	***
SS	040185	0110	6170	AXX	MP	HARM INF	S3	40	C	***	99999	***

generated. An example of this output for the March/April 1985 monitoring period for markers TK and TU is shown on Table 6. The output includes a best point estimate (BPE), the semimajor and semiminor axes of the confidence ellipse, and the orientation of the ellipse. A printout of the entire data file for both the October and the March/April monitoring periods, including stations and bearings comprising each fix, is contained in Appendix A.

The individual fixes contained in this data file were then associated with a broadcaster, language, and transmitter site as shown on the sample file. The information concerning broadcaster, language, and transmitter site was obtained from operational broadcast schedules provided by broadcasters whose signals are subjected to intentional harmful interference. (The abbreviations given for the language are consistent with the language given in Tables 11 and 12.) The reported frequency that was subjected to jamming at a particular time could then be readily associated with a particular broadcaster and language. A look at the sample file shows that a particular language dominates each marker. This is also true for most of the markers shown in Appendix A. Referring to Appendix A, for example, the signals associated with markers TU and TK, which are located in Moscow and Tashkent respectively, are used primarily to jam Russian-language broadcasts. The marker 1G is used to primarily jam Western broadcasts transmitted in the Polish language. For the marker B1, broadcasts transmitted in Czechoslovakian appear to be subjected to jamming.

Careful scrutiny of the data set given in Appendix A reveals that the location of each marker seems to be moving about rather drastically. For example, the location of identifier TU varies from 50°N to 57°N and from 6°W to 47°E. Because the United States monitoring stations have similar bearings to many of the jammer locations, it is difficult to pinpoint many of the jammer locations using the United States stations alone. Notice in Appendix A that the north-south orientation of the jammer is easier to locate than the east-west. A plot of the individual BPE's are shown on a scattergram for the TK marker in Figure 10. The numbers on the map refer to the number of observations used to determine each individual BPE. The scattergrams help to visualize the effects of the network geometry of the monitoring stations on the location of the individual fixes.

Another tool used in the individual location analysis is a plot of great circle bearings from the monitoring stations to the fix location. Great circle maps of the individual fixes shown on Figures 11 and 12 illustrate the confidence ellipses for a few observations on markers TU and TK. The dotted line in

Table 6. Output of the FFIX Program Showing the BPE and Confidence Ellipse for Individual Fixes on TK and TU

Identification	Day	Hour (UTC)	Frequency (kHz)	Language	Broadcaster	Transmitter Site	Confidence Area	Semimajor Axis	Semiminor Axis	BPE Latitude	BPE Longitude
TK	30	2312	7215	????	????	????????	0	0	0	49.71N	56.25E
TK	30	2317	7225	????	????	????????	0	0	0	50.21N	55.66E
TK	7	2240	9525	????	????????????		2786	313	149	56.21N	59.69E
TK	2	0213	9675	????	????????????		562	53	146	40.56N	69.58E
TK	4	2356	9760	????	????????????		1078	244	88	57.04N	13.78W
TK	1	1530	9770	????	????????????		0	0	0	15.88S	106.75E
TK	30	0612	15165	????	????????????		0	0	0	48.14N	58.01E
TK	29	0125	7190	AZ	RL	L2	260	24	124	50.94N	38.94E
TK	30	0117	7190	AZ	RL	L2	1867	204	143	30.64N	78.16E
TK	20	2257	7155	BR	RL	P6	0	0	0	53.99N	33.29E
TK	7	0202	9680	EST	RFE	G1B	858	146	123	45.60N	55.01E
TK	18	1837	11970	BR	RL	P4	0	0	0	55.01N	42.62E
TK	1	1727	11970	EST	RFE	HD	1231	377	142	45.99N	40.37E
TK	22	1858	11970	BR	RL	P4	996	136	83	61.70N	18.57W
TK	26	1805	15130	BR	RL	P5	0	0	0	41.64N	63.11E
TK	25	2200	7155	EST	RFE	P6	259	32	118	51.39N	49.49E
TK	25	2134	7155	EST	RFE	P6	1842	277	121	55.40N	26.01E
TK	1	2056	11970	LITH	RFE	P4	999	187	99	55.37N	8.24W
TK	28	1703	15130	EST	RFE	P5	0	0	0	24.13S	122.71E
TK	27	1800	15130	EST	RFE	P5	988	22	87	52.96N	14.99E
TK	28	1600	15270	EST	VOA	WOF	102	30	122	52.48N	20.96E
TK	24	1530	11970	LAT	RFE	HD	0	0	0	34.67N	70.92E
TK	27	1600	15130	LAT	RFE	P5	613	57	128	46.16N	58.98E
TK	23	2015	9680	LITH	RFE	P5	1248	195	98	63.56N	.45W
TK	21	2045	11970	LITH	RFE	P4	516	335	120	60.43N	2.88W
TK	1	1539	15130	LAT	RFE	P5	2904	404	129	52.72N	40.67E
TK	28	1604	15130	LITH	RFE	P5	7517	418	145	6.63S	107.83E
TK	26	1640	15130	LITH	RFE	P5	0	0	0	53.66N	40.30E
TK	28	2309	7155	RUSS	RL	P6	0	0	0	51.40N	34.34E
TK	25	0100	7190	RUSS	RL	G3A	159	11	72	53.36N	9.78E
TK	29	0056	7190	RUSS	RL	G3A	0	0	0	21.21N	88.21E
TK	4	2240	7220	RUSS	RL	HC	0	0	0	52.47N	23.73W
TK	4	1700	9520	RUSS	RL	L5	0	0	0	45.73N	59.55E
TK	4	2108	9520	RUSS	RL	B5	0	0	0	40.28N	70.10E
TK	1	2100	9520	RUSS	RL	B5	423	14	85	52.83N	11.79E
TK	7	1635	9520	RUSS	RL	L5	0	0	0	2.47N	105.85E
TK	1	0000	9555	RUSS	RL	G13+G14	205	9	84	52.74N	9.58E
TK	22	0049	9555	RUSS	RL	G13+G14	2077	515	148	23.37N	66.95E
TK	24	0135	9555	RUSS	RL	G1	377	21	96	52.04N	24.44E
TK	1	0100	9555	RUSS	RL	G13+G14	100	1	72	52.25N	5.10E

Table 6. Output of the FFIX Program Showing the BPE and Confidence Ellipse for Individual Fixes on TK and TU (Continued)

Identification	Day	Hour (UTC)	Frequency (kHz)	Language	Broadcaster	Transmitter Site	Confidence Area	Semimajor Axis	Semiminor Axis	BPE Latitude	BPE Longitude
TK	25	0220	9555	RUSS	RL	G1	249	15	93	53.44N	25.12E
TK	5	2301	9555	RUSS	RL	G13+G14	0	0	0	40.61N	64.94E
TK	6	0000	9555	RUSS	RL	G13+G14	0	0	0	50.80N	37.57E
TK	23	0232	9555	RUSS	RL	G1	321	15	96	52.52N	25.47E
TK	2	2000	9660	LAT	RFE	P5	2879	39	102	51.60S	176.92E
TK	7	2236	9680	BR	RL	P5	1999	130	71	70.47N	21.56W
TK	27	0122	11725	RUSS	RL	P1	1441	9	113	51.15S	174.62W
TK	24	1415	11875	RUSS	RL	L6	1304	318	153	35.46N	66.41E
TK	23	1208	11875	RUSS	RL	L5+L6	529	36	100	51.23N	29.08E
TK	1	1144	11875	RUSS	RL	L5+L6	2102	265	103	55.81N	6.90W
TK	23	0053	11915	RUSS	RL	P4	0	0	0	56.68N	56.11W
TK	19	2257	11970	RUSS	RL	P4	1988	390	146	49.27N	56.05E
TK	30	2131	11970	RUSS	RL	P4	1712	496	158	45.67N	66.58E
TK	1	0148	11970	RUSS	RL	P5	2168	510	164	30.48N	81.46E
TK	22	2329	11970	RUSS	RL	P5	682	160	153	36.29N	76.48E
TK	25	0025	11970	RUSS	RL	P5	283	4	102	51.97S	179.94E
TK	28	2215	11970	RUSS	RL	P4	1582	343	149	47.43N	56.18E
TK	27	2305	11970	RUSS	RL	P5	0	0	0	48.42S	38.38W
TK	24	2312	11970	RUSS	RL	P5	1761	245	128	64.67N	31.52E
TK	24	2250	11970	RUSS	RL	P4	2716	405	156	32.62N	74.73E
TK	22	2200	11970	RUSS	RL	P4	821	78	120	46.79N	56.44E
TK	21	2156	11970	RUSS	RL	P4	497	44	114	46.94N	47.80E
TK	22	2105	11970	RUSS	RL	P4	529	23	88	53.83N	20.00E
TK	30	1356	15130	RUSS	RL	P5	1350	119	155	30.17N	74.92E
TK	29	1431	15130	RUSS	RL	P5	0	0	0	46.51S	138.73E
TK	28	0512	15170	RUSS	RL	P3	1315	116	130	42.58N	61.86E
TK	28	0635	15170	RUSS	RL	P3	0	0	0	41.64N	63.11E
TK	30	0600	15170	RUSS	RL	P3	0	0	0	52.01N	57.94E
TK	2	1429	15290	RUSS	RL	L2	0	0	0	52.26N	2.47E
TK	26	1838	15290	RUSS	RL	P3	856	250	130	54.90N	26.98E
TK	1	1339	15290	RUSS	RL	L2	686	120	72	61.85N	29.61W
TK	30	1808	15290	RUSS	RL	P3	0	0	0	64.78N	15.67E
TK	28	1600	15290	RUSS	RL	L2	118	18	107	51.48N	31.48E
TK	21	1513	15290	RUSS	RL	L2	443	33	119	46.23N	53.09E
TK	4	1535	15290	RUSS	RL	L2	1631	374	113	54.01N	16.05E
TK	5	1317	15290	RUSS	RL	L2	2556	441	139	45.46N	51.46E
TK	28	1700	15290	RUSS	RL	P3	5402	247	140	22.75S	121.78E
TK	7	1227	15290	RUSS	RL	L2	1250	231	100	62.95N	.19E
TK	27	0745	21455	RUSS	RL	L3	0	0	0	52.11N	26.93E
TK	18	2331	11915	TI	RL	P4	856	126	144	31.75N	73.55E

Table 6. Output of the FFIX Program Showing the BPE and Confidence Ellipse for Individual Fixes on TK and TU (Continued)

Identification	Day	Hour (UTC)	Frequency (kHz)	Language	Broadcaster	Transmitter Site	Confidence Area	Semimajor Axis	Semiminor Axis	BPE Latitude	BPE Longitude
TK	28	0315	7190	UKR	VOA	TAN	0	0	0	49.23N	40.58E
TK	28	1835	7245	UKR	RL	L7+L8	0	0	0	22.29N	87.22E
TK	21	2156	11885	UKR	RL	P2	1529	389	161	25.91N	73.88E
TK	21	2200	11885	UKR	RL	P2	658	13	86	52.64N	11.00E
TK	31	2206	11885	UKR	RL	P3	1406	571	165	45.41N	59.96E
TU	18	2000	6095	????	????????????		1915	122	128	46.61S	170.58E
TU	18	1900	6095	????	????????????		185	10	69	53.20N	8.77E
TU	22	1900	6140	????	????????????		233	21	114	55.12N	37.84E
TU	27	1932	7105	????	????????????		0	0	0	55.48N	27.96E
TU	25	0200	7105	????	????????????		1125	25	91	55.41N	32.65E
TU	28	0230	7240	????	????????????		0	0	0	55.00N	17.70E
TU	30	0400	7240	????	????????????		0	0	0	57.30N	36.52E
TU	25	0342	7240	????	????????????		0	0	0	53.63N	49.40E
TU	2	1610	9650	????	????????????		0	0	0	56.04N	34.12E
TU	3	1530	9650	????	????????????		104	30	125	55.74N	37.35E
TU	4	1523	9650	????	????????????		0	0	0	54.71N	43.21E
TU	7	1544	9650	????	????????????		0	0	0	53.59N	46.78E
TU	23	1009	11700	????	????????????		964	34	95	55.07N	32.83E
TU	24	1834	11805	????	????????????		0	0	0	53.59N	46.78E
TU	21	1700	11845	????	????????????		104	27	144	50.67S	178.95E
TU	24	1733	11855	????	????????????		0	0	0	53.59N	46.78E
TU	19	1600	11905	????	????????????		0	0	0	55.84N	23.05E
TU	27	1600	15105	????	????????????		263	16	81	55.69N	28.56E
TU	31	1730	15245	????	????????????		903	79	100	55.54N	42.25E
TU	25	1830	15390	????	????????????		365	32	85	55.27N	30.20E
TU	18	2200	5955	EST	RFE	HB	311	17	75	54.63N	15.62E
TU	25	2200	7155	EST	RFE	P6	0	0	0	54.07N	43.66E
TU	3	1900	11970	BR	RL	P4	0	0	0	52.28N	6.44W
TU	20	2101	6095	RUSS	VOA	MUN	0	0	0	53.59N	46.78E
TU	18	2113	6095	RUSS	VOA	MUN	0	0	0	56.28N	37.43E
TU	20	1700	6105	RUSS	RL	L11	0	0	0	56.08N	31.49E
TU	19	1600	6105	RUSS	RL	L11	103	22	94	54.15N	25.20E
TU	22	2012	6105	RUSS	RL	L2	0	0	0	54.61N	14.00E
TU	19	1930	6140	RUSS	VOA	WOF	0	0	0	54.80N	17.54E
TU	25	0200	7155	RUSS	RL	P6	0	0	0	7.53N	113.29E
TU	25	0100	7165	RUSS	RL	G3B	0	0	0	56.05N	27.89E
TU	22	0020	7220	RUSS	RL	HC	0	0	0	7.78S	127.11E
TU	4	0013	7220	RUSS	RL	HC	0	0	0	50.28N	29.42W
TU	26	1800	7220	RUSS	RL	L7+L8	130	24	100	55.32N	34.63E
TU	1	1700	9555	????	????????????		159	28	101	56.19N	36.01E

Table 6. Output of the FFIX Program Showing the BPE and Confidence Ellipse for Individual Fixes on TK and TU (Continued)

Identification	Day	Hour (UTC)	Frequency (kHz)	Language	Broadcaster	Transmitter Site	Confidence Area	Semimajor Axis	Semiminor Axis	BPE Latitude	BPE Longitude
TU	6	1800	9555	RUSS	VOA	MUN	72	16	101	56.22N	37.26E
TU	7	1838	9555	RUSS	VOA	MUN	0	0	0	33.95N	77.59E
TU	1	1630	9565	UKR	RL	L2	245	37	106	55.07N	41.59E
TU	7	1630	9565	UKR	RL	L2	65	22	89	57.81N	36.89E
TU	1	1700	9565	UKR	RL	L2	197	25	113	54.66N	42.05E
TU	7	1839	9585	RUSS	VOA	MUN	0	0	0	55.80N	39.13E
TU	24	1233	11740	RUSS	VOA	KAV	0	0	0	56.01N	26.57E
TU	22	1630	11780	RUSS	BBC	WOOF	282	20	81	56.59N	33.08E
TU	21	1700	11805	RUSS	VOA	KAV	388	18	73	54.72N	15.11E
TU	23	1600	11805	RUSS	VOA	KAV	0	0	0	51.04N	60.17E
TU	19	1520	11805	RUSS	VOA	KAV	0	0	0	55.80N	39.13E
TU	22	0530	11805	RUSS	RL	L6	0	0	0	56.08N	26.65E
TU	30	2019	11845	RUSS	BBC	CYPRUS	2607	341	114	59.74N	24.77E
TU	7	1809	11845	RUSS	BBC	CYPRUS	1384	216	101	58.90N	1.60E
TU	30	1744	11845	RUSS	BBC	CYPRUS	3653	478	135	48.13N	50.95E
TU	28	1104	11875	RUSS	RL	L5+L6	1289	215	100	57.21N	2.34W
TU	31	1102	11875	RUSS	RL	L9+L10	0	0	0	53.49N	40.10E
TU	21	1005	11885	RUSS	RL	L9+L10	73	1	66	52.25N	5.09E
TU	21	1103	11885	RUSS	RL	L9+L10	0	0	0	54.19N	14.34E
TU	18	1438	11970	RUSS	RL	HD	0	0	0	55.18N	25.56E
TU	25	1201	15120	RUSS	VOA	WOF	289	44	106	54.33N	37.76E
TU	28	1332	15130	RUSS	RL	P5	390	32	44	49.65N	63.10W
TU	25	1209	15235	RUSS	VOA	WOF	506	57	109	53.73N	46.11E
TU	28	1000	15290	RUSS	RL	L2	219	12	70	53.35N	9.55E
TU	30	1200	15290	RUSS	RL	L2	0	0	0	55.43N	31.93E
TU	28	1200	15290	RUSS	RL	L2	0	0	0	54.19N	14.34E
TU	28	1100	15290	RUSS	RL	L2	649	20	85	55.27N	24.97E
TU	26	1030	15340	RUSS	RL	L4	0	0	0	55.43N	20.43E
TU	28	0800	15370	RUSS	RL	B6	9781	112	121	48.42N	70.60E
TU	1	1130	17855	SLVK	BBC	WOOF	170	30	107	55.43N	31.98E
TU	22	1513	17895	RUSS	RL	P1+P2	2541	366	130	55.72N	31.66E
TU	27	0204	7180	TB	RL	L7+L8	0	0	0	45.00N	90.00E
TU	22	0500	6170	UKR	RL	L5+L6	141	20	81	55.94N	31.66E
TU	29	1910	7245	UKR	RL	L7+L8	0	0	0	53.59N	46.78E
TU	4	1726	9565	UKR	RL	L2	0	0	0	56.52N	35.94E
TU	5	1935	9565	UKR	RL	HA	486	39	89	55.46N	26.57E
TU	2	1845	9565	UKR	RL	HA	1485	272	112	53.19N	12.11E
TU	7	1730	9565	UKR	RL	L2	83	19	117	56.20N	38.05E
TU	7	1830	9565	UKR	RL	HA	0	0	0	54.91N	40.14E
TU	2	0500	9660	UKR	RL	P3	857	83	125	45.16N	58.18E

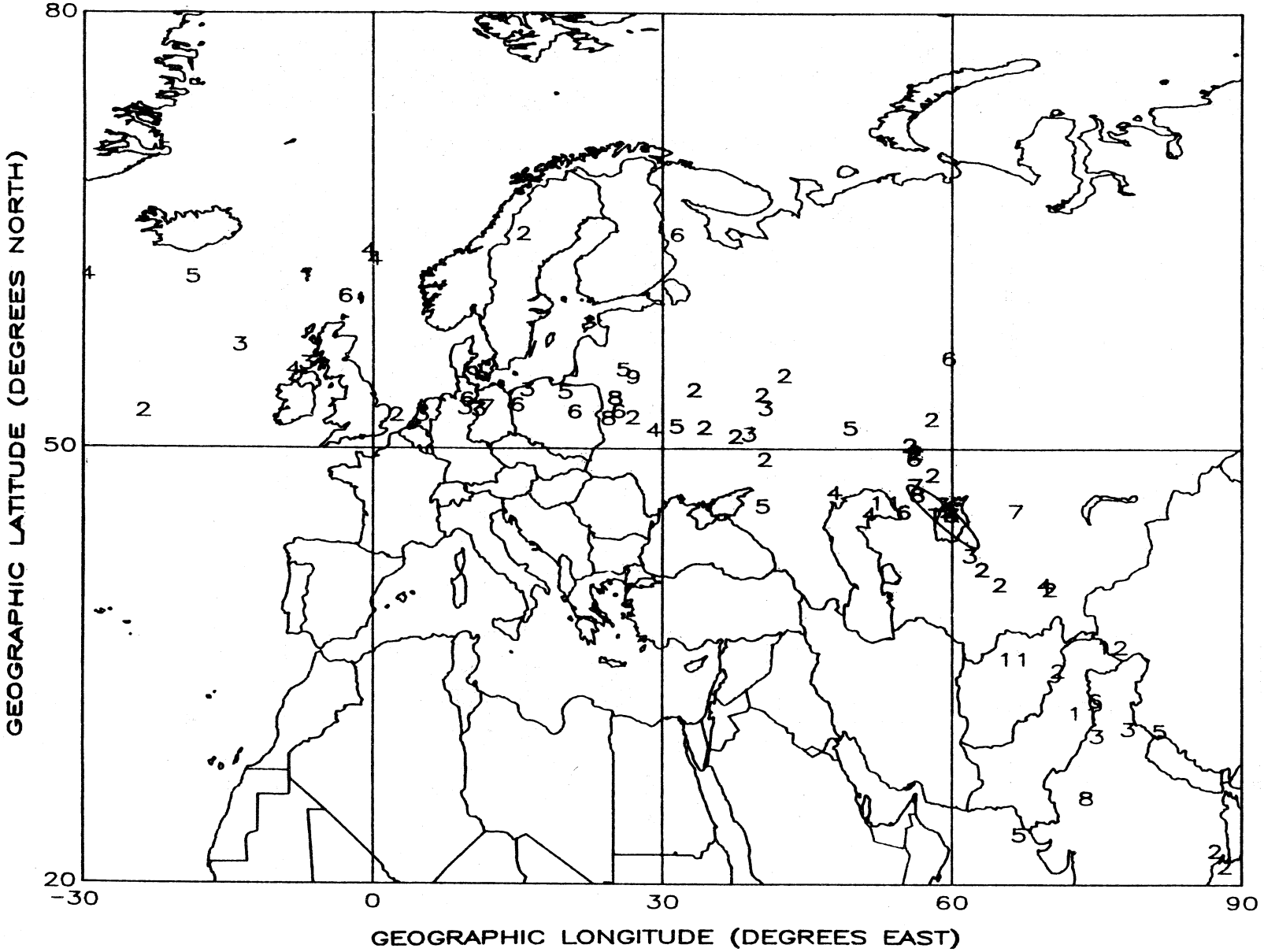


Figure 10. Location of individual fixes on the marker TK for the March/April 1985 period. The numbers refer to the number of bearings used to determine the individual fix and are centered on the individual BPE's.

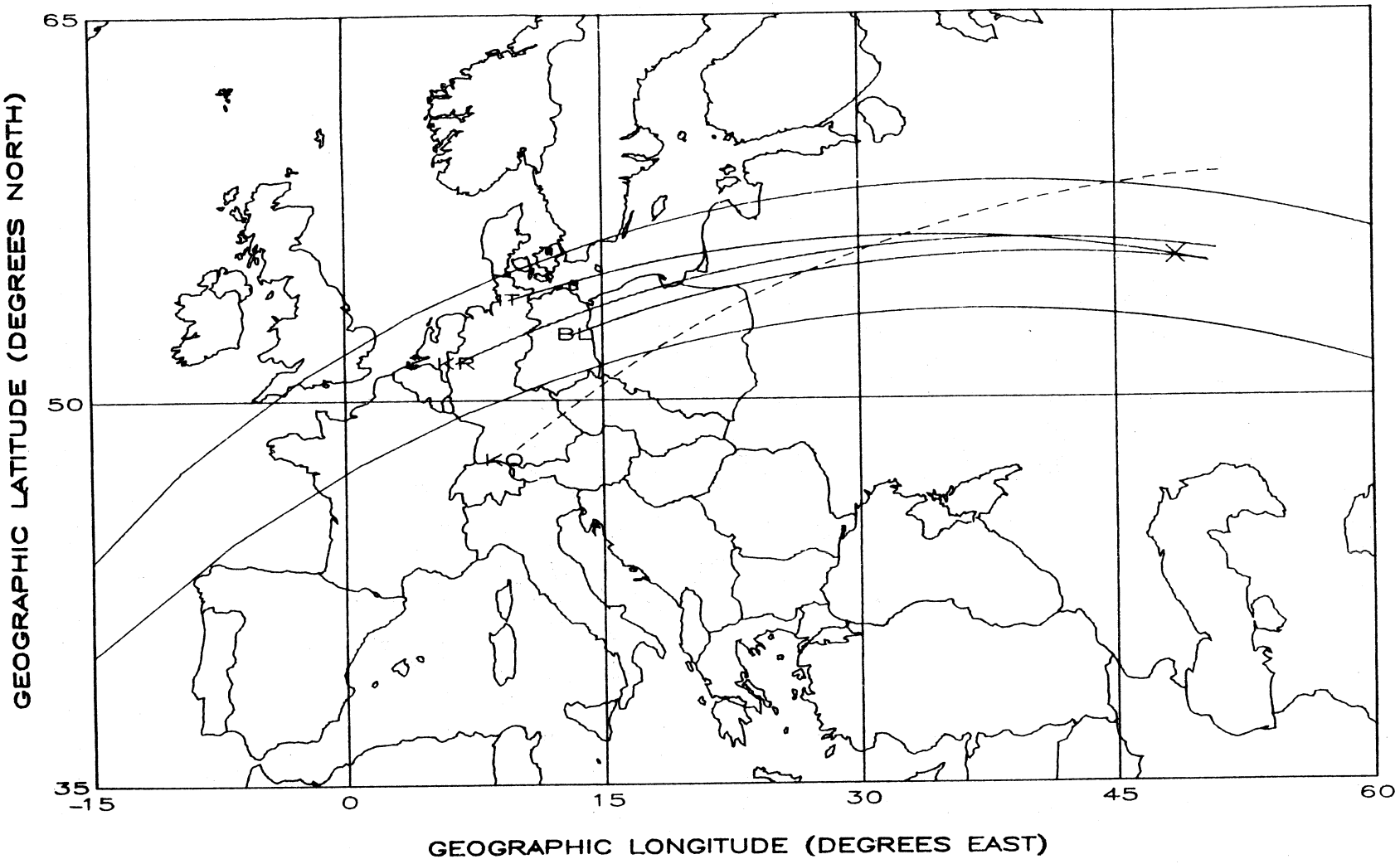


Figure 11. An individual fix (designated by X) on the marker TU observed at 0500 h UTC on March 22, 1985, on 6170 kHz using the bearings depicted by the great circle (solid) lines. The dotted line refers to a bearing that was rejected by the FFIX program.

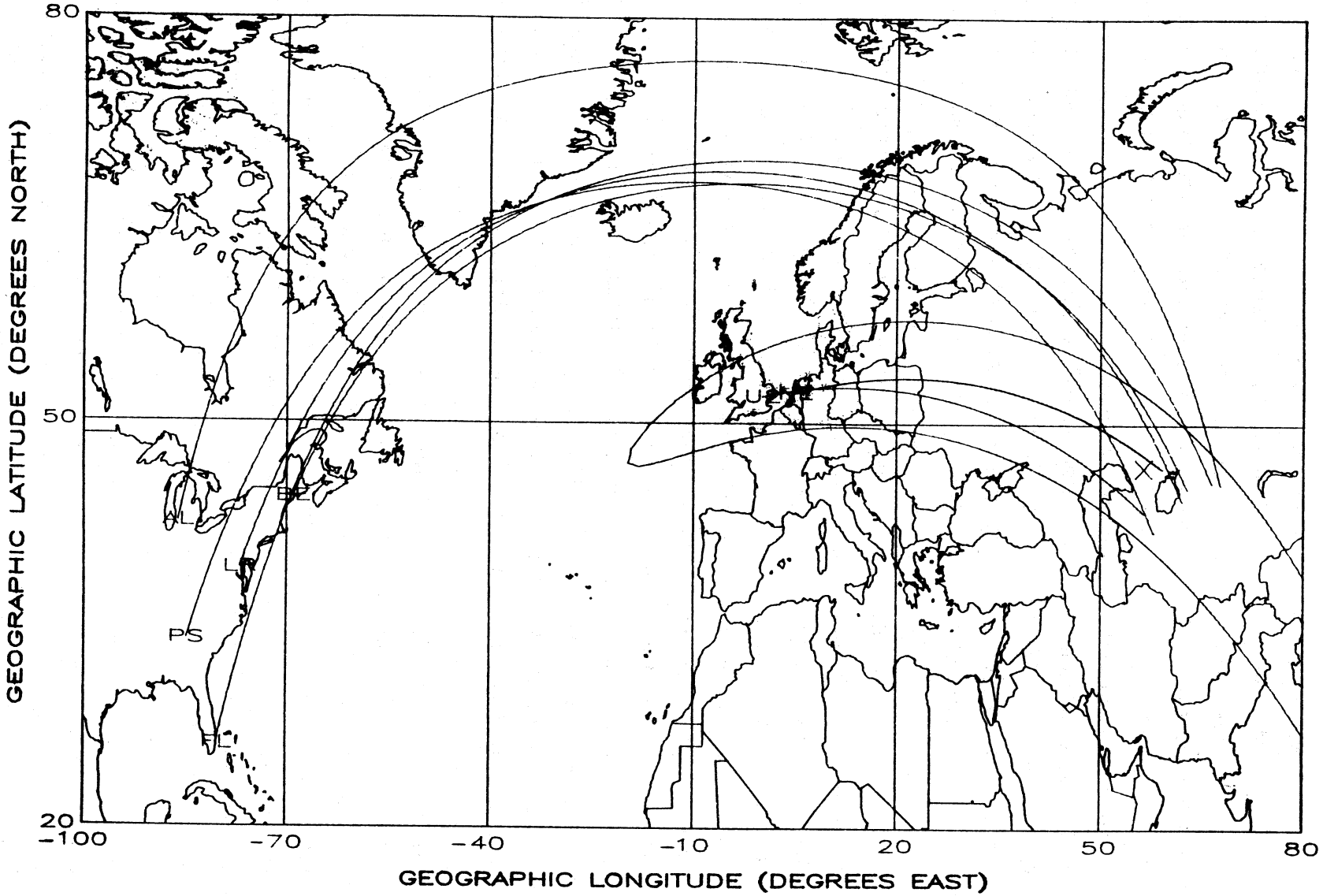


Figure 12. An individual fix (designated by X) on the marker TK observed at 2200 h UTC on March 22, 1985, on 11970 kHz using the bearings depicted by the great circle (solid) lines. The confidence ellipse is clearly seen stretching from the United Kingdom to the southeast of the USSR.

Figure 11 denotes a "wild" bearing. These plots show that bearings coming from the United States with a typical standard deviation of ± 6° may throw the location of the fix off by several hundred miles. These errors are reduced when a large number of observations are entered into the FFIX program, however. Looking at great circle maps from the monitoring stations in the United States and Europe to the jammer locations reveals that the fixes orient themselves along the great circle bearings coming from these stations.

The results described above are "first-round" estimates of the locations of the emitters causing intentional harmful interference, and it should be kept in mind that the confidence ellipses associated with each of the fixes are extremely large--too large to pinpoint the marker within a country to the degree of accuracy desired. To minimize the effects of the propagation bearing errors and to reduce the size of the confidence ellipses, it is necessary to combine observations for different time periods. In order to do this a few assumptions had to be made. First, it was assumed that the markers were transmitted from the same location over the 3 weeks of the monitoring period. All the observations from a particular marker can be combined to form what is called a "composite hit." The composites are formed from the data set of Appendix A. For example, to form a composite on marker TK, observations that are contained in indexes 1329 through 1413 for the March/April period were used, and all of the data from each of these individual fixes were entered into the FFIX program to generate a new location for the marker. "Composite hits" can also be generated by combining all of the information that is associated with one language or frequency and a particular marker.

The composite data, which join all the observations from one marker, permit the determination of locations of the markers from two or more separate observations. The results show that the confidence ellipses are much smaller than those obtained using the individual data, but are still aligned in an east-west orientation. This can be seen in Table 7, which gives the BPE and confidence ellipses for various groupings of the TK and TU markers. In the table, the number of bearings that were discarded ("wild" bearings) are also shown. The fewer the number of wild bearings on a given marker hit, the more confidence can be given to the ability of the data set to represent a valid marker location. For a complete listing of the composite files, refer to Appendix B.

Composite locations can also be determined by grouping the data according to specific languages that are broadcast as well as specific frequencies. This type of breakout of the observations aids in assessing the probability of more than

Table 7. Composite Fixes for the TK and TU Markers for all Data and for Data Grouped According to Language and Frequency

Identifier Frequency, Language	BPE Latitude	BPE Longitude	Semimajor Axis	Semiminor Axis	Orientation	No. of Indexes Used	No. of Bearings Used by FFIX	No. of Bearings Originally
229=TK	52.08N	29.30E	87	8	100deg	81	273 of	347 bearings
230=TK-AZ	32.87N	76.44E	2652	297	140deg	2	4 of	6 bearings
231=TK-BR	44.38N	58.88E	1335	185	132deg	5	16 of	16 bearings
232=TK-EST	53.49N	18.37E	87	20	91deg	7	32 of	35 bearings
233=TK-LITH	52.36N	2.45E	452	11	77deg	5	15 of	19 bearings
234=TK-LAT	44.01N	60.30E	942	92	129deg	4	11 of	11 bearings
235=TK-RUSS	51.67N	32.93E	107	10	103deg	49	184 of	224 bearings
236=TK-UKR	46.54N	52.52E	639	84	123deg	5	17 of	18 bearings
237=TK-7M	52.07N	35.12E	129	23	114deg	11	26 of	34 bearings
238=TK-9M	43.39N	63.72E	203	40	133deg	20	82 of	83 bearings
239=TK-11M	47.72N	50.43E	231	38	120deg	27	135 of	149 bearings
240=TK-15M	43.28N	64.28E	327	57	138deg	11	34 of	36 bearings
241=TU	55.73N	37.92E	29	8	106deg	78	194 of	216 bearings
242=TU-EST	54.00N	12.56E	354	22	74deg	2	5 of	5 bearings
243=TU-RUSS	55.43N	24.72E	54	9	83deg	39	90 of	106 bearings
244=TU-UKR	55.85N	37.91E	57	17	111deg	11	32 of	35 bearings
245=TU-6M	55.91N	33.96E	77	17	96deg	11	24 of	29 bearings
246=TU-7M	55.41N	39.61E	63	20	112deg	13	25 of	29 bearings
247=TU-9M	55.87N	37.92E	48	13	113deg	18	47 of	51 bearings
248=TU-11M	55.58N	23.98E	65	12	79deg	21	53 of	63 bearings
249=TU-15M	54.93N	20.05E	96	11	77deg	12	33 of	35 bearings
250=TU-17M	55.42N	31.99E	305	55	107deg	2	6 of	6 bearings

one jammer being used with the same marker. A close look at the composite file (Appendix B) indicates that the markers do appear to show a language and frequency dependence. Figure 13 indicates the actual locations, including confidence ellipses, of the marker TU grouped by frequency. As can be seen, the confidence ellipses either are contained within each other or at least overlap. The separation is not greater than would be expected from propagation effects on the bearing observations.

Figure 14 shows the results of the TU marker grouped according to language. The results are not as clear-cut as they were in Figure 13. The BPE's and confidence ellipses are separated several degrees in longitude. This is partly due to the fact that there was a lack of many observations for certain languages, resulting in an inadequate sample size of data that were input into the FFIX program. The spread in location as seen in Figure 14 implies that the breakout according to language may not be valid for the data available for this study.

Thus far in the analysis, established criteria were used. Two or more corroborating pieces of data for an individual file were combined with other individual fixes for an additional composite fix. This type of analysis was tailored to the FFIX program or, in other words, the analysis was dictated by the fix algorithms already in place in the FFIX program. It is helpful at this point to employ a different scheme to aid in analyzing the data. Figures 15 and 16 show histograms of the data for several monitoring stations for each marker. Groupings of this type are helpful in ascertaining whether the data on each marker needs to be regrouped or if an acceptable distribution of observed bearings can be achieved. Once deemed acceptable, the histogram data are useful in assigning a more valid estimate standard deviation to each monitoring station in the FFIX program.

The histograms shown in Figures 15 and 16 represent only those observations that are believed to be representative of reality. The data have been "windowed" in order to delete "wild" bearings, which in this case are erroneous bearings due to scattering or readings taken on the wrong target. The number of wild bearings generally is more than would be expected of a normal distribution. Also, the distribution of bearings in certain instances tended to be multimodal. A typical monitoring station has only $\pm$ 5° of resolution. When this error is coupled with errors in propagation and the colinearity of the jamming stations, it soon becomes apparent that with all the possible degrees of freedom it may be impractical to fit the data to a normal distribution.

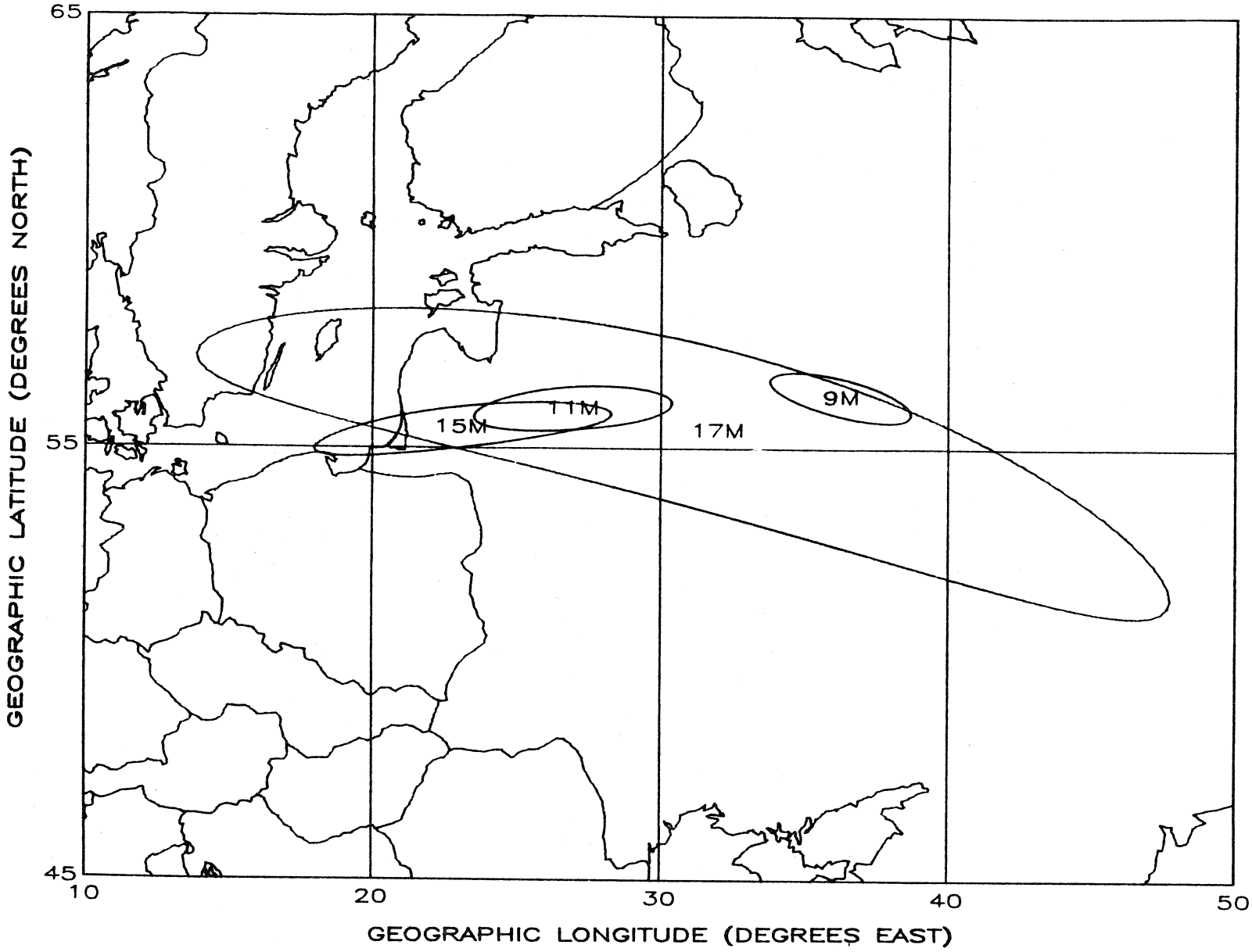


Figure 13. Location of the marker TU and the associated confidence ellipses arranged by frequency for the March/April 1985 monitoring period.

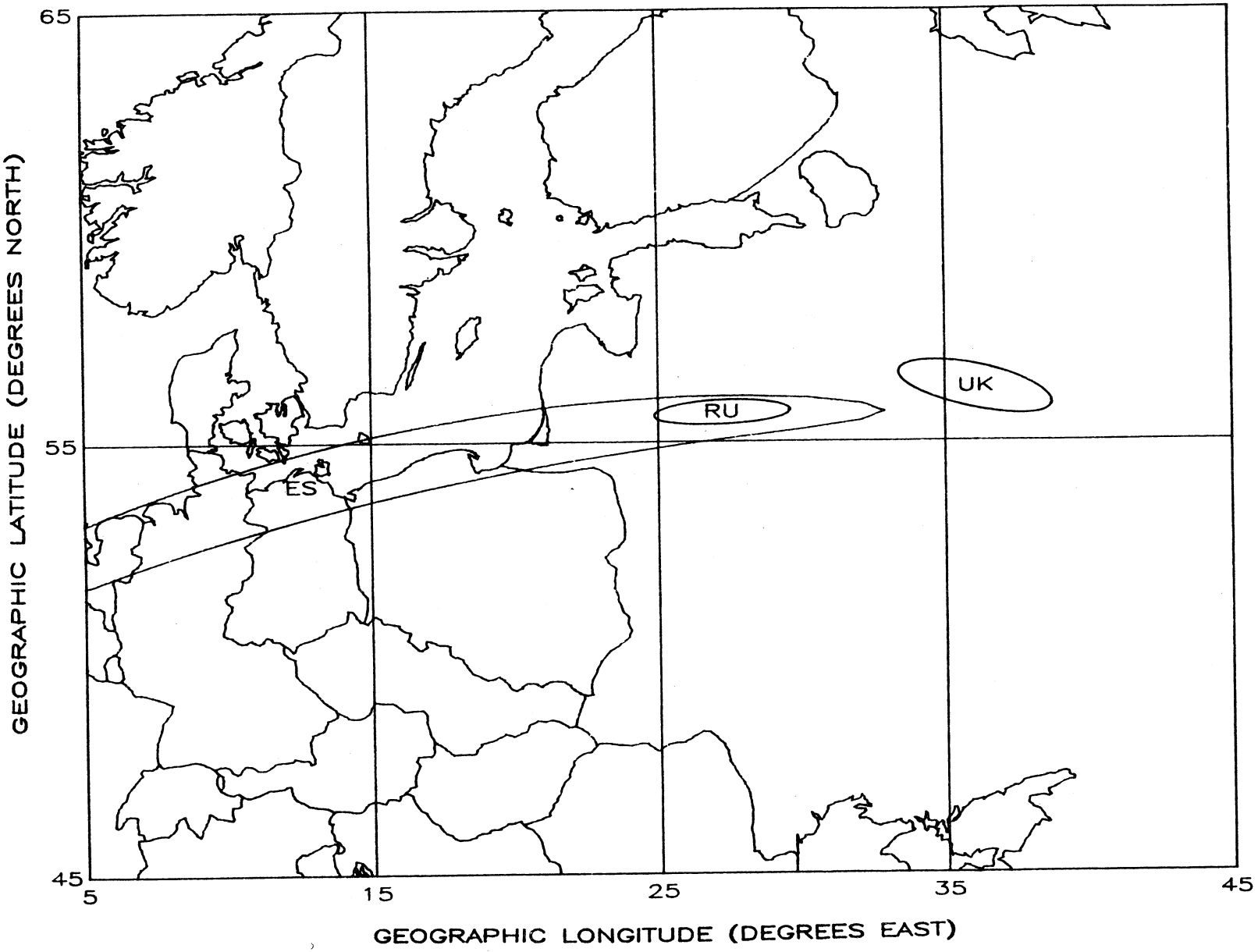
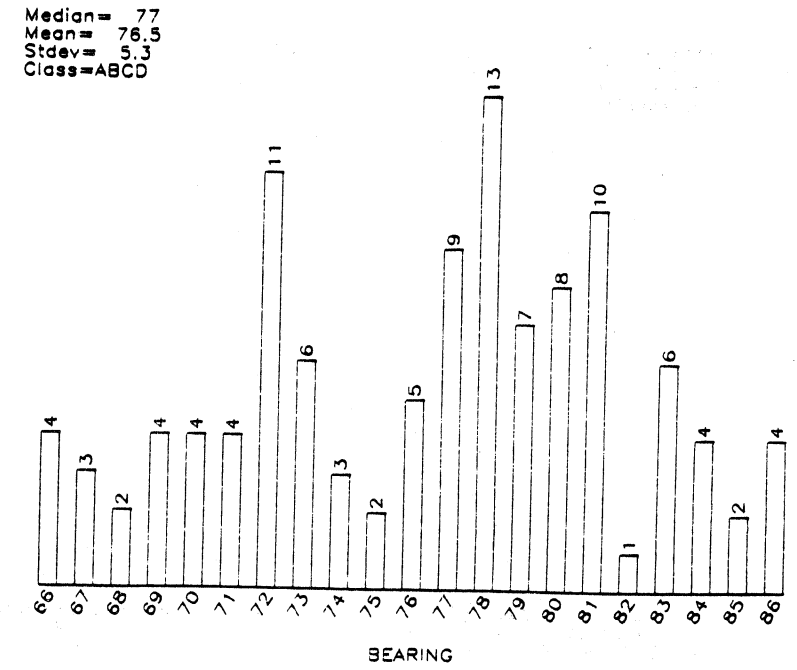


Figure 14. Location of the marker TU and the associated confidence ellipses arranged by language for the March/April 1985 monitoring period.



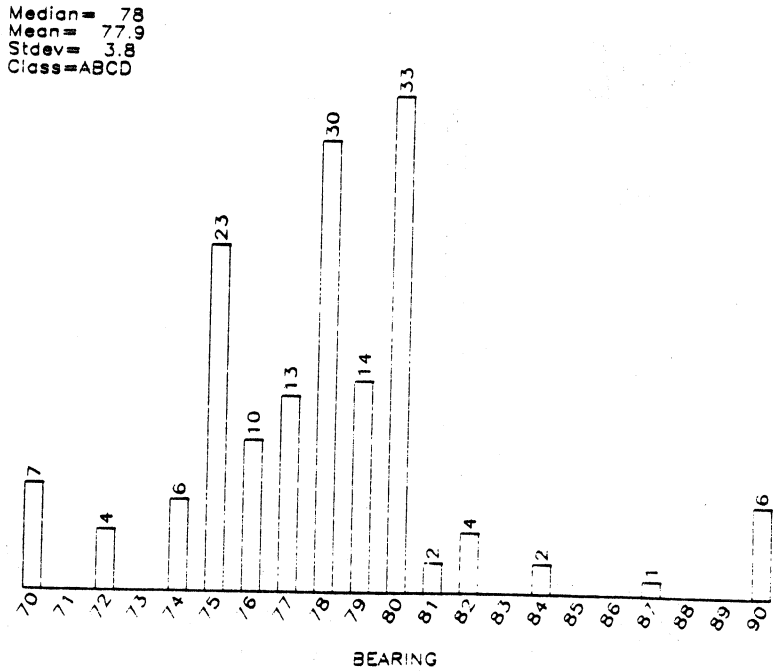
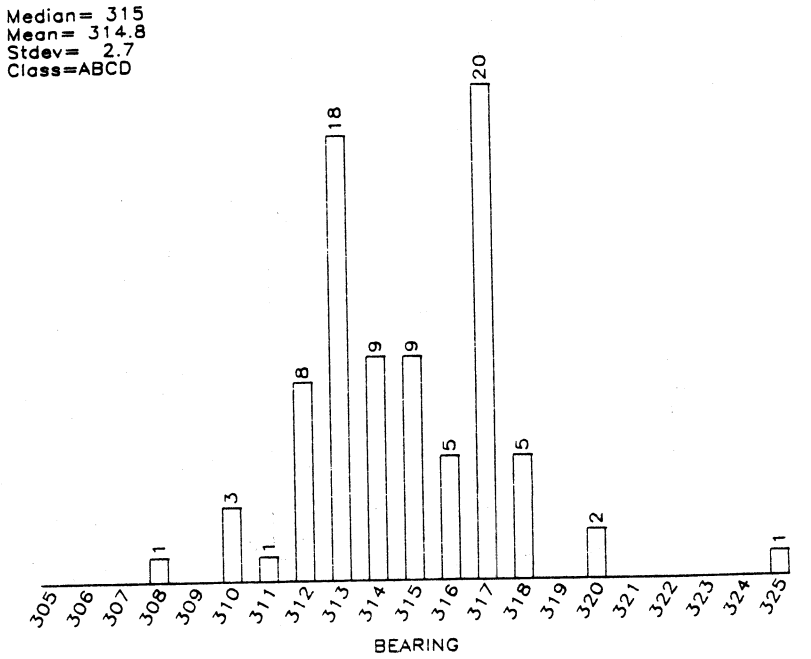


Figure 15. Histograms showing the number of bearings of the marker TK observed at Nedhorst Den Berg, Netherlands, and Baldock, United Kingdom, (bottom) during the March/April 1985 monitoring period.



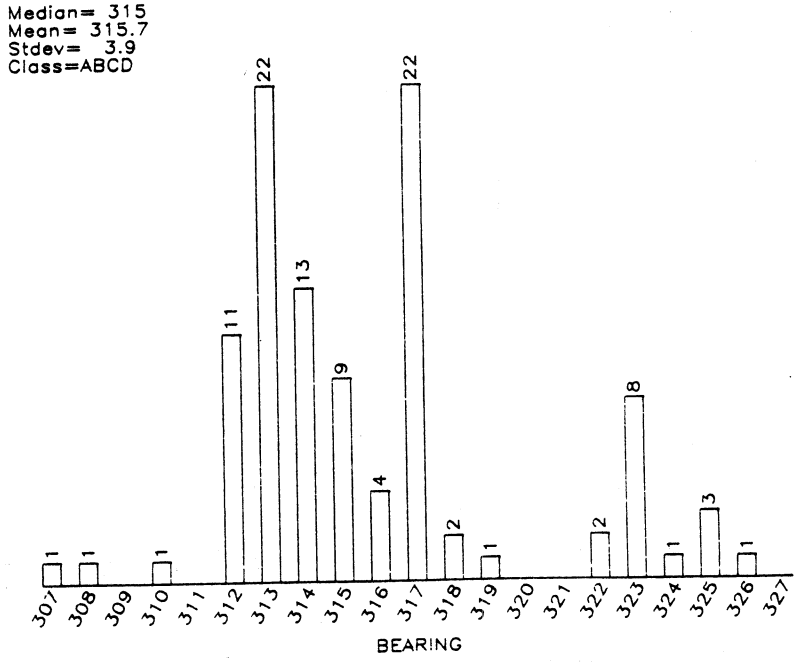


Figure 16. Histograms showing the number of bearings recorded at Waipahu, Hawaii, during the March/April 1985 monitoring period of the marker UA (top) and the marker KB (bottom).

The multimodal nature of the histogram data may also be an indication that there is a need to regroup the data. The data obtained from many of the stations in Germany and Netherlands show many different spikes on the histograms. Multimodal distributions may suggest there is more than one location for each marker. The histogram data makes it possible to use the FFIX routine to fix on different bearings coming from one station and look at the possibility of several locations for each marker. The FFIX program was not designed for this type of analysis, but there is evidence that suggests this analysis may be useful in distinguishing jamming stations that are colinear.

Figure 17a and b shows that the BPE does not necessarily change drastically when specific peaks in the distribution of the bearings are used in the FFIX program. In this example, different values of the bearings from the Netherlands, Norway, United Kingdom, and Berlin monitoring stations were used to locate the TK marker. The bearings from these stations were changed by as much as $\pm$ 5°. It is seen that the location of the BPE in both figures is approximately the same.

The data from jamming signals emitted in the eastern part of the Soviet Union show some interesting features regarding bearing values. For example, histograms of the data observed at Waipahu (Figure 16) of signals emitted in Siberia show two peaks--one on 313° and another on 317°. This feature is observed at Waipahu on all of the markers emanating from this region. If the two different bearings are entered into the FFIX routine separately, then two distinct locations are fixed--one near Khabarovsk and one near Komsomolsk. A separation of 4° is not within the theoretical limits of the resolution of the station involved, but the fact that the two distinct bearings show up regularly leads us to pursue the investigation further. Diagrams of fixes from the bearings of this network are shown in Figure 18. No bearings were separated from the other west coast stations because the great circle bearings to each of these locations are within a single degree.

The main use of the histogram data is to gather information about the data from a particular monitoring station for determining realistic bearings for inclusion in the FFIX program. Also, the data are helpful in determining the accuracy of the DF facilities at the station. Therefore, it should be possible to determine a better estimate of the accuracy of the bearings associated with a given station. This accuracy depends upon the DF variance and systematic errors displayed by the data. The DF variance is the combination of systematic errors and normal distribution variance (Gething, 1978). The DF variance (V_{df}) is a sum of frequency variance (V_f), distance variance (V_d), and site error variance (V_g):

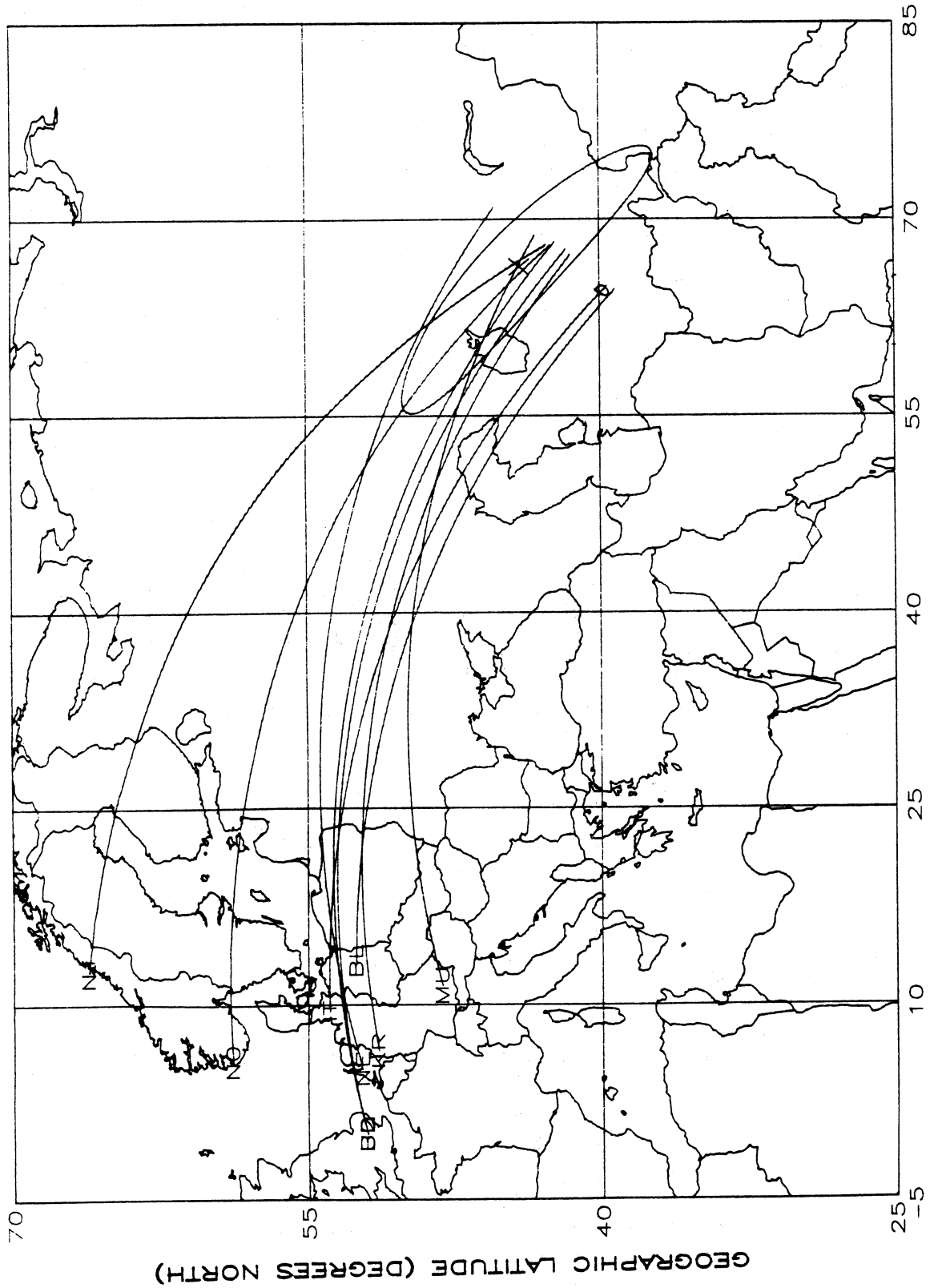


Figure 17a. A fix on the marker TK using a distinct set of modal values of the bimodal distribution observed at the indicated monitoring stations for the March/April 1985 monitoring period.

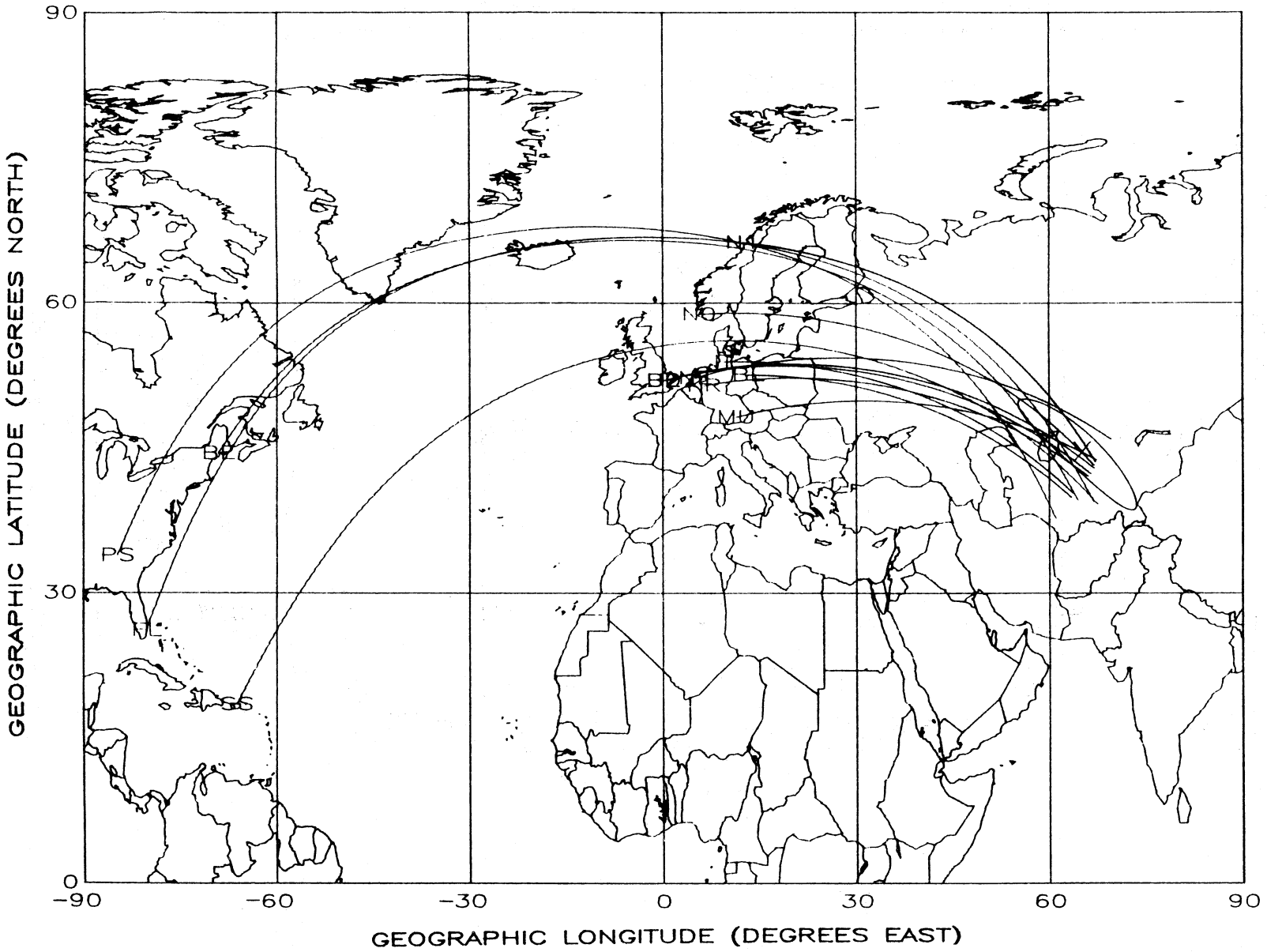


Figure 17b. A fix on the marker TK using a different set of modal values than in Figure 17a observed at the indicated monitoring stations in Europe and the United States for the March/April 1985 monitoring period.

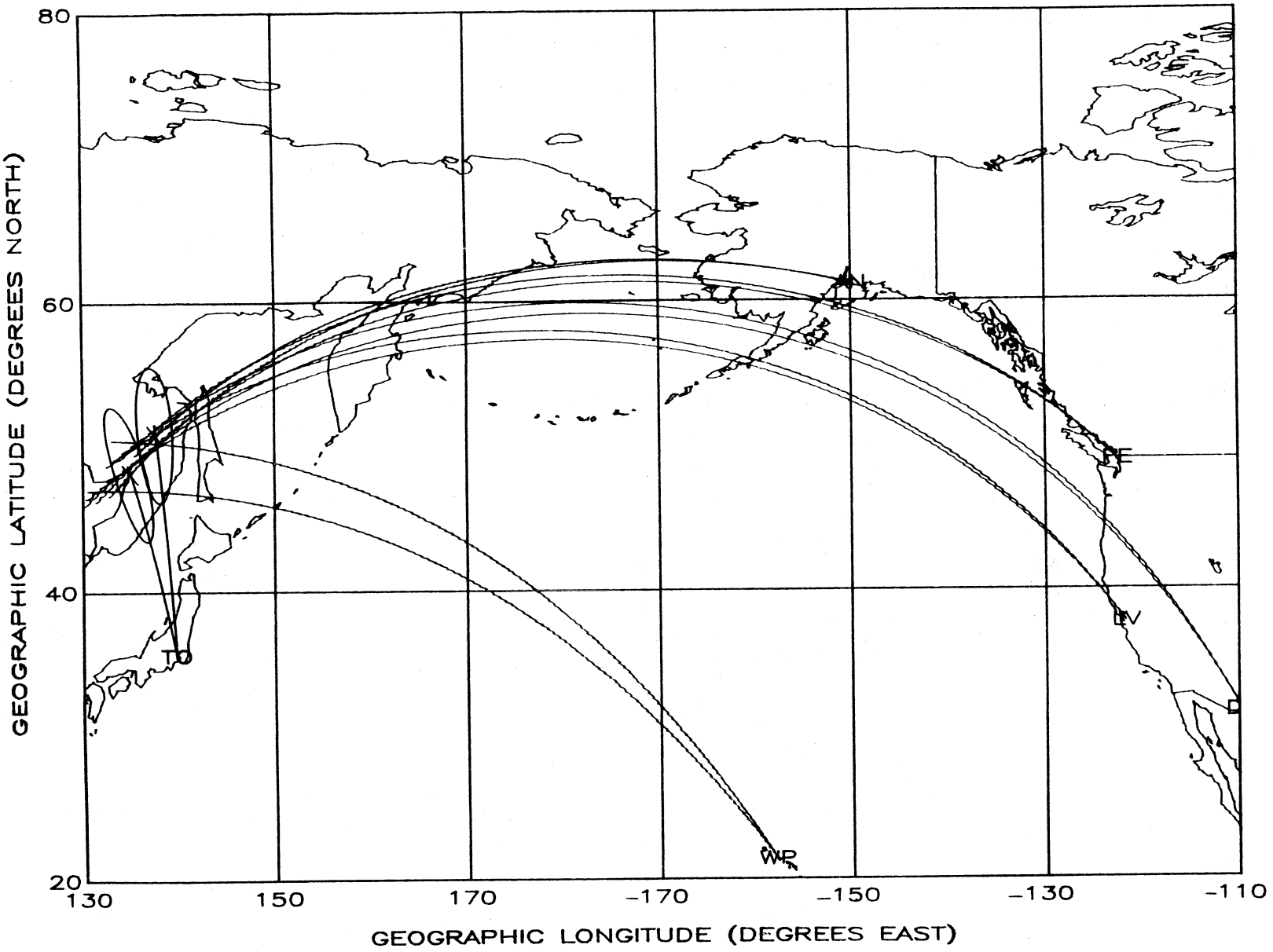


Figure 18. A fix using the bimodal distribution of bearings observed at Waipahu to distinguish two separate locations (KB and UA) in the region of Eastern USSR for the March/April 1985 monitoring period.

$$V_{df} = V_d + V_f + V_g \cdot \quad (5)$$

An estimate of an average variance for each of these components is given by Gething (1978, p. 267). He estimates an average of around 8.2° squared (standard deviation of about 3°) total variance for Adcock (NADF) arrays on a medium power transmitter. In practice, this number is expected to be larger. For example, the station UK on Figures 15 for the jammer marker TK gives the station a standard deviation of 5°. This is a more accurate evaluation of the station standard deviation than the classification system currently used in the FFIX program. Further work in this area will be pursued after the primary objectives of the study--the location of those emitters causing harmful interference to the HF broadcast service--are completed.

5. RESULTS

The locations of emitters that were observed to jam broadcasts during the October 1984 period are shown in Figures 19 and 20. These locations are contained in the list in Appendix B along with estimates of the confidence ellipses. The alphanumeric marker is centered at the location of the best point estimate for each emitter. Most of the emitters are located in the Soviet Union. It can be seen that the emitters of harmful interference show a tendency to be grouped into specific regions. For example, there is a group of emitters in the western part of the Soviet Union and in the far eastern part of Siberia. The western grouping seems to be centered near the Moscow region, and the eastern grouping appears to be centered near the Khabarovsk area. In addition, there appear to be small groupings of emitters in Poland (B1, MP, ZM, etc.) and Czechoslovakia (D3, W1, Z3).

Figures 21 and 22 show the locations of jammers deduced from data gathered during March/April 1985. These, too, are listed in Appendix B. The same general trends as noted for the October data are obvious for the March/April data. The locations of the emitters having the same markers during the October and March/April periods generally are in the same area. This may imply a degree of relative permanency in the location of the emitters used to cause harmful interference to the broadcast service.

It is not possible to unambiguously assess whether the emitter associated with each marker is used primarily to provide intentional harmful interference to the immediate vicinity in which it is located or if the principal use of the emitter is to supply signals directed at distant locations. There are a few

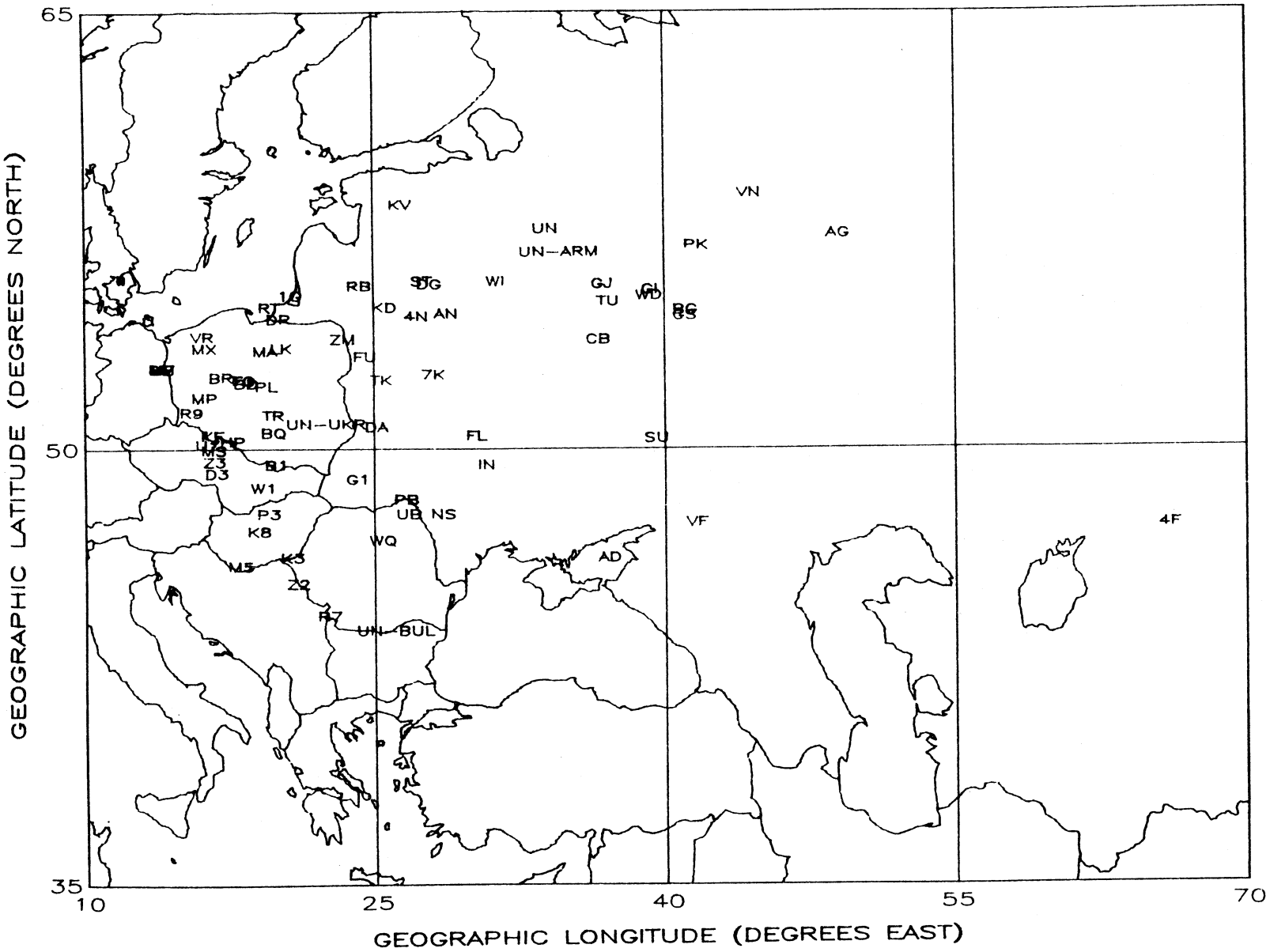


Figure 19. Locations of emitters of intentional harmful interference, indicated by marker ID, in Eastern Europe and the Western Soviet Union during October 1984.

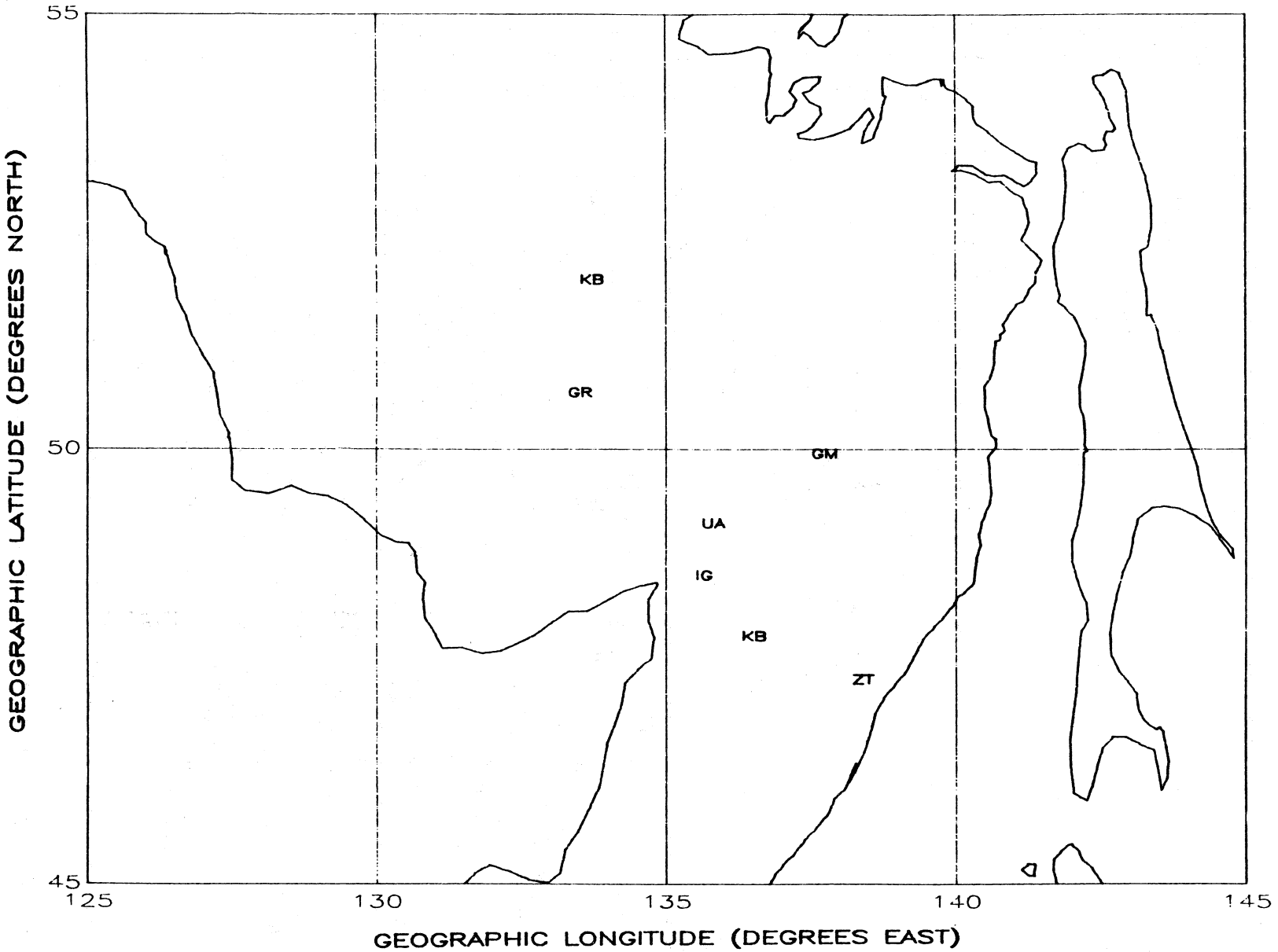


Figure 20. Locations of emitters of intentional harmful interference, indicated by marker ID, in the Eastern Soviet Union during October 1984.

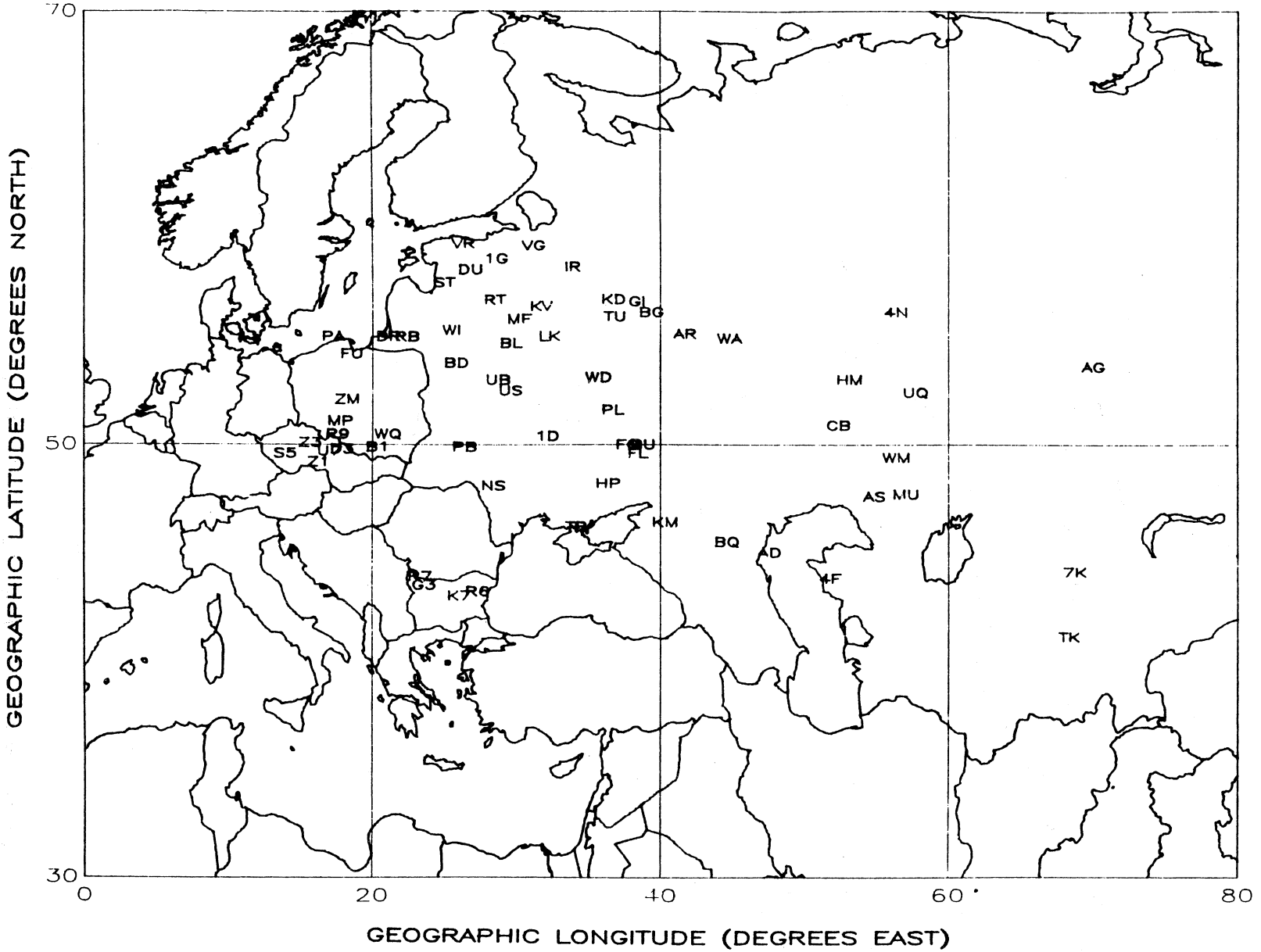


Figure 21. Locations of emitters of intentional harmful interference, indicated by marker ID, in Eastern Europe and the Western Soviet Union during March/April 1985.

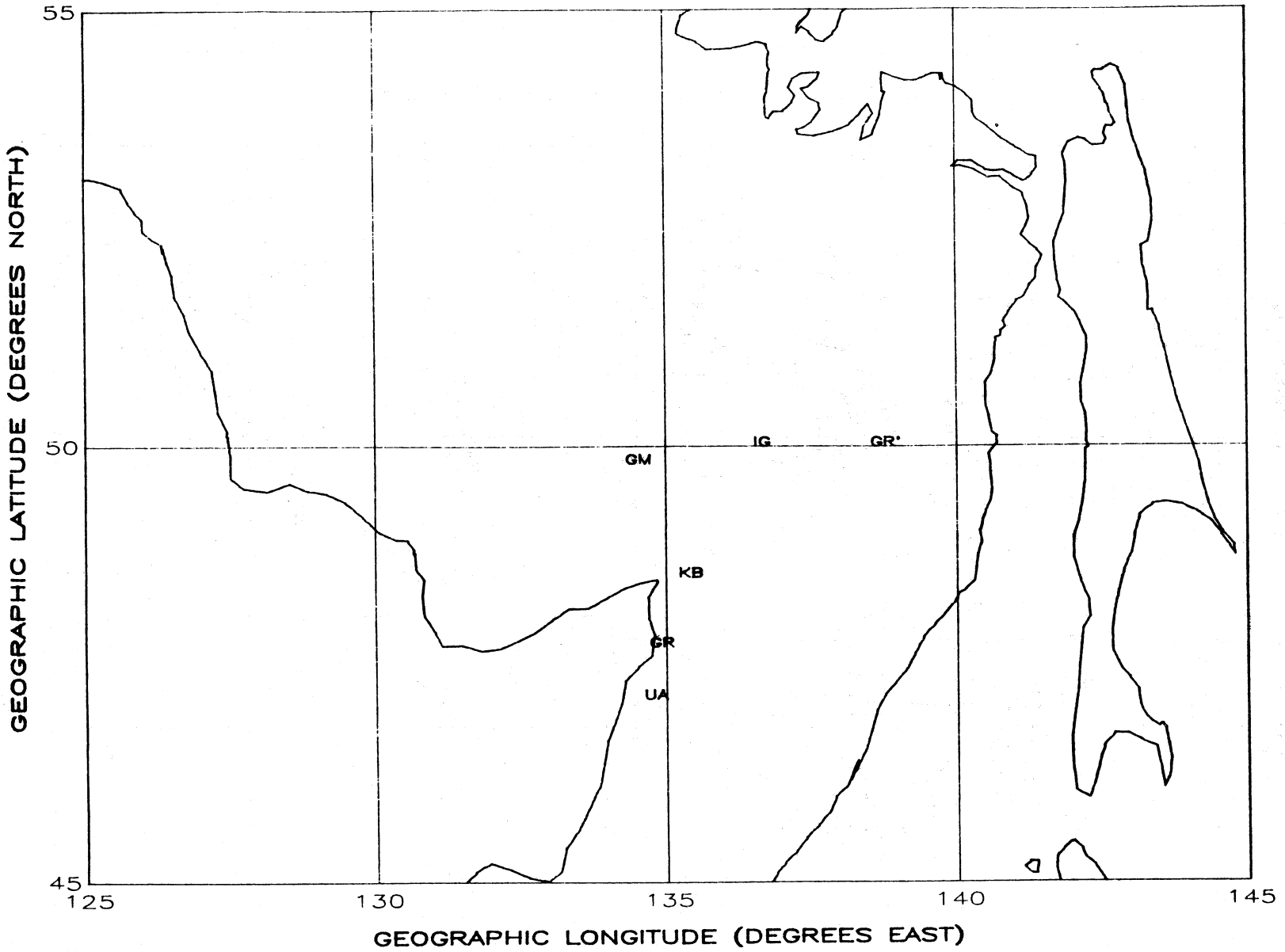


Figure 22. Locations of emitters of intentional harmful interference, indicated by marker ID, in the Eastern Soviet Union during March/April 1985.

factors relative to jamming activities that perhaps can aid in the interpretation of the results shown here. As the name implies, localized jamming is directed toward the immediate vicinity of the emitter causing the jamming. It is generally accomplished by use of ground-wave signals that are effective to distances of 50 to 100 km, depending upon the frequency used. Localized jamming is an effective method to provide signals with high field strengths in regions of large population centers, i.e., cities. It is questionable whether it is possible to observe signals that are primarily ground-wave signals using the monitoring stations available for this study, although ground-wave signals emitted from elevated antennas could produce a significant surface wave component that could couple into a sky wave. Intentional harmful interference that is accomplished using sky-wave reflection has the advantage of being able to cover large regions. This technique could be a relatively cost-effective method for jamming broadcast services in rural areas as well as helping to create an unacceptable electromagnetic environment in major cities. Sky-wave signals used for jamming during the monitoring periods should be observable with the network of stations used for this study.

As seen in Appendix B, the markers shown in Figures 19-22 are associated with confidence ellipses. For purposes of clarity, these confidence ellipses are not shown on the figures. To visualize the size of the ellipse, Figures 23 and 24 show results for selected markers and the associated 90-percent confidence ellipses for the October and March/April data respectively. The confidence ellipse can be as large as 800 km for the semimajor axis and 400 km for the semiminor axis. There is a 90-percent probability that the location of a given marker is somewhere inside the confidence ellipse.

Table 8 provides a listing of the location of the emitters of intentional harmful interference arranged by marker for October 1984 and March/April 1985. These are the markers having the smallest confidence ellipses (less than 800 x 400 km). The country in which the emitter is located is indicated by the appropriate ITU country code. There are instances when the locations given in Table 8 are close to the border of two (or perhaps three) countries. In these cases, the designation is given for the country that is believed to be the most likely location of the emitter taking account of the confidence ellipses given in Appendix B. It is readily apparent that many of the locations for which emitters of harmful interference have been isolated are in the Soviet Union. Of the 76 emitters identified during the October 1984 monitoring period, 43 are located in the Soviet Union. The remaining 33 emitters are located in Eastern European

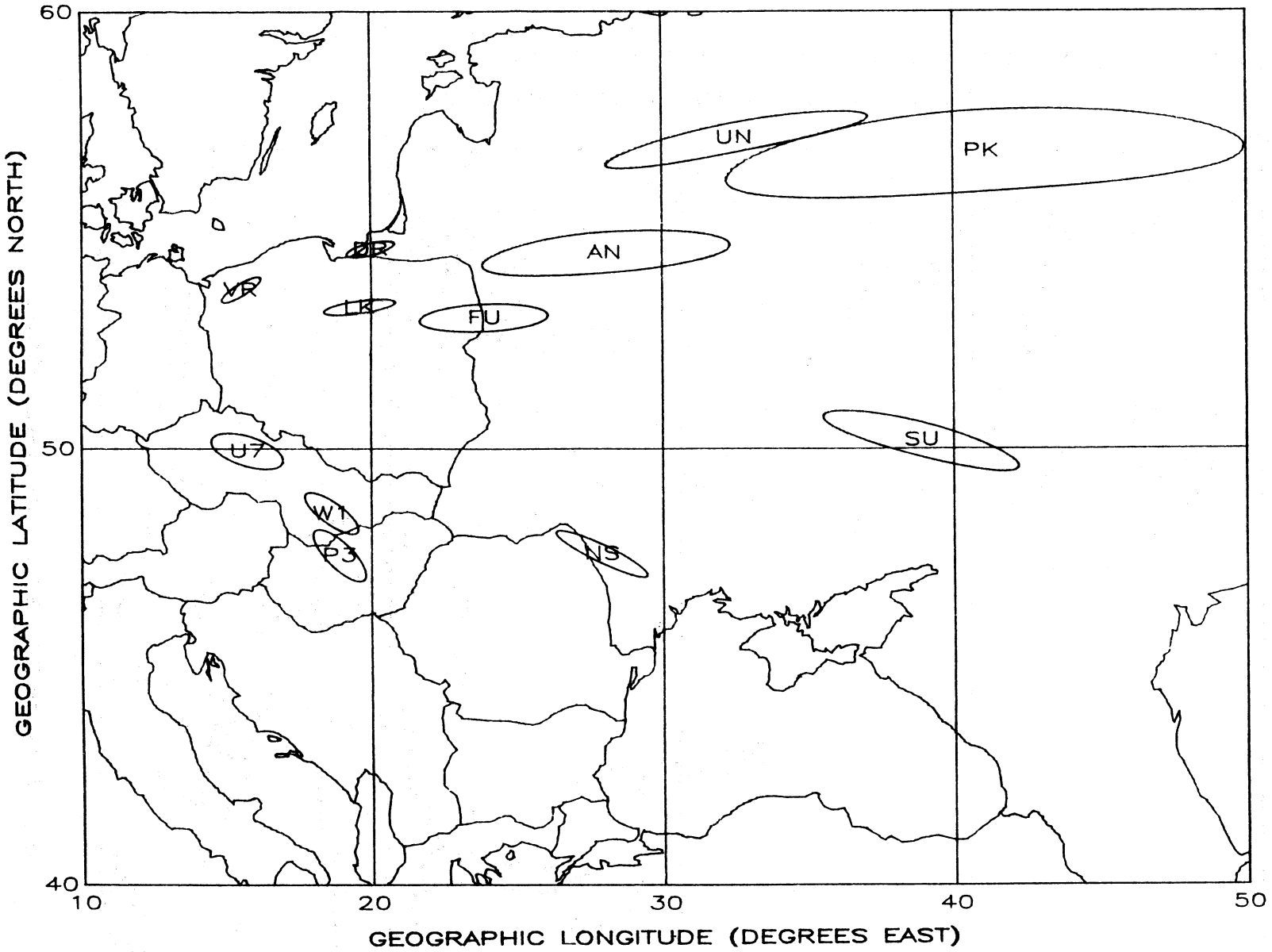


Figure 23. Example of the locations of selected jammer emitters and associated confidence ellipses for October 1984.

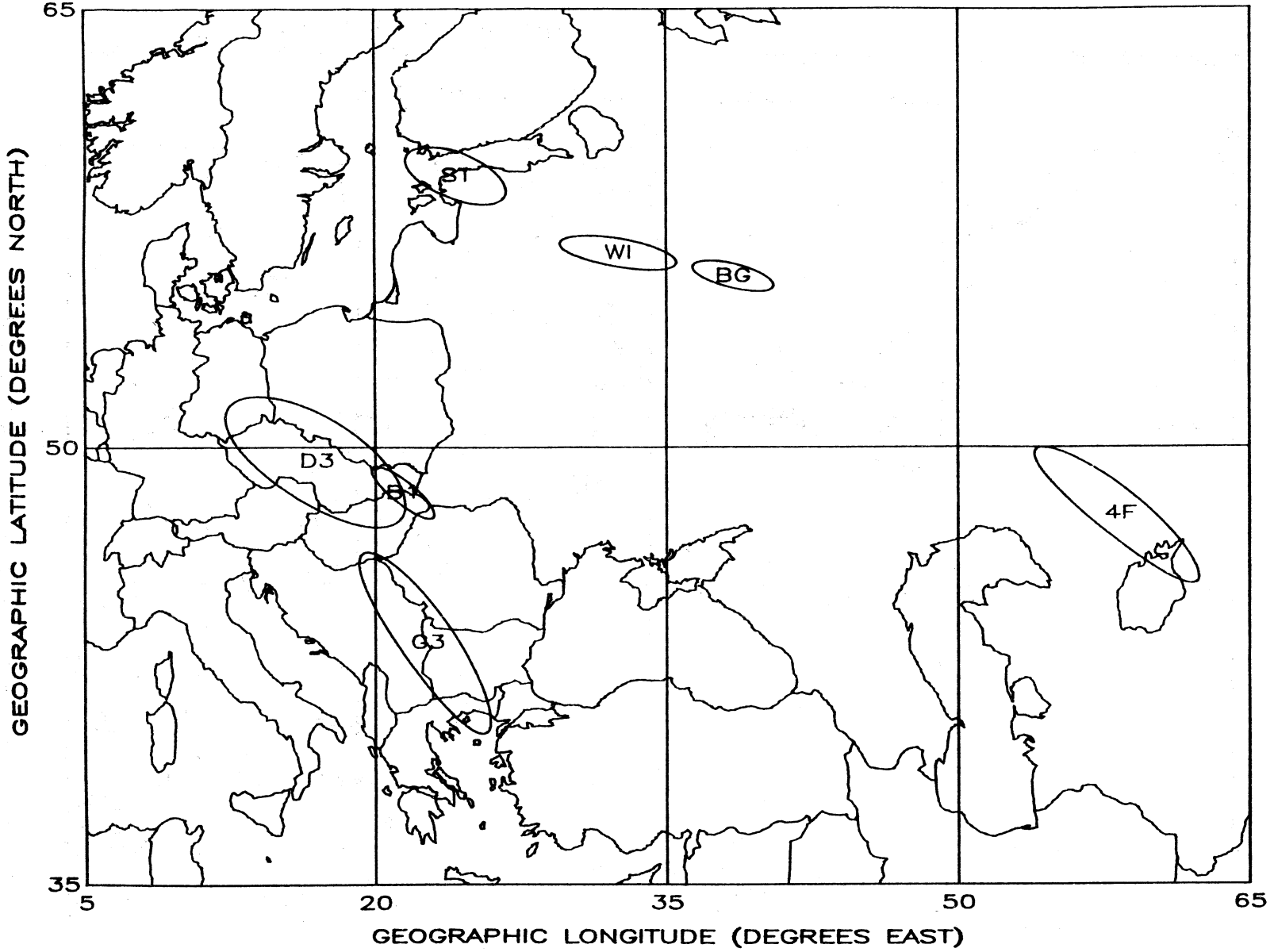


Figure 24. Example of the locations of selected jammer emitters and associated confidence ellipses for March/April 1985.

Table 8. Location of Emitters of Intentional Harmful Interference

ID	October 84	ITU Country Code	March/April 85	ITU Country Code
UN-BUL	43.6 N, 24.0 E	BUL		
UN-ARM	56.6 N, 32.5 E	URS		
UN-UKR	50.7 N, 20.4 E	POL		
1D			50.2 N, 31.3 E	URS
1G	55.1 N, 20.0 E	URS	58.4 N, 27.7 E	URS
4F	47.2 N, 65.4 E	URS	43.6 N, 51.0 E	URS
4N	54.4 N, 26.5 E	URS	55.9 N, 55.5 E	URS
7K	52.4 N, 27.4 E	URS	43.9 N, 67.9 E	URS
8L	52.6 N, 13.3 E	DDR		
AD	46.1 N, 36.5 E	URS	44.8 N, 46.8 E	URS
AG	57.2 N, 48.4 E	URS	53.4 N, 69.2 E	URS
AN	54.5 N, 28.1 E	URS		
AR			54.9 N, 40.9 E	URS
AS			47.4 N, 54.1 E	URS
AW			64.9 N, 175.5 E	URS
B1	49.3 N, 19.3 E	POL	49.7 N, 19.5 E	POL
BD	52.1 N, 17.7 E	POL	53.6 N, 24.9 E	URS
BG	54.6 N, 40.4 E	URS	55.9 N, 38.5 E	URS
BL			54.5 N, 28.8 E	URS
BQ	50.4 N, 19.1 E	POL	45.3 N, 43.7 E	URS
BR	52.3 N, 16.4 E	POL		
BU			49.8 N, 37.9 E	URS
CB	53.6 N, 35.9 E	URS	50.7 N, 51.5 E	URS
D3	49.0 N, 16.2 E	TCH	49.6 N, 17.0 E	TCH

Table 8. Location of Emitters of Intentional Harmful Interference (Continued)

ID	October 84	ITU Country Code	March/April 85	ITU Country Code
DA	50.6 N, 24.5 E	URS		
DG	55.5 N, 27.2 E	URS		
DR	54.3 N, 19.4 E	URS	54.8 N, 20.2 E	URS
DU			57.9 N, 25.9 E	URS
FA			62.2 N, 177.2 E	URS
FG	52.2 N, 17.6 E	POL	49.8 N, 36.9 E	URS
FL	50.3 N, 29.7 E	URS	49.4 N, 37.7 E	URS
FU	53.0 N 23.9 E	URS	54.0 N, 17.6 E	POL
G1	48.8 N, 23.5 E	URS		
G3			43.3 N, 22.7 E	BUL
GI	55.3 N, 38.8 E	URS	56.4 N, 37.8 E	URS
GJ	55.5 N, 36.2 E	URS		
GM	49.9 N, 137.5 E	URS	49.8 N, 134.3 E	URS
GR	50.6 N, 133.3 E	URS	47.7 N, 134.7 E 50.0 N, 138.5 E	URS URS
GS	54.4 N, 40.4 E	URS		
HM			52.8 N, 52.2 E	URS
HP	50.1 N, 17.0 E	TCH	48.0 N, 35.5 E	URS
IG	48.5 N, 135.5 E	URS	50.0 N, 136.5 E	URS
IN	49.3 N, 30.3 E	URS		
IR			58.0 N, 33.3 E	URS
K3	46.1 N, 20.1 E	HNG		
K7			42.8 N, 25.1 E	BUL
K8	47.0 N, 18.4 E	HNG		
KB	51.9 N, 133.5 E 47.8 N, 136.3 E	URS URS	48.5 N, 135.2 E	URS

Table 8. Location of Emitters of Intentional Harmful Interference (Continued)

ID	October 84	ITU Country Code	March/April 85	ITU Country Code
KD	54.7 N, 24.9 E	URS	56.5 N, 35.9 E	URS
KF	50.3 N, 16.0 E	TCH		
KM			46.2 N, 39.4 E	URS
KV	58.2 N, 25.8 E	URS	56.2 N, 30.9 E	URS
LK	53.3 N, 19.6 E	POL	54.8 N, 31.5 E	URS
LM	52.6 N, 13.4 E	DDR		
M5	45.8 N, 17.4 E	YUG		
MA	53.2 N, 18.7 E	POL		
MF	52.6 N, 13.3 E	DDR	55.6 N, 29.3 E	URS
MP	51.6 N, 15.5 E	POL	50.9 N, 16.8 E	POL
MS	49.8 N, 16.0 E	TCH		
MU			47.5 N, 56.1 E	URS
MX	53.3 N, 15.5 E	POL		
NS	47.6 N, 27.9 E	URS	47.9 N, 27.5 E	URS
P3	47.6 N, 18.9 E	HNG		
PA			54.8 N, 16.4 E	POL
PB	48.1 N, 26.0 E	URS	49.7 N, 25.5 E	URS
PK	56.8 N, 41.0 E	URS		
PL	52.0 N, 18.8 E	POL	51.4 N, 35.9 E	URS
R6			43.0 N, 26.4 E	BUL
R7	44.1 N, 22.0 E	YUG	43.7 N, 22.4 E	YUG
R9	51.1 N, 14.9 E	DDR	50.3 N, 16.7 E	POL
RB	55.4 N, 23.6 E	URS	54.8 N, 21.5 E	URS
RT	54.7 N, 19.0 E	URS	56.5 N, 27.7 E	URS
S5			49.4 N, 13.1 E	TCH

Table 8. Location of Emitters of Intentional Harmful Interference (Continued)

ID	October 84	ITU Country Code	March/April 85	ITU Country Code
ST	55.6 N, 26.9 E	URS	57.3 N, 24.2 E	URS
SU	50.2 N, 38.9 E	URS		
TK	52.2 N, 24.8 E	URS	40.9 N, 67.6 E	URS
TR	51.0 N, 19.2 E	POL	46.0 N, 33.4 E	URS
TU	54.9 N, 36.5 E	URS	55.7 N, 36.1 E	URS
U7	50.0 N, 15.7 E	TCH	49.5 N, 16.1 E	TCH
UA	49.1 N, 135.6 E	URS	47.1 N, 134.6 E	URS
UB	47.6 N, 26.1 E	ROU	52.8 N, 27.8 E	URS
UN	57.4 N, 33.2 E	URS		
UQ			52.2 N, 56.8 E	URS
US			52.6 N, 28.7 E	URS
VF	47.3 N, 41.1 E	URS		
VG			59.0 N, 30.4 E	URS
VN	58.6 N, 43.8 E	URS		
VR	53.7 N, 15.5 E	POL	59.1 N, 26.5 E	URS
W1	48.5 N, 18.6 E	TCH		
WA			54.7 N, 43.9 E	URS
WD	55.1 N, 38.5 E	URS	52.9 N, 34.8 E	URS
WI	55.6 N, 30.8 E	URS	55.1 N, 24.8 E	URS
WM			49.2 N, 55.4 E	URS
WQ	46.7 N, 24.7 E	ROU	50.3 N, 20.1 E	POL
Z1			49.0 N, 15.4 E	TCH
Z2	45.2 N, 20.4 E	YUG		
Z3	49.4 N, 16.1 E	TCH	49.9 N, 14.8 E	TCH
ZM	53.6 N, 22.7 E	POL	51.9 N, 17.3 E	POL
ZT	47.3 N, 138.2 E			

countries. The data obtained during the March/April period indicate that 54 of the total 70 emitters related to harmful interference are located in the Soviet Union, the remaining 16 being contained within Eastern Bloc countries.

The results shown in Table 8 indicate the relatively close distance between the emitters with the same marker for the two seasons. Because the 90-percent confidence ellipse could be as large as 800 km x 400 km (about 7° x 3.5°), there is a very high probability that most of the emitters located in the Soviet Union and all the emitters located in Eastern Europe correspond to the same area during both seasons. It is not too surprising to find a number of emitters in the highly populated western part of the Soviet Union and Eastern Europe. The western part of the Soviet Union is also the area to which the majority of international broadcasts are directed. It is somewhat surprising, however, to find a significant number (eight) of emitters located in the eastern part of the Soviet Union. This part of the Soviet Union is not too heavily populated, and it is not generally an intended service area for international broadcasters. It is not too likely, therefore, that these emitters are the source of extensive localized jamming activity that is characteristic of ground-wave intentional harmful interference. Rather, it appears more likely that the emitters located in Eastern Siberia and in particular around the Khabarovsk region form a network of sky-wave jammers that are directed toward causing interference to international broadcasts that serve the western Soviet Union and Eastern Europe. Evidence of this will be provided below when the statistics of the occurrence of jamming are described. There is also evidence to suggest that there are occasions when more than one marker is used to jam a particular broadcast. The use of multiple markers implies that multiple locations are involved in the creation of intentional harmful interference to a specific broadcast service.

It must be appreciated that the results presented thus far pertain only to those instances of harmful interference that are associated with emitters that send out alphanumeric call signs. A little below 10 percent of the individual fixes used in this study contain no markers. It is possible that the emitters associated with unmarked signals that have been observed to create harmful interference--intentional or otherwise--are located in regions of the world that are different than those discussed above. A much more highly coordinated monitoring program than is practical under current agreements would be necessary in order to isolate the location of these emitters. The data obtained from the unmarked emitters can be used in the compilation of the statistics of occurrence of intentional harmful interference, however.

There are numerous occasions when additional markers were observed that contributed to the overall interference environment. Also, as mentioned above, there were instances when harmful interference to the broadcast service was associated with signals for which there was no alphanumeric identification. Table 9 provides a listing of all the markers (Jammer ID's) that were observed during October 1984. Only observations made for the specific times and frequency bands given by the IFRB monitoring schedule are included in the listing. The markers included in this table were all observed at least four times during the monitoring period. The numbers given beside the markers denote the number of observations and the two asterisks indicate that intentional harmful interference was observed on frequencies for which no marker was present.

During the October 1984 monitoring period, 188 unique markers associated with jamming were observed. Of these, 76 were listed in Table 8, along with their locations. It can be seen in Table 9, that the number of observations of intentional harmful interference for which no marker is associated is about three times greater than the most frequently occurring marker. As mentioned above and in Section 4, it is not possible for this study to utilize the FFIX program to determine locations in the absence of a marker.

Table 10 shows results similar to Table 9 for the March/April 1985 monitoring period. For this period, 158 unique markers were observed and 70 of these are listed in Table 8. The number of instances having no marker (denoted by the asterisk sign) is about one-third of that for the October 1984 period. This is primarily due to the fact that during the March/April 1985 period several monitoring stations were unable to conduct observations in the appropriate bands during the entire monitoring period. Also, the schedule used in March/April 1985 was arranged with a specific frequency being observed during the first 5 minutes of each half-hour observation time block. This has the effect of further limiting the likelihood of observing frequencies that are not associated with particular markers.

Differences between the number of observations of a particular marker seen in Tables 9 and 10 could be due to a combination of factors such as propagation changes, not observing the frequency band associated with the marker, or a change in the manner in which the markers were used to create harmful interference. There is evidence, however, that many of the markers were observed on numerous occasions during both of the monitoring periods. It is not possible to absolutely determine if the emitters associated with these markers were directed against the same broadcasters and the same broadcast language during both

Table 9. Jammer Identification Markers Observed During the October 1984 Monitoring Period

Only observations in accordance with IFRB monitoring schedule are included. ID's with less than four observations are ignored.

188 unique jammer ID's observed

3742	**	1283	TU	633	MU	500	PB	477	KD	470	WI	429	TK
386	IG	385	BG	348	LK	328	DR	324	GI	313	U7	271	4F
257	KB	243	R9	227	8L	215	MF	213	1G	213	NS	192	SF
173	WQ	165	P3	161	B1	132	FU	130	R7	129	VR	124	LM
119	W1	118	GR	111	GM	111	FG	111	SU	103	7K	101	AD
100	US	98	WM	96	4N	95	DU	93	AG	89	BQ	82	Z3
82	TR	79	UA	79	RT	79	PL	78	WA	77	FL	76	Z2
75	CB	74	AN	72	ZM	71	D3	71	PK	69	MG	67	ZT
64	LG	64	HM	63	UN	61	IR	61	SM	60	K3	52	BU
50	KU	49	AS	47	WD	46	BD	45	G7	43	BR	42	ST
41	1D	40	KM	39	FA	37	RV	36	VG	35	KV	33	MP
33	PD	31	DA	31	UD	31	RB	30	LF	29	FM	28	MA
27	XN	27	WG	25	B5	24	WL	24	PA	24	M3	24	S5
24	FR	24	HP	23	IN	23	DN	22	XI	22	VL	21	BA
21	VI	21	AK	20	BL	20	UB	19	UM	19	VM	19	MS
18	VU	18	DG	17	UR	16	VN	16	GJ	15	XU	15	GS
15	GU	14	MX	14	XW	14	KF	13	SD	13	L8	13	DP
12	CA	12	F2	12	MI	12	K8	11	WR	11	RA	11	RQ
11	GL	11	G1	10	ML	10	D1	10	AR	10	SG	10	PM
10	VF	10	UG	10	BN	10	LT	9	RD	9	AW	9	BI
8	DL	8	1F	8	W3	4	F9	7	YU	7	VK	7	P6
7	L2	7	HD	7	PF	7	RL	6	IF	6	NW	6	N7
6	B9	6	G3	6	DM	6	LR	6	S8	6	SR	5	RI
5	CU	5	AU	5	GF	5	GA	5	W9	5	M5	5	TS
5	3L	5	FK	5	L7	5	UZ	5	CS	5	XD	5	DK
5	XR	4	A2	4	ID	4	MJ	4	GB	4	ZL	4	RS
4	MN	4	ZK	4	UK	4	AB	4	KL	4	P7	4	G8

Table 10. Jammer Identification Markers Observed During the March/April 1985 Monitoring Period

Only observations in accordance with IFRB monitoring schedule are included. ID's with less than four observations are ignored.

158 unique jammer ID's observed

1172 **	771 TU	619 TK	479 IG	453 MU	437 4F	364 WI
314 DR	289 KB	289 KD	276 U7	270 GI	269 1G	268 DU
265 PB	259 NS	255 Z1	242 BG	216 UA	215 WM	214 MF
203 GR	186 B1	183 FU	174 MP	166 BQ	164 R6	163 VR
155 US	153 LG	152 WA	150 WD	140 LK	131 K7	128 PL
125 D3	118 BD	118 RT	115 4N	111 TR	107 SM	104 AD
103 7K	98 AG	91 FG	85 A5	83 GM	78 CB	76 UQ
74 SF	72 ZT	70 MG	68 8L	67 BL	65 KM	64 1D
61 FL	61 ZM	60 AN	59 G3	54 BU	54 VL	54 RB
53 XN	53 S5	52 HP	52 XI	50 VG	50 HM	49 RQ
48 KF	44 UD	43 SU	42 VU	41 PK	40 WL	40 LF
40 AS	38 WQ	38 UB	36 NI	36 UN	34 KV	32 S7
32 ST	31 SB	30 W4	28 DB	28 PA	28 FA	26 VM
26 IR	26 FR	25 LM	25 ML	24 GU	24 M3	23 WG
23 DA	23 AW	22 UR	22 RD	22 PF	22 XW	21 R9
21 CG	20 LT	20 MX	19 DP	19 AR	17 CA	16 BR
15 MA	15 L8	14 LR	14 AU	14 B3	12 RP	12 XU
12 AK	12 KU	12 Z3	12 YU	12 FM	12 D4	11 D7
11 BI	11 XD	10 BA	10 FI	10 GS	10 VN	8 GL
8 VF	8 T1	8 XR	7 MV	7 RV	7 DW	7 L4
6 RG	6 WS	6 BP	6 VI	5 IT	5 MW	5 NA
5 RA	5 ZA	4 KR	4 MI	4 BK	4 B5	4 GF
4 LD	4 M7	4 BN	4 TL	4 WR		

periods. However, it may be possible to infer something about the operation of the emitters used to create harmful interference by grouping the data available according to broadcaster and language.

Table 11 provides a breakout of the number of times specific broadcasters and languages were observed to be subjected to intentional harmful interference during each monitoring period. For each broadcaster, the total number of time blocks jammed for each broadcaster refers to the number of half-hour periods in which at least one frequency used by that broadcaster was observed to be jammed. It is possible to observe harmful interference on more than one language for the same broadcaster during a given half-hour time block. The total number of instances of observed jamming for a given broadcaster is thus likely to exceed the number of time blocks during which at least one frequency was subjected to intentional harmful interference. Also, it is possible that numerous instances of jamming of the same language with different markers could occur in the same half-hour time block.

The results presented in Table 11 illustrate which of the broadcasters are the primary targets of intentional harmful interference. It can be seen that Radio Liberty (RL) and Radio Free Europe (RFE) are targeted for intentional harmful interference more than any other broadcaster observed here. For all broadcasters, the Russian-language and Polish-language broadcasts are consistently jammed. Broadcasts in Czechoslovakian and Bulgarian languages appear to be frequently jammed also.

During the October 1984 monitoring period, specific frequency bands were monitored during each half-hour period. During the March/April 1985 monitoring period, one specific frequency that had a high probability of being jammed was monitored for the first 5 minutes of each half-hour time block. The results for this segment of the March/April monitoring period are shown in Table 12. The Russian-language broadcasts are seen to be subjected to extensive jamming. Similar observations are seen for broadcasts in Polish, Czechoslovakian, Bulgarian, and Hungarian languages. The Radio Free Europe and Voice of America (VOA) services in Lithuanian, Latvian, and Estonian and the Voice of America services in Ukranian, Armenian, Georgian, and Azerbaijani are also consistently jammed. The Radio Liberty services, which are directed to various ethnic groups in the Soviet Union, are all jammed extensively. It is very clear that all the RL and RFE broadcasts as well as those of the VOA, British Broadcasting Corporation (BBC), and Deutsche Welle (DW) that are directed to Soviet Union audiences are almost totally subjected to intentional harmful interference.

Table 11. Summary of the Specific Broadcasters and Languages that Were Observed to be Jammed During the Monitoring Periods

BROADCASTER	LANGUAGE	OCTOBER 1984		MARCH/APRIL 1985	
		A*	B**	A*	B**
BRITISH BROADCASTING CORPORATION	RUSSIAN	94	63	112	69
	POLISH	94	21	112	24
	ARABIC	94	0	112	30
	TURKISH	94	3	112	7
	BULGARIAN	94	7	112	0
	GREEK	94	4	112	1
	SERBO-CROATIAN	94	5	112	0
	PORTUGUESE	94	1	112	1
	ROMANIAN	94	1	112	1
	SLOVAK	94	2	112	0
	FINNISH	94	1	112	0
	FRENCH	94	1	112	0
	GERMAN	94	1	112	0
	HUNGARIAN	94	1	112	0
	SLOVENE	94	1	112	0
DEUTSCHE WELLE	RUSSIAN			65	39
	BULGARIAN			65	11
	CZECHOSLOVAKIAN			65	7
	PASHTO			65	7
	DARI			65	1
KOL ISRAEL	RUSSIAN			28	19
	BULGARIAN			28	1
	YIDDISH			28	3
	GEORGIAN			28	3
	HEBREW			28	2
RADIO FREE EUROPE	POLISH	395	205	334	179
	CZECHOSLOVAKIAN	395	144	334	126
	BULGARIAN	395	37	334	30
	LITHUANIAN	395	34	334	21
	LATVIAN	395	13	334	19
	ESTONIAN	395	19	334	17
	HUNGARIAN	395	65	334	24
	PORTUGUESE	395	2	334	2
	ROMANIAN	395	15	334	2

*A - Maximum Time Blocks Broadcaster Active with Specified Language
**B - Number of Times Jamming Detected on Specified Language

Table 11. Summary of the Specific Broadcasters and Languagaes that Were Observed to be Jammed During the Monitoring Periods (Continued)

BROADCASTER	LANGUAGE	OCTOBER 1984		MARCH/APRIL 1985	
		A*	B**	A*	B**
RADIO LIBERTY	RUSSIAN	461	397	607	523
	UKRAINIAN	461	68	607	124
	TURKESTANI	461	57	607	64
	BELORUSSIAN	461	19	607	37
	AZERBAIJANI	461	22	607	29
	ARMENIAN	461	21	607	19
	TATAR-BASHKIR	461	12	607	18
	GEORGIAN	461	20	607	18
	CENTRAL ASIAN	461	0	607	13
VOICE OF AMERICA	RUSSIAN	251	173	312	216
	POLISH	251	57	312	53
	PASHTO	251	0	312	17
	LATVIAN	251	8	312	7
	UKRAINIAN	251	30	312	30
	ARMENIAN	251	6	312	12
	GEORGIAN	251	5	312	6
	DARI	251	0	312	14
	ESTONIAN	251	7	312	7
	UZBEK	251	3	312	8
	AZERBAIJANI	251	0	312	1
	LITHUANIAN	251	6	312	2

*A - Maximum Time Blocks Broadcaster Active with Specified Language
**B - Number of Times Jamming Detected on Specified Language

Table 12. Summary of the Specific Broadcasters and Languages that Were Observed to be Jammed During the First 5 Minutes of Each Half-hour Period for the March/April 1985 Monitoring Activity

BROADCASTER	LANGUAGE	A*	B*
BRITISH BROADCASTING CORPORATION	RUSSIAN	33	45
	POLISH	21	27
	ARABIC	18	36
	TURKISH	1	1
DEUTSCHE WELLE	RUSSIAN	23	25
	BULGARIAN	10	11
	CZECHOSLOVAKIAN	9	11
	PASHTO	6	8
	DARI	3	4
KOL ISRAEL	RUSSIAN	9	19
	BULGARIAN	1	2
	YIDDISH	3	4
	HEBREW	0	1
RADIO FREE EUROPE	POLISH	86	93
	CZECHOSLOVAKIAN	32	52
	BULGARIAN	15	23
	LITHUANIAN	6	6
	LATVIAN	8	8
	ESTONIAN	8	9
	HUNGARIAN	3	3
	PORTUGUESE	1	1
	ROMANIAN	1	2
RADIO LIBERTY	RUSSIAN	264	301
	UKRAINIAN	24	24
	TURKESTANI	17	19
	BELORUSSIAN	12	12
	AZERBAIJANI	11	11
	ARMENIAN	7	8
	TATAR-BASHKIR	7	7
	GEORGIAN	6	6
	CENTRAL ASIAN	6	6
VOICE OF AMERICA	RUSSIAN	83	85
	POLISH	25	27
	PASHTO	11	16
	LATVIAN	10	11
	UKRAINIAN	7	11
	ARMENIAN	6	10
	GEORGIAN	5	6
	DARI	4	11
	ESTONIAN	4	4
	UZBEK	2	5
	AZERBAIJANI	2	3
	LITHUANIAN	2	2

*A - Number of times jamming detected on specified language
**B - Maximum 5-minute time blocks broadcaster active with specified language

A better indication of the apparent sophistication that is characteristic of the operation of emitters of intentional harmful interference can be seen by grouping the data in terms of broadcaster, language, and marker. The results given in Appendix C show this breakout by selected broadcaster for each monitoring period. They are grouped to illustrate the different languages that are jammed by emitters with the markers indicated. Also shown is the number of times that the language was observed to be jammed by a particular emitter.

The results shown in Appendix C are encompassing and show that certain markers appear to be used against certain languages, certain markers appear to be used against certain broadcasters, and certain markers appear to be used against various languages and broadcasters. For those markers that are listed in Appendix C, it can be seen that locations throughout the Soviet Union and Eastern Europe are used to emit signals causing intentional harmful interference. One can only speculate as to the level of sophistication of the command and control network that must be employed in order to conduct the jamming activity in a cost-effective manner.

6. DISCUSSION OF RESULTS IN TERMS OF RADIO PROPAGATION CONSIDERATIONS

As was mentioned in Section 5, it is not possible to unambiguously determine whether an emitter associated with a given marker is used for ground-wave (local) or sky-wave (distant) jamming. It is likely, however, that most of the emitters that have been observed with the data used in this study are associated with sky-wave jamming. The rationale for this expectation is the fact that the monitoring stations providing observations are themselves located significant distances beyond what would normally be expected to be the range of ground wave or surface wave signals. This is not to say that some of the signals observed at monitoring sites close to specific locations could not observe a signal whose primary purpose was to provide local jamming by ground wave or surface wave. It is possible for a transmitter that is designed to provide ground-wave coverage to emit signals from an inefficient antenna with sufficient energy to be detected at a remote location, for example. However, it is difficult to envision this occurring with the degree of consistency observed from the data used here.

If the majority of the emitters discussed in Sections 4 and 5 are indeed sky-wave emitters, then the observations obtained during the monitoring periods should be consistent with the basic concepts of sky-wave propagation. It should be possible to determine whether or not signals are likely to be supported by the

sky-wave mode of propagation with high enough field strengths to be observed at the monitor sites. Further, it should be possible to model the temporal variation of the observed frequency use seen at the monitoring stations as the radio propagation conditions change on a diurnal basis. The likely area that the signals from an emitter of intentional harmful interference could cover if the emitter were located in the regions defined in Section 5 is another factor that should be considered. It is possible to study these aspects of the observed results by use of models of the performance of radio propagation circuits coupled with morphological models of the ionosphere.

The models used in this study of the radio propagation aspects related to jamming are self-contained numerical models that incorporate representations of the ionosphere structure on a monthly median basis, representations of antenna patterns that are used for HF propagation, and formulas that permit evaluation of transmission characteristics and propagation loss. For the most part, reliance was placed on two such numerical models. The majority of the studies were conducted using the IONCAP propagation model (Teters et al., 1983). This particular model allows for a complete HF propagation system evaluation anywhere on the globe on a monthly basis over the entire solar cycle. Although the IONCAP model was developed to simulate the performance of point-to-point circuits, it has many applications to point-to-area simulations that are typical of HF broadcasting scenarios.

The second model used in this study is an HF propagation model decided at the First Session of the HF Broadcasting Conference. It is referred to as HFBC84 and is described in the Report of the First Session of the HFBC (ITU, 1984). The computer program HFBC84 is being used in the development of the planning methodology that is being tested and studied by the IFRB during the time between the two sessions of the HF Broadcasting Conference. Like the IONCAP model, the HFBC84 propagation model incorporates representations of the ionospheric structure on a monthly median basis, representations of antenna patterns that are typical of HF propagation service (in the case of HFBC84 antennas that are typical of broadcasting activities), and formulas enabling transmission characteristics and propagation losses to be calculated.

In order to provide evidence that it is highly likely that jammers located great distances from intended broadcast service areas are targeted against specific broadcasts into that service area, the following investigation was undertaken. Observations of specific instances of jamming were taken from the data collected during the March/April 1985 monitoring period. Using the broadcast

schedules, it was possible to determine the location of the broadcast transmitter and its power. It was also possible to determine the service area for the broadcast. In this particular study, rather than calculating the propagation parameters to the entire service area, the calculations were performed from the transmitter to a major city in the area. For the same time and frequency, calculations were performed from the location associated with the jammer marker (given in Table 8) observed at the time jamming was observed.

The results of these calculations are shown in Table 13. The frequency and time are given for each calculation. The location of the broadcast transmitter and the major city in the service area is identified as is the location of the emitter causing the harmful interference. For the circuit from the broadcast transmitter to the service area and the circuit from the jamming emitter to the service area, two propagation parameters are shown: the circuit reliability and the signal strength in dB above 1 microvolt per meter (dBu). The calculations were performed for broadcast transmitter powers of 250 kW and a constant gain antenna of 15 dB. This is in concert with information provided in the broadcast schedules. It was assumed that the emitters of harmful interference were operated with a 250 kW power and a 10 dB constant gain antenna.

The results shown in Table 13 are typical of those for the simulations that have been performed. Most of the broadcast circuits have reliabilities that are greater than 90 percent. In fact, only the VOA service in Russian on 11835 kHz at 2000 h UTC shows a reliability that is less than 90 percent. The broadcast signal strength tends to be above 60 dBu for most circuits. It is to be expected that the frequencies chosen for specific broadcast circuits would show high reliabilities in practice. That they show high reliabilities in the calculations adds credibility to the use of the IONCAP model for the simulations performed here. The calculations for the jammer circuits generally do not yield results that are as high as for the broadcast circuits. This is not too surprising when consideration is given to the objectives of a jamming activity. It is not necessary, for example, to provide a signal that has the same field strength as a broadcast signal in order to be disruptive to the broadcast service. By choosing appropriate modulation schemes, a jamming signal can obtain 10 to 15 dB relative gain compared to a broadcast signal. Such an increase would result in the jammer signal strengths being comparable to or greater than the broadcast signal strengths, speaking in relative terms. The generally lower circuit reliabilities for the jammer circuits also must not be interpreted as indicative of a less than optimum jamming activity. In many instances, there is evidence that multiple

Table 13. Results of the IONCAP Simulations for Specific Wanted and Specific Interfering Circuits

Frequency (kHz)	Time (UTC)	Transmitter (Lat., Long.)	City Being Serviced (Lat., Long.)	Broadcast Reliability	Broadcast Signal Strength	Jammer Reliability	Jammer Signal Strength	Jammer Location (Lat., Long.)
7230	1930	(BBC-Cyprus)	55.8°N, 35.0°E (Moscow)	100%	66 dBu	71%	46 dBu	50.0°N, 136.5°E (IG)
9520	0800	47.9°N, 11.7°E (RL-Lampertheim)	55.8°N, 35.0°E (Moscow)	100%	62 dBu	100%	58 dBu	47.5°N, 56.1°E (MU)
	1100			99%	60 dBu	96%	65 dBu	54.9°N, 20.9°E (DR)
	1600			97%	63 dBu	57%	38 dBu	50.0°N, 136.5°E (IG)
	1800			99%	67 dBu	87%	56 dBu	47.5°N, 56.1°E (MU)
11835	2000	40.9°N, 24.1°E VOA-Kavalla)	55.8°N, 35.0°E (Moscow)	63%	39 dBu	34%	27 dBu	48.5°N, 135.2°E (KB)
9705	0700	38.7°N, 9.1°W (RFE-Gloria)	52.3°N, 21.0°E (Warsaw)	97%	57 dBu	99%	60 dBu	56.0°N, 38.1°E (KD)
9635	1600	(BBC-Cyprus)	55.8°N, 35.0°E (Moscow)	99%	64 dBu	73%	47 dBu	56.0°N, 38.1°E (KD)
6105	0730	47.9°N, 11.7°E (RL-Lampertheim)	55.8°N, 35.0°E (Moscow)	96%	50 dBu	94%	47 dBu	49.5°N, 16.1°E (U7)
11825	1700	47.9°N, 11.7°E (RL-Lampertheim)	55.8°N, 35.0°E (Moscow)	95%	65 dBu	87%	56 dBu	49.5°N, 16.1°E (U7)
5970	0700	49.7°N, 8.5°E (RFE-Biblis)	52.3°N, 21.0°E (Warsaw)	100%	74 dBu	97%	71 dBu	54.9°N, 20.9°E (DR)
9520	1100	47.9°N, 11.7°E (RFE-Lampertheim)	52.3°N, 21.0°E (Warsaw)	99%	70 dBu	75%	46 dBu	54.9°N, 20.9°E (DR)
7190	0700	49.7°N, 8.5°E (RFE-Biblis)	52.3°N, 21.0°E (Warsaw)	100%	77 dBu	99%	62 dBu	55.6°N, 40.3°E (BG)
15255	1200	38.7°N, 9.1°W (RFE-Gloria)	50.1°N, 14.4°E (Prague)	100%	64 dBu	7%	19 dBu	49.7°N, 19.5°E (B1)
	1900			94%	63 DBU	11%	21 DBU	49.7°N, 19.5°E (B1)
7190	0130	47.9°N, 11.7°E (RL-Lampertheim)	40.4°N, 49.9°E (Baku)	100%	64 dBu	100%	68 dBu	40.9°N, 67.6°E (TK)

jammers are directed against a single broadcast service. The combined effect of these multiple jammers would be to raise the reliability and the interference field strength. More will be said about this later in this section.

Also, it is important to bear in mind that the sky-wave jammers are likely to be viewed as supplementing ground-wave jammers in the vicinity of major cities such as used in these calculations. The combined impact of sky-wave and ground-wave emitters to the overall interference environment is undoubtedly highly effective in disrupting broadcast service to the intended audience. The lower circuit reliabilities seen for the jammer circuits are in agreement with reported listener habits in areas where jamming is substantial. It is not uncommon for broadcast signals to be discerned outside the limits of major population areas where ground-wave jammers are likely to be located. The lower circuit reliabilities for the sky-wave jammers indicate that it should be possible to discern broadcast services for part of the time.

Before leaving Table 13, it is worthwhile to mention the results for the 15255 kHz Radio Free Europe service to Prague at 1200 and 1900 h UTC. The jamming emitter (B1) is located about 200 miles from Prague. It is possible that this particular emitter was used as a ground-wave or surface-wave jammer at this time for an area somewhat to the east of Prague. The frequency 15255 kHz is about 10 MHz higher than the maximum usable frequency for this jamming circuit at these times. This explains the low reliabilities and field strengths that are calculated for the sky-wave circuit. None of the monitoring stations in Europe observed the B1 emitter during the 1200 and 1900 h periods in March/April 1985. This is undoubtedly due to the fact that 15255 kHz is much greater than the maximum usable frequency to the European monitoring stations. The frequency 15255 kHz can propagate by sky wave at 1200 and 1900 h UTC to the monitoring sites in the United States and, in fact, was observed by the east coast chain of monitoring stations consistently.

It is useful to study further the sky-wave propagation aspects of the data obtained during the monitoring period. Again, confining our attention to the March/April 1985 period, the IONCAP computer program was used to determine the circuit reliability of the propagation paths from the location of various markers to most of the monitoring sites. In performing this calculation, the transmitter power of the jamming emitter was assumed to be 250 kW and the antenna was assumed to be a 10 dB constant gain antenna. The computed reliability for each circuit is critically dependent upon the assumed transmitter power and antenna gain. The values chosen (250 kW and 10 dBi) for this calculation and those described above

are thought to be typical of certain emitters used to create intentional harmful interference. It is likely that the antennas used for jamming activities behave much like antennas used in the broadcasting service. It is reasonable to expect that such antennas would be directive and would have maximum gains on the order of 17 to 22 dBi depending upon the design and intended use. The adoption of a 10 dB constant gain antenna was the result of a compromise between the highly efficient antennas believed to be used to create intentional harmful interference and an antenna of lesser quality. It is likely that the signals that are received at the monitoring stations are not transmitted along the boresight of the jammer antenna. It is a legitimate assumption that the signals that are observed at the monitoring sites are propagated along paths that correspond to the side and back lobes of the antenna that is connected to the jammer emitter. Thus, the effective gain of the antenna in the direction of the monitoring stations will undoubtedly be much lower than in the direction of the intended target area.

Figures 25 through 28 illustrate typical results for each frequency band assigned to the HF broadcasting service obtained in this study. Shown in each of the figures is the time span for which the calculated circuit reliability from the indicated marker to the specific monitoring station was 50 percent or greater. Also shown on the figure are X's indicating that at least one observation of jamming activity with that marker was observed at the monitoring station during the hour interval displayed at the top and bottom of these figures. The figures provide a comparison between predictions of the times that jamming could be observed at a given monitoring station with actual observations of the times jamming occurred.

Figure 25 shows results for the emitter KB (located at 48.5°N, 135.2°E) as observed at Anchorage (AN), Ferndale (FE), Waipahu (WA), Tokyo (TO), Norway (NO), and Baldock (U2). The location of the monitoring stations is given in Table 1. Figure 26 shows results for the emitter KD near Moscow (56.5°N, 35.9°E) as observed at Nedhorst Den Berg (NE), Norway (N2), Baldock (U2), and Sabana Seca (SS). In Figure 27, results are shown for the emitter U7 located near Prague (49.5°N, 16.1°E) that was observed at Fort Lauderdale (FL), Sabana Seca (SS), Baldock (U2), and Nedhorst Den Berg (NE). Figure 28 shows results for the emitter in the Tashkent area, TK (40.9°N, 67.6°E) as observed at Fort Lauderdale (FL), Krefeld (KR), Laurel (LR), Norway (NO), Nedhorst Den Berg (NE), Sabana Seca (SS), and Baldock (U2).

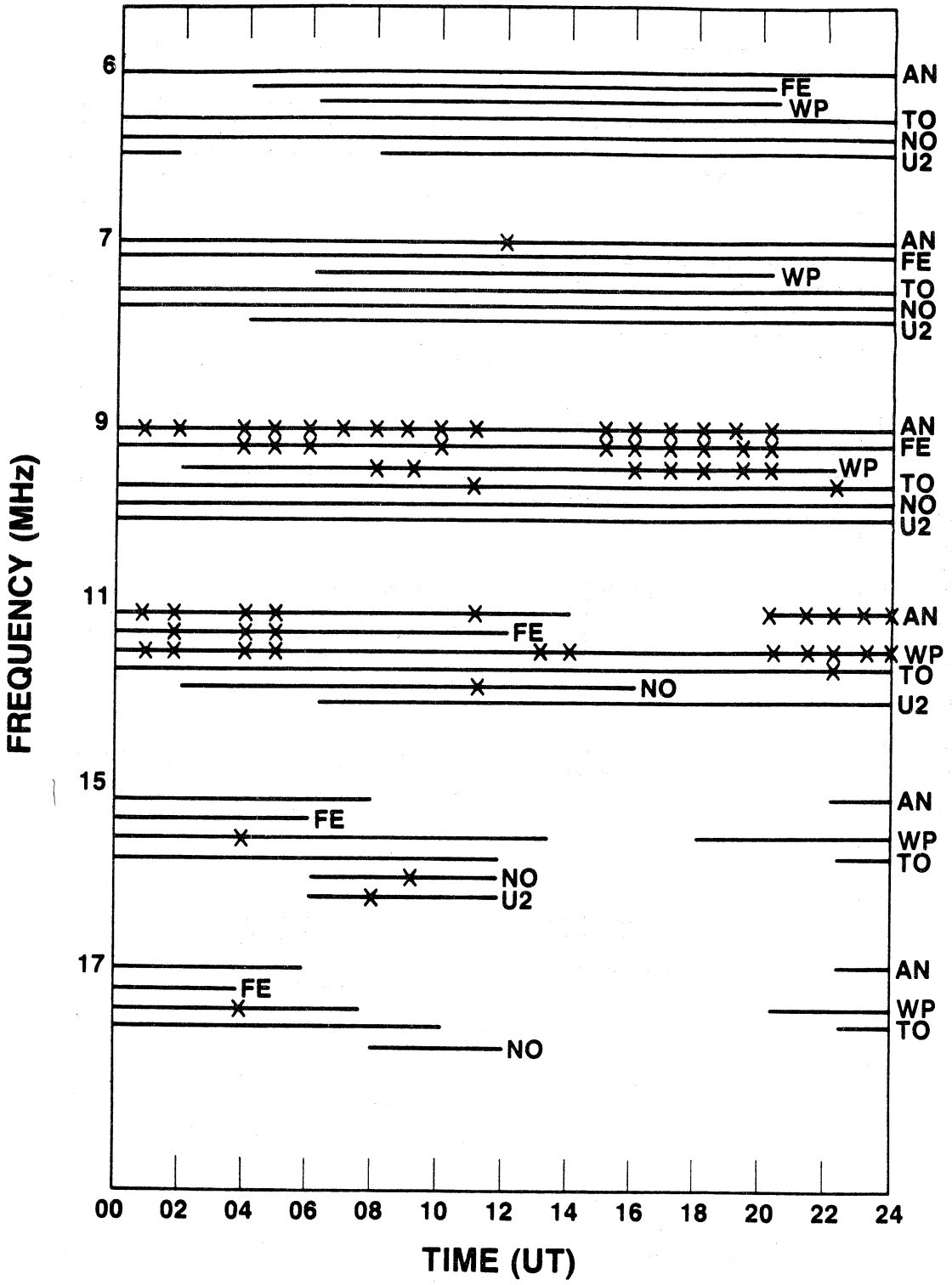


Figure 25. Comparison of the times when the calculated reliability of the circuit between the KB emitter and the indicated monitoring station exceeded 0.5 (solid line) and the times the KB marker was observed at the indicated monitoring station (X) during March/April 1985. The monitoring station codes are given in Table 1.

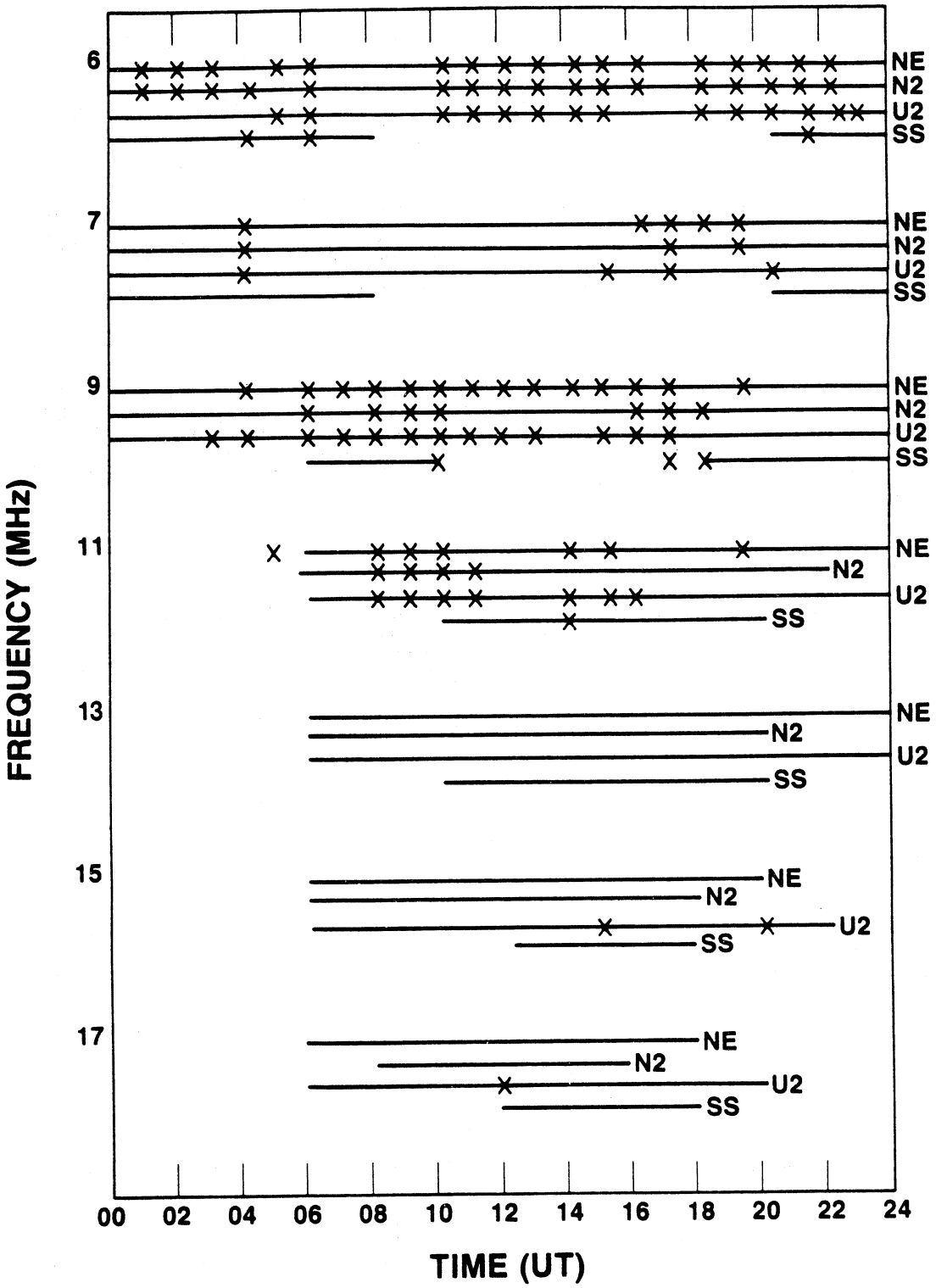


Figure 26. Comparison of the times when the calculated reliability of the circuit between the KD emitter and the indicated monitoring station exceeded 0.5 (solid line) and the times the KD marker was observed at the indicated monitoring station (X) during March/April 1985. The monitoring station codes are given in Table 1.

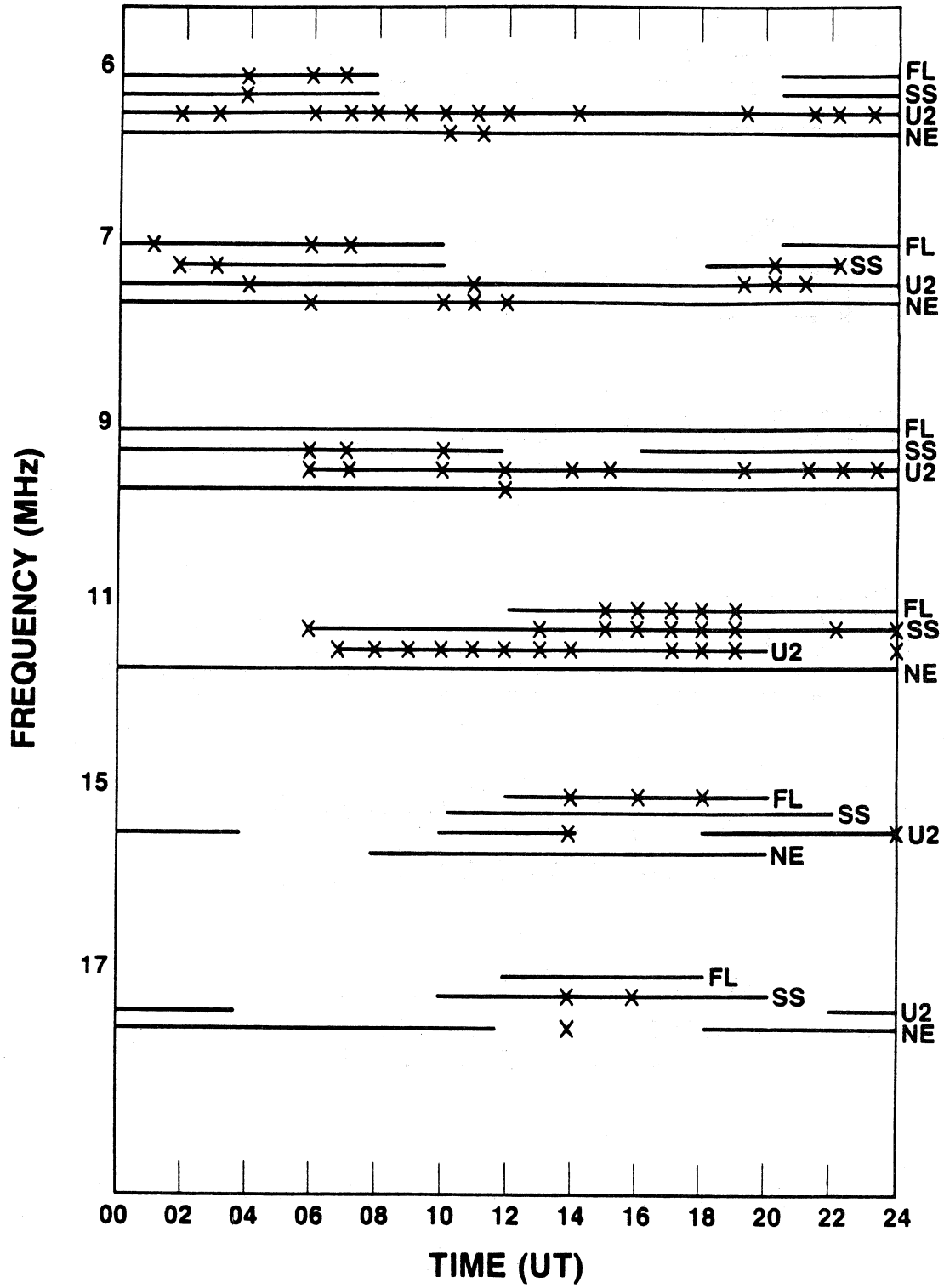


Figure 27. Comparison of the times when the calculated reliability of the circuit between the U7 emitter and the indicated monitoring station exceeded 0.5 (solid line) and the times the U7 marker was observed at the indicated monitoring station (X) during March/April 1985. The monitoring station codes are given in Table 1.

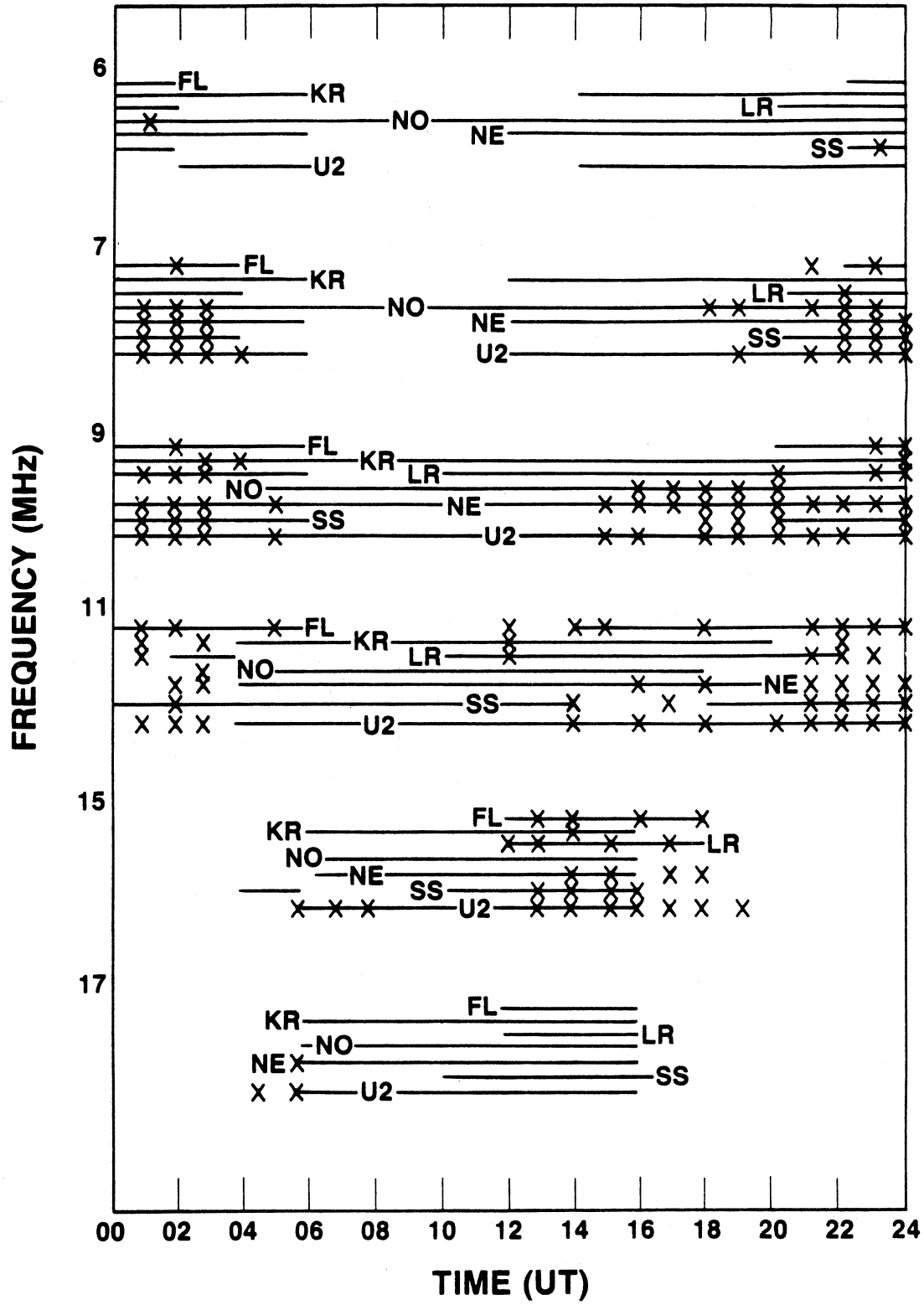


Figure 28. Comparison of the times when the calculated reliability of the circuit between the TK emitter and the indicated monitoring station exceeded 0.5 (solid line) and the times the TK marker was observed at the indicated monitoring station (X) during March/April 1985. The monitoring station codes are given in Table 1.

For many of the monitoring stations, the circuit reliability from the marker location to the station exceeded 50 percent for the entire 24 hours of the day for the frequencies in the lower bands (6, 7, 9 MHz). The observations of jamming at these times and frequencies span all hours of the day. What is more interesting are the results for those times and frequencies for which the predicted reliability exceeded 50 percent for less than 24 hours. It is for those times and frequencies that consistency between observation and prediction can be sought. Studying the results given in Figures 25 through 28, an almost total coincidence between the time observations were obtained and the time span that the predicted reliability exceeded 50 percent can be seen. This is particularly evident for the U7 (Figure 27) and the TK (Figure 28) markers.

It should not be expected that observations of jamming would be available for all the times that the reliability exceeded 50 percent. Jamming must have taken place at that time and the specific marker must have been used as an identifier. Also, the network of stations would have had to have been monitoring the appropriate frequency band at the time in question. What is illuminating, however, is the absence of observations during the time periods when the reliability was less than 50 percent. From Figures 27 and 28 it can be seen that jamming activity spanned the entire 24 hours of the day, but observations were made at the monitoring stations only on the frequencies for those times that the reliability exceeded 50 percent.

The results given in Figures 25 through 28 show that the location of the markers determined from the data available for this study are consistent with the notion of sky-wave signals propagating from the jamming emitter to the monitoring stations. A more convincing argument that the emitters identified are used as sky-wave jammers can be observed by viewing the results of studies that were directed at simulating the reliability of the propagation path from the jamming location to the intended service area. These results provide an indication of the potential usefulness of the emitter as an effective jammer of a broadcast service. For this study, the IONCAP program was used to determine the circuit reliability from the jammer locations to specific service areas (major cities) in the Soviet Union and Eastern Europe. As before, the transmitter power was assumed to be 250 kW and the antenna gain was assumed to be 10 dBi. The appropriate solar condition for the March/April 1985 time period was chosen.

Figures 29 through 32 show results for the markers KB, KD, U7, and TK, respectively. The solid lines on each figure refer to the time span that the reliability exceeded 0.5 for the propagation path between the marker location and

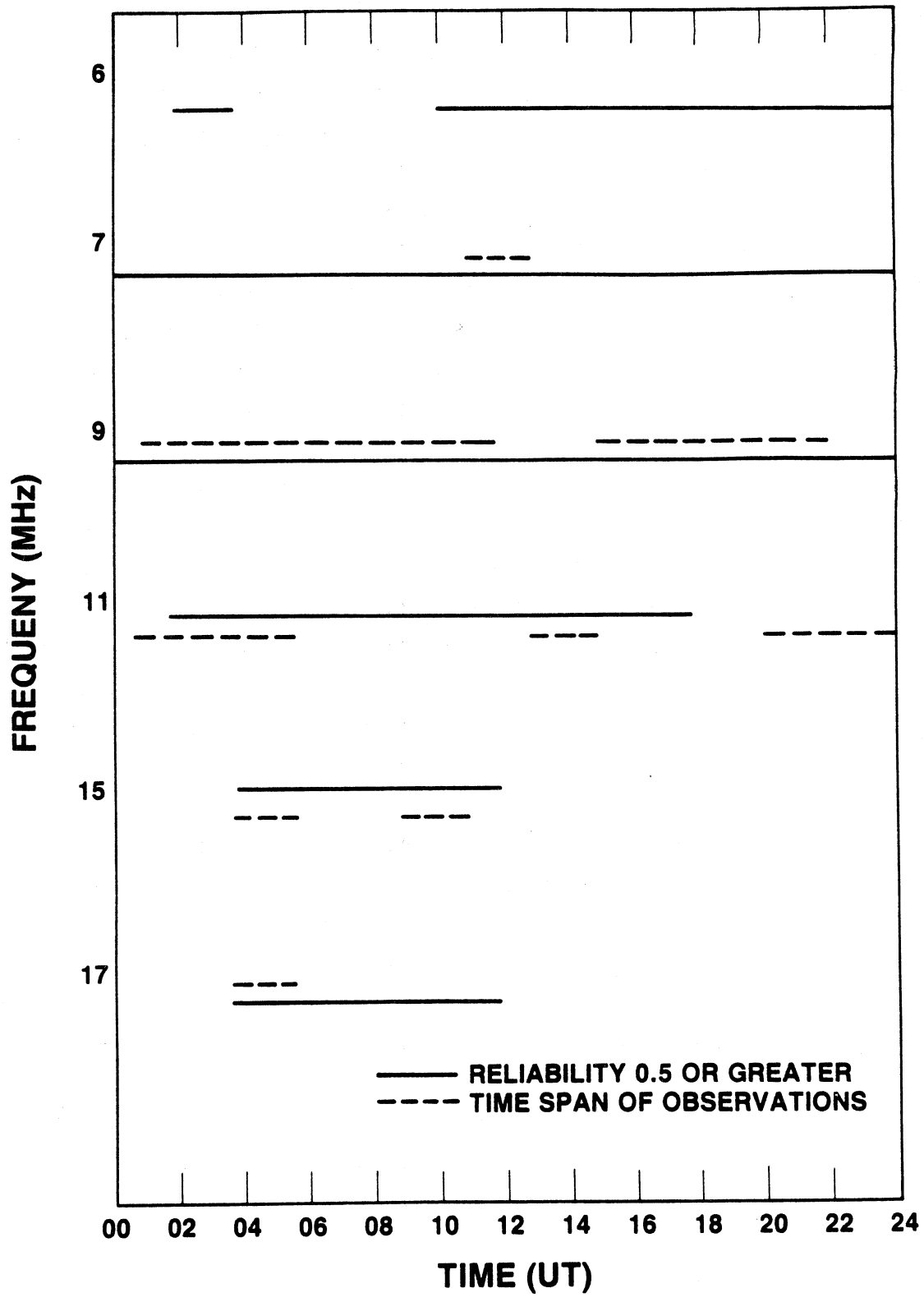


Figure 29. Comparison of time span of observations during March/April 1985 and time span of calculated reliability $\geq$ 0.5 from KB to Moscow.

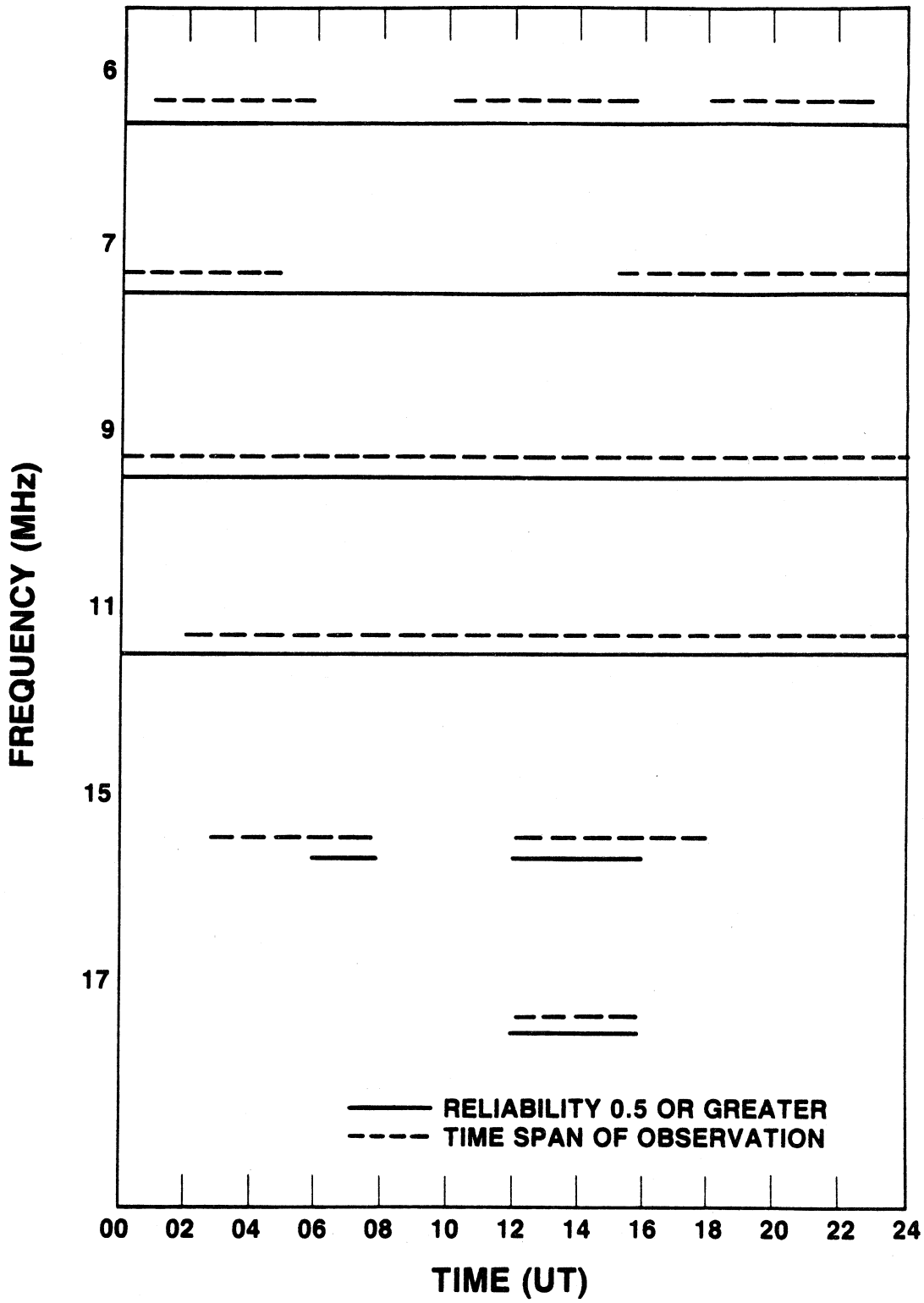


Figure 30. Comparison of time span of observations during March/April 1985 and time span of calculated reliability $\geq$ 0.5 from KD to Moscow (KD to Warsaw, 15 and 17 MHz).

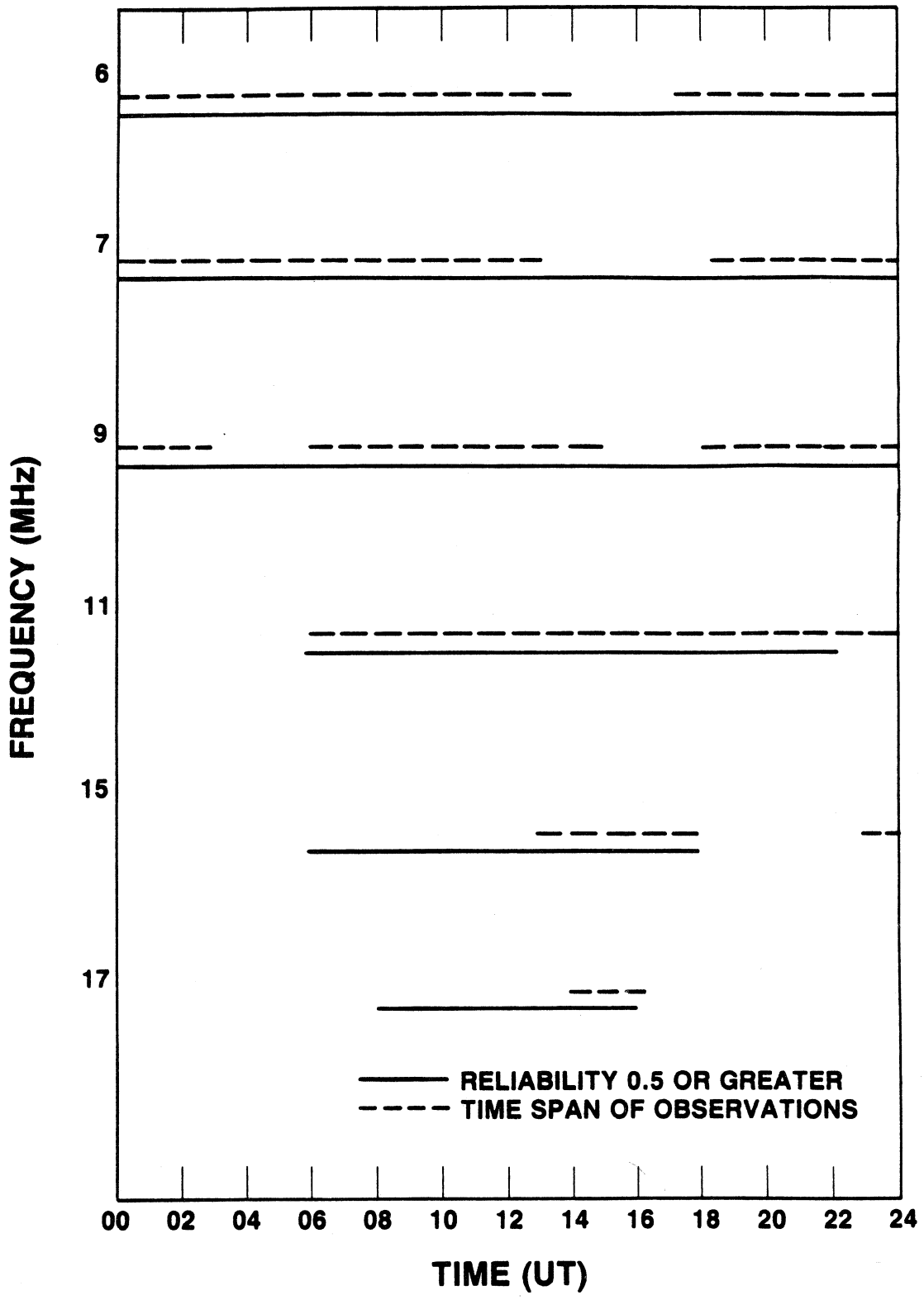


Figure 31. Comparison of time span of observations during March/April 1985 and time span of calculated reliability $\geq$ 0.5 from U7 to Prague (6, 7, 9 MHz) and from U7 to Moscow (11, 15, 17 MHz).

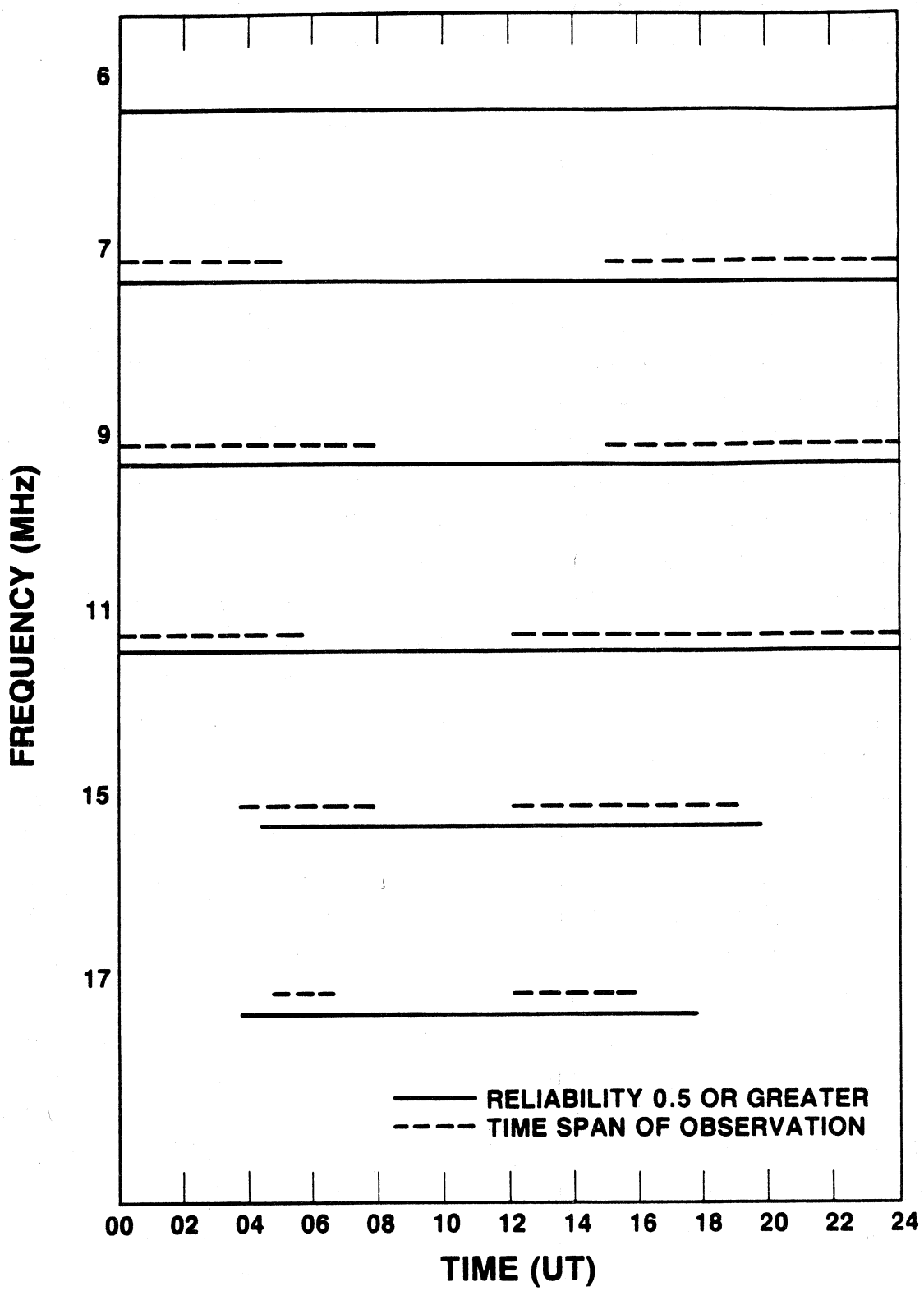


Figure 32. Comparison of time span of observations during March/April 1985 and time span of calculated reliability $\geq$ 0.5 from TK to Moscow.

the major city indicated on the figure. Subsequent calculations using a transmitter power of 100 kW did not significantly change the time span over which the reliability exceeded 0.5. The dashed lines show the time span over which observations of jamming activity associated with that marker were observed at a monitoring site. In determining the locations to which the jammers were directed, use was made of the data files relating jamming observation to broadcast language and service area. For example, the observations of jamming by the KB marker were all associated with RL and VOA Russian-language transmissions. Thus, Moscow was chosen as the major city in the target area. The KD marker was associated primarily with jamming Russian-language broadcasts of RL, VOA, and the BBC, and the Polish language broadcast of RFE, although other languages were observed to be jammed intermittently. The reliability of the KD emitter to Moscow exceeded 0.5 for all times and frequencies for the 250 kW transmitter power. The choice of Warsaw for the end point of the propagation path calculations for the reliabilities in the 15 and 17 MHz bands was made to show a smaller time span of reliability greater than 0.5. The U7 marker was observed to jam RFE and DW Czechoslovakian, RL Russian and other minority languages, and RFE Baltic languages. Major cities of Prague and Moscow were chosen as end points in these circuit calculations. The TK emitter was associated primarily with RL Russian services, although some RFE and VOA Baltic-language jamming was observed. Moscow was chosen as a representative end point for this broadcast area.

The results shown in Figures 29 through 32 display a very obvious feature; namely, the occurrence of observations of jamming are confined to those times when the reliability of the propagation path between the location of the marker and the intended service area exceeded 0.5 for almost all the observations. As before, lack of observations during times of high reliability does not imply fault with the assumption of sky-wave jamming. The emitter had to have been used as a jammer, the monitoring stations had to have been monitoring the specific frequency band used by the emitter, and the propagation conditions had to favor support from the marker location to the monitoring site. The fact that very few observations are obtained when the jammer is predicted to have poor performance is very strong evidence of a sky-wave jamming activity that is well coordinated and managed, taking account of expected sky-wave propagation conditions.

Another type of illustration that the emitters identified in this study are used for sky-wave jamming to distant locations can be obtained by use of coverage maps. These maps show the field strength of radio signals in the service area provided by a broadcast transmitter and the field strength in the same area of

signals attributed to a specific jammer. Figure 33 shows field strength contours in dBu for the BBC service provided to the Western Soviet Union at 1900 h UTC on 7230 kHz during March 1985. The calculations needed to determine the field strength contours were made using the HFBC84 computer program. In performing these and similar calculations, more realistic broadcasting antennas were used than in the IONCAP calculations. The types of antennas were assumed to be horizontal dipoles with a curtain reflector consisting of m number of half-wave dipoles in each row, n rows spaced half a wavelength apart one above the other, and the bottom row of dipoles being h wavelengths above the ground. This type of antenna is designated as HR m/n/h. In Figure 33, an HR 4/2/0/5 antenna was assumed. A transmitter power of 270 kW was assumed and the transmitter was located on the island of Cyprus. The antenna was boresighted at 7°. The effects of sidelobe radiation from the antenna are clearly seen by the location of two relative maxima in field strength located in the vicinity of 45-50°N, 35-40°E and 40-43°N, 45-50°E.

Figure 34 shows contours of the calculated field strength for a jammer located at IG (50.0°N, 136.5°E) This marker was observed on the frequency 7230 kHz as a source of harmful interference at this time. The power of the IG emitter was assumed to be 250 kW and a 4/2/0.5 antenna was used in the calculations. It can be seen that the emitter in Siberia can provide a substantial signal to the Western Soviet Union. Figure 35 shows the difference in dBu between the BBC signal and the IG jammer signal. For most of the area shown, the jamming signal is at least within 10-15 dB of the broadcast signal. By choosing an appropriate modulation for the IG signal, the IG emitter can be a very effective source of harmful interference to the BBC service at 1900 h UTC.

Figures 36, 37, and 38 show a similar series of results for the RL transmission from Lampertheim, West Germany, on 7190 kHz at 0100 h UTC in March 1985. This service was provided to Southeastern Soviet Union. The transmitter power and antenna boresight are shown for the broadcast service on Figure 36. The TK emitter was observed on numerous occasions as a source of harmful interference on this RL service. It is believed to be located near Tashkent. In the calculations a 2/2/0.3 antenna was used. This is consistent with broadcast practices of using an antenna with a high gain at higher elevation angles for shorter distance circuits. It was assumed that the TK emitter was boresighted to Baku. Figure 38 shows that the TK emitter is a very effective jammer of the RL service at this time.

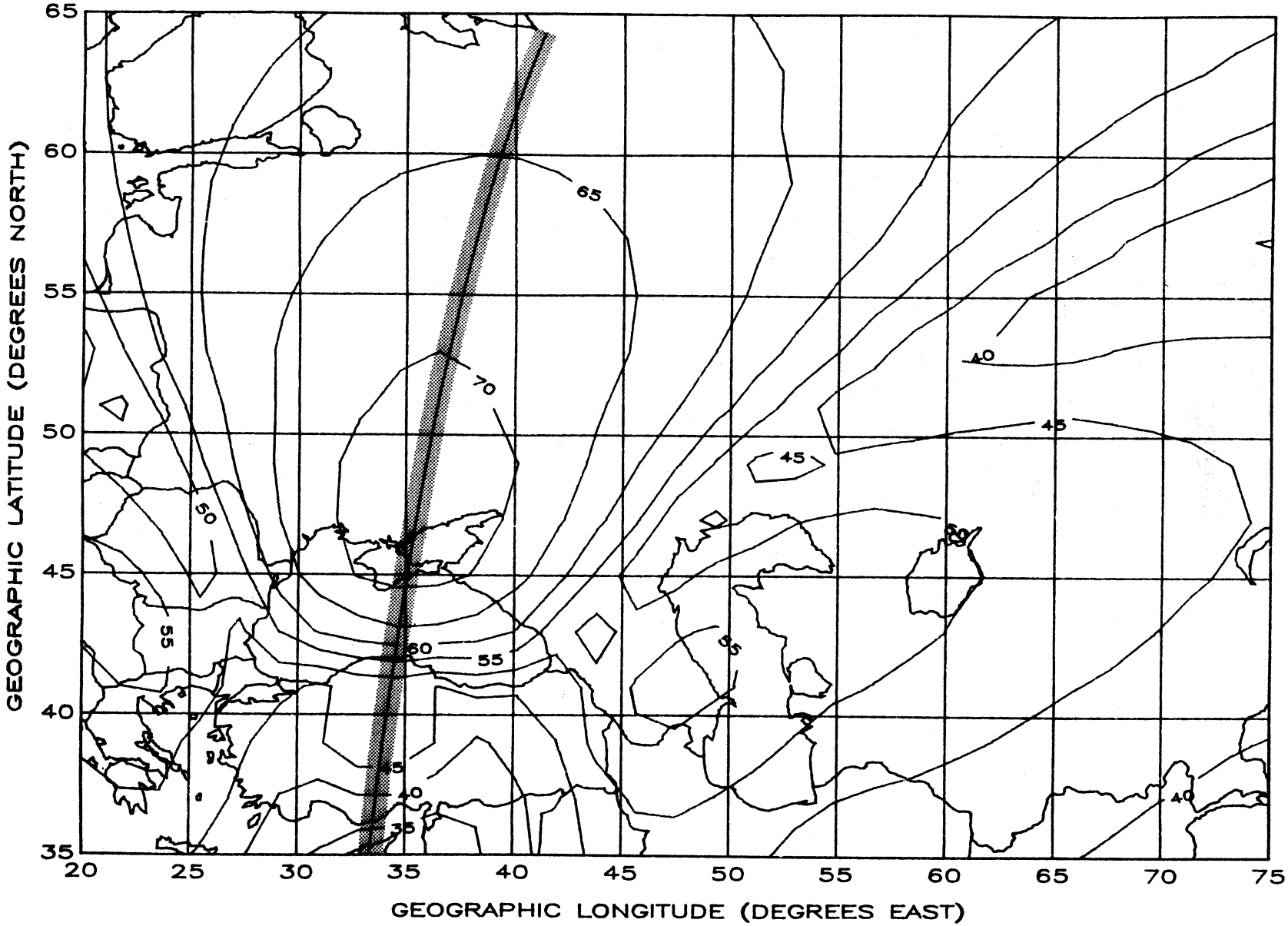


Figure 33. Contours of calculated field strength (in dBu) for a BBC transmission from Cyprus on 7230 kHz with a power of 270 kW and an HR 4/2/0.5 antenna for March 1985, 1900 h UTC. The heavy line depicts the antenna boresight.

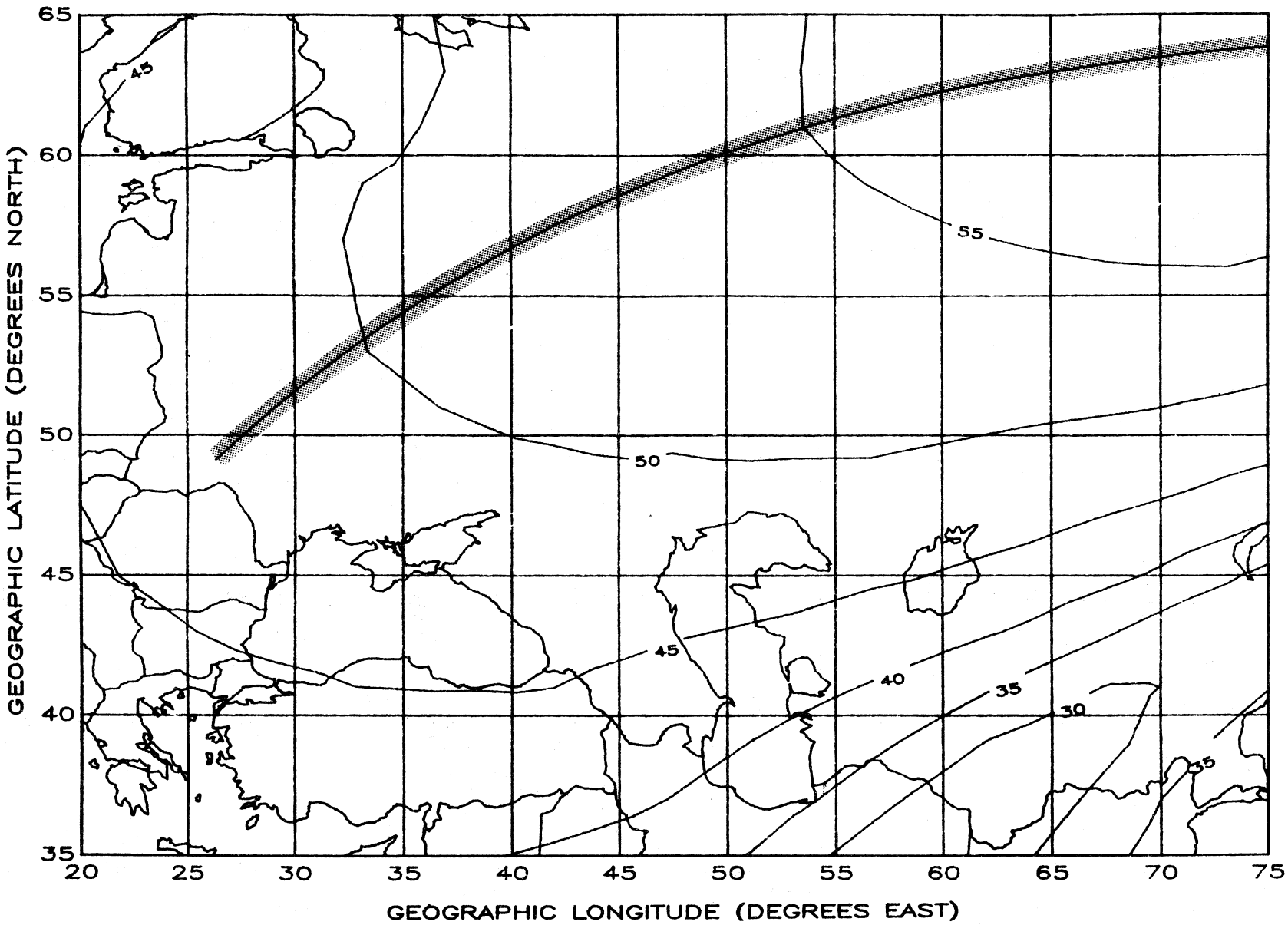


Figure 34. Contours of calculated field strength (in dBu) for the marker IG on 7230 kHz with a power of 250 kW and an HR 4/2/0.5 antenna for March 1985, 1900 h UTC. The heavy line depicts the antenna boresight.

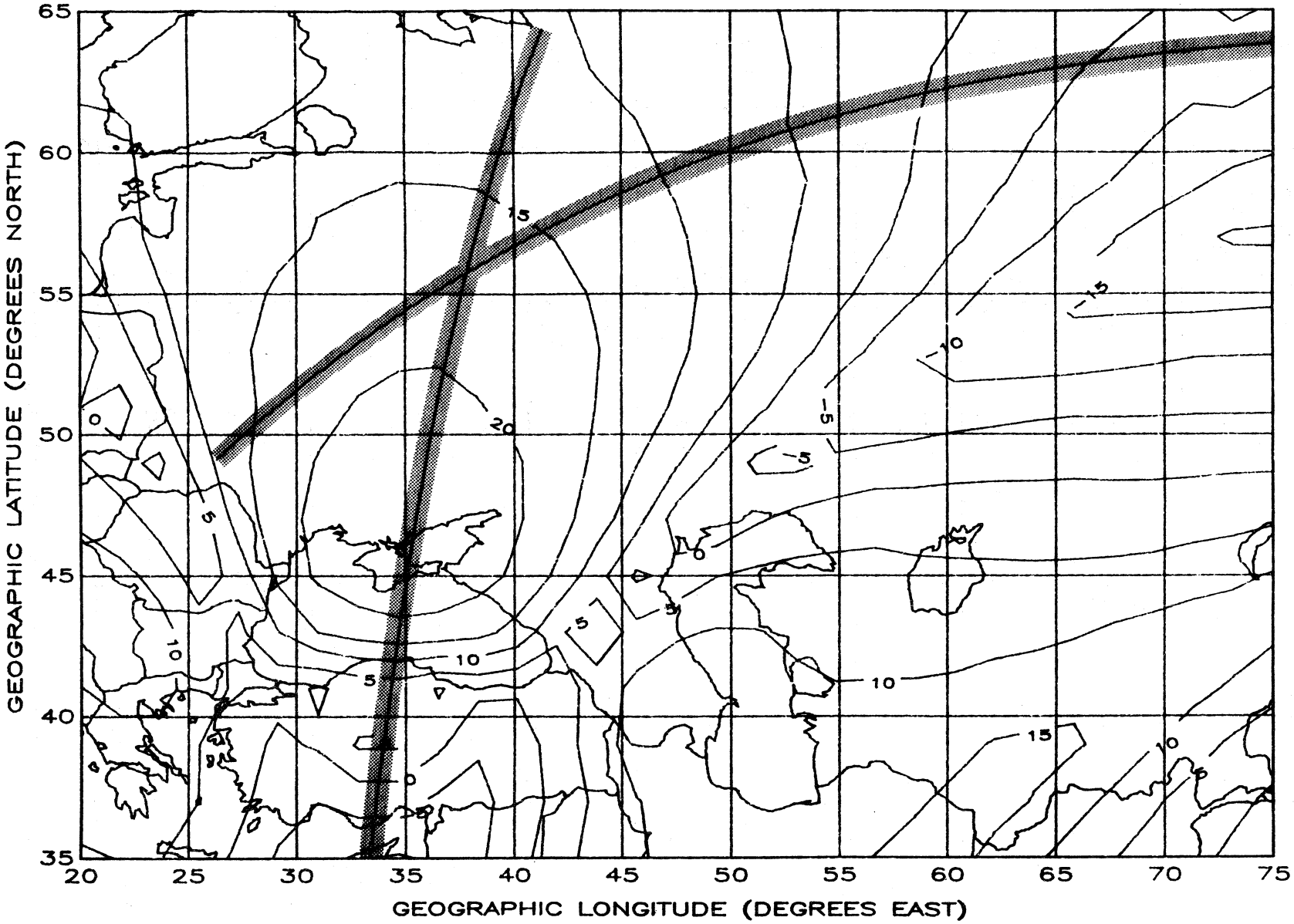


Figure 35. Contours of the computed signal (BBC Cyprus transmission)-to-interference (IG transmission) ratio (in dB) deduced from Figures 33 and 34. The heavy lines depict the boresights of the antennas.

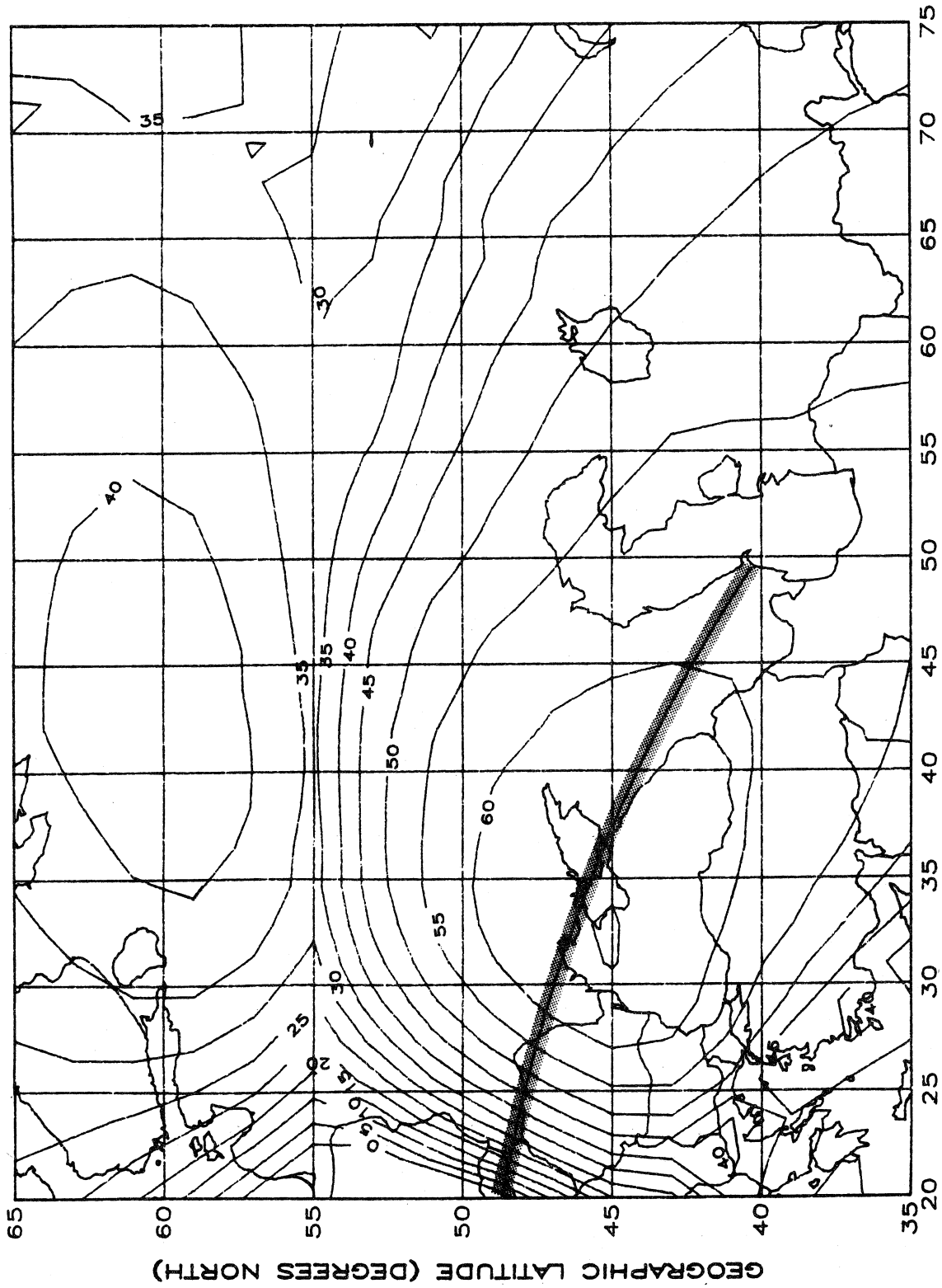


Figure 36. Contours of calculated field strength (in dBu) for an RL transmission from Lampertheim, Germany, on 7190 kHz with a power of 100 kW and an HR 4/2/0.5 antenna for March 1985, 0100 h UTC. The heavy line depicts the antenna boresight.

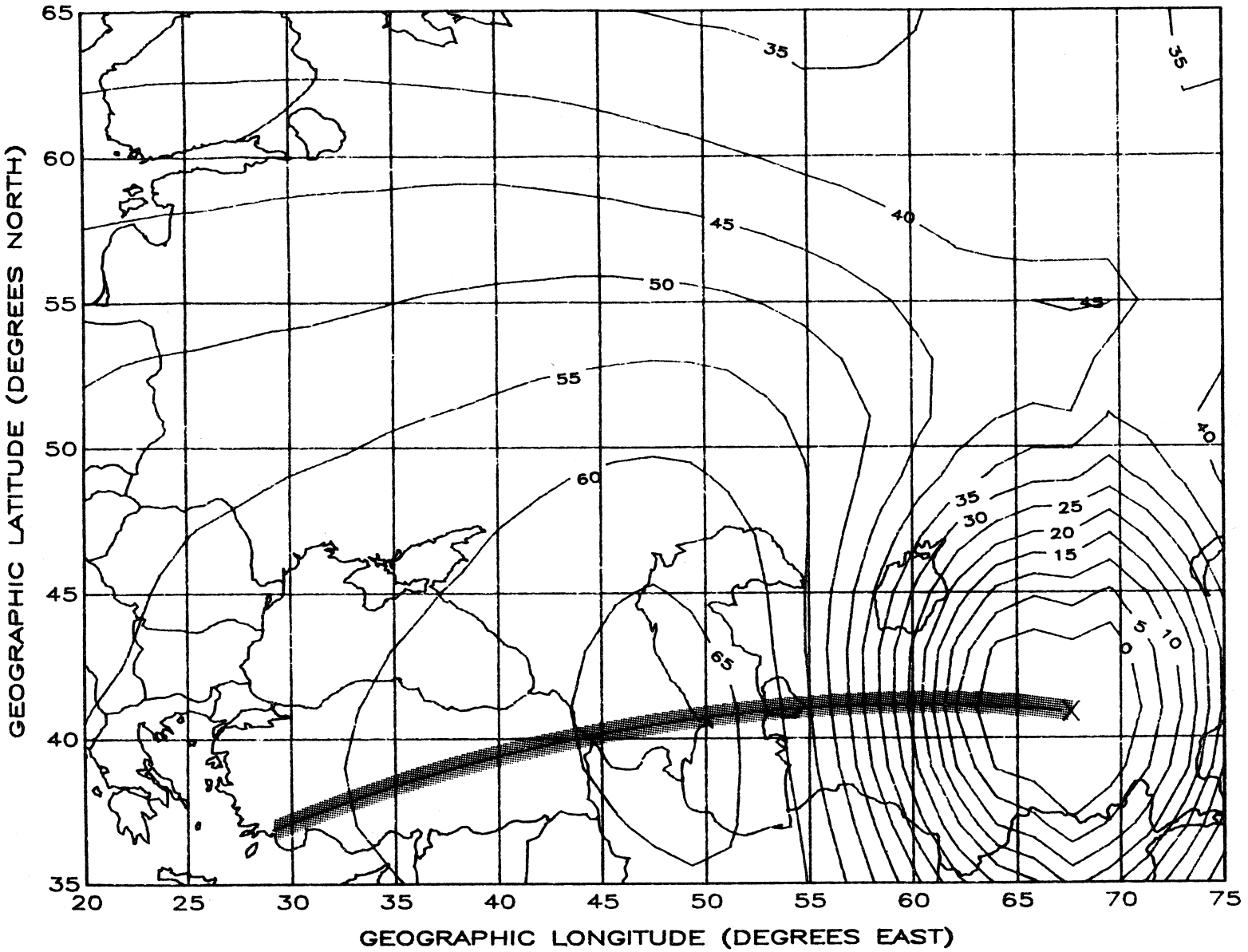


Figure 37. Contours of calculated field strength (in dBu) for the marker TK on 7190 kHz with a power of 250 kW and an HR 2/2/0.3 antenna for March 1985, 0100 h UTC. The heavy line depicts the antenna boresight.

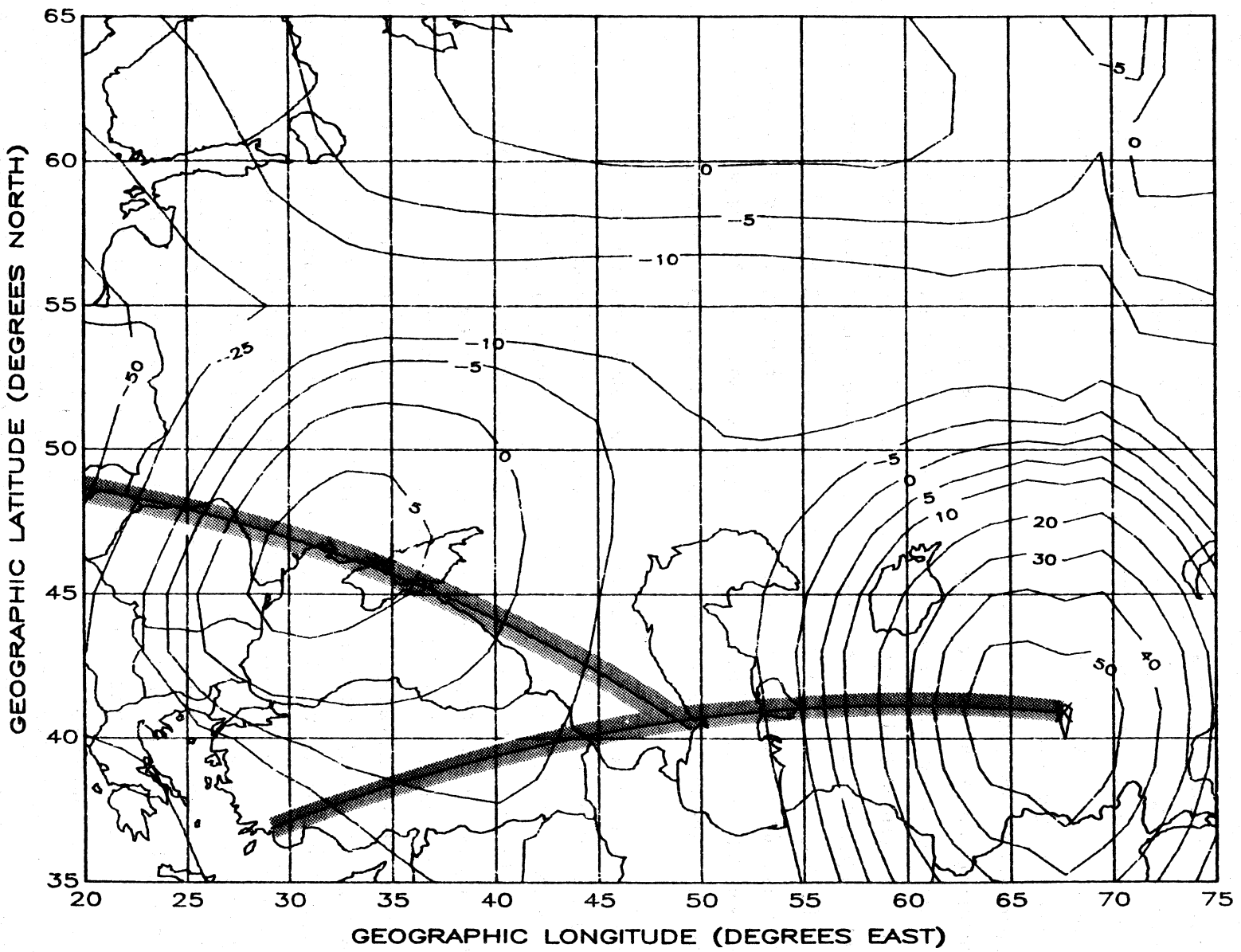


Figure 38. Contours of the computed signal (RL transmission)-to-interference (TK transmission) ratio (in dB) deduced from Figures 36 and 37. The heavy lines depict the boresights of the antennas.

Figure 39 shows yet another example of calculated results. In this case, the VOA Russian service from Kavalla, Greece, directed toward Moscow was used as the example. The figure shows the field strength contours for this 11835 kHz signal at 2000 h UTC. The transmitter antenna, power, and boresight are given on the figure. Figure 40 shows the difference between the calculated broadcast field strength and the field strength of the KB emitter that was observed as a source of harmful interference on this VOA service. It can be seen that for much of the service area, the KB emitter located in Siberia is an effective source of interference to the VOA service.

There were numerous instances of more than one emitter of harmful interference observed on a particular broadcast service at the same time. Multiple markers are commonly observed on the same RL services. Figure 41 shows the difference in the signal strengths between the RL broadcast on 9520 kHz at 1600 h UTC from Lampertheim, West Germany, and the sum of the signal strengths emitted by the IG, KB, and DR markers. The location of the IG and KB markers are in Siberia while DR is located at 54.8° N, 20.2° E. For the entire area shown, the IG, KB, and DR emitters, which were observed as sources of harmful interference on this RL service, are extremely effective in causing disruption to this service.

The results of the calculations described above provide consistent evidence that sources of harmful interference located at great distances from broadcast service areas can be extremely effective in preventing a broadcast to reach its intended audience. The emitters in the far eastern part of the Soviet Union are 5000 to 7000 km away from the large population areas in the Western Soviet Union. It has been shown that these emitters can provide significant signal strengths to those distances if the assumptions regarding transmitter power and antenna type (or gain) are realistic. Sources of harmful interference from emitters located closer to the intended service area are even more effective in providing potentially disruptive signals to a targeted broadcast service. The use of sky-wave emitters as a source of intentional harmful interference either operating solely or as part of a closed network implies a rather sophisticated and costly attempt to prevent broadcast services from reaching desired audiences.

The results presented above were obtained under the assumption that the ionosphere was homogeneous along each sector (hop) of the propagation paths studied. The ionosphere in both the IONCAP and HFBC84 computer programs is represented by numerical coefficients that are evaluated at the predicted points of reflection for each of the modes considered. No account is taken of gradients

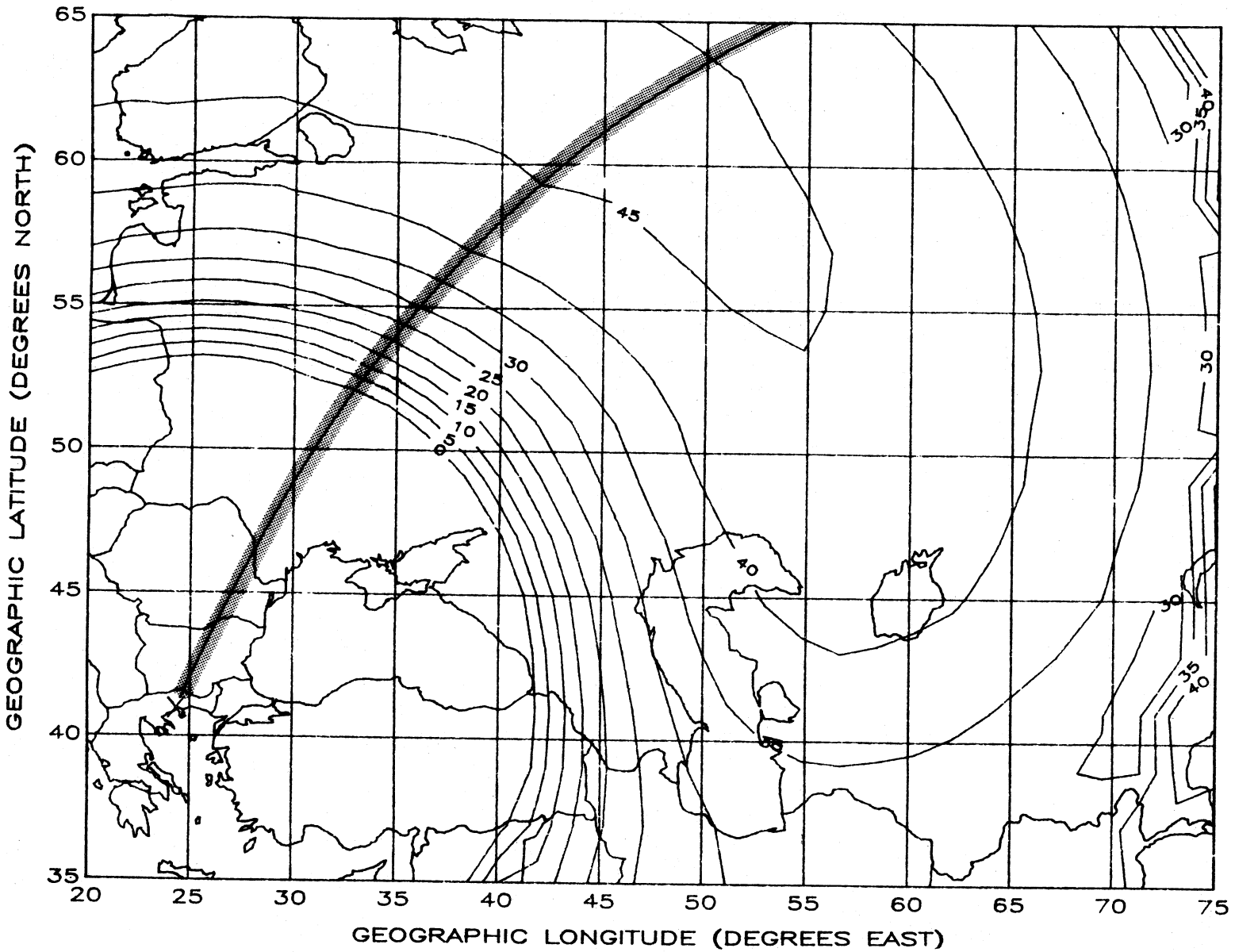


Figure 39. Contours of calculated field strength (in dBu) for a VOA transmission from Kavalla, Greece, on 11835 kHz with a power of 250 kW and an HR 2/2/0.3 antenna for March 1985, 2000 h UTC. The heavy line depicts the antenna boresight.

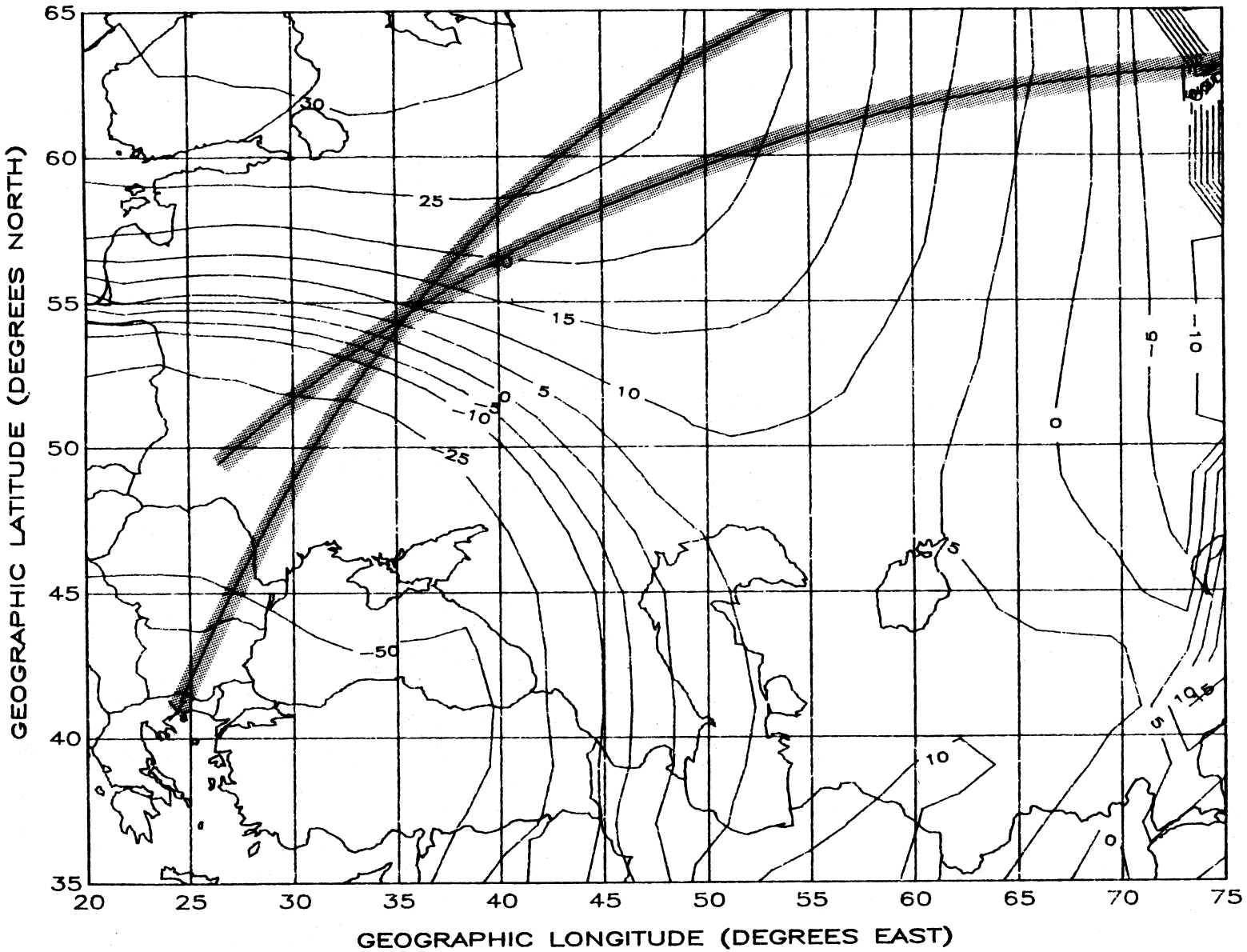


Figure 40. Contours of the computed signal-to-interference ratio (in dB) for the VOA Kavalla transmission in Figure 39 and an interferer located at marker KB. The marker KB was assumed to transmit on 11835 kHz with a power of 250 kW and an HR 2/2/0.3 antenna. The heavy lines depict the boresights of the antennas.

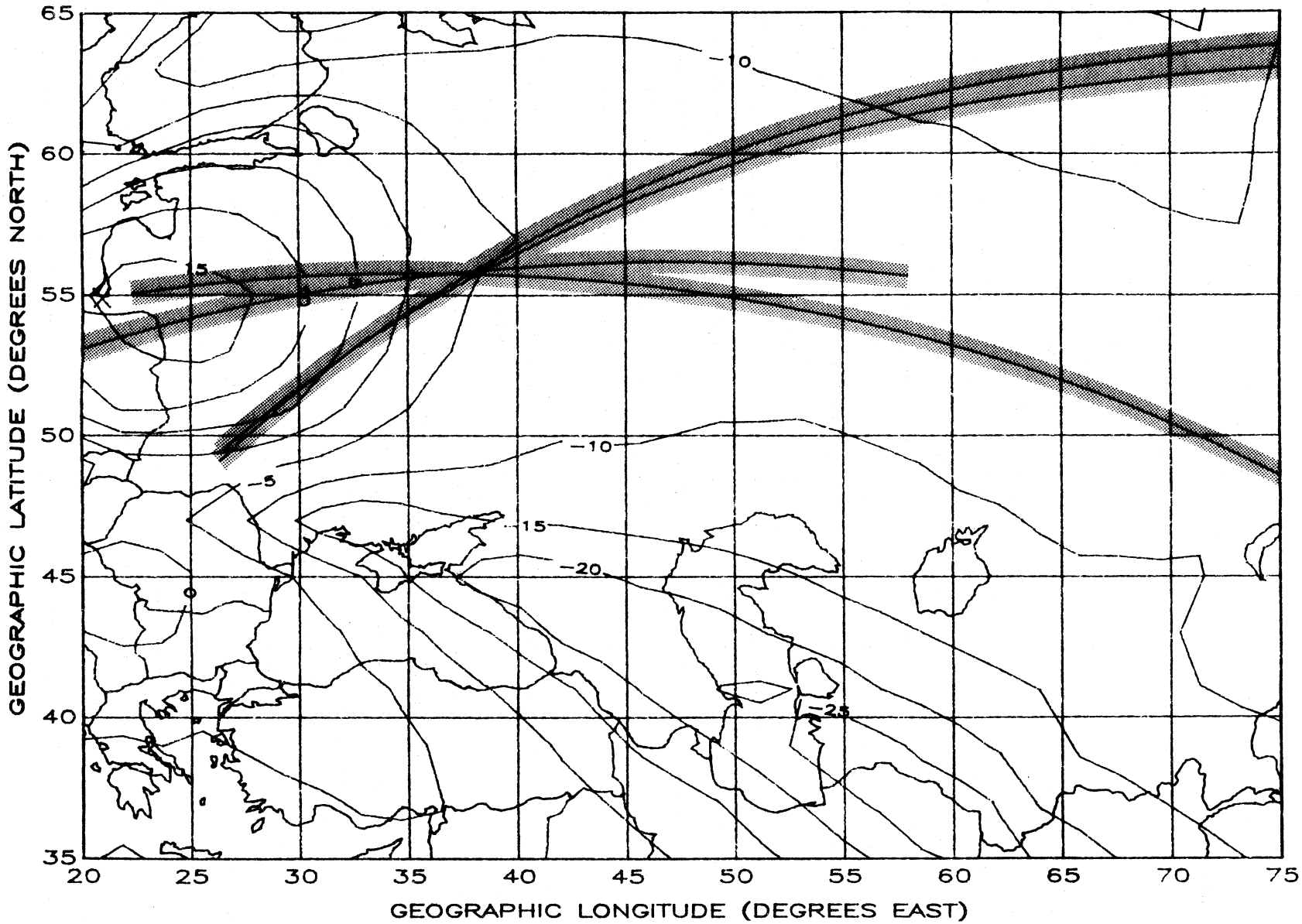


Figure 41. Contours of the computed signal-to-interference ratio (in dB) for an RL transmission from Lampertheim on 9520 kHz and interferers located at IG, KB, and DR for March 1985, 1600 h UTC. The heavy lines depict the boresights of the antennas.

in the electron density distribution along or transverse to the propagation path. The calculations were performed for radio waves that are confined to the great circle path between assumed transmitter location and desired reception point.

Gradients in the electron density structure can cause radio waves to deviate from the great circle path between the transmission and reception points. The deviation could result in radio waves not reaching an intended target area. In terms of this study, signals from jamming emitters could be deviated away from the location of the monitoring stations giving the appearance of lack of jamming activity. Far more important, perhaps, are signals that are received at the monitoring stations that have been subjected to significant amounts of deviations from the great circle path. The algorithms used in the FFIX program to locate the position of unknown emitters are based on the assumption that the observed radio signals propagate in an undeviated manner between the transmitter site and the receiving location. Radio signals that are deviated from the great circle path will thus appear to originate from locations that are not true. This is the cause, in part, for the rejection of some of the bearings during the application of the FFIX program. Signals that are significantly deviated will appear to be inconsistent within the data set in which they are grouped. Many of the signals that are deviated from the great circle path are not rejected in the FFIX program. These deviations give rise to errors in the calculated location of the transmitters.

Gradients in the ionospheric structure are present at all times. The magnitudes vary depending upon time and geophysical conditions. The gradients can be associated with such repetitive processes as the ionization redistribution that is characteristic of sunrise and sunset, or changes in the ionization distribution that accompanies variations in geographic position. Gradients can have as their sources dynamic processes such as are associated with traveling ionospheric disturbances, sudden ionospheric disturbances, geomagnetic storms and troughs (Davies and Rush, 1984). Because the ionosphere is not a homogeneous medium, the data available in this study yield results that appear to be spread about a true calculated position. This feature contributes to the calculated confidence ellipse. The magnitude of the ionospheric-induced errors depends upon the ionospheric structure, the wave frequency, the critical frequency, and the angle at which the radio wave is incident on the ionosphere. Many studies have been undertaken to assess the effects of gradients on HF propagation paths, and techniques have recently been developed to perform this assessment in a straightforward manner (Davies and Rush, 1985a, b). It is beyond the scope of

the current effort to attempt to simulate the deviations from the great circle paths that would result from application of these techniques to the results obtained in this study. Such an investigation should be undertaken in the future with the view toward possibly reducing the uncertainty in the location of selected jammer markers.

7. SUMMARY AND RECOMMENDATION FOR FURTHER WORK

The results presented in this report provide substantial evidence of the extent to which the high frequency broadcasting service is subjected to intentional harmful interference. Using data obtained during two internationally coordinated monitoring periods under the auspices of the International Frequency Registration Board, the locations of emitters that cause jamming to HF broadcast services have been calculated. These locations span the entire Soviet Union and many countries in Eastern Europe. The locations in the Soviet Union do not appear to be spread uniformly throughout the country but rather appear to occur in the vicinity of large cities such as Moscow, Leningrad, Tashkent, Khabarovsk etc. The jamming locations observed in Eastern Europe do not appear to be similarly grouped, however.

The emitters that were located were associated with two-symbol alphanumeric codes. It is not known exactly how these codes are used by those causing the jamming, but it certainly is consistent with the notion of aiding in determining the effectiveness in real time of the jamming operation. Over 185 different markers were observed in the October 1984 monitoring period and 158 markers were observed during the March/April 1985 monitoring period.

The monitoring period conducted in October 1984 yielded data that were used to identify the location of 76 distinct emitters giving rise to intentional harmful interference. Of these, 42 were located in the Soviet Union, with 14 in Poland, 6 in Czechoslovakia, 3 in Hungary, and 2 in East Germany. The March/April 1985 monitoring period provided data that permitted the identification of 70 locations of jamming emitters. Of these, 54 were located in the Soviet Union, 9 in Poland, 4 in Czechoslovakia, and 2 in Bulgaria. A large number (32) of emitters located during the October 1984 monitoring period were located in the same general areas during the March/April 1985 period. Because of the uncertainty in the measurement of bearings of the signals causing the intentional harmful interference, there is a confidence ellipse associated with each location determination that for certain emitters can be quite large (400 nm x 800 nm for instance). The location of the monitoring stations relative to the

locations of the jamming emitters also causes further uncertainty in the determination of the jammer locations.

The data obtained during both monitoring periods have been studied extensively to determine the characteristics and occurrences of jamming to the HF broadcast service. Broadcasts made by Radio Liberty, Radio Free Europe, Voice of America, British Broadcasting Corporation, Deutsche Welle, and Voice of Israel are all subjected to intense jamming. By far the major jamming activity seems to be directed against Radio Liberty and Radio Free Europe, but the Russian and Polish language service and the Czechoslovakian service of the above-mentioned broadcasters are also jammed on a routine basis.

It has not been possible to attribute uniquely the jamming activity of one particular location to one particular broadcaster or language, although for some emitters such as TU, KB, and IG a definite preference for jamming the Russian-language broadcasts is discerned as is the case for 1G, 4F, and 7K for Polish jamming and B1, D3, and S5 for Czechoslovakian jamming. There is a definite indication that more than one identifier and, hence, more than one location is used to jam the same broadcasts on some occasions.

The results obtained from this study relate overwhelmingly to jamming by use of sky-wave signals. The data are consistent with the basic concepts of sky-wave propagation as they can be simulated using the IONCAP and HFBC84 computer programs. The observations made at the monitoring stations correspond to times when it is expected that the propagation conditions between the location of the jammer and the monitoring sites would support the frequencies recorded. The observations are also consistent with favorable propagation conditions along the propagation path from the jamming transmitter to the (admittedly) suspected target area. Coverage from distant jamming emitters can be provided over large, remote areas with field strengths that are anticipated to be disruptive to the successful provision of a broadcast service. The locations of the monitoring sites providing the data used for this investigation are too far from the areas where ground-wave (localized) jamming activity could be readily observed. However, it may be possible that some of the signals observed by the monitoring sites in Europe could be transmissions from elevated ground-wave jammers or ground-wave jammers that radiate a detectable sky-wave signal on certain frequencies. It certainly would be worthwhile to pursue this in the future in an attempt to gain further information on ground-wave (localized) jamming activities.

More data need to be collected in order to improve the accuracy of the determination of the location of the emitters of intentional harmful

interference. These data can be obtained during the upcoming international monitoring periods planned for January and July 1986. Not only will the additional monitoring periods provide more observations of jamming activity, but data collected during January and July can be used to determine jamming characteristics during the northern hemisphere winter (January) and northern hemisphere summer (July) periods.

The data for the January and July 1986 monitoring periods need to be observed from as many monitoring sites as is practicable. The distribution of sites used in the studies undertaken to date is far from optimum. It was shown in Section 4 how the alignments of the monitoring sites used in the October 1984 and March/April 1985 periods led to uncertainty in emitter location for many jamming locations. There is a need to obtain observations of intentional harmful interference at locations situated to the south and east of those sites currently available from the existing station network. Observations made in areas like Italy, Turkey, Egypt, and Israel would be extremely beneficial in improving the determination of the location of jamming emitters in the Western Soviet Union and Eastern Europe. Observations from India and Thailand would be extremely useful for improving the location of the jamming emitters in the eastern part of the Soviet Union.

It certainly would be desirable if the accuracy of the monitoring network could be improved. This would probably require extensive hardware modifications at some of the stations currently in the network. It is unrealistic to assume that this is likely to occur in the near future. A highly coordinated monitoring schedule such as adopted for the March/April 1985 period may be the best practical approach to obtain observations that could lead to improved accuracy in the determination of the location of jamming emitters. Limited periods of time in which specific frequencies are monitored rather than frequency bands proved useful in the March/April period. This procedure must continue during future monitoring periods. Also, the specification of expected marker identifications may greatly ease the data collection process and facilitate the likelihood of increased coincidence of frequency and marker that forms the basis of the initial grouping of data for determining jammer locations. In order to effect this in the future, the schedules of all the broadcasters likely to suffer jamming must be studied to identify expected jammed frequencies well in advance of the next monitoring period.

In order to obtain an estimate of the overall accuracy of the observing network, it would be useful to observe signals from cooperative emitters for a

limited period of time. The bearings obtained at the monitor sites can then be used in the FFIX algorithm to determine the location of the emitters. Comparison between the calculated location and the actual emitter location would then provide an indication of the network effectiveness. For this type of test to be totally applicable to the monitoring scenario, the location of the emitters should not be known to the personnel at the monitoring sites.

It would be very beneficial to expand the scope of the propagation assessment that was conducted as part of this study. An analysis of the times for which observations are available and the times when the propagation path between the jammer locations and the target areas are predicted to have a high reliability, should be conducted for many more markers than have been presented in this study. It is perhaps worthwhile undertaking a numerical study directed at adjusting the effective radiated power of the jammer transmitter and antenna until coincidence is achieved between the calculated time span that the reliability exceeds some threshold and the time that observations are available. This could aid in the determination of realistic powers used in the sky-wave jamming operation. Such powers that are thus deduced could be used to calculate signal strengths that could be compared with signal levels that have been observed at a limited number of the monitoring sites.

The effect of gradients in the structure of the ionosphere on the observations recorded at the monitoring sites could also be assessed. The results of such a study could be used to place limits on the expected ionospheric-induced error inherent in the observations at each monitoring site. This would allow procedures to be adopted to reduce the confidence ellipse associated with the best-point estimate of the location of the jamming emitters.

Finally and perhaps most importantly is the incorporation of the results of the monitoring exercises into the HF broadcasting planning process. The results presented in the foregoing sections point out the magnitude of jamming to the HF broadcasting service. Any plan developed for the HF broadcasting service that does not expressly account for jamming activity will not come close to simulating the actual situation in the broadcasting service. The results obtained from this study could easily form the basis for input into any planning process developed in anticipation of the Second Session of the HF Broadcasting Conference. Realistic emitter powers and transmitter antenna gains could be assumed for specific marker identifiers that are observed to consistently jam specific broadcasts. The effect of the jamming activity could then be assessed in terms of the reduction in the number of broadcast requirements that are satisfied in the frequency

channel(s) that is(are) subjected to jamming as well as in the adjacent channels. This would demonstrate in convincing fashion that intentional harmful interference leads to reducing the effectiveness of not only the broadcast service against which it is directed but it also adversely impacts upon other broadcasters that occupy the HF spectrum at the same time.

8. ACKNOWLEDGMENT

This study could not have been undertaken without the cooperation and support of numerous individuals and organizations throughout the world. We would be remiss if we did not express our sincere gratitude for their fine support.

The data used in this report were made available to us through the outstanding efforts of Mr. Leslie Barclay, Department of Trade and Industry, United Kingdom; Mr. Ian Davey and Mr. Geoffrey Spells, BBC, United Kingdom; Mr. Thormod Bøe, Norwegian Telecommunications Administration; Mr. W. van Duijn, Chief of Netherlands Monitoring Stations; Mr. R. W. Jones, Department of Communications, Canada; Mr. E. Nissam, Ministry of Telecommunications, Israel; Mr. J. Nitsan, BEZEQ, Israel; Mr. Nam Hee Park, Ministry of Communications, South Korea; Mr. Tomoyuki Araya, Director of International Monitoring Stations, Japan; Mr. Zimmerman, Chief of Monitoring Systems, Federal Republic of Germany; Mr. Gunter Roessler and Mr. Fred Rogler, Deutsche Welle, Federal Republic of Germany; Mr. John Hudak and Mr. Roy Kolly, FCC, United States. Without the cooperation of these individuals, the value of the entire monitoring program would be questionable.

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9. REFERENCES

CCIR (1982), Report 372-4, Direction finding at monitoring stations, Recommendations and Reports of the CCIR, Vol. I, Geneva.

Davies, K., and C. M. Rush (1984), Calculation of high-frequency ray paths in model layers simulating the sub-auroral trough and the equatorial anomaly, in Effect of the Ionosphere on C^3I Systems, Editor-in-Chief, J. Goodman, pp. 74-83, Library of Congress Catalog Cards No. 85-600558.

Davies, K., and C. M. Rush (1985a), High-frequency ray paths in ionospheric layers with horizontal gradients, Radio Sci. 20, pp. 95-110.

Davies, K., and C. M. Rush (1985b), Reflection of high-frequency radio waves in inhomogeneous ionospheric layers, Radio Sci. 20, pp. 303-309.

Gething, P. J. D. (1978), Radio direction-finding and the resolution of multicomponent wave-fields, (Peter Peregrinus Ltd., Southgate House, Stevenage, Herts, England).

Hodson, W. T., and J. C. H. Smith (1979), FALCONFIX: A multi-modal approach to FIX computation, U.S. Air Force Academy Report, USAFA-TR-79-5, June.

IFRB (1984), Circular-letter No. 591, dated September 3, 1984, Subject: Monitoring programmes in the bands allocated to the high-frequency broadcasting service with a view to identifying stations causing harmful interference.

IFRB (1985a), Circular-letter No. 604, dated February 15, 1985, Subject: Monitoring programmes in the bands allocated to the high-frequency broadcasting service with a view to identifying stations causing harmful interference.

IFRB (1985b), Circular-letter No. 609, dated May 10, 1985, Subject: Improvement in the use of the HF bands allocated to the broadcasting service by avoiding harmful interference.

IFRB (1985c) Circular-letter No. 630, dated September 9, 1985, Subject: Improvement in the use of the HF bands allocated to the broadcasting service by avoiding harmful interference.

ITU (1984), Report to the Second Session of the World Administrative Radio Conference for the planning of the HF bands allocated to the Broadcasting Service, International Telecommunication Union, Geneva.

ITU (1985), Radio Regulations, Appendix 2, International Telecommunication Union, Geneva.

Ross, J. A. (1981), HF/DF Algorithm Evaluation, MITRE Corporation Rept. MTR-81W00228, MITRE Corporation, 1820 Dolley Madison Blvd., McLean, VA 22102.

Teters, L. R., J. L. Lloyd, G. W. Haydon, and D. L. Lucas (1983), Estimating the performance of telecommunication systems using the ionospheric transmission channel--ionospheric communications analysis and prediction program user's manual, NTIA Report 83-127, NTIS Order No. PB84-111210.

APPENDIX A: MONITORING DATA OBSERVED DURING OCTOBER 1984 AND FOR MARCH/APRIL 1985

OCTOBER, 1984

#	ID	DAY	TIME	FREQ	LANG	BROADCASTER TX SITE	SMA AXIS	SMI AXIS	ORIEN	BPE LAT	BPE LONG	STATIONS INPUT (LOWER CASE INDICATE WILDS)					
1	**	3	0900	5955	????	????????????	0	0	0	36.27N	77.28W	DS 71B	KI 58B				
2	**	3	1130	5955	????	????????????	211	58	94	37.39N	73.24W	KI 57C	DS 71B	GI 91C	LV 118C		
3	**	3	1502	5955	????	????????????	0	0	0	35.94N	75.39W	GI 98C	SS 337C				
4	**	6	0702	5962	????	????????????	1190	112	105	65.85N	169.73W	KI 331C	LV 331B	FE 323C	DS 332C		
5	**	3	0720	5970	????	????????????	183	17	70	57.98N	31.04E	BR 55B	BR 55B	IT 65C	KO 45B	KR 52B	MU 30D
6	**	5	1305	6017	????	????????????	1106	4	40	31.41S	70.43E	LV 310C	DS 312C	DS 323B	FE 311C		
7	**	4	1907	6020	????	????????????	0	0	0	50.29N	5.67E	BE 55C	NO 180*				
8	**	7	2115	6020	????	????????????	173	18	133	43.06N	30.66E	FL 42C	BR 120B	IT 120A	KO 100C		
9	**	6	0953	6032	????	????????????	0	0	0	32.81N	86.30W	DS 80C	KI 59B				
10	**	4	1412	6040	????	????????????	0	0	0	4.91N	98.10E	DS 319C	LV 310C				
11	**	6	1800	6075	????	????????????	0	0	0	2.89N	97.80E	AN 291A	SS 38C				
12	**	1	1101	6085	????	????????????	0	0	0	23.08S	85.91E	BE 52B	KI 321B				
13	**	1	1429	6085	????	????????????	0	0	0	54.66N	178.39W	LV 313C	KI 320C				
14	**	4	1130	6085	????	????????????	0	0	0	16.39S	87.89E	BE 42C	KI 333C				
15	**	4	1504	6085	????	????????????	0	0	0	20.44N	108.15E	DS 320C	LV 312C				
16	**	1	1103	6087	????	????????????	0	0	0	12.06S	84.98E	LV 310B	DS 322C				
17	**	2	1004	6087	????	????????????	0	0	0	47.20N	152.63E	LV 309B	DS 315B				
18	**	2	1331	6087	????	????????????	0	0	0	10.28S	87.20E	LV 309B	DS 320B				
19	**	3	1230	6087	????	????????????	0	0	0	52.59N	179.01E	LV 310B	DS 315B				
20	**	5	1034	6087	????	????????????	9825	597	40	21.91N	117.05E	FE 307D	DS 311C	LV 309C			
21	**	5	1401	6087	????	????????????	5860	390	38	26.35N	115.80E	FE 310B	DS 320C	LV 310B			
22	**	7	1203	6087	????	????????????	6936	534	37	2.87S	97.63E	FE 310C	LV 304C	DS 313C			
23	**	7	0937	6115	????	????????????	110	17	136	49.89N	17.20E	BR 135B	IT 130C	KR 100D			
24	**	6	0410	6130	????	????????????	0	0	0	39.85N	49.75E	KO 90B	KR 95B				
25	**	5	1920	6150	????	????????????	1036	20	56	56.55N	22.29E	SS 35C	BR 49B	BR 49B			
26	**	5	1410	6180	????	????????????	0	0	0	47.15N	149.53E	LV 310C	DS 316C				
27	**	5	1046	6190	????	????????????	0	0	0	14.80S	89.66E	BE 38C	DS 309B				
28	**	8	0932	7105	????	????????????	455	245	31	17.93S	83.45E	BE 42C	FE 320C	DS 313B	PS 41C	LV 308B	
29	**	8	1910	7105	????	????????????	122	24	84	53.03N	23.85E	BR 81B	IT 76B	KO 60D	MU 50D		
30	**	8	2038	7105	????	?????????????	22190	424	137	26.10S	119.85E	BR 95B	IT 90C	KO 63C	KR 90B	MU 50C	
31	**	9	0731	7105	????	????????????	0	0	0	52.59N	179.02E	DS 315C	LV 310B				
32	**	11	2050	7105	????	????????????	103	25	83	52.84N	25.85E	IT 90C	KO 58B	KR 75C			
33	**	12	0900	7105	????	????????????	0	0	0	20.50S	77.80E	FE 323B	LV 310C				
34	**	11	1333	7120	????	????????????	0	0	0	36.32N	124.73E	FE 310C	LV 312B				
35	**	13	1130	7120	????	????????????	0	0	0	3.55S	91.69E	FE 316C	DS 320B				
36	**	14	1030	7120	????	????????????	0	0	0	19.12S	81.60E	DS 318C	PS 43D				
37	**	13	1410	7135	????	????????????	0	0	0	55.90N	161.39W	DS 320B	KI 321B				
38	**	10	1930	7140	????	????????????	153	19	131	46.78N	22.99E	BR 130B	IT 123B	KR 109B			
39	**	11	2210	7140	????	????????????	0	0	0	48.03N	57.61E	KO 71B	KR 76B				
40	**	8	0936	7150	????	????????????	830	259	36	16.95S	83.80E	FE 320C	BE 47C	DS 313B	LV 310B		
41	**	8	1207	7150	????	????????????	0	0	0	51.56N	159.34W	DS 314B	LV 310B				
42	**	8	1530	7150	????	????????????	0	0	0	30.49N	113.84E	DS 322C	NE 57B				
43	**	9	0735	7150	????	????????????	0	0	0	2.50N	99.82E	DS 315C	AN 289B				
44	**	9	1431	7150	????	????????????	6224	400	44	34.32N	126.01E	LV 310B	FE 308C	DS 316C			
45	**	10	1604	7150	????	????????????	4355	407	33	4.05N	99.38E	DS 313C	LV 310B	AN 290B			
46	**	10	1841	7150	????	????????????	0	0	0	4.10N	101.77E	LV 306C	AN 288C				
47	**	11	1003	7150	????	????????????	561	332	24	10.15S	88.40E	FL 36C	LV 310B	DS 316B			
48	**	11	1335	7150	????	????????????	0	0	0	36.32N	124.73E	FE 310C	LV 312B				

49=**	11	1735	7150	????	????????????	5666	458	30	7.29N	102.79E	LV	308C	FE	309C	AN	289B								
50=**	12	0902	7150	????	????????????	0	0	0	20.50S	77.80E	FE	323B	LV	310C										
51=**	12	1232	7150	????	????????????	2490	394	35	18.90N	110.95E	KI	321C	DS	317B	AL	343C	LV	310B						
52=**	12	1515	7150	????	????????????	7727	418	35	8.16N	101.36E	FE	313C	DS	317B	LV	310B								
53=**	13	0802	7150	????	????????????	3148	158	93	53.35N	169.56W	FE	335C	LV	310C	KI	317C	DS	317B						
54=**	13	1131	7150	????	????????????	6648	291	67	49.76N	157.95E	FE	322C	DS	316B	LV	310C	KI	320C						
55=**	13	1405	7150	????	????????????	1744	131	36	25.27S	75.48E	FE	326C	DS	320B	LV	310B								
56=**	13	1636	7150	????	????????????	253	177	1	28.62N	114.01E	FE	325C	LV	310C	AN	289A	BR	70B	KO	60C	KR	58A		
57=**	14	1300	7150	????	????????????	0	0	0	41.32N	135.25E	FE	307C	DS	317C										
58=**	14	0340	7155	????	????????????	290	25	103	51.34N	29.08E	AN	351C	BR	89C	IT	96C	KR	82B						
59=**	14	1037	7185	????	????????????	0	0	0	39.62N	134.61E	KI	322C	DS	316C										
60=**	11	0642	7205	????	????????????	0	0	0	57.98N	51.18E	IT	63C	KR	58C										
61=**	9	1447	7210	????	????????????	0	0	0	20.92N	86.29E	BR	90C	KR	85										
62=**	11	1539	7210	????	????????????	0	0	0	29.98N	83.58E	IT	83C	KR	80C										
63=**	9	1447	7215	????	????????????	435	54	126	41.16N	36.17E	IT	115C	KO	99C	KR	106C								
64=**	11	1540	7215	????	????????????	9648	285	141	27.77S	91.77E	BR	116A	IT	115C	KO	115C	KR	110C						
65=**	11	0408	7230	????	????????????	152	16	123	44.51N	26.07E	SS	44C	BR	110A	IT	117D	KO	99B	KR	112A				
66=**	11	1344	7230	????	????????????	928	81	134	33.13N	46.20E	BR	116C	IT	115C	KO	105B	KR	105C						
67=**	11	1542	7230	????	????????????	779	67	132	37.20N	43.58E	BR	114B	IT	120C	KO	100C	KR	105C						
68=**	11	2136	7230	????	????????????	582	202	135	34.98N	64.47E	AN	330B	BR	100C	IT	122B	KR	84C						
69=**	13	0809	7230	????	????????????	16831	428	137	33.67S	101.00E	BR	115C	IT	110B	KR	110B								
70=**	13	1145	7230	????	????????????	4451	231	145	6.56N	65.13E	BR	118B	IT	115C	KO	112B	KR	114D						
71=**	13	1410	7230	????	????????????	2860	157	142	18.08N	58.00E	BR	100C	IT	115B	KO	110B	KR	110B						
72=**	14	2335	7230	????	????????????	176	18	118	50.04N	21.45E	PS	44B	BE	49B	BR	108B	IT	114B	KO	110B	KR	100C		
73=**	10	0739	7235	????	????????????	231	14	80	54.78N	25.08E	BR	70B	IT	78C	KR	65A								
74=**	8	0938	7240	????	????????????	0	0	0	21.79S	81.02E	FE	317C	DS	313B										
75=**	8	1214	7240	????	????????????	0	0	0	18.37S	82.99E	FE	317C	DS	316C										
76=**	13	1420	7240	????	????????????	0	0	0	12.06S	84.98E	DS	322B	LV	310B										
77=**	13	1506	7240	????	????????????	0	0	0	7.46S	90.33E	LV	308C	DS	318C										
78=**	9	1447	7250	????	????????????	389	96	121	47.84S	178.00E	BR	70D	IT	59B	KO	96C	KR	60B						
79=**	9	1640	7250	????	????????????	0	0	0	21.20N	108.81E	AN	290B	LV	312C										
80=**	11	1025	7250	????	????????????	0	0	0	12.55S	85.64E	DS	320C	BE	42C										
81=**	11	1345	7250	????	????????????	986	474	147	23.72N	112.78E	LV	310C	BR	84D	IT	60C	KR	60C						
82=**	13	0315	7250	????	????????????	225	48	107	51.04S	177.05W	BR	94C	IT	59B	KR	80B								
83=**	13	1422	7250	????	????????????	0	0	0	25.54S	75.41E	DS	322B	LV	305B										
84=**	14	1310	7250	????	????????????	0	0	0	45.37N	144.84E	FE	305C	LV	310B										
85=**	11	2135	7265	????	????????????	0	0	0	51.66N	27.83E	BR	90A	IT	94C										
86=**	13	1136	7265	????	????????????	0	0	0	18.37S	82.99E	FE	317C	DS	316B										
87=**	13	1423	7265	????	????????????	0	0	0	54.10N	145.88W	DS	322B	KI	321C										
88=**	10	0511	7295	????	????????????	1071	487	149	3.76N	97.14E	FL	43B	AN	292C	BR	85D	KO	70B	KR	90B				
89=**	12	0546	7295	????	????????????	190	29	83	51.97N	27.30E	FL	34B	BR	110B	IT	75D	KO	63B	KR	80C				
90=**	21	1130	9500	????	????????????	73	11	92	53.34N	25.16E	IT	87A	KO	60D	KR	73A	MU	50D						
91=**	17	2132	9510	????	????????????	0	0	0	47.76N	22.06E	SS	44C	AL	43C										
92=**	17	2350	9510	????	????????????	0	0	0	48.28N	21.64E	DS	30C	BE	51C										
93=**	18	0236	9510	????	????????????	1081	25	161	30.71S	70.02E	DS	20C	AN	299C	IT	128B	KO	91B	KR	73B				
94=**	21	0109	9510	????	????????????	206	16	135	46.70N	22.44E	SS	47C	IT	126A	KR	110C								
95=**	21	0210	9510	????	????????????	54	13	127	45.86N	22.80E	BR	152B	IT	128A	KO	95B	KR	110C	MU	105B				
96=**	16	0838	9515	????	????????????	315	28	70	60.73N	40.44E	IT	55C	KO	42A	KR	66A	MU	45C						
97=**	17	1905	9555	????	????????????	3032	467	127	41.79N	38.78E	AN	280C	SS	46C	FL	41C	BE	48C						
98=**	20	2210	9565	????	????????????	26	15	113	49.99N	17.88E	BR	130C	BR	130B	KO	62B	MU	70D	MU	70D				
99=**	20	0643	9596	????	????????????	0	0	0	25.00N	80.66W	DS	97A	LV	98B										
100=**	20	0323	9606	????	????????????	0	0	0	3.42N	96.27E	FE	315C	DS	320C										
101=**	17	1546	9615	????	????????????	133	31	76	55.30N	23.91E	BE	52C	FE	309C	FL	35C	SS	39C	BR	95C	IT	75C		
											KO	65B	KR	60C	MU	45D								

102=**	18	0136	9620	????	????????????	0	0	0	69.99N	128.66W	AL	336C	DS	350C										
103=**	16	2030	9640	????	????????????	922	74	110	48.98N	55.21E	BR	50D	IT	80D	KO	70B	KR	76B	MU	60D				
104=**	15	1502	9645	????	????????????	0	0	0	28.51S	61.04E	FE	351C	DS	72B										
105=**	15	0535	9650	????	????????????	0	0	0	52.16N	14.43E	BR	120D	KO	35D										
106=**	20	2308	9650	????	????????????	758	168	88	45.13N	22.44W	LR	60C	SS	42C	FL	55B								
107=**	17	2234	9655	????	????????????	1428	381	156	8.68N	67.88E	GI	14B	FL	45B	BE	51C	DS	10C						
108=**	21	0201	9655	????	????????????	0	0	0	4.13N	101.06E	BE	13C	DS	315C										
109=**	15	0534	9660	????	????????????	1040	467	141	23.35N	97.03E	LV	320C	BR	130D	KR	83C	MU	70C						
110=**	19	0510	9660	????	????????????	579	333	156	15.09S	110.77E	FE	109C	AL	328B	BR	100C	IT	103B	KO	78B	KR	87B		
111=**	20	0312	9676	????	????????????	8323	483	34	15.28N	103.08E	FE	315C	LV	313B	KI	141B	DS	320C						
112=**	16	0001	9680	????	????????????	0	0	0	20.60N	103.13E	LV	316B	NE	71B										
113=**	21	0031	9680	????	????????????	235	38	166	64.88N	128.01W	FE	351B	AL	329C	LV	359C								
114=**	15	1105	9690	????	????????????	5639	476	39	37.72N	126.09E	DS	320C	FE	309C	GI	327C								
115=**	16	1407	9690	????	????????????	0	0	0	44.14N	133.30W	DS	311C	LV	310C										
116=**	15	0010	9705	????	????????????	0	0	0	44.69S	179.31E	BR	55B	KO	70B										
117=**	21	0320	9718	????	????????????	0	0	0	35.34N	121.70E	DS	320C	LV	313B										
118=**	21	0633	9718	????	????????????	0	0	0	29.01S	73.26E	FE	323B	DS	314C										
119=**	15	1545	9770	????	????????????	321	28	91	53.86S	173.65W	BR	110C	BR	110C	IT	90D	IT	90	IT	90D				
120=**	16	1746	9770	????	????????????	0	0	0	24.18N	40.50E	FE	16C	LV	18C										
121=**	19	2140	9770	????	????????????	0	0	0	49.76N	15.75W	SS	40C	FL	46B										
122=**	5	0420	11715	????	????????????	0	0	0	36.48N	117.06E	BE	355C	GI	332C										
123=**	7	0447	11715	????	????????????	1319	67	139	23.57N	52.74E	BR	120B	IT	125B	KO	110A	KR	110A	MU	115C				
124=**	7	1732	11715	????	????????????	2143	562	134	34.97N	45.22E	GI	30C	SS	51C	FL	41C								
125=**	1	0322	11715	????	????????????	0	0	0	33.78N	44.43E	LV	12B	FL	44B										
126=**	2	1437	11720	????	????????????	0	0	0	31.63N	71.39E	DS	359C	BE	33C										
127=**	2	2206	11720	????	????????????	0	0	0	49.64N	10.81E	SS	43C	PS	44C										
128=**	6	0305	11720	????	????????????	0	0	0	51.99N	15.16E	BR	116A	IT	117C										
129=**	2	1602	11735	????	????????????	849	13	57	54.66N	11.42E	PS	46C	FL	38C	IT	55D	IT	55D						
130=**	2	1107	11750	????	????????????	0	0	0	73.10N	69.08W	BE	0B	PS	7C										
131=**	3	1004	11775	????	????????????	0	0	0	40.04N	125.59W	LV	309C	KI	306C										
132=**	3	1102	11775	????	????????????	0	0	0	34.39N	127.55E	LV	309C	NE	45B										
133=**	4	1539	11775	????	????????????	0	0	0	20.53N	110.92E	BE	0C	LV	310C										
134=**	5	1505	11775	????	????????????	622	309	165	13.78S	90.06E	FL	42C	AL	4B	DS	315C								
135=**	5	1942	11775	????	????????????	0	0	0	54.07N	28.46E	KO	55B	KR	70B										
136=**	7	1308	11775	????	????????????	5436	184	138	33.36N	107.61E	BR	60B	IT	69D	KO	60C	KR	60A	MU	65B				
137=**	2	1609	11785	????	????????????	0	0	0	42.42N	46.59E	IT	100B	MU	90D										
138=**	6	1424	11785	????	????????????	0	0	0	.97S	102.32E	SS	34C	DS	309B										
139=**	5	2020	11795	????	????????????	5579	276	126	44.43S	163.22E	BR	80D	IT	73B	KO	60D	KR	71D						
140=**	5	0909	11800	????	????????????	202	31	82	55.44N	31.27E	BR	68C	IT	74C	KO	52C	KR	71B						
141=**	3	1010	11820	????	????????????	0	0	0	53.60N	2.72W	SS	38C	FL	41C										
142=**	3	1614	11825	????	????????????	0	0	0	59.80N	15.07E	SS	32C	DS	25C										
143=**	3	1604	11855	????	????????????	2126	152	151	80.47N	145.00W	LV	355C	FE	353C	DS	353C								
144=**	1	1538	11855	????	????????????	0	0	0	28.84N	64.54E	FL	34C	LV	354C										
145=**	3	1440	11890	????	????????????	0	0	0	51.77N	38.39E	FL	33B	SS	37C										
146=**	6	0540	11890	????	????????????	512	124	120	45.90S	175.48E	BR	61B	IT	60B	KO	84B								
147=**	7	0402	11895	????	????????????	0	0	0	65.15N	152.55W	AN	345B	GI	327C										
148=**	4	2104	11900	????	????????????	0	0	0	4.11N	93.83E	SS	43C	GI	343B										
149=**	2	0706	11905	????	????????????	0	0	0	20.46S	77.27E	LV	311C	DS	329B										
150=**	1	2303	11905	????	????????????	650	390	27	.58N	97.59E	DS	315B	LV	310B	SS	42C	FE	308C						
151=**	3	0502	11905	????	????????????	0	0	0	16.22S	82.22E	LV	309C	DS	322B										
152=**	4	0003	11905	????	????????????	0	0	0	39.05N	135.75E	DS	315C	FE	305C										
153=**	4	0844	11905	????	????????????	4082	295	57	46.89N	147.31E	FE	305C	LV	310C	DS	317B								
154=**	4	1841	11905	????	????????????	595	247	144	31.98N	118.88E	LV	310B	BR	63B	IT	59C	KO	54C	KR	60B	MU	44		
155=**	4	2106	11905	????	????????????	806	509	10	4.55N	92.51E	SS	45C	LV	316B	GI	343C								

156=**	4	2201	11905	????	????????????	795	596	3	3.32N	93.87E	LV	316C	SS	44C	DS	320C								
157=**	5	0738	11905	????	????????????	0	0	0	47.57N	143.18W	LV	309B	DS	312C										
158=**	5	1730	11905	????	????????????	633	244	151	12.15S	88.06E	DS	315C	FL	40B	PS	38C	BE	38C	BR	90D	IT	110D		
											KO	55C	KR	90D	MU	72C								
159=**	6	1632	11905	????	????????????	427	206	18	24.63S	74.36E	DS	330C	GI	36C	PS	55C								
160=**	6	2135	11905	????	????????????	0	0	0	17.84S	91.04E	FL	46C	FE	307C										
161=**	6	2232	11905	????	????????????	0	0	0	33.14N	119.35E	DS	320C	AN	288C										
162=**	4	0242	11920	????	????????????	0	0	0	1.98N	93.77E	DS	322C	SS	46C										
163=**	6	2138	11920	????	????????????	0	0	0	36.39S	85.18E	GI	327C	AN	280B										
164=**	2	1800	11925	????	????????????	5434	355	133	34.14S	156.08E	BR	70B	MU	75C	MU	75C								
165=**	4	1745	11940	????	????????????	0	0	0	50.76S	177.36E	BR	86C	KR	88C										
166=**	6	0540	11945	????	????????????	0	0	0	59.31N	46.60E	IT	60B	KO	48A										
167=**	4	0610	11965	????	????????????	6686	229	133	40.91N	103.71E	BR	60B	KR	60C	MU	60B								
168=**	7	2022	11965	????	????????????	0	0	0	19.93S	92.87E	GI	332C	FL	47C										
169=**	2	0940	11970	????	????????????	43	17	79	51.55N	20.06E	SS	31C	BR	95C	IT	110C	KO	54B	MU	60B				
170=**	11	0602	15115	????	????????????	0	0	0	45.69N	14.35E	SS	47C	UK	114B										
171=**	11	1200	15120	????	????????????	166	28	94	48.46N	20.66E	UK	94C	SS	36C	KO	80C	KO	80C						
172=**	11	2111	15125	????	????????????	109	51	158	22.57N	82.24W	DS	103B	LV	105C	AL	170B								
173=**	9	1821	15130	????	????????????	0	0	0	52.08N	19.59E	BE	48B	MU	50D										
174=**	9	1145	15180	????	????????????	387	36	140	34.89N	36.68E	IT	124A	KO	112B	KR	117B	MU	130C						
175=**	10	0714	15180	????	????????????	426	40	133	37.16N	32.01E	BR	70B	IT	125C	KO	114B	KR	117C	MU	125D				
176=**	11	0607	15180	????	????????????	0	0	0	40.52N	36.27E	SS	48C	NO	120*										
177=**	12	1100	15180	????	????????????	305	31	137	33.57N	40.12E	KO	110A	BR	124A	IT	121C	KR	115B	MU	120B				
178=**	12	1535	15180	????	????????????	0	0	0	37.36N	30.72E	UK	110B	IT	130D										
179=**	12	1623	15180	????	????????????	345	41	130	40.18N	27.76E	FL	46C	BR	122B	IT	130D	KO	112C	MU	120D				
180=**	13	0720	15180	????	????????????	869	62	143	22.17N	49.62E	BR	123A	IT	122B	KO	114A	KR	114C	MU	120C				
181=**	13	0853	15180	????	????????????	0	0	0	28.21N	45.17E	KO	112B	KR	115D										
182=**	13	1123	15180	????	????????????	331	32	138	32.63N	40.58E	BR	124A	IT	125C	KO	111A	KR	115B	MU	120D				
183=**	13	1449	15180	????	????????????	2406	224	93	54.89S	156.64E	N1	138*	BR	115D	IT	108C	KO	110D	KR	114B	MU	120C		
184=**	8	1230	15185	????	????????????	0	0	0	53.38N	16.72E	BR	67B	IT	94C										
185=**	12	1543	15185	????	????????????	0	0	0	40.27N	30.25E	PS	44C	BR	130D										
186=**	10	1812	15194	????	????????????	0	0	0	4.94S	74.48W	FE	127B	DS	131B										
187=**	11	0435	15235	????	????????????	0	0	0	27.59N	55.70E	NO	110*	SS	52C										
188=**	10	0820	15295	????	????????????	21	2	77	52.57N	13.33E	KR	72B	MU	45C	MU	80C	BR	105C	BR	50C	IT	113B		
											KO	41D	KR	102B	MU	80B								
189=**	11	2342	15295	????	????????????	0	0	0	50.04N	24.29E	IT	107D	KO	71B										
190=**	11	1137	15315	????	????????????	0	0	0	25.14N	51.83E	FL	46C	BE	51C										
191=**	10	1640	15375	????	????????????	0	0	0	46.67N	15.10E	KO	102B	MU	120C										
192=**	17	1415	17710	????	????????????	0	0	0	42.24N	65.89E	BR	85B	IT	84B										
193=**	15	1611	17715	????	????????????	0	0	0	27.56N	42.78E	DS	27B	AL	44B										
194=**	16	0635	17715	????	????????????	511	36	135	35.80N	38.08E	BR	130B	IT	122B	KO	110B	KR	113A						
195=**	18	1631	17715	????	????????????	4017	71	131	41.29N	30.26E	FL	45B	BE	54C	PS	46B	KR	114C						
196=**	17	1404	17727	????	????????????	0	0	0	21.46N	72.98W	LV	97B	DS	98A										
197=**	14	1630	21455	????	????????????	0	0	0	47.23N	35.24E	SS	42C	BR	102B										
198=**	3	1830	11875	ARM	RL L3	1741	174	134	41.47S	177.19E	BR	56B	IT	97A	KO	51C	KR	60B	MU	60C				
199=**	9	1339	15340	ARM	RL L4	0	0	0	17.62S	67.29E	GI	32C	DS	12C										
200=**	12	1305	15340	ARM	RL L4	0	0	0	49.60N	13.61E	UK	96C	KO	55C										
201=**	18	1312	17760	ARM	RL L1	403	27	81	56.94N	36.20E	BR	63B	KR	60B	MU	50D								
202=**	10	1738	15340	AZ	RL L4	0	0	0	46.79N	29.79E	GI	33C	KO	86B										
203=**	9	1800	15115	BULG	RFE G1	344	17	9	51.01N	8.71E	SS	36C	BE	56C	BR	60B	IT	190B						
204=**	10	1710	15115	BULG	RFE G1	1254	106	152	28.05N	35.19E	FL	56B	SS	37C	PS	42C	BR	138B						
205=**	12	1606	15115	BULG	RFE G1	0	0	0	45.66N	15.24E	DS	35C	FL	46C										
206=**	14	1505	15115	BULG	RFE G1	122	24	131	42.29N	26.68E	SS	44C	GI	25C	PS	44C	BR	134B	IT	135B	KO	108B		
											KR	115C												

207=**	18	1633	17725	BULG	RFE	G3A	0	0	0	35.68N	39.79E	FL	45B	BE	52C								
208=**	4	2135	6105	CZEC	RFE	B5	0	0	0	44.30N	47.52E	SS	41C	PS	32C								
209=**	4	2244	6105	CZEC	RFE	B5	0	0	0	52.36N	4.82E	PS	43C	SS	40C								
210=**	5	1910	6105	CZEC	RFE	B5	0	0	0	54.48N	18.25E	BR	55C	IT	80C								
211=**	2	0615	6115	CZEC	RFE	B8	63	22	113	48.17N	21.98E	FL	45C	BR	125B	IT	110C	KO	70D	KR	70D	MU	86B
212=**	4	0518	6140	CZEC	BBC	WOOF	0	0	0	.71S	139.88E	BR	60B	IT	56B								
213=**	14	2030	7255	CZEC	RFE	G2B	332	31	108	51.79N	55.11E	UK	65C	BR	80B	IT	74A	KO	65A	KR	70B		
214=**	16	2249	9565	CZEC	RFE	G8	26	16	135	50.36N	16.16E	AL	43C	BR	140B	IT	92D	KO	57B	KR	116B		
215=**	15	2240	9725	CZEC	RFE	G1B	1075	156	123	44.21S	176.90E	BR	60B	IT	82	KO	75C	MU	69C				
216=**	15	2338	9725	CZEC	RFE	G1B	0	0	0	1.92N	100.52E	FE	310C	SS	34C								
217=**	16	2122	9725	CZEC	RFE	G1B	455	31	87	54.55N	29.10E	SS	34C	IT	79D	KR	68B						
218=**	17	2006	9725	CZEC	RFE	G1B	29	13	146	48.90N	14.37E	UK	97C	IT	147A	KO	70C	KR	105B				
219=**	4	1745	11825	CZEC	RFE	G11+G12	259	26	116	43.63N	42.14E	BE	40B	BR	104C	IT	102B	KO	84C	KR	95C	MU	91A
220=**	17	1415	17735	CZEC	RFE	G3B	0	0	0	20.05N	90.33E	BE	21B	SS	32C								
221=**	8	2044	7155	EST	RFE	HD	960	206	144	6.78N	108.30E	AN	280C	NE	78B	BR	84A	IT	86B	KO	66C	KR	75B
												MU	55C										
222=**	8	2100	7155	EST	RFE	HD	1003	24	109	51.71S	177.59W	NE	73B	NE	73B	BR	87B	IT	50C	KO	42B	KR	73B
223=**	11	2050	7155	EST	RFE	HD	418	44	106	50.87N	47.44E	IT	80B	KO	68B	KR	78B						
224=**	20	1615	9505	EST	RFE	HD	75	21	71	54.99N	17.34E	AN	2B	BE	52B	BR	43D	IT	73B	MU	50D		
225=**	20	0313	9680	EST	RFE	G15+G16	0	0	0	56.20N	18.36E	IT	62D	KR	49D								
226=**	3	1435	11960	EST	VOA	MUN	0	0	0	53.89N	40.82E	FE	10C	UK	68B								
227=**	13	1922	7255	GEOR	RL	L4	0	0	0	52.49N	39.03E	AN	354B	BR	80C								
228=**	19	1436	9735	GEOR	VOA	MUN	66	13	78	54.68N	17.04E	UK	67A	BR	45D	IT	75B						
229=**	2	1945	11875	GEOR	RL	L3	655	64	123	42.78N	46.17E	BR	110B	IT	100B	KR	92C	MU	90C				
230=**	3	1615	11875	GEOR	RL	L3	231	23	84	56.20N	36.67E	BR	65B	IT	70C	KO	53B	KR	64B	MU	45C		
231=**	18	1646	17760	GEOR	RL	L1	0	0	0	4.62S	94.24E	KI	331C	BR	100C								
232=**	5	0740	11895	HUNG	RFE	B7	0	0	0	51.93N	15.18E	BR	118C	KO	40B								
233=**	9	0138	7155	LAT	RFE	G1A	775	309	147	18.39N	94.30E	GI	8C	UK	74B	AN	292C	BR	86D	IT	100B	KR	79B
234=**	8	1910	7155	LITH	RFE	HD	168	23	85	55.05N	27.97E	BR	80B	IT	76B	KO	50D	KR	66B				
235=**	19	0143	9555	LITH	RFE	P4	0	0	0	31.10S	91.70E	BE	55A	AL	10C								
236=**	20	2229	9555	LITH	RFE	P4	0	0	0	8.59N	107.64E	AL	343C	KO	78C								
237=**	21	0115	9555	LITH	RFE	P4	0	0	0	53.72N	80.55E	AL	8C	LV	347C								
238=**	6	1516	11865	LITH	VOA	WOF	0	0	0	53.91N	19.55E	SS	38C	BR	68A								
239=**	14	1503	15130	LITH	RFE	P2	4705	545	156	40.14N	40.34E	LV	13C	DS	28C	GI	27C						
240=**	8	1520	15270	LITH	VOA	WOF	0	0	0	48.91N	22.06E	FL	41A	MU	80C								
241=**	11	0537	7130	POLI	VOA	KAV	0	0	0	53.59N	26.94E	UK	72B	AN	2C								
242=**	13	0805	7190	POLI	RFE	B5	0	0	0	33.16S	175.23E	KO	41B	MU	45C								
243=**	17	2345	9540	POLI	VOA	TAN	1314	244	105	71.75N	9.43E	BE	28C	DS	20C	AL	19C						
244=**	15	1930	9650	POLI	VOA	TAN	0	0	0	52.65N	13.50E	BR	55B	IT	116D								
245=**	15	1630	9705	POLI	RFE	B3	0	0	0	52.77N	13.63E	BR	45D	KR	68A								
246=**	15	1845	9705	POLI	RFE	G3	0	0	0	56.21N	25.58E	SS	35C	GI	29C								
247=**	15	1931	9705	POLI	RFE	G3	0	0	0	42.99N	60.18E	FE	358C	UK	77B								
248=**	15	2222	9705	POLI	RFE	G3	149	28	98	47.48S	175.44W	FE	4C	BR	60B	IT	80B	KO	89A	KR	50D	MU	67B
249=**	16	0720	9705	POLI	RFE	B3	867	106	133	33.27N	65.87E	AN	330C	IT	95C	KR	90A						
250=**	16	1740	9705	POLI	RFE	B3	0	0	0	54.45N	26.15E	IT	80D	MU	50C								
251=**	16	2122	9705	POLI	RFE	G3	1673	148	135	31.33N	80.75E	AL	12C	IT	83C	KR	65B	KR	81A				
252=**	17	1300	9705	POLI	RFE	B3	0	0	0	54.81N	10.59E	FL	38C	UK	60A								
253=**	19	0730	9705	POLI	RFE	B3	0	0	0	50.56N	32.93E	AN	358B	FL	36C								
254=**	19	1210	9705	POLI	RFE	B3	0	0	0	52.48N	14.78E	BR	95D	KR	74C								
255=**	19	1802	9705	POLI	RFE	G3	1050	384	147	2.05S	119.63E	FL	45B	AL	325C	BR	65C	IT	77C	KO	80C	KR	80B
												MU	70C										
256=**	20	1005	9705	POLI	RFE	B3	44	14	97	52.80N	21.39E	SS	36C	FL	41B	IT	94A	MU	50				
257=**	4	2035	11710	POLI	VOA	TAN	0	0	0	48.40N	50.88W	FL	38C	GI	61C								
258=**	5	1935	11710	POLI	VOA	TAN	802	224	123	43.73N	64.58E	SS	31C	BE	32B	DS	5C	BR	63B	KO	75C		

259=**	5	2009	11710	POLI	VOA	TAN	1892	363	146	41.19N	59.88E	FL	32B	SS	33C	DS	5C	BE	37B									
260=**	3	0605	11725	POLI	RFE	G4B	0	0	0	50.30N	52.81E	SS	34C	FE	3C													
261=**	3	1100	11725	POLI	RFE	B1	0	0	0	44.09N	64.41E	SS	34C	FE	355C													
262=**	4	0739	11725	POLI	RFE	B1	328	34	96	54.92N	45.95E	BR	69B	IT	73B	KO	48D	KR	74B	MU	60B							
263=**	4	1232	11725	POLI	RFE	B1	1395	450	165	39.73N	65.83E	FE	357C	LV	350C	BE	33B											
264=**	5	0406	11725	POLI	RFE	G9+G10	630	185	89	74.07N	176.68E	DS	38C	GI	333C	FE	337C	BE	346C									
265=**	5	0530	11725	POLI	RFE	G9+G10	2638	586	24	27.42N	119.14E	BE	351C	GI	330C	KI	321C	FE	7C	LV	360C							
266=**	5	0909	11725	POLI	RFE	B1	0	0	0	48.05N	59.38E	IT	80C	KR	75C													
267=**	5	2018	11725	POLI	RFE	G4	0	0	0	57.72N	5.04W	SS	33C	PS	39C													
268=**	6	0630	11725	POLI	RFE	G4B	718	135	118	51.16N	76.60E	LV	350C	GI	36C	BE	12C	BR	65C	KO	55C	KR	65B					
269=**	6	1056	11725	POLI	RFE	B1	0	0	0	54.07N	28.46E	KO	55A	KR	70C													
270=**	6	1402	11725	POLI	RFE	B1	478	224	118	55.95N	62.51E	PS	26C	LV	358C	UK	57C	FE	355C	DS	OC							
271=**	6	1908	11725	POLI	RFE	G4	0	0	0	37.84N	60.25E	SS	41C	AN	336C													
272=**	7	1805	11725	POLI	RFE	G4	0	0	0	51.84N	2.92W	FL	43B	SS	40C													
273=**	2	1610	11725	POLI	RFE	G4	1849	582	156	36.69N	71.72E	DS	358C	SS	34C	BE	32C											
274=**	1	1632	11725	POLI	RFE	G4	1736	447	175	24.14N	66.79E	LV	355C	DS	358B	FE	358C	FL	37C									
275=**	1	1713	11725	POLI	RFE	G4	759	31	85	53.10N	12.57E	PS	41B	SS	34C	UK	74B	SS	34C									
276=**	2	1435	11725	POLI	RFE	B1	0	0	0	49.85N	51.04E	FL	29B	SS	35C													
277=**	1	1220	11725	POLI	RFE	B1	0	0	0	44.44N	63.87E	PS	22D	SS	34C													
278=**	9	0805	15145	POLI	RFE	G2	616	72	103	56.63N	60.13E	AL	18B	BR	62B	KR	60B											
279=**	10	1415	15145	POLI	RFE	G2	0	0	0	52.29N	17.16E	KO	45C	KR	78A													
280=**	11	0605	15145	POLI	RFE	G2	376	44	108	51.18N	43.03E	AN	342B	SS	40C	BR	60B	IT	86B	KR	69C	KR	79C					
281=**	11	1035	15145	POLI	RFE	G2	674	19	93	54.06N	15.35E	BE	44C	GI	73C	AL	44C	IT	85B									
282=**	12	0930	15145	POLI	RFE	G2	1288	176	135	41.37S	174.15E	KO	65D	BR	60C	IT	64B	KR	47B	MU	66C							
283=**	12	1624	15145	POLI	RFE	G2	0	0	0	34.81N	77.50E	KR	80B	MU	80C													
284=**	13	0720	15145	POLI	RFE	G2	1105	76	107	54.01N	64.08E	BR	66B	IT	68C	KO	65B	KR	78A	MU	60B							
285=**	13	1440	15145	POLI	RFE	G2	862	66	122	44.54N	64.37E	IT	82A	KO	75C	MU	75B											
286=**	14	0740	15145	POLI	RFE	G2	2060	245	119	43.60S	171.93E	BR	75C	KO	75C	KR	75B	MU	70D									
287=**	14	1005	15145	POLI	RFE	G2	998	54	120	46.65N	59.11E	BR	70B	IT	82A	KO	72C	KR	80B									
288=**	14	1350	15145	POLI	RFE	G2	382	35	98	52.58N	38.50E	GI	22C	BR	80B	KR	60C	MU	65D									
289=**	11	1515	15390	POLI	BBC	WOOF	0	0	0	14.70N	107.10E	BR	78D	MU	76B													
290=**	16	0830	17735	POLI	RFE	G15+G16	1277	77	107	49.81S	174.08E	BR	80C	IT	82C	KO	50D	KR	84A									
291=**	17	1245	17735	POLI	RFE	G15	0	0	0	52.06N	19.55E	BR	95B	MU	50D													
292=**	20	1220	17735	POLI	RFE	G15	568	57	111	49.39N	51.82E	BR	80C	IT	83B	KO	71B											
293=**	15	1330	17805	POLI	RFE	G1A	2028	1	0	51.52N	.95W	FL	39C	UK	77B	UK	90B											
294=**	17	1135	17805	POLI	RFE	G1A	0	0	0	61.47N	54.47E	GI	13B	MU	45C													
295=**	18	1235	17805	POLI	RFE	G1A	0	0	0	42.15S	171.90E	KO	72C	KR	55B													
296=**	19	0935	17805	POLI	RFE	G1A	0	0	0	51.19N	17.06E	SS	41C	MU	48D													
297=**	21	0710	17805	POLI	RFE	G1A	0	0	0	51.47N	19.68E	MU	55B	KR	85B													
298=**	21	1105	17805	POLI	RFE	G1A	0	0	0	22.54S	126.73E	IT	82B	KR	82A													
299=**	14	1230	21665	POLI	RFE	G2B	1644	126	125	42.11N	70.54E	SS	36C	IT	65C	IT	80B	KO	74B	KR	78C							
300=**	9	1010	15125	PORT	RFE	G4B	0	0	0	55.22N	28.69E	KR	65B	MU	50C													
301=**	11	1032	15125	PORT	RFE	G4B	0	0	0	48.70N	32.17E	IT	101C	MU	80C													
302=**	20	0301	9595	ROMA	RFE	G3B	0	0	0	19.53N	68.47W	KI	100B	AL	142A													
303=**	3	2005	6070	RUSS	BBC	CYPRUS	0	0	0	52.28N	15.23E	BR	103D	IT	113D													
304=**	7	0345	6090	RUSS	VOA	MUN	0	0	0	49.71S	177.77W	IT	50D	KR	65D													
305=**	5	0640	6105	RUSS	RL	L11	149	28	110	49.44N	30.84E	BR	103D	IT	99B	KO	75C	KR	68A									
306=**	5	1405	6105	RUSS	RL	L11	50	11	63	53.64N	16.02E	BR	55B	IT	90C	KR	65B											
307=**	2	1840	6105	RUSS	RL	L2	0	0	0	53.56N	14.99E	BR	45B	KR	62A													
308=**	6	1801	6105	RUSS	RL	L2	60	16	59	53.62N	15.61E	BE	54B	BR	52C	IT	90D	KO	75D	KR	90D							
309=**	1	1600	6105	RUSS	RL	L2	0	0	0	54.96N	26.86E	BR	68C	IT	77A													
310=**	2	1334	6105	RUSS	RL	L11	86	5	62	53.34N	15.65E	BR	60A	KO	35C	KR	67B											
311=**	2	1000	6105	RUSS	RL	L11	66	13	72	53.84N	19.01E	NE	63B	KO	38C	NE	69C	IT	98B	KR	67A	MU	40C					
312=**	4	2029	6140	RUSS	VOA	WOF	0	0	0	56.63N	34.26E	BE	38C	IT	69B													

313=**	6	0450	6140	RUSS	BBC	WOOF	180	24	84	56.22N	35.26E	BR	62C	IT	70B	KO	53B	KR	66C						
314=**	6	0230	6150	RUSS	VOA	MUN	0	0	0	50.86N	13.69E	KO	41B	KR	96B										
315=**	2	0220	6150	RUSS	VOA	MUN	3065	15	104	51.90N	17.21E	SS	42C	FL	41B	BR	104B								
316=**	2	0242	6160	RUSS	VOA	WOF	0	0	0	53.10S	179.41W	BR	99C	IT	85C										
317=**	1	2343	6170	RUSS	RL	B3	59	21	78	52.09N	18.30E	BR	99D	KO	50B	KR	78C								
318=**	4	2145	6170	RUSS	RL	B3	0	0	0	53.49N	46.97W	FL	33C	BE	50C										
319=**	5	1910	6170	RUSS	RL	B3	0	0	0	53.00N	72.56E	BR	65B	IT	65C										
320=**	7	0108	6170	RUSS	RL	B3	0	0	0	52.22N	16.22E	BR	100B	IT	110B										
321=**	7	2225	6170	RUSS	RL	B3	0	0	0	52.61S	178.46W	BR	95B	KR	110D										
322=**	2	0221	6170	RUSS	RL	B3	3179	416	120	47.14N	37.57E	SS	41C	FL	37B	SS	42C								
323=**	1	1945	6170	RUSS	RL	B3	0	0	0	49.17S	177.20W	BR	67	KR	55										
324=**	1	2122	6170	RUSS	RL	B3	0	0	0	56.68N	31.32E	KO	48A	KR	60C										
325=**	8	0230	7105	RUSS	VOA	MUN	0	0	0	52.30S	174.64W	BR	90C	IT	59C										
326=**	12	0436	7105	RUSS	VOA	MUN	0	0	0	51.93N	14.98E	FL	40C	KR	81C										
327=**	8	0007	7155	RUSS	RL	G1A	267	35	106	51.00S	176.20W	BR	82A	IT	55C	KR	75B								
328=**	10	0015	7155	RUSS	RL	G1A	953	143	96	53.31N	11.20W	FL	43B	BE	55B	SS	36C	PS	58B						
329=**	11	2300	7155	RUSS	RL	HC	3444	222	110	52.65N	5.96E	FL	41B	BE	52C	BE	52C	IT	79B						
330=**	14	0100	7155	RUSS	RL	G1A	118	21	96	52.19N	22.95E	FL	40B	BE	212B	AN	332C	BR	91B	IT	94C	KO	57D		
												KR	80D												
331=**	10	1550	7170	RUSS	VOA	KAV	53	14	88	50.95N	24.35E	BR	100B	IT	100C	KO	66A	KR	86C						
332=**	11	1738	7170	RUSS	VOA	KAV	1059	502	149	8.41S	99.33E	FE	305C	BR	100B	IT	91C								
333=**	13	1520	7170	RUSS	VOA	KAV	146	21	103	50.86N	26.19E	BR	98B	IT	100D	KO	70D	KR	84B						
334=**	13	1645	7170	RUSS	VOA	KAV	107	22	95	50.87N	26.80E	LV	316C	BR	95D	IT	100D	KO	68B	KR	85B				
335=**	11	1730	7180	RUSS	VOA	KAV	0	0	0	52.43N	22.06E	BR	88B	IT	96D										
336=**	8	0011	7190	RUSS	RL	P5	0	0	0	44.97S	153.18E	BR	90D	IT	84C										
337=**	8	1935	7220	RUSS	RL	L5+L6	0	0	0	52.65N	5.96E	FL	41C	BE	52C										
338=**	9	0005	7220	RUSS	RL	G2B	0	0	0	11.64N	60.79E	FL	50C	AN	329B										
339=**	9	0231	7220	RUSS	RL	L7+L8	0	0	0	25.08N	45.72E	FE	11C	FL	50C										
340=**	10	0135	7220	RUSS	RL	G2B	0	0	0	40.80N	57.30E	SS	40C	AN	339A										
341=**	10	0730	7220	RUSS	RL	L7+L8	154	15	84	55.16N	30.53E	BE	47C	FL	39B	AL	36C	BR	70B	BR	95C	IT	77C		
												KR	65A	MU	55C										
342=**	11	0030	7220	RUSS	RL	G2B	0	0	0	46.96N	43.43E	SS	40C	GI	25C										
343=**	11	0631	7220	RUSS	RL	L7+L8	3544	484	146	24.35N	70.86E	SS	41C	FL	37B	BE	30C								
344=**	11	1000	7220	RUSS	RL	L7+L8	1060	76	100	52.43N	30.21E	UK	75C	FL	29C	BE	46C								
345=**	12	1249	7220	RUSS	RL	L7+L8	418	33	96	55.56N	47.48E	BR	65B	IT	70B	KO	60B	KR	66B	MU	45C				
346=**	13	1915	7220	RUSS	RL	L5+L6	0	0	0	51.99N	57.36E	KR	69C	MU	65D										
347=**	14	0236	7220	RUSS	RL	L7+L8	588	149	115	48.72N	70.49E	AN	332C	KO	65B	KR	68C								
348=**	14	2010	7220	RUSS	RL	L5+L6	0	0	0	50.94N	36.83E	BR	87C	KR	80B										
349=**	14	2016	7230	RUSS	BBC	CYPRUS	535	111	141	28.57N	46.47E	N1	134*	UK	105C	BR	45D	IT	100C	KO	110B	KR	85B		
350=**	10	2245	7270	RUSS	VOA	MUN	0	0	0	34.00N	54.16E	AN	340C	FL	38C										
351=**	13	0440	7270	RUSS	VOA	KAV	0	0	0	30.96N	65.40E	AN	330B	FL	32B										
352=**	13	1925	7270	RUSS	VOA	MUN	399	102	109	49.92N	54.94E	AN	342B	BR	80C	KO	67C								
353=**	11	2142	7280	RUSS	VOA	KAV	264	22	98	52.23N	24.40E	FL	42B	SS	43C	BR	90B	IT	92C	KR	78C				
354=**	14	2010	7295	RUSS	RL	P5	0	0	0	45.96N	99.51E	BR	60D	KO	55B										
355=**	15	0109	9520	RUSS	RL	L9+L10	0	0	0	46.78S	173.52W	BR	40C	KO	65C										
356=**	15	0330	9520	RUSS	RL	L9	0	0	0	46.78S	173.52W	BR	40C	KO	65C										
357=**	15	0707	9520	RUSS	RL	L9	149	48	84	53.18N	25.28E	BE	45C	BR	120A	IT	88D	MU	55D						
358=**	15	1402	9520	RUSS	RL	L9	0	0	0	43.61N	40.21E	SS	44C	BE	46B										
359=**	15	2215	9520	RUSS	RL	L9+L10	664	168	110	49.01S	176.05E	IT	72C	KO	68B	KR	90D	MU	84C						
360=**	16	1550	9520	RUSS	RL	L9	0	0	0	49.68N	14.92E	KO	60D	MU	55B										
361=**	16	1635	9520	RUSS	RL	L9	0	0	0	55.98N	38.79E	GI	23C	SS	33C										
362=**	17	0331	9520	RUSS	RL	L9	0	0	0	49.16N	88.09W	GI	38C	AL	348C										
363=**	17	1532	9520	RUSS	RL	L9	93	21	72	54.11N	19.35E	FE	14C	GI	27C	FL	40C	SS	40C	BR	50D	IT	80D		
												KR	67B	MU	45D										

364=**	18	0240	9520	RUSS	RL	P1	339	104	29	66.09N	74.71W	DS	15C	LV	31C	AL	12C								
365=**	18	0401	9520	RUSS	RL	L9	2055	481	168	3.22S	69.68E	GI	22C	BE	52C	DS	0C								
366=**	18	0515	9520	RUSS	RL	L9	0	0	0	63.55N	74.20W	GI	24C	AL	14C										
367=**	18	1450	9520	RUSS	RL	L9	0	0	0	58.05N	61.83W	AL	36C	GI	41C										
368=**	19	1400	9520	RUSS	RL	L9	0	0	0	55.55N	29.89E	KR	64C	MU	50C										
369=**	21	0212	9520	RUSS	RL	P1	37	13	119	48.05N	20.68E	AN	330B	IT	125A	KO	85B	KR	110C	MU	85B				
370=**	15	0435	9555	RUSS	RL	B6	0	0	0	18.19S	49.83E	AN	333B	FE	14C										
371=**	15	1740	9555	RUSS	VOA	MUN	1830	524	149	42.06N	38.70E	FL	35C	FE	8C	GI	41C								
372=**	18	1804	9555	RUSS	VOA	MUN	714	275	127	46.96N	71.76E	FE	350C	GI	7C	KR	70C								
373=**	16	1552	9585	RUSS	VOA	MUN	0	0	0	49.16N	13.31E	KO	60D	MU	50C										
374=**	17	1542	9585	RUSS	VOA	MUN	1416	347	125	47.00N	30.10E	FE	15D	BE	50C	FL	41B	SS	40C						
375=**	16	1645	9600	RUSS	BBC	WOOF	0	0	0	36.85N	49.96E	GI	25C	FE	6C										
376=**	15	1835	9660	RUSS	RL	B7	1876	494	130	49.12N	37.98E	FL	38C	SS	38C	GI	26C								
377=**	15	1930	9660	RUSS	RL	B7	0	0	0	45.11N	36.36E	IT	106C	KR	97B										
378=**	18	1900	9660	RUSS	RL	B7	704	153	34	81.38N	86.09W	GI	3C	FE	5D	LV	9B								
379=**	19	1815	9660	RUSS	RL	B7	0	0	0	48.83N	19.73E	BR	130B	MU	80C										
380=**	19	2042	9660	RUSS	RL	B7	105	18	117	50.17N	19.34E	SS	40C	BR	120B	IT	104C	KR	95B						
381=**	21	1944	9660	RUSS	RL	B7	0	0	0	13.32N	78.23E	GI	4C	BR	102C										
382=**	20	2315	9680	RUSS	RL	P1	566	85	81	56.40N	43.42E	AL	22C	LV	14C	MU	55D	MU	55D						
383=**	15	1845	9690	RUSS	VOA	KAV	0	0	0	20.53N	119.70E	DS	311C	FE	304C										
384=**	16	0231	9725	RUSS	RL	HC	0	0	0	46.52N	56.00E	DS	10C	FE	1D										
385=**	15	0210	9750	RUSS	RL	G6	1071	268	135	35.56N	53.88E	DS	10C	FE	5C	UK	90C	FL	42C						
386=**	16	2112	9750	RUSS	RL	HC	305	30	108	49.83N	25.46E	AL	40C	BR	90D	IT	106D	KR	91B						
387=**	17	2005	9770	RUSS	BBC	F	0	0	0	35.99N	35.02E	FE	18C	GI	36C										
388=**	20	0416	9770	RUSS	VOA	TAN	0	0	0	57.21N	22.12E	BR	44B	IT	60B										
389=**	5	1520	11710	RUSS	VOA	WOF	91	19	93	52.28N	20.30E	DS	10C	BR	90C	IT	90C	KO	50D	KR	84B				
390=**	7	1730	11710	RUSS	VOA	WOF	1872	426	132	51.16N	39.09E	GI	26C	BE	40C	SS	38C								
391=**	1	1704	11710	RUSS	VOA	WOF	444	82	94	58.55N	42.16E	GI	15B	FE	17C	UK	57B								
392=**	1	1635	11710	RUSS	VOA	WOF	652	94	97	58.34N	45.90E	GI	18C	DS	13C	UK	57B								
393=**	4	1240	11740	RUSS	VOA	KAV	0	0	0	53.82N	34.11E	SS	36C	LV	14C										
394=**	1	1640	11740	RUSS	VOA	WOF	0	0	0	21.19N	47.32E	FE	10D	GI	34C										
395=**	5	1935	11770	RUSS	RL	G9+G10	663	53	86	50.61N	29.53E	PS	37C	BE	45C	KO	70C								
396=**	5	2332	11770	RUSS	RL	P3	0	0	0	8.41N	69.93E	GI	15C	FL	44B										
397=**	6	1837	11770	RUSS	RL	P5	1303	100	119	46.31N	61.56E	BR	75B	IT	80B	KR	80C	MU	74C						
398=**	6	1910	11770	RUSS	RL	G9+G10	0	0	0	30.58N	74.72E	SS	38C	FE	345C										
399=**	7	1810	11770	RUSS	RL	P5	885	489	170	1.44N	98.86E	DS	320C	PS	348C	SS	40C								
400=**	1	1707	11770	RUSS	RL	P5	1532	428	135	45.49N	29.50E	FL	40C	BE	51C	FE	19C								
401=**	5	1640	11805	RUSS	VOA	KAV	0	0	0	52.17N	31.89E	BE	43C	FL	35B										
402=**	6	1510	11805	RUSS	VOA	KAV	0	0	0	28.06S	69.66E	DS	10C	LV	312C										
403=**	3	1615	11805	RUSS	VOA	KAV	1122	228	117	46.54S	173.39E	BR	136C	IT	75D	KO	61C	KR	62D	MU	85C				
404=**	5	2142	11835	RUSS	VOA	KAV	106	26	66	52.68N	21.08E	FL	36B	PS	42C	SS	42C	KR	76C	MU	50B				
405=**	6	1508	11835	RUSS	VOA	WOF	2978	395	132	47.12N	23.63E	GI	40C	BE	51C	DS	25C								
406=**	7	1308	11835	RUSS	VOA	WOF	1170	124	117	47.08S	169.12E	BR	80A	IT	75D	KO	85C	KR	86C	MU	60D				
407=**	1	1224	11835	RUSS	VOA	WOF	0	0	0	33.76N	68.71E	PS	23C	BE	34C										
408=**	6	2017	11845	RUSS	BBC	CYPRUS	0	0	0	55.13N	14.02E	AL	40C	SS	37C										
409=**	1	1812	11845	RUSS	BBC	CYPRUS	0	0	0	46.95N	30.86E	FE	18C	LR	43C										
410=**	5	1234	11875	RUSS	RL	B4	0	0	0	42.78N	36.37E	LV	16C	FL	41B										
411=**	5	2140	11875	RUSS	RL	L3	0	0	0	51.16N	15.56E	KR	90B	MU	40C										
412=**	6	1514	11875	RUSS	RL	HA	0	0	0	6.13N	51.24E	GI	38C	LV	10C										
413=**	2	0930	11875	RUSS	RL	B4	132	28	67	52.10N	19.72E	SS	39C	FL	40B	BR	53B	IT	55B	KO	53B	KR	80D		
												MU	65C												
414=**	2	1201	11875	RUSS	RL	B4	570	332	163	5.00N	120.18E	GI	310B	LR	340B	FE	12C	FE	12C	BR	70B	KO	65C		
												KR	80B	MU	60C										
415=**	4	0840	11885	RUSS	RL	L10	136	26	81	52.61N	26.78E	BR	87D	KO	78C	KR	75C	MU	60B						

416=**	4	1006	11885	RUSS	RL	L10	75	23	91	50.30N	18.23E	GI	28C	BE	44C	BR	62C	IT	95C	KO	56D	KR	95B				
												MU	70D														
417=**	4	1332	11885	RUSS	RL	L10	0	0	0	12.87N	75.82E	FE	340C	BE	38C												
418=**	3	1432	11885	RUSS	RL	L10	0	0	0	13.96S	49.70E	FE	13C	LV	20C												
419=**	5	0755	11885	RUSS	RL	L10	149	27	87	51.79N	27.73E	BE	45C	BR	90D	IT	54B	KO	64C	KR	80C	MU	65C				
420=**	5	1241	11885	RUSS	RL	L10	0	0	0	50.75N	45.54E	LV	8C	SS	36C												
421=**	6	0544	11885	RUSS	RL	L10	593	252	176	30.14S	105.13E	BE	25C	AL	319C	BE	23C	KO	60C	KR	80D						
422=**	7	0637	11885	RUSS	RL	L10	193	30	86	54.68N	36.01E	KI	354C	BR	80D	IT	75C	KO	54B	KR	105D	MU	65D				
423=**	2	0935	11885	RUSS	RL	L10	116	23	79	52.93N	24.12E	BR	63C	BR	85C	IT	120C	KO	56B	KR	72C	MU	64B				
424=**	2	0700	11885	RUSS	RL	L10	50	11	65	53.51N	16.17E	BR	58B	IT	95C	KO	40C	MU	60B								
425=**	7	0420	11915	RUSS	RL	P6	1054	371	1	20.26S	93.06E	BE	25C	AL	14C	GI	330C										
426=**	4	0017	11915	RUSS	RL	G5	0	0	0	55.78N	45.00E	PS	26C	GI	20C												
427=**	1	0445	11925	RUSS	VOA	KAV	135	16	121	46.57N	31.36E	BR	110A	KO	85D	MU	90C										
428=**	5	0140	11935	RUSS	RL	P6	706	159	15	82.39N	87.14W	GI	3B	PS	358C	LV	5C										
429=**	1	0306	11935	RUSS	RL	B5	937	151	108	52.58N	64.48E	DS	4C	SS	185C	BR	65D	MU	65C								
430=**	1	0445	11935	RUSS	RL	B5	430	80	118	47.73S	178.35E	BR	68A	KR	72C	MU	90B										
431=**	2	0434	11935	RUSS	RL	B5	970	517	16	7.90N	98.27E	GI	328C	NO	85C	LV	316B										
432=**	6	2233	11945	RUSS	VOA	KAV	0	0	0	29.86N	116.12E	FE	312C	DS	320C												
433=**	6	1645	11960	RUSS	VOA	MUN	0	0	0	42.87N	26.03E	AN	3C	PS	44C												
434=**	4	2115	11970	RUSS	RL	HB	0	0	0	52.34N	7.95E	FL	41B	UK	78C												
435=**	5	0138	11970	RUSS	RL	P2	0	0	0	70.78N	67.38E	DS	1B	GI	5C												
436=**	6	0538	11970	RUSS	RL	L5	911	342	142	36.65N	76.82E	BE	26C	LV	354C	AL	2C	KR	80C								
437=**	7	0418	11970	RUSS	RL	L5	763	258	14	63.53N	68.28E	AN	340B	DS	355C	BE	21C										
438=**	7	0642	11970	RUSS	RL	L5	1212	401	168	32.58N	45.62E	GI	29B	AL	41C	AN	347B										
439=**	3	0345	11970	RUSS	RL	HB	0	0	0	16.58S	78.12E	LV	315C	GI	8B												
440=**	4	0250	11970	RUSS	RL	P2	0	0	0	13.81S	80.16E	GI	3C	LV	315C												
441=**	3	0518	11970	RUSS	RL	L5	1102	271	140	19.92N	96.97E	KI	339C	BR	85C	KO	78B	KR	80B	MU	72C						
442=**	2	2035	11970	RUSS	RL	HB	108	24	97	49.79N	25.89E	BR	80C	BR	105C	KO	82C	KR	90C	MU	75B						
443=**	9	1145	15130	RUSS	RL	G1	0	0	0	53.02S	173.70E	BR	100D	MU	120C												
444=**	12	1100	15130	RUSS	RL	L6	58	22	89	51.09N	20.13E	KO	65C	BR	106D	IT	115D	KR	80C	MU	60C						
445=**	13	1123	15130	RUSS	RL	G1	83	27	103	48.34N	22.69E	BR	125D	IT	115D	KO	81B										
446=**	14	0740	15130	RUSS	RL	L6	0	0	0	53.36S	178.17E	BR	101B	IT	90D												
447=**	14	1005	15130	RUSS	RL	L6	7478	366	132	31.86S	153.69E	BR	70C	IT	99B	KO	72B	KR	110B	KR	75A	MU	75C				
448=**	11	1400	15235	RUSS	VOA	WOF	0	0	0	54.93N	32.97E	UK	67B	KO	55B												
449=**	9	1339	15280	RUSS	VOA	WOF	0	0	0	49.12N	37.69E	BE	43B	KO	75C												
450=**	10	1233	15280	RUSS	VOA	WOF	0	0	0	53.00N	16.21E	BR	75A	IT	100B												
451=**	9	1335	15290	RUSS	RL	P1	2598	318	136	43.68N	41.18E	FL	37B	DS	20C	BE	46B	PS	37C								
452=**	9	1500	15290	RUSS	RL	P1	895	31	80	53.86N	12.94E	UK	69B	FL	39B	SS	36C										
453=**	10	1235	15290	RUSS	RL	P1+P2	0	0	0	3.77S	82.70E	FL	39B	PS	24C												
454=**	10	1735	15290	RUSS	RL	P1	0	0	0	35.23N	37.08E	GI	35C	PS	44C												
455=**	11	0707	15290	RUSS	RL	P1+P2	197	69	106	50.20N	48.58E	AN	348A	IT	98C	IT	80C	KO	71								
456=**	11	1133	15290	RUSS	RL	P1+P2	0	0	0	55.45N	29.74W	FL	37B	BE	52B												
457=**	11	1415	15290	RUSS	RL	P1	0	0	0	47.77N	41.13E	BR	94D	MU	80B												
458=**	12	1042	15290	RUSS	RL	P1+P2	0	0	0	50.58N	41.83E	BR	85D	KO	70D												
459=**	12	1305	15290	RUSS	RL	P1	0	0	0	45.83N	32.76E	FL	40B	AL	39C												
460=**	14	1439	15290	RUSS	RL	P1	1310	450	134	44.91N	33.82E	GI	24C	LV	20C	FL	51C	SS	40C								
461=**	14	1533	15290	RUSS	RL	P1	143	21	62	55.33N	15.90E	LV	16C	SS	36C	FE	14C	IT	68C	KO	62B	KR	48B				
462=**	14	1600	15290	RUSS	RL	P1	1405	382	136	51.93N	37.52E	FL	34C	SS	36C	PS	33C	DS	19B								
463=**	8	1010	15325	RUSS	VOA	PHT	0	0	0	65.61N	39.85E	IT	40C	KO	31B												
464=**	8	0832	15340	RUSS	RL	L4	595	33	61	54.38N	25.96E	SS	44C	FE	14C	IT	60B	MU	50B								
465=**	11	1802	15340	RUSS	RL	P6	0	0	0	42.85N	25.95E	BE	54B	DS	31C												
466=**	8	1438	15370	RUSS	RL	L2	0	0	0	44.03N	31.49E	DS	27C	FL	42B												
467=**	11	1230	15370	RUSS	RL	L2	591	1	67	51.52N	.95W	UK	95B	UK	55B	AL	39C	BR	80D								
468=**	13	1315	15370	RUSS	RL	L2	0	0	0	43.66N	38.89E	AL	37C	KO	90D												

469=**	14	1205	15370	RUSS	RL	L2	639	45	87	56.43N	36.99E	SS	43C	BR	65C	IT	69D								
470=**	8	1441	15380	RUSS	RL	HA	37	9	97	52.68N	16.70E	BE	50C	SS	36C	IT	103A	KR	74A						
471=**	9	1020	15380	RUSS	RL	HA	291	27	88	54.19N	32.57E	BR	75B	KR	68C	MU	58D								
472=**	12	0738	15380	RUSS	RL	HA	0	0	0	50.86N	19.05E	KO	60D	KR	90D										
473=**	12	1409	15380	RUSS	RL	HA	62	19	84	51.80N	24.32E	FL	39B	BR	74A	IT	97B	KO	63B	MU	60B				
474=**	13	0650	15380	RUSS	RL	HA	90	29	102	50.32N	23.00E	BR	105C	IT	110D	MU	70C								
475=**	14	0620	15380	RUSS	RL	HA	0	0	0	54.11N	38.81E	UK	68B	BR	74B										
476=**	10	0922	15445	RUSS	RL	P6	0	0	0	53.24N	22.57E	KR	73C	MU	50D										
477=**	12	0740	15445	RUSS	RL	P6	0	0	0	22.14S	127.54E	IT	81A	KO	85D										
478=**	12	1412	15445	RUSS	RL	P3	5000	216	144	34.35S	100.62E	FL	37C	BE	42B	BR	112B	IT	115C						
479=**	15	1420	17725	RUSS	RL	P6	0	0	0	51.04N	23.26E	BR	100C	MU	65B										
480=**	17	1245	17725	RUSS	RL	P3	0	0	0	52.21N	18.39E	IT	104A	MU	45D										
481=**	15	1010	17760	RUSS	RL	L1	0	0	0	53.80N	19.87E	BR	70D	MU	40C										
482=**	15	1702	17770	RUSS	RL	P4	763	364	144	52.34N	28.36E	AN	4C	SS	43C	DS	21B	PS	34C						
483=**	19	1640	17770	RUSS	RL	P4	0	0	0	49.82N	20.73E	IT	116C	KO	70C										
484=**	19	1320	17855	RUSS	VOA	KAV	0	0	0	50.46S	179.31W	BR	80B	KR	80B										
485=**	15	1445	17885	RUSS	RL	G4B	0	0	0	31.22N	55.58E	DS	14C	FL	39C										
486=**	12	1340	21520	RUSS	VOA	WOF	147	26	111	47.49N	33.14E	IT	104B	KO	97B	KR	90D	MU	85B						
487=**	16	0030	9725	TB	RL	P1	0	0	0	41.03S	171.92E	BR	60B	MU	70B										
488=**	16	0108	9725	TB	RL	P1	2856	561	4	42.33N	71.02E	PS	18D	FE	350C	FE	350C								
489=**	21	0040	9725	TB	RL	P1	0	0	0	47.45N	18.46E	BR	145B	KR	115B										
490=**	15	0010	9750	TB	RL	HC	0	0	0	54.45N	17.29E	BR	50D	IT	80B										
491=**	15	0120	9750	TB	RL	HC	0	0	0	33.02S	166.61E	BR	55C	MU	60C										
492=**	17	0145	9750	TB	RL	HC	766	79	98	54.37N	55.03E	DS	355C	BR	55B	KO	63B	KR	64C	MU	50D				
493=**	12	2310	7295	TI	RL	L7+L8	96	18	97	52.07N	20.87E	BR	94B	IT	99C	KO	55D	KR	80C						
494=**	6	2230	11885	TI	RL	HB	0	0	0	33.14N	119.35E	AN	288C	DS	320C										
495=**	4	0001	11885	TI	RL	HB	0	0	0	1.40N	94.94E	DS	320C	SS	45C										
496=**	15	1010	17750	TI	RL	HC	0	0	0	46.39S	176.59W	BR	50D	KO	74B										
497=**	15	1250	17750	TI	RL	HC	103	14	83	53.99N	26.26E	BR	70C	IT	84C	KO	54B	KR	70A						
498=**	18	1310	17750	TI	RL	HC	0	0	0	52.36N	20.28E	BR	90D	MU	50D										
499=**	15	1447	17895	TI	RL	B8	64	23	89	52.22N	22.45E	DS	25C	BR	70B	IT	97B	KO	57B						
500=**	12	1010	21510	TI	RL	HB	0	0	0	50.19N	22.34E	IT	110D	MU	70B										
501=**	4	1635	6160	UKR	VOA	KAV	163	34	116	46.33N	27.95E	IT	116C	KO	90C	KR	100D								
502=**	6	0230	6180	UKR	VOA	WOF	0	0	0	49.61N	27.97E	BR	102C	KR	90B										
503=**	9	1755	7245	UKR	VOA	MUN	0	0	0	14.27N	104.87E	AN	290B	BR	80C										
504=**	9	2040	7245	UKR	RL	L7+L8	0	0	0	23.20S	95.89E	FL	51B	BE	35C										
505=**	9	2112	7245	UKR	RL	L7+L8	0	0	0	20.83S	92.96E	BE	38C	FL	51B										
506=**	14	0205	7295	UKR	RL	P5	2439	489	2	24.77N	64.95E	DS	10C	FE	344C	GI	16C	AN	333C						
507=**	15	2012	9565	UKR	RL	P2	0	0	0	17.15N	57.63E	GI	26C	NO	115*										
508=**	17	2133	9565	UKR	RL	P2	0	0	0	63.85N	13.96W	GI	34C	FL	29B										
509=**	21	0439	9625	UKR	RL	P4	0	0	0	69.16N	6.36E	AL	27C	DS	20C										
510=**	16	0240	9760	UKR	VOA	TAN	0	0	0	20.63S	68.31E	DS	10C	GI	33C										
511=**	6	1512	11885	UKR	RL	B1	0	0	0	26.92N	45.98E	PS	44C	LV	12C										
512=**	6	2130	11885	UKR	RL	P1	0	0	0	7.96N	94.10E	LV	316C	SS	38C										
513=**	7	2007	11885	UKR	RL	P1	1075	451	143	6.67N	100.43E	FE	312C	KO	84B	KR	93D	MU	80D						
514=**	2	1530	11885	UKR	RL	B1	0	0	0	24.68N	63.00E	FL	38B	DS	8C										
515=**	4	1839	11885	UKR	RL	P1	860	121	126	42.97N	46.01E	BE	43A	DS	20C	BR	79C	KR	93C						
516=**	2	2037	11885	UKR	RL	P1	44	17	88	50.77N	20.78E	SS	41C	SS	41C	PS	40C	BR	108B	KO	61B	MU	66B		
517=**	1	1902	11885	UKR	RL	P1	385	6	61	48.55N	12.49E	LR	60C	GI	34B	MU	60C	MU	60C						
518=**	10	1631	15380	UKR	RL	P3	0	0	0	45.78N	39.42E	GI	28C	KO	84B										
519=**	11	1515	15380	UKR	RL	P3	0	0	0	52.29N	36.24E	BR	82B	KO	65B										
520=**	17	1602	17895	UKR	RL	P6	1339	289	118	56.43N	8.49E	DS	32B	GI	32C	FL	37B								
521=**	17	1611	17855	UKRA	VOA	TAN	0	0	0	59.44N	1.56E	BE	44B	KI	32C										
522=1D	1	0515	6090	????	????????????		166	29	94	51.47S	177.68W	BR	90B	IT	68B	KO	80D	KR	93A						

523=1D	9	1730	7295	????	????????????	398	33	114	48.17N	38.84E	NE	67B	BR	94B	IT	97C	KO	79D	KR	63B	UK	83C			
524=1D	3	0538	5970	POLI	RFE B1	0	0	0	54.53N	21.62E	BR	65C	IT	80C											
525=1D	21	1506	9530	POLI	BBC WOOF	195	38	123	49.22N	32.40E	UK	83B	SS	40C	NO	110B									
526=1F	19	2147	9705	POLI	RFE G3	0	0	0	29.32N	84.29E	BR	85B	KO	79D											
527=1F	5	1933	11710	POLI	VOA TAN	0	0	0	50.43S	179.04W	IT	60B	KR	79B											
528=1G	1	0600	5970	POLI	RFE B1	39	8	60	54.97N	19.48E	NE	68B	BR	55A	IT	72B	KO	37A	KR	52B	NE	67B			
529=1G	5	1913	6150	????	????????????	740	42	81	62.92N	47.27E	UK	57B	IT	50B	IT	50B	KO	40C							
530=1G	2	0600	6150	????	????????????	0	0	0	42.50S	163.29E	NE	65C	UK	56C											
531=1G	1	1945	6150	????	????????????	0	0	0	55.09N	23.59E	IT	76B	KO	45C											
532=1G	19	0515	9710	????	????????????	3012	290	138	36.31S	170.08E	KO	60C	KR	50C	MU	55C									
533=1G	2	0450	5970	POLI	RFE G3A	0	0	0	55.18N	22.21E	BR	60C	IT	75C											
534=1G	5	2220	6060	POLI	VOA WOF	0	0	0	56.00N	21.15E	BR	50B	KO	37B											
535=1G	1	2122	6125	POLI	BBC WOOF	30	12	61	53.49N	17.24E	UK	57A	IT	90B	KO	38A	KR	70B							
536=1G	5	2310	6150	POLI	VOA WOF	0	0	0	57.97N	26.67E	KO	39B	UK	57B											
537=1G	5	2315	6160	POLI	VOA KAV	0	0	0	56.27N	22.19E	KO	38B	KR	55C											
538=1G	4	2138	6160	POLI	VOA KAV	62	31	82	53.32N	17.20E	SS	42C	IT	94C	KO	39C	KR	51C							
539=1G	8	0604	7130	POLI	VOA KAV	86	16	77	59.39N	36.20E	BR	53A	IT	58C	KR	50C	NO	75B	WP	345C					
540=1G	9	0503	7130	POLI	VOA KAV	583	65	105	57.34N	56.30E	BE	32C	WP	348C	UK	57A	AL	11C							
541=1G	10	0630	7130	POLI	VOA KAV	112	7	55	53.92N	16.32E	SS	26C	BR	52A	KO	74D	KR	62B							
542=1G	11	0530	7130	POLI	VOA KAV	86	14	70	58.36N	26.16E	BR	50B	IT	54B	KO	38C	KR	45C	WP	349B	UK	56A			
											SS	39C													
543=1G	8	0430	7190	POLI	RFE G1A	0	0	0	55.04N	20.74E	NE	67B	KO	40C											
544=1G	14	1308	7190	POLI	RFE B5	2479	85	99	59.77N	65.43E	BR	55B	IT	71C	KO	48C	KR	52C							
545=1G	15	0540	9705	POLI	RFE B3	0	0	0	61.65N	36.76E	BR	45B	KO	38B											
546=1G	15	0805	9705	POLI	RFE B3	123	35	135	57.41N	34.58E	SS	30C	N1	120*	UK	60C									
547=1G	15	1509	9705	POLI	RFE B3	0	0	0	58.60N	35.35E	NO	78B	WP	353C											
548=1G	17	0545	9705	POLI	RFE B3	143	21	73	57.88N	32.36E	BR	55B	IT	64B	KO	60B	MU	45B							
549=1G	19	0730	9705	POLI	RFE B3	110	27	56	56.47N	21.62E	UK	60C	SS	34C	BR	94B	IT	97B	KO	36B	KR	55D			
											MU	46B													
550=1G	19	1440	9705	POLI	RFE B3	0	0	0	45.95S	172.23W	KO	30C	MU	50C											
551=1G	20	0406	9705	POLI	RFE G2	92	13	59	56.60N	22.99E	UK	60B	BR	51A	KO	37B									
552=1G	21	1630	9705	POLI	RFE B3	0	0	0	37.58S	173.22E	BR	51B	KO	55D											
553=1G	5	0909	11725	POLI	RFE B1	2266	110	115	56.80N	83.77E	BR	54B	IT	55B	KO	50B	KR	58B							
554=1G	5	1133	11725	POLI	RFE B1	529	54	92	58.79N	56.18E	MU	52B	BE	39C	IT	60B	MU	50B							
555=1G	6	1036	11725	POLI	RFE B1	320	33	81	60.47N	45.31E	BE	30C	BR	55B	IT	55B	MU	44B							
556=1G	6	1404	11725	POLI	RFE B1	54	16	68	58.95N	29.81E	FL	29B	BR	60A	IT	55B	KO	40A	MU	56B	BE	36C			
											NO	80B													
557=1G	1	0931	11725	POLI	RFE B1	4507	94	131	53.00N	111.61E	BR	47A	IT	55B	KO	43A	KR	60B	MU	44A					
558=1G	2	1430	11725	POLI	RFE B1	5033	274	138	32.55S	164.45E	BR	60B	IT	70B	KO	60B	KR	73A	MU	57C					
559=1G	3	1100	11725	POLI	RFE B1	74	10	81	56.18N	31.01E	NE	66B	BE	45B	BR	64A	IT	70A	KO	50B	KR	62B			
											MU	48B	NE	66B											
560=1G	2	1102	11725	POLI	RFE B1	237	27	84	57.74N	41.76E	BR	60B	IT	65B	KO	50C	KR	63B	MU	52B	FL	38C			
561=1G	3	1000	11725	POLI	RFE B1	935	42	94	56.39N	40.53E	NE	63B	BE	32C	NE	66B									
562=4F	17	2143	9575	????	????????????	97	14	100	52.48N	31.66E	FL	20C	BR	70C	IT	85A	KO	78B	KR	80B	LR	30C			
											SS	36C													
563=4F	16	2300	9640	????	????????????	78	14	90	51.78N	23.28E	BR	90D	IT	82D	KR	82A	MU	60B							
564=4F	1	2030	11915	????	????????????	510	73	112	45.38S	176.43E	BR	81B	IT	50C	KO	77A	KR	85A	MU	80B					
565=4F	16	2234	9540	POLI	VOA TAN	1016	61	112	46.13N	58.36E	BR	45D	IT	82D	KO	74A	KR	80C	MU	60B	SS	36C			
566=4F	16	2340	9645	POLI	VOA TAN	396	34	112	47.85N	49.31E	SS	36C	BR	65A	IT	84B	KO	76B	KR	82A	MU	75B			
567=4F	17	2235	9645	POLI	VOA TAN	1702	137	118	43.68N	62.31E	KO	76B	SS	34C	IT	85D	MU	55C							
568=4F	20	2305	9645	POLI	VOA TAN	0	0	0	50.83N	19.53E	MU	60C	UK	85C											
569=4F	16	1910	9650	POLI	VOA TAN	1286	67	124	41.57N	63.10E	KO	79B	BR	70C	IT	86B	KR	83A	NE	77C					
570=4F	16	2000	9650	POLI	VOA TAN	638	13	81	52.68N	8.61E	NE	77C	UK	75B	NE	77C									
571=4F	21	1945	9650	POLI	VOA TAN	1015	93	111	45.57S	177.29E	BR	70C	KO	81B	KO	81B	MU	75B							

572=4F	17	2235	9705	POLI	RFE	G3	6459	409	135	26.98S	129.35E	KO	88B	IT	85B	KR	80C								
573=4F	1	2046	11710	POLI	VOA	TAN	0	0	0	53.33N	21.21E	IT	90C	KO	49A										
574=4F	6	1902	11725	POLI	RFE	G4	0	0	0	50.48N	54.63E	DS	10C	NO	85*										
575=4F	1	2237	11725	POLI	RFE	G4	1269	73	120	41.88N	64.21E	BR	80D	IT	85D	KO	78A	KR	82B	MU	70B				
576=4F	8	0635	15145	POLI	RFE	G2	216	15	95	53.80N	23.49E	IT	85A	KO	79B	KR	70C	MU	65B	SS	40C				
577=4F	8	1240	15145	POLI	RFE	G2	734	60	106	49.58N	44.41E	SS	35C	BR	64B	KO	72C	KR	80B						
578=4F	8	1745	15145	POLI	RFE	G2	0	0	0	45.91N	84.13E	UK	60C	WP	322C										
579=4F	10	0703	15145	POLI	RFE	G2	979	167	125	43.41N	69.75E	WP	325C	KO	57B	KR	80C	MU	502B	NE	73B				
580=4F	10	1700	15145	POLI	RFE	G2	102	14	100	52.62N	31.96E	NE	76B	KO	64B	BR	90B	IT	87A	KR	82A	SS	36C		
												NE	76B												
581=4F	11	0612	15145	POLI	RFE	G2	0	0	0	8.64N	96.26E	NO	85*	UK	79B										
582=4F	11	1037	15145	POLI	RFE	G2	0	0	0	38.29N	59.51E	SS	41C	BE	38C										
583=4F	11	1200	15145	POLI	RFE	G2	275	63	125	47.97N	57.64E	UK	82C	N1	104*	BR	79B	IT	85C	KR	76C	KO	60C		
												SS	36C												
584=4F	12	1620	15145	POLI	RFE	G2	4523	112	118	41.88N	61.79E	SS	37C	KO	79B	KO	79B								
585=4F	13	1440	15145	POLI	RFE	G2	0	0	0	51.03S	176.68W	BR	80Б	KR	83A										
586=4F	14	1500	15145	POLI	RFE	G2	707	170	115	54.18N	53.90E	UK	63C	BE	32B	FL	19C	PS	23C	SS	37C				
587=4F	11	1504	15390	POLI	BBC	WOOF	0	0	0	42.02N	68.65E	NO	85B	KO	75C										
588=4F	15	0915	17735	POLI	RFE	G15	0	0	0	16.77S	117.61E	UK	78C	NO	80*										
589=4F	15	1250	17735	POLI	RFE	G15	472	44	109	50.30N	49.33E	BR	80B	IT	83B	KO	70B	KR	85A						
590=4F	17	1200	17735	POLI	RFE	G15	239	15	107	51.10N	37.30E	NE	75B	NE	60B	LR	28C	IT	86A	KR	83A				
591=4F	18	0935	17735	POLI	RFE	G15	273	40	104	49.78N	39.74E	SS	42C	BR	82D	IT	80C	KO	77B	KR	86B				
592=4F	15	0625	17805	POLI	RFE	G1A	1664	69	132	35.24N	69.95E	BR	92A	IT	87A	KO	83B	KR	85B						
593=4F	16	0606	17805	POLI	RFE	G1A	235	60	123	41.48N	63.40E	BR	90B	IT	87B	KO	77A	KR	85B	MU	70B	AN	333A		
												UK	79B												
594=4F	17	0810	17805	POLI	RFE	G1A	88	20	88	52.32N	25.43E	UK	75B	BR	89B	MU	60B								
595=4F	17	1135	17805	POLI	RFE	G1A	582	10	100	51.46S	178.53E	UK	80C	BR	86C	IT	72C	IT	82C	SS	36C				
596=4F	17	1240	17805	POLI	RFE	G1A	86	25	103	53.59N	30.56E	NO	95B	IT	87D	SS	38C	BE	32C	BR	85C	MU	50D		
												FL	25C	UK	80C										
597=4F	18	1034	17805	POLI	RFE	G1A	6296	321	143	8.19N	97.53E	UK	78B	SS	34C	BR	85B	IT	84C	KR	86B				
598=4F	18	1412	17805	POLI	RFE	G1A	70	2	100	52.20N	5.49E	FL	32B	UK	80B	SS	41C	NE	79B						
599=4F	18	1605	17805	POLI	RFE	G1A	206	35	99	51.79S	178.95E	BR	95B	IT	88A	KO	74B	KR	89A	MU	58C	NE	77B		
600=4F	20	0836	17805	POLI	RFE	G1A	97	27	83	53.44N	23.39E	BR	80C	IT	86C	KO	78B	MU	50C	UK	79B				
601=4F	21	0710	17805	POLI	RFE	G1A	1610	74	116	47.45S	161.26E	BR	85B	IT	83A	KR	85A	NO	90*	UK	79A	BR	86B		
												IT	83												
602=4F	21	1105	17805	POLI	RFE	G1A	426	70	119	46.10S	175.96W	BR	58B	KO	72C	MU	60	NO	90*						
603=4F	5	2337	11725	RUSS	RL	G9+G10	684	68	121	43.54N	61.32E	SS	35C	BR	85B	IT	86B	KO	78B	KR	83B	MU	75C		
												FE	352C												
604=4F	6	2309	11725	RUSS	RL	G9+G10	0	0	0	45.81S	176.95E	IT	50C	MU	82C										
605=4N	2	1101	11720	????	????????????		0	0	0	31.44S	154.73E	IT	62B	KR	63B										
606=4N	13	1123	15140	????	????????????		0	0	0	55.60N	31.87E	BR	67B	KO	52B										
607=4N	13	2038	15145	????	????????????		654	42	106	55.54N	67.37E	WP	341D	BR	62A	IT	63B	KO	55A	MU	60B				
608=4N	10	1110	21585	????	????????????		0	0	0	49.82N	14.38E	KO	56C	MU	48B										
609=4N	8	0905	15145	POLI	RFE	G2	343	57	99	56.57N	52.14E	BR	75B	IT	80C	KO	55B	KR	61B	MU	45B	NO	75C		
610=4N	10	0700	15145	POLI	RFE	G2	0	0	0	20.29N	100.73E	NE	73B	NO	75*										
611=4N	12	1100	15145	POLI	RFE	G2	304	55	103	58.29N	49.37E	KO	50C	NO	72B	IT	65D								
612=4N	14	1350	15145	POLI	RFE	G2	0	0	0	45.01N	95.32E	IT	62C	KO	58A										
613=4N	17	1136	17805	POLI	RFE	G1A	0	0	0	52.76N	42.88E	NO	90*	KO	64C										
614=4N	13	0730	21665	POLI	RFE	G2B	58	14	86	54.40N	27.05E	IT	80A	KO	54B	MU	50B								
615=7K	15	1900	9650	????	????????????		0	0	0	53.61N	33.98E	NE	74B	KO	60B										
616=7K	2	2101	11715	????	????????????		0	0	0	51.56N	20.47E	BR	100D	IT	105B										
617=7K	4	2030	11720	????	????????????		0	0	0	51.12N	41.67E	IT	85B	MU	70D										
618=7K	15	2100	9650	POLI	VOA	TAN	0	0	0	52.59N	6.63E	NE	69B	UK	74A										
619=7K	1	2149	11710	POLI	VOA	TAN	681	43	111	46.16N	53.02E	BR	76C	IT	85D	KO	78A	KR	80B	MU	75B				

620=7K	6	2012	11725	POLI	RFE	G4	0	0	0	53.51N	27.11E	BR	78A	IT	85B								
621=7K	1	1633	11725	POLI	RFE	G4	548	79	118	45.86N	61.07E	SS	35C	BR	65C	IT	83B	KR	80B	MU	72B	WP	326B
622=7K	9	1139	15145	POLI	RFE	G2	0	0	0	37.96N	69.22E	WP	323B	SS	36C								
623=7K	11	1515	15390	POLI	BBC	WOOF	0	0	0	29.98N	83.59E	IT	83A	KR	80C								
624=7K	19	0836	17735	POLI	RFE	G15+G16	0	0	0	12.32S	113.89E	UK	78B	KR	85A								
625=7K	20	1220	17735	POLI	RFE	G15	0	0	0	51.53N	18.27E	KR	85D	MU	50C								
626=7K	18	1040	17805	POLI	RFE	G1A	0	0	0	8.84N	96.13E	SS	34C	NO	85*								
627=7K	13	0730	21665	POLI	RFE	G2B	709	71	123	46.02N	56.19E	NE	74B	UK	78B	NO	90B	BR	85B				
628=7K	14	1240	21665	POLI	RFE	G2B	0	0	0	42.42N	72.76E	BR	80D	MU	74B								
629=8L	1	2210	5970	POLI	RFE	B2	332	41	106	50.73S	178.87E	BR	80B	IT	80B	KO	59B	KR	85A	NE	69B		
630=8L	4	2304	5970	????	????????????		0	0	0	52.12N	20.31E	KO	54B	KR	80C								
631=8L	21	0812	9590	????	????????????		21199	297	144	11.13S	146.36E	BR	60D	IT	74B	KO	59A	MU	60C				
632=8L	21	0550	9600	????	????????????		30	10	128	50.04N	17.84E	BR	130A	IT	60C	KO	65B	KR	95C				
633=8L	3	2230	5970	POLI	RFE	B2	0	0	0	36.31S	154.58E	KR	70B	MU	80C								
634=8L	9	2246	7190	POLI	RFE	G1A	166	26	87	53.52N	28.05E	UK	73B	BR	75D	KO	58C	KR	71C				
635=8L	15	1508	9705	POLI	RFE	B3	0	0	0	52.13N	51.05E	FE	4C	UK	68B								
636=8L	15	1630	9705	POLI	RFE	B3	0	0	0	55.29N	25.54E	IT	75C	KO	47B								
637=8L	16	0500	9705	POLI	RFE	G2	3487	247	137	32.32S	151.96E	NE	63B	NE	64B	KO	75B	KR	67B				
638=8L	16	0700	9705	POLI	RFE	B3	3692	131	128	42.59S	163.28E	NE	69B	BR	90D	KR	70A	UK	68A	NE	66B		
639=8L	16	1300	9705	POLI	RFE	B3	0	0	0	46.57N	56.68E	KO	74B	KR	79B								
640=8L	16	1700	9705	POLI	RFE	B3	89	15	69	54.67N	18.80E	NE	68B	NE	68B	BR	55B						
641=8L	16	2100	9705	POLI	RFE	G3	148	23	93	52.90N	32.58E	NE	77B	UK	70D	NE	77B	BR	45B	KO	62B	MU	50D
642=8L	18	0610	9705	POLI	RFE	B3	61	15	80	54.27N	22.53E	SS	35C	BR	35	IT	72A	KO	62B	KR	65B	MU	45B
												UK	70A										
643=8L	18	1537	9705	POLI	RFE	B3	195	26	96	53.68N	38.08E	UK	70B	BR	80D	IT	78B	KO	61B	KR	70C	MU	48B
644=8L	19	1105	9705	POLI	RFE	B3	86	18	86	54.00N	27.77E	UK	70B	PS	34D	BR	65D	IT	81B	KO	66B	KR	73B
												MU	55B										
645=8L	19	1200	9705	POLI	RFE	B3	78	21	82	54.45N	26.07E	UK	71B	IT	78B	MU	50B	SS	38C				
646=8L	20	1340	9705	POLI	RFE	B3	126	15	89	53.48N	35.59E	UK	71B	BR	40D	KO	61A	KR	72A	MU	45C		
647=8L	21	0635	9705	POLI	RFE	B3	194	21	94	54.44N	43.64E	UK	68B	BR	35C	IT	75B	KO	60A	KR	67A		
648=8L	21	1600	9705	POLI	RFE	B3	0	0	0	54.43N	21.58E	UK	69B	KR	65B								
649=8L	16	1740	9750	POLI	BBC	WOOF	0	0	0	54.43N	17.74E	BR	53B	KR	60C								
650=8L	5	0542	11710	POLI	VOA	TAN	331	42	102	51.30N	47.05E	IT	81B	KO	66B	KR	78A	MU	70B				
651=8L	7	0800	11725	POLI	RFE	B1	77	14	85	56.60N	37.42E	NO	82*	BR	65A	IT	70B	KO	51A	KR	76B	UK	72B
652=8L	2	0509	11725	POLI	RFE	G9+G10	0	0	0	55.91N	33.14E	BR	66B	IT	72A								
653=8L	5	0425	11725	POLI	RFE	G9+G10	8902	272	145	1.52S	132.58E	BR	67A	IT	72A	KO	63B	KR	72A	MU	68B		
654=8L	3	1001	11725	POLI	RFE	B1	92	13	84	56.27N	32.29E	BR	65B	IT	70A	KO	48C	KR	70B	MU	50B	NO	80*
												NE	66B										
655=8L	3	0600	11725	POLI	RFE	G9+G10	305	42	107	53.69N	53.71E	NE	68B	BR	69B	IT	65B	KO	63B	KR	50B	MU	50B
												NO	80B	NE	68B								
656=8L	3	0800	11725	POLI	RFE	B1	68	11	76	55.80N	23.06E	NE	66B	NO	80C	NE	66B	BR	55B	IT	70A	KO	40C
												KR	70B	MU	45D								
657=8L	10	1425	15145	POLI	RFE	G2	0	0	0	54.14N	22.24E	BR	70A	IT	83C								
658=8L	11	2310	7190	RUSS	RL	P5	284	33	99	53.64N	39.05E	BR	81A	IT	78B	KO	63C	KR	69C	UK	74C		
659=8L	12	0535	7220	RUSS	RL	L7+L8	0	0	0	36.54S	151.51E	BR	78B	IT	72C								
660=99	3	1231	6087	????	????????????		0	0	0	31.12N	131.79E	WP	295B	AL	328C								
661=99	4	1140	6180	????	????????????		0	0	0	16.04N	86.91E	AL	8C	WP	295C								
662=99	9	1101	7250	????	????????????		0	0	0	6.85N	69.37E	LR	42C	WP	296C								
663=99	15	1136	9690	????	????????????		0	0	0	19.87N	102.27E	WP	292C	LR	1C								
664=99	2	0503	11725	POLI	RFE	G9+G10	0	0	0	41.43N	126.90E	AL	336C	WP	307C								
665=99	5	1130	11725	POLI	RFE	B1	0	0	0	15.68N	46.54E	WP	325C	AL	48C								
666=99	4	1840	11935	RUSS	RL	HB	0	0	0	29.81N	53.21E	LR	42C	AL	35C								
667=AD	10	1733	15285	????	????????????		0	0	0	49.73N	25.75E	BR	105A	IT	106C								
668=AD	13	1335	21570	????	????????????		910	53	93	47.88S	176.67W	IT	98B	KO	95B	MU	90B	MU	90B				

669=AD	8	1435	15340	AZ	RL	L4	174	32	112	46.88N	35.07E	IT	103B	KO	83B	KR	100A	BE	47C	UK	81A				
670=AD	10	1440	21455	AZ	RL	L3	226	45	114	47.62N	31.17E	FL	37B	IT	106C	MU	85D								
671=AD	2	2335	11875	RUSS	RL	L3	290	30	117	42.87N	42.04E	IT	105B	KO	90A	KR	94B	MU	92D						
672=AD	20	1320	17855	RUSS	VOA	KAV	450	24	114	49.33N	31.41E	BR	98B	IT	100B	KR	90D								
673=AD	20	1320	17865	RUSS	VOA	KAV	518	16	118	47.68N	34.09E	UK	90C	BR	102A	IT	101B	KR	90D						
674=AD	11	0740	21455	RUSS	RL	L3	423	44	116	44.55N	44.64E	UK	88C	BR	98B	IT	84C	KO	85B	MU	85C				
675=AD	11	0740	21510	RUSS	RL	HB	2550	225	114	43.94S	166.69E	BR	104B	KO	85*	KR	70D	MU	85C						
676=AD	11	0039	7295	TI	RL	L7+L8	0	0	0	51.54S	177.20E	KR	95C	UK	92B										
677=AD	10	1440	21510	TI	RL	HB	0	0	0	46.46N	38.86E	MU	85D	FL	37B										
678=AG	1	1110	6180	????	????????????		0	0	0	29.60N	123.35E	DS	315C	WP	295B										
679=AG	11	0600	15115	????	????????????		176	76	92	57.31N	59.45E	KR	58D	MU	55B	AN	342A	KO	52B						
680=AG	13	2032	15115	BULG	RFE	G6	204	17	84	57.69N	42.14E	WP	341B	BR	62A	IT	63B	KO	50A	MU	60B				
681=AG	8	0910	15170	CZEC	RFE	G3B	32	9	65	54.04N	17.92E	BR	60A	IT	62B	KO	38D	KO	38D	NO	120B				
682=AG	11	0610	15170	CZEC	RFE	G3B	4978	166	141	35.28N	118.88E	KO	52A	IT	65B	KR	52A	MU	58C						
683=AG	13	0720	15170	CZEC	RFE	G3B	167	22	78	55.70N	34.25E	BR	66B	IT	75D	KO	52B	KR	72B	MU	55B				
684=AG	14	1000	15170	CZEC	RFE	G3B	0	0	0	54.32N	62.47E	UK	60B	N1	92B										
685=AG	11	0705	15255	CZEC	RFE	G9+G10	152	35	101	56.33N	50.36E	AN	344A	NO	80B	UK	60B	KR	61A						
686=AG	3	1500	11865	EST	VOA	WOF	168	23	80	55.63N	31.81E	BR	65B	IT	75C	KO	53B	MU	58B						
687=AG	21	1501	9505	LITH	RFE	HD	0	0	0	57.76N	37.26E	UK	59B	NO	80D										
688=AG	6	1502	11865	LITH	VOA	WOF	226	18	90	55.72N	44.02E	BR	68A	IT	59A	KO	58B	KR	63B	MU	56B	IT	59A		
												KO	58B	KR	63B	MU	56B								
689=AK	10	0910	7115	HUNG	RFE	B94	293	30	123	44.70N	34.44E	BR	110B	IT	122D	KO	89D	KR	102B						
690=AK	8	0840	15430	RUSS	VOA	PHT	1237	60	122	57.19N	94.13E	BR	50C	IT	50A	IT	50A	KO	46A	KO	46B	KR	45B		
												MU	45C												
691=AK	10	0916	15430	RUSS	VOA	PHT	548	50	81	60.34N	44.71E	IT	57D	KO	54D	KR	52B	MU	45C						
692=AN	18	1450	9515	????	????????????		0	0	0	52.70N	26.34E	IT	90C	KO	59C										
693=AN	14	1912	7155	LITH	RFE	HD	166	23	83	54.93N	32.48E	BR	70B	IT	77C	KO	55B	KR	75B						
694=AN	15	0700	9705	POLI	RFE	B3	1666	108	115	50.08N	69.98E	BR	45B	IT	72C	KO	64B	KR	65B						
695=AN	16	0700	9705	POLI	RFE	B3	0	0	0	48.81N	12.57E	KO	62A	MU	48B										
696=AN	11	2220	7155	RUSS	RL	HC	6457	117	137	31.00N	89.18E	BR	80A	IT	78A	KO	56B	KR	75C						
697=AN	13	2330	7155	RUSS	RL	HC	0	0	0	53.55N	36.56E	KO	61B	UK	70C										
698=AN	14	2202	7155	RUSS	RL	HC	0	0	0	54.33N	47.71E	KO	60C	UK	65C										
699=AN	9	1730	7255	RUSS	RL	L7+L8	176	32	101	55.10N	41.81E	NE	52B	NO	85*	UK	65C	BR	70B						
700=AN	7	0650	11970	RUSS	RL	L5	111	19	86	55.05N	32.92E	UK	66A	BR	75C	IT	75C	KO	54B	KR	72B	MU	55C		
701=AS	6	0540	11855	CZEC	RFE	G11+G12	0	0	0	42.16N	64.67E	BR	86B	IT	85B										
702=AS	1	0430	11855	CZEC	RFE	G11+G12	1201	350	146	17.96N	99.98E	BE	22C	AL	344C	IT	60A	KO	83C	KR	78B	MU	60D		
703=AS	9	0900	15255	CZEC	RFE	G9+G10	0	0	0	51.78N	35.20E	UK	75C	NO	100B										
704=AS	10	0800	15255	CZEC	RFE	G9+G10	693	14	96	52.83N	29.60E	NE	78B	BR	82A	NE	78B								
705=AS	11	0710	15255	CZEC	RFE	G9+G10	494	28	99	52.68N	31.99E	SS	40C	BR	82B	IT	86C								
706=AS	13	1120	15255	CZEC	RFE	G9+G10	0	0	0	52.08N	17.17E	BR	100D	KR	80B										
707=AS	16	1640	9635	RUSS	BBC	CYPRUS	0	0	0	.68N	65.82E	GI	23C	AL	38C										
708=B1	13	2330	7110	????	????????????		39	17	112	49.93N	19.01E	BR	121B	IT	125C	KO	67B	KR	100C	FL	40C				
709=B1	10	1010	7125	????	????????????		0	0	0	46.12N	54.06E	IT	87D	KO	76C										
710=B1	10	1110	7125	????	????????????		0	0	0	49.78N	36.06E	BR	92B	KR	84C										
711=B1	8	1100	7130	????	????????????		79	9	121	50.59N	18.39E	NE	96B	BR	120A	NE	96B								
712=B1	13	1125	7130	????	????????????		38	18	105	49.56N	19.68E	BR	123B	IT	125D	KO	70B	KR	110A	MU	75C				
713=B1	9	0016	7255	????	????????????		0	0	0	50.08N	16.46E	IT	129A	KR	100A										
714=B1	15	0026	9565	????	????????????		0	0	0	49.65N	21.97E	NO	127A	NE	97B										
715=B1	21	1855	9610	????	????????????		0	0	0	50.60N	9.03E	SS	42C	LR	48C										
716=B1	7	1902	11865	????	????????????		0	0	0	34.56N	44.06E	LR	45B	UK	100B										
717=B1	3	1840	11865	????	????????????		0	0	0	47.69N	22.40E	NO	131*	LR	46B										
718=B1	15	1420	17710	????	????????????		0	0	0	49.34N	19.95E	IT	121C	KR	100C										
719=B1	6	2017	11825	BULG	RFE	G11+G12	0	0	0	51.41N	13.39E	BE	51A	SS	41C										
720=B1	4	2005	6105	CZEC	RFE	B5	0	0	0	49.70N	18.94E	IT	122A	KR	99B										

721=B1	4	2236	6105	CZEC	RFE	B5	0	0	0	50.63N	18.32E	BR 120B	BE 50B				
722=B1	2	0600	6115	CZEC	RFE	B8	56	13	102	51.85N	8.54E	NE 99B	SS 42C	BE 50C	N1 190C		
723=B1	6	0801	6115	CZEC	RFE	B8	0	0	0	39.19N	37.13E	BE 51C	UK 100B				
724=B1	7	1905	11825	CZEC	RFE	G11+G12	0	0	0	48.78N	22.47E	FL 41A	LR 45C				
725=B1	5	2134	11825	CZEC	RFE	G11+G12	45	16	114	49.09N	19.98E	LR 46C	FL 43B	BR 128B	IT 124C	KO 77B	KR 98B
												PS 41B	BE 51A				
726=B1	1	1812	11825	CZEC	RFE	G11+G12	2064	333	112	51.88N	16.27E	FL 41C	SS 40C	BE 49C			
727=B1	6	2028	11855	CZEC	RFE	G13+G14	0	0	0	51.41N	13.39E	SS 41C	BE 51A				
728=B1	5	2140	11855	CZEC	RFE	G13+G14	936	12	133	49.54N	18.81E	BR 129A	FL 41B	SS 43C			
729=B1	10	1408	15170	CZEC	RFE	G8	0	0	0	56.18N	25.44W	BE 51C	PS 42C				
730=B1	12	0935	15170	CZEC	RFE	G3B	0	0	0	47.40N	29.23E	UK 90C	FL 40B				
731=B1	12	1111	15170	CZEC	RFE	G3B	0	0	0	54.56N	3.94W	FL 40B	BE 52B				
732=B1	8	1510	15255	CZEC	RFE	G9+G10	0	0	0	53.10N	2.59E	FL 41B	LR 47C				
733=B1	11	1300	15255	CZEC	RFE	G9+G10	0	0	0	45.13N	29.07E	UK 96C	FL 42B				
734=B1	14	0845	15255	CZEC	RFE	G9+G10	0	0	0	46.94N	26.92E	KO 87C	KR 102B				
735=B1	9	0506	7165	ROMA	RFE	B4	0	0	0	37.19N	41.37E	BE 50C	UK 99A				
736=B1	11	0535	7165	ROMA	RFE	B4	0	0	0	49.28N	14.27E	BE 53C	UK 97B				
737=B5	8	0640	15180	????	????????????		384	32	139	31.49N	41.45E	BR 125A	IT 80D	KO 112A	KR 115A		
738=B5	11	0600	15180	????	????????????		754	52	139	27.60N	43.50E	KO 115A	BR 125B	IT 126C	KR 115B	MU 120C	
739=B5	14	0740	15180	????	????????????		542	51	134	34.93N	38.09E	IT 122B	KO 110B	KR 114C	MU 115C		
740=B5	14	1010	15180	????	????????????		366	28	140	38.76N	32.76E	BR 130C	IT 124A	KO 110D	KR 115D		
741=BA	7	2010	11925	????	????????????		0	0	0	26.62N	112.34E	LV 313C	FE 313C				
742=BD	1	1910	11935	BULG	RFE	G1	35	3	80	52.57N	13.31E	BR 100D	BR 70D	IT 117C	KO 45C	MU 55B	
743=BD	4	0445	6020	RUSS	VOA	WOF	524	49	114	46.73N	47.47E	BR 90C	IT 93C	KO 80C	KR 83B	MU 80C	
744=BD	4	2135	6085	RUSS	VOA	KAV	0	0	0	50.55N	16.40E	FL 41B	KO 56C				
745=BD	1	2122	6095	RUSS	VOA	MUN	43	20	89	52.09N	18.44E	IT 105B	KO 50B	KR 80D			
746=BD	5	0307	6160	RUSS	VOA	WOF	0	0	0	52.58N	28.55E	UK 75C	NO 106B				
747=BD	4	1730	11845	RUSS	BBC	CYPRUS	537	62	91	54.73N	26.98E	UK 68C	FE 15C	LR 38C	FL 37B		
748=BD	4	1610	11960	RUSS	VOA	MUN	0	0	0	51.25N	36.84E	FE 13C	FL 34B				
749=BD	5	0305	6125	UKR	VOA	WOF	81	19	111	51.12N	19.37E	UK 70C	BR 110B	IT 105D	KO 59D		
750=BG	2	0200	6160	????	????????????		921	33	94	54.09N	35.76E	NE 72C	NE 72C	KR 70B			
751=BG	13	2010	7105	????	????????????		0	0	0	52.27N	40.81E	BR 80B	NO 93B				
752=BG	13	1636	7185	????	????????????		121	18	79	54.52N	21.67E	BR 65B	IT 80B	KR 65C			
753=BG	9	1110	7195	????	????????????		144	24	83	55.69N	32.28E	BR 71A	IT 73B	KO 52B	KR 64C		
754=BG	13	1648	7195	????	????????????		75	15	71	54.24N	20.63E	BR 70B	IT 80C	KO 43B	KR 63B		
755=BG	8	0934	7205	????	????????????		2875	63	116	50.84N	68.99E	BR 70B	IT 70B	KO 27B	KR 66A		
756=BG	9	0600	7260	????	????????????		749	29	114	50.88S	176.75E	NE 74B	UK 68B	BR 84B	IT 80B	KO 60A	KR 75A
757=BG	21	1630	9715	????	????????????		0	0	0	52.60N	27.00E	IT 90D	KO 60C				
758=BG	15	1518	9730	????	????????????		0	0	0	58.89N	15.18E	NO 85B	AL 36C				
759=BG	6	1405	11715	????	????????????		200	17	82	57.73N	40.03E	SS 38C	BR 60A	IT 66B	KO 50B	KR 70D	MU 52B
760=BG	2	1430	11715	????	????????????		2584	346	125	56.43N	35.26E	FL 30C	SS 33C	BE 42C	PS 23C		
761=BG	1	1213	11720	????	????????????		297	110	94	50.29S	179.22E	BR 70C	IT 75C	KO 110D	MU 110B	SS 34C	
762=BG	2	1432	11730	????	????????????		1706	440	156	24.78N	64.69E	LV 350C	FL 32B	AL 33B			
763=BG	6	1405	11730	????	????????????		1892	333	108	58.76N	13.65E	LR 32C	PS 40C	SS 36C			
764=BG	2	1430	11735	????	????????????		0	0	0	59.33N	18.50E	NO 80C	FL 32B				
765=BG	2	1434	11740	????	????????????		335	26	94	55.87N	43.45E	BR 60A	IT 70B	KO 50A	KR 64A	MU 57C	FL 32B
766=BG	15	1516	9735	ARM	VOA	MUN	508	67	118	52.42N	49.79E	FE 5C	SS 41C	NO 85*	UK 68B		
767=BG	18	1536	9735	ARM	VOA	MUN	70	26	90	57.24N	25.04E	FL 38B	UK 60C	BR 50C	KO 62B	KR 65B	NO 90B
768=BG	19	0410	9680	BR	RL	G15+G16	699	72	132	44.87S	175.91W	BR 45B	KO 55B	MU 50C			
769=BG	1	1930	6105	CZEC	RFE	B5	88	14	89	54.86N	31.54E	BR 67C	IT 77A	KO 55B	KR 67B	MU 55C	
770=BG	15	1450	9735	GEOR	VOA	MUN	0	0	0	54.33N	48.41E	KO 60B	IT 73C				
771=BG	16	1404	9735	GEOR	VOA	MUN	0	0	0	53.93N	43.88E	UK 67B	AL 28C				
772=BG	16	1500	9735	GEOR	VOA	MUN	646	55	103	54.17N	53.75E	NE 66B	KO 60B	BR 70D	MU 45B	NE 67B	
773=BG	15	1255	9725	HUNG	RFE	B2	0	0	0	47.77N	24.01E	IT 118C	KO 84D				

774=BG	16	1300	9725	HUNG	RFE	B2	528	117	117	46.27S	176.38E	IT	118C	KO	84B	BR	54D	KR	63B	MU	45							
775=BG	20	1330	9725	HUNG	RFE	B2	0	0	0	59.09N	52.85E	IT	60D	MU	50C													
776=BG	7	0345	6170	LAT	RFE	HD	0	0	0	57.32N	43.31E	KR	60C	NO	78B													
777=BG	7	2101	5970	POLI	RFE	B2	0	0	0	51.66S	173.30W	BR	80D	KR	114D													
778=BG	1	1835	5970	POLI	RFE	B2	119	27	79	55.31N	28.23E	IT	75C	KO	50C	IT	75C	KO	50C									
779=BG	6	2220	6060	POLI	VOA	WOF	27	10	64	53.70N	16.56E	BR	78A	IT	90B	KO	35A	KR	64A									
780=BG	4	2304	6060	POLI	VOA	WOF	0	0	0	55.17N	18.81E	IT	73B	KO	35B													
781=BG	3	2345	6060	POLI	VOA	WOF	0	0	0	53.06N	17.32E	BR	77A	MU	35B													
782=BG	8	0430	7190	POLI	RFE	G1A	498	20	96	55.04N	43.65E	NE	67B	BR	70A	IT	73B											
783=BG	8	0600	7190	POLI	RFE	B5	755	25	85	55.50N	26.52E	NE	67B	BE	41C	SS	39C	LR	332C	NE	67B							
784=BG	8	0900	7190	POLI	RFE	B5	114	13	79	55.00N	25.18E	NE	68B	NE	68B	IT	65C	KR	65A	MU	45C							
785=BG	8	1200	7190	POLI	RFE	B5	160	11	85	55.72N	28.72E	NE	65B	IT	73A	BR	73A	KR	63A	NE	67B							
786=BG	9	0513	7190	POLI	RFE	B5	0	0	0	54.00N	46.64E	BE	35C	UK	66B													
787=BG	9	0605	7190	POLI	RFE	B5	0	0	0	55.46N	32.56E	BR	68A	FL	32C													
788=BG	9	0735	7190	POLI	RFE	B5	95	9	79	54.17N	21.36E	UK	70A	BR	70A	KO	58D	KR	65A	SS	40C							
789=BG	10	0636	7190	POLI	RFE	B5	112	23	97	55.84N	34.09E	BE	31C	SS	26C	NO	89B	BR	52A	IT	72B	KR	64B					
790=BG	10	1224	7190	POLI	RFE	B5	387	17	91	55.54N	39.69E	BR	69A	IT	72B	KR	63B											
791=BG	5	0532	11710	POLI	VOA	TAN	0	0	0	55.14N	40.32E	NO	86*	BR	70A													
792=BG	4	1235	11725	POLI	RFE	B1	860	52	99	55.42N	51.21E	SS	35C	AL	16C	BR	66B	KR	66B									
793=BG	2	0509	11725	POLI	RFE	G9+G10	0	0	0	52.34N	18.29E	KO	48D	KR	78B													
794=BG	5	1502	11725	POLI	RFE	G4	335	73	80	55.60N	39.52E	FL	31B	MU	56C	FE	8C	PS	29C	LR	31C	BE	38C					
												SS	33C															
795=BG	5	0542	11725	POLI	RFE	G9+G10	132	14	84	55.06N	31.39E	BR	70A	IT	75B	KO	53B	MU	60B									
796=BG	2	1102	11725	POLI	RFE	B1	190	21	83	57.32N	38.89E	BR	60B	IT	65B	KO	50C	KR	63B	MU	52B							
797=BG	5	1133	11725	POLI	RFE	B1	0	0	0	56.13N	19.71E	IT	65C	LR	39B													
798=BG	7	1705	6105	RUSS	RL	L2	50	21	76	57.64N	24.07E	IT	57B	KO	38B	NO	90B											
799=BG	1	1600	6105	RUSS	RL	L2	162	23	75	54.78N	29.36E	KO	52B	KR	67B	MU	55C											
800=BG	3	1738	6105	RUSS	RL	L2	4195	156	124	55.80N	97.83E	BR	50B	IT	50B	KO	47C	KR	55C	MU	20D							
801=BG	6	0207	6170	RUSS	RL	B3	817	27	80	55.37N	19.76E	FL	37B	SS	30C	BR	78B	IT	72B									
802=BG	9	2500	7190	RUSS	RL	P5	0	0	0	55.83N	34.67E	KO	53B	KR	64A													
803=BG	11	2320	7190	RUSS	RL	P5	163	13	81	54.82N	24.95E	BR	68B	IT	78B	KR	65A											
804=BG	13	2340	7190	RUSS	RL	P5	466	41	92	55.18N	41.80E	BR	68C	IT	75D	KO	60C	KR	65C									
805=BG	14	2010	7220	RUSS	RL	L5+L6	0	0	0	51.99N	70.50E	KO	60B	UK	60C													
806=BG	8	1847	7270	RUSS	VOA	MUN	548	40	110	52.04N	55.28E	BR	81B	IT	75A	KO	64B	KR	70B									
807=BG	20	0640	9520	RUSS	RL	L9	0	0	0	54.25N	56.33E	IT	70C	KR	65B													
808=BG	16	1628	17770	RUSS	RL	P4	88	12	110	49.94N	27.95E	BR	101C	IT	102A	KO	75C	KR	88A	MU	60C							
809=BG	6	0230	6180	UKR	VOA	WOF	0	0	0	49.95S	175.02E	IT	72C	UK	60D													
810=BG	18	1812	9565	UKR	RL	P2	0	0	0	53.77S	174.93W	BR	107B	IT	89B													
811=BL	14	1530	15290	RUSS	RL	P1	0	0	0	55.21N	22.73E	UK	66C	FL	35C													
812=BN	18	1235	17855	RUSS	VOA	KAV	0	0	0	54.04N	17.53E	BR	58A	IT	85B													
813=BQ	16	2000	9625	????	????????????		0	0	0	53.95S	171.01W	BR	120D	IT	100C													
814=BQ	5	1933	11765	????	????????????		0	0	0	15.01S	85.29E	PS	28C	LR	38C													
815=BQ	19	2308	9520	RUSS	RL	L9+L10	0	0	0	40.31N	43.53E	KO	94B	KR	100B													
816=BQ	19	2147	9660	RUSS	RL	B7	216	21	118	44.91N	34.66E	IT	110C	KO	90B	KR	99A	MU	120C									
817=BQ	5	1940	11770	RUSS	RL	G9+G10	0	0	0	51.35S	178.34W	BR	85B	KR	91B													
818=BQ	6	2135	11970	RUSS	RL	HB	378	38	114	44.59N	48.39E	BR	90C	IT	95B	KO	82A	KR	95A	MU	90D							
819=BQ	16	0635	17750	RUSS	RL	HC	0	0	0	37.25S	137.37E	KO	94B	KR	88A													
820=BQ	16	1624	17770	RUSS	RL	P4	0	0	0	49.44N	29.25E	BR	101C	KO	75C													
821=BQ	18	1735	17770	RUSS	RL	P4	0	0	0	52.56N	14.77E	BR	90D	IT	111C													
822=BQ	20	1311	17855	RUSS	VOA	KAV	0	0	0	39.31N	48.43E	SS	45C	UK	90B													
823=BQ	9	0945	21455	RUSS	RL	L3	0	0	0	50.68N	20.74E	KO	64A	KR	90C													
824=BQ	12	1005	21455	RUSS	RL	L3	0	0	0	47.29S	152.10E	UK	87B	NE	90B													
825=BQ	13	1235	21455	RUSS	RL	L3	253	23	121	44.64N	41.69E	IT	101A	KR	92A	MU	90B	UK	90B									
826=BQ	14	0805	21455	RUSS	RL	L3	0	0	0	29.30N	77.86E	BR	90C	IT	88B													

827=BQ	14	1130	21455	RUSS	RL	L3	354	83	105	47.47S	178.08W	UK	90A	BR	60B	KO	85C	KR	93A	MU	90B				
828=BQ	17	2230	9625	TI	RL	B7	0	0	0	43.99N	41.55E	UK	88B	BE	45B										
829=BR	7	1308	11735	????	????????????		12636	665	143	17.57S	138.50E	BR	55C	IT	67C	KO	70D	KR	70D	MU	60D				
830=BR	3	0510	11935	????	????????????		0	0	0	21.43N	71.44E	BR	102B	SS	48C										
831=BR	10	2140	7155	BR	RL	HD	91	20	104	51.42N	21.59E	BR	100C	IT	102B	KO	58D	KR	89C						
832=BR	16	2000	9505	GEOR	RL	L1	55	22	86	52.31N	18.13E	BR	85D	IT	108D	KO	60B	KR	80C	MU	45C				
833=BR	5	1734	11885	UKR	RL	B1	7083	443	144	38.52N	50.32E	KI	25C	PS	36C	BE	43C	LR	38C						
834=BR	10	1635	15380	UKR	RL	P3	0	0	0	63.04N	17.30E	LV	18C	KI	25C										
835=BU	10	0800	15275	????	????????????		123	11	108	50.37N	32.83E	NE	80B	BR	92A	IT	94A	KO	69C	KR	85A	NE	80B		
836=BU	14	0845	15275	????	????????????		9420	255	141	3.02S	106.14E	BR	90B	IT	95A	KO	87B	KR	85A						
837=BU	3	2255	6150	POLI	VOA	WOF	0	0	0	51.56N	23.57E	BR	95A	KR	83A										
838=BU	1	2122	6160	POLI	VOA	KAV	286	17	109	49.72N	34.52E	BR	95B	IT	94B	KO	48A	KR	85A						
839=BU	5	2315	6160	POLI	VOA	KAV	0	0	0	50.98N	31.93E	IT	93C	FL	36B										
840=BU	3	2235	6160	POLI	VOA	KAV	153	10	100	51.60N	23.12E	FL	41B	LR	49C	BR	95A	KR	83A						
841=BU	17	2240	9660	TI	RL	HA	0	0	0	51.42S	174.22E	UK	90C	BR	92B										
842=CB	17	1542	9590	????	????????????		742	65	106	51.61N	54.15E	BR	100D	IT	75C	KO	65B	KR	72B	MU	50C				
843=CB	9	0945	21460	????	????????????		0	0	0	49.18N	14.25E	KO	64B	MU	60C										
844=CB	14	0920	21735	????	????????????		0	0	0	48.27N	11.74E	KO	70C	MU	60B										
845=CB	21	1345	17760	ARM	RL	L1	0	0	0	49.27N	35.39E	KO	75C	KR	86A										
846=CB	1	0241	6025	RUSS	VOA	WOF	0	0	0	41.46S	151.83E	BR	85B	IT	79C										
847=CB	16	0731	17895	RUSS	RL	P5	0	0	0	47.50N	62.36E	IT	79C	KO	70C										
848=CB	18	1610	17855	UKRA	VOA	TAN	157	20	85	54.05N	32.44E	BR	75B	KO	59B	KR	70B	MU	56C						
849=CU	3	1500	11875	RUSS	RL	L6	0	0	0	53.23N	14.76E	IT	100D	KR	65B										
850=CU	3	1500	11885	RUSS	RL	L10	0	0	0	53.27N	14.52E	IT	100D	KR	64B										
851=D1	7	1108	6065	????	????????????		24	16	134	49.92N	15.92E	BR	145B	IT	140D	KO	60B	KR	105C						
852=D3	2	2113	11775	????	????????????		0	0	0	51.41N	13.39E	BE	51A	FE	27C										
853=D3	4	1741	11805	????	????????????		0	0	0	56.63N	11.35E	PS	37C	FL	36B										
854=D3	14	1635	21510	????	????????????		261	33	147	49.70N	16.74E	SS	43C	NO	140*	BE	51A	PS	43A						
855=D3	1	0335	11770	RUSS	RL	P3	0	0	0	52.33N	54.18E	IT	75D	MU	65D										
856=D3	12	1137	15380	RUSS	RL	HA	0	0	0	51.47N	7.39E	BE	53B	FL	42B										
857=D3	13	1316	15380	RUSS	RL	HA	0	0	0	55.49N	7.75W	PS	42C	LR	46C										
858=D3	12	1435	21735	RUSS	RL	G2A	0	0	0	49.25N	17.35E	FL	42C	SS	43C										
859=D3	9	1220	21510	TI	RL	HB	0	0	0	22.20N	60.24E	UK	98B	FL	42A										
860=D3	11	1515	15380	UKR	RL	P3	0	0	0	51.46N	12.56E	FL	41B	AL	44C										
861=D8	11	1012	7220	RUSS	RL	L7+L8	64	9	72	53.16N	15.42E	BR	65C	IT	100D	KR	67A								
862=DA	2	1545	11970	LITH	RFE	L5	1091	68	118	54.23N	84.52E	BR	55C	IT	57A	KO	52A	MU	60B						
863=DA	2	1607	11725	POLI	RFE	G4	739	38	117	47.94N	59.76E	BR	80A	IT	80A	KO	70C	KR	70D	MU	75C				
864=DA	15	0215	9770	RUSS	VOA	TAN	0	0	0	52.61N	92.06E	WP	325C	NO	58B										
865=DA	4	2105	11970	RUSS	RL	HB	200	15	119	47.23N	36.43E	BR	100A	IT	101A	KR	85B	MU	85C						
866=DA	1	0016	5985	UZBE	VOA	KAV	123	21	109	48.17N	30.00E	BR	105B	IT	92C	KO	80B	KR	95B						
867=DG	2	1433	11735	????	????????????		64	12	73	55.22N	26.17E	BR	62A	IT	75B	KO	48A	KR	64A	MU	57C				
868=DG	12	0445	7190	POLI	RFE	G1A	373	31	94	55.56N	42.45E	BR	70B	IT	70B	KO	55C								
869=DG	12	1234	7190	POLI	RFE	B5	143	21	80	56.08N	31.62E	BR	65B	IT	71B	KO	50B								
870=DG	12	1520	7190	POLI	RFE	B5	0	0	0	20.29S	145.88E	BR	67A	IT	62B										
871=DK	14	0220	7220	RUSS	RL	L7+L8	0	0	0	52.32N	15.85E	BR	98D	IT	110D										
872=DL	7	2035	6170	RUSS	RL	B3	0	0	0	50.22N	24.26E	KO	70B	KR	90C										
873=DP	14	1350	15120	RUSS	VOA	WOF	0	0	0	34.63N	74.91E	KO	80C	KR	82C										
874=DR	1	0600	5955	POLI	VOA	KAV	1380	364	147	20.54N	108.50E	NE	67B	AL	345C	NE	67B								
875=DR	5	1305	5970	????	????????????		59	17	64	54.63N	18.20E	BR	55D	IT	70C	KO	35B	KR	62B	UK	69C				
876=DR	2	0715	5970	????	????????????		53	17	65	54.97N	19.26E	BR	65B	IT	76B	KO	39B	KR	57B	MU	30C				
877=DR	1	0600	5970	POLI	RFE	B1	794	19	75	54.15N	14.44E	NE	68B	LR	42C	NE	67B								
878=DR	6	0702	5970	????	????????????		51	10	52	53.72N	15.58E	UK	72B	BR	50B	IT	50D	KO	32B	KR	50D	BE	42C		
879=DR	14	2340	7245	????	????????????		0	0	0	30.20N	75.65E	IT	89B	KO	84C										
880=DR	6	0410	11875	????	????????????		122	25	80	54.55N	25.78E	BR	53B	IT	81C	KR	66B	MU	50C						

881=DR	1	1910	11855	CZEC	RFE	G13+G14	0	0	0	51.79N	15.65E	KO	43A	MU	35B												
882=DR	1	1910	11875	GEOR	RL	L3	88	19	55	53.42N	19.36E	BR	75D	BR	100D	KO	43B	MU	42B								
883=DR	4	0604	5955	POLI	VOA	KAV	74	17	70	54.25N	20.36E	BR	70C	IT	79C	KO	42B	KR	65B								
884=DR	2	1237	5970	POLI	RFE	B6	98	17	71	54.61N	20.91E	BR	65B	IT	72C	KO	40C	KR	65B								
885=DR	2	0610	5970	POLI	RFE	B1	30	9	58	53.18N	16.31E	BR	69B	IT	76B	KO	38A	KR	68C	MU	26B						
886=DR	1	1300	5970	POLI	RFE	B6	55	11	78	55.28N	22.14E	NE	67B	NE	67B	BR	63C	IT	73A	KO	42B	KR	70D				
												MU	35D														
887=DR	4	1820	5970	POLI	RFE	B2	105	19	74	55.74N	26.38E	BR	61B	IT	73B	KO	47B	KR	67A								
888=DR	7	1932	5970	POLI	RFE	B2	0	0	0	54.32N	31.59E	SS	36C	UK	69A												
889=DR	4	0445	5970	POLI	RFE	G3A	0	0	0	35.78S	165.82E	BR	60D	KO	64D												
890=DR	2	1900	5970	POLI	RFE	B2	97	11	85	55.13N	28.26E	BR	70C	IT	76A	KO	40B	KR	65A	MU	50C						
891=DR	5	1815	5970	POLI	RFE	B2	103	18	76	53.72N	18.55E	UK	70B	BR	65D	IT	75C	KO	40D	KR	70B						
892=DR	6	0935	5970	POLI	RFE	B6	0	0	0	53.84N	28.07E	BE	43C	UK	71B												
893=DR	1	1830	5970	POLI	RFE	B2	89	16	80	54.72N	23.56E	NE	66B	BR	70C	IT	80B	KO	40B	KR	66B	MU	45C				
894=DR	6	1920	6060	POLI	VOA	WOF	77	21	90	51.74N	18.97E	BR	95D	IT	85D	KO	53C	KR	85B								
895=DR	4	2233	6060	POLI	VOA	WOF	0	0	0	53.81N	14.10E	UK	70C	PS	39C												
896=DR	2	2222	6060	POLI	VOA	WOF	0	0	0	54.63N	21.86E	KO	44B	KR	64B												
897=DR	2	0606	6160	POLI	VOA	WOF	0	0	0	54.31N	15.90E	UK	68C	NE	68B												
898=DR	4	2012	6160	POLI	VOA	KAV	0	0	0	55.21N	19.30E	N3	190*	UK	65C												
899=DR	12	1505	7155	POLI	BBC	WOOF	80	12	73	54.77N	23.34E	UK	68C	BR	66A	IT	75C	KO	45B	KR	66C	MU	45D				
900=DR	8	0900	7190	POLI	RFE	B5	756	23	82	55.00N	22.20E	NE	68B	NE	68B	BE	44C										
901=DR	9	0735	7190	POLI	RFE	B5	42	15	90	54.11N	22.03E	UK	70A	IT	85B	SS	40C	NO	162A	N3	184B						
902=DR	9	0835	7190	POLI	RFE	B5	0	0	0	54.48N	24.27E	UK	69A	NO	105A												
903=DR	9	1110	7190	POLI	RFE	B5	83	10	71	54.46N	20.55E	UK	69B	BR	64A	IT	80D	KO	44C	KR	56C						
904=DR	13	0805	7190	POLI	RFE	B5	0	0	0	56.38N	33.69E	BR	64C	IT	70C												
905=DR	13	1410	7190	POLI	RFE	B5	142	13	87	55.84N	32.19E	BR	60B	IT	72A	KO	50C	KR	64A								
906=DR	14	0710	7190	POLI	RFE	B5	89	16	71	54.85N	22.58E	UK	68B	BR	66B	IT	71A	KO	45B	KR	60B	PS	32D				
907=DR	14	1030	7190	POLI	RFE	B5	117	22	65	57.29N	25.50E	UK	75C	BR	55C	IT	62B	KO	39B								
908=DR	14	1942	7190	POLI	RFE	G1A	0	0	0	54.57N	22.60E	KR	65B	SS	37C												
909=DR	9	0830	7220	RUSS	RL	L7+L8	503	34	106	54.24N	53.90E	NE	69B	BR	51B	IT	70A	KO	60B	KR	68B	UK	69A				
910=DR	9	1700	7220	RUSS	RL	L5+L6	0	0	0	54.62N	37.67E	NE	70B	KO	58D												
911=DR	11	1530	7220	RUSS	RL	L7+L8	140	27	82	53.84N	22.34E	UK	72B	IT	71B	KO	50D	KR	67C								
912=DR	13	0800	7220	RUSS	RL	L7+L8	217	25	78	55.28N	25.13E	IT	75D	BR	64B	IT	75D										
913=DR	17	1909	9530	RUSS	VOA	KAV	104	14	81	54.79N	28.67E	UK	70B	BR	70D	IT	70B	KO	55B	KR	66A	MU	50C				
914=DR	15	1839	9660	RUSS	RL	B7	0	0	0	38.58S	103.49E	LR	337C	BE	46C												
915=DR	17	1635	9660	RUSS	VOA	KAV	0	0	0	43.21N	46.20E	BR	100C	BE	43C												
916=DR	17	1700	17750	TB	RL	HC	34	8	68	55.11N	20.30E	NE	25C	UK	71B	BR	55B	IT	75A	KO	39A	KR	59A				
917=DR	18	0135	9660	TI	RL	HA	0	0	0	52.75N	53.44E	KO	63B	KR	69B												
918=DU	8	0200	7180	ARM	RL	L1	0	0	0	32.35S	169.35E	NE	36C	BR	50D												
919=DU	7	0325	11875	AZ	RL	L3	59	14	71	54.40N	19.25E	BR	59B	IT	80B	KR	65B	MU	35C								
920=DU	14	1610	15340	GEOR	RL	L4	0	0	0	20.17N	63.25E	FL	41C	AL	31C												
921=DU	14	0341	7180	LAT	RFE	HC	0	0	0	38.45N	41.35E	AN	351C	WP	343C												
922=DU	4	1246	11740	RUSS	VOA	KAV	231	32	68	60.21N	33.61E	BE	40C	IT	54C	KO	40B	KR	48C	MU	60B	LR	31C				
923=DU	4	0840	11970	RUSS	RL	L5	184	17	57	58.33N	29.83E	BR	63C	IT	60D	KO	42B	MU	40A								
924=DU	5	0730	11970	RUSS	RL	L5	231	27	63	59.44N	31.50E	NE	60B	KO	39B	KR	50B	MU	40C								
925=DU	14	0945	15340	RUSS	RL	L4	1626	104	139	40.33S	171.87E	BR	60A	KR	50A	MU	60C										
926=DU	14	1538	15340	RUSS	RL	L4	335	24	68	57.45N	27.41E	FL	41C	AL	31C	SS	38C	BR	55B	KO	52B	KR	53B				
927=DU	14	2340	7295	TI	RL	L7+L8	651	388	151	33.49N	110.02E	AN	295C	KO	60C	KR	53C	UK	60C	NO	78B						
928=DU	6	0222	6180	UKR	VOA	WOF	518	117	86	61.55N	58.76E	DS	358C	LV	318C	FE	4C	KO	45B								
929=DU	7	0335	6180	UKR	VOA	WOF	391	34	112	47.11N	44.61E	UK	41A	AN	354C	DS	21C	KO	80B	KR	85A						
930=DU	13	0318	7295	UKR	RL	L7+L8	0	0	0	52.12S	174.46W	IT	55B	KR	120B												
931=DU	13	1725	15415	UKR	VOA	TAN	882	42	76	61.39N	43.84E	BR	49B	KR	50C	MU	45D										
932=F2	20	1720	9645	????	????????????		0	0	0	46.90N	13.65E	KO	103B	MU	130B												
933=F2	3	1710	11905	????	????????????		4812	282	104	50.55S	146.52E	IT	135A	KO	110B	KR	105B	MU	115C								

934=F2	2	2045	11935	????	????????????	0	0	0	34.04N	38.42E	BE	54C	FL	47B												
935=F9	16	0005	9625	TI	RL B7	0	0	0	51.42N	13.27E	IT	136C	KR	88C												
936=FA	8	1709	7120	RUSS	BBC WOOF	0	0	0	46.04N	127.88E	WP	312C	AN	291B												
937=FA	8	1714	7180	RUSS	VOA KAV	0	0	0	32.22N	114.87E	LV	315B	AN	291B												
938=FA	8	1936	7230	RUSS	BBC CYPRUS	0	0	0	44.06N	125.55E	WP	310C	AN	291C												
939=FA	14	1813	7270	RUSS	VOA MUN	0	0	0	46.65N	143.20E	WP	313B	FE	307C												
940=FG	11	1325	15275	????	????????????	201	20	118	47.51N	36.03E	BR	100C	IT	100A	KO	80C	KR	93C								
941=FG	8	1305	21465	????	????????????	0	0	0	52.04N	16.91E	BR	102C	MU	40D												
942=FG	1	0235	6025	RUSS	VOA WOF	371	28	109	50.11N	34.21E	SS	39C	BR	100A	IT	94B	KR	84B								
943=FG	10	0045	7155	RUSS	RL G1A	83	17	89	52.51N	24.52E	BR	88B	IT	90C	KO	58B	KR	77B								
944=FG	8	1841	7230	RUSS	BBC CYPRUS	618	36	120	47.47N	31.39E	UK	92C	BR	108C	IT	102C	KR	80C								
945=FG	1	1638	11740	RUSS	VOA WOF	30	14	81	52.31N	18.17E	BR	98C	IT	100B	KO	50B	KR	80C	MU	41B						
946=FG	1	1640	11780	RUSS	BBC WOOF	666	99	115	50.25S	178.98E	BR	70C	IT	70B	KR	79C										
947=FG	6	0540	11970	RUSS	RL L5	0	0	0	52.32S	179.11E	BR	94C	IT	80C												
948=FG	17	1410	17725	RUSS	RL P6	2535	206	128	39.75N	47.65E	UK	90C	BE	44C	LR	40C										
949=FG	17	1516	17780	RUSS	VOA TAN	0	0	0	56.66N	16.59E	FL	35B	BE	44C												
950=FG	18	1513	17885	RUSS	RL G4B	0	0	0	56.11N	.33W	FL	38B	LR	44C												
951=FG	12	0720	21455	RUSS	RL L3	0	0	0	47.50S	171.92W	KO	77B	MU	75B												
952=FG	12	1000	21455	RUSS	RL L3	0	0	0	45.04N	40.57E	NE	93B	MU	88B												
953=FG	12	0830	21745	RUSS	RL G3	126	27	94	51.00N	30.39E	BR	90D	IT	95C	KO	75A	MU	70B								
954=FG	17	1615	17855	UKRA	VOA TAN	0	0	0	60.79N	16.81W	BE	43C	PS	36C												
955=FK	11	0719	15290	RUSS	RL P1+P2	523	45	97	52.10N	45.24E	KO	67	KR	73B	MU	65C										
956=FL	19	0509	9680	????	????????????	139	18	113	48.69N	36.50E	AN	347B	BR	90C	IT	96A	KO	85C	KR	90B	MU	75C				
957=FL	15	1448	17815	????	????????????	0	0	0	52.21N	22.48E	BR	90C	IT	97B												
958=FL	19	1530	17725	BULG	RFE G3A	92	18	87	49.45N	20.29E	UK	90B	KO	75B	KR	85A	MU	72B								
959=FL	20	1603	9505	EST	RFE HD	0	0	0	6.78N	90.03E	SS	45C	UK	85C												
960=FL	21	0447	9680	LITH	RFE G15+G16	0	0	0	51.57N	38.91E	AN	354B	N1	125*												
961=FL	6	0355	5965	RUSS	BBC WOOF	732	41	115	46.87N	48.32E	BR	98B	IT	92C	KO	80C	KR	83A								
962=FL	15	1439	17885	RUSS	RL G4B	0	0	0	27.06S	82.45E	AL	35B	KI	322B												
963=FL	18	1610	17895	UKR	RL P6	53	19	101	51.39N	18.41E	BR	98A	IT	112B	KO	56C	KR	85B								
964=FL	18	1610	17855	UKRA	VOA TAN	0	0	0	47.06N	42.15E	BR	95A	IT	95C												
965=FM	14	0310	15140	????	????????????	0	0	0	47.07N	134.34E	FE	312B	WP	313B												
966=FM	15	1138	9725	HUNG	RFE B2	0	0	0	47.07N	132.47E	FE	313C	WP	313C												
967=FR	9	0130	7105	????	????????????	0	0	0	26.20N	79.31E	UK	80B	FE	340C												
968=FR	14	0110	7105	????	????????????	170	25	97	52.04N	28.04E	BR	89D	IT	90C	KO	62D	KR	80B								
969=FR	3	2205	11835	RUSS	VOA KAV	0	0	0	52.28N	17.31E	MU	40B	BR	95D												
970=FR	9	0905	15290	RUSS	RL P1+P2	0	0	0	39.56N	69.53E	WP	324B	UK	75B												
971=FU	10	1930	7105	????	????????????	68	19	92	51.37N	21.88E	BR	100C	IT	102D	KO	61B	KR	85B								
972=FU	10	2135	7105	????	????????????	67	21	95	50.67N	21.87E	BR	105C	IT	103D	KO	65B	KR	94C								
973=FU	13	2001	7105	????	????????????	628	293	148	14.56N	101.82E	AN	293B	UK	70C	BR	80B	BR	80B	KO	90C						
974=FU	11	2210	7140	????	????????????	0	0	0	44.97S	153.17E	BR	90B	IT	84D												
975=FU	14	2214	7140	????	????????????	0	0	0	49.27N	59.74E	NO	83C	KO	68B												
976=FU	19	1815	9770	????	????????????	0	0	0	48.92N	13.51E	KO	65B	MU	60B												
977=FU	16	0535	17725	????	????????????	0	0	0	53.92N	135.41E	WP	321C	AN	294B												
978=FU	11	2050	7155	EST	RFE HD	0	0	0	5.92N	107.61E	BR	83A	IT	80B												
979=FU	10	1930	7155	LITH	RFE HD	87	11	92	52.53N	16.50E	BR	90B	IT	105C	KO	61B	KR	75B								
980=FU	13	2344	7155	RUSS	RL HC	0	0	0	48.83N	48.61E	AN	347C	UK	75B												
981=FU	15	2200	9530	RUSS	VOA KAV	0	0	0	46.20S	166.98E	NE	70B	IT	71B												
982=FU	16	1630	9660	RUSS	VOA KAV	179	20	112	52.66S	173.22W	NE	68B	BR	80C	IT	75C	KO	62B								
983=FU	15	0610	17725	RUSS	RL P3+P4	231	131	133	43.94N	70.71E	IT	78B	KR	75B	AN	330A										
984=FU	21	1110	17895	TI	RL B8	1756	103	124	43.30N	71.65E	BR	79B	IT	79B	KO	72B	KR	75C	MU	55C						
985=FU	9	0250	7295	UKR	RL P5	0	0	0	41.82N	68.89E	UK	73B	WP	326C												
986=FU	15	0211	9760	UKR	VOA TAN	938	290	131	42.56N	74.31E	WP	323C	NO	72D	UK	75C										
987=FU	16	0304	9760	UKR	VOA TAN	312	32	124	46.73S	172.99W	BR	45B	IT	84B	KO	60B	MU	50C								

988=G1	7	0650	11855	????	????????????		104	14	93	48.78N	24.45E	KO	78A	KR	97B	MU	83C										
989=G1	7	2035	6160	POLI	VOA	KAV	0	0	0	43.82N	54.43E	KO	80C	KR	85D												
990=G6	14	0120	7190	????	????????????		0	0	0	50.92N	20.32E	BR	108B	IT	110D												
991=G7	6	1115	6020	????	????????????		45	15	140	49.69N	15.69E	BR	150B	IT	140C	KR	105B										
992=G7	5	1110	6020	????	????????????		0	0	0	50.43N	15.00E	BR	153A	KO	52B												
993=G7	2	0840	6110	????	????????????		25	10	111	49.34N	16.63E	BR	66B	BR	130D	IT	136B	IT	136	KO	72B	KR	104A				
												MU	90C	MU	73C												
994=G7	4	0910	6115	????	????????????		38	10	136	51.84N	14.39E	BR	136C	IT	120D	KO	32D	KR	90D								
995=G7	2	0625	6105	RUSS	RL	L11	911	65	102	52.67N	54.39E	KR	68B	MU	62C	KO	65B										
996=GI	7	2332	5970	????	????????????		0	0	0	18.13N	108.21E	NO	70*	BR	75D												
997=GI	14	0330	7155	????	????????????		0	0	0	46.06N	56.64E	SS	36C	UK	75C												
998=GI	20	0300	9510	????	????????????		0	0	0	52.71N	13.50E	BR	40A	IT	115C												
999=GI	17	0854	9515	????	????????????		0	0	0	56.24N	27.93E	IT	70A	MU	45B												
1000=GI	16	0605	9525	????	????????????		0	0	0	51.82N	18.95E	BR	100D	MU	50B												
1001=GI	16	1530	9770	????	????????????		0	0	0	53.75N	15.13E	NE	72B	BR	42C												
1002=GI	2	1430	11720	????	????????????		78	12	76	55.56N	29.27E	BR	60B	IT	73B	KO	50A	KR	64A	MU	57C						
1003=GI	6	1407	11720	????	????????????		112	12	82	57.52N	37.54E	BR	60A	IT	66A	KO	50A	KR	70D	MU	56C						
1004=GI	5	1505	11720	????	????????????		11290	337	139	31.52S	152.48E	BR	70B	IT	65B	KO	45C	KR	67C								
1005=GI	4	1535	11730	????	????????????		0	0	0	52.67N	53.45E	FL	26B	NO	82B												
1006=GI	6	1411	11730	????	????????????		180	15	85	57.98N	40.79E	BR	60A	IT	64A	KO	49C	KR	65B	MU	50C	LR	36C				
1007=GI	18	1812	9505	ARM	RL	L1	165	23	80	55.79N	26.56E	BR	75D	IT	73B	KO	49D	KR	60B								
1008=GI	20	0200	9505	ARM	RL	L2	0	0	0	55.28N	17.40E	BR	40A	IT	70B												
1009=GI	13	0205	7155	BR	RL	G1A	1066	532	174	6.08N	99.46E	SS	34C	DS	330C	AL	339C										
1010=GI	11	2310	7115	CZEC	RFE	G4B	1415	42	107	53.45N	58.54E	BR	70A	IT	70C	KO	60D	KR	65C								
1011=GI	11	1534	7245	EST	VOA	MUN	180	31	90	57.88N	36.94E	NO	80C	BR	60D	IT	64B										
1012=GI	15	1700	9505	EST	RFE	HD	372	20	78	53.82N	13.41E	NE	72B	FL	34C	SS	34C	UK	67B	GI	39C						
1013=GI	16	1630	9505	EST	RFE	HD	832	57	94	53.08N	32.36E	FL	39C	GI	25C	IT	69A	KR	74C								
1014=GI	15	0300	9505	GEOR	RL	L2	55	10	73	55.17N	17.22E	NE	63B	NE	63B	BR	40C	IT	71A	MU	60D						
1015=GI	16	0245	9505	GEOR	RL	L2	495	37	102	55.08N	58.18E	BR	40B	IT	69B	KO	58A	KR	62A								
1016=GI	17	0230	9505	GEOR	RL	L2	90	9	115	47.90S	170.16W	BR	40B	IT	73C	KO	56B	MU	50B								
1017=GI	20	0300	9505	GEOR	RL	L2	0	0	0	55.18N	18.04E	BR	45B	IT	72C												
1018=GI	8	2000	7155	LITH	RFE	HD	0	0	0	52.08N	41.12E	NE	76B	UK	72C												
1019=GI	13	1503	7245	LITH	VOA	MUN	0	0	0	49.98N	69.60E	NO	75*	UK	63B												
1020=GI	1	0603	5955	POLI	VOA	KAV	0	0	0	53.44N	17.73E	BR	70A	KO	40C												
1021=GI	3	0538	5955	POLI	VOA	KAV	43	19	81	52.35N	17.15E	BR	93C	KO	48C	MU	36C										
1022=GI	7	2110	5970	POLI	RFE	B2	0	0	0	54.46N	39.46E	UK	67B	N3	150C												
1023=GI	6	2040	5970	POLI	RFE	B2	60	16	83	53.23N	21.16E	BR	85C	IT	90	KO	50B	KR	70B	UK	65B						
1024=GI	4	2005	6160	POLI	VOA	KAV	88	18	72	55.79N	24.19E	BR	70D	IT	68B	KO	43B	KR	60B	UK	65C						
1025=GI	5	1910	6160	POLI	VOA	WOF	0	0	0	33.86S	176.17E	BR	40D	KO	40B												
1026=GI	16	1730	9705	POLI	RFE	B3	0	0	0	53.55N	36.56E	UK	70B	KO	61B												
1027=GI	17	1610	9705	POLI	RFE	B3	753	101	98	55.44N	37.17E	UK	65C	FL	33B	BE	35C										
1028=GI	5	1505	11725	POLI	RFE	G4	184	29	69	54.56N	25.59E	KO	50B	KR	67C	LR	37C										
1029=GI	4	1529	11725	POLI	RFE	G4	86	15	85	56.13N	40.45E	PS	36C	FL	26B	NO	82B	BR	61A	IT	67A	KO	55A				
												KR	64A	MU	54A												
1030=GI	5	1133	11725	POLI	RFE	B1	60	11	63	54.00N	22.75E	BR	53A	IT	65B	KO	47A	KR	68B	UK	71B	BE	31C				
												KO	50A														
1031=GI	13	2230	7155	RUSS	RL	HC	12823	363	131	39.12S	156.83E	BR	76B	IT	70D	KR	73D										
1032=GI	15	0435	9520	RUSS	RL	L9	562	107	98	55.30N	38.30E	UK	65C	SS	34C	WP	349B	LR	36C								
1033=GI	15	0700	9520	RUSS	RL	L9	499	53	112	53.44N	54.19E	NE	68B	SS	33C	NO	80*	UK	64B	NE	68B						
1034=GI	15	0900	9520	RUSS	RL	L9	49	10	72	53.44N	15.44E	NE	79B	NE	72B	BR	102D	IT	76B	KR	64A	MU	26C				
1035=GI	15	1030	9520	RUSS	RL	L9	0	0	0	6.50N	97.63E	NE	84B	SS	34C												
1036=GI	16	0625	9520	RUSS	RL	L9	286	50	113	51.60S	179.17W	BR	100D	IT	70A	KR	90C	MU	55D								
1037=GI	16	0938	9520	RUSS	RL	L9	0	0	0	53.34N	8.76E	UK	69B	SS	39C												
1038=GI	17	0625	9520	RUSS	RL	L9	0	0	0	46.06N	56.64E	UK	75C	SS	36C												

1039=GI	17	0830	9520	RUSS	RL	L9	424	59	108	55.08N	41.81E	SS	36C	NO	85C	UK	65B									
1040=GI	18	0508	9520	RUSS	RL	L9	1418	104	109	51.99N	46.76E	UK	70B	LR	32C	SS	34C									
1041=GI	18	0730	9520	RUSS	RL	L9	348	42	93	55.62N	37.42E	SS	34C	UK	65B	BR	82C	IT	72C	KO	55D					
1042=GI	18	1104	9520	RUSS	RL	L9	1941	279	124	48.88N	67.47E	BE	24D	SS	35C	UK	65C									
1043=GI	18	1210	9520	RUSS	RL	L9	0	0	0	48.49N	58.22E	BR	80C	IT	80B											
1044=GI	18	1812	9520	RUSS	RL	HC	0	0	0	55.57N	35.94E	IT	73B	KR	65C											
1045=GI	19	1005	9520	RUSS	RL	L9	524	60	116	53.39N	47.34E	SS	34C	NO	85B	UK	67B									
1046=GI	20	0633	9520	RUSS	RL	L9	656	14	72	53.38N	6.42E	UK	64B	SS	34C	IT	75C									
1047=GI	20	0903	9520	RUSS	RL	L9	40	18	95	57.24N	37.85E	N3	150*	UK	65B	BR	90C	IT	66A	KR	62C	SS	33C			
1048=GI	21	0810	9520	RUSS	RL	L9	1611	51	119	49.06S	171.46E	UK	66A	IT	76C	KR	83C	MU	65B							
1049=GI	21	1234	9520	RUSS	RL	L9	1376	477	156	1.77N	107.43E	NO	83*	UK	65C	AL	340C									
1050=GI	4	1545	11710	RUSS	VOA	WOF	0	0	0	57.12N	34.42E	BR	61A	IT	67B											
1051=GI	2	1605	11710	RUSS	VOA	WOF	358	20	87	57.21N	40.10E	BR	62B	IT	65B	KO	50D	KR	61A							
1052=GI	6	1920	11770	RUSS	RL	G9+G10	8199	374	142	3.74S	116.37E	BR	80B	IT	80B	KO	80B									
1053=GI	7	0050	11970	RUSS	RL	P2	409	36	141	46.12S	172.59W	BR	40D	KO	38B	MU	55C									
1054=GI	7	0410	11970	RUSS	RL	L5	63	14	70	54.59N	19.61E	BR	60*	IT	80B	KR	60B	MU	36C							
1055=GI	6	0540	11970	RUSS	RL	L5	0	0	0	48.27N	11.74E	KO	70C	MU	60B											
1056=GI	9	1235	15235	RUSS	VOA	WOF	0	0	0	56.10N	68.52E	KO	54B	MU	55C											
1057=GI	17	1140	17895	TI	RL	B8	0	0	0	50.35N	46.67E	SS	36C	LR	33C											
1058=GJ	7	1308	11720	????	????????????		204	21	90	55.80N	39.67E	BR	60B	IT	70B	KO	50A	KR	65A	MU	55B					
1059=GJ	7	1308	11725	POLI	RFE	B1	58	9	76	54.63N	25.48E	BR	70A	IT	81B	KO	50A	KR	65A	MU	81B					
1060=GJ	18	0510	9520	RUSS	RL	L9	160	26	79	53.84N	28.14E	IT	70B	KO	56C	KR	71B	MU	55C							
1061=GM	8	1530	7140	????	????????????		0	0	0	49.73N	144.70E	WP	317C	DS	320C											
1062=GM	17	0038	9555	LITH	RFE	P4	0	0	0	49.62N	135.59E	WP	316B	AN	289B											
1063=GM	17	2344	9555	LITH	RFE	P4	0	0	0	49.09N	143.16E	WP	316C	DS	320C											
1064=GM	8	0701	7220	RUSS	RL	L7+L8	0	0	0	50.35N	138.01E	WP	317B	DS	323C											
1065=GM	17	0600	9520	RUSS	RL	L9	476	162	54	50.52N	136.68E	AN	289B	DS	325B	WP	317B									
1066=GM	18	0735	9520	RUSS	RL	L9	0	0	0	49.73N	144.70E	WP	317C	DS	320C											
1067=GM	18	1432	9520	RUSS	RL	L9	0	0	0	49.30N	140.95E	DS	321C	WP	316C											
1068=GM	20	0645	9520	RUSS	RL	L9	0	0	0	48.80N	130.28E	WP	315B	DS	325C											
1069=GM	16	1039	9675	RUSS	VOA	PHT	0	0	0	49.98N	142.51E	DS	321C	WP	317B											
1070=GM	18	0836	9675	RUSS	VOA	PHT	0	0	0	49.73N	144.70E	DS	320C	WP	317C											
1071=GM	4	2217	11945	RUSS	VOA	KAV	0	0	0	56.67N	179.15E	LV	316B	DS	320C											
1072=GR	5	0546	11770	????	????????????		0	0	0	47.85N	137.46E	FE	311C	WP	314C											
1073=GR	9	1445	7220	RUSS	RL	L7+L8	0	0	0	49.44N	114.63E	WP	317B	DS	333C											
1074=GR	13	1503	7220	RUSS	RL	L7+L8	0	0	0	50.80N	142.56E	LV	316C	WP	318B											
1075=GR	8	0701	7220	RUSS	RL	L7+L8	0	0	0	50.35N	138.01E	WP	317B	DS	323C											
1076=GR	9	0605	7220	RUSS	RL	L7+L8	0	0	0	45.75N	116.07E	WP	313C	DS	330C											
1077=GR	1	0336	11770	RUSS	RL	P3	761	272	68	50.81N	141.66E	WP	318C	LV	316B	FE	312C									
1078=GR	7	2230	11835	RUSS	VOA	KAV	7877	350	32	22.79N	111.71E	AN	289B	DS	320C	FE	310B									
1079=GR	5	2140	11835	RUSS	VOA	KAV	0	0	0	27.39S	81.85E	FE	310C	AL	37B											
1080=GR	4	0836	11885	RUSS	RL	L10	889	269	58	48.19N	133.07E	FE	310C	DS	322B	LV	321B	WP	313C							
1081=GR	2	0934	11885	RUSS	RL	L10	0	0	0	34.64N	83.33E	AL	9C	WP	313B											
1082=GR	4	1005	11885	RUSS	RL	L10	410	189	88	58.06N	168.62E	FE	310C	DS	320C	WP	335C	KI	19C	LV	320C					
1083=GR	6	0908	11885	RUSS	RL	L10	1095	396	57	44.65N	110.13E	FE	331C	DS	322C	WP	313B	GI	53C							
1084=GR	3	0334	11885	UKR	RL	P5	0	0	0	49.22N	141.84E	FE	310C	WP	316C											
1085=GS	3	1105	6065	????	????????????		24	11	104	49.99N	15.96E	BR	145C	IT	145B	KO	60B	KR	102A	MU	55D					
1086=GS	8	1226	7225	????	????????????		0	0	0	43.80N	76.29E	BR	76B	IT	75A											
1087=GS	9	1100	7220	RUSS	RL	L7+L8	0	0	0	54.74N	24.14E	NE	70B	UK	68B											
1088=HD	4	1006	11875	RUSS	RL	B4	0	0	0	47.87N	106.13E	WP	317C	LV	330C											
1089=HD	4	0834	11875	RUSS	RL	B4	0	0	0	56.82N	143.48W	FE	310D	LV	330C											
1090=HM	4	1340	11850	????	????????????		59	6	70	53.35N	16.38E	BR	66A	IT	95C	KO	51B	KR	67A	MU	60C					
1091=HM	4	1340	11865	????	????????????		64	9	73	53.35N	16.38E	BR	66B	IT	95C	KO	51B	KR	67A	MU	60D					
1092=HM	13	1535	15235	RUSS	VOA	WOF	0	0	0	40.42N	87.76E	IT	71A	KR	68A											

1093=HM	15	1313	17865	RUSS	VOA	KAV	0	0	0	56.19N	26.92E	BR	60A	IT	70A							
1094=HM	9	1700	7270	UKR	VOA	MUN	0	0	0	49.94S	174.99E	NE	74B	IT	72C							
1095=HP	10	1741	15340	AZ	RL	L4	0	0	0	50.16N	17.22E	KR	98C	MU	60D							
1096=HP	17	1508	17770	RUSS	RL	P4	0	0	0	60.15N	7.54W	GI	37C	BE	44C							
1097=IG	8	1930	7215	????	????????????		462	91	48	50.46N	135.72E	AN	290A	WP	317B	FE	310C					
1098=IG	8	1834	7215	????	????????????		0	0	0	49.91N	143.14E	FE	310C	WP	317C							
1099=IG	15	1839	9640	????	????????????		508	102	46	48.82N	131.77E	AN	291A	WP	315B	FE	311C					
1100=IG	16	1735	9640	????	????????????		0	0	0	47.91N	135.63E	FE	312C	WP	314B							
1101=IG	15	0531	9660	????	????????????		512	163	51	47.87N	133.58E	AN	290B	FE	310B	WP	314B	DS	322B			
1102=IG	16	0004	9680	????	????????????		0	0	0	27.74N	114.18E	AN	289A	DS	320C							
1103=IG	20	0400	9690	????	????????????		0	0	0	55.90N	146.11E	AN	290C	LV	320C							
1104=IG	4	0140	11760	????	????????????		0	0	0	29.11N	68.03E	FL	31B	WP	317B							
1105=IG	3	2200	11800	????	????????????		0	0	0	49.37N	140.07E	FE	311B	WP	316C							
1106=IG	3	2215	11805	????	????????????		0	0	0	54.48N	160.64E	LV	315B	DS	320C							
1107=IG	7	0308	11865	????	????????????		635	166	50	50.23N	139.45E	WP	317C	DS	322C	AN	287B					
1108=IG	7	0405	11905	????	????????????		515	216	88	48.37N	150.60E	AN	302C	WP	316B	FE	301C	DS	321B			
1109=IG	2	0438	11905	????	????????????		0	0	0	47.07N	133.82E	AL	334C	LV	316B							
1110=IG	17	0037	9555	LITH	RFE	P4	0	0	0	49.62N	135.59E	AN	289B	WP	316C							
1111=IG	11	1535	7220	RUSS	RL	L7+L8	0	0	0	49.20N	134.17W	LV	326B	DS	321C							
1112=IG	11	1600	7220	RUSS	RL	L7+L8	0	0	0	60.85N	175.41E	FE	313C	LV	322C							
1113=IG	13	1409	7220	RUSS	RL	L7+L8	898	337	57	48.61N	115.63E	WP	316B	FE	326C	DS	330B					
1114=IG	13	1504	7220	RUSS	RL	L7+L8	1135	420	54	50.97N	119.59E	WP	318C	FE	323C	DS	331C					
1115=IG	13	1906	7220	RUSS	RL	L5+L6	0	0	0	62.84N	174.11W	FE	316C	AN	289A							
1116=IG	14	1307	7220	RUSS	RL	L7+L8	784	317	57	47.74N	119.74E	WP	315B	FE	315C	KI	342B	DS	325C			
1117=IG	14	2008	7220	RUSS	RL	L5+L6	0	0	0	50.25N	139.45E	AN	287B	WP	317B							
1118=IG	8	1831	7220	RUSS	RL	L5+L6	691	165	50	51.34N	136.52E	AN	291B	WP	318C	FE	310C					
1119=IG	9	1440	7220	RUSS	RL	L7+L8	1042	370	40	45.66N	97.70E	FE	335B	WP	317B	DS	333C					
1120=IG	9	1632	7220	RUSS	RL	L5+L6	441	81	50	52.88N	138.13E	WP	320B	AN	291A	FE	315C					
1121=IG	8	1932	7220	RUSS	RL	L5+L6	462	91	48	50.46N	135.72E	WP	317B	AN	290A	FE	310C					
1122=IG	15	1030	9520	RUSS	RL	L9	0	0	0	49.73N	144.70E	DS	320C	WP	317C							
1123=IG	17	2134	9530	RUSS	VOA	KAV	466	168	53	48.74N	137.32E	FE	305C	WP	315B	AN	288B					
1124=IG	20	2210	9530	RUSS	VOA	KAV	0	0	0	51.09N	139.41E	WP	318C	AN	288B							
1125=IG	17	1910	9585	RUSS	VOA	MUN	0	0	0	52.77N	139.45E	AN	290C	WP	320C							
1126=IG	16	2018	9680	RUSS	RL	P3	0	0	0	50.14N	140.79E	LV	316B	WP	317B							
1127=IG	17	2234	9680	RUSS	RL	P1	0	0	0	48.76N	135.73E	AN	288B	WP	315B							
1128=IG	18	2144	9680	RUSS	RL	P3	0	0	0	44.69N	115.53E	FE	321C	WP	312C							
1129=IG	3	0245	11760	RUSS	VOA	TAN	0	0	0	49.91N	143.14E	FE	310C	WP	317B							
1130=IG	6	0305	11770	RUSS	RL	P3	760	324	61	49.82N	135.28E	FE	312C	LV	317C	AL	338C	WP	317C			
1131=IG	6	0014	11770	RUSS	RL	P3	543	260	67	50.69N	134.65E	DS	322B	LV	317C	AL	338B	FL	35C	PS	155C	WP 318B
1132=IG	4	0140	11770	RUSS	RL	P3	795	260	90	49.85N	143.76E	DS	320C	LV	315C	WP	317B					
1133=IG	7	0220	11770	RUSS	RL	P3	788	296	77	47.12N	134.36E	DS	324C	FE	311C	WP	313B					
1134=IG	3	0239	11770	RUSS	RL	P3	271	192	157	17.80S	90.06E	GI	329B	DS	321B	WP	317B	FL	53B	PS	357C	FE 310B
1135=IG	3	0004	11770	RUSS	RL	P3	520	212	57	48.99N	132.37E	DS	322C	FE	310B	FL	54C	WP	317B	LV	315B	AL 336C
												GI	346C	LR	351C							
1136=IG	5	0738	11885	RUSS	RL	L10	558	285	81	49.83N	139.80E	WP	317B	AL	334B	DS	316C					
1137=IG	3	0512	11885	RUSS	RL	L10	0	0	0	40.24N	124.01E	DS	322B	FE	313C							
1138=IG	2	0702	11885	RUSS	RL	L10	608	213	50	50.01N	136.87E	AL	334C	SS	345B	GI	330C	DS	329B	FE	317B	KI 310B
												WP	315C									
1139=IG	6	0533	11885	RUSS	RL	L10	792	246	58	51.07N	135.18E	FE	317B	LV	318C	DS	321B	WP	318C			
1140=IG	4	0240	11915	RUSS	RL	G5	795	260	90	49.85N	143.76E	DS	320C	LV	315C	WP	317B					
1141=IG	6	0917	11930	RUSS	VOA	PHT	480	228	97	56.49N	153.30E	LV	316C	AL	338C	DS	318C	WP	328B			
1142=IG	1	0815	11930	RUSS	VOA	PHT	0	0	0	54.15N	158.24E	WP	326C	FE	308C							
1143=IG	4	2215	11970	RUSS	RL	G6	0	0	0	47.91N	135.55E	WP	314C	LV	316B							
1144=IG	2	0702	11970	RUSS	RL	L5	0	0	0	49.69N	132.63E	FE	315B	WP	316C							

1145=IG	4	0610	11970	RUSS	RL	L5	0	0	0	49.68N	129.51E	LV	320C	WP	316B									
1146=IG	6	0600	11970	RUSS	RL	L5	0	0	0	49.98N	142.51E	DS	321B	WP	317B									
1147=IG	7	2012	11970	RUSS	RL	HB	0	0	0	55.33N	157.31W	LV	318C	DS	320C									
1148=IG	14	0506	15370	RUSS	RL	L2	653	62	47	51.39N	137.74E	AN	289A	AN	290A	WP	318C							
1149=IG	9	1734	7210	SERB	BBC	WOOF	0	0	0	50.48N	135.49E	AN	290A	WP	317B									
1150=IG	16	2330	9625	TI	RL	B7	0	0	0	49.09N	143.16E	DS	320C	WP	316B									
1151=IG	1	2306	11885	TI	RL	HB	0	0	0	49.50N	146.51E	WP	317B	FE	308C									
1152=IG	3	2345	11885	TI	RL	HB	0	0	0	50.11N	143.53E	FE	310C	LV	315C									
1153=IG	2	0106	11885	TI	RL	HB	790	279	67	50.14N	140.12E	LV	316B	FE	312C	DS	24C	WP	317C					
1154=IG	7	0015	11885	TI	RL	HB	495	173	52	46.87N	135.22E	DS	318C	FE	311C	AN	287B	WP	313B	DS	319C			
1155=IG	4	0008	11885	TI	RL	HB	0	0	0	50.11N	143.53E	FE	310B	LV	315C									
1156=IG	5	0130	11885	TI	RL	HB	799	297	60	49.87N	134.85E	DS	321C	GI	337C	FE	310C	LV	318C	WP	317C			
1157=IG	1	0204	11885	UKR	RL	G11+G12	417	200	73	54.64N	145.80E	AL	330B	LV	317B	FE	312C	WP	323B	KI	346C			
1158=IG	4	0238	11885	UKR	RL	G11+G12	0	0	0	45.10N	135.13E	DS	320C	FE	310B									
1159=IG	1	0301	11885	UKR	RL	P5	727	238	62	50.83N	139.89E	WP	318C	FE	313B	LV	316B							
1160=IG	7	0400	11885	UKR	RL	P5	621	154	51	51.12N	140.57E	AN	287B	FE	314C	WP	318C							
1161=IG	6	0400	11885	UKR	RL	P5	0	0	0	44.21N	128.59E	LV	316B	FE	313B									
1162=IN	3	2203	11765	????	????????????		968	24	121	45.51N	41.37E	BR	100A	IT	95D	KO	70D	KR	92B					
1163=IN	10	1300	15125	????	????????????		0	0	0	18.45S	133.39E	KO	77B	IT	73B									
1164=IN	15	0630	17885	????	????????????		4950	225	139	6.34N	90.82E	BR	92D	IT	94B	KO	92A							
1165=IN	4	2045	11770	RUSS	RL	G9+G10	0	0	0	52.48N	20.98E	FL	38B	PS	38C									
1166=IR	1	1630	11705	????	????????????		0	0	0	56.19N	26.92E	BR	60D	IT	70B									
1167=IR	1	1805	11805	????	????????????		0	0	0	51.92N	25.64E	BR	90B	IT	95B									
1168=IR	6	1141	11960	????	????????????		175	8	105	47.79S	170.19W	BE	34C	BR	50C	KO	75B	MU	55C					
1169=IR	10	0905	15345	????	????????????		0	0	0	52.58N	13.33E	BR	63B	KR	70C									
1170=IR	2	1608	11780	RUSS	BBC	WOOF	87	9	67	54.07N	18.80E	BR	63A	IT	55D	KO	40B	KR	65B	MU	60C			
1171=IR	1	1555	11805	RUSS	VOA	KAV	54	18	78	53.66N	19.38E	BR	95B	IT	90B	KO	45B	KR	65B	MU	65B			
1172=IR	2	1945	11845	RUSS	BBC	CYPRUS	164	27	74	54.88N	27.27E	KO	50D	KR	66B	MU	50C							
1173=IR	4	1611	11960	RUSS	VOA	MUN	0	0	0	55.65N	27.49E	PS	33C	BR	64D									
1174=IU	2	0005	11855	????	????????????		2312	165	129	35.87N	60.86E	IT	95C	KR	93D	MU	90C							
1175=JS	8	1847	7230	RUSS	BBC	CYPRUS	0	0	0	29.98N	83.58E	IT	83C	KR	80C									
1176=K3	15	1020	9680	????	????????????		107	18	128	43.39N	24.21E	IT	132B	KO	107B	KR	118B	MU	114B					
1177=K3	16	1000	9680	????	????????????		50	10	126	48.19N	16.96E	NE	113B	NE	113B	NE	111B	NE	111B	BR	150B	KO	110B	
												KR	116A	SS	47C									
1178=K3	6	1638	11900	????	????????????		2006	153	104	51.31N	7.23W	FL	44B	KI	41C	BE	57B	PS	50C					
1179=K3	3	1703	11900	????	????????????		3045	356	136	33.48N	39.79E	FL	46B	PS	47C	GI	33C	LR	48B					
1180=K3	6	1640	11905	????	????????????		0	0	0	50.75N	.93W	FL	44B	KI	41C									
1181=K3	19	1918	17720	????	????????????		67	11	134	46.87N	19.86E	BR	143B	IT	132A	KR	115A							
1182=K3	18	2010	17725	????	????????????		0	0	0	48.34N	16.72E	IT	138A	KR	114A									
1183=K3	8	1640	21575	????	????????????		0	0	0	46.09N	14.95E	KO	110C	MU	130B									
1184=K8	8	1715	15115	BULG	RFE	G1	116	21	133	47.93N	17.41E	SS	41C	BR	135B	IT	137B	KO	110B	KR	115B			
1185=KB	18	1440	9515	????	????????????		0	0	0	51.92N	25.63E	BR	90B	IT	95C									
1186=KB	3	0335	11930	????	????????????		0	0	0	46.19N	132.11E	LV	316C	WP	312C									
1187=KB	12	0445	7165	CZEC	RFE	G2B	359	25	88	56.28N	36.13E	BR	65B	IT	70B	KR	65D							
1188=KB	15	0005	9520	RUSS	RL	L9+L10	0	0	0	61.73N	153.84W	AN	289B	FE	318C									
1189=KB	15	0433	9520	RUSS	RL	L9	529	61	55	55.52N	147.03E	AN	289A	DS	330C	FE	313C	LV	310C	WP	325C			
1190=KB	15	0705	9520	RUSS	RL	L9	1442	16	94	63.19N	170.55W	GI	327C	AN	291A	DS	330C	FE	312C					
1191=KB	15	1036	9520	RUSS	RL	L9	0	0	0	50.25N	139.50E	WP	317C	GI	326C									
1192=KB	15	1401	9520	RUSS	RL	L9	0	0	0	47.03N	106.97E	WP	316C	GI	343C									
1193=KB	15	1731	9520	RUSS	RL	L9	559	124	55	53.94N	144.47E	FE	311C	LV	316B	WP	323C	AN	289B					
1194=KB	16	0933	9520	RUSS	RL	L9	868	365	62	51.69N	131.90E	WP	317C	GI	325C	DS	330B							
1195=KB	16	1315	9520	RUSS	RL	L9	2265	577	21	33.35N	112.87E	DS	320C	GI	341C	BE	355C							
1196=KB	16	2230	9520	RUSS	RL	L9+L10	0	0	0	15.01N	109.94E	AN	286B	LV	307C									
1197=KB	17	0032	9520	RUSS	RL	L9+L10	0	0	0	47.07N	131.97E	AN	289B	WP	313C									

1198=KB	17	0334	9520	RUSS	RL	L9	5952	309	40	41.12N	125.43E	DS	322B	FE	312C	AN	289C							
1199=KB	17	0602	9520	RUSS	RL	L9	677	198	32	22.36S	78.04E	AN	289B	DS	325B	AL	38C							
1200=KB	17	0834	9520	RUSS	RL	L9	765	373	58	51.62N	133.00E	GI	329B	KI	335C	WP	318C							
1201=KB	17	1903	9520	RUSS	RL	HC	425	164	61	54.03N	143.04E	AN	290C	FE	313B	WP	322B							
1202=KB	17	2331	9520	RUSS	RL	L9+L10	0	0	0	46.21N	134.96E	AN	286B	WP	312C									
1203=KB	18	0400	9520	RUSS	RL	L9	1758	115	55	55.10N	146.53E	AN	289B	LV	319B	DS	325C	FE	310C					
1204=KB	18	0502	9520	RUSS	RL	L9	1814	119	54	54.77N	145.55E	AN	289B	LV	319B	FE	311C	DS	325C					
1205=KB	18	0730	9520	RUSS	RL	L9	383	76	31	29.11S	71.98E	AN	291B	LV	319B	FE	315C	GI	36C	DS	325C			
1206=KB	18	1101	9520	RUSS	RL	L9	375	173	92	60.82N	176.16E	DS	325B	WP	342C	FE	313C							
1207=KB	18	1430	9520	RUSS	RL	L9	0	0	C	53.11N	138.79E	DS	325B	FE	315C									
1208=KB	19	0130	9520	RUSS	RL	L9+L10	0	0	0	14.85S	89.69E	AN	290C	FE	311C									
1209=KB	19	2304	9520	RUSS	RL	L9+L10	0	0	0	54.88N	148.42E	WP	324C	AN	287B									
1210=KB	20	1932	9520	RUSS	RL	HC	0	0	0	50.24N	139.61E	WP	317B	FE	312D									
1211=KB	21	2103	9520	RUSS	RL	L9+L10	0	0	0	73.48N	153.73E	AL	343C	FE	335C									
1212=KB	18	2138	9625	RUSS	RL	L1	0	0	0	41.31N	118.68E	FE	317D	WP	308C									
1213=KB	6	2303	11770	RUSS	RL	P3	4163	238	39	41.57N	125.33E	LV	316C	FE	315C	DS	320C	AN	289B					
1214=KB	2	2202	11770	RUSS	RL	P3	719	248	81	47.61N	141.19E	DS	321C	WP	314B	LV	313B							
1215=KB	1	2132	11770	RUSS	RL	G9+G10	935	344	80	50.01N	142.58E	WP	317C	DS	320C	LV	316C							
1216=KB	2	2110	11770	RUSS	RL	G9+G10	0	0	0	46.49N	135.34E	FE	311C	DS	321C									
1217=KB	1	0103	11770	RUSS	RL	P3	734	280	77	49.64N	135.80E	WP	316B	LV	318C	FE	313C							
1218=KB	7	2234	11835	RUSS	VOA	KAV	0	0	0	27.74N	114.18E	AN	289B	DS	320C									
1219=KB	1	2309	11935	RUSS	RL	P6	5618	364	52	48.92N	136.98E	DS	323C	LV	316C	FE	312C							
1220=KB	7	0043	11935	RUSS	RL	P6	0	0	0	47.90N	135.89E	AN	287B	WP	314B									
1221=KB	4	0004	11935	RUSS	RL	P6	4828	339	55	49.55N	142.69E	DS	320C	LV	315C	FE	310C							
1222=KB	3	0334	11935	RUSS	RL	B5	777	286	70	46.20N	131.39E	GI	103C	DS	326C	FE	312C	LV	315C	WP	312B			
1223=KB	7	0040	11970	RUSS	RL	P2	0	0	0	47.90N	135.89E	AN	287B	WP	314B									
1224=KB	3	2354	11970	RUSS	RL	G6	0	0	0	35.34N	121.70E	DS	320C	LV	313C									
1225=KB	4	0006	11970	RUSS	RL	P2	0	0	0	47.89N	137.98E	DS	321C	LV	315C									
1226=KB	1	2312	11970	RUSS	RL	G6	0	0	0	54.82N	157.70E	DS	321C	LV	316C									
1227=KB	11	0432	15290	RUSS	RL	P1	0	0	0	47.04N	130.57E	WP	313B	FE	314B									
1228=KB	13	0502	15290	RUSS	RL	P1	0	0	0	54.65N	144.81E	AN	289A	WP	323C									
1229=KB	15	1740	9565	UKR	RL	B8	524	218	79	51.81N	156.51E	LV	310B	FE	310C	AN	1B	WP	323C					
1230=KB	7	2003	11885	UKR	RL	P1	615	225	55	49.94N	142.01E	WP	317C	DS	320C	AN	285C							
1231=KB	4	2200	11885	UKR	RL	P1	0	0	0	48.07N	135.89E	LV	316B	FE	312C									
1232=KB	6	2130	11885	UKR	RL	P1	0	0	0	33.14N	119.35E	AN	288C	DS	320C									
1233=KD	1	2100	5955	EST	RFE	HA	83	14	74	55.50N	29.03E	NE	67B	KO	50A	KR	65B	NE	67B					
1234=KD	9	0155	7190	????	????????????		495	114	114	48.05S	177.70E	BR	94D	IT	110D	KO	85C	KR	67B					
1235=KD	8	1530	7195	????	????????????		33	14	50	50.32N	15.10E	BR	72B	KO	55B	KR	63B	MU	45B	NO	143B			
1236=KD	18	0510	9600	????	????????????		131	16	87	55.38N	38.89E	BR	45C	IT	74B	KO	57A	KR	65A	MU	55B			
1237=KD	17	0607	9625	????	????????????		193	40	82	51.49N	24.18E	AN	358B	BR	40B	IT	72A	KO	62C	KR	85D			
1238=KD	17	0616	9640	????	????????????		0	0	0	52.14N	62.94E	IT	71A	KO	62C									
1239=KD	16	0755	9700	????	????????????		245	22	96	55.60N	42.63E	BR	70C	IT	71A	KO	56B	KR	70D	MU	48B			
1240=KD	18	0840	9700	????	????????????		298	31	93	55.60N	47.78E	BR	78B	IT	70B	KO	57A	KR	64B					
1241=KD	20	1340	9700	????	????????????		174	24	82	56.53N	32.70E	BR	30D	IT	70B	KO	57A	KR	60B	MU	50C			
1242=KD	21	0920	9700	????	????????????		157	14	69	54.77N	19.22E	BR	55D	IT	77D	KR	60A	MU	48B					
1243=KD	17	1305	9710	????	????????????		92	18	75	55.67N	26.72E	BR	69C	IT	70B	KR	63B	MU	45B					
1244=KD	5	0202	5955	BR	RL	HD	270	13	78	54.13N	22.14E	UK	70C	FL	40C	BR	70A							
1245=KD	8	0452	7165	CZEC	RFE	G2B	90	16	107	52.11N	16.63E	BR	100D	IT	110B	KR	80C							
1246=KD	6	0540	11855	CZEC	RFE	G11+G12	158	13	133	47.21S	171.53W	KO	49B	MU	65C	MU	50C							
1247=KD	3	2002	5955	EST	RFE	HA	191	16	89	56.05N	33.83E	BR	80B	IT	71A	KO	45B	KR	65B	MU	50D			
1248=KD	3	2100	5955	EST	RFE	HA	124	16	81	54.77N	29.57E	KO	55B	KR	67A	MU	50C							
1249=KD	6	2035	5955	EST	RFE	HA	42	11	60	54.53N	18.56E	BR	62A	IT	65	KO	37A	KR	61A	LR	49C	UK	67B	
												BE	45C											
1250=KD	5	1636	11875	GEOR	RL	L3	124	21	70	55.08N	24.52E	BR	62B	IT	80D	KO	48B	KR	95B	MU	55C			

1251=KD	2	0140	5955	LAT	RFE	HD	0	0	0	54.51N	25.41E	KO	50A	KR	67A												
1252=KD	14	0338	7180	LAT	RFE	HC	0	0	0	49.71N	43.02E	WP	346C	AN	351C												
1253=KD	7	1930	5955	LITH	RFE	HA	85	11	75	54.22N	22.02E	UK	67B	BR	70A	KO	45B	KR	69D								
1254=KD	4	1902	5955	LITH	RFE	HA	0	0	0	52.64N	56.37E	NO	80*	UK	65C												
1255=KD	2	1945	5955	LITH	RFE	HA	100	12	72	55.24N	25.33E	BR	65A	IT	65C	KO	45C	KR	62B	MU	46B						
1256=KD	1	0240	5955	LITH	RFE	HD	0	0	0	53.82N	20.47E	KO	45A	KR	68A												
1257=KD	2	0600	6160	POLI	VOA	WOF	55	16	80	55.14N	23.29E	NE	67B	UK	65B	SS	37C	BR	81B	KO	45B	KR	64C				
												MU	57B	NO	105C	NE	68B										
1258=KD	4	0507	6160	POLI	VOA	WOF	70	19	89	55.92N	31.76E	BR	75A	IT	70	KO	50B	KR	66B	UK	65C	NO	90*				
1259=KD	5	0640	6160	POLI	VOA	WOF	177	15	83	54.96N	29.39E	BR	70C	KO	51C	KR	67A	UK	64B								
1260=KD	12	1902	7180	POLI	VOA	WOF	0	0	0	54.88N	17.99E	UK	66A	KO	34C												
1261=KD	14	1939	7180	POLI	VOA	WOF	0	0	0	54.35N	26.52E	BR	72A	KO	52B												
1262=KD	9	1925	7180	POLI	VOA	WOF	107	49	108	50.19S	176.60W	BR	65C	IT	70D	KO	125B	KR	65B								
1263=KD	11	0810	7190	POLI	RFE	B5	93	14	74	54.58N	23.28E	BR	70B	BR	70B	IT	73C	KO	46B	KR	64B						
1264=KD	11	1746	7190	POLI	RFE	B5	136	21	81	54.52N	21.35E	BR	64C	IT	80B	KO	55C	KR	65C								
1265=KD	12	0910	7190	POLI	RFE	B5	140	24	77	56.05N	27.04E	BR	64C	IT	70B	KO	45C	KR	52A								
1266=KD	12	1520	7190	POLI	RFE	B5	357	40	89	57.94N	45.71E	IT	62B	KO	52B	KR	63C	MU	50D								
1267=KD	8	2100	7190	POLI	RFE	G1A	80	17	79	54.22N	20.78E	NE	73B	BR	62D	IT	72D	KO	40D	KR	65D	MU	50D				
												NE	73B														
1268=KD	13	1130	7190	POLI	RFE	B5	81	17	72	55.04N	22.89E	UK	68B	BR	64B	IT	70C	KO	44B								
1269=KD	8	0900	7190	POLI	RFE	B5	365	18	95	55.07N	44.50E	NE	68B	NE	68B	BR	70A	KO	59B	KR	65A						
1270=KD	13	1635	7190	POLI	RFE	B5	162	24	78	55.46N	28.10E	UK	66B	BR	65B	IT	65B	KO	50C	KR	55D						
1271=KD	13	2020	7190	POLI	RFE	G1A	132	26	108	55.85N	44.77E	BR	72A	KO	56B	KR	64B	SS	36C	NO	81A						
1272=KD	8	1500	7190	POLI	RFE	B5	1305	90	127	47.61S	171.24E	NE	67B	NE	64B	UK	60B										
1273=KD	10	1230	7190	POLI	RFE	B5	287	18	92	55.47N	42.07E	BR	69A	IT	72B	KO	57B	KR	63B								
1274=KD	14	2205	7190	POLI	RFE	G1A	224	21	80	56.05N	28.67E	BR	62B	IT	70B	KR	65C										
1275=KD	9	1430	7190	POLI	RFE	B5	69	10	69	53.72N	17.84E	BR	65B	IT	73B	KO	39B	KR	66A								
1276=KD	8	1200	7190	POLI	RFE	B5	121	19	80	56.12N	31.16E	NE	65B	BR	74A	KO	57B	KR	60B	MU	50B	NE	67B				
1277=KD	18	0510	9605	POLI	VOA	TAN	373	28	97	55.46N	46.83E	BR	45C	IT	71B	KO	57B	KR	65A	MU	50C	UK	60B				
1278=KD	20	0635	9635	POLI	VOA	TAN	0	0	0	45.72N	73.55E	UK	66B	SS	28C												
1279=KD	15	1130	9705	POLI	RFE	B3	204	11	58	50.56N	16.13E	SS	42C	IT	66B	KO	55A	KR	55C	MU	50B	UK	69B				
1280=KD	15	1234	9705	POLI	RFE	B3	95	47	152	53.48N	39.85E	PS	38B	UK	69B	N3	150*										
1281=KD	16	1000	9705	POLI	RFE	B3	8110	2	0	52.23S	175.02W	NE	73B	NE	73B	NE	74B	NE	74B	NE	74B	UK	109B				
1282=KD	17	0930	9705	POLI	RFE	B3	137	19	99	55.22N	41.23E	KO	57B	NO	85B	IT	73A	KR	66B	MU	50B						
1283=KD	9	0600	7165	ROMA	RFE	B4	0	0	0	53.57N	19.77E	BR	73B	IT	89C												
1284=KD	3	1833	5955	RUSS	RL	HA	167	23	78	54.40N	26.19E	BR	70B	IT	130D	KO	53D	KR	70C	MU	50D						
1285=KD	1	1800	5955	RUSS	RL	HA	157	17	87	55.80N	34.98E	NE	67B	NE	67B	BR	70B	IT	70B	KO	53B	KR	63B				
												MU	40D														
1286=KD	6	1821	5955	RUSS	RL	HA	116	13	80	54.74N	27.17E	BR	70A	IT	80C	KO	52B	KR	64B	MU	30D						
1287=KD	4	2304	5955	RUSS	RL	HD	90	10	74	53.99N	20.84E	BR	70A	KO	45B	KR	65B	FL	37B								
1288=KD	6	2205	5955	RUSS	RL	HD	16409	358	141	23.87S	140.90E	BR	75B	IT	70B	KO	48A	KR	70B								
1289=KD	4	1820	5955	RUSS	RL	HA	42	33	113	52.45S	170.07W	BR	74B	IT	70C	KO	51B	KR	67C								
1290=KD	1	2300	5955	RUSS	RL	HD	83	15	72	55.34N	28.31E	NE	69B	NE	67B	KO	50A										
1291=KD	2	1805	5955	RUSS	RL	HA	27	21	147	50.81N	15.21E	BR	138D	IT	135C	KO	50C	MU	40D								
1292=KD	1	0010	5955	RUSS	RL	HD	46	10	69	53.67N	20.08E	SS	37C	BR	75B	KO	45A	KR	68A								
1293=KD	5	1805	5955	RUSS	RL	HA	140	23	81	56.20N	31.98E	SS	34C	UK	65C	BR	65C	IT	70B	KO	50B						
1294=KD	1	2122	6140	RUSS	VOA	WOF	0	0	0	54.13N	19.65E	KR	65D	UK	70B												
1295=KD	6	0431	6160	RUSS	VOA	WOF	39	20	90	54.64N	29.86E	UK	68B	BE	40C	N1	135*	AL	324C	BR	74B	IT	70B				
												KO	52B	KR	68C												
1296=KD	4	0406	6160	RUSS	VOA	WOF	564	94	124	46.78S	172.14E	UK	65C	KO	50B	BR	75A	KR	66B	MU	80C						
1297=KD	8	1900	7180	RUSS	VOA	KAV	67	11	77	54.60N	23.02E	NE	70B	BR	72B	IT	76B	KO	44B	KR	65A	MU	50D				
												NE	77B														
1298=KD	9	1730	7220	RUSS	RL	L5+L6	409	41	95	54.69N	38.76E	NE	70B	UK	66B	KO	58D										
1299=KD	16	1550	9520	RUSS	RL	L9	0	0	0	55.85N	35.43E	IT	72A	KR	64A												

1300=KD	6	1505	11875	RUSS	RL	HA	139	19	80	56.49N	34.01E	BR	62B	KO	52B	BR	55A	IT	69B	KO	50B	KR	65C	MU	56B
1301=KF	5	1745	11970	BR	RL	G4B	21	15	84	49.87N	14.86E	BR	138B	IT	135B	KO	55B	KR	110B	MU	53C				
1302=KF	10	0845	21510	RUSS	RL	HB	0	0	0	48.19N	11.52E	KO	71B	MU	55B										
1303=KM	12	1330	21455	ARM	RL	L3	265	24	118	44.93N	38.67E	FL	40B	MU	90B	IT	104B	KO	95A	KR	95A				
1304=KM	12	1644	15340	GEOR	RL	L4	84	12	109	46.50N	26.60E	KO	89A	KR	104A	MU	95B								
1305=KM	21	1508	9565	RUSS	RL	B8	228	26	126	42.56N	38.91E	UK	97C	BR	120D	IT	108A	KO	100D	KR	100B	MU	95B		
1306=KM	8	1241	15120	RUSS	VOA	WOF	6763	236	134	30.14N	97.64E	NO	102B	KO	70B	BR	126A	IT	108A	KR	70B	MU	71B		
1307=KM	11	1110	21745	RUSS	RL	G3	0	0	0	2.23S	96.75E	KR	92B	MU	95B										
1308=KU	8	1952	7270	RUSS	VOA	MUN	0	0	0	46.11N	129.35E	AN	290C	WP	312C										
1309=KU	8	1852	7270	RUSS	VOA	MUN	0	0	0	47.92N	130.29E	AN	291C	WP	314C										
1310=KU	4	0842	11885	RUSS	RL	L10	0	0	0	47.07N	134.09E	DS	322B	WP	313C										
1311=KU	6	0910	11885	RUSS	RL	L10	0	0	0	47.07N	134.09E	DS	322C	WP	313B										
1312=KU	2	0930	11885	RUSS	RL	L10	0	0	0	47.07N	134.34E	FE	312B	WP	313B										
1313=KU	5	1236	11885	RUSS	RL	L10	0	0	0	50.19N	140.27E	WP	317B	DS	322C										
1314=KU	1	0320	11970	RUSS	RL	HB	0	0	0	51.08N	143.35E	LV	316B	FE	311C										
1315=KU	7	1503	11885	UKR	RL	B1	0	0	0	36.09N	39.31E	GI	33C	BE	52C										
1316=KV	16	0245	9530	????	????????????		0	0	0	22.33N	149.61E	BR	40D	KO	37A										
1317=KV	15	0330	9725	????	????????????		88	12	63	57.68N	22.74E	BR	45B	IT	58A	KO	35C	KR	45B						
1318=KV	9	1507	15285	????	????????????		218	25	74	59.21N	34.50E	IT	59B	KO	43B	KR	52B								
1319=KV	10	0820	15295	????	????????????		0	0	0	44.41S	167.23E	BR	75B	KO	86D										
1320=KV	3	1439	11865	EST	VOA	WOF	0	0	0	57.91N	20.25E	GI	30C	UK	54B										
1321=KV	9	0603	7220	RUSS	RL	L7+L8	6407	249	148	20.96S	152.28E	BR	54D	IT	56A	KO	60C	KR	55B						
1322=L2	7	1710	6080	????	????????????		0	0	0	42.01N	26.33E	IT	130B	KR	119B										
1323=L2	9	2140	7200	????	????????????		104	27	123	44.60N	23.65E	BR	130D	IT	132C	KO	102B								
1324=L2	7	1710	6085	RUSS	BBC	WOOF	0	0	0	43.77N	21.50E	BR	145B	KO	110D										
1325=L8	14	1735	21720	????	????????????		0	0	0	48.63N	12.62E	SS	44C	UK	103B										
1326=LB	10	0050	7180	AZ	RL	L1	0	0	0	46.15N	33.53E	BR	108A	KR	97B										
1327=LF	2	2052	11960	????	????????????		0	0	0	39.18N	63.98E	WP	327C	SS	38C										
1328=LF	19	1720	9505	BR	RL	HD	0	0	0	51.33N	33.84E	IT	90B	KR	80B										
1329=LF	1	1530	11835	RUSS	VOA	WOF	0	0	0	53.05N	17.80E	UK	75D	SS	39C										
1330=LF	6	1635	11960	RUSS	VOA	MUN	505	67	117	51.89N	50.25E	BR	75D	SS	36C	NO	85B	UK	74C						
1331=LF	17	0050	9615	UZBE	VOA	KAV	0	0	0	74.57N	108.46E	AN	333C	DS	350C										
1332=LG	17	1400	17710	????	????????????		171	25	93	50.60N	29.12E	NE	82B	PS	39C	KO	70B	KR	85B						
1333=LG	15	0700	9705	POLI	RFE	B3	0	0	0	50.56N	22.78E	IT	107A	KO	67A										
1334=LG	17	1513	17805	POLI	RFE	G1A	0	0	0	45.44N	33.58E	FL	40B	BE	48C										
1335=LG	20	1602	9565	RUSS	RL	B8	0	0	0	49.93N	15.73E	KO	60C	UK	92B										
1336=LG	17	1500	17770	RUSS	RL	P4	1194	34	108	50.03N	24.08E	NE	93B	BE	48C	DS	28C								
1337=LG	17	1045	17750	TI	RL	HC	0	0	0	35.43S	99.13E	BE	49B	LR	42B										
1338=LK	16	2000	9555	????	????????????		2760	171	123	44.05N	73.06E	BR	65D	IT	75D	KO	70C	KR	75C	MU	60C	UK	67C		
1339=LK	16	2000	9570	????	????????????		45	5	36	48.36S	168.75W	BR	45D	IT	72C	KO	60C	KR	72A	MU	55B				
1340=LK	15	2100	9625	????	????????????		0	0	0	47.46N	67.89E	NE	71B	UK	67B										
1341=LK	2	0518	11825	????	????????????		173	21	87	53.34N	21.13E	BR	77C	IT	90C	KR	72B								
1342=LK	9	0535	15115	????	????????????		2250	105	131	39.47N	81.88E	BR	74B	IT	76A	KO	74B								
1343=LK	21	1003	17710	????	????????????		985	56	126	42.16N	75.34E	UK	68A	BR	79B	IT	77A	KO	71A	KR	75A	MU	55C		
1344=LK	19	0130	9505	ARM	RL	L2	0	0	0	52.41N	5.65E	UK	75C	LR	47C										
1345=LK	2	0336	11875	AZ	RL	L3	533	93	140	31.44S	92.58E	AL	8C	NO	105B	GI	43C	PS	45C						
1346=LK	1	0433	11825	BULG	RFE	G4B	0	0	0	17.24N	124.45E	BR	63B	IT	60D										
1347=LK	12	0505	15115	BULG	RFE	G8	107	18	77	53.57N	20.21E	BR	75B	KR	71D	UK	70C	KO	45C						
1348=LK	12	0505	15170	CZEC	RFE	G3B	427	117	119	47.63S	172.17E	BR	70B	KR	74D	KO	90B	UK	70C						
1349=LK	9	0533	15170	CZEC	RFE	G3B	76	11	79	53.15N	16.76E	SS	44C	BR	74B	IT	96C	KO	74B	KR	74B	UK	65C		
1350=LK	18	0230	9505	GEOR	RL	L2	0	0	0	47.85N	61.20E	UK	70O	AN	338C										
1351=LK	19	0300	9505	GEOR	RL	L2	409	82	132	78.91N	179.08E	AN	343C	SS	31C	BE	63C	AL	343C	DS	353C				
1352=LK	4	0236	11875	GEOR	RL	L3	0	0	0	70.66N	115.40W	DS	357C	BE	335C										

1353=LK	18	1420	17855	GEOR	VOA	TAN	0	0	0	48.38N	58.56E	BR	80D	KO	70C											
1354=LK	21	1450	17855	GEOR	VOA	TAN	4175	137	131	38.66S	151.21E	BR	80A	IT	76A	KO	73A	KR	78A							
1355=LK	16	2250	9555	LITH	RFE	P4	0	0	0	34.76N	175.35W	LV	283C	WP	315D											
1356=LK	18	2030	9555	LITH	RFE	P4	554	507	104	39.40N	94.69E	UK	60C	WP	313B	GI	348C									
1357=LK	17	0238	9680	LITH	RFE	G2	662	171	117	48.37N	81.60E	WP	324B	UK	75C	BR	60D	KO	64B	KR	120C	MU	60C			
1358=LK	11	0039	7220	RUSS	RL	G2B	92	25	99	50.07N	17.11E	BR	82A	IT	75C	KO	62D	KR	99B	AN	5C					
1359=LK	15	0000	9505	RUSS	RL	G2	154	2	68	52.42N	5.79E	NE	67B	UK	75C	NE	67B									
1360=LK	19	2304	9505	RUSS	RL	G2	0	0	0	11.52S	114.25E	BE	354C	NO	80B											
1361=LK	15	1955	9530	RUSS	VOA	KAV	108	21	79	55.51N	29.74E	IT	74B	KR	64B	MU	50B									
1362=LK	15	2000	9530	RUSS	VOA	KAV	160	12	67	53.73N	9.97E	NE	61B	UK	68B	GI	23C	LR	47C	NE	61B					
1363=LK	16	2000	9530	RUSS	VOA	KAV	937	65	108	53.15N	52.69E	BR	40D	IT	73B	KO	63D	UK	67B							
1364=LK	17	2136	9530	RUSS	VOA	KAV	711	51	115	49.93N	59.57E	SS	27C	UK	75C	IT	76A	KO	68B	MU	55C					
1365=LK	18	2030	9530	RUSS	VOA	KAV	179	70	134	49.84S	174.88W	UK	60C	BR	90D	IT	52C	KR	40D	MU	75D					
1366=LK	15	2240	9680	RUSS	RL	P1	1300	83	98	52.94N	51.32E	KO	65C	KR	68D	MU	63C									
1367=LK	16	2000	9680	RUSS	RL	P3	223	20	98	52.99N	39.91E	NE	75B	NE	75B	BR	50C	IT	80D	KO	63B	KR	72A			
												MU	70D													
1368=LK	16	2300	9680	RUSS	RL	P1	176	2	70	52.37N	5.66E	NE	70B	NE	69B	UK	75C									
1369=LK	20	2305	9680	RUSS	RL	P1	39	20	108	49.23N	17.18E	IT	130B	KO	70C	KR	110C	KO	70C							
1370=LK	10	0436	15170	RUSS	RL	L4	497	146	142	37.05N	79.25E	WP	317C	N3	110B	IT	75B	KO	80B							
1371=LK	12	1205	15235	RUSS	VOA	WOF	111	18	80	53.83N	23.10E	UK	70C	SS	40C	BR	70B	KR	73B	MU	50C					
1372=LK	9	1235	15235	RUSS	VOA	WOF	638	32	92	54.69N	36.57E	BR	72B	SS	36C	UK	67B									
1373=LK	8	1010	15290	RUSS	RL	P1+P2	1122	371	153	.70S	144.97E	IT	67C	IT	67C	KR	70D	MU	45B	MU	45B	BE	322C			
1374=LK	11	0700	15290	RUSS	RL	P1+P2	0	0	0	51.22S	177.83E	NE	80C	UK	69B											
1375=LK	15	0815	17750	RUSS	RL	HC	293	33	93	52.75N	39.11E	BR	78C	KO	55B	KR	75C	MU	65B							
1376=LK	16	0635	17750	RUSS	RL	HC	940	32	111	51.66N	51.46E	BR	77B	IT	78A	IT	77B	KR	72C							
1377=LK	16	0815	17750	RUSS	RL	HC	122	20	85	54.94N	32.66E	UK	69C	BR	70B	IT	76B	KO	70B	KR	75A	MU	55B			
1378=LK	19	0605	17750	RUSS	RL	HC	0	0	0	39.97N	68.85E	AN	330C	UK	75C											
1379=LK	15	0815	17760	RUSS	RL	L1	183	22	73	54.19N	29.24E	BR	74C	KO	55B	MU	55									
1380=LK	16	0635	17760	RUSS	RL	L1	1325	71	124	44.60N	70.63E	BR	77B	IT	78A	KO	72B	KR	72C							
1381=LK	16	0815	17760	RUSS	RL	L1	0	0	0	51.99N	41.60E	UK	72B	KR	75A											
1382=LK	20	1220	17760	RUSS	RL	L1	40	24	85	52.52N	16.00E	IT	103C	KO	72B	KR	80C	MU	30C							
1383=LK	21	1010	17760	RUSS	RL	L1	693	46	120	45.60N	67.28E	BR	80B	IT	77A	KO	71A	KR	75A	MU	55C	UK	77C			
1384=LK	20	1320	17855	RUSS	VOA	KAV	0	0	0	48.33N	11.71E	KO	68A	MU	45B											
1385=LK	19	1320	17865	RUSS	VOA	KAV	0	0	0	52.18N	52.80E	BR	75A	IT	76B											
1386=LK	15	0610	17895	RUSS	RL	P5	1247	66	113	49.36N	61.42E	BR	75B	BR	75B	KO	70B	KR	78D							
1387=LK	18	0723	17895	RUSS	RL	P5	1502	92	122	44.49N	68.57E	UK	85C	BR	78B	IT	80B	KO	73B	KR	76C	MU	60C			
1388=LK	20	0602	17895	RUSS	RL	P5	0	0	0	54.27N	15.44E	UK	68C	NO	126B											
1389=LK	21	0712	17895	RUSS	RL	P5	474	36	119	45.83N	66.35E	BR	77B	IT	78B	KO	72A	KR	75B	MU	70B	UK	70A			
												BR	76B	IT	78A	KO	72A	KR	80B							
1390=LK	18	1045	17895	TI	RL	B8	124	10	87	53.57N	25.25E	BR	78A	BR	78A	IT	82C	KO	55C	KR	68B					
1391=LK	17	1620	17895	UKR	RL	P6	75	21	99	52.32N	20.05E	BR	90C	IT	100B	KO	75B	MU	50D							
1392=LM	2	0200	6180	????	????????????		554	45	95	51.58S	178.69E	NE	83C	NE	83C	KR	95A									
1393=LM	6	1515	11840	????	????????????		54	20	107	51.81N	16.74E	IT	112B	KO	45D	KR	85C									
1394=LM	17	1510	17815	????	????????????		733	58	98	55.11N	47.28E	BR	68C	IT	72C	KO	60D	MU	45D							
1395=LM	3	0407	6020	RUSS	VOA	WOF	0	0	0	45.03N	31.50E	UK	94B	NO	120C											
1396=LM	7	0350	6140	RUSS	BBC	WOOF	744	24	114	42.89N	41.43E	KO	90A	KO	90A	UK	90B									
1397=LM	13	2338	7155	RUSS	RL	HC	899	40	100	50.92N	8.54E	LR	45C	UK	92C	BE	54B									
1398=LM	8	0705	7220	RUSS	RL	L7+L8	76	22	77	53.67N	20.05E	BR	105B	IT	92C	KO	50D	KR	65B	MU	45D					
1399=LM	16	1108	9520	RUSS	RL	L9	37	23	81	51.44N	16.33E	BR	90B	IT	115C	KO	40D	KR	65A	KR	90C	MU	45C			
1400=LM	10	1302	15120	RUSS	VOA	WOF	2899	101	105	55.30N	.13E	BE	50A	PS	42C	FL	39B									
1401=LM	12	0735	15340	RUSS	RL	L4	0	0	0	51.58N	16.49E	IT	116B	KR	85B											
1402=LM	9	1205	21455	RUSS	RL	L3	141	14	110	51.67N	18.18E	BR	104B	IT	110B	KR	85D	UK	93B	FL	41B					
1403=LM	9	1643	7270	UKR	VOA	MUN	86	18	115	50.66N	20.43E	BR	110B	IT	112B	KO	64D									
1404=LT	21	1225	17875	????	????????????		202	15	106	51.67N	29.49E	BR	93C	IT	92A	KR	80B									

1405=LT	19	0616	17750	RUSS	RL	HC	7397	139	139	23.93N	79.01E	BR	95B	IT	91A	KR	88B									
1406=M2	8	2208	7210	HUNG	BBC	CYPRUS	0	0	0	47.39N	50.95E	BR	87B	IT	87C											
1407=M3	15	1820	17895	????	????????????		0	0	0	15.05N	59.74E	FL	48C	BE	51B											
1408=M3	15	1610	17750	TB	RL	HC	0	0	0	52.49N	.19W	BE	54B	FL	42B											
1409=M3	15	1434	17895	TI	RL	B8	0	0	0	50.96N	14.74E	BE	51B	FL	41B											
1410=M3	16	1339	17895	TI	RL	B8	0	0	0	37.14S	100.41E	BE	51B	LR	48C											
1411=M5	21	1712	17725	BULG	RFE	G3A	65	11	122	45.18N	19.35E	PS	45B	KO	106A	KR	124A									
1412=MA	6	2210	5970	POLI	RFE	B2	71	14	86	53.14N	19.04E	BR	78B	IT	95	KO	50D	KR	70B							
1413=MF	6	2215	6010	????	????????????		111	22	92	53.18N	23.20E	BR	80C	IT	90B	KO	55D	KR	70D							
1414=MF	8	0335	7220	????	????????????		3624	378	132	44.14N	27.45E	FL	43C	AL	42B	GI	94B	DS	89C	KI	40C					
1415=MF	17	0445	9725	????	????????????		1552	117	112	51.00N	63.15E	BR	55C	IT	73C	KO	64C	KR	68C	MU	50B					
1416=MF	7	1400	11880	????	????????????		0	0	0	52.84N	47.60E	NO	86A	UK	68B											
1417=MF	5	0202	5955	BR	RL	HD	0	0	0	50.29N	53.75E	UK	70C	NO	86B											
1418=MF	18	0405	9505	BULG	RFE	G1	0	0	0	15.57N	66.54E	BE	45D	DS	5C											
1419=MF	11	2135	7255	CZEC	RFE	G2B	13690	182	140	22.21N	98.17E	BR	80A	IT	78B	UK	68B									
1420=MF	15	2225	9725	CZEC	RFE	G1B	0	0	0	52.90N	11.99E	UK	75C	KR	60C											
1421=MF	12	1100	15170	CZEC	RFE	G3B	0	0	0	54.33N	48.41E	KO	60C	IT	73A											
1422=MF	11	1030	15170	CZEC	RFE	G3B	46	21	90	53.50N	24.18E	KO	53C	BR	69A	KR	70B	MU	55C	SS	42C	NO	110*			
1423=MF	13	1440	15170	CZEC	RFE	G8	373	23	101	54.16N	41.87E	BR	65B	IT	76A	KO	60D	KR	69B							
1424=MF	14	0740	15170	CZEC	RFE	G3B	730	70	112	49.74N	51.60E	BR	67B	IT	81B	KO	70C	UK	75C							
1425=MF	14	1330	15170	CZEC	RFE	G3B	1061	123	133	37.31S	156.48E	UK	57A	SS	34C	BR	70B	IT	73B	KO	78A	KR	70B			
1426=MF	11	1200	15170	CZEC	RFE	G3B	0	0	0	53.40N	44.32E	UK	68B	SS	34C											
1427=MF	10	0712	15170	CZEC	RFE	G3B	0	0	0	49.90N	59.14E	KR	72B	NE	72B											
1428=MF	10	1400	15170	CZEC	RFE	G3B	394	16	88	55.64N	36.70E	NE	67B	BR	68A	KO	30C	KR	70A	NE	67B					
1429=MF	12	0930	15170	CZEC	RFE	G3B	111	24	76	53.72N	20.51E	KO	45C	UK	70C	BR	106D	KR	70B							
1430=MF	9	0805	15170	CZEC	RFE	G3B	2187	109	119	47.51N	69.43E	UK	69B	BR	75B	IT	70C	KO	70C	KR	75D					
1431=MF	9	1145	15170	CZEC	RFE	G3B	0	0	0	54.32N	31.59E	UK	69A	SS	36C											
1432=MF	19	0502	9725	HUNG	RFE	B2	40	9	67	55.11N	19.30E	PS	44C	BR	52A	IT	74A	KO	65C	MU	45B	AL	38C			
1433=MF	7	1930	5955	LITH	RFE	HA	0	0	0	54.73N	29.08E	UK	68B	SS	36C											
1434=MF	14	1524	7155	POLI	BBC	WOOF	0	0	0	51.56N	23.56E	BR	95B	KO	62C											
1435=MF	1	2300	5955	RUSS	RL	HD	11651	217	137	31.24S	147.33E	NE	69B	NE	67B	BR	90B	IT	85C	KR	71A					
1436=MF	15	0000	9520	RUSS	RL	L9+L10	69671	385	144	5.01S	121.06E	NE	72B	UK	67B	NE	72B									
1437=MF	15	0100	9520	RUSS	RL	L9+L10	212	27	90	54.10N	35.72E	NE	72B	KO	59B	KR	70C	KR	70C							
1438=MF	15	1700	9520	RUSS	RL	L9	1896	25	93	54.31N	31.56E	NE	72B	NE	72B	UK	69B									
1439=MF	17	0035	9520	RUSS	RL	L9+L10	0	0	0	52.05N	70.35E	UK	60C	DS	0D											
1440=MF	18	0405	9520	RUSS	RL	L9	20	3	47	52.64N	13.41E	UK	75B	BR	44C	IT	75B	KR	70A							
1441=MF	17	0445	9770	RUSS	VOA	TAN	0	0	0	55.25N	31.58E	IT	75D	KO	53B											
1442=MF	9	1700	7245	UKR	VOA	MUN	223	36	104	50.95S	179.20E	NE	72B	NE	72B	IT	80C	KO	90C	KR	90A					
1443=MF	14	0600	15380	UKR	RL	P2	8513	298	138	31.80N	110.55E	KO	60B	KR	60B	MU	62C									
1444=MG	21	1630	9750	GERM	BBC	WOOF	0	0	0	47.52S	179.85E	BR	65C	KO	92D											
1445=MG	10	0138	7220	RUSS	RL	G2B	0	0	0	52.46N	14.25E	BR	100D	IT	115B											
1446=MG	10	0541	15290	RUSS	RL	P1	0	0	0	49.63N	24.33E	IT	109C	KR	93A											
1447=MG	14	0600	15340	RUSS	RL	L4	314	33	114	44.49N	37.28E	BR	116B	IT	105D	KO	90B	KR	98B	MU	90C					
1448=MG	18	1735	17770	RUSS	RL	P4	0	0	0	43.70S	147.17E	KO	98B	KR	90B											
1449=MG	11	1515	15370	TI	RL	B7	0	0	0	49.38N	25.63E	KO	75A	KR	93D											
1450=MG	18	1612	17895	UKR	RL	P6	88	14	107	50.28N	28.50E	BR	98A	IT	98B	KO	71B									
1451=MI	10	1300	15125	????	????????????		0	0	0	50.89N	18.81E	BR	114A	KR	90C											
1452=MP	15	0100	9635	????	????????????		130	24	129	45.19N	35.47E	NE	92B	LR	44C	BR	130C	IT	109B	KO	85C	KR	100C			
												MU	130D	NO	113A	UK	92B	NE	92B							
1453=MP	14	2010	7270	RUSS	VOA	MUN	12648	141	134	30.03N	76.66E	KR	85A	KR	85C	SS	37C									
1454=MS	3	1105	6020	????	????????????		20	10	115	50.03N	16.20E	BR	145B	IT	125B	KO	60B	KR	102A	MU	55D					
1455=MU	14	2340	7245	????	????????????		1611	70	107	50.74S	174.94E	UK	75C	BR	88B	KR	90C									
1456=MU	4	2030	11765	????	????????????		169	14	91	54.27N	24.34E	BR	70C	IT	81A	KR	77D	MU	74B	SS	44C					
1457=MU	2	2115	11765	????	????????????		0	0	0	34.35N	74.97E	SS	35C	WP	317B											

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1458=MU  2  1932 11820 ???? ???????????    0    0    0  29.66N  68.69E  BE  36C  WP 317C
1459=MU  6  0027 11825 ???? ???????????    0    0    0  34.15N  73.65E  DS 357C  IT  87B
1460=MU  5  2140 11860 ???? ???????????    0    0    0  53.10N  25.02E  BR  81B  MU  55C
1461=MU  1  0445 11875 ???? ???????????    0    0    0  53.82N  27.81E  BR  76A  IT  83C
1462=MU  2  0340 11880 ???? ???????????    0    0    0  42.68N 126.15E  AL 337C  LV 316C
1463=MU  1  0445 11905 ???? ???????????    0    0    0  51.03N  43.54E  IT  84B  MU  70C
1464=MU  1  0302 11910 ???? ???????????  990  479   22  41.74N  74.11E  KI 356C  PS  33D  FE 346C  WP 325B  AL 336C  SS 185C
                                                                        LV 315B
1465=MU  1  0206 11910 ???? ???????????  1159 439  179  33.00N  69.32E  DS   2C  PS  30D  WP 323C  FE 344C  KI  12B
1466=MU  3  0510 11935 ???? ???????????   90   14   87  53.79N  30.87E  IT  80B  KO  57B  KR  72A  MU  58B
1467=MU 10  0537 15295 ???? ???????????  370   27  116  47.21N  55.62E  BR  84A  IT  83A  KO  73A  KR  80A
1468=MU  6  2005 11825 BULG RFE G11+G12  210   22  102  51.86N  37.96E  AN 340C  UK  77B  BR  78B  IT  85B  KR  80B  MU  72C
                                                                        SS  41C
1469=MU  7  1900 11825 CZEC RFE G11+G12  421   56  100  50.82N  43.81E  UK  77B  KO  70C  MU  65C  SS  46C  FE 344C
1470=MU  3  2105 11825 CZEC RFE G11+G12    0    0    0  50.35N  51.43E  BR  80B  MU  70C
1471=MU  2  2331 11825 CZEC RFE G11+G12   92   24   83  53.45N  20.61E  BR  75D  IT  90C  KO  81C  KR  70C  MU  45D  SS  46C
1472=MU  2  1934 11825 CZEC RFE G11+G12    0    0    0  27.54N  66.16E  BE  39C  WP 317B
1473=MU  3  2200 11825 CZEC RFE G11+G12  833   36  109  50.59N  52.06E  MU  70C  BR  79A  KO  80D  SS  44C
1474=MU 16  1830 11825 CZEC RFE G11+G12    0    0    0  84.58N 141.53W  AN   2B  FE 357C
1475=MU  6  2014 11855 CZEC RFE G13+G14    0    0    0  44.42N  57.12E  UK  77B  AN 340C
1476=MU  5  2140 11855 CZEC RFE G13+G14  652  140  123  40.95N  69.57E  IT  85C  KO  76B  MU  75D  MU  75D  WP 325C  FE 346C
                                                                        SS  43C
1477=MU 15  0000  9555 LITH RFE P4       701  292  146  28.17N  59.58E  NE  72B  AN 333B  UK  90C  FL  47C  SS  49C  LR  43B
                                                                        NE  73B
1478=MU 16  2234  9555 LITH RFE P4       907   90  117  45.94N  59.45E  BR  50C  IT  84D  KO  74B  KR  78B  MU  60B  FL  27B
                                                                        SS  36C
1479=MU 17  0031  9555 LITH RFE P4       486  320  159  39.03N  72.04E  FE 340B  UK  75C  AN 346C  DS 350C  BE  62C  WP 317C
                                                                        SS  36C
1480=MU 17  2253  9555 LITH RFE P4       350   38  103  49.84N  42.41E  IT  85D  KO  75B  KR  80B  MU  70C
1481=MU 17  2334  9555 LITH RFE P4       518  125  138  36.94N  73.59E  GI  19C  FL  25B  BE  26A  SS  36C  UK  75A  AL  20C
                                                                        WP 316C  PS  22B
1482=MU 19  0140  9555 LITH RFE P4         0    0    0  40.16N  68.54E  UK  75C  WP 325C
1483=MU 19  2306  9555 LITH RFE P4      1674  271  141  38.35N 107.01E  UK  57B  BR 125C  IT  53B  KO  75D  BE  63B  PS 342D
1484=MU 20  2210  9555 LITH RFE P4       309   12   88  52.08N  17.19E  KR  80A  UK  80B  SS  38C
1485=MU 19  0630 17805 POLI RFE G1A      657   49  127  41.44N  60.52E  AN 328C  BR  90A  IT  90A  KO  75C  MU  56C
1486=MU 19  0930 17805 POLI RFE G1A       77   23   76  51.64N  18.83E  UK  80C  BR  85A  KO  54B  KR  86C
1487=MU 14  0047  7190 RUSS RL  P5         0    0    0  11.64N  94.31E  SS  34C  AN 298C
1488=MU 10  0038  7190 RUSS RL  P5       449   80  127  40.05N  68.41E  DS 342C  SS  38C  AN 334B  BR  86A  KO  78B
1489=MU 10  2231  7220 RUSS RL  L5+L6    820  322    8  56.02N  63.56E  AN 340B  SS  35C  AL   8C
1490=MU  9  2100  7220 RUSS RL  L5+L6    147   18   99  51.48N  32.98E  NE  79B  SS  36C  BR  90B  IT  82B  KO  68B  KR  81B
                                                                        NE  79B
1491=MU  8  2208  7220 RUSS RL  L5+L6    247   28  109  46.67N  43.16E  BR  96B  IT  92C  KO  80A  KR  70C  MU  80D
1492=MU  8  1835  7220 RUSS RL  L5+L6     81   19   88  52.53N  20.56E  SS  38C  UK  75C  BR  88B  IT  78B  KO  59D  KR  65B
                                                                        MU  45D
1493=MU  8  1930  7220 RUSS RL  L5+L6      0    0    0  49.20N  43.42E  SS  38C  UK  77C
1494=MU 11  2134  7220 RUSS RL  L5+L6     93   16   89  52.91N  26.43E  UK  71B  SS  35C  SS  35C  BR  85B  IT  85C  KO  58B
                                                                        KR  78B  FL  39B
1495=MU  9  2000  7220 RUSS RL  L5+L6    350   39  111  50.97S 179.79W  NE  70B  NE  70B  UK  75B  BR  90B  IT  82B  KO  68B
                                                                        KR  81B
1496=MU 15  0109  9520 RUSS RL  L9+L10     0    0    0  53.30N  14.33E  BR  40C  IT 100C
1497=MU 17  0335  9520 RUSS RL  L9         0    0    0  44.05N  38.77E  UK  90B  WP 347B
1498=MU 19  0308  9520 RUSS RL  L9       653  231  172   3.60S 102.96E  AN 348C  AL 328C  BE  12A  LV 306C  PS 342C  SS  31C
                                                                        DS  OD
1499=MU 15  1900  9585 RUSS VOA MUN       83    5   88  54.05N  14.12E  NE  68B  NE  68B  IT  85A  IT  85A
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1500=MU	17	1912	9585	RUSS	VOA	MUN	582	46	116	46.30N	60.31E	SS 38C BR 53B IT 82B KO 73A KR 77A UK 75C BE 33C
1501=MU	18	1808	9585	RUSS	VOA	MUN	81	20	94	51.25N	23.92E	AN 49B FL 43B WP 332C BR 95B IT 82B KO 77C KR 80C MU 59C
1502=MU	19	0410	9660	RUSS	RL	HA	0	0	0	57.30N	46.31E	KR 60C AN 350C
1503=MU	3	0200	11725	RUSS	RL	G9+G10	1124	222	125	46.91N	74.65E	NE 68C NE 68C DS 357C AL 331C FL 56C
1504=MU	7	0204	11725	RUSS	RL	G9+G10	746	359	143	28.81N	96.68E	BR 70C IT 75D KO 20D KR 45B MU 25C NO 82C GI 337C PS 44C WP 304C
1505=MU	1	0105	11725	RUSS	RL	G9+G10	431	69	116	45.98N	59.26E	FL 8B BR 90D IT 110D KO 70B KR 80B MU 75B BE 27B PS 14D LV 334C FE 354C KI 8C
1506=MU	6	0030	11725	RUSS	RL	G9+G10	486	39	117	46.45N	55.54E	LV 2C BR 86A IT 83B KO 77B KR 93C MU 75B
1507=MU	4	0127	11725	RUSS	RL	G9+G10	872	379	176	25.59N	74.83E	WP 326C BE 350C DS 1C GI 18B LV 317C PS 359C SS 42C KI 7C
1508=MU	1	2240	11770	RUSS	RL	P3	432	38	111	46.59N	49.80E	FL 49C BR 90D BR 86C IT 90D KO 78A KR 80B MU 90B
1509=MU	5	0405	11770	RUSS	RL	P3	998	427	6	16.18S	102.29E	N1 95B DS 2C GI 337C AL 328C
1510=MU	3	0300	11770	RUSS	RL	P3	1100	481	155	2.01N	108.62E	NE 78B PS 338C NE 78C
1511=MU	1	0335	11770	RUSS	RL	P3	1397	704	162	14.51N	114.85E	SS 197C IT 75D MU 65D FL 43C AL 336C
1512=MU	2	2205	11770	RUSS	RL	P3	1254	48	93	54.47N	25.92E	FL 56B AL 68C IT 80C SS 35C PS 35C
1513=MU	4	0138	11770	RUSS	RL	P3	740	337	170	6.21N	79.09E	DS 2C GI 18B KI 5C LV 317C SS 46C SS 50C PS 1C
1514=MU	1	0105	11770	RUSS	RL	P3	863	248	143	26.07N	92.26E	BR 90D IT 110D KO 70B KR 80D MU 75C FL 9B PS 13D AL 333C
1515=MU	3	0000	11770	RUSS	RL	P3	247	42	108	47.87N	33.31E	NE 68B SS 45C PS 35C BR 85C IT 100D KO 80C KR 95D MU 64C NE 68C
1516=MU	4	2030	11770	RUSS	RL	G9+G10	264	29	105	50.98N	39.55E	BR 85C IT 86B KO 80B KR 80B MU 70C SS 43C
1517=MU	2	2111	11770	RUSS	RL	G9+G10	1979	505	139	49.37N	45.89E	GI 19C SS 35C AL 68B PS 35C
1518=MU	3	0200	11770	RUSS	RL	P3	896	165	119	50.27N	65.61E	NE 68C BE 0C NE 68C DS 357C LR 30C WP 99N
1519=MU	1	2133	11770	RUSS	RL	G9+G10	0	0	0	32.14N	68.42E	BE 35C SS 41C
1520=MU	5	0100	11915	RUSS	RL	G5	573	120	124	45.95N	65.05E	NE 75B NE 75B DS 357C PS 356C FE 3C AL 328B LV 5C
1521=MU	2	0110	11915	RUSS	RL	G5	2959	251	6	76.50N	68.39E	LV 359B DS 1B FE 354C
1522=MU	7	0408	11915	RUSS	RL	P6	0	0	0	83.22N	130.14W	AN 6B DS 357C
1523=MU	7	0410	11935	RUSS	RL	B5	108	7	129	47.59S	170.96W	BR 65C IT 75B KO 50C MU 68C MU 68C
1524=MU	1	0445	11970	RUSS	RL	L5	0	0	0	47.83N	52.81E	KR 79A MU 75B
1525=MU	4	0240	11970	RUSS	RL	P2	0	0	0	68.41N	108.02W	PS 346C DS 1B
1526=MU	13	0500	15290	RUSS	RL	P1	350	31	107	50.25N	48.84E	UK 73C BR 72B IT 80B KO 70B KR 77A MU 70B
1527=MU	12	0612	15290	RUSS	RL	P1+P2	1176	72	125	43.05N	66.47E	UK 76B BR 170B IT 82A KO 75B MU 46B
1528=MU	9	0639	15290	RUSS	RL	P1+P2	499	32	115	48.12N	53.29E	BR 82B IT 83A KO 72B KR 80A MU 65C
1529=MU	10	0531	15290	RUSS	RL	P1	0	0	0	6.93N	96.13E	SS 36C NO 86B
1530=MU	14	1200	15380	RUSS	RL	HA	1079	235	130	44.24N	60.08E	UK 75C SS 37C GI 12C BE 36B
1531=MU	8	0840	15445	RUSS	RL	P6	327	31	109	48.38N	53.35E	BR 80C IT 83B IT 83B KO 72A KO 72A KR 80B MU 50C
1532=MU	10	0900	15445	RUSS	RL	P6	0	0	0	36.93S	146.31E	NE 76B KO 87D
1533=MU	9	1020	15445	RUSS	RL	P6	933	194	137	38.22N	70.81E	UK 75C NO 87B SS 37C WP 322C
1534=MU	16	1250	17725	RUSS	RL	P3	0	0	0	36.56N	69.32E	KR 84A SS 37C
1535=MU	17	0705	17725	RUSS	RL	P3+P4	616	35	111	50.02S	172.72E	BR 84B IT 80B KO 72A KR 83A MU 55C UK 75A NE 74B
1536=MU	18	1305	17725	RUSS	RL	P6	135	36	82	53.57N	23.83E	BR 80D IT 84D KR 80B MU 50D
1537=MU	20	1114	17725	RUSS	RL	P3+P4	870	138	102	49.81S	173.33E	BR 80C KO 100C KR 90B MU 45B
1538=MU	20	1210	17725	RUSS	RL	P3	235	27	101	51.21N	45.24E	UK 75D BR 80B IT 83B KO 68A KR 85C MU 48C
1539=MU	17	0710	17750	RUSS	RL	HC	272	18	110	50.85S	176.03E	BR 84B IT 80D KO 73A KR 83A MU 60B UK 75A NO 80C NE 73B
1540=MU	17	0130	9725	TB	RL	P1	436	96	127	42.57N	68.10E	UK 75C BR 40C IT 82B KO 68B KR 80C NO 90*

												BE 62C DS 350C FE 347C WP 316B PS 145D
1541=MU	18	0135	9725	TB	RL	P1	8555	287	143	8.55S	130.06E	KO 73B IT 87B KR 69A MU 70C
1542=MU	20	0200	9625	TI	RL	B7	0	0	0	55.57N	18.82E	IT 69C BR 45A
1543=MU	20	0330	9625	UKR	RL	P4	0	0	0	56.69N	21.60E	BR 46B IT 63A
1544=MU	21	0310	9760	UKR	VOA	TAN	1728	239	128	41.77S	150.44E	UK 79B BR 86D KO 85C KR 75C MU 55C NO 70*
1545=MU	7	0410	11885	UKR	RL	P5	1186	205	125	43.86N	77.83E	BR 55C IT 70C KO 80D MU 68C BE 40C AL 8C
1546=MU	2	0430	11885	UKR	RL	P5	1143	606	180	6.65N	100.45E	NO 85C AL 341C LV 317C
1547=MX	2	2205	11725	POLI	RFE	G4	0	0	0	42.66N	44.25E	IT 102C KR 95A
1548=MX	1	0729	11725	POLI	RFE	B1	437	16	83	55.74N	31.15E	BR 65B IT 70D KR 64A
1549=MX	5	2336	11725	RUSS	RL	G9+G10	0	0	0	56.98N	14.96E	FL 35C SS 35C
1550=NB	11	2135	7275	????	????????????		2711	55	120	46.69N	63.74E	BR 80A IT 79B KR 74B
1551=NS	12	0450	7155	????	????????????		208	27	115	46.82N	38.02E	BR 100B IT 100B KO 82B KR 90C
1552=NS	13	1535	15250	????	????????????		4439	244	133	43.29S	120.64E	BR 110B IT 105B KO 47B MU 85D NO 98A
1553=NS	11	1701	15260	????	????????????		141	27	90	49.58N	22.75E	BE 48C KO 73 KR 95C
1554=NS	12	1035	15260	????	????????????		69	11	115	46.28N	31.42E	IT 109A KO 88C KR 100A MU 90A FL 40B
1555=NS	10	0813	15260	????	????????????		186	22	125	43.76N	36.48E	BR 115B IT 109A KR 100B MU 95B
1556=NS	10	1733	15285	????	????????????		0	0	0	47.63N	25.54E	KR 101C MU 88C
1557=NS	9	1513	15345	????	????????????		73	19	100	52.29N	34.80E	NO 100C N3 160C KO 69D KR 76A
1558=NS	17	1415	17760	AZ	RL	L1	0	0	0	52.04N	32.18E	KO 65D BE 43C
1559=NS	15	2202	9725	CZEC	RFE	G1B	1404	349	147	35.53N	59.04E	FL 36B LR 46C SS 26C BE 41B FE 353C
1560=NS	16	1910	9725	CZEC	RFE	G1B	0	0	0	46.47S	178.11W	KO 79B BR 55D
1561=NS	19	2137	9725	CZEC	RFE	G1B	0	0	0	16.34N	91.97E	SS 33C KO 84D
1562=NS	13	1540	15255	CZEC	RFE	G9+G10	49	13	90	49.83N	22.70E	UK 90C FL 40C BR 110B IT 90A MU 73A
1563=NS	9	1235	15255	CZEC	RFE	G9+G10	327	24	125	42.85N	38.58E	FL 40B BR 110B IT 107B KR 100A MU 95C UK 95B
												PS 40B BE 48B
1564=NS	12	1222	15255	CZEC	RFE	G9+G10	78	14	112	48.32N	24.37E	SS 43C BR 115B IT 110A KO 80B KR 100A
1565=NS	14	0840	15255	CZEC	RFE	G9+G10	0	0	0	43.28N	37.74E	BR 110A KR 100A
1566=NS	14	1430	15255	CZEC	RFE	G9+G10	3145	65	111	48.31N	25.88E	UK 90C SS 42C FL 40B
1567=NS	9	0633	15255	CZEC	RFE	G9+G10	83	13	116	45.32N	33.96E	BR 105A IT 108A KO 89A KR 100A MU 90B UK 94A
1568=NS	8	1335	15255	CZEC	RFE	G9+G10	1706	191	116	51.63N	15.92E	FL 41B SS 41C PS 45C BE 48B LR 45B
1569=NS	12	0615	15255	CZEC	RFE	G9+G10	109	16	122	45.46N	33.01E	BR 115C IT 109A KO 90C KR 100B MU 92B
1570=NS	8	1010	15255	CZEC	RFE	G9+G10	88	24	98	53.08N	23.03E	BR 80C BR 80C IT 100D KR 100C NO 110C
1571=NS	13	1113	15255	CZEC	RFE	G9+G10	167	16	113	46.84N	28.78E	FL 40B KR 100A MU 90B
1572=NS	11	1710	15255	CZEC	RFE	G2B	0	0	0	52.42N	7.44E	FL 41B SS 40C
1573=NS	11	1400	15255	CZEC	RFE	G9+G10	1372	158	135	38.26N	50.48E	UK 90C SS 42C NO 105C FL 41B
1574=NS	13	0935	15255	CZEC	RFE	G9+G10	62	11	106	50.56N	14.63E	BR 111C IT 100C KR 100A UK 90C
1575=NS	10	1100	15255	CZEC	RFE	G9+G10	750	27	91	53.26N	22.02E	NE 79B NE 75C BE 33C FL 39B
1576=NS	8	0800	15255	CZEC	RFE	G9+G10	292	21	118	41.90N	40.56E	KO 93A KO 93A KR 100A
1577=NS	10	0800	15255	CZEC	RFE	G9+G10	1973	195	119	45.41S	160.57E	NE 78B IT 109A KO 81D KR 100A MU 95C NE 78B
1578=NS	9	0909	15255	CZEC	RFE	G9+G10	108	17	111	45.50N	31.38E	BR 114B KO 90A KR 100C
1579=NS	12	2300	7220	RUSS	RL	L5+L6	0	0	0	50.06N	22.71E	IT 110C KO 70D
1580=NS	19	1805	9715	RUSS	VOA	MUN	385	31	123	45.27N	33.11E	UK 92C IT 110B KO 73C KR 100B
1581=NS	8	1342	15235	RUSS	VOA	WOF	0	0	0	39.20N	46.49E	NO 109A KR 99A
1582=NS	6	2135	11885	UKR	RL	P1	1753	115	112	44.38S	170.15E	BR 75C IT 100C KO 82A KR 95A MU 90C
1583=NU	4	2146	6170	RUSS	RL	B3	0	0	0	55.30N	29.26E	IT 75C KO 51B
1584=P3	20	2210	9565	????	????????????		0	0	0	34.47N	31.89E	IT 132C NO 133*
1585=P3	21	0040	9680	????	????????????		49	17	123	46.57N	19.35E	BR 145B IT 128B KO 95B KR 115B MU 110C
1586=P3	3	1710	11965	????	????????????		86	12	144	42.09N	24.24E	BR 140A IT 135A KO 112B MU 90C
1587=P3	3	1705	11970	BR	RL	G4B	1120	49	109	45.15N	37.34E	AL 32D LV 316C DS 26C MU 90C MU 90C
1588=P3	5	1730	11970	BR	RL	G4B	366	32	82	54.71N	20.87E	NE 69B DS 20C FE 23C KI 26C WP 360C LR 49C
												LV 16C
1589=P3	10	1705	15130	BR	RL	P2	426	26	87	52.85N	13.99E	AN 6C AL 45B NE 80B
1590=P3	6	1635	11970	EST	RFE	HA	372	34	143	46.61N	23.65E	BR 130D FE 22C NO 130B AN 7B KI 30C WP 4C
1591=P3	12	1602	15130	EST	RFE	P2	5494	371	138	36.49N	26.46E	AL 50B DS 34B KI 40C

1592=P3	4	1840	11970	LAT	RFE	G4B	497	251	152	23.74S	55.53E	FE 20C	LV 20C	NO 140*	WP 255C	GI 29C	DS 30C
1593=P3	2	1805	11970	LAT	RFE	G4B	640	78	165	42.75N	26.44E	PS 46B	FE 23C	BE 51C	N1 155B		
1594=P3	13	1435	15130	LAT	RFE	P2	448	46	81	51.92N	1.54W	BR 120C	FL 43C	BE 57B			
1595=P3	17	0235	9680	LITH	RFE	G2	0	0	0	32.41N	41.62E	AL 42C	UK 105B				
1596=P3	4	1600	11970	LITH	RFE	L5	58	13	136	46.41N	20.58E	DS 32C	KI 356C	LV 20C	BR 138B	IT 132A	KO 111C
												KR 114B	MU 90D				
1597=P3	2	1545	11970	LITH	RFE	L5	230	32	131	44.42N	24.56E	NO 133C	KR 115B	BE 54C			
1598=P3	7	1506	11970	LITH	RFE	L5	0	0	0	38.38N	29.29E	UK 110A	NO 133B				
1599=P3	12	1535	15130	LITH	RFE	P2	2716	148	145	14.41S	72.16E	AL 38B	PS 45B	KI 38B	KI 38B	DS 39B	KR 120A
1600=P3	15	2105	9680	RUSS	RL	P3	0	0	0	54.68N	27.38W	PS 44C	LR 48B				
1601=P3	16	2008	9680	RUSS	RL	P3	0	0	0	32.99N	35.95E	FE 18C	GI 37C				
1602=P3	17	2010	9680	RUSS	RL	P3	26	12	105	47.86N	17.96E	BR 146B	IT 135B	KO 85A			
1603=P3	17	2244	9680	RUSS	RL	P1	104	26	147	46.33N	18.42E	AL 43C	UK 105C	FL 42B	GI 33B	DS 33C	BR 150B
1604=P3	19	2041	9680	RUSS	RL	P3	61	14	149	46.13N	18.95E	BR 148A	KO 99C	BE 56A			
1605=P3	20	2315	9680	RUSS	RL	P1	152	23	137	46.32N	22.58E	FE 23C	IT 131B	KR 110C	FL 50B	NO 130*	
1606=P3	1	1924	11970	RUSS	RL	HB	0	0	0	38.63N	34.33E	BE 53C	GI 35B				
1607=P3	8	1254	15130	RUSS	RL	G1	0	0	0	36.81N	32.97E	PS 45C	BE 55B				
1608=P3	12	1105	15130	RUSS	RL	G1	0	0	0	51.47N	7.39E	FL 42B	BE 53B				
1609=P3	17	1030	17725	RUSS	RL	P3+P4	0	0	0	52.37N	5.87E	NE 73B	LR 47B				
1610=P3	18	1307	17725	RUSS	RL	P6	0	0	0	48.38N	7.03E	LR 51C	NO 175C				
1611=P3	17	2137	9565	UKR	RL	P2	0	0	0	13.61N	46.12E	KI 45B	DS 31C				
1612=P3	21	1913	9565	UKR	RL	P2	12950	423	149	19.55S	65.22E	BR 130D	IT 130C	MU 130B			
1613=P6	2	0310	6025	RUSS	VOA	WOF	0	0	0	53.72S	173.26W	BR 109B	IT 85D				
1614=PA	15	0320	9660	RUSS	RL	HA	519	19	72	62.29N	37.26E	IT 49A	KO 40D	KR 43B			
1615=PA	9	1205	21455	RUSS	RL	L3	0	0	0	43.74S	174.84W	KO 37B	MU 47B				
1616=PA	9	1405	21735	RUSS	RL	G2A	0	0	0	45.43S	173.02W	KO 35B	MU 50C				
1617=PB	2	2222	6010	????	????????????		2798	300	120	42.79S	164.63E	BR 97C	IT 107A	KO 82C	KR 70C	MU 86D	
1618=PB	2	0200	6150	????	????????????		30	7	100	53.59N	11.38E	NE 68B	NE 68B	IT 105B	SS 40C		
1619=PB	16	0605	9515	????	????????????		40	21	72	51.80N	17.69E	BR 146B	IT 108C	KO 85D	KR 85C	MU 45B	
1620=PB	17	0854	9515	????	????????????		0	0	0	44.40N	36.11E	IT 108B	KO 90C				
1621=PB	18	1440	9515	????	????????????		134	28	121	46.60N	32.62E	BR 110C	IT 112D	KO 85C	KR 95C	NO 113B	
1622=PB	21	1506	9515	????	????????????		95	10	96	52.46N	15.89E	BR 92B	IT 109C	KO 155D	KR 80D	MU 85B	
1623=PB	20	2210	9565	????	????????????		154	23	110	50.46N	22.56E	IT 108B	KR 90B	SS 39C			
1624=PB	16	2010	9625	????	????????????		0	0	0	27.14N	52.93E	UK 100C	BE 49B				
1625=PB	21	0320	9720	????	????????????		0	0	0	44.75N	42.28E	IT 100C	KO 85B				
1626=PB	21	0320	9750	????	????????????		0	0	0	47.73N	35.59E	IT 100B	KO 80C				
1627=PB	7	1749	11775	????	????????????		50	13	109	51.80N	16.72E	BR 110B	IT 110D	KR 75D	MU 45D		
1628=PB	4	0610	11890	????	????????????		106	14	114	45.38N	34.51E	BR 110D	IT 109B	KO 86B	KR 98A	MU 92A	NO 110C
1629=PB	1	1920	11925	????	????????????		425	33	79	54.89N	16.07E	GI 36B	BE 43C	UK 65B			
1630=PB	10	1700	15105	????	????????????		61	13	120	51.09N	16.55E	NE 92B	KO 91B	AL 41C	SS 37C	BR 125B	KR 97C
												MU 135C	GI 32B				
1631=PB	11	1030	15120	????	????????????		47	14	87	49.67N	21.41E	KO 72A	IT 115B	MU 70C			
1632=PB	12	1554	15180	????	????????????		0	0	0	50.52S	155.61E	KO 110C	KR 100B				
1633=PB	11	1705	15245	????	????????????		0	0	0	51.67N	23.70E	FL 38B	GI 33B				
1634=PB	12	1320	15330	????	????????????		0	0	0	44.93N	33.94E	KO 90B	KR 100A				
1635=PB	17	0300	9555	GEOR	RL	G1	33	14	64	50.33N	15.22E	BR 130C	IT 108C	KO 57B	KR 99B	MU 45B	
1636=PB	14	1620	15340	GEOR	RL	L4	0	0	0	49.85N	22.76E	BE 49B	AN 5B				
1637=PB	15	1620	17760	GEOR	RL	L1	2497	247	121	54.47N	11.99E	AL 40B	BE 49C	GI 38C			
1638=PB	1	2149	11725	POLI	RFE	G4	367	30	107	47.65N	46.06E	BR 90D	BR 72C	IT 90D	KO 78A	KR 80B	MU 75B
1639=PB	1	2047	11725	POLI	RFE	G4	235	14	124	46.92N	28.71E	BR 114A	IT 110B	KR 100B			
1640=PB	1	2113	6095	RUSS	VOA	MUN	0	0	0	48.97N	28.80E	NO 116*	BR 104C				
1641=PB	6	0211	6150	RUSS	VOA	MUN	0	0	0	47.95N	27.21E	SS 43C	IT 111B				
1642=PB	5	0310	6150	RUSS	VOA	MUN	98	33	100	51.56N	20.43E	BR 105D	IT 100D	KO 58D			
1643=PB	6	0230	6160	RUSS	VOA	WOF	0	0	0.	47.15N	31.47E	IT 107C	KR 96B				

1644=PB	3	0135	6170	RUSS	RL	B3	327	32	126	47.91N	29.75E	IT 107B	FL 41B	NO 117C				
1645=PB	8	2228	7280	RUSS	VOA	KAV	53	17	93	51.66N	22.75E	BR 96B	IT 99B	KO 63B	KR 92B	MU 55C		
1646=PB	11	2150	7295	RUSS	RL	P5	0	0	0	51.29S	159.59E	BR 100D	IT 94C					
1647=PB	16	2232	9505	RUSS	RL	G2	0	0	0	40.60N	46.09E	FL 38B	UK 90C					
1648=PB	16	1320	9520	RUSS	RL	L9	15000	515	140	17.49S	118.85E	BR 113C	IT 86C	KR 84B	MU 90D			
1649=PB	16	1635	9520	RUSS	RL	L9	56	22	61	51.31N	17.34E	UK 67C	FL 40C	FE 12C	IT 115D	KO 54B	MU 45C	
1650=PB	17	0616	9520	RUSS	RL	L9	0	0	0	48.59N	22.88E	AN 5C	LR 45C					
1651=PB	17	0845	9520	RUSS	RL	L9	0	0	0	48.26N	26.03E	UK 90C	LR 44C					
1652=PB	18	0410	9520	RUSS	RL	L9	0	0	0	.48S	97.19E	SS 44C	AN 290C					
1653=PB	18	0750	9520	RUSS	RL	L9	2262	116	130	35.79N	54.94E	BR 104C	KO 95D	KR 95B	MU 55D			
1654=PB	18	1120	9520	RUSS	RL	L9	907	131	101	51.57S	176.79E	BR 92C	IT 78C	KO 70C	KR 95C			
1655=PB	18	1207	9520	RUSS	RL	L9	172	17	121	45.75N	36.45E	BR 105A	IT 105B	KO 86B	KR 95B			
1656=PB	20	0630	9520	RUSS	RL	L9	0	0	0	27.27N	71.39E	SS 43C	IT 95C					
1657=PB	20	0910	9520	RUSS	RL	L9	52	22	99	51.65N	19.10E	FL 41C	IT 105B	KO 92C	KR 90C	MU 50C		
1658=PB	20	1605	9520	RUSS	RL	L9	368	51	104	50.76N	20.89E	LV 16C	UK 84C	LR 42C	AN 359C	BE 51A		
1659=PB	21	0825	9520	RUSS	RL	L9	82	31	92	51.38N	21.58E	BR 100D	IT 104D	KO 90C	KR 50C	MU 60C		
1660=PB	21	1235	9520	RUSS	RL	L9	89	23	107	48.32N	26.93E	IT 110B	KO 80B	MU 85D				
1661=PB	20	1602	9585	RUSS	VOA	MUN	45	15	127	51.40N	14.93E	BR 144D	IT 110C	KR 90C	MU 100D	UK 90C	BE 55A	
												LR 42C						
1662=PB	16	1700	9660	RUSS	VOA	KAV	3959	292	135	30.60S	146.22E	NE 68B	NE 68B	IT 120D	KO 78B	KR 93A	MU 80C	
1663=PB	17	1605	9660	RUSS	VOA	KAV	0	0	0	35.79N	54.08E	UK 90C	BE 43C					
1664=PB	18	1915	9660	RUSS	RL	B7	944	17	144	43.12N	25.28E	FL 43B	BR 135A	KR 58B	BE 56B			
1665=PB	19	1805	9660	RUSS	RL	B7	91	21	109	49.52N	23.79E	UK 95B	IT 110B	KO 73C	KR 95B			
1666=PB	20	1700	9660	RUSS	VOA	KAV	32	11	120	46.98N	21.84E	BE 56B	FL 39C	BR 132A	IT 100D	KO 90A	MU 80C	
1667=PB	17	2235	9680	RUSS	RL	P1	0	0	0	10.07N	95.34E	KO 86B	SS 34C					
1668=PB	20	1720	9750	RUSS	BBC	WOOF	37	11	116	46.78N	23.58E	BR 127A	IT 100B	KO 90A	MU 95			
1669=PB	15	1910	9770	RUSS	BBC	F	1371	96	124	38.89N	54.04E	KO 89B	BR 130C	KR 92B	FL 37B			
1670=PB	17	2010	9770	RUSS	BBC	F	47	12	110	51.79N	18.79E	BR 100C	IT 107A	KO 90A	MU 50C	SS 27C		
1671=PB	1	1720	11740	RUSS	VOA	WOF	0	0	0	53.19N	25.89E	SS 38C	FE 19C					
1672=PB	6	0920	11885	RUSS	RL	L10	157	22	69	55.99N	27.07E	BR 62B	IT 70D	KO 46B	KR 75D	MU 55D		
1673=PB	7	0050	11915	RUSS	RL	G5	0	0	0	56.60N	22.81E	BR 50C	MU 35C					
1674=PB	2	0450	11925	RUSS	VOA	KAV	0	0	0	48.40N	30.18E	SS 42C	FE 18C					
1675=PB	7	2010	11970	RUSS	RL	HB	67	14	119	46.75N	27.75E	BR 116A	KO 88B	MU 90B	UK 95B			
1676=PB	11	1310	15235	RUSS	VOA	WOF	0	0	0	50.67N	19.82E	FL 40B	IT 113B					
1677=PB	9	1240	15235	RUSS	VOA	WOF	0	0	0	51.37N	4.91E	PS 44C	UK 90C					
1678=PB	11	1230	15290	RUSS	RL	P1+P2	0	0	0	40.40N	37.73E	NE 105C	PS 40C					
1679=PB	9	1500	15290	RUSS	RL	P1	1353	135	125	41.86N	36.50E	UK 96C	KI 32C	GI 32B				
1680=PB	15	1420	17725	RUSS	RL	P6	0	0	0	48.96N	29.97E	KO 77A	KR 91B					
1681=PB	18	0945	17725	RUSS	RL	P3+P4	0	0	0	51.25N	14.06E	IT 132C	KR 90B					
1682=PB	18	1500	17885	RUSS	RL	G4B	0	0	0	52.98N	9.95E	NE 74B	PS 41B					
1683=PB	12	1000	21455	RUSS	RL	L3	0	0	0	48.10N	31.81E	NE 93B	KO 80B					
1684=PB	12	1000	21510	RUSS	RL	HB	0	0	0	49.43N	27.90E	NE 92B	KO 75C					
1685=PB	10	1520	21735	RUSS	RL	G2A	185	28	114	46.19N	35.46E	BR 105B	KO 86B	MU 85D				
1686=PB	14	1240	21745	RUSS	RL	G3	0	0	0	43.78S	179.84W	BR 50D	MU 65C					
1687=PB	21	1600	9660	SLVK	BBC	WOOF	0	0	0	47.68N	28.21E	UK 90B	NO 120B					
1688=PB	16	0100	9750	TB	RL	HC	685	1	114	52.24N	5.08E	NE 75B	LR 46B	SS 42C	NE 90B			
1689=PB	20	2210	9625	TI	RL	B7	0	0	0	51.50N	18.94E	IT 109B	KR 85C					
1690=PB	6	0230	6125	UKR	VOA	WOF	82	28	97	50.93N	21.00E	IT 107C	KO 62C	KR 90C				
1691=PB	3	1738	6160	UKR	VOA	KAV	128	32	111	49.07N	23.54E	BR 115C	IT 130D	KO 86B	KR 95D	MU 80D		
1692=PB	9	1643	7245	UKR	VOA	MUN	0	0	0	52.04N	17.47E	BR 100C	IT 108C					
1693=PB	20	1945	9565	UKR	RL	P2	0	0	0	3.14S	104.28E	IT 88B	MU 90C					
1694=PB	15	2215	9750	UKR	RL	P2	143	27	115	45.99N	31.88E	UK 90C	IT 110B	KO 88B	KR 67C			
1695=PB	7	2000	11885	UKR	RL	P1	0	0	0	32.95N	51.86E	UK 95A	BR 110B					
1696=PB	13	1800	15380	UKR	RL	P3	945	18	62	52.26N	52.17W	FL 32C	PS 43C	BE 49A				

1697=PD	18	0130	9625	TI	RL	B7	667	287	131	43.98N	63.41E	UK	75C	AN	339C	AL	11C										
1698=PK	2	0120	11875	ARM	RL	L3	0	0	0	58.68N	76.35E	WP	335C	KI	3C												
1699=PK	2	0338	11875	AZ	RL	L3	0	0	0	38.82N	61.99E	LV	357C	WP	328C												
1700=PK	10	0709	15170	CZEC	RFE	G3B	0	0	0	48.87N	111.06E	WP	317C	MU	48B												
1701=PK	9	1745	7255	RUSS	RL	L7+L8	0	0	0	20.47S	145.06E	IT	63B	KR	63B												
1702=PK	14	1810	7270	RUSS	VOA	MUN	162	37	95	58.53N	43.15E	SS	32C	BR	65B	IT	60C	KO	50B	KR	75B	NO	75*				
1703=PK	9	0409	15370	RUSS	RL	L2	0	0	0	37.84N	64.09E	WP	326C	AN	333B												
1704=PK	12	0737	15370	RUSS	RL	L2	0	0	0	46.78S	171.56W	KO	30C	MU	57A												
1705=PL	17	1405	17710	????	????????????		0	0	0	50.13N	60.69W	BE	42C	PS	40C												
1706=PL	19	0840	17710	????	????????????		0	0	0	39.56N	57.63E	KO	85C	KR	89B												
1707=PL	17	1241	17775	????	????????????		0	0	0	56.66N	16.59E	BE	44C	FL	35B												
1708=PL	15	1802	17895	????	????????????		972	190	100	72.60N	21.74W	FE	24C	DS	17C	GI	24B										
1709=PL	17	1840	17895	????	????????????		386	23	118	46.80N	41.77E	BR	96A	IT	96B	KO	35C	KO	80C	KR	90D						
1710=PL	14	1630	21455	????	????????????		0	0	0	22.99N	59.51E	FL	42C	PS	36A												
1711=PL	9	1145	15130	RUSS	RL	G1	0	0	0	46.09N	56.34E	KO	75C	KR	80D												
1712=PL	11	1810	15290	RUSS	RL	G15+G16	137	19	99	49.42N	31.45E	UK	83A	KO	75B	MU	77B										
1713=PL	11	1417	15290	RUSS	RL	P1	0	0	0	52.07N	34.09E	AL	34C	NE	79B												
1714=PL	11	1130	15290	RUSS	RL	P1+P2	0	0	0	46.75S	166.38E	UK	65C	NE	73B												
1715=PL	17	1233	17770	RUSS	RL	P4	0	0	0	51.49N	23.72E	SS	40C	BE	47C												
1716=PL	19	1310	17770	RUSS	RL	P4	0	0	0	9.93N	92.65E	UK	81B	SS	38C												
1717=PL	8	1300	21455	RUSS	RL	L3	1130	18	60	51.08N	18.56E	MU	55B	MU	55B	SS	41C										
1718=R7	3	1002	11820	????	????????????		75	12	128	42.93N	24.58E	BR	137B	IT	136A	KO	108A	KR	120A	MU	120B						
1719=R7	5	0533	11825	????	????????????		180	28	143	41.60N	24.14E	UK	110B	BR	135A	IT	137B	NO	136B								
1720=R7	10	0908	15365	????	????????????		113	14	132	45.26N	20.55E	IT	137B	KO	108D	KR	120A										
1721=R7	6	0404	11825	BULG	RFE	G4B	50	11	129	44.64N	21.13E	BR	140A	IT	136A	KO	104B	KR	112D	MU	115A						
1722=R7	15	1604	17725	BULG	RFE	G3A	0	0	0	38.11N	29.57E	UK	110B	BE	56B												
1723=R7	4	0610	11885	RUSS	RL	L10	0	0	0	51.21N	24.79E	IT	100C	KO	65D												
1724=R7	13	1218	15290	RUSS	RL	P1+P2	3422	29	127	47.33N	17.00E	UK	120C	PS	44B	PS	44B	BR	75C	KR	120B						
1725=R7	8	1102	15370	RUSS	RL	L2	78	11	138	45.54N	20.27E	BE	55C	BR	140B	IT	137A	KR	120A								
1726=R7	14	0930	15370	RUSS	RL	L2	931	47	142	31.61N	37.83E	UK	110C	BR	130B	IT	139A	KR	120A								
1727=R7	13	1045	15370	RUSS	RL	L2	176	17	136	42.27N	25.45E	BR	137B	IT	130D	KR	120A	MU	50D								
1728=R7	13	1301	15370	RUSS	RL	L2	649	108	74	54.37S	177.00E	NO	137A	BR	110C	IT	97D	KR	120B	MU	120D						
1729=R9	4	0609	11855	????	????????????		0	0	0	56.00N	8.85E	BE	47C	FE	27C												
1730=R9	3	1836	11865	????	????????????		1021	39	145	47.09N	23.07E	BE	51B	LV	16C	NO	131*										
1731=R9	2	1805	11905	????	????????????		0	0	0	12.10S	77.43E	BE	52C	PS	41C												
1732=R9	9	1813	15130	????	????????????		0	0	0	55.11N	4.78W	PS	42C	SS	36C												
1733=R9	11	1512	15445	????	????????????		2902	287	119	53.93N	18.92E	BE	49C	FL	36B	AL	37C										
1734=R9	17	1400	17760	ARM	RL	L1	43	9	119	50.02N	17.26E	NE	98B	IT	126A	KR	100A	BE	51C								
1735=R9	7	0050	11875	AZ	RL	L3	0	0	0	52.30N	21.30E	BR	90D	MU	53C												
1736=R9	12	1403	15340	AZ	RL	L4	0	0	0	49.55N	58.46W	PS	43C	BE	51A												
1737=R9	11	1800	15340	AZ	RL	L4	0	0	0	26.01N	72.87E	NE	90B	SS	43C												
1738=R9	10	1740	15340	AZ	RL	L4	2452	358	146	1.20S	74.15E	FL	41B	AL	28C	PS	44B										
1739=R9	10	1715	15130	BR	RL	P2	0	0	0	47.07N	17.60E	FL	44B	PS	44C												
1740=R9	11	1704	15255	CZEC	RFE	G2B	0	0	0	52.18N	16.58E	BE	49B	SS	40C												
1741=R9	20	1611	9505	EST	RFE	HD	0	0	0	38.21N	31.33E	BE	55B	NO	130*												
1742=R9	12	1619	15130	EST	RFE	P2	0	0	0	50.18N	9.13E	FL	43B	PS	44C												
1743=R9	7	1908	11875	GEOR	RL	L3	57	16	123	47.52N	14.93E	NO	150B	UK	105A	LR	45C	BE	55B								
1744=R9	15	1605	17760	GEOR	RL	L1	24	8	108	50.62N	14.42E	BR	160C	IT	125A	KR	98A	KR	98A	BE	51B	DS	32B				
1745=R9	18	1649	17760	GEOR	RL	L1	0	0	0	25.10S	87.42E	PS	40B	LR	48C												
1746=R9	13	1432	15130	LAT	RFE	P2	0	0	0	45.70N	66.54W	PS	44C	BE	53B												
1747=R9	9	0510	7165	ROMA	RFE	B4	0	0	0	39.90N	35.93E	UK	100B	WP	348C												
1748=R9	15	0715	9520	RUSS	RL	L9	0	0	0	47.83N	23.00E	UK	94C	KO	84C												
1749=R9	15	1000	9520	RUSS	RL	L9	0	0	0	51.61S	176.97E	NE	86B	UK	95C												
1750=R9	16	0005	9520	RUSS	RL	L9+L10	0	0	0	51.90N	13.02E	IT	132B	KR	80D												

1751=R9	5	2140	11875	RUSS	RL	L3	0	0	0	41.29N	29.68E	BR	129B	IT	125B														
1752=R9	10	1305	15130	RUSS	RL	P2	4393	252	120	49.85N	19.46E	BE	50B	PS	42C	FL	41B												
1753=R9	13	1320	15445	RUSS	RL	P3	0	0	0	54.69N	27.33W	LR	48C	PS	44C														
1754=R9	12	1426	15445	RUSS	RL	P3	1797	409	120	48.30N	21.59E	AL	41C	SS	43C	PS	44C												
1755=R9	17	1000	17760	RUSS	RL	L1	775	11	76	52.67N	7.69E	NE	74B	SS	36C	LR	47C												
1756=R9	16	1603	17770	RUSS	RL	P4	0	0	0	37.54N	20.02E	FL	52C	AN	8B														
1757=R9	18	1400	17770	RUSS	RL	P4	0	0	0	50.43N	12.67E	LR	47C	FL	42B														
1758=R9	18	1733	17770	RUSS	RL	P4	476	189	13	20.98S	84.90E	LR	46C	BE	51B	KI	338C												
1759=R9	15	1900	9565	UKR	RL	P2	0	0	0	53.52N	10.35E	NE	66B	IT	127B														
1760=R9	18	1802	9565	UKR	RL	P2	0	0	0	20.01N	64.54E	FL	40B	GI	18C														
1761=R9	4	1601	11885	UKR	RL	B1	0	0	0	47.19N	34.79E	AL	37C	LR	41C														
1762=R9	2	1530	11885	UKR	RL	B1	0	0	0	4.25S	72.90E	BE	51C	PS	40C														
1763=R9	2	1803	11885	UKR	RL	P1	0	0	0	21.77S	84.82E	BE	52C	PS	40C														
1764=R9	4	1831	11885	UKR	RL	P1	0	0	0	34.23N	50.71E	FL	40B	LR	41C														
1765=RA	12	1511	7140	????	????????????		0	0	0	33.43N	116.15E	FE	314C	LV	315B														
1766=RB	10	1220	7155	????	????????????		87	12	72	55.22N	24.01E	BR	63A	IT	75B	KO	45	KR	63C										
1767=RB	13	1415	7195	????	????????????		42	8	70	55.42N	22.98E	BR	60A	KO	42A	KR	62A	IT	72A										
1768=RB	13	1135	7195	????	????????????		206	32	80	56.36N	33.23E	BR	64C	IT	70C	KO	43B	MU	50C										
1769=RB	9	0237	7220	RUSS	RL	L7+L8	40	10	112	51.06N	19.33E	BR	110A	IT	110B	KO	59B	KR	99B										
1770=RD	8	0946	7220	RUSS	RL	L7+L8	0	0	0	57.43N	32.57W	BE	47C	AL	47C														
1771=RI	3	1334	11725	POLI	RFE	B1	125	17	77	56.48N	34.52E	BR	63B	IT	70B	KO	51A	KR	66A	MU	60B								
1772=RQ	4	0420	6150	RUSS	VOA	MUN	120	15	71	55.42N	22.09E	KO	40C	IT	70C	KR	60A												
1773=RS	1	0800	11885	RUSS	RL	L10	0	0	0	50.75S	164.02E	BR	96B	KO	110B														
1774=RT	15	1715	17815	????	????????????		0	0	0	41.89N	47.77E	SS	43C	BE	43A														
1775=RT	14	1640	21455	????	????????????		0	0	0	54.71N	19.65E	KO	39A	KR	61B														
1776=RT	6	1610	6060	LAT	VOA	WOF	270	16	76	58.83N	36.43E	BR	55A	IT	60B	KO	32C	KR	57C										
1777=RT	3	1615	11845	LAT	VOA	TAN	1011	35	87	54.13N	19.68E	UK	70B	FL	35B	SS	45C												
1778=RT	5	1940	6070	RUSS	BBC	CYPRUS	560	105	131	46.29S	178.70E	BR	55B	IT	60C	KO	70D	KR	56B										
1779=RT	4	1647	6125	RUSS	BBC	WOOF	0	0	0	54.31N	36.81E	N3	155*	UK	68C														
1780=RT	6	0920	11875	RUSS	RL	B4	787	54	94	58.13N	53.63E	BR	60B	IT	60C	KO	50C	KR	75C	MU	60D								
1781=RT	14	1532	15290	RUSS	RL	P1	0	0	0	37.48N	50.98E	GI	24C	PS	34C														
1782=RT	15	1338	17770	RUSS	RL	P4	0	0	0	48.29N	39.05E	BE	43B	AL	34C														
1783=RV	8	0934	7215	????	????????????		4039	117	129	42.49N	87.30E	BR	70D	IT	70B	KO	66C	KR	66A										
1784=RV	8	0705	7225	????	????????????		597	62	87	52.73S	176.15E	BR	95	IT	92C	KR	105A												
1785=RV	8	0934	7235	????	????????????		256	53	117	48.54S	178.26E	BR	70	IT	70B	KO	100B	KR	66A										
1786=RV	7	0330	6025	RUSS	VOA	WOF	839	169	117	46.33S	175.53E	BR	80C	KO	80C	KR	60C												
1787=RV	8	1230	7220	RUSS	RL	L7+L8	0	0	0	57.48N	25.70E	IT	62B	KR	53A														
1788=RV	3	1300	11705	RUSS	VOA	KAV	66	20	90	52.01N	17.20E	NE	87B	NE	87B	BR	50C	IT	55C	KO	47C	MU	60D						
1789=S5	16	2330	9560	????	????????????		22	18	84	49.54N	13.68E	IT	150B	KO	58B	KR	107C												
1790=S5	16	2330	9570	????	????????????		21	18	78	49.72N	13.47E	IT	150B	KO	54B	KR	107C												
1791=S5	21	1839	9610	????	????????????		1196	180	106	50.48N	2.48W	AL	340C	BE	58B	SS	42C	LR	49C										
1792=S5	5	2140	11830	????	????????????		0	0	0	51.50N	12.34E	FL	41B	LR	46B														
1793=S5	7	1905	11865	????	????????????		2146	20	119	45.87N	21.57E	UK	102A	SS	46C	LR	48B												
1794=SD	20	1220	17760	RUSS	RL	L1	119	22	102	49.82N	29.19E	BR	100	KO	74B	KR	85C												
1795=SD	17	0612	17895	RUSS	RL	P5	0	0	0	53.86N	24.34E	KR	70C	MU	50C														
1796=SF	16	0245	9530	????	????????????		0	0	0	29.34N	112.82E	IT	62B	KR	60D														
1797=SF	15	1530	9770	????	????????????		0	0	0	52.38N	25.83E	KO	60A	KR	78C														
1798=SF	19	0840	17720	????	????????????		0	0	0	51.62N	18.79E	KO	54C	MU	51C														
1799=SF	19	0410	9680	BR	RL	G15+G16	0	0	0	58.82N	38.37E	KR	55C	AN	355B														
1800=SF	16	2330	9595	CZEC	RFE	G3B	132	16	76	57.33N	31.56E	UK	60C	BR	30A	IT	63C	KO	57A	KR	58A	MU	45B						
1801=SF	20	0306	9680	EST	RFE	G15+G16	0	0	0	56.54N	20.92E	UK	60B	BR	45B														
1802=SF	6	1635	11970	EST	RFE	HA	1022	101	106	54.20N	59.58E	KO	50A	KR	65D	MU	60C	UK	61B										
1803=SF	13	1538	15270	EST	VOA	WOF	397	29	98	55.48N	52.90E	BR	85B	IT	88A	KO	58B	KR	80B	MU	60B	UK	60B						
												BR	63B	KO	58B	KR	64A	KR	64	MU	54A								

1804=SF	16	2000	9505	GEOR	RL	L1	0	0	0	57.11N	30.58E	KR	58B	MU	45B											
1805=SF	17	1905	9505	GEOR	RL	L1	658	55	104	54.72N	56.81E	UK	63B	IT	65B	KO	60B	KR	66B							
1806=SF	3	1615	11865	LAT	VOA	WOF	185	16	82	56.72N	34.24E	UK	60B	BR	66B	IT	70C	KR	60A	MU	50C					
1807=SF	14	1430	15270	LAT	VOA	WOF	0	0	0	55.46N	22.71E	UK	65C	KR	60B											
1808=SF	16	0300	9680	LITH	RFE	G2	2951	127	124	47.01S	168.81E	NE	70B	NE	70B	UK	60C									
1809=SF	6	1506	11865	LITH	VOA	WOF	672	87	99	56.26N	43.41E	UK	62B	DS	10C	LV	12C									
1810=SF	7	0345	6090	RUSS	VOA	MUN	0	0	0	46.92S	176.01E	BR	70C	KO	90C											
1811=SF	4	2146	6140	RUSS	VOA	WOF	109	24	73	54.74N	24.85E	BR	70C	IT	77C	KO	48B									
1812=SF	8	0115	7220	RUSS	RL	G2B	0	0	0	53.30N	99.34W	KI	358C	BE	305C											
1813=SF	16	1652	9565	RUSS	RL	B8	63	14	79	55.66N	27.29E	BR	60D	IT	73A	KO	50B	KR	57A	MU	45B					
1814=SF	8	1115	15380	RUSS	RL	HA	2066	119	120	50.41N	79.41E	BR	60A	IT	65B	KO	59B	KR	62B	MU	45D					
1815=SF	11	0800	15380	RUSS	RL	HA	40	3	64	52.78N	13.98E	NE	78B	BR	63B	KR	64B	NE	84B							
1816=SF	8	1115	15445	RUSS	RL	P6	2066	119	120	50.41N	79.41E	BR	60A	IT	65B	KO	59B	KR	62B	MU	45D					
1817=SF	14	1215	15445	RUSS	RL	P6	3868	278	138	33.09S	161.48E	BR	60C	KO	65B	KR	57B									
1818=SF	15	1015	17725	RUSS	RL	P3+P4	215	87	101	48.73S	179.14W	BR	60D	IT	90D	KO	98B	KR	60C							
1819=SF	16	0830	17725	RUSS	RL	P3+P4	103	11	69	56.75N	26.71E	BR	55A	IT	65C	KO	56C	KR	58A	MU	43B					
1820=SF	15	0820	17725	RUSS	RL	P3+P4	62	20	69	52.13N	20.84E	BR	55B	IT	100C	KO	55B	MU	53B							
1821=SF	17	1000	17725	RUSS	RL	P3+P4	0	0	0	39.79S	159.36E	NE	65B	UK	57C											
1822=SF	17	1200	17725	RUSS	RL	P3+P4	2192	147	135	39.23S	164.83E	NE	75B	NE	61B	KO	70C	KR	60A							
1823=SF	11	0938	21745	RUSS	RL	G3	0	0	0	46.03S	173.57W	KO	50D	MU	60D											
1824=SG	4	0425	6170	BR	RL	HD	14973	482	155	1.39N	156.70E	KO	40C	KO	40B	IT	38C									
1825=SG	6	1517	11865	LITH	VOA	WOF	18285	396	144	21.27S	143.75E	BR	70C	IT	65B	KO	49A	KR	65B	MU	55C					
1826=SG	4	0610	11885	RUSS	RL	L10	0	0	0	50.34N	23.45E	KR	90B	MU	70C											
1827=SM	13	0650	15360	????	????????????		207	28	100	49.91N	35.58E	BR	80B	IT	95D	KR	83B	MU	75B							
1828=SM	11	0535	7165	ROMA	RFE	B4	52	13	108	49.08N	18.46E	BR	90B	IT	120D	KO	73B	KR	105A							
1829=SM	21	0445	9660	RUSS	RL	HA	0	0	0	46.92N	50.68E	KR	82B	N1	115*											
1830=SM	10	0840	21455	RUSS	RL	L3	0	0	0	52.58N	36.12E	KR	75A	MU	65B											
1831=SM	10	1210	21570	RUSS	VOA	KAV	0	0	0	51.27N	16.80E	KR	88B	MU	46C											
1832=SR	18	2030	9505	BULG	RFE	G2	179	28	57	57.21N	20.24E	BR	40D	IT	58C	KO	40C	KR	45C	BE	215B					
1833=ST	6	0920	11970	????	????????????		104	24	69	53.71N	24.06E	BR	65B	IT	85D	KO	50B	KR	70D	MU	55C					
1834=ST	9	1512	15295	????	????????????		6762	276	132	27.52S	127.35E	BR	88C	KO	90A	KR	87B									
1835=ST	6	0800	6105	RUSS	RL	L11	0	0	0	57.32N	45.33E	KR	60D	BE	33C											
1836=ST	3	0731	6105	RUSS	RL	L11	0	0	0	55.98N	26.61E	N1	140B	BR	61A											
1837=ST	9	1115	7220	RUSS	RL	L7+L8	0	0	0	44.16S	165.98E	UK	55B	NE	65B											
1838=ST	14	1840	15380	UKR	RL	P3	0	0	0	50.51N	12.36E	SS	42C	KO	35B											
1839=SU	9	2035	7215	????	????????????		340	29	110	49.64N	41.13E	SS	34C	BR	91B	IT	86B	KO	74C	KR	81B					
1840=SU	9	2105	7215	????	????????????		183	26	112	49.76N	40.56E	NO	99B	SS	34C	BR	91B	IT	86B	KO	74C	KR	81B			
1841=SU	9	2115	7230	????	????????????		172	26	102	50.83N	36.37E	BR	95C	IT	90B	KO	70B	KR	80B							
1842=SU	9	0010	7230	????	????????????		679	45	116	46.63N	53.52E	BR	90A	IT	86B	KO	75B	KR	81A							
1843=SU	15	2000	9555	????	????????????		0	0	0	52.35N	5.83E	UK	76B	NE	76B											
1844=SU	9	2037	7210	BULG	BBC	WOOF	107	23	107	50.09N	35.38E	NO	105*	UK	75C	BR	91B	IT	82C	KO	74B	KR	81C			
1845=SU	9	2104	7210	BULG	BBC	WOOF	228	72	130	43.85N	60.47E	NO	99B	N3	126B	BR	91B	IT	82C	KO	74B	KR	81C			
1846=SU	8	2208	7210	HUNG	BBC	CYPRUS	220	25	105	51.25N	34.52E	BR	87B	IT	90B	KO	82A	KR	74B	MU	70D					
1847=SU	17	2136	9555	LITH	RFE	P4	2520	480	153	20.12N	78.14E	FL	32B	AL	12C	SS	36C									
1848=SU	12	2300	7220	RUSS	RL	L5+L6	205	21	92	53.50N	24.78E	BR	78B	IT	86B	KR	80B	SS	40C	FL	41B					
1849=SU	9	2000	7220	RUSS	RL	L5+L6	202	3	71	52.45N	6.04E	NE	70B	NE	70B	FL	51B	UK	75C							
1850=SU	9	2100	7220	RUSS	RL	L5+L6	162	28	111	51.86N	35.64E	NE	79B	NO	99B	FL	51B	NE	79B							
1851=SU	9	2045	7230	RUSS	BBC	CYPRUS	133	20	101	51.02N	33.34E	UK	75C	BR	95C	IT	90B	KO	70B	KR	80B					
1852=SU	1	2305	11935	RUSS	RL	P6	877	217	141	12.28N	104.96E	BR	80D	IT	90D	KO	76A	KR	81C	MU	75B	DS	312C			
												SS	38C													
1853=SU	5	0130	11970	RUSS	RL	P2	1337	190	123	42.92S	172.70E	NE	71B	BR	60C	IT	65D	KO	68D	MU	75B					
1854=SU	1	2305	11970	RUSS	RL	G6	877	76	121	41.76N	68.33E	BR	80D	IT	90D	IT	80D	KO	76A	KR	81C	MU	75B			
												DS	352C	SS	34C											
1855=TK	12	2302	7245	????	????????????		1071	215	148	5.10S	106.34E	BR	89B	IT	88A	KR	80B	SS	39C	AL	340C					

1856=TK	20	2210	9565	????	????????????	0	0	0	44.53N	52.03E	KO	80B	UK	80B											
1857=TK	20	0410	9750	????	????????????	0	0	0	6.00S	102.82E	SS	42C	NO	87B											
1858=TK	6	0028	11720	????	????????????	0	0	0	19.07N	65.32E	FE	352C	FL	40C											
1859=TK	6	2307	11775	????	????????????	0	0	0	46.20S	179.92W	KO	80D	MU	80C											
1860=TK	1	1535	11855	????	????????????	578	276	129	36.51N	68.95E	MU	84C	WP	322B	BE	35C	SS	32C	GI	10C					
1861=TK	1	1906	11915	????	????????????	3203	114	116	44.22N	66.20E	SS	33C	MU	75B	MU	75B									
1862=TK	5	0133	11925	????	????????????	0	0	0	88.25N	7.59W	DS	2B	LV	2C											
1863=TK	5	0134	11930	????	????????????	0	0	0	20.35N	68.67E	DS	2B	FL	36B											
1864=TK	9	1234	15230	????	????????????	411	34	119	44.93N	56.08E	BR	84B	IT	88A	KO	78A	KR	82A	MU	65B					
1865=TK	9	1502	15280	????	????????????	1053	73	122	40.74N	64.67E	BR	55A	IT	87B	KO	79A	KR	82B							
1866=TK	18	1405	17815	????	????????????	74	12	91	52.58N	24.61E	FL	30B	UK	70B	BR	90B	IT	93B	KO	60B	KR	77A			
											AL	60C													
1867=TK	14	1805	7255	ARM	RL	L4	151	27	80	54.28N	17.11E	SS	38C	IT	82C	KO	60B	KR	60C						
1868=TK	8	1840	7255	ARM	RL	L4	371	46	113	49.63N	52.30E	NO	80C	UK	79O	SS	38C	BR	82D	IT	76B	KO	70B		
												KR	80B	WP	323C										
1869=TK	15	1900	9505	ARM	RL	L1	311	28	109	51.54S	178.16W	NE	72B	NE	72B	IT	86B	KR	94C						
1870=TK	19	1702	9505	BR	RL	HD	974	151	130	37.52N	69.06E	WP	317C	IT	90B	KR	80B								
1871=TK	21	0305	9725	CZEC	RFE	G6	0	0	0	25.84S	129.31E	UK	75C	NO	75*										
1872=TK	3	1431	11960	EST	VOA	MUN	0	0	0	5.69S	88.12E	LR	26C	BE	34C										
1873=TK	10	1700	15130	EST	RFE	P2	3507	184	137	25.46N	84.56E	NE	79B	KO	84B	IT	87B	SS	37C	NE	80B				
1874=TK	12	1612	15130	EST	RFE	P2	2154	95	130	32.27N	77.35E	SS	36C	KO	82A	KR	82A	MU	80B						
1875=TK	7	1405	11960	LAT	VOA	MUN	1418	86	135	32.44N	72.46E	NO	89*	UK	80A	BR	82A	IT	90A	KO	77A	KR	62A		
												MU	85B												
1876=TK	14	1430	15270	LAT	VOA	WOF	172	24	104	50.36N	38.42E	UK	65C	SS	39C	BR	90B	IT	87B	KO	70B	KR	90B		
												MU	75C												
1877=TK	7	1505	11960	LITH	VOA	MUN	237	26	117	46.13N	51.31E	UK	80A	NO	89B	SS	36C	BR	85A	IT	89A	KO	77A		
												KR	84A	MU	75C										
1878=TK	8	1501	15270	LITH	VOA	WOF	558	47	124	41.59N	63.16E	BR	83A	IT	87A	KO	80A	KR	82A	DS	15C	UK	70B		
												LR	23C	SS	36C										
1879=TK	6	0303	11725	POLI	RFE	G9+G10	503	154	137	33.58N	73.70E	GI	327C	SS	41C	IT	84B	KR	83B	MU	90C	DS	0B		
												AL	36C	FE	349C	WP	322C	FL	35C						
1880=TK	10	0055	7190	RUSS	RL	P5	0	0	0	3.74N	107.32E	KR	80C	AL	342C										
1881=TK	8	0000	7190	RUSS	RL	P5	0	0	0	52.24N	5.31E	NE	73B	PS	43C										
1882=TK	6	0035	11725	RUSS	RL	G9+G10	882	204	140	35.63N	72.12E	AL	37C	IT	86B	PS	6C	SS	40C	BE	346C	BE	35C		
												GI	5B												
1883=TK	1	0102	11725	RUSS	RL	G9+G10	240	27	98	50.25N	38.20E	PS	32D	BR	90D	IT	110D	KO	70B	KR	80B	MU	75B		
												PS	35D												
1884=TK	3	0218	11725	RUSS	RL	G9+G10	876	447	177	35.37N	78.07E	BE	350C	FL	71C	LR	25C	WP	324C	FE	340C	GI	321C		
												DS	356C	SS	43C	PS	358C								
1885=TK	3	0010	11725	RUSS	RL	G9+G10	829	230	134	37.30N	72.49E	SS	41C	LR	20C	WP	313C	PS	45C	NE	78B	BE	340C		
1886=TK	5	2345	11770	RUSS	RL	P3	449	43	114	46.56N	50.99E	BR	89B	IT	87B	KO	75B	KR	85C	MU	80B				
1887=TK	6	0316	11770	RUSS	RL	P3	1435	448	162	35.76N	72.41E	SS	41C	DS	0B	FL	20B								
1888=TK	6	0017	11770	RUSS	RL	P3	0	0	0	30.16N	62.17E	DS	8C	FL	35C										
1889=TK	1	0105	11770	RUSS	RL	P3	92	23	91	50.51N	25.37E	BR	90D	IT	110D	KO	70B	KR	80D	MU	75C	LR	22C		
												PS	35C												
1890=TK	1	2236	11770	RUSS	RL	P3	231	63	125	42.60N	64.29E	BE	31C	BR	80D	IT	90D	KO	78A	KR	78C	MU	75B		
												LR	24C	N3	123B										
1891=TK	4	0010	11915	RUSS	RL	G5	0	0	0	18.18N	77.77E	FL	28B	SS	46C										
1892=TK	7	0419	11935	RUSS	RL	B5	0	0	0	46.71N	73.20E	DS	358C	BE	25C										
1893=TK	1	0210	11935	RUSS	RL	P6	285	47	93	52.66N	39.69E	BR	56D	IT	80D	KO	60C	KR	100D	MU	70C	PS	34C		
												BE	34B												
1894=TK	2	0240	11935	RUSS	RL	P6	64	23	69	52.54N	19.06E	BR	85D	IT	80D	KR	80D	MU	45C	MU	45C				
1895=TK	4	0234	11935	RUSS	RL	P6	1082	443	169	4.24N	85.98E	PS	351C	KI	6C	SS	46C	DS	255C	GI	8C				
1896=TK	5	0130	11935	RUSS	RL	P6	352	98	129	40.05N	65.86E	NE	77B	DS	3B	N3	121C	MU	83B	MU	83B	AL	37C		

												FE	358C										
1897=TK	2	0005	11970	RUSS	RL	P2	0	0	0	49.89N	30.57E	KR	87D	MU	75B								
1898=TK	6	2235	11970	RUSS	RL	G6	0	0	0	47.44S	172.30W	KO	76A	MU	75C								
1899=TK	8	1333	15225	RUSS	VOA	WOF	612	46	127	40.14N	63.56E	UK	76A	PS	12B	BR	90A	IT	88B	KO	81B	KR	85A
												NO	91B	BE	48B	LR	23C						
1900=TK	12	1203	15225	RUSS	VOA	WOF	846	74	122	44.36N	53.37E	WP	318C	UK	80B	SS	38C	PS	42C	BR	90D	IT	95C
												KR	82B										
1901=TK	9	1235	15225	RUSS	VOA	WOF	1215	41	99	51.96N	25.68E	SS	36C	BE	46C	UK	78B						
1902=TK	11	1245	15225	RUSS	VOA	WOF	0	0	0	51.83N	21.19E	KR	82C	MU	56C								
1903=TK	9	1013	15380	RUSS	RL	HA	0	0	0	34.54N	78.25E	NO	84B	UK	74B								
1904=TK	8	1103	15380	RUSS	RL	HA	717	612	9	37.82N	69.24E	WP	323B	BE	31C	SS	37C						
1905=TK	11	0938	21745	RUSS	RL	G3	0	0	0	52.18S	175.62E	BR	95B	IT	84C								
1906=TK	11	2135	7245	UKR	RL	L7+L8	192	19	95	52.96N	22.37E	BR	80C	BR	85D	IT	91B	KO	90A	UK	76B	SS	37C
1907=TK	8	1945	7245	UKR	RL	L7+L8	0	0	0	38.03N	67.41E	SS	37C	NO	90B								
1908=TK	9	2100	7245	UKR	RL	L7+L8	93	19	92	52.04S	176.98W	NE	78C	SS	38C	BR	104C	IT	95B	KO	73B	KR	100A
												NE	78C										
1909=TK	9	2000	7245	UKR	RL	L7+L8	141	22	106	49.96N	34.26E	NE	85B	NE	85B	UK	90C	SS	38C	BR	104C	IT	95B
												KO	73B	KR	100A								
1910=TK	10	2233	7245	UKR	RL	P5	267	31	111	48.14N	41.26E	BR	90B	IT	88C	KO	78B	KR	91B	AN	345C	SS	38C
												PS	62B										
1911=TK	14	2010	7245	UKR	RL	L7+L8	105	19	92	53.05N	29.44E	BR	80B	IT	86B	KO	60B	SS	36C	UK	75C		
1912=TK	15	2000	9565	UKR	RL	P2	77	1	65	52.31N	5.30E	NE	66B	UK	76B	NE	66B						
1913=TK	3	1701	11885	UKR	RL	B1	0	0	0	37.39N	62.88E	FL	30B	SS	40C								
1914=TK	8	1602	15380	UKR	RL	P3	481	97	133	35.87N	72.03E	AL	37C	KO	88C	KR	82A	MU	60D	PS	14B	DS	12C
												AN	352C	SS	36C	FL	44C	KO	81B	N3	110C	LR	25C
1915=TK	13	1810	15380	UKR	RL	P3	0	0	0	56.75N	48.06E	UK	60C	DS	12C								
1916=TK	10	1630	15380	UKR	RL	P3	108	15	97	50.70N	26.52E	SS	38C	IT	92D	KR	86A	MU	70B	PS	49C		
1917=TR	15	0850	9660	????	????????????		126	17	112	45.24N	33.84E	BR	110B	IT	132B	KO	89A	KR	100B				
1918=TR	19	1805	9770	????	????????????		1783	104	131	38.25N	45.19E	UK	94B	FL	45B	IT	108C	KR	90C				
1919=TR	2	1545	11910	????	????????????		0	0	0	46.71N	24.09E	KO	90B	MU	95C								
1920=TR	14	0845	15275	????	????????????		331	20	129	44.95N	32.58E	IT	112A	KR	100C	NO	115C						
1921=TR	11	1131	15280	????	????????????		0	0	0	47.20N	42.73E	BE	42C	SS	40C								
1922=TR	12	1310	15300	????	????????????		327	66	91	52.00S	178.77W	BR	80C	IT	82C	KR	100B	MU	50C				
1923=TR	18	1630	17760	GEOR	RL	L1	0	0	0	50.08N	17.23E	UK	90C	BE	51C								
1924=TR	2	0350	5985	HUNG	RFE	G3	0	0	0	50.36N	21.90E	BR	109B	IT	110B								
1925=TR	1	1315	11895	HUNG	RFE	B7	0	0	0	50.16N	17.22E	KR	98B	MU	60B								
1926=TR	2	1550	11895	HUNG	RFE	G5	0	0	0	48.07N	12.99E	KO	80D	MU	95C								
1927=TR	13	0935	15290	RUSS	RL	P1+P2	0	0	0	47.51N	25.19E	KO	85A	KR	102A								
1928=TR	17	1615	17855	UKRA	VOA	TAN	90	22	99	51.72N	20.51E	BR	98B	MU	55D	GI	31C						
1929=TS	15	0540	9725	HUNG	RFE	B2	196	46	94	47.85S	175.12W	BR	53B	IT	105B	KO	90B	MU	95B				
1930=TU	6	0330	5985	????	????????????		467	18	97	53.74N	41.25E	BR	75A	IT	78C	KO	65D	KR	68B				
1931=TU	3	2230	6010	????	????????????		500	22	99	54.72N	48.54E	BR	70A	IT	72B	KR	66A	MU	60C				
1932=TU	2	0450	6015	????	????????????		0	0	0	52.96N	16.44E	BR	77A	IT	100B								
1933=TU	1	0200	6025	????	????????????		116	21	80	55.08N	27.39E	NE	69B	NE	69B	KO	50C	KO	50C	KR	80B		
1934=TU	5	0206	6030	????	????????????		0	0	0	43.45S	162.05E	IT	71B	KR	75C								
1935=TU	4	0405	6085	????	????????????		104	21	77	53.93N	23.80E	KO	50C	KO	50C	BR	75B	IT	80D				
1936=TU	4	0425	6095	????	????????????		0	0	0	27.56N	73.62E	BR	95C	MU	90B								
1937=TU	6	0230	6095	????	????????????		0	0	0	50.95S	178.39E	BR	86B	IT	71C								
1938=TU	14	1909	7105	????	????????????		127	26	72	55.56N	26.72E	BR	70A	IT	75C	KO	48B	KR	60C				
1939=TU	8	0200	7105	????	????????????		251	43	97	57.60N	38.20E	NE	61C	NE	61C	NO	80C						
1940=TU	11	1738	7150	????	????????????		135	26	83	53.63N	24.79E	BR	74C	IT	89D	KO	55C	KR	70C				
1941=TU	14	1732	7150	????	????????????		755	65	106	52.13N	54.56E	BR	80B	IT	75C	KO	64B	KR	70B				
1942=TU	8	1500	7170	????	????????????		55	12	90	52.46N	17.86E	NE	82B	BR	94B	IT	88C	KO	58B	KR	70C	MU	45C
												NE	82B	UK	60B								

1943=TU	9	0603	7180	????	????????????	0	0	0	54.41N	20.46E	IT	81B	KR	64A													
1944=TU	9	0510	7180	????	????????????	0	0	0	52.11N	53.63E	BE	33C	UK	67B													
1945=TU	10	0425	7185	????	????????????	7581	119	137	33.40N	100.61E	BR	70A	IT	68B	IT	68B	KO	56A	KR	56A	BR	70A					
1946=TU	16	0245	9630	????	????????????	0	0	0	41.36N	87.95E	IT	70D	KR	67C													
1947=TU	18	0510	9635	????	????????????	0	0	0	53.00N	14.46E	IT	105D	KR	67B													
1948=TU	15	0535	9660	????	????????????	0	0	0	53.81N	58.45E	IT	70B	KO	60B													
1949=TU	16	1540	9770	????	????????????	716	61	100	54.26N	52.23E	KO	60B	IT	72D	KR	66B											
1950=TU	15	1530	9770	????	????????????	0	0	0	54.31N	44.47E	KO	60A	KR	68B													
1951=TU	5	1500	11705	????	????????????	131	25	73	57.48N	31.54E	AL	32C	BR	45A	IT	65B	KO	45B	MU	46C	PS	28D					
1952=TU	3	1330	11740	????	????????????	7058	120	131	41.15N	88.27E	NE	66B	IT	70B	KO	50A	KR	67A	MU	55A							
1953=TU	4	1730	11805	????	????????????	98	13	77	54.70N	24.13E	NE	69B	BR	62C	IT	70C	KO	48B	KR	66A	MU	55B					
1954=TU	1	1805	11805	????	????????????	58	18	91	52.29N	22.89E	BR	90B	IT	95B	KO	45B	KR	70B	MU	56B							
1955=TU	3	1830	11805	????	????????????	161	24	88	56.14N	41.43E	BR	90D	IT	70B	KO	55C	MU	55B	SS	32C	BR	90D					
											IT	70B	KO	55D	MU	55B											
1956=TU	5	1640	11825	????	????????????	191	27	84	55.25N	34.09E	SS	33C	KO	55B	KR	65B	UK	67B									
1957=TU	4	1700	11845	????	????????????	73	9	76	54.90N	24.26E	NE	67B	UK	68B	NE	70B	BR	63A	IT	58B	KO	49B					
											KR	66A	MU	53D	BE	41B	FL	37B									
1958=TU	3	1615	11855	????	????????????	344	57	112	51.70N	52.52E	BR	66A	IT	75D	KR	70B	MU	70C	NO	85B							
1959=TU	3	1434	11870	????	????????????	1671	24	93	58.89N	15.24E	FL	33B	SS	36C	NO	85B											
1960=TU	7	1400	11875	????	????????????	121	21	97	54.26N	40.37E	BR	60A	IT	70A	KO	50A	KR	69A	MU	60B	UK	68B					
											NO	88B															
1961=TU	4	1745	11905	????	????????????	2782	162	122	54.19N	92.07E	BR	63A	IT	54B	KO	49B	KR	66A	MU	55D							
1962=TU	14	1015	15105	????	????????????	408	99	111	48.19S	174.88E	BR	80C	IT	74B	KO	90B	KR	78B	MU	60D							
1963=TU	13	1123	15105	????	????????????	352	33	93	55.91N	44.77E	BR	67B	IT	70B	KO	56B	KR	67A									
1964=TU	9	1811	15130	????	????????????	199	21	78	55.19N	26.55E	BR	65B	IT	72D	KO	49D	KR	66B									
1965=TU	11	1415	15280	????	????????????	0	0	0	54.64N	31.31E	KO	55B	KR	68B													
1966=TU	10	0902	15335	????	????????????	1256	214	122	45.32S	167.96E	BR	70C	IT	70B	KO	88C	MU	50C									
1967=TU	11	2345	15340	????	????????????	0	0	0	2.61N	118.18E	KO	74B	KR	72C													
1968=TU	9	1344	15345	????	????????????	0	0	0	49.34N	13.85E	KO	60D	KR	115B													
1969=TU	10	0913	15385	????	????????????	305	34	94	55.42N	42.87E	IT	72B	KO	57B	KR	65B	MU	45B									
1970=TU	17	1405	17710	????	????????????	869	104	94	57.31N	38.12E	UK	60C	BE	34C	SS	38C											
1971=TU	19	0840	17755	????	????????????	0	0	0	51.78N	20.63E	IT	103B	MU	55D													
1972=TU	15	1603	17780	????	????????????	93	15	77	55.38N	31.03E	BR	70B	IT	73B	KO	52A	KR	65C									
1973=TU	17	1505	17875	????	????????????	113	19	76	55.97N	29.08E	BR	62B	IT	72B	KO	50B	MU	45D									
1974=TU	9	0145	7180	ARM	RL	L1	0	0	0	53.19N	23.19E	UK	74B	KO	53C												
1975=TU	8	0200	7180	ARM	RL	L1	94	28	61	60.46N	18.11E	NE	36C	NE	36C	NO	70C										
1976=TU	15	0109	9505	ARM	RL	L2	0	0	0	54.10N	35.71E	KO	59B	KR	70C												
1977=TU	12	1305	15340	ARM	RL	L4	157	25	84	54.35N	29.31E	UK	70B	KR	68B	MU	55C										
1978=TU	12	1405	15340	AZ	RL	L4	111	16	74	54.07N	28.43E	UK	70C	AL	38C	BE	51A	KO	55A	KR	70B						
1979=TU	10	0404	7180	BR	RL	HC	0	0	0	55.38N	41.22E	WP	349C	SS	33C												
1980=TU	15	0339	9505	BULG	RFE	G1	0	0	0	54.10N	35.71E	KO	59B	KR	70C												
1981=TU	13	0225	7180	GEOR	RL	L1	0	0	0	51.45S	172.54W	BR	75C	KR	105B												
1982=TU	8	0400	7180	LAT	RFE	HC	378	18	92	55.50N	38.74E	NE	77C	NE	66B	BR	70B	IT	73B	KR	65A						
1983=TU	13	1435	15130	LAT	RFE	P2	2216	126	119	48.07N	71.37E	IT	116B	KO	65C	KR	70B	MU	50C	UK	63B						
1984=TU	14	1500	15130	LAT	RFE	P2	108	20	83	55.03N	29.44E	UK	73C	FL	34B	PS	31C	AL	32C	SS	40C	BR	70C				
												IT	71B	KO	53B	KR	71C	BE	38B								
1985=TU	12	0435	7180	LITH	RFE	HC	121	13	80	54.79N	27.65E	BR	70A	IT	70B	KO	51B	KR	66D	UK	67B						
1986=TU	12	1535	15130	LITH	RFE	P2	140	18	72	55.35N	30.68E	UK	66B	SS	33C	KO	52A										
1987=TU	3	0415	5970	POLI	RFE	G3A	0	0	0	55.25N	25.31E	SS	36C	NO	100C												
1988=TU	4	2146	6125	POLI	BBC	WOOF	6338	113	138	32.55N	99.84E	BR	72A	IT	69A	KR	66A										
1989=TU	8	0430	7190	POLI	RFE	G1A	0	0	0	55.60N	38.13E	NE	67B	KR	65A												
1990=TU	10	0408	7190	POLI	RFE	G1A	0	0	0	58.22N	43.00E	WP	349C	SS	30C												
1991=TU	6	1917	6010	ROMA	BBC	WOOF	87	6	113	51.67S	171.61W	BR	72A	IT	68C	KO	52B	KR	65A								
1992=TU	5	1640	11815	ROMA	RFE	B4	176	48	96	51.67S	177.07W	BR	60D	IT	70B	KR	95B										

1993=TU	7	2311	5955	RUSS	RL	HD	633	57	105	53.70N	50.31E	BR	95D	IT	75B	KO	63C	UK	62B										
1994=TU	5	2210	5955	RUSS	RL	HD	153	3	66	52.71N	13.83E	BR	76B	IT	70B	KR	67B	FL	32B										
1995=TU	3	2345	5955	RUSS	RL	HD	56	11	68	54.69N	22.52E	BR	75B	IT	80C	KO	45A	KR	64A	MU	50B								
1996=TU	6	0415	6020	RUSS	VOA	WOF	5203	115	126	43.79N	76.29E	BR	76B	BR	76B	IT	75B												
1997=TU	4	0203	6025	RUSS	VOA	WOF	15	1	2	52.51N	13.30E	BR	70A	KR	70B	KR	70B												
1998=TU	2	0310	6025	RUSS	VOA	WOF	0	0	0	51.92N	9.80E	KO	5C	KR	70A														
1999=TU	5	0310	6090	RUSS	VOA	MUN	107	10	76	53.34N	17.19E	BR	75B	IT	90D	KO	56B	KR	67A										
2000=TU	4	2146	6095	RUSS	VOA	MUN	0	0	0	26.28S	142.93E	BR	75B	IT	70A														
2001=TU	2	0605	6105	RUSS	RL	L11	0	0	0	51.04N	18.92E	SS	41C	NO	130C														
2002=TU	7	1535	6105	RUSS	RL	L2	968	102	118	50.43N	57.33E	UK	67B	NO	83C	IT	60C	KR	75D										
2003=TU	2	1830	6105	RUSS	RL	L2	0	0	0	56.95N	27.19E	NE	61B	NO	90*														
2004=TU	4	2005	6140	RUSS	VOA	WOF	131	25	72	54.95N	22.49E	KO	43C	KR	64B	UK	65C												
2005=TU	5	1912	6140	RUSS	VOA	WOF	0	0	0	58.30N	24.47E	UK	55B	SS	33C														
2006=TU	5	2315	6170	RUSS	RL	B3	0	0	0	45.98S	163.60E	BR	83B	IT	75D														
2007=TU	14	1726	7120	RUSS	BBC	WOOF	0	0	0	43.04N	87.41E	BR	70D	KO	64B														
2008=TU	9	1745	7120	RUSS	BBC	WOOF	12734	408	134	36.58S	154.28E	BR	76C	IT	70C	KR	69C												
2009=TU	11	1736	7120	RUSS	BBC	WOOF	0	0	0	55.21N	34.70E	KO	55D	UK	66B														
2010=TU	10	1740	7120	RUSS	BBC	WOOF	292	15	88	55.26N	35.17E	BR	70A	IT	74B	KR	64B												
2011=TU	8	1720	7120	RUSS	BBC	WOOF	0	0	0	37.04S	171.58E	BR	53C	KO	57C														
2012=TU	14	2202	7155	RUSS	RL	HC	0	0	0	42.06N	81.78E	KR	70C	UK	65C														
2013=TU	9	1530	7170	RUSS	VOA	KAV	2213	94	108	49.38S	171.10E	BR	90C	IT	76D	KO	61B	KR	85A										
2014=TU	11	1744	7170	RUSS	VOA	KAV	0	0	0	50.75N	33.91E	KO	70D	KR	82C														
2015=TU	8	1700	7170	RUSS	VOA	KAV	40	13	95	52.62N	13.09E	NE	82B	BR	94B	IT	120C	KO	71C	KR	70C	NE	82B						
2016=TU	12	1505	7170	RUSS	VOA	KAV	7083	359	145	4.23N	93.21E	NO	90B	BR	96B	IT	90D	KO	70B	MU	80C								
2017=TU	14	1525	7170	RUSS	VOA	KAV	150	27	105	50.59N	31.14E	BR	100B	IT	95B	KO	70C	KR	85C										
2018=TU	14	1729	7180	RUSS	VOA	KAV	117	37	104	51.34S	174.74W	BR	96C	IT	49B	KR	80C												
2019=TU	9	1755	7180	RUSS	VOA	KAV	6865	151	133	39.33N	94.08E	BR	70C	IT	95C	KO	64C	KR	65A										
2020=TU	14	2335	7220	RUSS	RL	L5+L6	205	26	95	53.74N	34.99E	UK	60C	BR	78C	IT	80B	KO	60C	KR	70C								
2021=TU	11	0640	7220	RUSS	RL	L7+L8	56	15	56	54.80N	17.71E	UK	68C	BR	45B	IT	75C	KO	36B	KR	65B								
2022=TU	9	1600	7220	RUSS	RL	L7+L8	198	35	129	50.56S	177.47E	NE	70B	NE	70B	UK	65C	BR	85C	IT	74C								
2023=TU	9	0600	7220	RUSS	RL	L7+L8	0	0	0	54.22N	13.38E	NE	65C	UK	67B														
2024=TU	14	1804	7220	RUSS	RL	L5+L6	277	34	105	54.11N	52.54E	NO	80*	BR	80C	IT	70B	KO	60B	KR	67A								
2025=TU	9	1700	7220	RUSS	RL	L5+L6	235	29	104	54.70N	43.00E	NE	70B	NE	70B	NO	85*	UK	66B	BR	90B	IT	72B						
2026=TU	11	1630	7220	RUSS	RL	L5+L6	92	14	68	54.26N	24.54E	BR	70B	IT	71A	KO	50A	KR	70C										
2027=TU	9	1630	7255	RUSS	RL	L7+L8	0	0	0	43.39S	160.05E	NE	72B	UK	65C														
2028=TU	14	2010	7280	RUSS	VOA	KAV	0	0	0	56.51N	50.23E	KO	55B	UK	60D														
2029=TU	15	2215	9505	RUSS	RL	G2	0	0	0	51.97S	177.40W	IT	68B	NE	81B														
2030=TU	16	2230	9505	RUSS	RL	G2	646	57	99	53.91N	51.92E	BR	120D	IT	72D	KO	60B	KR	67B	MU	65D								
2031=TU	15	0000	9505	RUSS	RL	G2	472	18	78	54.61N	17.14E	NE	67B	UK	67B	NE	67B												
2032=TU	20	0640	9520	RUSS	RL	L9	0	0	0	55.18N	50.87E	IT	70C	KO	58A														
2033=TU	16	1657	9585	RUSS	VOA	MUN	207	17	95	55.23N	40.91E	BR	50D	IT	73A	KO	57B	KR	66A	MU	45D								
2034=TU	15	1700	9585	RUSS	VOA	MUN	538	19	81	54.79N	19.91E	NE	68B	NE	68B	UK	67B	SS	46C	FL	31C								
2035=TU	15	1700	9600	RUSS	BBC	WOOF	179	13	67	53.89N	10.52E	NE	61B	NE	61B	UK	67B	FL	32C										
2036=TU	20	1611	9600	RUSS	BBC	WOOF	97	11	84	55.95N	29.54E	IT	71A	KO	53C	KR	62A	MU	45D	UK	65A								
2037=TU	16	1648	9600	RUSS	BBC	WOOF	237	20	89	54.94N	36.86E	SS	42C	UK	67C	IT	72A	KO	57B	KR	67A	MU	45C						
2038=TU	17	1635	9660	RUSS	VOA	KAV	0	0	0	51.21N	24.79E	IT	100D	KO	65B														
2039=TU	17	2010	9660	RUSS	RL	B7	72	12	71	54.71N	25.71E	KO	50A	KR	66A	MU	45C												
2040=TU	18	1915	9660	RUSS	RL	B7	0	0	0	49.56N	14.08E	KO	58B	MU	50C														
2041=TU	19	0405	9660	RUSS	RL	HA	102	12	53	49.35N	13.30E	SS	43C	BR	42B	IT	84B	KO	57B	MU	45C								
2042=TU	15	1810	9715	RUSS	VOA	MUN	262	26	90	55.26N	36.91E	KO	55C	BR	70C	IT	73C	KR	67B	UK	65B								
2043=TU	16	1810	9715	RUSS	VOA	MUN	345	28	99	53.82N	49.94E	KO	62A	BR	66D	KR	67A	NE	71B										
2044=TU	6	1832	11710	RUSS	VOA	WOF	18251	579	146	1.14S	134.55E	BR	65C	IT	100C	KO	63C	KR	60C										
2045=TU	2	1605	11710	RUSS	VOA	WOF	1449	60	106	56.34N	66.43E	BR	60C	IT	78C	KO	60D	KR	58A	MU	55C	SS	38C						
2046=TU	4	1246	11740	RUSS	VOA	KAV	132	14	76	56.34N	29.91E	BR	62A	IT	70B	KO	48B	KR	66B										

2047=TU	7	1308	11795	RUSS	BBC	WOOF	508	89	126	45.55S	179.43E	BR	60A	IT	72B	KO	60C	KR	64A	MU	80C				
2048=TU	2	1710	11845	RUSS	BBC	CYPRUS	300	19	84	58.23N	44.55E	BR	60A	IT	60D	KO	50A	KR	67B	MU	50C				
2049=TU	5	1240	11875	RUSS	RL	B4	202	22	90	54.57N	35.59E	SS	34C	BR	72B	IT	70D	KO	60C	KR	70B	MU	56D		
												UK	68B												
2050=TU	1	1304	11875	RUSS	RL	B4	91	21	80	52.69N	25.46E	AL	27B	BR	63C	IT	100D	KO	60C	KR	72B	MU	60B		
2051=TU	4	1340	11875	RUSS	RL	B4	89	17	76	54.20N	23.22E	BR	67B	IT	85C	KO	50B	KR	68B	MU	60D				
2052=TU	3	1500	11875	RUSS	RL	L6	0	0	0	47.34S	171.70W	KO	61D	MU	70C										
2053=TU	6	1502	11875	RUSS	RL	HA	207	25	96	54.52N	44.40E	BR	62	IT	73B	KR	69B	MU	60B	IT	73B	KR	69B		
												MU	60B												
2054=TU	1	0810	11875	RUSS	RL	B4	234	27	88	56.32N	41.06E	BR	65B	IT	70B	KO	50A	KR	67A	MU	55B				
2055=TU	7	1405	11885	RUSS	RL	L10	0	0	0	54.40N	35.68E	UK	68C	NO	92C										
2056=TU	4	1340	11885	RUSS	RL	L10	200	33	75	55.48N	25.97E	BR	61D	IT	69D	KO	48D	KR	68D	MU	60D				
2057=TU	1	1315	11885	RUSS	RL	L10	537	47	96	54.65N	46.14E	BR	70D	IT	70D	KO	50B	KR	68B	MU	60C				
2058=TU	5	1200	11885	RUSS	RL	L10	369	40	92	56.72N	43.81E	NE	70B	NE	70B	UK	63B	BR	65D	IT	65C	KO	70C		
												KR	60C	MU	56C										
2059=TU	6	1145	11885	RUSS	RL	L10	333	31	91	56.47N	42.56E	BR	65B	IT	69B	KO	70C	KR	105B	MU	55C				
2060=TU	3	1500	11885	RUSS	RL	L10	0	0	0	52.41N	72.41E	BR	66B	MU	60B										
2061=TU	7	1035	11885	RUSS	RL	L10	106	16	65	54.64N	25.09E	KO	49A	KR	68C	UK	67C								
2062=TU	7	1500	11885	RUSS	RL	L10	58	11	74	54.34N	24.55E	BR	60A	IT	90D	KO	50A	KR	67A	MU	60B	UK	68B		
2063=TU	6	1635	11960	RUSS	VOA	MUN	228	32	89	56.06N	40.84E	IT	70B	KO	50B	KR	65C	MU	55B	UK	74C				
2064=TU	4	1610	11960	RUSS	VOA	MUN	148	24	83	55.92N	34.95E	IT	71B	KO	52B	KR	66C	MU	54C						
2065=TU	1	0815	11970	RUSS	RL	L5	176	25	80	55.68N	30.99E	BR	67B	IT	72C	KO	70B	MU	50C						
2066=TU	2	0715	11970	RUSS	RL	L5	0	0	0	57.94N	9.03E	SS	34C	NO	115*										
2067=TU	10	1300	15130	RUSS	RL	G1	35	9	86	51.92N	9.54E	NE	95B	KO	44B	KR	68C	NE	95B						
2068=TU	10	0712	15130	RUSS	RL	L6	0	0	0	51.44N	19.12E	IT	109C	KO	56B										
2069=TU	14	1330	15130	RUSS	RL	P2	184	25	87	56.06N	43.86E	UK	60B	FL	34C	SS	36C	IT	70B	KO	65B	KR	65C		
												MU	56A												
2070=TU	12	0930	15130	RUSS	RL	L6	192	37	76	54.11N	28.94E	KO	55D	UK	70C	KR	90C	MU	55C						
2071=TU	14	0740	15130	RUSS	RL	L6	0	0	0	48.27N	11.74E	KO	70C	MU	60B										
2072=TU	11	1030	15130	RUSS	RL	L6	649	38	102	49.37N	46.66E	KO	72A	BR	85D	KR	70C	MU	80C	SS	40C				
2073=TU	9	0802	15130	RUSS	RL	L6	46	1	118	52.49N	13.55E	SS	42C	UK	69B	BR	118A	IT	108C	KO	56A	KR	74C		
2074=TU	13	0720	15130	RUSS	RL	L6	49	20	112	49.28N	20.55E	BR	124B	IT	115D	KO	74B	KR	70C						
2075=TU	9	1232	15225	RUSS	VOA	WOF	0	0	0	41.24N	81.53E	KO	69B	KR	71A										
2076=TU	12	1205	15235	RUSS	VOA	WOF	0	0	0	52.28N	2.70E	UK	70B	SS	40C										
2077=TU	13	1535	15235	RUSS	VOA	WOF	75	17	78	55.65N	27.51E	UK	65A	BR	90C	KO	48B	MU	55B	KO	48B				
2078=TU	11	1715	15235	RUSS	VOA	WOF	0	0	0	54.66N	37.29E	UK	67A	WP	351C										
2079=TU	9	0915	15290	RUSS	RL	P1+P2	175	28	75	53.67N	26.60E	BR	75D	KO	55B	KR	73D								
2080=TU	14	1110	15290	RUSS	RL	P1+P2	0	0	0	52.58N	13.34E	BR	70D	KR	70C										
2081=TU	11	1800	15290	RUSS	RL	P1	448	21	91	52.75N	19.21E	NE	81B	KR	75D	NE	81B								
2082=TU	11	1400	15290	RUSS	RL	P1	476	40	99	54.25N	44.48E	UK	65B	NE	68B	KO	60C	KR	70B	SS	38C	NE	79B		
2083=TU	12	1301	15290	RUSS	RL	P1	63	19	72	54.51N	19.62E	SS	38C	UK	70B	BR	81C	IT	72C	KO	40B	KR	65C		
												MU	50C												
2084=TU	11	1100	15290	RUSS	RL	P1+P2	0	0	0	43.39S	160.05E	NE	72B	UK	65C										
2085=TU	9	1005	15340	RUSS	RL	L4	161	19	78	54.68N	33.28E	UK	67B	KO	56A	KR	70D	MU	50B						
2086=TU	14	1110	15340	RUSS	RL	L4	0	0	0	53.80N	23.53E	IT	85C	KR	70C										
2087=TU	14	0945	15340	RUSS	RL	L4	253	17	96	56.03N	42.25E	IT	70A	IT	70A	KO	55C	KO	55C	KR	68C				
2088=TU	13	1220	15340	RUSS	RL	L4	948	74	107	51.32N	56.06E	UK	66C	KO	70C	KR	70B	MU	65C						
2089=TU	12	0735	15340	RUSS	RL	L4	0	0	0	47.04S	171.91W	KO	50D	MU	65D										
2090=TU	14	1200	15380	RUSS	RL	HA	128	17	82	54.47N	35.34E	UK	65C	SS	40C	IT	80C	KO	58A	KR	67B	MU	58B		
2091=TU	12	1405	15380	RUSS	RL	HA	0	0	0	46.18N	65.29E	UK	70B	SS	32C										
2092=TU	13	1315	15435	RUSS	BBC	CYPRUS	76	23	80	54.31N	21.19E	SS	40C	UK	60C	IT	80B	KR	70C	MU	40C				
2093=TU	17	1000	17750	RUSS	RL	HC	2012	93	122	48.04S	170.24E	NE	72B	NE	72B	UK	62B								
2094=TU	18	0945	17760	RUSS	RL	L1	198	18	84	56.26N	34.92E	IT	73C	KO	53B	KR	62A								
2095=TU	15	1010	17760	RUSS	RL	L1	0	0	0	54.10N	19.45E	IT	84D	KR	65A										

2096=TU	18	1405	17770	RUSS	RL	P4	0	0	0	26.55S	138.87E	KO	80D	UK	66B												
2097=TU	15	1210	17855	RUSS	VOA	KAV	791	52	91	55.66N	31.08E	UK	65B	FL	28C	BE	42C										
2098=TU	17	0808	17895	RUSS	RL	P5	132	27	98	55.22N	40.68E	NO	85B	BR	72C	IT	73B	KO	56B	MU	50B						
2099=TU	15	0120	9725	TB	RL	P1	0	0	0	46.84S	173.46W	BR	40B	KO	66B												
2100=TU	15	0010	9750	TB	RL	HC	0	0	0	53.77N	23.04E	KO	50C	KR	70C												
2101=TU	15	0100	9625	TI	RL	B7	361	29	104	54.48N	51.68E	NE	67B	DS	20C	BR	40C	IT	70A	KO	59B	KR	70C				
												MU	65C	UK	67B	NE	67B										
2102=TU	15	0000	9625	TI	RL	B7	472	18	78	54.61N	17.14E	NE	67B	UK	67B	NE	67B										
2103=TU	20	2210	9625	TI	RL	B7	0	0	0	51.12N	17.36E	KO	54B	MU	50C												
2104=TU	17	0030	9625	TI	RL	B7	1094	65	108	53.30N	56.55E	BR	40B	IT	71B	KO	65D	KR	66B	UK	67C						
2105=TU	15	0120	9660	TI	RL	HA	511	59	122	46.45S	173.89W	BR	40C	IT	72A	KO	62C	MU	65C								
2106=TU	16	1140	17750	TI	RL	HC	0	0	0	51.90N	20.08E	SS	40C	LR	43C												
2107=TU	17	1140	17895	TI	RL	B8	78	15	77	55.32N	25.81E	UK	65B	BR	65B	IT	74B	KO	54A	KR	65B	MU	45B				
2108=TU	17	1245	17895	TI	RL	B8	86	14	84	56.14N	34.57E	BR	65C	IT	71A	KO	52A	KR	66A								
2109=TU	8	1934	7245	UKR	RL	L7+L8	0	0	0	51.97N	29.53E	BR	87B	IT	91A												
2110=TU	14	2010	7245	UKR	RL	L7+L8	0	0	0	45.97S	163.81E	KR	80C	UK	67C												
2111=TU	8	2208	7245	UKR	RL	P5	763	61	120	44.47N	54.96E	BR	89B	IT	90B	KO	80B	KR	80C								
2112=TU	13	1915	7245	UKR	RL	L7+L8	0	0	0	11.65S	130.56E	BR	75C	IT	71B												
2113=TU	17	1913	9565	UKR	RL	P2	53	19	60	54.36N	16.20E	UK	65D	BR	43C	IT	82C	KO	60B	KR	64A						
2114=TU	17	2142	9565	UKR	RL	P2	0	0	0	55.70N	30.49E	IT	73B	MU	50C												
2115=TU	17	0230	9625	UKR	RL	P4	137	22	135	46.37S	172.39W	BR	40A	IT	72B	KO	56B	MU	48A								
2116=TU	16	0245	9625	UKR	RL	P4	34	14	86	48.31S	169.27W	BR	40B	IT	70B	KO	58B	KR	67B	MU	45C						
2117=TU	15	0330	9625	UKR	RL	P4	431	48	95	54.18N	47.29E	BR	40C	IT	71C	KO	59B	KR	70C	MU	65C						
2118=TU	1	1900	11885	UKR	RL	P1	0	0	0	59.64N	5.66E	BE	43C	SS	32C												
2119=TU	2	1545	11885	UKR	RL	B1	537	39	105	55.03N	57.81E	BR	65B	IT	68A	KO	70D	KR	88B	MU	60B						
2120=TU	5	1700	11885	UKR	RL	B1	1991	105	127	43.34N	82.19E	NE	67B	NE	67B	BR	75D	IT	70C	KO	70B	KR	65B				
												MU	68C	UK	65B												
2121=TU	2	1830	11885	UKR	RL	P1	705	37	101	54.49N	51.75E	BR	70C	IT	70C	KO	50B	KR	66A	MU	60C						
2122=TU	6	1633	11885	UKR	RL	B1	0	0	0	52.14N	32.59E	LR	38C	UK	75C												
2123=TU	4	1745	11885	UKR	RL	B1	4383	211	135	43.07N	109.23E	BR	64A	IT	55B	KO	51B	KR	66A	MU	55B	MU	55D				
2124=TU	4	1610	11885	UKR	RL	B1	200	27	89	55.69N	39.49E	IT	71B	KO	54B	KR	66B	MU	58C								
2125=TU	3	1705	11885	UKR	RL	B1	128	23	78	54.99N	28.42E	LR	31C	BR	87B	IT	75C	KO	51B	KR	67B	MU	75C				
												SS	40C														
2126=TU	13	1803	15380	UKR	RL	P3	0	0	0	24.14N	62.48E	KI	22B	AL	30C												
2127=TU	13	1730	15380	UKR	RL	P3	0	0	0	24.14N	62.48E	KI	22B	AL	30C												
2128=TW	17	1645	9725	HUNG	RFE	B2	0	0	0	30.05N	120.48E	FE	309B	LV	310C												
2129=U7	14	0120	7185	????	????????????		30	17	93	49.88N	14.95E	BR	130D	IT	135C	KO	57B	KR	107B								
2130=U7	10	0515	7295	????	????????????		0	0	0	2.91S	70.04E	AL	35C	BE	53C												
2131=U7	6	0550	11935	????	????????????		0	0	0	48.21N	85.07W	GI	48C	AL	6C												
2132=U7	11	1905	15340	????	????????????		0	0	0	50.17N	17.83E	FL	41B	SS	42C												
2133=U7	14	1845	15370	????	????????????		1651	30	107	49.81N	11.02E	LR	48B	PS	44B	UK	98B										
2134=U7	9	0150	7180	ARM	RL	L1	0	0	0	48.84N	.26W	FL	46B	PS	48C												
2135=U7	14	0105	7180	ARM	RL	L1	3451	39	116	46.80N	22.42E	FL	44B	LR	45C	UK	98B	PS	45D								
2136=U7	9	1335	15340	ARM	RL	L4	0	0	0	53.90N	12.10W	SS	36C	FL	41B												
2137=U7	12	1311	15340	ARM	RL	L4	0	0	0	48.63N	22.91E	FL	41B	SS	43C												
2138=U7	10	0020	7180	AZ	RL	L1	0	0	0	49.72N	11.85W	FL	46B	SS	41C												
2139=U7	4	1735	11875	AZ	RL	L3	5177	177	133	32.94N	48.40E	UK	98B	LR	43C	PS	39D										
2140=U7	12	1407	15340	AZ	RL	L4	0	0	0	48.99N	19.98E	BE	51A	SS	43C												
2141=U7	18	1800	9505	BR	RL	HD	0	0	0	53.87N	14.09W	FL	41B	LR	49C												
2142=U7	5	1740	11970	BR	RL	G4B	0	0	0	51.09N	18.32E	FL	40B	SS	41C												
2143=U7	1	1925	11935	BULG	RFE	G1	0	0	0	48.49N	29.73E	GI	32B	SS	42C												
2144=U7	5	0632	6115	CZEC	RFE	B8	31	11	106	50.05N	16.16E	BE	49C	PS	35C	IT	133B	KO	62B	KR	100A						
2145=U7	6	2044	5955	EST	RFE	HA	0	0	0	43.77N	28.38E	BE	52C	UK	100B												
2146=U7	12	0302	7180	EST	RFE	HC	2020	379	121	45.50N	26.78E	FL	45B	AL	40C	SS	43C										

2147=U7	6	1645	11970	EST	RFE	HA	1531	247	97	54.18N	1.86W	LR	46C	FL	41B	SS	37C						
2148=U7	5	1645	11875	GEOR	RL	L3	0	0	0	49.65N	10.45E	SS	43C	UK	100B								
2149=U7	12	1635	15340	GEOR	RL	L4	0	0	0	54.04N	23.51W	FL	40B	PS	45C								
2150=U7	14	1605	15340	GEOR	RL	L4	1419	315	130	45.09N	30.63E	BE	51B	SS	43C	LV	17C	PS	39C				
2151=U7	14	0331	7180	LAT	RFE	HC	1258	28	84	51.98N	4.40E	FL	42B	UK	80C	SS	36C						
2152=U7	2	1552	11970	LITH	RFE	L5	0	0	0	50.57N	10.44E	BE	53C	SS	42B								
2153=U7	13	1425	7220	RUSS	RL	L7+L8	0	0	0	49.89S	171.09E	IT	78B	KR	88C								
2154=U7	12	0904	7220	RUSS	RL	L7+L8	251	10	67	51.43S	179.35E	BR	145C	IT	80C	KO	90D	UK	90D				
2155=U7	11	2144	7295	RUSS	RL	P5	0	0	0	48.63N	22.91E	FL	41B	SS	43C								
2156=U7	9	2044	7295	RUSS	RL	P5	0	0	0	19.57S	92.25E	BE	38C	FL	48C								
2157=U7	9	2110	7295	RUSS	RL	P5	0	0	0	23.40S	96.50E	BE	34C	FL	48C								
2158=U7	15	2352	9750	RUSS	RL	P2	0	0	0	48.80N	21.65E	NO	130*	SS	43C								
2159=U7	16	2108	9750	RUSS	RL	HC	535	75	137	41.88N	37.64E	NO	116*	PS	45B	UK	95C	SS	43C	IT	95D		
2160=U7	5	1235	11875	RUSS	RL	B4	3256	128	127	39.03N	43.11E	SS	44C	UK	95B	PS	35C						
2161=U7	4	1330	11875	RUSS	RL	B4	0	0	0	46.81N	27.82E	SS	44B	FL	41B								
2162=U7	1	1536	11875	RUSS	RL	HA	0	0	0	37.44N	44.86E	FL	41B	SS	48C								
2163=U7	6	1505	11875	RUSS	RL	HA	1753	21	105	50.66N	5.33E	LR	44C	UK	100B	SS	40C						
2164=U7	4	1835	11935	RUSS	RL	HB	0	0	0	7.72S	84.96E	UK	98B	FL	40B								
2165=U7	2	1811	11935	RUSS	RL	HB	0	0	0	48.99N	19.98E	BE	51C	SS	43C								
2166=U7	2	0005	11935	RUSS	RL	P6	0	0	0	41.99N	71.94E	IT	80D	MU	75C								
2167=U7	4	2113	11970	RUSS	RL	HB	0	0	0	49.96N	20.05E	SS	42C	BE	50C								
2168=U7	1	1916	11970	RUSS	RL	HB	0	0	0	50.52N	12.25E	FL	42B	SS	42C								
2169=U7	3	1941	11970	RUSS	RL	HB	4387	222	120	49.91N	19.48E	BE	51B	LR	44B	FL	41B						
2170=U7	2	0005	11970	RUSS	RL	P2	0	0	0	51.16N	20.22E	KO	60D	KR	87D								
2171=U7	11	1811	15340	RUSS	RL	P6	1563	16	108	49.41N	14.52E	SS	43C	UK	96A	AL	45C	NE	98B				
2172=U7	9	1510	15340	RUSS	RL	L4	0	0	0	53.79N	16.38W	FL	41B	SS	35C								
2173=U7	10	1240	15340	RUSS	RL	L4	1128	229	100	56.12N	1.69W	PS	36C	AL	43C	FL	42B	SS	33C				
2174=U7	13	1210	15340	RUSS	RL	L4	0	0	0	47.07N	17.60E	FL	44B	PS	44B								
2175=U7	14	1541	15340	RUSS	RL	L4	0	0	0	50.40N	14.76E	PS	42B	SS	42C								
2176=U7	14	1200	15370	RUSS	RL	L2	2469	46	118	45.87N	25.10E	UK	98B	AL	43C	FL	42C						
2177=U7	12	1408	15370	RUSS	RL	L2	1763	170	110	52.17N	8.30E	FL	41A	PS	44C	AL	44C	BE	52C				
2178=U7	13	1300	15370	RUSS	RL	L2	1385	193	106	52.48N	3.31E	SS	42C	PS	44B	FL	39B	LR	48B				
2179=U7	16	0115	9750	TB	RL	HC	0	0	0	51.01S	168.14E	UK	90C	NE	90B								
2180=U7	8	1605	15370	TB	RL	B7	671	270	116	51.57N	13.27E	FL	44B	PS	35C	LR	45C	SS	41C	AN	12C		
2181=U7	10	1635	15370	TB	RL	B7	3875	269	112	51.52N	10.22E	BE	50C	FL	42B	PS	45C						
2182=U7	11	0040	7295	TI	RL	L7+L8	0	0	0	48.14N	15.71W	SS	42C	FL	48C								
2183=U7	10	0134	7295	TI	RL	L7+L8	929	200	93	50.15N	12.45W	LR	49C	DS	48C	SS	42C	FL	47B	AL	7C		
2184=U7	11	1510	15370	TI	RL	B7	0	0	0	50.26N	17.50E	FL	41B	AL	43C								
2185=U7	14	0204	7295	UKR	RL	P5	0	0	0	14.83N	64.51E	FL	44B	UK	100B								
2186=UA	14	1928	7105	????	????????????		0	0	0	50.25N	139.45E	AN	287B	WP	317C								
2187=UA	10	1850	7180	RUSS	VOA	KAV	0	0	0	48.80N	130.07E	AN	292B	WP	315B								
2188=UA	12	0907	7220	RUSS	RL	L7+L8	0	0	0	31.31N	74.18E	BE	31B	WP	315B								
2189=UA	13	0810	7220	RUSS	RL	L7+L8	0	0	0	50.14N	140.79E	WP	317C	LV	316B								
2190=UA	11	1010	7220	RUSS	RL	L7+L8	0	0	0	50.11N	145.63E	FE	309C	DS	320B								
2191=UA	8	0701	7220	RUSS	RL	L7+L8	0	0	0	50.35N	138.01E	WP	317B	DS	323C								
2192=UA	11	0631	7220	RUSS	RL	L7+L8	593	194	50	46.82N	128.13E	LV	316C	AN	292B	FE	314C	WP	313B				
2193=UA	15	0709	9520	RUSS	RL	L9	923	310	70	48.70N	138.55E	LV	316B	WP	315C	DS	320C						
2194=UA	7	0030	11935	RUSS	RL	P6	7171	387	32	22.11N	112.78E	DS	317C	FE	311C	AN	287B						
2195=UA	13	0435	7295	UKR	RL	L7+L8	0	0	0	57.22N	137.48E	AN	297C	WP	325C								
2196=UB	10	1520	21745	BULG	RFE	G3	0	0	0	46.75S	179.09E	KO	86B	MU	85C								
2197=UB	19	1638	17885	RUSS	RL	G4B	231	27	120	48.91N	23.22E	BR	116C	IT	115C	KR	98C						
2198=UD	7	2006	11925	????	????????????		0	0	0	55.29N	155.47E	DS	322C	AN	283B								
2199=UD	9	0304	15435	????	????????????		0	0	0	47.07N	131.97E	WP	313B	AN	289A								
2200=UD	17	1309	9725	HUNG	RFE	B2	4068	401	40	30.73N	118.84E	DS	321B	LV	310B	GI	327C						

2201=UD	12	1515	7170	RUSS	VOA	KAV	839	290	65	49.41N	137.59E	WP	316C	FE	313C	LV	316B								
2202=UG	1	0931	11800	????	????????????		480	29	81	63.63N	53.32E	BR	47B	IT	40C	KO	40A	KR	45A	MU	40B				
2203=UM	7	0050	11935	RUSS	RL	P6	336	16	49	56.62N	22.91E	BR	50D	KO	38A	MU	35D								
2204=UM	18	0135	9750	TB	RL	HC	0	0	0	46.53S	173.31W	KO	57B	MU	65C										
2205=UN	12	0314	7155	????	????????????		0	0	0	56.35N	51.48E	WP	344C	UK	60B										
2206=UN	11	2050	7155	EST	RFE	HD	287	19	104	51.32N	40.96E	BR	83A	KO	68B	KR	78B								
2207=UN	21	0550	9555	LITH	RFE	P4	0	0	0	19.18S	146.97E	IT	60B	KO	65C										
2208=UN	15	0400	9555	RUSS	RL	B6	0	0	0	53.30N	69.42E	NE	62B	SS	25C										
2209=UN	8	1010	15290	RUSS	RL	P1+P2	224	26	94	56.57N	45.74E	BR	65B	BR	65B	IT	67C	IT	67C	KO	57C	KO	57C		
												KR	60B	MU	45B	MU	45B	NO	80C						
2210=UN	8	0740	15290	RUSS	RL	P1+P2	100	10	70	56.24N	27.56E	BR	60A	BR	60A	KO	52B	KO	52B	KR	62B	MU	45B		
												MU	45B												
2211=UN	8	0840	15380	RUSS	RL	HA	62	19	102	56.68N	53.42E	BR	60A	BR	60A	IT	64A	IT	64A	KO	56A	KO	56A		
												KR	62A	MU	45B	MU	45B	N3	125B						
2212=UR	18	2138	9625	RUSS	RL	L1	0	0	0	60.09N	28.13E	IT	51B	KR	45C										
2213=US	3	2245	6100	????	????????????		149	17	99	50.32N	34.56E	KO	70B	KR	83A	MU	75B								
2214=US	5	0032	6105	????	????????????		147	17	109	50.52N	33.57E	IT	93A	KO	70C	KR	84B								
2215=US	9	1447	7210	????	????????????		0	0	0	51.87N	33.84E	IT	88C	KO	66D										
2216=US	4	1010	11880	????	????????????		236	64	107	50.56S	176.17W	BR	63C	IT	95C	KR	80C	MU	110C						
2217=US	4	1010	11890	????	????????????		41	15	80	53.19N	17.33E	BR	69C	IT	97B	KO	42B	KR	80B	MU	70D				
2218=US	5	2315	6105	CZEC	RFE	B5	1359	57	128	39.57N	57.27E	BR	96A	IT	93B	KO	85C								
2219=US	1	2122	6105	CZEC	RFE	B5	30	13	85	50.25N	19.19E	BR	114C	IT	120B	KO	65A								
2220=US	7	2030	6105	CZEC	RFE	B5	22	9	142	49.77N	16.27E	UK	95B	BR	145A	IT	142B	KO	63B	KR	94D				
2221=US	4	2005	6105	CZEC	RFE	B5	0	0	0	51.50N	23.23E	BR	96A	KO	62C										
2222=US	6	0434	6115	CZEC	RFE	G1B	8361	448	133	28.61S	128.98E	UK	78B	KO	90C	KO	90C								
2223=US	4	1010	11895	HUNG	RFE	B7	57	18	117	49.06N	19.99E	BR	128B	IT	97C	KR	100B	MU	80C						
2224=US	11	1342	7220	RUSS	RL	L7+L8	0	0	0	53.83N	23.13E	BR	74D	IT	85D										
2225=US	15	0330	9520	RUSS	RL	L9	0	0	0	52.77N	40.29E	IT	81C	MU	65C										
2226=US	15	0109	9520	RUSS	RL	L9+L10	356	44	97	51.68N	43.95E	IT	81C	MU	70B	MU	65C								
2227=US	7	0433	11770	RUSS	RL	P3	0	0	0	47.56S	171.30W	KO	70C	MU	73C										
2228=UX	1	0729	11725	POLI	RFE	B1	437	16	83	55.74N	31.15E	BR	65B	IT	70D	KR	64A								
2229=UZ	14	0220	7295	UKR	RL	P5	29	19	110	49.89N	16.67E	BR	136C	IT	134C	KO	63B	KR	102C						
2230=VF	11	1030	15145	POLI	RFE	G2	1951	88	129	34.87N	77.50E	KO	80A	BR	80B	KR	80A	MU	76C						
2231=VF	19	0710	17805	POLI	RFE	G1A	520	18	115	47.80N	40.00E	BR	95A	IT	95C	KR	87A								
2232=VG	1	0931	11800	????	????????????		480	29	81	63.63N	53.32E	BR	47B	IT	40C	KO	40A	KR	45A	MU	40B				
2233=VG	6	2133	11960	????	????????????		0	0	0	49.55N	38.63E	DS	20C	SS	39C										
2234=VG	1	1216	11835	RUSS	VOA	WOF	299	74	117	49.52S	179.65W	BR	70D	IT	55B	KO	108D	KR	72B						
2235=VL	4	1246	11740	RUSS	VOA	KAV	0	0	0	44.56S	157.33E	IT	79B	KR	83C										
2236=VL	19	0945	17895	RUSS	RL	P5	302	22	108	50.10N	43.40E	BR	85A	IT	88B	KO	72B	MU	54C						
2237=VM	2	2035	11925	????	????????????		0	0	0	53.93N	47.31E	KO	61C	MU	62C										
2238=VM	14	0920	21630	????	????????????		0	0	0	47.46S	171.27W	KO	55B	MU	70B										
2239=VN	11	0610	15145	POLI	RFE	G2	0	0	0	47.50S	171.12W	KO	50A	MU	70										
2240=VN	18	1235	17805	POLI	RFE	G1A	225	16	78	58.24N	36.96E	BR	58A	IT	62B	MU	45C								
2241=VR	15	1750	9770	????	????????????		171	22	59	58.24N	24.58E	BR	45C	IT	57C	KO	35C	KR	48	MU	65D				
2242=VR	2	1710	11875	AZ	RL	L3	360	50	84	57.42N	42.49E	IT	65C	KO	55C	KR	52B	MU	50C						
2243=VR	4	1835	11970	LAT	RFE	G4B	383	50	71	56.83N	16.91E	UK	56C	LR	42C	BE	41C	AL	38C						
2244=VR	6	1305	6105	RUSS	RL	L11	122	21	62	58.35N	28.22E	UK	56B	BR	50B	IT	70C	KO	40B	MU	37C				
2245=VR	7	1705	6105	RUSS	RL	L2	106	14	57	57.98N	24.45E	BR	45A	KR	50C	UK	56B								
2246=VR	7	0937	6105	RUSS	RL	L11	58	15	68	55.13N	20.09E	BR	57B	IT	74B	KO	37B	UK	65B						
2247=VR	4	1635	6105	RUSS	RL	L2	130	20	57	56.08N	21.77E	BR	51B	IT	91B	IT	68D	KO	38B						
2248=VR	3	1231	6105	RUSS	RL	L11	38	12	64	54.19N	18.21E	BR	62B	IT	79B	KR	65B	MU	30B	KO	38B				
2249=VR	4	1130	6105	RUSS	RL	L11	37	11	82	52.94N	15.63E	BR	52B	IT	102B	KO	35C	KR	70A	NO	78C				
2250=VR	7	0723	6105	RUSS	RL	L11	43	10	57	53.53N	16.64E	BR	65B	KO	36A	KR	63B								
2251=VR	1	1108	6105	RUSS	RL	L11	26	6	62	53.16N	15.15E	BR	61B	IT	86D	KO	32A	KR	68A	MU	10C				

2252=VR	4	0905	6105	RUSS	RL	L11	34	20	96	53.37N	15.22E	IT	100D	KO	47C	KR	64B	NO	131B						
2253=VR	3	0745	6105	RUSS	RL	L11	60	17	67	54.99N	20.05E	IT	75B	KO	40B	KR	60B	MU	30D						
2254=VR	5	1045	6105	RUSS	RL	L11	26	7	66	53.24N	15.10E	BR	59B	IT	97B	KO	26C	KR	66A						
2255=VR	6	0800	6105	RUSS	RL	L11	101	22	61	56.83N	23.18E	BR	55C	IT	60C	KO	37B	UK	60C						
2256=VR	7	1210	6105	RUSS	RL	L11	76	25	52	55.98N	17.77E	BR	47A	IT	55D	KO	30B	UK	63C						
2257=VR	7	1535	6105	RUSS	RL	L2	98	13	55	57.92N	24.14E	UK	56B	BR	45A	KO	35B								
2258=VR	2	2055	11970	RUSS	RL	HB	0	0	0	50.26N	39.97E	SS	38C	PS	32C										
2259=VR	4	2111	11970	RUSS	RL	HB	0	0	0	71.33N	24.27E	GI	18C	FE	12C										
2260=VR	4	1600	11885	UKR	RL	B1	0	0	0	52.48N	20.98E	FL	38B	PS	38C										
2261=VU	17	1908	9565	UKR	RL	P2	477	174	56	51.11N	150.87E	AN	280C	FE	307C	WP	320C								
2262=W1	5	0542	11770	????	????????????		0	0	0	51.55N	120.60W	LV	3C	FE	25C										
2263=W1	10	1636	15375	????	????????????		87	10	134	45.19N	24.91E	NO	132B	BR	130A	IT	124A	KR	112A						
2264=W1	19	2134	9750	RUSS	RL	HC	807	83	103	50.28N	10.94W	BE	60A	SS	40C	KO	84D	FL	46B						
2265=W1	7	0433	11770	RUSS	RL	P3	190	22	130	46.02N	24.23E	BR	125C	IT	125B	KR	110B								
2266=W1	5	2009	11770	RUSS	RL	G9+G10	2827	267	126	50.69N	18.79E	DS	30C	AL	42B	PS	40C	BE	50C						
2267=W1	7	1737	11770	RUSS	RL	P5	262	50	138	41.28N	28.86E	PS	351C	UK	105B	NO	130B	FE	25C						
2268=W1	5	0401	11770	RUSS	RL	P3	21	10	93	49.23N	14.93E	BR	120C	IT	126A	KO	68B	KR	112A	MU	62B				
2269=W1	5	1935	11770	RUSS	RL	G9+G10	1475	288	131	45.43N	24.23E	DS	30C	LR	46C	FE	23C	BE	53B						
2270=W1	6	0305	11770	RUSS	RL	P3	0	0	0	54.63S	172.32W	BR	124C	IT	125B										
2271=W1	6	1904	11770	RUSS	RL	G9+G10	951	362	159	38.67N	36.07E	LR	45C	DS	25C	KI	36C	GI	37C	AN	355B				
2272=W1	4	2030	11770	RUSS	RL	G9+G10	1774	363	127	51.05N	15.77E	DS	28C	LV	27C	BE	51C								
2273=W1	7	1805	11770	RUSS	RL	P5	1579	296	129	44.63N	21.40E	BE	55B	FE	25C	LR	48C								
2274=W1	6	1830	11770	RUSS	RL	P5	791	204	170	47.16N	24.34E	DS	25C	AN	4A	FE	24C	KI	36C	GI	37C				
2275=W1	1	1531	11805	RUSS	VOA	KAV	0	0	0	41.44N	41.15E	AL	37C	LR	42C										
2276=W1	11	1500	15380	RUSS	RL	HA	510	75	139	37.16N	35.58E	UK	105B	NO	125B	NE	82B	BE	51B	AL	44C				
2277=W1	14	1220	15380	RUSS	RL	HA	2718	108	109	54.16N	2.58E	AL	44C	KI	38C	KI	38C	BE	51A						
2278=W1	12	1414	15380	RUSS	RL	HA	0	0	0	45.87N	67.08W	BE	44C	PS	43C										
2279=W1	8	1446	15380	RUSS	RL	HA	425	29	82	49.16N	19.47E	KI	40C	FL	41A	KO	74B								
2280=W1	12	1425	15445	RUSS	RL	P3	0	0	0	48.88N	15.64E	KO	72B	KR	113B										
2281=W1	16	0030	9750	TB	RL	HC	61	9	133	50.52N	16.17E	NE	101B	BR	140B	IT	126A	KO	102C	KR	108B				
2282=W1	21	0040	9750	TB	RL	HC	56	5	106	48.04N	12.15E	UK	108B	BR	140A	IT	123B	KO	80D	KR	112B	MU	105C		
2283=W1	15	2225	9750	UKR	RL	P2	0	0	0	8.17N	63.40E	LR	47B	FE	353C										
2284=W1	10	1632	15380	UKR	RL	P3	0	0	0	50.71N	21.20E	AN	6C	AL	41C										
2285=W1	8	1602	15380	UKR	RL	P3	45	18	116	48.06N	20.37E	IT	126B	KO	88C	IT	126B	KO	81B	KR	113A				
2286=W3	13	2330	7155	RUSS	RL	HC	0	0	0	52.55N	13.19E	IT	120D	KR	70D										
2287=WA	5	2215	6010	????	????????????		7783	291	131	39.92S	156.63E	BR	78B	IT	72B	KR	70D	FL	32B						
2288=WA	18	1534	9680	????	????????????		0	0	0	51.74N	.45E	UK	75C	GI	43C										
2289=WA	5	0542	11825	????	????????????		0	0	0	46.94N	19.39E	IT	134B	MU	100D										
2290=WA	17	0820	17875	????	????????????		0	0	0	54.03N	40.45E	BR	74B	IT	77B										
2291=WA	1	2110	5955	BR	RL	HA	0	0	0	43.79N	76.29E	BR	76B	IT	75B										
2292=WA	5	0202	5955	BR	RL	HD	0	0	0	54.20N	22.36E	UK	70C	KR	67A										
2293=WA	5	0310	6170	EST	RFE	HD	327	34	117	47.13N	36.13E	BR	100B	IT	105D	KO	84D								
2294=WA	1	0200	5955	LAT	RFE	HD	337	32	113	51.46S	177.87W	NE	69B	BR	80A	IT	78B								
2295=WA	2	0140	5955	LAT	RFE	HD	0	0	0	51.18N	49.50E	BR	79B	IT	80B										
2296=WA	17	1535	9505	LITH	RFE	HD	2471	278	119	57.30N	27.81E	FL	30C	BE	40B	SS	34C								
2297=WA	5	0032	6170	RUSS	RL	B3	57	21	83	52.24N	19.47E	BR	90C	IT	105D	KO	52B								
2298=WA	4	2005	6170	RUSS	RL	B3	184	40	104	50.77S	175.88W	BR	76C	KO	50B	KR	65B	UK	60C						
2299=WA	15	1700	9565	RUSS	RL	B8	599	24	80	55.25N	20.65E	NE	66B	UK	65B	SS	42C								
2300=WA	16	1640	9565	RUSS	RL	B8	0	0	0	56.73N	20.00E	GI	31C	SS	35C										
2301=WA	6	0331	5955	UKR	RL	L5+L6	0	0	0	50.01N	54.74E	UK	70A	N3	130*										
2302=WD	2	0200	6180	????	????????????		181	15	98	52.31N	18.77E	NE	83C	NE	83C	BR	96B	IT	95C						
2303=WD	9	2000	7270	RUSS	VOA	MUN	3920	34	99	53.45N	35.90E	NE	74B	NE	74B	SS	36C								
2304=WD	1	1555	11805	RUSS	VOA	KAV	54	18	78	53.66N	19.38E	BR	95B	IT	90B	KO	45B	KR	65B	MU	65B				
2305=WD	1	1530	11835	RUSS	VOA	WOF	0	0	0	1.96N	93.87E	UK	85D	LV	312C										

2306=WD	2	0448	11925	RUSS	VOA	KAV	0	0	0	53.27N	32.66E	FE	15C	LV	15C										
2307=WD	4	0610	11970	RUSS	RL	L5	1006	79	106	50.41N	50.92E	BR	80D	KO	52C	KR	75C	MU	70C						
2308=WD	8	1354	15235	RUSS	VOA	WOF	0	0	0	22.11N	80.22E	BR	94B	KO	88B										
2309=WG	5	2310	6150	POLI	VOA	WOF	707	90	121	47.64N	67.37E	BR	74B	KO	70B	NO	80*	UK	75B						
2310=WG	3	2232	6150	POLI	VOA	WOF	55	22	89	53.77N	14.38E	UK	66C	KO	55D	IT	94C	MU	20D						
2311=WG	10	0630	7130	POLI	VOA	KAV	0	0	0	64.56N	31.01E	SS	26C	N3	155B										
2312=WI	3	2245	6165	????	????????????		525	52	80	57.11N	40.09E	KO	50C	IT	85D	KR	60C	MU	55D						
2313=WI	12	0445	7120	????	????????????		394	36	98	54.77N	47.22E	BR	70C	IT	70B	KO	59B	KR	69B	UK	65C				
2314=WI	13	1820	7200	????	????????????		0	0	0	11.77N	119.59E	BR	70C	KO	67D										
2315=WI	14	1734	7200	????	????????????		0	0	0	51.11S	176.27W	BR	80C	IT	54C										
2316=WI	8	1740	7200	????	????????????		150	24	81	53.69N	25.53E	BR	78C	IT	126C	KO	59D	KR	70B	MU	50D				
2317=WI	13	0313	7220	????	????????????		594	91	106	51.29S	178.38E	BR	90B	IT	73B	KR	90C								
2318=WI	19	0506	9680	????	????????????		0	0	0	51.94N	49.45E	AN	347B	UK	69B										
2319=WI	15	1530	9770	????	????????????		0	0	0	52.38N	25.83E	KO	60B	KR	78C										
2320=WI	2	1701	11805	????	????????????		134	15	84	56.84N	34.05E	BR	63B	IT	68A	KO	49B	KR	65A						
2321=WI	4	1700	11825	????	????????????		0	0	0	56.83N	28.51E	NE	62B	SS	34C										
2322=WI	3	1604	11825	????	????????????		230	21	83	55.45N	27.26E	BR	64C	IT	74B	KR	64B								
2323=WI	10	1315	15115	????	????????????		14	5	76	52.89N	14.45E	BR	65B	IT	107A	KR	68B								
2324=WI	11	1325	15275	????	????????????		0	0	0	50.77N	16.70E	KO	55C	KR	93C										
2325=WI	14	1640	21455	????	????????????		0	0	0	55.46N	25.76E	IT	74B	MU	45C										
2326=WI	17	1400	17760	ARM	RL	L1	101	21	105	50.17N	18.88E	NE	98B	KO	65D	NE	98B								
2327=WI	3	1718	11970	BR	RL	G4B	0	0	0	1.27S	78.40E	FL	43B	LR	37C										
2328=WI	16	1930	17725	BULG	RFE	G3A	0	0	0	49.69N	7.70E	UK	105D	SS	43C										
2329=WI	2	1714	11825	CZEC	RFE	G11+G12	59	10	78	56.73N	29.87E	BR	60B	IT	68A	KO	47B	MU	45C	BR	60B	IT	68A		
												KO	47B	MU	45C	MU	45C								
2330=WI	5	1630	11970	EST	RFE	HA	0	0	0	54.69N	41.36E	NE	69C	UK	66B										
2331=WI	13	1915	7255	GEOR	RL	L4	261	37	91	55.74N	42.00E	IT	71B	KO	55B	MU	60D								
2332=WI	18	0510	9555	LITH	RFE	P4	0	0	0	52.58N	28.49E	UK	75C	AN	1C										
2333=WI	6	0350	6015	RUSS	BBC	WOOF	39	6	81	52.70N	14.94E	BR	83B	KO	50D	KO	35B	KR	68B						
2334=WI	1	1957	6070	RUSS	BBC	CYPRUS	0	0	0	50.34S	179.86W	BR	80C	IT	62C										
2335=WI	2	2100	6070	RUSS	BBC	CYPRUS	242	19	100	52.09S	176.59W	NE	83B	BR	80B	IT	70B	KO	48B	KR	69B				
2336=WI	6	2050	6070	RUSS	BBC	CYPRUS	69	20	77	52.61N	19.37E	BR	90C	IT	70C	KO	50B	KR	71C						
2337=WI	4	2236	6085	RUSS	VOA	KAV	0	0	0	52.00S	178.24W	BR	90D	IT	71C										
2338=WI	4	2145	6095	RUSS	VOA	MUN	0	0	0	52.82N	48.96E	NO	85B	BR	75B										
2339=WI	2	0242	6150	RUSS	VOA	MUN	0	0	0	52.94N	29.06E	KO	60B	KR	75B										
2340=WI	7	0335	6150	RUSS	VOA	MUN	56	15	66	53.43N	16.50E	UK	54B	UK	70B	BR	70C	IT	47D	KO	35B	KR	70D		
2341=WI	21	1130	9520	RUSS	RL	L9	87	11	80	55.21N	28.17E	IT	74B	KO	53C	KR	65A	KR	65A	MU	48B				
2342=WI	18	1812	9555	RUSS	VOA	MUN	67	26	87	51.54N	20.08E	BR	100C	IT	73B	KO	61C	MU	50D						
2343=WI	20	1602	9585	RUSS	VOA	MUN	166	38	80	54.10N	25.18E	IT	70B	KR	70D	MU	50D	UK	70C						
2344=WI	16	1552	9585	RUSS	VOA	MUN	0	0	0	53.30N	14.69E	BR	48D	KR	64A										
2345=WI	21	1513	9585	RUSS	VOA	MUN	6765	451	139	27.33S	143.89E	BR	125C	IT	72B	KO	75C	KR	65D						
2346=WI	15	1700	9635	RUSS	BBC	CYPRUS	105	20	95	55.93N	31.60E	NE	66B	NE	66B	UK	60C	UK	67B	NO	90*				
2347=WI	16	1650	9635	RUSS	BBC	CYPRUS	487	27	96	55.20N	43.02E	FE	11C	IT	72B	KR	66A								
2348=WI	1	1209	11705	RUSS	VOA	KAV	98	28	62	54.60N	18.78E	BR	50D	IT	80D	KO	40C								
2349=WI	1	1638	11740	RUSS	VOA	WOF	30	14	81	52.31N	18.17E	BR	98C	IT	100B	KO	50B	KR	80C	MU	41B	UK	57B		
2350=WI	3	1604	11805	RUSS	VOA	KAV	115	22	96	55.93N	36.50E	LR	36C	BR	64C	IT	74B	KO	61C	KR	64B	MU	80D		
												NO	85B	BE	42B										
2351=WI	6	1502	11805	RUSS	VOA	KAV	3929	161	138	30.90N	99.27E	UK	65B	N3	152*	BR	62B	IT	70A	KO	45C	KR	70C		
												MU	70B												
2352=WI	5	1636	11805	RUSS	VOA	KAV	177	32	91	53.77N	34.68E	LR	39C	BR	63B	IT	80C	KO	60C	KR	65A	MU	60D		
												UK	70B												
2353=WI	6	1504	11835	RUSS	VOA	WOF	113	23	76	55.85N	23.32E	UK	66C	BR	95C	IT	70B	KO	45C	KR	50D	FL	25C		
												N3	150*												
2354=WI	3	1338	11835	RUSS	VOA	WOF	13000	380	132	36.43S	149.44E	BR	82D	IT	75C	KO	50C	KR	75B						

2355=WI	2	1815	11935	RUSS	RL	HB	718	96	96	51.99S	176.80E	BR	90B	IT	87C	KO	50C	KR	99B	MU	70C						
2356=WI	4	1840	11935	RUSS	RL	HB	120	28	69	54.71N	24.60E	IT	74D	KO	48B	KR	70D	MU	75D	BE	44B						
2357=WI	10	1300	15120	RUSS	VOA	WOF	322	38	90	56.48N	42.36E	NE	64B	KO	54B	NE	64B										
2358=WI	11	1315	15235	RUSS	VOA	WOF	584	40	91	56.42N	49.96E	BR	65B	KO	55B	KO	45B	MU	56C	MU	56B						
2359=WI	9	1332	15280	RUSS	VOA	WOF	0	0	0	45.97S	163.81E	KR	80C	UK	67B												
2360=WI	9	1007	15340	RUSS	RL	L4	0	0	0	52.52N	13.16E	BR	76A	KR	70D												
2361=WI	9	1010	15370	RUSS	RL	L2	190	20	78	54.86N	34.47E	UK	67B	UK	50B	KO	56A	KR	80D	SS	34C						
2362=WI	12	1405	15445	RUSS	RL	P3	0	0	0	46.18N	65.29E	UK	70B	SS	32C												
2363=WI	16	1247	17725	RUSS	RL	P3	0	0	0	53.43N	20.91E	KR	71B	MU	45C												
2364=WI	10	0840	21455	RUSS	RL	L3	0	0	0	55.12N	34.64E	BR	70C	IT	75C												
2365=WI	10	1110	21455	RUSS	RL	L3	120	21	77	55.67N	27.09E	BR	65B	IT	72B	KR	90B	MU	45C								
2366=WI	8	1626	15370	TB	RL	B7	0	0	0	48.90N	70.57E	IT	72B	KR	68B												
2367=WI	14	2340	7295	TI	RL	L7+L8	0	0	0	54.01N	57.51E	BR	69B	IT	70B												
2368=WI	17	2255	9625	TI	RL	B7	0	0	0	54.86N	17.40E	BR	45C	IT	75D												
2369=WI	16	2335	9625	TI	RL	B7	0	0	0	52.16N	.93E	UK	60C	SS	40C												
2370=WI	18	1500	17895	TI	RL	B8	404	51	123	50.13S	176.23E	NE	74B	UK	60C	NE	67B										
2371=WI	15	1532	17895	UKR	RL	P6	0	0	0	53.68N	16.71E	BR	60B	IT	90C												
2372=WL	7	2003	11925	????	????????????		0	0	0	50.69N	147.16E	AN	282A	DS	320C												
2373=WM	9	2045	7260	????	????????????		0	0	0	51.96N	21.60E	IT	100B	KR	81B												
2374=WM	8	0635	15170	CZEC	RFE	G3B	799	43	116	47.51N	57.43E	BR	83A	IT	79	KO	72B	MU	60B								
2375=WM	1	0445	11895	HUNG	RFE	G5	636	39	119	44.97N	61.76E	BR	82A	IT	84B	KO	75A	KR	80A	MU	72B						
2376=WM	9	2100	7270	RUSS	VOA	MUN	2178	122	125	41.36N	73.16E	NE	74B	BR	106C	IT	100B	KO	74B	KR	80C	NE	74B				
2377=WM	6	1837	11770	RUSS	RL	P5	0	0	0	45.05N	54.02E	KO	78B	UK	78B												
2378=WM	7	0410	11915	RUSS	RL	P6	372	113	128	47.08S	178.54W	BR	55C	IT	70D	KR	50C	MU	68C								
2379=WM	1	0445	11970	RUSS	RL	L5	4597	216	137	22.20S	133.12E	BR	80A	KO	80A	KR	80B										
2380=WM	13	0730	21745	RUSS	RL	G3	367	46	117	47.28N	55.89E	NE	74B	BR	85B	IT	80B	KO	78B	KR	82A	MU	75B				
												NO	90B														
2381=WM	15	0200	9725	TB	RL	P1	1327	464	144	28.71N	80.03E	SS	44C	DS	350C	UK	75C										
2382=WN	19	1920	9770	RUSS	BBC	F	0	0	0	48.34N	12.06E	KO	70C	MU	66B												
2383=WQ	2	0450	6015	????	????????????		0	0	0	48.45N	25.05E	KO	80B	KR	98												
2384=WQ	6	1143	11960	????	????????????		747	14	98	51.17N	11.31E	KI	346C	KR	95B	AL	45B	LR	46C								
2385=WQ	3	0720	5985	HUNG	RFE	B9B	82	21	115	47.44N	24.07E	BR	122B	KO	93B	KR	105C	MU	90B								
2386=WQ	3	0538	5985	HUNG	RFE	B9B	0	0	0	46.30N	26.90E	BR	120B	KO	90B												
2387=WQ	3	1633	5985	HUNG	RFE	B9B	70	26	105	47.98N	20.70E	BR	136D	IT	120D	KO	84B										
2388=WQ	7	1602	5985	HUNG	RFE	B9B	0	0	0	31.49S	110.26E	UK	96C	NO	96C												
2389=WQ	2	0715	5985	HUNG	RFE	B9B	126	25	118	45.84N	31.06E	BR	112C	IT	112B	KO	89B										
2390=WQ	10	1219	7115	HUNG	RFE	B94	370	27	130	45.07N	28.81E	BR	120B	IT	118C	KR	106C										
2391=WQ	9	0735	7115	HUNG	RFE	B94	0	0	0	48.56N	23.08E	BR	119B	KR	100D												
2392=WQ	8	1021	7115	HUNG	RFE	B94	33	11	107	49.23N	22.77E	BR	115A	IT	79C	KO	75A	KR	99B								
2393=WQ	11	1432	7115	HUNG	RFE	B94	77	13	119	48.99N	23.31E	BR	115A	IT	132C	KO	75C	KR	100B								
2394=WQ	19	0735	9725	HUNG	RFE	B2	45	13	121	48.14N	21.39E	UK	95B	IT	123A	KO	85B	KR	100C	MU	80D	NO	126A				
2395=WQ	19	1200	9725	HUNG	RFE	B2	73	14	120	47.65N	26.06E	UK	99C	BR	116A	IT	110A	KO	84B	KR	100B	MU	50D				
2396=WQ	19	1435	9725	HUNG	RFE	B2	68	12	84	48.69N	15.57E	UK	98B	NO	125*	KO	78B	MU	75B								
2397=WQ	16	1300	9725	HUNG	RFE	B2	110	17	113	47.59N	28.79E	NE	96B	KO	84B	BR	112B	KR	98B	NE	96B						
2398=WQ	21	0907	9725	HUNG	RFE	B2	37	11	106	47.97N	21.70E	UK	96A	NO	130*	IT	122	KO	83A	KR	100A	MU	80D				
2399=WQ	17	0930	9725	HUNG	RFE	B2	121	24	110	47.76N	29.63E	KO	82B	UK	90C	BR	108B	IT	123A	KR	101A						
2400=WQ	18	0837	9725	HUNG	RFE	B2	66	20	113	47.61N	21.45E	UK	98B	BR	123B	IT	124B	KO	85B	KR	100A						
2401=WQ	20	1010	9725	HUNG	RFE	B2	69	21	109	48.50N	22.75E	BR	150B	IT	118B	KO	80B	KR	100C	NO	120*						
2402=WQ	17	1312	9725	HUNG	RFE	B2	39	10	103	48.48N	21.17E	BR	111B	IT	120B	KO	80A	KR	104A	MU	80C						
2403=WQ	1	1315	11895	HUNG	RFE	B7	0	0	0	49.21N	21.90E	KO	75C	KR	98B												
2404=WQ	2	2040	11895	HUNG	RFE	G5	0	0	0	48.78N	22.47E	FL	41C	LR	45C												
2405=WQ	7	2105	5990	RUSS	BBC	WOOF	91	19	104	48.44N	20.75E	BR	90B	KO	80B	KR	103B	UK	95B								
2406=WQ	14	0220	7250	RUSS	RL	L4	214	32	117	50.36N	19.97E	BR	115D	IT	115D	KR	93D										
2407=WQ	5	2139	11835	RUSS	VOA	KAV	0	0	0	25.02S	74.67E	BR	128A	IT	125C												

2408=WT	7	1736	11740	RUSS	VOA	WOF	0	0	0	3.41S	31.70E	WP	331B	AN	358C										
2409=XI	7	0345	6180	UKR	VOA	WOF	0	0	0	48.61N	37.33E	BR	95B	NO	105B										
2410=XN	15	0540	9680	????	????????????		0	0	0	29.74N	68.59E	UK	85B	NO	96C										
2411=XN	5	0309	6180	UKR	VOA	WOF	0	0	0	49.74S	172.34E	UK	70C	KR	86										
2412=XU	4	0830	11875	RUSS	RL	B4	65	19	92	50.77N	19.41E	NE	94B	BR	87C	IT	70C	KO	62D	KR	90B	MU	60C		
2413=XW	13	1242	21510	TI	RL	HB	0	0	0	42.87N	41.49E	NO	110*	UK	90C										
2414=Z2	17	0602	9505	????	????????????		0	0	0	47.86N	18.02E	IT	135B	KO	85C										
2415=Z2	20	1010	9680	????	????????????		114	24	144	42.04N	21.16E	UK	113B	BR	150B	IT	134B	KO	105B	KR	115C	MU	130C		
2416=Z2	17	1000	9680	????	????????????		128	25	123	44.51N	20.77E	KO	107B	BR	124C	IT	135D	KR	125C						
2417=Z2	4	1010	11850	????	????????????		54	12	133	42.34N	24.87E	BR	138A	IT	135D	KO	110A	KR	112B	MU	117B	NE	107B		
2418=Z2	18	1632	17720	????	????????????		461	44	147	33.44N	33.93E	NO	131A	KR	123B	KR	123B								
2419=Z2	12	1603	15115	BULG	RFE	G1	0	0	0	45.53N	15.94E	KI	40C	PS	46C										
2420=Z2	10	1700	15115	BULG	RFE	G1	328	31	125	41.10N	31.75E	NE	111B	KO	104B	IT	130B	KR	120B	NE	111B				
2421=Z2	8	1910	15115	BULG	RFE	G6	1335	246	103	51.12N	1.33W	LR	50C	PS	46B	SS	41C								
2422=Z2	8	1640	21580	BULG	RFE	G13+G14	58	15	147	44.22N	20.35E	FL	44B	BR	148A	IT	133B	KO	110B	MU	135B	KI	40C		
												SS	48C												
2423=Z2	13	1705	21580	BULG	RFE	G13+G14	91	12	117	45.79N	19.04E	BR	150D	KO	105B	MU	111A	BE	56A						
2424=Z2	6	2140	11935	RUSS	RL	G1	0	0	0	23.45S	84.13E	BE	55B	PS	46C										
2425=Z3	5	1110	6020	????	????????????		35	12	108	49.59N	17.12E	BR	145C	IT	146C	KO	70B	KR	102A						
2426=Z3	17	1605	17835	CZEC	RFE	G1B	2438	191	99	53.88N	8.72W	FL	41B	BE	54C	PS	44C								
2427=Z3	18	1501	17835	CZEC	RFE	G1B	2232	124	86	55.15N	25.88W	LR	46B	FL	40C	PS	45B								
2428=Z3	16	1700	17835	CZEC	RFE	G1B	2319	24	104	50.55N	6.88E	FL	42C	UK	98B	SS	42C								
2429=Z3	15	1010	17835	CZEC	RFE	G1B	0	0	0	45.38N	24.53E	SS	46C	UK	100C										
2430=Z3	15	1800	17835	CZEC	RFE	G1B	0	0	0	48.23N	24.06E	FL	41B	BE	50B										
2431=Z3	15	1200	17835	CZEC	RFE	G1B	1575	80	116	46.47N	28.61E	LR	43C	UK	93C	BE	50B	FL	41C						
2432=Z3	16	1332	17835	CZEC	RFE	G1B	1798	54	117	45.91N	28.04E	BE	50B	UK	95B	LR	46C								
2433=Z3	17	1135	17835	CZEC	RFE	G1B	0	0	0	54.71N	7.54W	LR	47B	SS	36C										
2434=ZL	5	2210	5970	POLI	RFE	B2	12294	312	133	36.34S	151.97E	BR	78B	IT	72C	KR	72B								
2435=ZM	7	0410	11895	????	????????????		70	21	67	54.19N	20.16E	BR	70C	IT	80C	KO	40C	KR	45C	MU	40C				
2436=ZM	14	1520	15175	????	????????????		96	14	106	50.19N	28.67E	BR	98A	KO	72B	KR	85C								
2437=ZM	5	1935	11770	RUSS	RL	G9+G10	2220	49	114	49.91N	39.51E	FL	34B	IT	90B	SS	36C								
2438=ZM	13	0605	21510	RUSS	RL	HB	0	0	0	51.58N	10.36E	KR	84A	UK	85C										
2439=ZM	18	1422	17750	TI	RL	HC	0	0	0	41.93N	44.17E	FL	38B	LR	40C										
2440=ZM	17	1230	17750	TI	RL	HC	0	0	0	53.31N	30.10E	NE	76B	LR	38C										
2441=ZM	17	1410	17750	TI	RL	HC	2917	33	124	53.88N	22.87E	FL	37B	NO	110B	BE	44B								
2442=ZM	14	1409	21510	TI	RL	HB	82	20	99	50.80N	26.86E	PS	38C	BR	98C	IT	97B	KR	90C	MU	69B	SS	41C		
2443=ZM	3	1936	11885	UKR	RL	P1	0	0	0	49.97N	27.23E	BE	47B	SS	41C										
2444=ZT	15	1407	9530	????	????????????		0	0	0	46.79N	141.50E	FE	308B	WP	313C										
2445=ZT	15	1404	9540	????	????????????		697	240	63	46.34N	142.83E	LV	310B	FE	308B	WP	313C								
2446=ZT	16	0353	9650	????	????????????		0	0	0	46.17N	137.07E	WP	312B	DS	320C										
2447=ZT	14	2105	15375	????	????????????		502	176	52	47.00N	134.61E	LV	314C	AN	287B	WP	313B	FE	313C						
2448=ZT	19	0134	9555	LITH	RFE	P4	0	0	0	46.11N	129.35E	WP	312C	AN	290B										
2449=ZT	15	0007	9555	LITH	RFE	P4	0	0	0	46.81N	141.12E	AN	282C	WP	313C										
2450=ZT	17	2139	9555	LITH	RFE	P4	330	174	66	47.97N	151.41E	FE	305C	AN	275C	WP	316B								
2451=ZT	19	2315	9555	LITH	RFE	P4	635	259	61	45.04N	131.09E	LV	311C	WP	311B	AN	289C								
2452=ZT	20	0200	9555	LITH	RFE	P4	825	260	51	49.34N	130.60E	WP	314C	AN	289C	FE	325C								
2453=ZT	17	2337	9555	LITH	RFE	P4	0	0	0	48.70N	146.52E	AN	280C	WP	316C										
2454=ZT	19	1336	9520	RUSS	RL	L9	0	0	0	46.23N	147.23E	DS	316C	WP	313C										
2455=ZT	15	1400	9520	RUSS	RL	L9	734	227	57	45.71N	138.11E	WP	313C	FE	308B	LV	310B	DS	319C	GI	339C	KI	319C		
2456=ZT	19	1009	9520	RUSS	RL	L9	0	0	0	18.33N	62.56E	WP	312C	PS	36D										
2457=ZT	15	1032	9520	RUSS	RL	L9	899	360	69	46.12N	137.40E	DS	319C	WP	312C	FE	310C								
2458=ZT	18	1445	9520	RUSS	RL	L9	0	0	0	45.61N	139.28E	KI	324C	GI	323C										

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#	ID	DAY	TIME	FREQ	LANG	BROADCASTER TX SITE	SMA AXIS	SMI AXIS	ORIEN	BPE LAT	BPE LONG
1	**	5	1429	4063	????	????????????	2131	141	135	30.22S	90.60E
2	**	5	2200	5915	????	????????????	1815	272	119	47.80N	19.16E
3	**	24	0920	5955	????	????????????	229	64	146	15.78N	76.04W
4	**	18	0000	5985	????	?????????????	14145	229	128	42.42S	156.71E
5	**	2	0533	6010	????	????????????	590	54	143	14.16N	87.13W
6	**	24	0412	6025	????	????????????	349	15	112	50.20N	11.32E
7	**	24	1024	6085	????	????????????	1694	406	138	28.52S	62.53W
8	**	30	1525	6087	????	????????????	1857	426	136	27.39S	64.18W
9	**	31	1530	6087	????	????????????	1702	430	133	33.68S	54.86W
10	**	7	1015	6087	????	????????????	1201	387	140	36.27S	54.45W
11	**	25	1008	6090	????	????????????	1498	351	134	35.45S	49.01W
12	**	24	0819	7105	????	????????????	1610	417	131	38.93S	50.99W
13	**	24	0909	7105	????	????????????	1199	356	140	33.64S	54.30W
14	**	25	0910	7105	????	????????????	1636	337	141	25.65S	65.41W
15	**	26	0745	7105	????	????????????	1657	320	140	25.10S	62.68W
16	**	26	0817	7105	????	????????????	1694	413	139	25.52S	60.22W
17	**	4	2006	7140	????	????????????	1044	171	93	54.83N	11.99W
18	**	5	2009	7140	????	????????????	741	130	87	55.12N	22.29W
19	**	24	0913	7150	????	????????????	1612	325	142	24.08S	67.00W
20	**	25	0911	7150	????	????????????	1663	368	138	30.23S	61.42W
21	**	26	0829	7150	????	????????????	1668	380	138	29.95S	58.26W
22	**	26	1027	7150	????	????????????	242	32	62	51.45N	55.72W
23	**	29	1801	7150	RUSS	DW WER	0	0	0	6.29S	69.11W
24	**	28	1428	7197	????	????????????	0	0	0	30.00N	49.20E
25	**	30	0410	7215	????	????????????	687	113	146	31.71N	51.37E
26	**	7	0412	7215	????	????????????	2760	575	145	12.58N	52.32E
27	**	7	1354	7215	????	????????????	0	0	0	55.81S	9.09W
28	**	24	1030	7250	????	????????????	0	0	0	59.66S	16.27W
29	**	29	0910	7285	????	????????????	703	115	147	30.02N	49.19E
30	**	30	0716	7290	????	????????????	0	0	0	48.67N	41.64E
31	**	30	1000	8828	????	????????????	1981	525	130	35.28S	61.42W
32	**	30	1817	8844	????	????????????	1422	448	122	49.01S	39.40W
33	**	1	1530	9515	????	????????????	482	68	77	56.85N	36.76W
34	**	5	2116	9600	????	????????????	3725	264	126	46.63N	23.07E
35	**	5	2349	9600	????	????????????	3417	224	106	51.02N	3.92W
36	**	7	1540	9625	ARAB	BBC CYP	0	0	0	19.27N	56.37E
37	**	5	0403	9655	????	????????????	3834	313	164	21.93S	97.27E
38	**	2	2022	9680	????	????????????	0	0	0	45.53N	40.50E
39	**	4	1917	11640	????	????????????	1513	195	117	41.96N	.93W
40	**	6	1930	11640	????	????????????	3228	403	121	35.46N	9.13E
41	**	19	1500	11699	????	????????????	0	0	0	58.47N	12.13W

STATIONS INPUT (LOWER CASE INDICATE WILDS)

al	121C	BE	51C	CA	44C	PS	49C						
BE	54C	CA	49C	FL	39C	LR	46C	SS	46C				
GI	133C	KI	116C	PS	155C								
NE	74B	U2	68C	NE	74B								
AN	109C	DS	126C	FE	125C	KI	141C	LV	115C	WP	85C		
BD	100C	BE	54C	fl	165C	ki	120C	KR	110C	LR	46C		
PS	45C	ss	33C	BD	100B	KR	110C						
ds	319C	FE	127C	gi	33C	KI	147C	LV	132C	WP	115C		
an	146C	DS	140C	FE	128C	LV	132C	WP	114C				
AN	102C	DS	138C	FE	127C	LV	131C	WP	118C				
AN	108C	DS	137C	FE	147C	fl	36C	LR	155C	LV	131C		
WP	113C												
AN	106C	DS	140C	FE	124C	GI	128C	KI	145C	LV	132C		
WP	114C												
AN	106C	DS	140C	KI	143C	LV	131C	WP	124C				
AN	107C	DS	139C	KI	147C	LR	155C	LV	130C	WP	112C		
AN	108C	DS	140C	KI	144C	LV	134C	WP	112C				
AN	108C	DS	138C	FE	128C	KI	142C	LV	128C	WP	112C		
AN	106C	FE	125C	KI	142C	WP	112C						
BE	52C	FL	48C	LR	45C	SS	34C						
BE	51C	CA	52C	FL	45C	SS	31C						
AN	107C	DS	139C	KI	147C	LV	131C	WP	112C				
AN	108C	DS	140C	KI	144C	LV	133C	WP	116C				
AN	107C	DS	140C	FE	124C	KI	142C	WP	115C				
AL	45C	BE	48C	CA	57C	FL	35C	ki	143C	LR	43C		
PS	38C												
AN	101C	FE	123C										
N1	130B	NO	115B										
U2	99B	N1	127B	NO	110B								
CA	64C	DS	22C	FL	45C	lr	23C						
FE	126C	WP	154C										
DS	145C	KI	148C										
NO	115B	N1	130B	U2	102B								
NO	100C	N1	125C										
DS	136C	LV	143C	WP	121C								
AN	109C	DS	140C	FE	128C	LV	134C	WP	136C				
AL	42C	an	70C	BE	50C	CA	45C	fe	65C	FL	39C		
GI	45C	KI	46C	LR	38C	LV	42C	PS	41C				
AL	36C	BE	53C	CA	53C	FL	42C	ki	54C	LR	47C		
PS	42C												
BE	58C	FL	45C	LR	49C								
U2	105B	NO	115B										
al	170C	BE	31C	CA	14C	gi	138C	ki	105C	LR	18C		
NO	107A	N2	140B										
AL	63C	BE	70C	FL	55C	GI	54C	KI	54C	LR	53C		
LV	30C	PS	56C										
AL	59C	FL	57C	PS	59C								
BE	47C	CA	45C										

42=**	27	1318	11720	ARAB	BBC	CYP	6471	369	122	47.96N	22.18E	BE	49C	FL	43C	PS	44C										
43=**	29	1306	11720	ARAB	BBC	CYP	1233	329	152	10.10S	81.58E	al	51C	BE	51C	FL	45C	GI	10C	LR	45C	PS	18C				
												wp	158C														
44=**	1	1634	11745	????	????????????		969	235	130	44.66N	24.33E	AL	37C	an	166C	BE	51C	CA	48C	DS	38C	FE	8C				
												FL	45C	ki	141C	LR	47C	LV	51C	PS	43C	SS	51C				
												wp	149C														
45=**	4	1424	11745	????	????????????		4531	246	107	53.46N	2.20E	BE	51C	FL	41C	LR	48C										
46=**	21	2102	11865	CZEC	DW	SIN	794	188	106	53.65N	.77E	FL	38C	LR	46C	SS	43C	BE	52C	FE	35C	FL	39C				
												PS	42C														
47=**	3	1836	11880	????	????????????		1495	241	115	47.61N	11.09E	BE	57C	CA	52C	FL	37C	KI	41C	PS	47C	SS	49C				
48=**	3	2334	11905	????	????????????		1969	513	131	26.26S	57.79W	DS	133C	FE	126C	WP	112C										
49=**	1	2306	12429	????	????????????		62	51	75	22.98N	110.26W	FE	155C	gi	32C	KI	251C	LV	143C								
50=**	4	1436	12548	????	????????????		699	144	163	12.42S	76.31W	AL	171C	DS	142C	FE	131C	FL	174C	GI	155C	KI	149C				
												lr	0C	LV	128C	PS	166C										
51=**	5	1949	12548	????	????????????		328	118	178	11.37S	77.17W	AL	171C	be	10C	ca	4C	DS	138C	FL	174C	GI	156C				
												KI	151C	PS	168C	SS	201C	WP	104C								
52=**	22	1516	14525	????	????????????		80	34	150	23.92N	75.84W	AL	153C	be	13C	ca	8C	DS	97C	GI	126C	KI	94C				
												LR	176C	PS	140C												
53=**	1	1809	15040	????	????????????		4754	468	137	12.41S	54.60E	BE	78C	ds	55C	LR	71C	BE	70C	GI	49C						
54=**	4	1830	15040	????	????????????		926	206	115	36.75N	5.66W	AL	66C	BE	78C	DS	56C	GI	59C	KI	54C	PS	55C				
												SS	60C														
55=**	6	1907	15040	????	????????????		2132	221	110	44.11N	18.45W	AL	61C	GI	60C	KI	54C	PS	58C								
56=**	5	1823	15084	????	????????????		2268	380	125	48.21N	30.03E	BE	50C	CA	40C	SS	42C										
57=**	5	2004	15084	????	????????????		853	156	97	53.15N	12.44W	AL	57C	BE	52C	FL	38C	LR	48C	SS	45C						
58=**	8	1840	15084	????	????????????		1351	209	125	51.63N	18.04E	AL	42C	BE	51C	CA	46C	DS	19C	FL	42C	GI	26C				
												LR	46C	LV	35C	PS	39C										
59=**	26	1305	15180	ARAB	BBC	RAM	4256	230	142	21.00N	50.74E	U2	110B	BE	51C	GI	31C	LR	45C	PS	41C						
60=**	28	1721	15180	ARAB	BBC	RAM	0	0	0	30.00N	49.20E	NO	115B	N1	130B												
61=**	5	1536	15180	????	????????????		1416	219	115	51.77N	12.22E	AL	45C	BE	51C	FL	44C	KI	34C	LR	46C	PS	39C				
												SS	40C														
62=**	31	2108	15183	????	????????????		1499	336	153	33.78N	48.46E	AL	40C	an	76C	BE	48C	DS	20C	FE	14C	GI	26C				
												LR	45C	LV	1C	PS	32C										
63=**	6	1834	15205	????	????????????		476	128	99	44.17N	26.56W	BE	75C	GI	60C	KI	56C	PS	59C	SS	43C						
64=**	6	1843	15225	????	????????????		2237	158	109	42.68N	18.88W	BE	75C	GI	59C	LR	66C	PS	59C								
65=**	28	1035	15390	????	????????????		0	0	0	46.43N	40.03E	N1	130A	NO	106A												
66=**	20	0132	11875	AZ	RL	L3	1739	440	159	15.33N	81.82E	FL	36C	GI	4C	LR	18C	PS	13C	SS	40C						
67=**	21	2239	7155	BR	RL	P6	641	270	133	56.81N	19.10E	AL	39C	AN	11C	BE	45C	FE	11C	FL	33C						
68=**	23	2229	7155	BR	RL	P6	1967	437	145	33.97N	41.57E	AL	49C	BE	53C	FE	11C	LR	40C								
69=**	22	0012	6105	CZEC	RFE	G2	817	214	120	49.07N	10.38E	AN	12C	BE	53C	LR	50C	PS	56C	BE	50C	LR	50C				
70=**	19	2328	6135	CZEC	RFE	B6	765	121	89	55.19N	21.01W	BE	53C	CA	50C	FL	38C	LR	49C	SS	32C						
71=**	29	2030	7130	CZEC	BBC	CYPRUS	1794	185	142	42.71N	68.06E	NO	85C	be	44C	SS	31C	N1	100C								
72=**	19	2359	9725	CZEC	RFE	G1	1811	577	153	15.03N	77.53E	FL	44C	GI	4C	SS	36C										
73=**	20	2331	11770	CZEC	RFE	G6	0	0	0	12.12N	89.39E	FL	16C	SS	40C												
74=**	6	2108	11825	CZEC	RFE	G9+G10	1486	235	105	52.97N	3.80E	al	4C	BE	52C	FL	39C	LR	48C	SS	40C						
75=**	31	2110	15255	CZEC	RFE	G2B	0	0	0	4.12N	65.87E	AL	36C	PS	42C												
76=**	5	1316	15255	CZEC	RFE	G2B	2738	152	90	55.47N	19.24W	BE	53C	FL	39C	LR	46C										
77=**	21	1458	11865	EST	VOA	WOF	0	0	0	56.62N	21.96E	AN	5C	PS	34C												
78=**	21	2023	11875	GEOR	RL	L3	1274	368	105	53.32N	4.00E	DS	38C	PS	38C	SS	41C	wp	142C								
79=**	18	0332	11875	GEOR	RL	L3	987	487	101	78.15S	43.35W	AN	165C	BE	168C	ca	131C	ki	4C	LV	179C	WP	144C				
80=**	7	1928	11875	GEOR	RL	L3	962	358	135	15.43S	31.93E	AN	19C	DS	74C	FE	20C	fl	41C	KI	83C	LR	93C				
												LV	55C	PS	87C												
81=**	20	2032	11970	LITH	RFE	P4	446	83	82	53.54N	34.01W	BE	50C	CA	60C	FL	39C	GI	53C	lv	165C	PS	40C				
												SS	40C														
82=**	31	0610	5970	POLI	RFE	B6	2467	320	121	55.15N	29.17E	BE	35C	FL	37C	LR	41C	SS	38C								

83=**	2	0435	9615	POLI	VOA	TAN	0	0	0	13.72N	104.96E	U2 70C	NO 75B				
84=**	21	1357	9705	POLI	RFE	B3	2288	562	159	66.25S	117.37W	AN 170C	ds 0C	fe 22C	LV 176C	WP 162C	
85=**	29	0525	9705	POLI	RFE	G1B	0	0	0	16.79N	85.47E	LR 20C	SS 40C				
86=**	1	2030	9705	POLI	RFE	B2	0	0	0	44.26N	59.52E	NO 90B	U2 77B				
87=**	21	1407	11725	POLI	RFE	B1	2205	412	162	23.02N	73.91E	AL 13C	BE 32C	CA 40C	DS 0C	fe 174C	FL 25C
												lv 20C	PS 21C				
88=**	28	1850	11725	POLI	RFE	G1A	1042	156	83	59.56N	18.79W	BE 40C	FL 35C	PS 45C	SS 34C		
89=**	30	1452	11725	POLI	RFE	B1	2249	430	152	38.45N	68.07E	BE 33C	FL 27C	GI 8C	LR 30C	SS 33C	
90=**	30	0933	21665	POLI	RFE	G1B	958	147	136	42.73N	68.82E	U2 75B	NO 80C	N1 100C			
91=**	21	2346	5955	RUSS	RL	HB	960	321	123	54.01N	29.26E	FE 14C	SS 34C	BE 45C	FL 37C	SS 34C	
92=**	24	0317	6025	RUSS	VOA	WOF	0	0	0	61.52S	12.95W	AN 110C	WP 158C				
93=**	19	1735	6085	RUSS	BBC	WOOF	1708	507	132	33.18S	53.97W	AN 104C	FE 125C	LV 130C	WP 118C		
94=**	20	1804	6085	RUSS	BBC	WOOF	1121	464	112	53.52S	22.55W	AN 104C	FE 125C	LV 130C	WP 146C		
95=**	22	1807	6085	RUSS	BBC	WOOF	0	0	0	30.16N	95.83W	AN 106C	FE 123C				
96=**	28	1744	6085	RUSS	BBC	WOOF	1743	497	133	28.87S	55.43W	AN 104C	FE 120C	LV 130C	WP 113C		
97=**	18	1900	6085	RUSS	BBC	WOOF	1537	609	126	38.36S	42.80W	AN 100C	FE 121C	WP 123C			
98=**	22	0404	6090	RUSS	VOA	MUN	0	0	0	56.43N	7.77W	FL 38C	SS 34C				
99=**	18	1205	6105	RUSS	RL	L11	1638	517	119	47.26S	42.71W	DS 142C	FE 129C	LV 135C	WP 133C		
100=**	18	0802	6105	RUSS	RL	L11	1501	450	125	47.12S	44.12W	AN 105C	DS 141C	FE 133C	LV 135C	WP 133C	
101=**	20	0047	7155	RUSS	RL	P6	699	111	86	55.01N	24.27W	BE 52C	CA 54C	FL 37C	LR 47C	SS 33C	
102=**	27	0103	7155	RUSS	RL	P6	1066	175	86	58.56N	16.56W	BE 46C	PS 41C	SS 30C			
103=**	21	0046	7220	RUSS	RL	HC	1102	390	132	54.08N	34.64E	FE 11C	FL 37C	LR 38C	SS 30C		
104=**	21	2238	7220	RUSS	RL	HC	773	39	57	50.64N	56.94W	BE 50C	FL 33C	LR 41C			
105=**	25	2300	7295	RUSS	RL	L9+L10	1608	251	110	52.45N	8.34E	BE 54C	LR 47C	PS 35C	SS 41C		
106=**	20	2241	9520	RUSS	RL	B5	1672	91	118	46.17N	39.71E	BD 87C	FL 39C	LR 37C	PS 36C	SS 40C	BD 87C
107=**	26	1005	9520	RUSS	RL	L1	1431	223	157	28.04S	58.35W	FE 126C	AL 156C	BE 168C	CA 167C	FL 155C	GI 144C
												KI 144C	LR 162C	PS 155C			
108=**	2	0630	9520	RUSS	RL	HD	1666	515	120	45.66S	43.61W	DS 140C	FE 126C	LV 138C	WP 130C		
109=**	19	2352	9555	RUSS	RL	G13+G14	1147	74	78	52.37N	39.97W	BE 58C	FL 41C	LR 47C			
110=**	20	0049	9555	RUSS	RL	G13+G14	1222	229	95	53.09N	7.45W	bd 106C	FL 39C	LR 50C	PS 45C	SS 39C	bd 106B
111=**	22	0038	9555	RUSS	RL	G13+G14	0	0	0	31.75N	42.27E	FE 13C	LR 48C				
112=**	28	0054	9555	RUSS	RL	G13+G14	0	0	0	51.40S	29.33W	FE 128C	LV 134C				
113=**	21	2035	9660	RUSS	RL	HA	1431	355	114	56.23N	16.95E	DS 23C	fe 173C	FL 44C	lv 140C	PS 34C	SS 32C
114=**	22	0049	9750	RUSS	RL	HD	2124	514	149	26.16N	66.56E	an 153C	FL 32C	GI 9C	LR 51C	SS 36C	
115=**	7	1930	9750	RUSS	BBC	WOOF	0	0	0	54.32N	44.50E	NO 85B	N1 112B				
116=**	21	1715	11710	RUSS	VOA	WOF	0	0	0	29.75N	53.25E	AL 35C	PS 37C				
117=**	18	1630	11710	RUSS	VOA	WOF	780	212	126	54.70N	18.09E	AL 32C	BE 57C	CA 58C	KI 21C	LR 33C	an 179C
												FE 16C	FL 30C	LV 15C	WP 1C		
118=**	22	0235	11725	RUSS	RL	P6	1619	464	161	31.39N	74.39E	FL 4C	SS 33C	DS 1C	GI 7C	LR 42C	
119=**	20	1745	11825	RUSS	RL	L9+L10	0	0	0	49.91N	25.65E	AN 3C	FL 39C				
120=**	31	2125	11835	RUSS	VOA	KAV	1520	373	125	49.77N	25.48E	AL 43C	an 108C	FL 39C	GI 30C	ki 162C	ps 167C
												SS 41C					
121=**	20	1333	11875	RUSS	RL	L6	0	0	0	63.30N	18.98E	AN 6C	FL 28C				
122=**	23	0128	11915	RUSS	RL	P4	1496	450	124	47.88S	43.96W	AN 108C	DS 143C	FE 130C	LV 135C	WP 134C	
123=**	23	0306	11935	RUSS	RL	P2	1522	505	125	47.06S	45.59W	AN 108C	DS 142C	FE 131C	ki 29C	WP 133C	
124=**	21	2156	11970	RUSS	RL	P4	1849	502	160	38.09N	71.66E	AL 18C	DS 0C	fe 176C	LR 22C	SS 36C	
125=**	22	0027	11970	RUSS	RL	P5	1146	299	140	31.86N	62.34E	DS 8C	GI 7C	KI 29C	lv 177C	SS 35C	an 152C
												SS 32C	U2 94C				
126=**	22	0426	11970	RUSS	RL	P5	1099	384	159	3.09S	97.83E	SS 36C	FL 23C	gi 151C	LR 1C	lv 138C	
127=**	31	0021	15340	RUSS	RL	G11+G12	108	37	120	24.84N	88.34W	AN 108C	DS 104C	fe 130C	GI 149C	KI 105C	lv 136C
												WP 70C					
128=**	4	1058	17760	RUSS	RL	L1	0	0	0	36.56N	50.06E	N1 125B	NO 108A				
129=**	3	1200	17805	RUSS	RL	G1A	155	9	74	52.92N	8.48E	NE 69B	U2 74B	NE 74B			
130=**	20	0141	7180	TB	RL	L7+L8	1983	394	135	43.12N	42.72E	FL 36C	GI 17C	LR 46C	PS 45C	SS 38C	

131=**	21	1716	15370	TB	RL	HR	0	0	0	51.30N	12.23E	AN 12C	LV 27C				
132=**	20	0151	7295	TI	RL	L9+L10	1898	245	117	53.88N	20.99E	BE 43C	CA 40C	FL 36C	FL 37C	LR 46C	SS 39C
133=**	7	2300	9715	TI	RL	B7	0	0	0	38.18N	52.23E	NO 104B	U2 90B				
134=**	22	0312	6170	UKR	RL	L5+L6	770	160	81	53.95N	25.70W	FL 33C	LR 51C	PS 45C	SS 35C		
135=**	21	2031	11885	UKR	RL	P2	410	144	93	62.73N	12.33W	AL 39C	AN 22C	BE 32C	DS 28C	fe 173C	gi 11C
												LR 42C	PS 36C	SS 36C			
136=**	22	1644	15380	UKR	RL	P6	605	244	135	52.84N	25.95E	AN 5C	BE 46C	DS 27C	FE 17C	FL 37C	LR 39C
												LV 15C	PS 35C	SS 39C			
137=1D	24	0609	5965	????	????????????		0	0	0	49.82N	32.06E	NO 109B	N1 139B				
138=1D	31	0537	7205	????	????????????		0	0	0	51.14N	28.89E	N2 155B	NO 110B				
139=1D	24	0702	6150	POLI	BBC	WOOF	0	0	0	54.62N	27.83E	U2 70B	N1 140C				
140=1D	24	2312	6160	POLI	VOA	KAV	0	0	0	55.76N	31.47E	N1 130C	U2 66B				
141=1D	2	0939	9705	POLI	RFE	B2	0	0	0	25.52N	76.04E	BE 32C	U2 84B				
142=1D	2	1024	9705	POLI	RFE	B2	750	53	69	53.94N	45.38W	BE 49C	CA 52C	FL 37C	LR 44C		
143=1D	3	1230	9705	POLI	RFE	B2	2179	150	86	59.14N	22.15W	be 34C	CA 42C	FL 35C	LR 41C	PS 42C	
144=1D	3	1509	9705	POLI	RFE	B2	1360	55	64	54.15N	47.12W	BE 48C	FL 32C	LR 43C			
145=1D	7	1029	9705	POLI	RFE	B2	3170	147	86	57.75N	20.66W	BE 47C	FL 37C	LR 45C			
146=1G	3	1408	9635	POLI	BBC	RAM	0	0	0	59.30N	39.06E	NO 74A	U2 56B				
147=1G	18	0009	11723	????	????????????		0	0	0	55.81N	54.82E	NO 75B	N1 97C				
148=1G	31	1045	11724	????	????????????		3532	537	135	39.80N	51.83E	FL 32C	LR 39C	SS 44C			
149=1G	18	0939	11724	????	????????????		0	0	0	58.94N	46.50E	NO 72A	N1 99B				
150=1G	5	1400	9635	CZEC	BBC	WOOF	0	0	0	55.57N	36.69E	N1 121B	U2 66C				
151=1G	18	2300	5970	HUNG	RFE	BIBLIS	448	20	73	55.38N	17.61E	NE 61B	U2 65C	NE 64B			
152=1G	19	0538	5955	POLI	VOA	KAV	0	0	0	57.78N	37.17E	NO 80A	U2 60C				
153=1G	18	0700	5970	POLI	RFE	B3	32400	408	147	15.49S	140.62E	NE 61B	U2 56C	NE 60B			
154=1G	23	2140	6060	POLI	VOA	WOF	0	0	0	49.56N	64.64E	U2 67B	NO 79B				
155=1G	18	2200	6060	POLI	VOA	WOF	129	28	91	58.38N	30.95E	NO 81C	NE 57B	NO 81C			
156=1G	25	1939	7190	POLI	RFE	B4	0	0	0	55.80N	39.13E	U2 65C	NO 85C				
157=1G	27	0614	7190	POLI	RFE	G3B	0	0	0	23.07N	63.08W	LR 140C	SS 32C				
158=1G	29	1814	7190	POLI	RFE	B4	0	0	0	57.61N	29.84E	U2 60C	NO 85C				
159=1G	30	0612	7190	POLI	RFE	G3B	0	0	0	56.21N	32.47E	DS 20C	SS 34C				
160=1G	1	0700	9705	POLI	RFE	B2	0	0	0.	60.19N	31.13E	NO 73B	N1 117C				
161=1G	2	0800	9705	POLI	RFE	B2	0	0	0	59.57N	33.51E	N1 115B	NO 75B				
162=1G	2	0930	9705	POLI	RFE	B2	0	0	0	60.30N	27.67E	NO 73A	N2 146B				
163=1G	3	1100	9705	POLI	RFE	B2	52	16	100	60.67N	29.62E	N1 118B	BE 34C	NO 71A			
164=1G	4	0730	9705	POLI	RFE	B2	0	0	0	59.81N	33.65E	NO 74B	U2 54B				
165=1G	6	1130	9705	POLI	RFE	B2	0	0	0	52.49N	64.26E	NO 75A	N3 115B				
166=1G	7	0600	9705	POLI	RFE	G1A	0	0	0	59.12N	47.71E	NO 71A	U2 56B				
167=1G	7	0730	9705	POLI	RFE	B2	0	0	0	60.68N	28.84E	NO 71A	BK 43A				
168=1G	20	0900	11725	POLI	RFE	G15+G16	72	11	63	54.92N	15.67E	NE 61B	kg 30B	BK 50A	NE 61B	U2 68B	nO 80B
169=1G	19	1146	11725	POLI	RFE	B1	571	61	100	54.16N	35.84E	BE 38C	CA 36C	FL 30C	LR 35C	PS 34C	SS 36C
												BD 70B					
170=1G	23	1108	11725	POLI	RFE	B1	0	0	0	51.51N	56.30E	U2 68B	NO 82A				
171=1G	24	0730	11725	POLI	RFE	G15+G16	368	37	82	67.43N	25.15E	AN 3C	DS 12C	SS 30C	u2 58B	N1 70C	
172=1G	24	0830	11725	POLI	RFE	G15+G16	59	16	105	59.72N	31.56E	AN 3C	DS 10C	1v 179C	u2 74C	NO 75A	N1 118B
173=1G	24	0930	11725	POLI	RFE	G15+G16	0	0	0	51.00N	75.26E	NO 70B	U2 60C				
174=1G	24	1000	11725	POLI	RFE	G15+G16	407	42	119	53.42N	63.06E	BD 65C	BE 38C	ca 39C	DS 10C	KR 65C	1r 152C
												SS 35C	BD 65B	KR 65B	NO 72A	U2 65B	U2 65B
												NO 73B					
175=1G	24	1130	11725	POLI	RFE	G16	686	51	105	53.97N	50.64E	U2 65B	AL 27C	BD 65C	KR 68C	PS 24C	SS 35C
												BD 65B	KR 68B	nO 70B			
176=1G	25	1115	11725	POLI	RFE	B1	672	107	80	61.40N	24.70W	BE 39C	CA 39C	GI 45C	LR 35C	PS 33C	SS 35C
177=1G	27	0959	11725	POLI	RFE	G15+G16	100	11	63	54.13N	13.55E	BD 70C	KR 55C	SS 33C	BD 70C	KR 55A	
178=1G	27	1104	11725	POLI	RFE	B1	1044	167	89	59.07N	14.24W	BE 42C	CA 48C	1r 143C	SS 34C		

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179=1G 27   1228 11725 POLI RFE B1          3108  306  119  63.53N  12.34E   AL 29C  GI 29C  PS 33C
180=1G 18   1132 11725 POLI RFE B1          4561  417  131  56.12N  34.01E   CA 38C  FL 29C  KI 21C
181=1G 30   1100 11725 POLI RFE G15+G16     1430  190  129  55.12N  35.19E   AL 29C  BE 38C  CA 36C  LR 34C  PS 38C  SS 35C
                                                                            AL 31C  BE 38C  CA 36C  LR 34C  PS 28C  SS 35C
182=1G 19   1205 11725 POLI RFE B1             0    0    0   5.32N 111.14E   U2 70B  NO 74A
183=1G  2   1053 11725 POLI RFE GLORIA      3655  286  119  61.35N  23.88E   BE 34C  FL 32C  KI 23C  LR 35C
184=45 29   1033 15145 POLI RFE G2             0    0    0  32.53N  69.51E   BE 34C  SS 40C
185=4F  7   1207     1 ???? ???????????      0    0    0  45.56N  59.88E   PS 24C  SS 35C
186=4F 27   2330  7180 RUSS RL  GLO           0    0    0  39.01N  66.07E   SS 37C  U2 79B
187=4F 29   2140  7180 ???? ???????????    158   25  122  54.77N  45.28E   N1 110B NO 85B  NO 83A
188=4F  4   0430  9615 ???? ???????????    161   35  112  51.29N  36.31E   BK 78B  n1 100B NO 100B SS 38C
189=4F  2   2005  9750 POLI BBC SKL         711   18   89  53.14N  16.11E   U2 77B  U2 77B  NE 78B
190=4F  5   2034  9750 POLI BBC SKL        9933  572  156  28.82N  68.17E   AL 24C  LR 32C  PS 24C
191=4F 27   1400 15180 ARAB BBC RAM           0    0    0    .45N 102.41E   NO 84B  U2 80C
192=4F 30   1330 15180 ARAB BBC RAM           0    0    0  37.76N  69.03E   N1 103B N2 110C
193=4F 27   2337  7200 CZEC RFE G2A           0    0    0   8.85N  98.48E   NO 83B  U2 78B
194=4F 28   1500 15390 CZEC BBC WOOF        145   18   87  51.83N  13.67E   BK 88B  U2 78B  BE 32C  FL 27C  LR 26C  PS 45C
                                                                            SS 34C
195=4F  4   0306  9695 HUNG RFE G3A           0    0    0  57.20N  49.37E   NO 75C  N1 100A
196=4F 27   2200  7190 POLI RFE G3B        3464  193  141  30.75N  82.70E   U2 75B  SS 36C  NO 83B  NO 83B
197=4F 28   2305  7190 POLI RFE G3B         378   72  135  43.20N  64.58E   U2 76A  N2 112B nO 97A  EK 96B
198=4F  2   2016  9705 POLI RFE B2          711   18   89  53.14N  16.11E   U2 77B  U2 77B  NE 78B
199=4F  3   1733  9705 POLI RFE B2          147   21   37  41.49N  74.55W   be 38C  FL 15C  LR 38C  PS 42C
200=4F  3   2047  9705 POLI RFE B2            0    0    0  22.29N  87.22E   U2 78B  NO 85D
201=4F  3   2117  9705 POLI RFE G1A        9929  260  139  24.34N  85.28E   BD 78C  lr 50C  SS 34C  BD 78B  U2 78B
202=4F  5   2234  9705 POLI RFE G1A           0    0    0  38.91N  66.24E   U2 79B  N1 105B
203=4F  7   1943  9705 POLI RFE B2            0    0    0  49.71N  56.25E   NO 85C  N1 105B
204=4F  7   2100  9705 POLI RFE B2            0    0    0  48.82N  53.07E   NO 89A  U2 74B
205=4F  7   2200  9705 POLI RFE G1A        4040  256  152  37.73N  72.59E   N1 100C BE 27C  CA 27C  FL 20C  LR 22C  PS 19C
206=4F  7   1643  9750 POLI BBC WOOF       3270  446  142  45.71N  58.70E   BE 34C  FL 26C  PS 26C  SS 36C
207=4F 22   1845 11725 POLI RFE G1A        3048  424  136  53.43N  50.53E   BE 34C  CA 29C  SS 32C
208=4F 20   0730 11725 POLI RFE G15+G16       0    0    0  60.16N  42.57E   NO 70C  N1 100C
209=4F 18   2230 11725 POLI RFE G1A        1676  199  140  38.94N  68.57E   an 156C BE 34C  GI  9C  SS 36C  NO 88B
210=4F 28   1705 11725 POLI RFE G16        1862  351  152  43.35N  65.22E   BE 33C  CA 24C  DS  4C  fe 174C FL 27C  LR 28C
                                                                            PS 20C  SS 33C
211=4F 28   2137 11725 POLI RFE G1A         817  185  113  37.18N  62.69E   AL 36C  FL 28C  PS 18C  SS 34C  LS 75B
212=4F 29   1707 11725 POLI RFE G16        1193  300  156  47.82N  60.78E   AL 19C  CA 29C  DS  5C  FE  1C  FL 27C  GI 11C
                                                                            LR 28C  PS 20C  SS 34C  wp 147C
213=4F 20   1800 11725 POLI RFE G16           0    0    0  43.21N  67.07E   NE 77B  NO 85C
214=4F 27   1030 15145 POLI RFE G2          139   23  101  53.47N  39.09E   BK 70A  U2 77B  NO 90B  AL 19C  an 154C BE 32C
                                                                            CA 33C  SS 38C
215=4F 27   1800 15145 POLI RFE G2           0    0    0  48.86S 168.32E   NE 79B  U2 72B
216=4F 28   1202 15145 POLI RFE G2        2466  350  143  47.07N  60.63E   BE 34C  SS 36C  BE 33C  LR 27C  PS 21C  SS 30C
217=4F 29   0930 15145 POLI RFE G2           0    0    0  45.14S 152.75E   NO 70C  U2 80C
218=4F 29   1101 15145 POLI RFE G2        1646  157  145  36.95N  71.94E   an 169C BE 37C  SS 39C  NO 87B  N1 100B
219=4F 30   1203 15145 POLI RFE G2        3377  360  150  14.34N  94.18E   U2 76C  N2 95C  NO 85B
220=4F 30   1300 15145 POLI RFE G2        2681  349  151  41.35N  65.59E   AL 21C  BE 32C  CA 28C  FL 27C  LR 28C  PS 20C
                                                                            SS 35C
221=4F 30   1806 15145 POLI RFE G2         659  147  124  47.08N  57.67E   U2 75B  BE 27C  FE 14C  FL 25C  GI  5C  LR 25C
                                                                            SS 35C
222=4F 31   1233 15145 POLI RFE G2        1336  159  136  38.98N  70.76E   U2 77B  BE 32C  FL 26C  PS 20C  SS 35C  NO 85B
223=4F 25   1331 15170 POLI RFE G2A         767  110  128  41.14N  64.19E   AL 22C  BD 80C  BE 34C  CA 34C  FL 26C  KI 15C
                                                                            KR 80C  LR 18C  PS 19C  SS 38C  BD 80B  KR 80B
224=4F 27   1100 15170 POLI RFE G2A        1848   71  123  51.80N  45.35E   BE 34C  CA 36C  SS 38C  NO 90B
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225=4F	27	1245	15170	POLI	RFE	G2A	696	92	141	39.29N	71.70E	U2 80B	NO 84A	N2 107B			
226=4F	28	1200	15170	POLI	RFE	G2A	2805	326	133	36.88N	66.90E	U2 81C	BE 34C	SS 36C			
227=4F	29	1110	15170	POLI	RFE	G2A	3096	480	150	35.62N	68.85E	an 169C	BE 32C	CA 30C	PS 20C	SS 38C	
228=4F	29	1253	15170	POLI	RFE	G2A	0	0	0	31.53N	76.23E	N1 100B	NO 88B				
229=4F	29	1327	15170	POLI	RFE	G2A	2704	401	153	33.74N	70.99E	AL 18C	BE 32C	FL 32C	LR 28C	PS 19C	SS 35C
230=4F	1	1445	17735	POLI	RFE	G1	0	0	0	15.72N	72.20E	NO 102A	N2 117A				
231=4F	3	0610	17735	POLI	RFE	G15+G166	0	0	0	54.62N	21.90E	NE 70C	U2 70B				
232=4F	7	1000	17735	POLI	RFE	G15+G166	0	0	0	41.47N	89.23E	NO 70A	U2 62B				
233=4F	25	1900	7180	RUSS	VOA	KAV	0	0	0	53.02N	8.13E	NE 66B	U2 75C				
234=4F	3	0900	17805	RUSS	RL	G1A	131	8	80	52.92N	9.27E	NE 74B	NE 73B	U2 77A			
235=4F	3	1000	17805	RUSS	RL	G1A	531	16	85	53.28N	14.51E	NE 76B	U2 76B	NE 76B			
236=4F	3	1130	17805	RUSS	RL	G1A	0	0	0	53.11N	9.14E	NE 69B	U2 75B				
237=4F	3	1430	17805	RUSS	RL	G1A	0	0	0	48.98S	170.69E	NE 76B	U2 67C				
238=4F	7	1300	17805	RUSS	RL	G1A	0	0	0	52.56N	31.05E	BK 75A	U2 76B				
239=4N	2	0530	9605	????	????????????		0	0	0	57.84N	46.34E	U2 59B	NO 75B				
240=4N	22	1326	11720	ARAB	BBC	CYP	420	22	85	56.78N	35.27E	an 170C	BE 29C	CA 34C	LR 33C	PS 30C	SS 54C
												KR 61A					
241=4N	2	1316	11720	????	????????????		0	0	0	60.80N	54.87W	AL 35C	LR 25C				
242=4N	30	0617	15140	????	????????????		0	0	0	34.83N	95.91E	N1 80C	NO 70B				
243=4N	24	2202	6150	POLI	VOA	WOF	0	0	0	56.46N	57.84E	U2 59B	NO 72B				
244=4N	24	1050	11725	POLI	RFE	G15+G16	0	0	0	63.59N	42.31W	BE 29C	CA 32C				
245=4N	30	1336	11725	POLI	RFE	B1	2428	328	138	57.13N	49.77E	AL 26C	BE 29C	FL 25C	LR 25C	SS 32C	
246=4N	25	1006	15145	POLI	RFE	G2	252	50	114	56.18N	55.73E	U2 60A	N1 95C	NO 75C			
247=4N	28	0933	15145	POLI	RFE	G2	0	0	0	36.69S	141.41E	U2 76C	NO 72B				
248=4N	6	0900	17735	POLI	RFE	G15+G166	0	0	0	53.50N	17.50E	BK 65A	U2 75B				
249=7K	23	2110	11710	POLI	VOA	TAN	0	0	0	8.85N	98.48E	U2 78B	NO 83A				
250=7K	18	2132	11710	POLI	VOA	TAN	0	0	0	10.12N	101.33E	N1 87B	U2 75B				
251=7K	21	1705	11725	POLI	RFE	G16	0	0	0	10.67N	100.90E	U2 75B	NO 80B				
252=7K	21	1854	11725	POLI	RFE	G1A	1983	385	149	41.88N	59.73E	BE 34C	FL 24C	GI 14C	KI 11C	PS 47C	SS 33C
253=7K	18	1738	11725	POLI	RFE	G16	0	0	0	42.15N	68.48E	NO 85B	U2 74B				
254=7K	22	1440	11725	POLI	RFE	B1	0	0	0	50.03N	59.56E	NO 82A	N1 101B				
255=7K	22	1642	11725	POLI	RFE	G16	0	0	0	48.29N	60.28E	U2 71B	NO 84A				
256=7K	23	1605	11725	POLI	RFE	G16	0	0	0	23.79N	88.52E	U2 76B	NO 83B				
257=7K	23	1747	11725	POLI	RFE	G16	1717	349	155	35.39N	67.92E	BE 32C	CA 33C	DS 1C	fe 174C	FL 26C	KI 7C
												LR 32C	PS 27C	SS 34C			
258=7K	20	0600	11725	POLI	RFE	G15+G16	0	0	0	24.07N	91.96E	NE 77B	NO 80B				
259=7K	24	1631	11725	POLI	RFE	G16	711	106	138	43.42N	67.28E	U2 73B	N1 100B	NO 85B			
260=7K	24	2235	11725	POLI	RFE	G1A	0	0	0	51.45N	40.74E	U2 75B	NO 95C				
261=7K	21	0611	11725	POLI	RFE	G15+G16	0	0	0	42.00N	68.67E	N1 100C	NO 85B				
262=7K	20	1700	11725	POLI	RFE	G16	396	14	82	53.21N	12.55E	NE 75B	NE 75B	U2 76B			
263=7K	19	2310	11725	POLI	RFE	G1A	0	0	0	2.46N	105.85E	U2 76C	NO 80B				
264=7K	27	1600	15145	POLI	RFE	G2	0	0	0	53.24N	26.92E	NE 77B	U2 75B				
265=7K	29	1317	15145	POLI	RFE	G2	0	0	0	34.59N	69.55E	BE 33C	PS 22C				
266=7K	2	0851	17805	RUSS	RL	G1A	0	0	0	46.81N	68.15E	NO 80B	N1 96B				
267=7K	3	1010	17805	RUSS	RL	G1A	0	0	0	53.28N	14.51E	U2 76B	NE 76B				
268=88	22	0659	6105	RUSS	RL	L6	1563	501	123	48.16S	45.12W	AN 107C	DS 143C	lr 50C	LV 137C	ps 36C	WP 134C
269=88	25	0913	7220	RUSS	RL	L7+L8	2204	326	131	49.78N	37.51E	BE 45C	CA 42C	KI 21C	LR 35C	SS 38C	
270=88	29	0448	7255	RUSS	RL	G3A	629	298	148	61.70N	25.16E	AL 21C	AN 6C	DS 26C	FE 12C	SS 40C	
271=88	20	1230	11705	RUSS	VOA	KAV	1193	364	135	49.98N	36.33E	an 179C	BE 42C	CA 39C	FE 14C	SS 40C	wp 137C
272=88	22	2241	11945	RUSS	VOA	KAV	0	0	0	61.11S	18.23W	FE 136C	LV 143C				
273=88	26	1850	7245	UKR	RL	L7+L8	0	0	0	54.68S	30.52W	AN 106C	WP 144C				
274=8L	4	0400	9530	????	????????????		1030	118	117	50.61N	66.37E	BK 66B	an 163C	DS 0C	fe 165C	wp 159C	U2 66B
275=8L	18	2314	5970	HUNG	RFE	BIBLIS	0	0	0	56.59N	39.00E	U2 63C	NE 64B				
276=8L	18	2200	5970	HUNG	RFE	BIBLIS	0	0	0	54.40N	14.99E	NE 66B	U2 69C				

277=8L 2 0600 9705 POLI RFE G1A 0 0 0 55.26N 48.58E N1 105C NO 80B
278=8L 5 0330 9705 POLI RFE G1A 0 0 0 52.01N 57.94E N1 100B NO 80B
279=8L 2 1334 11725 POLI RFE GLORIA 1380 405 137 69.04N 35.50E an 164C FL 18C LV 8C PS 21C
280=8L 4 1133 11725 POLI RFE GLORIA 4074 310 157 16.58S 88.39E BE 34C CA 32C LR 35C PS 24C
281=A5 20 1030 11850 BULG DW JUL 0 0 0 38.88N 30.83E N1 150C NO 130C
282=A5 18 1030 11850 BULG DW JUL 0 0 0 53.45N 37.51W BE 55C CA 54C
283=A5 25 1859 15160 CZEC DW SIN 4640 323 121 47.15N 17.03E BE 53C FL 45C KI 40C PS 44C
284=A5 22 2042 11935 BULG RFE G3 0 0 0 41.00N 34.64E BE 51C SS 48C
285=A5 1 2037 11935 BULG RFE G3A 5059 114 140 30.61S 91.95E BE 52C LR 50C PS 43C
286=A5 25 1730 15115 BULG RFE G7 5710 362 121 45.79N 18.60E BE 54C FL 45C PS 46C
287=A5 29 1740 15115 BULG RFE G7 1094 31 124 47.85N 11.56E U2 115B BE 55C FL 42C LR 48C PS 46C SS 47C
288=A5 29 1906 15115 BULG RFE G7 2218 364 118 44.75N 22.07E FL 45C LR 48C PS 45C SS 47C
289=A5 29 2003 15115 BULG RFE G7 5778 369 117 48.03N 14.69E FL 44C LR 48C PS 45C
290=A5 31 1704 15115 BULG RFE G7 6452 335 128 42.68N 23.91E AL 46C BE 55C LR 50C PS 45C
291=A5 31 1944 15115 BULG RFE G7 0 0 0 46.18N 17.06E FL 45C PS 45C
292=A5 1 1849 15115 BULG RFE G7 1848 292 126 44.64N 25.62E AL 42C BE 52C KI 36C LR 50C PS 43C SS 46C
293=A5 2 1905 15115 BULG RFE G7 1786 274 116 46.18N 15.30E BE 56C FL 47C LR 49C PS 46C SS 46C
294=A5 2 2040 15115 BULG RFE G7 0 0 0 45.35N 17.85E LR 50C SS 47C
295=A5 26 1037 15325 RUSS VOA PHT 0 0 0 37.19N 28.85E NO 135B U2 115C
296=AD 18 2303 5995 DARI VOA KAV 1818 83 141 35.49N 58.27E NO 103B U2 90C NO 100A
297=AD 3 1200 17855 RUSS VOA KAV 329 5 88 52.01S 179.75E NE 88B U2 92B NE 88B
298=AD 3 1430 17895 RUSS RL P3+P4 0 0 0 52.01S 179.76E NE 88B U2 92B
299=AD 3 2340 9715 TI RL B7 0 0 0 47.10N 44.38E NO 100B U2 82B
300=AG 1 1350 7250 ???? ???????????? 6506 565 136 42.59S 49.73W AN 104C FE 135C LV 132C
301=AG 19 0420 11825 BULG RFE G13+G14 0 0 0 53.21N 68.92E U2 60C NO 71A
302=AG 25 0530 15115 BULG RFE G6 889 74 119 51.91N 73.34E BK 62A wp 156C NO 70B U2 60B
303=AG 27 0700 15255 CZEC RFE G3 199 29 95 57.76N 45.88E BK 58A U2 61B NO 75B
304=AG 30 0615 15255 CZEC RFE G3 655 84 131 53.55N 69.28E U2 60C N1 87B NO 70B
305=AG 30 0755 15255 CZEC RFE G3 0 0 0 36.81N 85.47E N1 88B N2 94A
306=AG 19 0300 6170 RUSS RL L5+L6 0 0 0 50.22S 175.55E NE 75B U2 60C
307=AG 26 0230 7250 RUSS RL G3B 0 0 0 55.15N 58.68E NE 63B U2 61B
308=AG 4 0313 9660 UKR RL P4 0 0 0 56.96N 59.82E NO 70C N1 90B
309=AK 28 0505 15290 RUSS RL L2 0 0 0 41.90S 166.44E U2 48B NE 58C
310=AN 3 1830 9505 BR RL HD 0 0 0 56.27N 37.72E BK 62A U2 64B
311=AN 1 1600 9505 LITH RFE HD 225 15 72 54.35N 13.08E NE 63B NE 63B U2 68B
312=AN 26 0700 7220 RUSS RL L7+L8 174 6 113 51.88S 179.68E NE 89B U2 67B NE 79B
313=AR 31 0440 7155 LITH RFE HD 0 0 0 53.59N 46.78E NO 85C U2 68B
314=AR 29 0330 7155 RUSS RL L7+L8 0 0 0 53.93N 21.10E BK 66A U2 73A
315=AR 31 0130 7180 TB RL L7+L8 0 0 0 54.35N 16.42E BK 56B U2 70C
316=AS 29 0242 7190 ARM RL L2 0 0 0 54.73N 12.24W FL 40C SS 35C
317=AS 2 0400 9725 CZEC RFE G3 102 1 77 52.27N 5.29E NE 77B NE 77B U2 83B
318=AS 5 0341 9725 CZEC RFE G3 0 0 0 47.57N 54.20E NO 90B N1 110A
319=AU 28 1448 6105 RUSS RL L11 1569 502 123 46.92S 45.13W AN 108C DS 140C LV 136C WP 133C
320=AW 7 2137 11805 ???? ???????????? 5538 336 38 39.06N 120.48E AN 290C DS 324C FE 317C LV 315C
321=AW 31 1833 11835 ???? ???????????? 422 59 86 65.03N 172.65E AN 300C DS 329C FE 319C GI 325C LV 324C WP 343C
322=AW 6 1837 11710 POLI VOA TAN 0 0 0 11.06S 86.14E DS 321C FE 318C
323=AW 30 2007 11835 RUSS VOA KAV 0 0 0 8.74N 92.89E AN 298C DS 328C
324=AW 31 2040 15290 RUSS RL P1 398 186 92 64.29N 176.77E FE 319C GI 326C WP 345C
325=AW 1 2018 15290 RUSS RL P1 439 195 95 64.42N 174.31E DS 330C FE 319C WP 344C
326=AW 30 2049 15380 RUSS RL P6 0 0 0 48.49N 123.34E DS 328C WP 315C
327=B1 20 1106 6060 ???? ???????????? 0 0 0 51.09N 18.85E N1 165B NO 130B
328=B1 30 2100 9615 CZEC DW SIN 4037 304 127 46.41N 26.35E AL 41C BE 50C FL 41C LR 47C PS 42C
329=B1 3 2044 9615 CZEC DW SIN 1644 195 104 54.90N 5.95W BE 51C FL 41C GI 40C KI 45C PS 41C
330=B1 6 0530 9650 ???? ???????????? 0 0 0 46.90N 24.73E NO 128B U2 98C

331=B1	30	1918	11865	????	????????????	0	0	0	52.98N	3.15E	AL	46C	LR	47C									
332=B1	19	1900	11865	CZEC	DW SIN	1146	270	121	50.54N	17.37E	AL	41C	BE	52C	FL	39C	KI	36C	LV	25C	SS	42C	
333=B1	7	1214	15170	????	????????????	1642	321	118	48.78N	16.63E	AL	43C	LR	49C	PS	43C	SS	43C					
334=B1	7	1319	15170	????	????????????	1738	307	120	49.38N	21.48E	AL	41C	FL	41C	LR	47C	PS	39C	SS	42C			
335=B1	7	1936	15225	????	????????????	0	0	0	48.82N	21.49E	PS	41C	SS	43C									
336=B1	20	0515	5985	CZEC	RFE G2	39	9	123	48.62N	21.33E	U2	96C	BL	124A	IT	121A	KO	78B	KR	101A			
337=B1	19	0432	5985	CZEC	RFE G2	0	0	0	48.08N	21.99E	NO	131A	U2	97A									
338=B1	27	0430	7165	CZEC	RFE GLO	0	0	0	44.90N	28.54E	NO	125B	N1	150B									
339=B1	28	0515	7165	CZEC	RFE GLO	0	0	0	52.67N	23.16W	BE	58C	SS	34C									
340=B1	30	0504	9725	CZEC	RFE G8	1141	319	114	51.61N	10.47E	LR	49C	LV	25C	PS	42C	SS	39C					
341=B1	6	2147	9725	CZEC	RFE G3	3760	198	103	54.08N	4.19W	BE	53C	FL	41C	LR	46C	PS	44C					
342=B1	23	2000	11825	CZEC	RFE G8	0	0	0	48.09N	26.39E	LR	44C	SS	43C									
343=B1	28	1920	11825	CZEC	RFE G8	3496	206	98	55.37N	9.32W	BE	50C	FL	41C	PS	45C							
344=B1	4	1953	11825	CZEC	RFE G9+G10	2273	322	124	45.84N	28.93E	BE	51C	FL	41C	LR	43C	PS	41C	SS	45C			
345=B1	23	0707	11855	CZEC	RFE G9+G10	0	0	0	47.31N	20.97E	NO	135A	U2	101B									
346=B1	1	1326	15170	CZEC	RFE G2A	1433	227	106	53.19N	2.59E	BE	53C	LR	47C	PS	41C	SS	39C					
347=B1	2	1305	15170	CZEC	RFE G2A	1269	237	106	54.69N	3.85E	AL	44C	BE	51C	FL	35C	SS	39C					
348=B1	4	1942	15170	CZEC	RFE G2A	2228	356	121	44.10N	24.99E	BE	52C	FL	53C	PS	40C	SS	45C					
349=B1	5	1240	15170	CZEC	RFE G2A	1018	155	92	55.78N	13.26W	BE	52C	FL	41C	LR	46C	PS	40C	SS	33C			
350=B1	6	1552	15170	CZEC	RFE G2A	4947	278	110	53.79N	6.21E	BE	50C	FL	40C	PS	42C							
351=B1	20	1922	15255	CZEC	RFE G5	1990	319	121	47.56N	24.44E	BE	51C	FL	45C	gi	61C	KI	30C	PS	42C	SS	42C	
352=B1	24	1913	15255	CZEC	RFE G5	1856	292	126	45.19N	26.22E	AL	43C	BE	52C	KI	36C	LR	46C	PS	42C	SS	46C	
353=B1	27	1309	15255	CZEC	RFE G3	1301	76	72	55.09N	40.46W	KI	35C	PS	42C	BE	50C	FL	33C	PS	42C			
354=B1	28	1747	15255	CZEC	RFE G5	0	0	0	53.16N	48.24W	BE	50C	PS	42C									
355=B1	29	1323	15255	CZEC	RFE G5	1181	326	152	10.63S	79.88E	AL	43C	FL	41C	GI	10C	LR	47C	PS	23C			
356=B1	29	1951	15255	CZEC	RFE G5	1946	342	115	49.27N	17.14E	BE	52C	PS	42C	SS	43C							
357=B1	30	1833	15255	CZEC	RFE G5	969	380	120	54.38N	16.07E	FE	21C	LR	46C	SS	34C							
358=B1	31	1227	15255	CZEC	RFE G2B	1568	244	117	49.94N	16.06E	AL	43C	BE	51C	FL	42C	LR	48C	PS	42C	SS	42C	
359=B1	31	1336	15255	CZEC	RFE G2B	5008	253	113	52.24N	8.99E	BE	51C	FL	41C	LR	47C	PS	42C					
360=B1	31	1705	15255	CZEC	RFE G2B	3537	371	127	46.29N	22.10E	BE	53C	DS	31C	LR	47C							
361=B1	2	1240	15255	CZEC	RFE G2B	1015	16	51	45.63N	67.06W	BE	51C	LR	44C	PS	42C							
362=B1	2	1914	15255	CZEC	RFE G2B	0	0	0	52.08N	3.31E	FL	42C	LR	48C									
363=B1	4	1212	15255	CZEC	RFE G2B	2174	364	115	47.67N	19.78E	BE	53C	FL	41C	SS	45C							
364=B1	4	1414	15255	CZEC	RFE G2B	0	0	0	30.62N	46.82E	BE	51C	PS	41C									
365=B3	6	0325	7430	????	????????????	890	87	129	39.68N	39.14E	BD	99C	DS	15C	FE	16C	FL	45C	KI	19C	LR	61C	
											LV	18C	SS	47C	wp	158C	BD	99B					
366=B3	6	1300	9625	ARAB	BBC CYP	0	0	0	36.64N	42.96E	NO	116A	N1	134B									
367=BA	26	0818	9675	RUSS	VOA PHT	0	0	0	43.91N	128.11E	AN	289C	LV	316C									
368=BA	18	0037	11725	RUSS	RL P1	0	0	0	48.82N	132.57E	LV	318C	WP	315C									
369=BA	22	0830	11965	RUSS	VOA PHT	0	0	0	7.77S	89.22E	AN	294C	LV	309C									
370=BA	7	1733	9530	TURK	BBC WOOF	550	174	57	52.73N	146.28E	AN	286C	FE	309C	LV	317C	WP	321C					
371=BD	23	2235	6010	RUSS	DW JUL	0	0	0	55.47N	26.95E	NO	97B	U2	67C									
372=BD	18	1935	11835	AZ	VOA KAV	487	34	88	54.13N	19.33E	U2	72B	AL	40C	FL	33C	GI	36C	KI	33C	PS	34C	
											SS	35C											
373=BD	30	1616	11905	RUSS	DW WER	2404	365	122	53.62N	30.49E	FL	37C	LR	39C	PS	30C	SS	36C					
374=BD	30	0700	7220	RUSS	RL L7+L8	0	0	0	51.56N	40.18E	PS	31C	U2	75C									
375=BD	26	0820	9520	RUSS	RL L1	4235	410	119	55.06N	18.29E	FL	35C	KI	28C	PS	40C							
376=BD	30	1958	9530	RUSS	VOA KAV	0	0	0	58.99N	14.88E	AL	36C	FL	33C									
377=BD	20	1248	11740	RUSS	VOA KAV	0	0	0	55.26N	29.56E	NO	95C	N1	135C									
378=BD	29	2025	11835	RUSS	VOA KAV	1651	247	117	57.56N	18.78E	AL	34C	BE	43C	LR	36C	PS	38C	SS	34C			
379=BD	18	2031	11835	RUSS	VOA KAV	1428	241	109	55.05N	6.37E	BE	47C	CA	48C	KI	34C	SS	38C					
380=BD	31	1803	11845	RUSS	BBC CYPRUS	1239	128	78	63.58N	23.51W	AL	34C	BE	35C	FL	31C	LR	39C					
381=BD	3	1809	11845	RUSS	BBC CYPRUS	1510	146	78	53.21N	35.50W	be	42C	FL	38C	KI	38C	LR	51C					
382=BD	6	1810	11845	RUSS	BBC CYPRUS	1639	494	148	44.42N	48.79E	BE	42C	FL	32C	FE	6C							

383=BD	31	1634	11875	RUSS	RL	L9+L10	1069	452	162	50.40N	30.98E	AN 4C	FE 8C	FL 41C			
384=BD	7	1102	11875	RUSS	RL	L9+L10	0	0	0	54.73N	8.44W	FL 40C	PS 43C				
385=BD	29	1732	15225	RUSS	BBC	WOOF	1436	271	96	58.72N	2.53W	LR 37C	PS 42C	SS 34C			
386=BD	18	2200	6010	SERB	BBC	WOOF	105	8	68	53.05N	8.00E	NE 66B	U2 74B	NE 63B			
387=BG	22	1600	6060	????	????????????		0	0	0	55.16N	41.84E	N1 114A	U2 66B				
388=BG	20	1039	11865	????	????????????		0	0	0	43.88N	49.26E	N1 120C	NO 100C				
389=BG	6	1430	9565	ARM	VOA	WOF	0	0	0	57.13N	37.42E	N1 116A	NO 82A				
390=BG	21	2030	6125	CZEC	BBC	WOOF	0	0	0	54.66N	45.98E	U2 66B	BK 66A				
391=BG	28	0300	7120	EST	VOA	WOF	56	11	68	54.64N	15.75E	BK 52A	AL 40C	U2 68A			
392=BG	26	0210	7155	EST	RFE	P1	0	0	0	53.59N	46.78E	NO 85B	U2 68B				
393=BG	18	1603	6060	LAT	VOA	WOF	0	0	0	55.73N	33.01E	NO 90B	U2 66B				
394=BG	25	0600	7190	POLI	RFE	GLO	478	47	105	54.96N	48.78E	NE 66B	U2 66B	NO 80C	NE 66B		
395=BG	25	0705	7190	POLI	RFE	B4	191	12	82	55.12N	24.62E	NE 69B	BD 68C	DS 20C	KR 64C	SS 38C	BD 68B
												KR 64A	NE 68B				
396=BG	25	0900	7190	POLI	RFE	B4	70	10	83	55.19N	23.29E	NO 105C	bk 44B	U2 70B	NE 68B	BD 66C	KR 64C
												SS 38C	BD 66A	KR 64A			
397=BG	25	1900	7190	POLI	RFE	B4	0	0	0	55.98N	35.84E	NE 66B	U2 65C				
398=BG	25	2300	7190	POLI	RFE	G3B	343	18	76	55.17N	17.61E	NE 63B	NE 64B	U2 66B			
399=BG	26	0630	7190	POLI	RFE	G3B	0	0	0	54.67N	13.25E	BK 43A	U2 66B				
400=BG	27	0504	7190	POLI	RFE	GLO	1216	38	100	54.87N	40.59E	PS 28C	SS 35C	U2 67A			
401=BG	27	0800	7190	POLI	RFE	B4	0	0	0	55.93N	16.12E	BK 44A	U2 61B				
402=BG	23	1231	9705	POLI	RFE	B3	0	0	0	44.90N	56.50E	DS 10C	SS 37C				
403=BG	21	1348	9705	POLI	RFE	B3	2812	399	139	48.71N	50.70E	BE 37C	CA 34C	PS 25C	SS 36C		
404=BG	18	1500	6105	RUSS	RL	L11	3064	153	138	38.45N	72.94E	NO 85B	NO 85B	U2 75C			
405=BG	25	2032	7220	RUSS	RL	B7	0	0	0	57.61N	29.84E	U2 60C	NO 85B				
406=BG	24	1533	11885	RUSS	RL	L9+L10	0	0	0	52.79N	55.99E	U2 66C	NO 80B				
407=BG	24	2101	6170	UKR	RL	L5+L6	0	0	0	56.72N	34.98E	U2 63B	NO 85B				
408=BL	25	0937	15105	????	????????????		0	0	0	53.24N	31.50E	N1 135C	NO 100B				
409=BL	22	1415	17710	RUSS	IBA	JER	2895	389	130	52.49N	28.99E	BE 45C	DS 24C	PS 33C			
410=BL	5	1846	11970	LAT	RFE	P2	465	110	131	31.39S	90.83E	AL 38C	BE 45C	CA 48C	LR 52C	PS 42C	
411=BL	2	1437	15130	LAT	RFE	P6	0	0	0	54.59N	44.16W	FL 33C	LR 44C				
412=BL	21	1505	11865	LITH	VOA	WOF	676	26	90	54.49N	26.56E	NE 70B	U2 73B	BE 31C			
413=BL	25	1642	11710	RUSS	VOA	WOF	613	58	96	55.05N	33.59E	BD 68C	BE 32C	FL 37C	LR 34C	PS 39C	BD 68C
414=BP	24	1502	11970	LAT	RFE	HD	1662	297	129	51.60N	33.28E	BE 41C	CA 44C	DS 18C	FL 33C	PS 35C	SS 38C
415=BQ	4	2130	9585	RUSS	VOA	MUN	186	28	124	45.47N	43.11E	BK 89A	U2 88B	NO 104A			
416=BQ	23	2214	11805	????	????????????		0	0	0	47.65N	42.51E	N1 125B	NO 101A				
417=BQ	21	2000	11805	RUSS	VOA	MUN	0	0	0	50.26N	40.41E	NE 81B	NO 98B				
418=BQ	7	2029	11805	????	????????????		0	0	0	47.72N	33.88E	FL 38C	LR 41C				
419=BQ	28	1338	15230	????	????????????		0	0	0	43.13N	43.73E	N1 128B	NO 107A				
420=BQ	30	0512	15360	????	????????????		0	0	0	46.53N	43.43E	N1 125A	NO 102A				
421=BQ	7	1606	17780	RUSS	BBC	CYP	0	0	0	51.46N	35.92E	NO 100B	N1 130B				
422=BQ	7	2240	9505	BR	RL	HD	1503	8	107	58.04N	10.73E	NO 104A	BE 46C	CA 48C	FL 32C	GI 22C	LR 42C
												PS 38C					
423=BQ	20	2241	9520	RUSS	RL	B5	0	0	0	51.02S	168.38E	BD 87B	KR 95B				
424=BQ	7	2230	9520	RUSS	RL	G15+G16	201	36	130	42.71N	47.54E	N1 122B	BK 91A	NO 104A			
425=BQ	4	2120	9530	RUSS	VOA	KAV	0	0	0	45.29N	44.39E	N1 125C	NO 103A				
426=BQ	7	2130	9660	RUSS	RL	B7	0	0	0	39.82N	49.49E	NO 105B	U2 90B				
427=BQ	2	2230	9680	RUSS	RL	HC	0	0	0	52.10S	177.88E	NE 91B	BD 95A				
428=BQ	2	2220	9750	RUSS	RL	L4	2964	66	95	51.84S	174.03E	ne 86B	NE 91B	U2 90C	U2 90C		
429=BQ	7	2208	9750	RUSS	RL	L4	0	0	0	40.34N	49.85E	U2 89A	NO 104A				
430=BQ	24	2231	11770	RUSS	RL	HD	2898	454	123	47.36N	33.68E	FL 33C	LR 44C	SS 44C			
431=BQ	19	0004	11875	RUSS	RL	L3	1390	13	107	57.51N	15.99E	BE 39C	CA 46C	LR 37C	PS 34C	SS 41C	NO 99A
432=BQ	28	1337	15225	RUSS	VOA	WOF	0	0	0	43.13N	43.73E	N1 128B	NO 107A				
433=BQ	4	1230	17725	RUSS	RL	B5	206	26	114	47.72N	38.86E	BK 87A	NO 105B	U2 84C			

434=BQ	5	0740	17725	RUSS	RL	P5	125	26	143	47.98N	43.19E	NO	100A	N1	123A	N3	150B								
435=BQ	31	1809	17750	RUSS	RL	HC	0	0	0	44.51N	40.83E	BE	45C	SS	43C										
436=BR	30	0629	15290	RUSS	RL	L2	0	0	0	32.92N	56.31E	N1	120D	NO	105D										
437=BR	30	1200	15290	RUSS	RL	L2	0	0	0	55.96N	16.93E	LR	40C	SS	36C										
438=BU	19	0534	5970	POLI	RFE	BIB	0	0	0	52.50N	34.30E	NO	99B	U2	75C										
439=BU	23	1932	6060	POLI	VOA	WOF	0	0	0	53.18N	27.78E	NO	105B	U2	75B										
440=BU	18	2101	6125	POLI	BBC	WOOF	3919	252	144	4.69S	103.99E	N1	91C	be	52C	SS	35C	U2	82A						
441=BU	24	2316	6150	POLI	VOA	WOF	0	0	0	50.91N	37.58E	FL	34C	SS	38C										
442=BU	2	0442	9660	UKR	RL	P4	0	0	0	11.89N	88.35E	U2	84B	NO	90B										
443=BU	4	0455	9660	UKR	RL	P4	0	0	0	50.51N	38.02E	N1	128B	NO	100B										
444=CA	25	0600	7130	POLI	VOA	KAV	585	4	80	52.34N	5.96E	AN	16C	SS	40C	NE	79B								
445=CA	24	0732	11725	POLI	RFE	G15+G16	0	0	0	67.87N	23.81E	AN	3C	LV	13C										
446=CB	18	1637	11700	RUSS	IBA	JER	0	0	0	24.80N	79.43E	NO	90C	U2	82C										
447=CB	29	0540	15335	????	????????????		0	0	0	56.77N	44.36E	N1	107A	N2	121A										
448=CB	28	1209	15290	RUSS	RL	L2	0	0	0	54.19N	14.34E	U2	70C	NE	67B										
449=CB	6	0600	17750	RUSS	RL	HC	0	0	0	37.67N	81.73E	BK	74B	U2	70C										
450=CG	2	0943	17865	RUSS	VOA	PHP	0	0	0	48.96N	89.76E	N1	75B	NO	63B										
451=CG	24	1240	11705	RUSS	VOA	KAV	0	0	0	8.44N	150.00W	AN	180C	WP	148C										
452=D3	19	1610	11905	RUSS	DW	WER	758	301	124	47.82N	16.96E	AN	8C	CA	48C	LR	50C	PS	46C	SS	42C				
453=D3	25	1856	15160	CZEC	DW	SIN	1390	82	148	31.36S	93.46E	BE	54C	LR	47C	PS	32C								
454=D3	27	0450	5985	CZEC	RFE	G2	2142	384	107	52.06N	13.52E	FL	36C	PS	43C	SS	42C								
455=D3	21	0548	5985	CZEC	RFE	G2	0	0	0	40.51N	21.18E	NO	145C	N1	165C										
456=D3	23	1957	11825	CZEC	RFE	G8	1028	254	123	49.02N	19.07E	AL	43C	CA	49C	FE	24C	FL	40C	LR	46C	PS	42C		
												SS	43C												
457=D3	27	1922	11825	CZEC	RFE	G8	1255	264	112	51.16N	6.85E	BE	53C	GI	40C	PS	46C	SS	41C						
458=D3	28	1925	11825	CZEC	RFE	G8	798	227	119	51.20N	10.72E	BE	49C	FE	30C	FL	42C	GI	40C	KI	42C	LV	24C		
												PS	45C	SS	42C										
459=D3	29	1931	11825	CZEC	RFE	G8	2623	317	128	46.76N	22.47E	AL	40C	FL	43C	GI	39C	LR	48C	PS	43C				
460=D3	30	1940	11825	CZEC	RFE	G8	1905	233	123	50.01N	15.53E	AL	42C	BE	50C	DS	32C	FL	41C	GI	38C	LR	49C		
												PS	45C												
461=D3	29	1804	15255	CZEC	RFE	G5	1885	355	111	50.46N	13.43E	al	14C	LR	47C	PS	42C	SS	42C						
462=D3	6	2033	15255	CZEC	RFE	G2B	1035	181	106	54.03N	.27E	AL	44C	BE	52C	DS	33C	FL	42C	LR	48C	PS	43C		
												SS	36C												
463=D3	29	1853	17835	CZEC	RFE	G2B	2101	343	116	48.92N	19.73E	FL	42C	LR	47C	PS	40C	SS	43C						
464=D3	22	1646	17835	CZEC	RFE	G2B	0	0	0	50.60N	6.84E	FL	43C	SS	42C										
465=D3	2	2049	9555	RUSS	RL	HA	408	31	58	47.66N	62.00W	BE	48C	FL	41C	LR	49C								
466=D3	3	2124	9555	RUSS	RL	HA	0	0	0	52.52N	49.23W	CA	53C	FL	33C										
467=D3	5	2246	9555	RUSS	RL	P1	0	0	0	54.33N	32.63W	BE	54C	LR	48C										
468=D3	6	2208	9555	RUSS	RL	P1	567	38	64	49.54N	55.88W	BE	57C	FL	37C	LR	45C	PS	45C						
469=D3	27	2318	9565	UKR	RL	P1	1854	157	101	55.01N	9.86W	AL	46C	BE	51C	CA	52C	FL	41C	PS	43C				
470=D3	2	2147	9565	UKR	RL	P5	3924	170	134	32.35N	53.15E	BD	96C	BD	96C	BE	48C	LR	38C	BD	96C				
471=D4	5	1606	17725	BULG	RFE	G3	4776	267	120	49.60N	12.85E	AL	45C	BE	54C	LR	46C	PS	45C						
472=DA	24	0818	7190	POLI	RFE	B4	0	0	0	47.74N	116.59W	AN	110C	LV	19C										
473=DA	5	1537	9705	POLI	RFE	B2	0	0	0	42.21S	112.42W	LV	173C	WP	147C										
474=DB	19	2040	11769	????	????????????		0	0	0	39.08S	103.63W	AN	144C	WP	140C										
475=DB	31	1535	15245	RUSS	BBC	SKL	0	0	0	28.45N	83.07E	PS	12C	SS	33C										
476=DP	26	1830	7255	????	????????????		0	0	0	53.21N	31.58E	NE	76B	NO	100B										
477=DR	23	2137	5975	????	????????????		0	0	0	56.98N	43.20E	N1	108B	NO	79B										
478=DR	29	0600	7260	????	????????????		0	0	0	53.95N	13.35E	BK	50A	U2	71B										
479=DR	28	1912	9505	ARM	RL	L1	1027	149	87	58.58N	17.46W	BE	43C	LR	43C	PS	45C	SS	33C						
480=DR	22	1937	9505	ARM	RL	L1	1629	233	111	56.24N	11.87E	BE	45C	CA	46C	FL	34C	PS	34C	SS	38C				
481=DR	22	1422	17760	ARM	RL	L1	1609	248	116	54.92N	16.74E	AL	35C	BE	46C	ds	208C	LR	45C	PS	38C	SS	36C		
482=DR	23	1426	17760	ARM	RL	L1	2459	363	124	48.74N	31.47E	BE	47C	FL	36C	PS	37C	SS	42C						
483=DR	29	1500	7155	CZEC	BBC	WOOF	0	0	0	53.79N	11.63E	U2	71B	BK	43A										

484=DR	6	1632	17760	GEOR	RL	L1	1447	266	102	57.43N	2.24E	BE	47C	KI	33C	SS	34C										
485=DR	24	0602	5970	POLI	RFE	B3	0	0	0	53.91N	23.35E	U2	73B	NO	109A												
486=DR	21	0730	5970	POLI	RFE	B3	0	0	0	54.62N	22.32E	N1	153B	U2	70A												
487=DR	26	0715	5970	POLI	RFE	B3	145	20	76	54.30N	16.05E	BD	70C	FL	40C	KR	60C	LR	43C	SS	40C	BD	70B	KR	60C		
488=DR	18	0700	5970	POLI	RFE	B3	140	10	65	53.36N	8.60E	NE	61B	U2	75C	BE	38C	CA	39C	FL	40C	lr	60C	NE	60B		
489=DR	20	1200	5970	POLI	RFE	B4	0	0	0	53.96N	29.45E	NO	100C	U2	72C												
490=DR	28	0703	5970	POLI	RFE	B3	128	17	73	53.39N	13.59E	BD	75C	KR	63C	SS	40C	BD	75C	KR	63B						
491=DR	30	0631	5970	POLI	RFE	B3	0	0	0	56.10N	8.99E	LR	42C	SS	36C												
492=DR	20	1400	5970	POLI	RFE	B4	0	0	0	53.18N	27.78E	U2	75C	NO	105C												
493=DR	19	1139	5970	POLI	RFE	B4	0	0	0	53.18N	27.78E	NO	105B	U2	75C												
494=DR	20	1300	5970	POLI	RFE	B4	0	0	0	54.65N	23.77E	NO	105C	U2	70C												
495=DR	21	0630	5970	POLI	RFE	B3	43	16	97	54.70N	22.37E	N1	155C	bk	38B	U2	70A	NO	105B								
496=DR	4	0701	5970	POLI	RFE	B6	0	0	0	55.94N	17.44E	PS	36C	SS	36C												
497=DR	18	0600	5970	POLI	RFE	BIB	55	20	94	54.77N	20.55E	NE	68B	NO	110B	NE	69B										
498=DR	7	0629	5970	POLI	RFE	B6	0	0	0	56.89N	25.67W	FL	36C	PS	41C												
499=DR	18	2325	6060	POLI	VOA	WOF	0	0	0	55.42N	19.71E	NO	108B	NE	64B												
500=DR	19	0600	6160	POLI	VOA	WOF	2277	103	121	48.16S	169.43E	NE	74B	NE	74B	U2	65B										
501=DR	26	0528	7190	POLI	RFE	GLO	0	0	0	47.85N	57.99E	PS	24C	SS	34C												
502=DR	26	0819	7190	POLI	RFE	B4	1123	208	90	56.10N	12.62W	FL	36C	LR	50C	PS	35C	SS	36C								
503=DR	23	0712	7190	POLI	RFE	B4	385	39	88	56.83N	36.10E	an	110C	BD	60C	KI	29C	KR	63C	LR	20C	LV	19C	PS	34C	SS	33C
504=DR	28	0730	7190	POLI	RFE	B4	0	0	0	54.68N	14.56E	BD	60C	KR	63C												
505=DR	29	0555	7190	POLI	RFE	GLO	0	0	0	54.80N	20.06E	BK	48B	U2	67B												
506=DR	30	0606	7190	POLI	RFE	G3B	0	0	0	6.62N	69.53E	AL	38C	SS	37C												
507=DR	4	0610	7190	POLI	RFE	B1	1906	278	110	56.69N	14.62E	LR	42C	PS	36C												
508=DR	18	1715	6125	RUSS	BBC	WOOF	0	0	0	55.45N	20.68E	BE	42C	FL	37C	PS	39C	SS	36C								
509=DR	25	2130	7280	RUSS	VOA	KAV	1904	250	113	57.01N	16.63E	U2	66B	NO	106B												
510=DR	26	0938	9520	RUSS	RL	L1	589	92	78	55.84N	32.30W	BE	43C	FL	35C	LR	39C	PS	36C	SS	35C						
511=DR	28	1028	9520	RUSS	RL	L1	1940	323	118	52.38N	20.38E	BE	50C	CA	54C	FL	30C	PS	31C	SS	38C						
512=DR	1	1100	9520	RUSS	RL	HD	67	20	96	54.71N	23.52E	BE	46C	CA	45C	SS	40C										
513=DR	2	1200	9520	RUSS	RL	HD	0	0	0	54.63N	22.59E	NE	70B	NO	105B	BE	46C	LR	42C	SS	36C	NE	70B				
514=DR	2	1436	9520	RUSS	RL	L5	0	0	0	57.56N	18.51E	NO	107B	U2	70C												
515=DR	4	0725	9520	RUSS	RL	HD	0	0	0	58.13N	9.40W	U2	55B	NO	95B												
516=DR	4	1003	9520	RUSS	RL	HD	0	0	0	43.59N	45.73E	FL	36C	PS	39C												
517=DR	5	1101	9520	RUSS	RL	HD	0	0	0	56.18N	17.25W	BE	43C	FL	36C												
518=DR	7	1023	9520	RUSS	RL	HD	1440	128	84	59.26N	24.35W	FL	38C	PS	42C												
519=DR	5	1956	11770	RUSS	RL	B5	2404	357	124	57.14N	17.06E	AL	43C	BE	47C	LR	38C										
520=DR	28	0800	15370	RUSS	RL	B6	0	0	0	45.49N	77.59E	AL	38C	FL	34C	GI	31C	wp	145C								
521=DR	28	0800	15445	RUSS	RL	HD	0	0	0	53.79N	11.64E	NE	68B	U2	65B												
522=DR	19	1600	6125	SLVK	BBC	WOOF	62	25	97	54.99N	24.26E	NE	66B	U2	71C												
523=DR	25	0101	7180	TB	RL	L7+L8	1233	277	146	16.68S	88.57E	NE	68B	NO	105C	bk	52B	N1	145D	U2	69C						
524=DR	5	1602	15370	TB	RL	B4	1041	50	66	52.59N	49.08W	FL	35C	LR	43C	PS	25C										
525=DR	26	0700	7295	UKR	RL	L9+L10	0	0	0	53.97N	12.14E	BE	51C	FL	33C	LR	46C										
526=DU	20	0200	6080	????	????????????		0	0	0	56.51N	13.06E	BK	44A	U2	70A												
527=DU	20	0706	6100	????	????????????		0	0	0	60.88N	28.22E	BK	30B	U2	54B												
528=DU	24	0712	6100	????	????????????		0	0	0	58.98N	31.92E	NO	70C	N1	120C												
529=DU	28	2206	7150	????	????????????		0	0	0	68.71N	64.56E	N1	120B	NO	78A												
530=DU	29	1105	7200	????	????????????		0	0	0	59.26N	31.41E	NO	44B	N2	69B												
531=DU	29	1106	7205	????	????????????		0	0	0	59.26N	31.41E	NO	77A	N1	120B												
532=DU	27	1500	7210	PASH	VOA	KAV	0	0	0	59.60N	25.90E	NO	77A	N1	120B												
533=DU	29	1106	7210	????	????????????		0	0	0	59.26N	31.41E	U2	52C	NO	77A												
534=DU	29	1107	7215	????	????????????		0	0	0	59.26N	31.41E	NO	77A	N1	120B												

535=DU	30	2310	7215	????	????????????		0	0	0	59.57N	30.84E	N1	120B	N2	140A								
536=DU	29	1108	7225	????	????????????		0	0	0	59.26N	31.41E	NO	77A	N1	120B								
537=DU	29	1108	7230	????	????????????		0	0	0	59.26N	31.41E	NO	77A	N1	120B								
538=DU	29	1109	7235	????	????????????		0	0	0	59.26N	31.41E	NO	77A	N1	120B								
539=DU	29	1109	7240	????	????????????		0	0	0	59.26N	31.41E	NO	77A	N1	120B								
540=DU	6	1512	9515	????	????????????		0	0	0	60.32N	25.98E	N1	128B	NO	73A								
541=DU	23	0813	11880	????	????????????		0	0	0	59.57N	30.35E	NO	76A	N1	121B								
542=DU	29	0500	7180	LAT	RFE	P1	0	0	0	60.94N	29.01E	N1	118A	N2	141A								
543=DU	21	0030	5955	RUSS	RL	HB	0	0	0	57.69N	31.47E	N1	125C	U2	60B								
544=DU	28	2203	7145	RUSS	RL	L4	0	0	0	69.72N	57.12E	NO	42B	N2	69B								
545=DU	26	0045	7155	RUSS	RL	P6	0	0	0	58.40N	32.93E	U2	58C	N1	120B								
546=DU	25	0917	7220	RUSS	RL	L7+L8	641	42	81	59.30N	31.55E	BD	55C	ds	144C	KI	21C	lv	136C	PS	27C	SS	38C
												BD	55B										
547=DU	25	1403	7220	RUSS	RL	L7+L8	0	0	0	58.91N	39.72E	U2	57B	NO	75A								
548=DU	27	1507	7220	RUSS	RL	L7+L8	117	11	93	59.60N	25.90E	NO	77A	NO	77A	U2	52B						
549=DU	27	1645	7220	RUSS	RL	L7+L8	53	23	121	58.80N	33.22E	U2	60B	NO	76B	N1	118B	N2	138C				
550=DU	29	0900	7220	RUSS	RL	L7+L8	235	31	95	59.51N	33.81E	NO	75B	SS	41C	U2	55B						
551=DU	29	1100	7220	RUSS	RL	L7+L8	54	16	104	59.27N	31.38E	NO	77A	N1	120B	U2	55B						
552=DU	1	0327	7220	RUSS	RL	HC	4828	569	159	36.70N	67.45E	AL	18C	FL	28C	KI	16C						
553=DU	7	0315	7220	RUSS	RL	HC	517	245	136	75.60N	3.79W	AN	12C	be	58C	ca	60C	GI	19C	KI	15C		
554=DU	3	1525	9520	RUSS	RL	L5	1667	185	105	60.13N	1.68E	BE	46C	CA	41C	FL	29C	GI	32C	LR	38C		
555=DU	6	1516	9520	RUSS	RL	L5	0	0	0	58.80N	45.10E	NO	73A	U2	57C								
556=DU	7	2330	9520	RUSS	RL	G15+G16	1134	151	148	30.24N	60.04E	N1	118B	NO	102B	U2	95C						
557=DU	28	1420	11885	RUSS	RL	L9+L10	0	0	0	57.44N	34.93E	BE	37C	GI	24C								
558=DU	1	1334	11885	RUSS	RL	L7+L8	0	0	0	46.32N	48.21E	AL	30C	SS	39C								
559=DU	3	1310	11885	RUSS	RL	L7+L8	15134	412	136	50.39N	42.07E	BE	40C	LR	35C	PS	31C						
560=DU	25	0105	7180	TB	RL	L7+L8	2115	375	152	47.51N	35.94E	AL	42C	DS	17C	FE	14C	GI	23C	LV	20C		
561=DU	31	1721	11885	UKR	RL	L7+L8	5315	572	154	16.86N	70.48E	AL	26C	FL	37C	gi	39C	PS	28C				
562=DU	2	1510	11885	UKR	RL	L7+L8	0	0	0	60.52N	22.50W	FL	32C	LR	39C								
563=DU	7	1525	11885	UKR	RL	L7+L8	39	20	109	41.78N	82.92W	AL	9C	GI	22C	KI	9C	PS	42C	SS	32C		
564=DW	28	1016	15295	????	????????????		645	54	135	53.07N	73.40E	NO	68B	N1	84A	NO	69B						
565=DW	2	0855	17887	????	????????????		0	0	0	60.00N	62.21E	NO	63B	N1	82A								
566=FA	26	1023	7120	????	????????????		792	44	95	62.83N	166.70W	AN	290C	DS	323C	fe	324C	KI	324C	LV	328C		
567=FA	2	1828	11855	????	????????????		1021	326	49	44.33N	123.27E	AN	294C	LV	315C	WP	311C						
568=FA	23	1028	9725	HUNG	RFE	B8	0	0	0	35.34N	121.70E	DS	320C	LV	313C								
569=FA	18	0652	6105	RUSS	RL	L6	944	334	61	47.44N	132.35E	an	331C	DS	322C	FE	312C	LV	320C	WP	313C		
570=FA	18	0320	11925	RUSS	VOA	KAV	807	261	52	46.94N	132.20E	AN	289C	DS	322C	LV	316C	WP	313C				
571=FA	24	0332	11925	RUSS	VOA	KAV	0	0	0	47.08N	133.37E	AN	288C	WP	313C								
572=FG	25	1831	15390	RUSS	BBC	SKL	0	0	0	60.78N	15.30W	KI	33C	PS	36C								
573=FG	29	1730	15225	RUSS	BBC	WOOF	0	0	0	49.42N	37.71E	BK	83A	N1	130B								
574=FG	30	1807	15290	RUSS	RL	P3	0	0	0	53.76N	39.54E	FL	31C	U2	70C								
575=FG	31	1718	15290	RUSS	RL	P1	0	0	0	62.37N	.20W	FL	31C	PS	33C								
576=FG	31	1816	15370	RUSS	RL	G8	0	0	0	53.16N	22.35E	FL	37C	LR	41C								
577=FG	4	1232	17725	RUSS	RL	B5	0	0	0	25.48N	61.05E	BE	44C	FL	39C								
578=FG	31	1806	17750	RUSS	RL	HC	0	0	0	53.16N	22.35E	FL	37C	LR	41C								
579=FL	22	1830	11955	????	????????????		0	0	0	46.69N	44.01E	N1	124B	U2	83C								
580=FL	29	1839	15340	AZ	RL	L4	7461	557	150	11.46N	71.54E	BE	44C	FL	39C	PS	30C						
581=FL	2	0406	9505	RUSS	RL	HA	0	0	0	40.41N	53.71E	NO	100B	U2	86B								
582=FL	18	2142	11875	RUSS	RL	L3	0	0	0	54.20N	13.81E	FL	38C	SS	38C								
583=FL	1	1441	17725	RUSS	RL	G3	0	0	0	49.35N	36.00E	NO	105B	N2	144A								
584=FL	29	1735	15370	TB	RL	HR	0	0	0	45.76N	41.89E	NO	105B	N1	128A								
585=FM	2	1741	9640	????	????????????		928	272	49	46.80N	125.85E	AN	295C	FE	313C	LV	318C	WP	313C				
586=FM	31	2125	11705	????	????????????		0	0	0	43.44N	129.42E	LV	315C	WP	309C								
587=FM	22	1835	11955	RUSS	BBC	F	774	312	72	50.06N	142.53E	FE	310C	LV	316C	WP	317C						

588=FM	31	2216	11885	UKR	RL	P3	847	285	52	46.48N	130.49E	AN 289C	LV 319C	WP 312C		
589=FR	26	0000	7105	????	????????????		0	0	0	38.45N	72.94E	NO 85C	U2 75C			
590=FU	21	0300	11875	ARM	RL	L3	120	3	70	52.47N	6.12E	NE 69B	U2 80C	NE 70B		
591=FU	1	2100	9505	BR	RL	HD	2791	90	111	50.15S	172.17E	NE 81B	NE 80B	U2 73C		
592=FU	3	2141	9505	BR	RL	HD	0	0	0	29.59S	137.72E	U2 71B	N1 70C			
593=FU	5	2302	9505	BR	RL	HD	0	0	0	28.15N	74.71E	U2 83B	SS 40C			
594=FU	2	0330	9680	EST	RFE	P1	0	0	0	12.63N	105.63E	NE 74B	NO 75B			
595=FU	21	1800	11875	GEOR	RL	L3	0	0	0	46.90N	67.47E	NE 72B	U2 69B			
596=FU	24	1751	11875	GEOR	RL	L3	2098	452	157	25.87N	73.54E	AL 12C	BE 41C	KI 8C	PS 31C	SS 34C
597=FU	25	1650	11970	LITH	RFE	HD	1531	209	93	63.04N	2.91W	BE 38C	FL 27C	PS 36C	SS 30C	
598=FU	20	1634	11970	LITH	RFE	HD	697	154	123	49.17N	61.26E	BE 28C	DS 3C	FL 35C	KI 3C	PS 34C SS 28C
												U2 69B				
599=FU	28	1604	15130	LITH	RFE	P5	0	0	0	13.72N	104.95E	U2 70B	NO 75B			
600=FU	29	0000	7220	RUSS	RL	HC	0	0	0	53.25N	13.74E	BK 590	U2 76B			
601=FU	24	2131	11875	RUSS	RL	L3	582	52	94	55.44N	32.53E	U2 67B	DS 20C	LR 27C	LV 22C	wp 144C
602=FU	30	0600	15170	RUSS	RL	P3	0	0	0	51.28N	41.59E	BK 76A	U2 75C			
603=FU	27	0735	21510	RUSS	RL	HB	0	0	0	54.38N	21.59E	NO 110B	U2 71B			
604=FU	1	1800	9565	UKR	RL	L2	666	8	70	52.82N	7.61E	NE 70B	NE 67B	AL 41C		
605=G3	19	1545	6200	????	????????????		101	30	147	46.21N	18.19E	U2 108C	NO 145B	N1 165C		
606=G3	1	1030	9640	BULG	DW	JUL	0	0	0	40.66N	30.20E	U2 107B	N1 150B			
607=G3	18	1535	12395	????	????????????		0	0	0	51.41N	16.67E	NO 135A	N1 170C			
608=G3	18	0535	11935	BULG	RFE	G3A	954	25	130	44.66N	16.35E	U2 119B	AN 4C	FL 43C	lr 150C	wp 176C U2 117B
609=G3	5	2029	11935	BULG	RFE	G3A	3497	435	137	35.66N	39.42E	BE 52C	FL 45C	GI 33C	PS 43C	
610=G3	29	1910	15115	BULG	RFE	G7	6193	355	126	46.10N	20.43E	AL 45C	BE 53C	PS 45C		
611=G3	29	2020	15115	BULG	RFE	G7	6078	351	122	46.32N	20.06E	BE 53C	FL 44C	LR 49C		
612=G3	31	1703	15115	BULG	RFE	G7	2722	311	128	43.72N	22.31E	AL 45C	BE 55C	FL 46C	GI 40C	PS 45C
613=G3	31	1942	15115	BULG	RFE	G7	1660	391	127	42.73N	25.93E	AL 44C	DS 33C	LR 48C	SS 49C	
614=GI	20	2311	6130	????	????????????		0	0	0	39.09N	27.57E	N1 155C	NO 135B			
615=GI	19	2300	6135	????	????????????		148	26	99	56.34N	36.69E	NE 65B	NE 66B	NO 85B	U2 60C	
616=GI	21	0350	6165	????	????????????		0	0	0	58.73N	29.88E	N1 125C	NO 80C			
617=GI	2	1318	11720	????	????????????		5010	452	138	45.21N	43.74E	AL 34C	BE 41C	FL 38C		
618=GI	5	1315	11720	????	????????????		1222	206	104	57.26N	.54E	AL 36C	BE 51C	LR 43C	SS 33C	
619=GI	7	1331	11725	????	????????????		2721	366	118	56.94N	28.87E	BE 40C	FL 31C	SS 34C		
620=GI	29	0518	6170	BR	RL	HB	0	0	0	56.55N	11.90W	LR 45C	SS 33C			
621=GI	24	0514	6170	BR	RL	HB	126	20	107	56.03N	39.40E	NO 84A	BD 67C	KR 63C	SS 34C	BD 67C KR 63B
622=GI	27	0330	7180	BR	RL	P1	0	0	0	56.36N	28.65E	BK 59A	U2 64B			
623=GI	20	0000	6135	CZEC	RFE	B6	65	23	85	57.44N	23.95E	BK 50B	NO 90B	U2 60C		
624=GI	1	1700	9505	EST	RFE	HD	0	0	0	56.84N	32.94E	NE 63B	NO 86B			
625=GI	24	1309	5985	HUNG	RFE	B9B	0	0	0	55.37N	40.84E	NO 85C	N1 115C			
626=GI	24	1410	5985	HUNG	RFE	B9B	0	0	0	53.93N	39.47E	NO 90C	N1 120C			
627=GI	26	0545	6170	LITH	RFE	HB	3386	85	106	54.25N	48.71E	BD 66C	SS 32C	BD 66B		
628=GI	20	0500	5970	POLI	RFE	BIB	0	0	0	53.10N	10.43E	U2 76B	BK 43B			
629=GI	22	2100	6125	POLI	BBC	WOOF	0	0	0	53.22N	40.44E	NO 91B	U2 71B			
630=GI	19	2330	6150	POLI	VOA	WOF	0	0	0	54.40N	14.99E	NE 66B	U2 69C			
631=GI	2	1333	11725	POLI	RFE	GLORIA	2760	376	119	55.78N	30.19E	BE 42C	FL 28C	SS 36C		
632=GI	6	1221	11725	POLI	RFE	GLORIA	2133	247	99	67.75N	9.61E	BE 27C	LR 32C	ps 49C	SS 28C	
633=GI	25	0100	7180	RUSS	RL	L7+L8	191	17	75	56.37N	23.10E	BK 54B	NE 62B	U2 62B	NE 62B	
634=GI	26	2001	7220	RUSS	RL	B7	0	0	0	55.32N	34.64E	NO 90B	U2 67B			
635=GI	27	0624	7220	RUSS	RL	L7+L8	1245	169	94	60.86N	7.24W	BE 39C	CA 39C	LR 45C	SS 33C	
636=GI	27	0703	7220	RUSS	RL	L7+L8	432	27	87	55.60N	31.28E	BD 65C	KR 65C	PS 39C	BD 65C	KR 65B
637=GI	30	0621	7220	RUSS	RL	L7+L8	263	35	103	57.77N	37.27E	BE 35C	SS 33C	NO 80B	U2 60B	
638=GI	30	0700	7220	RUSS	RL	L7+L8	81	28	109	58.40N	30.78E	NO 80B	U2 60C	N1 125C		
639=GI	30	0830	7220	RUSS	RL	L7+L8	2207	330	115	59.42N	23.05E	BE 36C	PS 35C	SS 34C		
640=GI	1	0620	7220	RUSS	RL	L5+L6	0	0	0	.31N	77.18E	AL 24C	FL 43C			

641=GI	3	0615	7220	RUSS	RL	L5+L6	4701	516	147	1.99N	73.10E	be	35C	CA	37C	FL	41C	PS	42C							
642=GI	4	0617	7220	RUSS	RL	L5+L6	359	91	24	31.05S	97.02E	BE	33C	CA	31C	fe	125C	ps	152C	PS	332C					
643=GI	25	0624	7220	RUSS	RL	L7+L8	125	12	74	54.07N	16.79E	BD	72C	KI	21C	KR	63C	SS	37C	BD	72B	KR	63A			
644=GI	7	0613	7220	RUSS	RL	L5+L6	0	0	0	41.36N	75.32W	LR	27C	PS	42C											
645=GI	25	0500	7260	RUSS	BBC	CYPRUS	146	17	78	54.95N	19.20E	nO	75B	DS	25C	LV	15C	BD	68C	KR	60C	SS	36C			
												BD	68B	KR	60B	U2	68B									
646=GI	6	2000	9530	RUSS	VOA	KAV	0	0	0	55.76N	21.79E	U2	65B	BK	56A											
647=GI	7	2030	9530	RUSS	VOA	KAV	0	0	0	57.07N	34.61E	U2	62C	NO	84A											
648=GI	25	1228	15235	RUSS	VOA	WOF	5811	384	155	14.08S	86.07E	BE	43C	LR	32C	PS	28C									
649=GI	30	1435	15235	RUSS	VOA	WOF	635	67	96	56.23N	38.51E	U2	64B	BE	35C	LR	33C	PS	30C							
650=GI	28	1430	15415	RUSS	VOA	WOF	587	34	47	49.76N	61.87W	BE	38C	FL	33C	LR	40C									
651=GI	27	1019	15430	RUSS	VOA	PHT	0	0	0	22.83S	137.19E	NO	65B	U2	65C											
652=GI	24	0420	6170	UKR	RL	L5+L6	0	0	0	51.21N	53.00E	U2	70B	NO	85A											
653=GI	30	0340	6170	UKR	RL	L5+L6	1643	375	113	54.25N	16.55E	AL	40C	FL	37C	SS	38C									
654=GI	24	0312	6170	UKR	RL	L5+L6	940	34	107	50.15N	26.48E	BD	86C	FL	35C	GI	35C	KI	27C	PS	40C	SS	37C			
												BD	86B													
655=GM	7	0622	11890	????	????????????		0	0	0	48.81N	132.97E	AN	290C	WP	315C											
656=GM	26	0720	7220	RUSS	RL	L7+L8	855	254	50	49.11N	129.00E	AN	296C	DS	323C	FE	311C	WP	315C							
657=GM	27	0726	7220	RUSS	RL	L7+L8	0	0	0	47.94N	131.74E	AN	290C	WP	314C											
658=GM	28	0653	7220	RUSS	RL	L7+L8	737	241	54	48.61N	135.50E	AN	287C	DS	324C	LV	320C	WP	314C							
659=GM	29	0700	7220	RUSS	RL	L7+L8	0	0	0	49.57N	136.72E	LV	317C	WP	316C											
660=GM	29	0901	7220	RUSS	RL	L7+L8	440	282	69	46.62N	153.58E	AL	326C	BE	325C	GI	321C	LR	328C	PS	329C	SS	322C			
												WP	314C													
661=GM	24	0921	7220	RUSS	RL	L7+L8	471	37	36	50.38N	139.89E	AN	292C	DS	322C	LV	311C	WP	315C	SL	28B					
662=GM	30	0858	7220	RUSS	RL	L7+L8	1136	140	87	60.94N	143.81W	AL	320C	BE	321C	CA	316C	LR	321C	PS	324C					
663=GM	31	0742	7220	RUSS	RL	L5+L6	0	0	0	35.64N	113.66E	AN	294C	LV	318C											
664=GM	31	0900	7220	RUSS	RL	L5+L6	841	264	53	50.23N	130.38E	AN	294C	LV	317C	WP	317C									
665=GM	23	0754	7220	RUSS	RL	L7+L8	1015	333	49	44.60N	123.20E	AN	294C	DS	322C	WP	311C									
666=GM	26	0635	9520	RUSS	RL	L5	774	241	51	48.82N	133.18E	AN	291C	DS	324C	FE	311C	WP	315C							
667=GM	26	0713	9520	RUSS	RL	L1	755	241	51	48.82N	133.97E	AN	291C	FE	311C	KI	325C	WP	315C							
668=GM	26	1014	9520	RUSS	RL	L1	0	0	0	54.27N	154.90E	LV	316C	WP	325C											
669=GM	28	0550	9520	RUSS	RL	L5	0	0	0	47.91N	135.61E	DS	322C	WP	314C											
670=GM	1	0300	9520	RUSS	RL	HA	0	0	0	45.73N	133.51E	LV	315C	TO	337B											
671=GM	26	0258	11760	RUSS	VOA	TAN	774	262	53	49.46N	133.60E	AN	291C	DS	320C	WP	316C									
672=GM	23	0251	11760	RUSS	VOA	TAN	848	260	52	48.72N	130.05E	AN	292C	DS	326C	fe	344C	LV	318C	WP	315C					
673=GM	22	0730	11885	RUSS	RL	L9+L10	0	0	0	42.45N	124.99E	SL	330B	DS	323C											
674=GM	22	0834	11965	RUSS	VOA	PHT	0	0	0	4.01N	95.03E	AN	294C	DS	322C											
675=GR	29	1740	7150	RUSS	DW	WER	596	255	99	51.43N	161.72E	DS	320C	LV	309C	WP	324C									
676=GR	2	1722	9785	????	????????????		0	0	0	49.56N	136.39E	DS	323C	FE	313C											
677=GR	20	1830	11835	RUSS	VOA	WOF	0	0	0	45.13N	154.22E	GI	315C	WP	313C											
678=GR	21	1530	6105	RUSS	RL	L11	804	302	67	49.14N	139.66E	DS	320C	FE	309C	LV	320C	WP	315C							
679=GR	19	1311	6105	RUSS	RL	L11	1084	380	73	47.86N	135.79E	an	310C	DS	323C	LV	315C	WP	314C							
680=GR	19	1230	6105	RUSS	RL	L11	985	343	61	45.29N	131.40E	an	311C	DS	323C	FE	312C	LV	315C	WP	311C					
681=GR	25	1230	6105	RUSS	RL	L11	2722	213	50	50.86N	141.21E	AN	287C	DS	322C	KI	323C	LV	317C							
682=GR	21	1448	6105	RUSS	RL	L11	1167	404	69	48.00N	130.81E	an	316C	DS	323C	LV	319C	WP	314C							
683=GR	24	1604	6105	RUSS	RL	L11	0	0	0	54.14N	146.75E	AN	287C	LV	318C											
684=GR	23	1331	6105	RUSS	RL	L11	2031	175	51	50.68N	145.77E	AN	286C	DS	323C	FE	304C	GI	322C	KI	322C	LV	313C			
685=GR	28	1203	6105	RUSS	RL	L11	952	39	33	51.53N	139.66E	SL	25B	AN	289C	KI	324C									
686=GR	22	1203	6105	RUSS	RL	L11	568	188	55	50.37N	144.22E	AN	287C	DS	323C	GI	311C	KI	316C	LV	317C	WP	316C			
687=GR	30	1507	6105	RUSS	RL	L11	798	300	67	50.64N	139.39E	an	328C	DS	322C	FE	311C	LV	320C	WP	317C					
688=GR	19	1552	6105	RUSS	RL	L11	2335	166	56	55.50N	148.63E	AN	288C	DS	321C	LV	320C									
689=GR	18	1300	6105	RUSS	RL	L11	650	211	54	47.57N	139.75E	AN	287C	DS	322C	FE	300C	LV	315C	WP	313C					
690=GR	24	1510	6105	RUSS	RL	L11	0	0	0	57.93N	171.68E	FE	309C	LV	318C											
691=GR	23	1231	6105	RUSS	RL	L11	3277	377	29	3.70S	96.57E	AN	286C	DS	322C	FE	307C	GI	337C	KI	325C					

692=GR	22	1310	6105	RUSS	RL	L11	733	245	51	44.73N	134.55E	AN	287C	DS	320C	KI	319C	LV	314C	PS	329C	WP	310C
693=GR	24	1401	6105	RUSS	RL	L11	2945	224	47	48.64N	138.00E	AN	287C	DS	322C	FE	309C	LV	316C				
694=GR	18	1400	6105	RUSS	RL	L11	485	170	58	48.09N	139.64E	AN	285C	DS	326C	FE	296C	KI	347C	LV	315C	WP	313C
												DS	326C	FE	310C	LV	315C	WP	313C				
695=GR	26	1003	7220	RUSS	RL	L7+L8	695	239	53	49.01N	137.50E	AN	287C	DS	327C	KI	322C	WP	315C				
696=GR	27	0731	7220	RUSS	RL	L7+L8	738	233	53	48.84N	135.16E	AN	290C	DS	324C	KI	318C	LV	317C	WP	315C		
697=GR	28	0649	7220	RUSS	RL	L7+L8	828	308	66	48.01N	138.76E	DS	324C	FE	306C	LV	320C	WP	313C				
698=GR	28	0900	7220	RUSS	RL	L7+L8	647	275	49	44.67N	128.01E	WL	326C	AN	290C	DS	325C	KI	323C	LV	316C	WP	312C
699=GR	29	0903	7220	RUSS	RL	L7+L8	719	215	53	49.50N	136.03E	AN	290C	DS	322C	FE	310C	LV	317C	WP	316C		
700=GR	30	0700	7220	RUSS	RL	L7+L8	901	274	51	47.67N	127.66E	AN	293C	DS	325C	LV	318C	WP	314C				
701=GR	25	0925	7220	RUSS	RL	L7+L8	807	261	52	46.94N	132.20E	AN	289C	DS	322C	LV	316C	WP	313C				
702=GR	31	0822	7220	RUSS	RL	L5+L6	1167	404	69	48.00N	130.81E	an	341C	DS	323C	LV	319C	WP	314C				
703=GR	22	0629	7220	RUSS	RL	L7+L8	695	281	66	48.44N	142.46E	an	351C	DS	323C	FE	310C	LV	315C	PS	324C	WP	314C
704=GR	25	0623	7220	RUSS	RL	L7+L8	541	32	132	45.14N	127.72E	LV	315C	WP	313C	TO	320B	TO	320D				
705=GR	23	0721	7220	RUSS	RL	L7+L8	7026	457	29	1.52S	89.98E	AN	298C	DS	322C	FE	317C	ki	327C	LV	316C		
706=GR	24	0821	7220	RUSS	RL	L7+L8	916	285	50	45.67N	127.37E	AN	292C	DS	322C	LV	316C	WP	312C				
707=GR	21	1344	7220	RUSS	RL	L7+L8	0	0	0	37.60N	119.25E	DS	323C	LV	316C								
708=GR	21	1926	7270	RUSS	VOA	MUN	0	0	0	34.31N	122.80E	AN	286C	FE	310C								
709=GR	22	1934	7270	RUSS	VOA	MUN	586	225	54	46.64N	143.43E	AN	280C	FE	307C	WP	313C						
710=GR	28	1751	9520	RUSS	RL	L5	4326	441	37	34.91N	118.35E	an	303C	DS	322C	FE	311C	GI	332C	LV	316C		
711=GR	29	1814	9520	RUSS	RL	L5	619	176	58	54.92N	142.67E	AN	293C	FE	310C	LV	317C	WP	323C				
712=GR	4	1142	9520	RUSS	RL	HD	0	0	0	51.77N	141.20E	DS	323C	WP	319C								
713=GR	7	0644	9520	RUSS	RL	HD	690	205	54	50.72N	137.63E	AN	290C	DS	323C	FE	309C	LV	320C	WP	317C		
714=GR	19	2331	9555	RUSS	RL	G13+G14	686	48	118	55.16N	137.80W	DS	326C	FE	310C	FL	320C	SS	320C				
715=GR	23	1025	9675	RUSS	VOA	PHT	782	300	88	49.45N	151.45E	DS	320C	LV	310C	WP	318C						
716=GR	25	1014	9675	RUSS	VOA	PHT	2086	147	57	55.62N	150.62E	AN	288C	DS	320C	FE	309C	LV	320C				
717=GR	23	1808	11845	RUSS	BBC	CYPRUS	0	0	0	39.30N	90.28E	DS	344C	WP	314C								
718=GR	6	1835	11845	RUSS	BBC	CYPRUS	0	0	0	44.27N	119.09E	KI	334C	WP	311C								
719=GR	7	2313	11915	RUSS	RL	P5	864	353	69	48.74N	137.79E	DS	323C	FE	311C	WP	315C						
720=GR	18	2331	11915	TI	RL	P4	718	241	52	48.87N	136.13E	AN	290C	FE	307C	WP	315C						
721=GU	22	1227	11875	RUSS	RL	L5+L6	608	294	96	54.36N	157.36E	ki	355C	LV	311C	PS	336C	WP	327C				
722=GU	20	1330	11875	RUSS	RL	L6	0	0	0	55.51N	156.40E	DS	322C	WP	327C								
723=GU	21	1100	11875	RUSS	RL	L5+L6	0	0	0	60.09N	100.05E	LV	340C	WP	330C								
724=HM	21	0425	11700	????	????????????		0	0	0	58.52N	42.46E	N1	105B	NO	75A								
725=HM	7	2044	11805	????	????????????		521	27	92	54.69N	33.56E	BD	69C	KR	68C	BD	69B	KR	68B				
726=HM	24	0436	11905	RUSS	DW	JUL	0	0	0	57.98N	43.58E	NO	76A	N1	105B								
727=HP	1	0100	9505	AZ	RL	L1	367	20	80	53.59N	13.00E	NE	70C	NE	73C	U2	73B						
728=HP	3	2317	9505	BR	RL	HD	0	0	0	57.40N	43.09W	BE	42C	CA	44C								
729=HP	2	0000	9750	RUSS	RL	L4	2928	67	97	51.77S	172.69E	NE	91B	NE	92B	U2	90B						
730=HP	7	1215	17895	RUSS	RL	P3+P4	0	0	0	49.80N	34.37E	N1	135B	NO	106B								
731=HP	4	2100	9565	UKR	RL	P5	0	0	0	17.95N	72.95E	NO	100C	U2	92B								
732=HP	5	0300	9660	UKR	RL	P4	0	0	0	51.11N	14.49E	U2	90B	BK	87A								
733=IG	19	1835	6106	????	????????????		0	0	0	52.98N	136.77E	AN	292C	WP	320C								
734=IG	23	1630	6120	????	????????????		524	173	57	53.14N	148.39E	AN	285C	FE	309C	WP	322C						
735=IG	7	0628	11880	????	????????????		814	270	50	47.02N	131.38E	AN	290C	FE	312C	WP	313C						
736=IG	24	0430	11905	RUSS	DW	JUL	636	194	53	49.76N	139.91E	AN	286C	DS	324C	FE	311C	GI	324C	LV	317C	WP	316C
737=IG	23	0411	11905	RUSS	DW	JUL	637	196	50	49.56N	136.56E	AN	287C	DS	323C	FE	312C	GI	333C	LR	333C	LV	317C
												PS	343C	WP	316C								
738=IG	18	0420	11905	RUSS	DW	JUL	731	258	54	47.47N	135.87E	AN	286C	LV	318C	WP	313C						
739=IG	1	0421	11906	????	????????????		891	259	48	43.18N	128.04E	AN	290C	DS	323C	FE	310C	KI	327C	LV	314C	WP	309C
740=IG	2	2324	11930	????	????????????		719	235	54	49.09N	136.38E	AN	289C	DS	320C	LV	314C	WP	316C				
741=IG	5	2324	11930	????	????????????		719	235	54	49.09N	136.38E	AN	289C	DS	320C	LV	314C	WP	316C				
742=IG	29	2108	15375	????	????????????		861	315	65	49.00N	136.36E	DS	324C	FE	311C	LV	318C	WP	315C				
743=IG	20	2030	11970	LITH	RFE	P4	532	175	56	50.78N	146.58E	AN	286C	FE	308C	GI	307C	LV	315C	ps	305C	WP	317C

744=IG	28	1745	6105	RUSS	RL	L11	496	153	59	54.24N	150.51E	AN 286C	FE 307C	LV 316C	WP 324C	
745=IG	18	1518	6105	RUSS	RL	L11	1123	319	44	42.44N	117.24E	AN 297C	DS 315C	fe 297C	KI 348C	LV 315C	WP 312C
746=IG	25	1723	6105	RUSS	RL	L11	655	280	77	53.34N	148.84E	FE 310C	LV 318C	WP 322C		
747=IG	18	1830	6105	RUSS	RL	L2	452	226	88	52.43N	162.77E	an 320C	FE 302C	LV 316C	WP 325C	
748=IG	18	1701	6105	RUSS	RL	L11	395	146	58	51.15N	156.50E	AN 277C	FE 300C	LV 312C	WP 322C	
749=IG	19	1530	6105	RUSS	RL	L11	0	0	0	49.30N	140.95E	DS 321C	WP 316C			
750=IG	20	1605	6125	RUSS	BBC	WOOF	745	305	73	50.22N	144.14E	an 323C	FE 308C	LV 318C	WP 317C	
751=IG	19	1630	6125	RUSS	BBC	WOOF	641	185	57	54.24N	141.06E	AN 292C	FE 312C	LV 319C	WP 322C	
752=IG	21	1718	7120	RUSS	BBC	WOOF	0	0	0	59.43N	173.35E	FE 311C	LV 320C			
753=IG	28	1752	7220	RUSS	RL	L7+L8	435	143	59	53.41N	154.49E	AN 281C	FE 307C	LV 315C	WP 324C	
754=IG	24	1019	7220	RUSS	RL	L7+L8	703	301	73	49.89N	144.57E	DS 322C	KI 323C	LV 318C	PS 326C	WP 316C
755=IG	29	1100	7220	RUSS	RL	L7+L8	4061	280	42	44.01N	129.03E	AN 289C	DS 322C	FE 311C	LV 316C	
756=IG	29	1747	7220	RUSS	RL	L7+L8	373	127	60	53.01N	159.14E	AN 279C	DS 320C	FE 295C	LV 316C	WP 324C
757=IG	21	2019	7220	RUSS	RL	B7	5123	563	34	3.09N	107.49E	AN 282C	FE 305C	LV 300C		
758=IG	24	1940	7220	RUSS	RL	L9	4231	338	40	38.29N	127.72E	AN 285C	FE 309C	LV 312C		
759=IG	25	1016	7220	RUSS	RL	L7+L8	238	72	144	47.12N	129.82E	AN 291C	DS 322C	FE 313C	KI 321C	LV 316C	WP 321C
												TO 330D					
760=IG	21	1921	7220	RUSS	RL	L9	424	123	62	56.60N	158.28E	AN 285C	FE 305C	WP 329C			
761=IG	23	1017	7220	RUSS	RL	L7+L8	727	213	52	51.68N	134.48E	AN 293C	DS 320C	GI 343C	KI 322C	LV 313C	WP 320C
762=IG	21	1930	7230	RUSS	BBC	CYPRUS	0	0	0	13.75S	95.59E	AN 285C	FE 305C				
763=IG	27	1318	9520	RUSS	RL	L5	918	244	48	54.41N	122.43E	AN 310C	DS 324C	GI 333C	LV 316C	WP 317C	
764=IG	27	1531	9520	RUSS	RL	L5	666	261	64	52.17N	142.14E	an 341C	DS 325C	FE 312C	KI 330C	LV 318C	PS 330C
												WP 319C					
765=IG	28	1118	9520	RUSS	RL	L1	830	185	77	53.12N	155.42W	an 303C	BE 317C	CA 314C	gi 284C	KI 312C	LR 302C
												PS 322C	SS 324C				
766=IG	28	1258	9520	RUSS	RL	L1	684	214	56	51.96N	138.36E	AN 290C	DS 322C	LV 319C	WP 319C		
767=IG	22	1129	9520	RUSS	RL	L1	2211	457	19	20.33N	117.59E	BE 347C	CA 335C	GI 339C	KI 315C	LR 350C	
768=IG	21	1349	9520	RUSS	RL	L5	956	374	61	48.33N	129.30E	DS 320C	GI 338C	LV 315C	WP 316C		
769=IG	24	1335	9520	RUSS	RL	L5	507	206	60	52.44N	136.28E	an 354C	DS 322C	FE 319C	LV 316C	WP 320C	AL 336C
												an 354C	DS 322C	FE 319C	LR 342C	LV 316C	WP 320C
770=IG	29	1329	9520	RUSS	RL	L5	0	0	0	50.87N	141.85E	DS 322C	WP 318C				
771=IG	23	1019	9520	RUSS	RL	L1	813	324	63	50.07N	135.66E	DS 320C	GI 342C	KI 321C	LV 313C	WP 318C	
772=IG	2	1048	9520	RUSS	RL	HD	0	0	0	57.21N	156.30W	DS 323C	FL 323C				
773=IG	2	1212	9520	RUSS	RL	HD	760	225	54	52.58N	134.38E	AN 295C	DS 323C	LV 315C	WP 320C		
774=IG	21	1604	9520	RUSS	RL	L5	0	0	0	63.02N	169.94W	AN 290C	WP 352C				
775=IG	3	1020	9520	RUSS	RL	HD	4362	273	69	69.09N	178.44W	AL 336C	LR 336C	PS 331C			
776=IG	4	1015	9520	RUSS	RL	HD	2326	481	24	1.42S	106.53E	AL 342C	KI 314C	PS 339C			
777=IG	5	1100	9520	RUSS	RL	HD	477	234	65	46.99N	151.51E	be 310C	FL 324C	LR 324C	LR 348C	PS 321C	PS 331C
												FE 309C	LV 294C	WP 316C			
778=IG	6	1222	9520	RUSS	RL	HD	694	274	72	52.19N	145.38E	an 358C	DS 311C	FE 319C	LV 313C	WP 320C	
779=IG	7	1018	9520	RUSS	RL	HD	653	191	54	52.10N	138.71E	AN 289C	DS 324C	FE 327C	LV 313C	WP 316C	FL 324C
												ps 298C					
780=IG	22	2239	9530	RUSS	VOA	KAV	796	318	71	50.12N	141.24E	FE 311C	LV 316C	WP 317C			
781=IG	27	2146	9530	RUSS	VOA	KAV	705	218	53	48.37N	136.79E	AN 288C	DS 323C	FE 310C	LV 313C	WP 315C	
782=IG	23	2228	9530	RUSS	VOA	KAV	0	0	0	21.35S	74.91E	DS 337C	LV 314C				
783=IG	2	2130	9530	RUSS	VOA	KAV	849	240	50	48.62N	129.36E	AN 295C	DS 320C	FE 313C	LV 318C	WP 315C	
784=IG	22	2154	9530	RUSS	VOA	KAV	679	213	54	50.06N	138.20E	AN 289C	FE 310C	LV 315C	WP 317C		
785=IG	19	2228	9530	RUSS	VOA	KAV	690	213	53	48.87N	137.55E	AN 289C	DS 319C	FE 310C	LV 312C	WP 316C	
786=IG	7	2030	9530	RUSS	VOA	KAV	671	204	54	50.04N	138.64E	AN 289C	DS 322C	FE 309C	LV 315C	WP 317C	
787=IG	31	2230	9555	RUSS	RL	P1	647	208	54	49.91N	139.95E	AN 288C	FE 308C	LV 314C	WP 317C		
788=IG	3	0110	9555	RUSS	RL	P1	714	227	53	48.64N	136.32E	AN 288C	FE 311C	LV 316C	WP 315C		
789=IG	5	0002	9555	RUSS	RL	P1	660	224	53	47.15N	139.21E	AN 285C	FE 305C	LV 316C	WP 313C		
790=IG	23	0231	9555	RUSS	RL	G1	590	219	55	47.81N	143.21E	AN 284C	KI 307C	LV 312C	WP 315C		
791=IG	18	0217	9555	RUSS	RL	G1	466	175	57	49.02N	150.76E	AN 277C	FE 305C	LV 313C	WP 317C		

792=IG	24	1909	9585	RUSS	VOA	MUN	760	309	73	50.14N	143.30E	FE	309C	LV	317C	WP	317C		
793=IG	22	0248	11725	RUSS	RL	P6	8996	391	36	35.63N	119.79E	AN	290C	DS	322C	FE	311C		
794=IG	26	0216	11760	RUSS	VOA	TAN	0	0	0	47.85N	137.46E	FE	311C	WP	314C				
795=IG	24	2247	11835	RUSS	VOA	KAV	766	293	69	50.04N	141.54E	DS	322C	FE	311C	LV	315C	WP	317C
796=IG	20	2244	11835	RUSS	VOA	KAV	842	310	65	49.69N	137.13E	DS	323C	FE	312C	LV	318C	WP	316C
797=IG	23	2200	11835	RUSS	VOA	KAV	738	286	70	50.70N	143.01E	DS	322C	FE	311C	LV	315C	WP	318C
798=IG	22	1130	11875	RUSS	RL	L5+L6	871	328	83	50.33N	146.01E	DS	322C	LV	313C	WP	318C		
799=IG	22	0330	11885	RUSS	RL	P4	823	246	50	46.16N	130.99E	AN	290C	DS	324C	FE	310C	LV	316C
800=IG	30	0711	11885	RUSS	RL	L9+L10	649	205	54	50.19N	139.89E	AN	289C	DS	322C	FE	311C	KI	313C
801=IG	22	0730	11885	RUSS	RL	L9+L10	324	27	148	42.51N	124.94E	AN	290C	DS	323C	KI	316C	WP	315C
802=IG	25	0354	11885	RUSS	RL	P4	906	325	63	48.04N	134.21E	DS	324C	FE	312C	LV	317C	WP	314C
803=IG	18	0415	11885	RUSS	RL	P4	660	223	51	48.65N	137.37E	AN	290C	DS	321C	FE	311C	SS	326C
804=IG	18	0730	11885	RUSS	RL	L9+L10	1188	407	68	47.02N	130.55E	an	349C	DS	324C	LV	317C	WP	313C
805=IG	27	0714	11885	RUSS	RL	L9+L10	0	0	0	48.81N	132.97E	AN	290C	WP	315C				
806=IG	23	0102	11915	RUSS	RL	P4	914	348	67	47.04N	136.17E	FE	311C	LV	315C	WP	313C		
807=IG	7	0912	11930	RUSS	VOA	PHT	0	0	0	50.34N	138.17E	AN	288C	WP	317C				
808=IG	21	2208	11970	RUSS	RL	P4	765	310	73	49.92N	143.11E	FE	310C	LV	315C	WP	317C	s1	223B
809=IG	30	0603	11970	RUSS	RL	P5	265	102	105	59.92N	163.02W	DS	325C	FE	314C	LV	317C	WP	357C
810=IG	24	2306	11970	RUSS	RL	P5	890	342	68	47.06N	137.48E	FE	310C	LV	315C	WP	313C		
811=IG	21	2148	11970	RUSS	RL	P4	661	283	78	49.40N	149.34E	FE	305C	LV	315C	WP	317C		
812=IG	19	2120	11970	RUSS	RL	P4	781	239	52	48.69N	132.82E	AN	291C	FE	312C	LV	317C	WP	315C
813=IG	23	0504	11970	RUSS	RL	P5	2441	171	54	53.91N	145.82E	AN	287C	DS	324C	FE	314C	LV	317C
814=IG	7	0602	15370	RUSS	RL	G3B	0	0	0	50.48N	135.49E	AN	290C	WP	317C				
815=IG	4	0037	9750	TB	RL	L4	0	0	0	47.04N	130.54E	AN	290C	WP	313C				
816=IG	19	0209	11885	TI	RL	B6	625	172	57	54.19N	141.90E	AN	290C	DS	323C	FE	310C	KI	355C
817=IG	23	0020	11885	TI	RL	P2	809	241	51	46.86N	131.60E	AN	290C	DS	322C	FE	312C	LV	316C
818=IG	31	2317	11885	TI	RL	P3	707	217	54	50.43N	136.71E	AN	290C	FE	311C	LV	318C	WP	317C
819=IG	25	0142	11885	TI	RL	B6	896	323	64	47.10N	135.32E	DS	323C	FE	311C	LV	315C	WP	313C
820=IG	24	0028	11885	TI	RL	P2	671	224	54	50.25N	138.74E	AN	288C	FE	311C	WP	317C		
821=IG	6	0031	11885	TI	RL	P3	752	223	52	48.92N	134.31E	AN	290C	DS	322C	FE	311C	LV	319C
822=IG	7	0037	11885	TI	RL	P3	2912	217	48	49.40N	138.72E	AN	287C	DS	323C	FE	310C	LV	316C
823=IG	7	2326	11885	TI	RL	P3	613	202	53	50.85N	140.57E	AN	290C	DS	322C	FE	310C	SS	326C
824=IG	27	2342	11915	TI	RL	P4	0	0	0	49.87N	137.41E	AN	288C	LV	317C				
825=IG	18	2350	11915	TI	RL	P4	432	41	0	30.11S	70.35E	DS	0C	FE	311C	LV	315C		
826=IG	23	2011	7140	UKR	VOA	PHT	0	0	0	50.43N	157.39E	FE	304C	WP	321C				
827=IG	27	2306	9565	UKR	RL	P1	3452	250	45	46.58N	133.64E	AN	288C	DS	322C	FE	310C	LV	316C
828=IG	28	1755	9565	UKR	RL	L2	3802	284	62	53.75N	151.72E	DS	322C	FE	310C	LV	316C		
829=IG	1	1852	9565	UKR	RL	L2	2876	227	69	56.52N	160.31E	DS	322C	FE	312C	KI	322C	LV	317C
830=IG	1	2057	9565	UKR	RL	P5	699	215	54	50.45N	137.14E	AN	290C	FE	310C	LV	318C	WP	317C
831=IG	3	2200	9565	UKR	RL	P5	884	340	67	49.57N	136.51E	FE	313C	LV	317C	WP	316C		
832=IG	23	2302	11885	UKR	RL	P2	700	213	53	49.23N	137.01E	AN	289C	DS	323C	FE	310C	LV	314C
833=IG	4	0259	11885	UKR	RL	P3	734	225	51	49.53N	133.49E	AN	290C	FE	311C	LV	318C	PS	345C
834=IR	19	1840	6095	RUSS	VOA	MUN	0	0	0	57.78N	37.17E	NO	80D	U2	60C				
835=IR	3	1637	11805	????	????????????		3124	439	133	49.49N	46.71E	BE	37C	LR	35C	SS	37C		
836=IR	20	1830	11835	RUSS	VOA	WOF	0	0	0	54.10N	15.20E	BK	55A	U2	71C				
837=K7	3	1036	9675	????	????????????		0	0	0	43.28N	23.43E	N1	160B	NO	137B				
838=K7	2	1005	9680	BULG	DW	WER	0	0	0	44.76N	24.26E	NE	113B	NO	133A				
839=K7	7	1030	9680	BULG	DW	WER	240	14	133	46.00N	16.01E	BK	128A	U2	114B	AL	46C	BE	54C
840=K7	19	1700	11855	BULG	DW	SIN	974	368	133	44.63N	18.47E	AN	8C	BE	52C	LR	56C		
841=K7	6	1640	15160	????	????????????		0	0	0	19.52N	51.11E	AL	42C	BE	55C				
842=K7	29	0848	15370	????	????????????		0	0	0	28.54N	33.86E	U2	120B	NO	135B				
843=K7	30	1757	15115	BULG	RFE	G7	0	0	0	41.72N	28.83E	AL	44C	FE	21C				
844=K7	31	1658	15115	BULG	RFE	G7	0	0	0	47.62N	24.35E	AL	42C	FE	22C				
845=K7	4	1927	15115	BULG	RFE	G7	0	0	0	51.08N	5.79E	AL	47C	BE	54C				

846=K7	28	1110	11875	RUSS	RL	L5+L6	0	0	0	42.87N	26.03E	AN	3C	PS	44C									
847=K7	27	1355	11875	RUSS	RL	L6	0	0	0	45.44N	25.90E	AN	3C	PS	42C									
848=K7	5	1229	11875	RUSS	RL	L9+L10	2307	276	104	57.90N	3.35W	AL	39C	FL	35C	PS	44C							
849=K7	23	1200	11875	RUSS	RL	L5+L6	0	0	0	49.59S	29.07E	AN	3C	LV	129C									
850=K7	27	0900	15380	RUSS	RL	P3+P4	7196	148	101	54.95S	139.03E	BK	117A	U2	113A	U2	115C							
851=K7	29	0840	15445	RUSS	RL	HD	0	0	0	28.54N	33.86E	NO	135B	U2	120A									
852=K7	29	1016	15445	RUSS	RL	HD	0	0	0	37.70N	26.69E	NO	138B	N1	157B									
853=K7	29	1200	15445	RUSS	RL	HD	505	61	166	45.76N	23.79E	N1	158B	AL	46C	BE	51C	LR	47C	PS	43C			
854=K7	26	1100	15445	RUSS	RL	HD	1140	61	151	41.62N	25.75E	AN	3C	FL	46C	NO	135B							
855=K7	27	1000	15445	RUSS	RL	HD	160	17	131	43.43N	24.87E	BK	116A	NO	134B	BE	50C	CA	50C					
856=K7	27	0941	15445	RUSS	RL	HD	440	86	152	30.11N	32.94E	NO	134B	N2	158B	U2	120B							
857=K7	26	0800	15445	RUSS	RL	HD	0	0	0	47.60N	22.98E	AN	5C	NO	130C									
858=KB	23	0501	11790	????	????????????		776	280	53	46.11N	133.83E	AN	287C	DS	320C	WP	312C							
859=KB	20	1430	11865	LAT	VOA	WOF	1071	373	74	47.03N	137.27E	DS	320C	LV	315C	WP	313C							
860=KB	26	1201	7220	RUSS	RL	L7+L8	0	0	0	48.39N	136.58E	AN	287C	LV	316C									
861=KB	28	0506	9520	RUSS	RL	L5	4718	343	39	38.82N	125.36E	AN	288C	FE	309C	LV	314C							
862=KB	28	1725	9520	RUSS	RL	L5	2622	196	42	43.60N	128.40E	AN	288C	DS	323C	FE	311C	GI	327C	LV	315C	AN	291C	
												DS	322C	FE	311C	LV	315C							
863=KB	28	1823	9520	RUSS	RL	L5	3826	278	43	43.72N	130.04E	AN	288C	DS	322C	FE	310C	LV	315C					
864=KB	27	1600	9520	RUSS	RL	L5	0	0	0	39.04N	117.49E	DS	325C	LV	318C									
865=KB	27	1905	9520	RUSS	RL	L5	675	199	53	50.45N	137.62E	AN	290C	DS	322C	FE	310C	GI	326C	LV	318C	WP	317C	
866=KB	29	1700	9520	RUSS	RL	L5	691	287	92	54.14N	155.30E	DS	322C	LV	315C	WP	325C							
867=KB	29	1907	9520	RUSS	RL	L5	4065	215	48	49.90N	142.19E	AN	285C	DS	322C	FE	309C							
868=KB	22	1917	9520	RUSS	RL	L5	507	162	53	48.37N	136.19E	AN	290C	FE	311C	LV	310C	WP	313C	AN	288C	FE	309C	
												LV	315C	WP	317C									
869=KB	30	1603	9520	RUSS	RL	L5	1008	366	76	50.39N	138.10E	DS	322C	LV	318C	WP	317C							
870=KB	30	1706	9520	RUSS	RL	L5	634	191	54	50.46N	140.05E	AN	286C	DS	322C	FE	313C	GI	327C	LV	318C	WP	317C	
871=KB	30	1916	9520	RUSS	RL	L5	676	206	54	49.96N	138.35E	AN	289C	DS	321C	FE	307C	LV	320C	WP	316C			
872=KB	31	1133	9520	RUSS	RL	HD	2931	281	42	47.20N	133.66E	AL	334C	AN	288C	DS	322C							
873=KB	22	1652	9520	RUSS	RL	L5	660	201	54	50.28N	139.27E	AN	289C	DS	308C	FE	312C	LV	320C	WP	317C			
874=KB	27	1738	9520	RUSS	RL	L5	384	20	136	62.80N	153.20W	AN	319C	DS	325C	GI	327C							
875=KB	31	1610	9520	RUSS	RL	L5	578	174	58	54.49N	144.56E	AN	289C	DS	322C	GI	328C	LV	319C	WP	323C			
876=KB	1	0427	9520	RUSS	RL	B2	4799	332	40	40.46N	125.62E	AN	289C	FE	310C	LV	315C							
877=KB	1	0600	9520	RUSS	RL	B2	4078	270	43	45.36N	129.72E	AN	290C	DS	322C	FE	311C	LV	317C					
878=KB	1	1100	9520	RUSS	RL	HD	239	41	168	51.86N	135.18E	AN	289C	DS	321C	FE	327C	KI	335C	TO	350B	BE	340C	
												FL	321C	KI	335C	LR	342C							
879=KB	1	2120	9520	RUSS	RL	BIB	0	0	0	21.56N	111.42E	AN	288C	FE	311C									
880=KB	2	1653	9520	RUSS	RL	L5	1809	64	80	63.29N	171.44E	AN	295C	DS	325C	FE	313C	LV	322C					
881=KB	3	0500	9520	RUSS	RL	B2	3312	221	48	50.05N	136.76E	AN	290C	DS	322C	FE	310C	LV	318C					
882=KB	3	0700	9520	RUSS	RL	HD	0	0	0	34.43N	114.01E	AN	293C	LV	317C									
883=KB	3	1017	9520	RUSS	RL	HD	4223	266	71	69.86N	176.61W	AL	336C	LR	336C	PS	333C							
884=KB	4	0833	9520	RUSS	RL	HD	2852	227	48	49.59N	139.36E	AN	286C	DS	321C	KI	330C	LV	316C					
885=KB	4	1134	9520	RUSS	RL	HD	0	0	0	28.66S	72.94E	AN	299C	DS	321C									
886=KB	4	1714	9520	RUSS	RL	L5	697	17	64	31.26S	70.95E	AN	291C	DS	326C	FE	310C	LV	305C					
887=KB	27	0622	9520	RUSS	RL	L5	3846	267	45	48.32N	134.23E	AN	289C	KI	326C	LV	317C							
888=KB	5	0801	9520	RUSS	RL	HD	765	232	52	50.44N	133.61E	AN	292C	DS	323C	FE	314C	WP	317C					
889=KB	27	1817	9520	RUSS	RL	L5	2861	348	54	53.00N	141.56E	an	318C	DS	325C	GI	327C	KI	328C	LV	318C			
890=KB	5	1916	9520	RUSS	RL	BIB	0	0	0	21.47S	86.92E	AN	289C	FE	309C									
891=KB	6	0635	9520	RUSS	RL	HD	0	0	0	24.05N	110.55E	AN	290C	FE	313C									
892=KB	6	1606	9520	RUSS	RL	L5	0	0	0	60.36N	170.59E	DS	325C	FE	313C									
893=KB	6	1821	9520	RUSS	RL	L5	7043	286	42	45.64N	130.54E	AN	289C	DS	323C	FE	312C							
894=KB	7	0549	9520	RUSS	RL	B2	4601	305	41	43.38N	127.81E	AN	290C	FE	310C	LV	316C							
895=KB	7	0640	9520	RUSS	RL	HD	0	0	0	.82N	97.86E	AN	290C	FE	312C									
896=KB	7	0843	9520	RUSS	RL	HD	4655	379	28	13.81S	80.14E	an	289C	DS	331C	FE	324C	LV	315C					

897=KB	7	0931	9520	RUSS	RL	HD	811	233	51	48.75N	131.29E	AN	289C	DS	322C	FE	325C	LV	315C	WP 314C
898=KB	7	1925	9520	RUSS	RL	BIB	3946	172	53	54.05N	147.45E	AN	287C	DS	324C	FE	310C			
899=KB	2	1658	9565	RUSS	RL	L2	5829	369	51	49.08N	135.56E	DS	323C	FE	313C	LV	317C			
900=KB	31	0407	11770	RUSS	RL	P5	359	70	73	60.74N	169.89E	AN	288C	DS	322C	FE	312C	GI	317C	KI 327C LV 317C
												WP	339C							
901=KB	19	0103	11770	RUSS	RL	G1A	1414	353	27	14.81S	84.54E	AN	289C	DS	317C	GI	354C	LV	315C	
902=KB	24	0145	11770	RUSS	RL	G1A	775	263	51	47.03N	133.30E	AN	289C	FE	310C	WP	313C			
903=KB	22	0535	11805	RUSS	RL	L6	636	199	55	49.90N	140.58E	AN	286C	DS	324C	FE	312C	LV	312C	WP 317C
904=KB	28	2200	11835	RUSS	VOA	KAV	706	235	54	48.69N	137.07E	AN	287C	DS	322C	LV	316C	WP	315C	
905=KB	27	2202	11835	RUSS	VOA	KAV	439	138	53	50.50N	140.19E	AN	289C	FE	310C	LV	315C	WP	315C	AL 318C AN 292C
												DS	323C	FE	312C	LV	315C	PS	318C	WP 315C
906=KB	29	2226	11835	RUSS	VOA	KAV	3929	282	63	55.18N	150.92E	DS	323C	FE	312C	LV	318C			
907=KB	22	2240	11835	RUSS	VOA	KAV	925	350	67	47.13N	135.53E	FE	311C	LV	316C	WP	313C			
908=KB	1	2104	11835	RUSS	VOA	KAV	3482	237	46	48.33N	134.59E	AN	289C	DS	323C	FE	311C	LV	317C	
909=KB	24	2032	11835	RUSS	VOA	KAV	793	260	52	46.56N	132.94E	AN	289C	DS	320C	LV	313C	WP	313C	
910=KB	2	2030	11835	RUSS	VOA	KAV	0	0	0	24.40S	82.70E	FE	312C	KI	350C					
911=KB	21	2242	11835	RUSS	VOA	KAV	973	381	65	47.19N	132.46E	DS	325C	FE	312C	WP	313C			
912=KB	20	2238	11835	RUSS	VOA	KAV	711	237	55	50.45N	136.83E	AN	289C	LV	318C	WP	317C			
913=KB	23	2203	11835	RUSS	VOA	KAV	963	378	65	47.15N	133.06E	DS	324C	FE	312C	WP	313C			
914=KB	25	1130	11875	RUSS	RL	L5+L6	835	109	101	53.39N	161.83W	DS	322C	LV	303C	DS	324C	LR	325C	LV 313C
915=KB	1	1127	11875	RUSS	RL	L9+L10	979	257	30	24.60S	107.55E	AL	312C	LR	343C	PS	318C			
916=KB	24	2334	11935	RUSS	RL	G2B	0	0	0	49.93N	143.03E	LV	315C	WP	317C					
917=KB	19	2342	11935	RUSS	RL	G2B	0	0	0	46.16N	137.58E	AN	284C	WP	312C					
918=KB	24	0036	11935	RUSS	RL	G2B	896	323	64	47.21N	135.26E	DS	321C	FE	311C	LV	317C	WP	313C	
919=KB	24	0130	11935	RUSS	RL	G2B	759	233	52	46.87N	134.09E	AN	288C	DS	321C	FE	311C	LV	315C	WP 313C
920=KB	22	2345	11970	RUSS	RL	P5	965	360	65	47.55N	133.14E	FE	311C	LV	320C	WP	313C			
921=KB	23	0201	11970	RUSS	RL	P5	900	344	68	47.17N	136.87E	FE	310C	LV	316C	WP	313C			
922=KB	29	1745	9565	UKR	RL	L2	410	137	60	52.82N	156.07E	AN	277C	DS	322C	FE	311C	LV	316C	WP 322C
923=KB	7	1831	9565	UKR	RL	L2	704	215	53	48.96N	136.84E	AN	289C	DS	324C	FE	307C	LV	317C	WP 315C
924=KD	22	1407	5963	????	????????????		0	0	0	56.07N	36.59E	NO	86B	N1	120C					
925=KD	18	1006	5968	????	????????????		0	0	0	57.76N	24.46E	NO	88A	N1	141C					
926=KD	1	1537	9625	ARAB	BBC	CYP	0	0	0	54.05N	36.82E	NO	92B	N1	124C					
927=KD	1	1540	9630	????	????????????		0	0	0	56.33N	36.82E	NO	85A	N1	119B					
928=KD	3	1538	9630	????	????????????		0	0	0	55.59N	39.97E	NO	85B	N2	130B					
929=KD	7	1552	9630	????	????????????		0	0	0	55.08N	39.25E	NO	87B	N1	118B					
930=KD	2	1011	9695	????	????????????		0	0	0	55.65N	39.75E	NO	85C	N1	116A					
931=KD	2	0617	9700	????	????????????		0	0	0	56.52N	35.94E	N1	120B	NO	85B					
932=KD	18	2200	5970	HUNG	RFE	BIBLIS	377	17	74	54.28N	13.96E	NE	66B	U2	69C	NE	65B			
933=KD	23	2130	5970	HUNG	RFE	BIBLIS	93	20	140	55.15N	37.24E	U2	67B	BE	43C	LR	46C	SS	30C	nO 82A N1 121A
934=KD	19	2040	5970	HUNG	RFE	BIBLIS	0	0	0	56.08N	31.49E	U2	65B	NO	90C					
935=KD	21	1830	5970	HUNG	RFE	BIBLIS	0	0	0	57.74N	33.21E	U2	60C	BK	56A					
936=KD	19	2140	5970	HUNG	RFE	BIBLIS	0	0	0	48.82N	64.66E	U2	68B	NO	80B					
937=KD	18	1807	5970	HUNG	RFE	BIBLIS	0	0	0	56.08N	31.49E	NO	90B	U2	65B					
938=KD	19	2237	5970	HUNG	RFE	BIBLIS	0	0	0	42.44N	74.48E	NO	80B	U2	70B					
939=KD	31	0345	5955	LAT	RFE	HB	0	0	0	54.71N	7.58W	FL	40C	SS	36C					
940=KD	24	0353	5955	LITH	RFE	HB	1508	228	99	58.44N	.02E	a1	92C	BE	45C	LR	42C	SS	33C	
941=KD	24	0600	5955	POLI	VOA	KAV	70	25	118	57.48N	34.22E	U2	63B	NO	81B	N1	121B			
942=KD	20	0504	5955	POLI	VOA	KAV	0	0	0	54.17N	52.13E	NO	80B	U2	65B					
943=KD	18	0600	5955	POLI	VOA	KAV	0	0	0	55.87N	18.55E	NE	60B	SS	36C					
944=KD	20	1400	5970	POLI	RFE	B4	0	0	0	38.45N	72.95E	U2	75C	NO	85B					
945=KD	19	1542	5970	POLI	RFE	B4	0	0	0	57.25N	32.11E	NO	85B	N1	125C					
946=KD	19	1430	5970	POLI	RFE	B4	0	0	0	53.59N	46.78E	NO	85C	U2	68C					
947=KD	23	1535	5970	POLI	RFE	B4	0	0	0	53.59N	46.78E	NO	85B	U2	68B					
948=KD	20	1500	5970	POLI	RFE	B4	0	0	0	53.82N	10.80E	BK	37A	U2	70B					

949=KD	19	1139	5970	POLI	RFE	B4	0	0	0	48.23N	53.01E	NO	90B	U2	75C									
950=KD	2	0905	9705	POLI	RFE	B2	52667	390	145	11.57N	116.52E	NE	66B	NE	66B	U2	62C							
951=KD	2	1005	9705	POLI	RFE	B2	5358	169	127	44.99S	164.49E	NE	70B	U2	62C	NE	70B							
952=KD	3	1100	9705	POLI	RFE	B2	0	0	0	55.82N	22.62E	U2	65B	BE	43C									
953=KD	4	0930	9705	POLI	RFE	B2	113	23	100	56.29N	42.09E	BK	62A	U2	64B	EK	93B							
954=KD	4	1200	9705	POLI	RFE	B2	0	0	0	56.03N	50.12E	BK	62A	U2	62B									
955=KD	5	0700	9705	POLI	RFE	B2	0	0	0	55.77N	39.57E	U2	65B	N1	116B									
956=KD	5	0930	9705	POLI	RFE	B2	57	23	100	56.34N	39.38E	BK	62A	N1	115B	U2	63B							
957=KD	6	0830	9705	POLI	RFE	B2	0	0	0	54.99N	47.03E	BK	65A	U2	65B									
958=KD	7	0730	9705	POLI	RFE	B2	35	16	120	56.61N	38.27E	N1	116A	BK	61A	U2	63B							
959=KD	7	1100	9705	POLI	RFE	B2	0	0	0	54.91N	18.97E	BK	57A	U2	68A									
960=KD	25	1006	9705	POLI	RFE	B3	0	0	0	34.02N	69.24E	KI	12C	SS	39C									
961=KD	27	1630	7255	RUSS	BBC	WOOF	0	0	0	55.13N	23.55E	U2	68C	NO	103B									
962=KD	1	1609	9635	RUSS	BBC	CYPRUS	428	291	68	48.21N	28.73W	AN	41C	LV	47C	SS	37C							
963=KD	6	1612	9635	RUSS	BBC	CYPRUS	0	0	0	56.40N	31.21E	U2	64B	NO	89B									
964=KD	6	1700	9635	RUSS	BBC	CYPRUS	26	12	91	55.66N	21.19E	NO	104A	BK	56A	U2	64B							
965=KD	24	1430	11805	RUSS	VOA	KAV	574	57	94	56.02N	34.57E	AL	32C	BE	38C	PS	28C	SS	37C	U2	65B			
966=KD	20	0830	11930	RUSS	VOA	PHT	0	0	0	46.82S	146.49E	U2	90C	NO	80C									
967=KD	23	0915	11930	RUSS	VOA	PHT	0	0	0	54.05N	27.61E	U2	72C	NO	102B									
968=KD	22	1005	11930	RUSS	VOA	PHT	124	23	97	56.33N	33.97E	NE	65B	U2	60C	NO	87B	NE	66B					
969=KF	4	1513	9660	RUSS	VOA	KAV	0	0	0	54.17N	52.13E	U2	65C	NO	80C									
970=KF	6	1600	9660	RUSS	VOA	KAV	0	0	0	10.06N	100.10E	NO	81A	U2	76C									
971=KF	2	0400	9660	UKR	RL	P4	1529	104	136	39.04N	77.30E	NE	75B	NE	75B	NO	81A							
972=KM	3	1822	11855	????	????????????		2590	231	92	55.40N	16.30W	be	36C	FL	39C	KI	39C	LR	47C					
973=KM	3	1100	17855	RUSS	BBC	SKL	0	0	0	52.01S	179.76E	NE	88B	U2	92B									
974=KM	5	1430	17855	ARM	VOA	TAN	0	0	0	46.64N	39.88E	BK	89A	N1	130A									
975=KM	7	2333	9505	BR	RL	HD	0	0	0	36.58N	50.97E	U2	93B	NO	107C									
976=KM	7	0230	9505	GEOR	RL	L1	0	0	0	14.22S	97.72E	U2	93C	N3	110B									
977=KM	21	2100	11875	GEOR	RL	L3	286	36	130	45.07N	42.89E	NE	91B	NE	91B	NO	105A							
978=KM	4	1330	17855	GEOR	VOA	TAN	279	42	147	39.72N	44.54E	N1	130A	NO	110A	U2	98C							
979=KM	20	2241	9520	RUSS	RL	B5	0	0	0	50.99N	19.70E	BD	87B	IT	111A									
980=KM	5	0030	9520	RUSS	RL	G1	0	0	0	25.98N	70.31E	BK	93A	U2	88C									
981=KM	21	2300	11875	RUSS	RL	L3	0	0	0	51.78N	29.64E	NE	82B	NO	107B									
982=KM	6	2138	11875	RUSS	RL	L3	1064	210	81	57.08N	19.23W	FL	38C	LR	44C	SS	30C							
983=KU	27	2305	11970	RUSS	RL	P5	1621	592	121	46.89S	45.94W	AN	108C	LV	135C	WP	133C							
984=KV	1	1722	11960	YIDD	IBA	JER	0	0	0	48.69N	78.51W	AL	38C	KI	30C									
985=KV	2	0700	9520	RUSS	RL	HD	0	0	0	56.20N	30.95E	N1	130B	NO	90C									
986=L1	18	1510	17895	RUSS	RL	P1+P2	0	0	0	52.16N	59.53W	BE	36C	CA	46C									
987=L8	28	1751	15255	CZEC	RFE	G5	31179	406	144	15.37S	79.39E	BE	52C	LR	48C	PS	42C							
988=L8	30	1842	15255	CZEC	RFE	G5	0	0	0	56.85N	4.92W	PS	40C	SS	34C									
989=L8	31	1953	15255	CZEC	RFE	G2B	0	0	0	26.86N	48.66E	AL	40C	LR	47C									
990=LD	2	0318	9675	????	????????????		0	0	0	56.87N	53.79E	N1	96C	N2	108B									
991=LF	28	1613	15245	RUSS	BBC	CYPRUS	0	0	0	58.23N	47.22E	N1	100C	U2	58B									
992=LF	28	1430	15415	RUSS	VOA	WOF	0	0	0	36.24N	73.12E	U2	77B	N1	100C									
993=LF	4	2100	9565	UKR	RL	P5	0	0	0	50.95N	38.92E	BK	78A	U2	77B									
994=LG	31	2110	11705	????	????????????		7118	535	150	.65N	70.08E	AL	33C	LR	44C	PS	41C							
995=LG	7	1142	11960	????	????????????		7339	438	127	45.25N	28.61E	FL	42C	LR	47C	PS	39C							
996=LG	3	1922	12040	????	????????????		1260	224	96	54.85N	6.31W	BE	52C	FL	40C	SS	36C							
997=LG	25	1230	15119	????	????????????		0	0	0	62.98N	4.36E	AN	14C	KI	28C									
998=LG	6	1443	17555	????	????????????		5252	295	123	49.41N	21.45E	BE	51C	CA	44C	FL	40C	LR	46C					
999=LG	6	1435	17685	????	????????????		1876	169	98	56.91N	10.04W	AL	43C	BE	51C	FL	35C	LR	45C					
1000=LG	27	1830	15130	BR	RL	P5	1597	67	62	51.06N	55.01W	KI	42C	LR	45C	PS	42C							
1001=LG	5	2022	11725	POLI	RFE	G1B	0	0	0	5.80N	65.06E	AL	36C	LR	47C									
1002=LG	30	1902	15145	POLI	RFE	G2	651	222	135	50.02N	24.55E	AL	38C	AN	4C	BE	47C	DS	28C	FE	21C	GI	29C	

												KI	32C	LR	47C	LV	24C	PS	40C	SS	42C	wp	171C
1003=LG	30	2002	15145	POLI	RFE	G2	882	255	130	50.39N	22.56E	AL	40C	BE	48C	DS	28C	FE	21C	FL	40C	GI	34C
												LV	25C	SS	42C								
1004=LG	31	2014	15145	POLI	RFE	G2	1995	252	117	55.36N	9.90E	AL	42C	FL	35C	GI	34C	LR	44C	PS	40C		
1005=LG	27	1353	17805	POLI	RFE	G1A	0	0	0	51.32N	15.20E	PS	41C	SS	41C								
1006=LG	27	0108	7155	RUSS	RL	P6	2611	132	80	58.01N	27.34W	BE	46C	FL	36C	PS	41C						
1007=LG	23	0020	7220	RUSS	RL	HC	5370	240	105	56.84N	2.62E	BE	46C	FL	38C	LR	44C						
1008=LG	24	2044	11835	RUSS	VOA	KAV	2862	218	115	55.89N	11.62E	AL	40C	BE	48C	CA	42C	FL	36C	LR	41C		
1009=LG	23	2202	11835	RUSS	VOA	KAV	1805	270	123	50.09N	24.78E	AL	41C	BE	47C	FL	36C	LR	43C	PS	40C	SS	43C
1010=LG	18	0834	11875	RUSS	RL	L5+L6	0	0	0	48.10N	27.48E	FL	40C	KI	33C								
1011=LG	31	1948	15290	RUSS	RL	P1	3980	271	116	54.71N	11.81E	AL	41C	BE	47C	LR	44C						
1012=LG	6	1413	17805	RUSS	RL	G1A	0	0	0	28.60S	90.35E	LR	49C	PS	40C								
1013=LG	1	1803	17885	RUSS	RL	P3	10352	528	140	36.82N	43.70E	KI	31C	LR	43C	PS	40C						
1014=LK	5	0023	11875	AZ	RL	L3	0	0	0	29.91S	112.56W	AN	148C	WP	138C								
1015=LK	18	0443	11875	AZ	RL	L3	0	0	0	.55N	143.01W	AN	172C	WP	143C								
1016=LK	5	0203	11875	GEOR	RL	L3	1830	545	149	45.14S	102.93W	AN	148C	FE	165C	WP	144C						
1017=LK	6	1200	9520	RUSS	RL	HD	2899	228	101	58.43N	7.78W	AL	42C	LR	41C	PS	41C						
1018=LK	3	2135	9555	RUSS	RL	HA	671	32	84	53.95N	15.36E	U2	72B	FL	32C	LR	45C	PS	39C				
1019=LK	3	2105	9680	RUSS	RL	HC	0	0	0	36.93N	43.71E	AL	38C	FL	42C								
1020=LK	6	0030	9680	RUSS	RL	G1A	*****	314	154	26.57N	90.00E	BD	72C	BD	72C	U2	72B						
1021=LK	6	2130	9680	RUSS	RL	HC	256	38	111	54.12N	38.84E	U2	70C	NO	90B	U2	69B						
1022=LK	7	2105	9680	RUSS	RL	HC	983	166	123	49.01N	63.83E	U2	68B	BE	28C	CA	25C	FL	22C	SS	36C		
1023=LK	21	0100	11875	RUSS	RL	L3	0	0	0	40.31S	154.85E	NE	72B	U2	66C								
1024=LK	28	1509	15380	RUSS	RL	P6	0	0	0	49.22N	71.02E	NO	75C	NE	67B								
1025=LK	7	0930	17760	RUSS	RL	L1	0	0	0	55.18N	28.92E	NO	96B	U2	68B								
1026=LK	1	1150	17865	RUSS	VOA	KAV	0	0	0	35.98N	86.96E	U2	68B	NO	76A								
1027=LR	26	1026	9725	HUNG	RFE	B8	1054	307	83	64.55S	2.43E	AN	142C	DS	148C	LV	132C	WP	147C				
1028=LR	23	1309	11795	RUSS	BBC	WOOF	3667	568	164	36.73N	66.78E	AL	22C	DS	3C	ki	168C	PS	23C				
1029=LR	23	0815	11965	RUSS	VOA	PHT	0	0	0	33.14S	60.65W	AN	108C	DS	140C								
1030=LT	2	0418	9625	TI	RL	B7	0	0	0	50.96N	47.40E	NO	90A	N2	125A								
1031=M3	31	1626	17750	TB	RL	HC	1422	300	121	50.85N	18.09E	AL	34C	DS	32C	LR	48C	PS	45C	SS	41C		
1032=M3	1	1624	17750	TB	RL	HC	1302	220	109	52.89N	5.81E	AL	45C	BE	50C	FL	43C	LR	48C	SS	39C		
1033=M3	2	1650	17750	TB	RL	HC	4100	273	103	53.63N	3.35W	FL	41C	LR	48C	PS	43C						
1034=M3	30	1624	17750	TI	RL	HC	2134	348	116	48.29N	20.59E	FL	41C	LR	48C	PS	40C	SS	44C				
1035=M3	31	1246	17750	TI	RL	HC	2197	392	108	51.24N	14.85E	FL	41C	PS	41C	SS	41C						
1036=M3	23	1515	17750	TI	RL	HC	2136	123	82	55.79N	29.15W	BE	52C	FL	37C	PS	40C						
1037=MF	25	1024	11850	BULG	DW	JUL	1474	249	107	55.46N	5.19E	BE	41C	CA	51C	SS	44C						
1038=MF	26	1641	15160	BULG	DW	SIN	0	0	0	55.32N	34.64E	NO	90B	U2	67C								
1039=MF	25	0000	7200	CZEC	RFE	G2A	0	0	0	55.21N	14.89E	NE	59B	U2	64C								
1040=MF	27	0000	7200	CZEC	RFE	G2A	0	0	0	54.87N	22.88E	BK	62B	U2	69B								
1041=MF	28	1206	15255	CZEC	RFE	G3	0	0	0	51.74N	43.89E	U2	73C	BE	38C								
1042=MF	21	1715	15255	CZEC	RFE	G5	0	0	0	18.22N	64.91E	FL	41C	KI	22C								
1043=MF	26	1315	15255	CZEC	RFE	G5	0	0	0	36.10N	83.78E	U2	70B	N1	90B								
1044=MF	18	2200	5955	EST	RFE	HB	0	0	0	54.63N	15.62E	NE	65B	U2	68B								
1045=MF	19	2300	6150	POLI	VOA	WOF	0	0	0	54.40N	14.99E	NE	66B	U2	69C								
1046=MF	18	0002	5955	RUSS	RL	HB	816	65	96	55.90N	37.38E	BE	36C	FL	32C	SS	35C	U2	65B				
1047=MF	20	0105	5955	RUSS	RL	HB	0	0	0	54.47N	44.02E	U2	67B	NO	85C								
1048=MF	5	0035	5955	RUSS	RL	HB	0	0	0	56.69N	15.18W	LR	45C	SS	32C								
1049=MF	18	2311	5955	RUSS	RL	HB	64	15	105	56.01N	26.53E	NO	95A	U2	66B	NE	64B						
1050=MF	18	1800	5955	RUSS	RL	L6	1148	67	118	50.14N	61.89E	ne	82B	NO	80C	U2	67A	NE	72B				
1051=MF	26	2000	7220	RUSS	RL	L9	0	0	0	55.26N	21.18E	NE	66B	U2	67B								
1052=MF	7	0300	9520	RUSS	RL	HA	0	0	0	53.97N	39.35E	BK	69A	NO	90B								
1053=MF	25	1125	11875	RUSS	RL	L5+L6	360	24	79	53.90N	11.36E	BD	70C	BE	42C	CA	43C	GI	48C	LR	42C	PS	43C
												SS	36C	BD	70B								

1054=MF	24	1314	11875	RUSS	RL	L6	0	0	0	57.56N	21.88E	FL	33C	SS	34C								
1055=MF	23	1412	11885	RUSS	RL	L9+L10	867	70	95	54.51N	30.63E	an	178C	BE	42C	FL	31C	SS	38C	BD	70C		
1056=MG	2	0030	9660	CASI	RL	HOL	0	0	0	52.13S	170.57E	NE	95B	U2	95A								
1057=MG	25	1552	15105	RUSS	DW	JUL	0	0	0	34.75N	56.20E	GI	21C	PS	32C								
1058=MG	4	1736	17700	????	????????????		0	0	0	49.68N	31.60E	NO	110B	N1	140A								
1059=MG	4	2010	9725	RUSS	RL	B7	0	0	0	50.48N	33.84E	N1	135B	NO	105C								
1060=MG	25	2013	15290	RUSS	RL	P3	0	0	0	53.10N	54.28W	BE	43C	PS	39C								
1061=MG	1	1808	17885	RUSS	RL	P3	0	0	0	48.63N	61.66W	BE	48C	LR	44C								
1062=MG	30	2327	7245	UKR	RL	L7+L8	0	0	0	53.64N	30.38E	NO	100C	N2	150C								
1063=MG	7	1506	17895	UKR	RL	P4	0	0	0	50.17N	30.73E	NO	110B	N1	141A								
1064=ML	1	2319	11930	????	????????????		0	0	0	44.28S	51.47W	AN	109C	WP	130C								
1065=ML	1	2300	11935	RUSS	RL	P6	8801	545	133	47.85S	43.78W	AN	108C	DS	142C	FE	130C						
1066=ML	23	0036	11935	RUSS	RL	G2B	0	0	0	45.88S	63.07W	LV	143C	WP	133C								
1067=ML	6	0009	11935	RUSS	RL	P6	1373	577	119	49.79S	36.40W	AN	106C	FE	127C	ds	2C	WP	137C				
1068=ML	26	0617	15290	RUSS	RL	L2	0	0	0	43.43S	50.64W	FE	132C	WP	129C								
1069=ML	2	1753	11885	UKR	RL	L7+L8	1639	596	122	43.38S	46.12W	AN	105C	LV	132C	WP	129C						
1070=MP	27	1500	11845	PASH	VOA	KAV	9335	494	136	35.39N	44.27E	BE	48C	FL	43C	LR	46C	ps	50C				
1071=MP	23	1500	11845	PASH	VOA	KAV	787	116	154	44.90N	38.10E	AL	37C	an	180C	BE	47C	DS	0C	FE	15C	FL	40C
												LR	43C	LV	15C	SS	41C	N1	135C				
1072=MP	28	1521	11845	DARI	VOA	KAV	569	43	69	52.12N	49.19W	BE	51C	CA	55C	FL	38C	LR	48C	ps	166C		
1073=MP	31	1503	11845	LAT	VOA	TAN	1909	332	132	42.11N	36.77E	BE	50C	FL	39C	GI	28C	LR	46C	PS	42C	SS	45C
1074=MP	2	1501	11845	LAT	VOA	TAN	1990	299	127	45.84N	30.75E	AL	43C	BE	45C	FL	39C	LR	47C	PS	38C	SS	47C
1075=MP	7	1511	11845	LAT	VOA	TAN	1597	397	138	42.68N	36.18E	BE	51C	FE	15C	FL	39C	LR	43C				
1076=MP	18	0059	6170	RUSS	RL	L5+L6	2050	316	116	50.77N	20.09E	BE	48C	FL	41C	PS	41C	SS	41C				
1077=MP	31	0130	6170	RUSS	RL	HC	1318	226	108	54.76N	6.32E	AL	40C	BE	50C	FL	32C	PS	46C	SS	40C		
1078=MP	1	0110	6170	RUSS	RL	HC	1563	365	114	52.05N	14.03E	AL	42C	PS	42C	SS	40C						
1079=MP	27	0122	6170	RUSS	RL	L5+L6	801	17	103	50.53N	15.57E	BD	93C	BE	47C	FL	38C	KR	95C	BD	93B	KR	95B
1080=MP	3	0034	6170	RUSS	RL	HC	1748	333	99	51.56N	1.88E	FL	42C	PS	45C	SS	41C						
1081=MP	3	0113	6170	RUSS	RL	HC	0	0	0	51.44N	12.65E	FL	41C	SS	41C								
1082=MP	26	0207	6170	RUSS	RL	L5+L6	726	21	105	50.28N	18.98E	BD	90C	BE	50C	FL	36C	LR	43C	PS	44C	SS	39C
												BD	90B	KR	95B								
1083=MP	4	0110	6170	RUSS	RL	HC	0	0	0	50.66N	26.43W	FL	44C	SS	35C								
1084=MP	27	0051	6170	RUSS	RL	L5+L6	0	0	0	56.44N	8.83W	BE	50C	FL	38C								
1085=MP	5	0052	6170	RUSS	RL	HC	1198	169	101	55.77N	2.71W	BE	47C	CA	51C	FL	39C	LR	44C	PS	40C	SS	38C
1086=MP	29	0039	6170	RUSS	RL	L5+L6	1099	215	103	53.53N	2.48W	AL	48C	BE	52C	FL	43C	SS	38C				
1087=MP	23	0130	6170	RUSS	RL	L5+L6	1678	303	100	54.12N	2.29E	FL	37C	LR	47C	SS	39C						
1088=MP	23	0035	6170	RUSS	RL	L5+L6	0	0	0	49.16N	36.02E	FL	36C	SS	40C								
1089=MP	31	0315	6170	UKR	RL	L5+L6	0	0	0	54.20N	13.81E	FL	38C	SS	38C								
1090=MP	27	2122	6170	UKR	RL	L5+L6	1365	238	105	54.64N	1.97E	BE	49C	CA	49C	SS	38C						
1091=MP	18	2005	6170	UKR	RL	L5+L6	907	2	123	52.00N	.13E	U2	90C	BE	52C	CA	52C	SS	35C	BD	93B		
1092=MP	3	2036	6170	UKR	RL	L5+L6	0	0	0	51.34N	9.28W	BE	58C	FL	44C								
1093=MP	24	2102	6170	UKR	RL	L5+L6	1401	35	98	58.47N	14.83E	NO	90C	BE	42C	FL	36C	SS	37C				
1094=MP	4	2238	6170	UKR	RL	L5+L6	0	0	0	54.71N	7.58W	FL	40C	SS	36C								
1095=MP	5	2206	6170	UKR	RL	L5+L6	853	60	74	53.42N	42.14W	BE	54C	CA	51C	FL	34C	LR	49C				
1096=MP	29	2049	6170	UKR	RL	L5+L6	1071	172	93	55.50N	11.74W	BE	52C	FL	37C	LR	47C	SS	35C				
1097=MP	7	2257	6170	UKR	RL	L5+L6	889	176	98	51.62N	13.43W	BE	57C	CA	57C	f1	19C	SS	39C				
1098=MU	4	0220	9755	????	????????????		0	0	0	47.57N	54.20E	NO	90B	N1	110C								
1099=MU	27	0300	15370	????	????????????		1398	190	137	34.80N	79.35E	BK	80B	N1	95C	U2	72B						
1100=MU	30	2217	7255	CZEC	RFE	G8	0	0	0	55.95N	46.01E	N2	120C	NO	80C								
1101=MU	29	2318	7255	CZEC	RFE	G8	717	1	75	58.81N	5.68E	n1	90B	NO	82A	AL	37C	be	50C	FL	37C	gi	57C
												SS	32C	NO	84A								
1102=MU	26	2217	7255	CZEC	RFE	G8	0	0	0	15.22N	92.08E	U2	79B	NO	85B								
1103=MU	27	2135	7255	CZEC	RFE	B7	0	0	0	34.67N	70.92E	U2	80B	NO	90B								
1104=MU	19	2130	5955	EST	RFE	HB	0	0	0	46.00N	69.45E	U2	69C	NO	80B								

1105=MU	26	2100	7255	GEOR	RL	L4	189	15	92	52.99N	21.54E	BK 73B	U2 77A	BE 55C	FL 41C	SS 38C		
1106=MU	30	1923	9660	LAT	RFE	P5	0	0	0	25.75N	71.44E	FL 30C	LR 30C					
1107=MU	23	2011	9680	LITH	RFE	P5	5459	418	151	7.18S	86.02E	BE 35C	FL 35C	LR 35C				
1108=MU	20	0000	11725	POLI	RFE	G1A	1057	140	127	42.97N	68.94E	NE 76B	NE 76B	an 154C	GI 8C	lv 103C	PS 20C	
												SS 36C						
1109=MU	31	0045	7255	RUSS	RL	G2A	0	0	0	38.45N	72.94E	U2 75A	NO 85B					
1110=MU	1	0030	9520	RUSS	RL	G1	0	0	0	53.05N	9.64E	NE 72B	U2 76B					
1111=MU	1	0100	9520	RUSS	RL	G1	295	11	85	53.21N	13.27E	NE 78B	U2 76A	NE 75B	U2 75C			
1112=MU	1	0200	9520	RUSS	RL	G1	1289	21	94	53.16N	25.36E	NE 78B	U2 76B	U2 75B				
1113=MU	4	0121	9520	RUSS	RL	G1	0	0	0	30.83N	65.26E	BE 38C	SS 44C					
1114=MU	6	0200	9520	RUSS	RL	G1	331	45	115	46.05N	56.70E	BK 78A	U2 77B	BD 77C	KR 81C	LS 63C	SS 38C	
												BD 77B	KR 81B	LS 63B				
1115=MU	7	0100	9520	RUSS	RL	G1	0	0	0	52.35N	30.06E	BK 76A	U2 77B					
1116=MU	19	2007	9530	RUSS	VOA	KAV	0	0	0	51.24S	22.74W	LV 132C	WP 142C					
1117=MU	2	0230	9750	RUSS	RL	L4	0	0	0	54.71N	58.37E	NO 75C	N2 106B					
1118=MU	28	0227	11725	RUSS	RL	P6	1522	289	129	55.92N	33.82E	AL 38C	BE 45C	DS 0C	FL 35C	lv 135C	PS 31C	
												SS 24C						
1119=MU	23	0010	11725	RUSS	RL	P1	1259	184	125	46.26N	65.13E	U2 71B	LR 27C	PS 18C	SS 34C			
1120=MU	30	0227	11725	RUSS	RL	P6	0	0	0	59.83S	91.90E	FL 173C	KI 189C					
1121=MU	25	0225	11725	RUSS	RL	P6	3329	545	148	44.51N	66.76E	LR 34C	PS 12C	SS 30C				
1122=MU	18	0037	11725	RUSS	RL	P1	0	0	0	62.31N	39.21E	BE 31C	SS 27C					
1123=MU	26	0115	11770	RUSS	RL	G1A	0	0	0	67.20N	63.88E	KI 7C	PS 12C					
1124=MU	26	0220	11770	RUSS	RL	G1A	944	162	143	15.98N	97.86E	BD 72C	BE 6C	fe 178C	FL 5C	KR 80C	lr 177C	
												PS 2C	BD 72C	KR 78A	KR 80A			
1125=MU	19	0201	11770	RUSS	RL	G1A	1757	383	164	24.38N	80.83E	an 109C	BE 32C	CA 31C	ds 136C	fe 177C	GI 7C	
												KI 4C	LR 8C	lv 136C	PS 8C	SS 36C		
1126=MU	2	0241	11770	RUSS	RL	P5	550	73	174	69.37N	124.24W	DS 0C	fe 166C	FE 346C	KI 4C	LV 3C	wp 147C	
1127=MU	27	0125	11770	RUSS	RL	G1A	1238	220	105	58.26N	4.34E	an 154C	ds 179C	lv 135C	wp 149C	AL 42C	BE 47C	
												FL 45C	KI 10C	SS 33C				
1128=MU	19	0103	11770	RUSS	RL	G1A	710	186	145	37.50N	75.71E	FE 0C	AL 12C	BE 31C	FL 1C	GI 6C	KI 5C	
												LR 6C	PS 9C	SS 36C	NO 86B	U2 72C		
1129=MU	29	0202	11770	RUSS	RL	G1A	4518	352	150	77.45N	44.43E	an 155C	DS 6C	fe 167C	GI 8C	KI 9C		
1130=MU	30	0200	11770	RUSS	RL	G1A	1813	452	135	33.53S	63.54W	an 155C	DS 142C	FE 132C	gi 8C	ki 9C	LV 137C	
												WP 120C						
1131=MU	3	0239	11770	RUSS	RL	P5	0	0	0	81.31S	112.42W	AN 171C	FE 178C					
1132=MU	25	0129	11770	RUSS	RL	G1A	2422	449	155	37.03N	71.81E	be 172C	FL 26C	KI 8C	LR 24C	PS 20C	SS 34C	
1133=MU	29	0104	11770	RUSS	RL	G1A	1763	501	156	41.59S	116.24W	AN 153C	ds 1C	FE 176C	ki 10C	WP 149C		
1134=MU	18	0105	11770	RUSS	RL	G1A	1231	449	123	56.35S	41.81W	nO 85B	AL 152C	AN 108C	DS 176C	ki 3C	LV 136C	
												WP 133C						
1135=MU	20	0200	11770	RUSS	RL	G1A	196	35	108	54.65N	37.08E	NE 70C	NO 90B	NE 70C				
1136=MU	21	0200	11770	RUSS	RL	G1A	0	0	0	10.67N	100.90E	NO 80C	U2 75C					
1137=MU	28	0206	11915	RUSS	RL	HD	881	164	85	61.30N	18.09W	AL 39C	an 108C	BE 43C	ki 10C	SS 25C		
1138=MU	25	0244	11915	RUSS	RL	HD	2533	551	154	16.18N	83.03E	be 166C	fe 178C	FL 23C	lv 174C	PS 15C	SS 43C	
1139=MU	4	0303	11915	RUSS	RL	B5	1215	491	120	69.25S	51.56W	AL 159C	AN 150C	FE 162C	ss 37C	WP 144C		
1140=MU	27	0207	11915	RUSS	RL	HD	2243	510	146	27.09N	62.08E	an 154C	KI 10C	wp 148C	AL 40C	FL 46C	SS 38C	
1141=MU	5	0126	11915	RUSS	RL	G4B	1775	218	29	83.02N	67.82W	an 148C	fe 165C	GI 3C	KI 8C	lv 131C	PS 3C	
1142=MU	26	0053	11915	RUSS	RL	P4	0	0	0	.22N	98.72E	LR 7C	SS 40C					
1143=MU	23	0059	11915	RUSS	RL	P4	3002	506	154	26.90N	76.71E	FL 23C	LR 28C	PS 17C	SS 39C			
1144=MU	23	0100	11915	RUSS	RL	P4	1411	403	147	51.42N	55.40E	an 157C	ds 178C	fe 178C	FL 23C	LR 28C	LV 6C	
												PS 17C	SS 39C					
1145=MU	29	0138	11915	RUSS	RL	P4	6280	477	169	60.80N	64.46E	an 154C	DS 3C	GI 8C	KI 9C			
1146=MU	20	0435	11915	RUSS	RL	HD	0	0	0	32.58N	85.06E	U2 72B	NO 80C					
1147=MU	30	2250	11935	RUSS	RL	G2B	0	0	0	38.94N	64.49E	FL 28C	PS 24C					
1148=MU	19	2152	11935	RUSS	RL	G2B	3397	580	150	24.44N	76.02E	an 154C	BE 32C	LR 27C	ps 59C	SS 42C	wp 143C	

1149=MU	28	0215	11935	RUSS	RL	P2	1757	433	152	42.63N	63.58E	BE	45C	DS	2C	FL	26C	KI	9C	SS	26C	wp	150C		
1150=MU	1	1920	11935	RUSS	RL	HB	0	0	0	46.08N	109.25W	AN	104C	LV	44C										
1151=MU	23	0045	11935	RUSS	RL	G2B	1487	466	150	54.19N	48.59E	ds	179C	FE	5C	FL	24C	LR	32C						
1152=MU	18	1912	11935	RUSS	RL	G16	412	30	88	53.11N	13.29E	BE	47C	CA	53C	FL	37C	GI	36C	KI	31C	LR	40C		
												PS	41C	SS	36C	BD	77B								
1153=MU	22	2205	11935	RUSS	RL	G2B	10511	185	122	45.68S	161.22E	NE	77B	NE	76B	U2	71C								
1154=MU	30	1809	15290	RUSS	RL	P3	1012	232	128	47.73N	63.10E	U2	70C	AL	19C	BE	30C	LR	27C	SS	35C				
1155=MU	31	0510	15290	RUSS	RL	L2	0	0	0	22.29N	87.22E	U2	78B	NO	85A										
1156=MU	25	0549	15290	RUSS	RL	L2	0	0	0	5.41S	110.53E	NO	80B	U2	77B										
1157=MU	3	0600	17750	RUSS	RL	HC	14812	168	125	45.78N	75.25E	NE	69C	NE	69C	U2	66B								
1158=MU	5	0630	17895	RUSS	RL	P3+P4	0	0	0	53.59N	46.78E	U2	68B	NO	85B										
1159=MU	4	0018	9750	TB	RL	L4	0	0	0	52.25N	36.13E	U2	75B	BK	75A										
1160=MU	1	1905	11885	UKR	RL	P3	1824	339	120	54.81N	23.95E	AL	37C	BE	43C	SS	37C								
1161=MV	22	1919	9660	LAT	RFE	P5	1469	426	158	39.18S	108.78W	AN	154C	FE	172C	LV	165C	WP	142C						
1162=MX	5	0730	17735	POLI	RFE	G15+G166	0	0	0	49.96N	39.16E	NO	100A	N1	127B										
1163=NA	29	0300	7180	TB	RL	L7+L8	0	0	0	60.30N	46.70E	N1	95A	N2	110A										
1164=NS	4	2016	9740	????	????????????		0	0	0	39.39S	106.59E	N1	105B	NO	105B										
1165=NS	7	1523	17815	GEOR	IBA	JER	0	0	0	48.89N	34.45E	N1	136A	NO	108A										
1166=NS	7	1222	17850	????	????????????		0	0	0	48.45N	35.98E	NO	107C	N1	134B										
1167=NS	6	0132	9505	ARM	RL	L1	0	0	0	46.94N	36.04E	U2	88B	NO	110B										
1168=NS	24	1930	11875	ARM	RL	L3	0	0	0	52.43N	29.62E	NO	105C	N1	140C										
1169=NS	23	1913	11875	ARM	RL	L3	1169	179	117	55.28N	13.11E	AL	38C	AL	43C	an	170C	BE	46C	CA	45C	DS	30C		
												FL	31C	KI	35C	LR	40C	PS	37C	SS	42C				
1170=NS	24	1851	11875	AZ	RL	L3	2232	349	131	44.92N	38.52E	AL	37C	BE	44C	FL	41C	LR	41C	SS	43C				
1171=NS	2	1909	9505	BR	RL	HD	1567	14	119	56.08N	17.06E	NO	109A	BE	57C	FL	38C	SS	41C						
1172=NS	7	1917	9505	BR	RL	HD	4639	217	105	56.17N	1.59E	BE	48C	FL	38C	LR	44C	PS	40C						
1173=NS	21	0700	11855	CZEC	RFE	G9+G10	0	0	0	53.45N	14.16E	NE	74B	NO	135B										
1174=NS	29	1744	15170	CZEC	RFE	G3B	0	0	0	1.69N	88.81E	U2	90B	NO	95B										
1175=NS	31	1232	15255	CZEC	RFE	G2B	2582	418	117	48.89N	25.76E	FL	41C	LR	43C	SS	42C	nO	85B						
1176=NS	1	1307	15255	CZEC	RFE	G2B	0	0	0	51.90N	20.08E	LR	43C	SS	40C										
1177=NS	2	1238	15255	CZEC	RFE	G2B	10738	540	142	29.78N	54.06E	BE	47C	FL	41C	LR	41C								
1178=NS	2	1724	15255	CZEC	RFE	G2B	0	0	0	24.98N	74.05E	FL	28C	SS	43C										
1179=NS	5	1222	15255	CZEC	RFE	G2B	1668	272	119	49.88N	19.08E	AL	43C	BE	51C	FL	39C	LR	45C	SS	43C				
1180=NS	5	1552	15255	CZEC	RFE	G2B	6397	379	130	44.72N	28.11E	AL	42C	BE	50C	LR	48C								
1181=NS	7	1317	15255	CZEC	RFE	G2B	2472	367	124	47.97N	31.82E	BE	45C	FL	40C	PS	39C	SS	42C						
1182=NS	27	1730	15340	GEOR	RL	L4	173	38	148	41.99N	42.24E	U2	95C	NO	110A	N2	140A								
1183=NS	26	0305	7105	RUSS	VOA	MUN	0	0	0	37.57N	49.49E	N1	125B	U2	93B										
1184=NS	23	0057	7220	RUSS	RL	HC	2311	37	101	52.19N	28.78E	BD	78C	FL	36C	BD	78B								
1185=NS	29	0000	7220	RUSS	RL	HC	1216	13	123	55.97N	15.17E	NO	115A	FL	45C	SS	33C								
1186=NS	27	1342	11885	RUSS	RL	L9+L10	0	0	0	9.12N	61.48E	GI	25C	PS	43C										
1187=NS	6	1708	15290	RUSS	RL	P1	0	0	0	53.52N	35.45W	FL	38C	LR	49C										
1188=NS	28	1400	15380	RUSS	RL	P3+P4	122	24	114	50.24N	30.59E	NE	87B	NE	87B	NO	110B								
1189=NS	1	1617	17885	RUSS	RL	P3	0	0	0	42.50N	41.93E	NO	110C	U2	92B										
1190=NS	7	1310	17895	RUSS	RL	P3+P4	0	0	0	47.46N	39.27E	N1	130B	NO	105B										
1191=NS	28	1807	15380	UKR	RL	P6	0	0	0	52.08S	178.83E	U2	96B	NE	90B										
1192=PA	18	1435	11960	EST	VOA	MUN	496	49	72	56.65N	16.97E	U2	58C	BE	46C	KI	28C	SS	31C						
1193=PA	5	1508	15130	LITH	RFE	P6	875	106	72	59.84N	34.55W	AL	43C	BE	40C	FL	34C								
1194=PA	23	0435	6150	RUSS	VOA	MUN	167	18	79	54.87N	18.58E	BD	68C	KR	60C	SS	42C	BD	68B	KR	60C	U2	68B		
1195=PB	1	2030	9625	RUSS	VOA	KAV	0	0	0	50.78N	22.26E	NE	91B	NO	123B										
1196=PB	1	2100	9625	RUSS	VOA	KAV	51	20	114	51.64N	15.77E	NE	91B	NO	137B	NE	91C								
1197=PB	3	1641	11960	RUSS	IBA	JER	382	47	57	55.12N	50.93W	BE	38C	FL	34C	GI	40C	KI	36C	LR	45C	PS	42C		
1198=PB	3	1918	12040	????	????????????		525	35	69	50.04N	53.65W	BE	58C	CA	57C	KI	44C	LR	49C	PS	42C				
1199=PB	28	1634	15240	RUSS	IBA	JER	0	0	0	5.47S	73.67E	LR	46C	PS	40C										
1200=PB	29	1137	15275	????	????????????		0	0	0	42.31N	35.91E	N1	140B	NO	118B										

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1201=PB  7  2048 15410 ???? ???????????     0    0   0  53.55N  12.09E  BE 49C FL 39C
1202=PB  6  0400  9505 AZ   RL   L1        229    8  96  50.92N  11.67E  BK 92A U2 94B SS 42C
1203=PB  5  2020 11710 POLI VOA  TAN      2849  251 123  51.57N  16.47E  AL 40C BE 50C CA 48C GI 37C PS 39C
1204=PB 24  0030  7155 RUSS RL   P6        0    0   0  25.11S  87.42E  LR 48C PS 40C
1205=PB 29  0042  7155 RUSS RL   P6        0    0   0  43.42N  37.64E  NO 114B U2 94C
1206=PB 25  0634  7220 RUSS RL   L7+L8      0    0   0  54.56N  79.79W  KI 21C PS 8C
1207=PB 25  2137  7280 RUSS VOA  KAV       0    0   0  45.93N  39.80E  FL 37C SS 42C
1208=PB  7  0411  9505 RUSS RL   HA        0    0   0  41.01N  43.66E  NO 110B U2 93B
1209=PB  7  0503  9505 RUSS RL   HA        0    0   0  41.01N  43.66E  U2 93B NO 110B
1210=PB  3  1550  9660 RUSS VOA  KAV     2561  233 121  52.86N  14.33E  AL 42C BE 51C CA 48C GI 34C LR 40C
1211=PB 27  0039  9705 RUSS RL   G1B     1399  284  89  54.76N   8.64W  FL 43C PS 41C SS 35C
1212=PB  2  1825  9725 RUSS RL   B7       708   31 101  51.21N  13.71E  U2 90B AL 45C BE 49C CA 45C FL 39C LR 49C
                                                                        PS 43C
1213=PB  3  1758 11805 RUSS RL   B6       694   17  50  45.71N  67.00W  BE 46C KI 38C LR 47C
1214=PB  3  1643 11845 RUSS BBC  CYPRUS  2053   83  69  57.04N  39.84W  BE 46C KI 36C LR 39C
1215=PB  5  1802 11845 RUSS BBC  CYPRUS     0    0   0  57.69N  48.94W  AL 44C LR 35C
1216=PB 25  1245 15235 RUSS VOA  WOF       0    0   0  50.90N  22.65E  AN 5C KI 33C
1217=PB 31  1551 15245 RUSS BBC  SKL     6600  320 123  48.58N  23.65E  BE 49C FL 41C LR 46C PS 40C
1218=PB  1  1547 15245 RUSS BBC  SKL      499   34  48  50.51N  60.94W  BE 38C FL 37C LR 38C PS 38C
1219=PB  5  1546 15245 RUSS BBC  SKL     4739  286 128  47.05N  28.08E  BE 50C CA 43C FL 41C KI 35C LR 44C PS 40C
1220=PB 25  2111 15340 RUSS RL   G16     4004  259 113  55.20N  10.46E  BE 47C FL 38C KI 34C LR 43C
1221=PB  2  1359 15445 RUSS RL   P5      4728  483 134  42.52N  36.13E  AL 39C FL 41C PS 40C
1222=PB 28  1711 11770 TB   RL   B5      1959  295 117  51.38N  19.05E  BE 47C LR 46C PS 40C SS 41C
1223=PB 30  1751 11770 TB   RL   B5      3943  386 126  52.37N  26.35E  AL 37C FL 36C LR 41C
1224=PB  3  2208  9565 UKR  RL   P5      2906  228 115  52.47N   8.92E  AL 42C BE 54C ca 59C FL 39C LR 46C PS 41C
1225=PB 22  2240  9565 UKR  RL   P1      1003   48 107  50.17N  29.53E  BE 45C FL 38C LR 43C PS 35C SS 40C BD 84B
1226=PB 23  2313 11885 UKR  RL   P2        0    0   0  56.04N    .63E  FL 38C PS 40C
1227=PF  6  1842 11710 POLI VOA  TAN       0    0   0  59.64N 149.98E  AN 294C WP 330C
1228=PF  1  2139  9680 RUSS RL   HC       529  137  63  58.21N 150.69E  AN 292C FE 314C LV 318C WP 329C
1229=PF 21  2048 11770 RUSS RL   HD       518  228  77  56.74N 155.34E  DS 325C FE 315C LV 320C SS 322C WP 326C
1230=PF 21  2241 11835 RUSS VOA  KAV      1201  486  45  42.53N 111.74E  FE 315C GI 347C WP 312C
1231=PF 29  0336 11925 RUSS VOA  KAV       472  113  66  59.34N 156.37E  AN 291C DS 328C FE 313C LV 317C WP 332C
1232=PF 21  2154 11970 RUSS RL   P4        0    0   0  61.73N 162.67W  FE 315C LV 327C
1233=PK  6  1802  9505 BR   RL   HD        0    0   0  58.20N  22.15E  U2 55B NO 87B
1234=PK 26  0000  7200 CZEC RFE  G2A       0    0   0  58.94N  30.87E  NE 55B U2 56B
1235=PK 28  1001 15170 POLI RFE  G2A       0    0   0  54.93N  77.92E  U2 54B N2 86B
1236=PL  6  1815  9510 ???? ???????????     0    0   0  51.46N  35.92E  N1 130A NO 100A
1237=PL 22  1841 11870 ???? ???????????     0    0   0  52.81N  33.52E  NO 99A N1 132B
1238=PL 26  0804 15370 ???? ???????????     0    0   0  49.23N  40.58E  U2 80C NO 100B
1239=PL 27  1448 17710 RUSS IBA  JER       0    0   0  52.14N  50.06W  FL 33C PS 43C
1240=PL 30  0314  7250 RUSS RL   G3B       0    0   0  48.24N  42.42E  U2 81B NO 100B
1241=PL 23  2103 11770 RUSS RL   HD    25591  574 150  13.42N  67.61E  BE 44C LR 41C PS 34C
1242=PL 31  1837 15290 RUSS RL   P1        0    0   0  46.79N  40.58E  FL 36C SS 41C
1243=PL 31  1934 15290 RUSS RL   P1     1608  255 116  53.71N  17.12E  AL 43C BE 45C FL 36C LR 42C SS 41C
1244=PL  1  1448 15290 RUSS RL   L2     1603  247 116  54.82N  16.48E  AL 41C BE 42C LR 41C PS 41C SS 40C
1245=PL  5  1245 15340 RUSS RL   L4      716   34  50  49.95N  60.99W  BE 42C f1 41C LR 41C PS 40C
1246=R6 22  1846 11970 BR   RL   P4      943   76 129  42.56N  24.70E  AN 4C DS 32C 1v 170C wp 176C U2 110C
1247=R6 21  1911 11970 LAT  RFE  P4      730  233 137  50.15N  23.30E  AL 38C AN 1C BE 53C DS 30C FE 23C FL 30C
                                                                        GI 35C KI 33C LV 24C PS 41C wp 177C
1248=R6 24  1911 11970 LAT  RFE  P4      983   92  81  56.09N  31.83W  AL 42C BE 55C ca 59C FL 37C LR 45C PS 36C
                                                                        u2 110B
1249=R6 20  1945 11970 LAT  RFE  P4     1021  207 118  50.56N   8.86E  AL 45C BE 50C CA 59C DS 31C KI 35C LV 26C
                                                                        PS 44C SS 43C
1250=R6 24  2237  9520 RUSS RL   B5     8800  467 143  26.66N  48.67E  AL 41C BE 55C LR 47C PS 38C
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1251=R6 21 2246 9520 RUSS RL B5 441 40 64 51.85N 53.19W BE 54C CA 44C FL 38C PS 40C
1252=R6 19 2248 9555 RUSS RL G13+G14 0 0 0 50.47N 18.31E AN 8C LR 45C
1253=R6 3 2323 9555 RUSS RL P1 1182 103 79 58.78N 29.90W AL 43C BE 44C LR 45C PS 36C
1254=R6 24 0042 9555 RUSS RL G13+G14 0 0 0 40.31N 27.43E AN 2C LR 50C
1255=R6 29 2252 9555 RUSS RL G13+G14 8322 466 138 37.27N 38.18E AL 41C BE 50C gi 57C PS 45C
1256=R6 3 2300 9695 RUSS RL B6 2177 151 98 56.45N 13.02W nO 95B nO 95B AL 42C BE 49C KI 40C LR 50C
PS 42C
1257=R6 6 2227 9695 RUSS RL B6 1805 99 79 54.87N 33.41W BE 52C FL 37C LR 48C
1258=R6 1 1914 11935 RUSS RL HB 1808 222 111 54.87N 1.65E AL 43C BE 51C DS 35C FL 39C KI 36C
1259=R6 2 1755 11935 RUSS RL P2 706 206 130 48.55N 17.46E AL 42C AN 5C BE 51C CA 49C DS 35C FE 22C
FL 41C KI 36C LR 47C LV 40C PS 45C wp 179C
1260=R6 2 1917 11935 RUSS RL HB 566 118 92 55.38N 22.99W BE 54C FE 36C FL 31C GI 41C LR 50C LV 45C
PS 46C
1261=R6 31 1810 11935 RUSS RL HB 2555 339 127 49.48N 21.96E AL 39C FL 38C GI 35C LR 49C
1262=R6 5 1840 11935 RUSS RL HB 3740 310 131 44.60N 28.09E BE 51C CA 47C GI 35C LR 45C PS 44C
1263=R6 21 1900 11935 RUSS RL G16 826 57 136 49.49N 26.72E AN 1C DS 33C FE 22C KI 28C PS 44C wp 177C
NO 118C
1264=R6 7 1919 11935 RUSS RL HB 3638 218 115 51.19N 9.57E BE 53C CA 47C FL 42C KI 39C LR 47C PS 44C
1265=R6 23 0610 11970 RUSS RL P5 0 0 0 33.01N 42.63E NO 120C U2 105B
1266=R6 1 1615 15290 RUSS RL P1+P2 0 0 0 37.15S 100.41E BE 51C LR 48C
1267=R6 3 1536 15290 RUSS RL P1+P2 1109 239 164 17.81S 80.35E BE 53C gi 41C KI 10C lr 162C PS 44C
1268=R6 3 1412 15380 RUSS RL P1+P2 0 0 0 46.71N 25.84E AN 3C PS 41C
1269=R6 6 1713 15380 UKR RL P5 0 0 0 51.74N 51.57W LR 46C PS 43C
1270=R9 2 1848 15340 ARM RL L4 0 0 0 16.62N 55.97E LR 48C PS 43C
1271=R9 27 1904 15340 ARM RL L4 510 106 84 51.13N 33.07W BE 63C PS 42C SS 33C
1272=R9 2 1823 17760 ARM RL L1 4856 135 141 29.85S 91.37E BE 52C LR 49C PS 43C
1273=R9 31 1736 15340 AZ RL L4 2938 204 90 55.70N 18.65W FL 39C LR 48C PS 40C
1274=R9 30 2040 11875 GEOR RL L3 0 0 0 46.65N 19.82E DS 32C LR 48C
1275=RA 27 0638 9660 UKR RL HA 1477 437 125 46.38S 43.27W AN 106C DS 141C KI 144C LV 135C WP 132C
1276=RB 1 0214 9555 RUSS RL GLO 544 223 155 80.32N 12.58E AN 4C LV 11C PS 10C
1277=RB 7 1406 9730 ???? ???????????? 0 0 0 54.84N 21.43E NO 108A N1 155B
1278=RB 20 1300 5970 POLI RFE B4 0 0 0 54.56N 20.16E BK 61B U2 70C
1279=RB 22 2310 6060 POLI VOA WOF 0 0 0 56.35N 1.82W BE 49C SS 35C
1280=RB 4 0612 7190 POLI RFE B1 0 0 0 45.00N 68.78W BE 21C PS 43C
1281=RB 23 0241 9555 RUSS RL G1 0 0 0 40.35N 36.25E FE 16C FL 43C
1282=RD 21 0905 11965 RUSS VOA PHT 0 0 0 .94S 135.38E U2 52B NO 55B
1283=RD 22 0905 11965 RUSS VOA PHT 2341 149 142 46.39N 118.30E NE 47B BK 44A NO 46C NE 46B N1 53C
1284=RQ 28 1641 15240 RUSS IBA JER 0 0 0 4.31S 72.95E AL 32C PS 40C
1285=RT 21 1600 11845 DARI VOA KAV 317 33 74 56.42N 21.64E NE 60B AL 36C BE 43C CA 41C FE 17C FL 34C
SS 37C
1286=RT 6 1447 17555 ???? ???????????? 0 0 0 58.15N 23.78E FL 32C KI 27C
1287=RT 2 1741 15130 BR RL P6 0 0 0 59.68N 13.63W BE 45C FL 34C
1288=RT 21 1600 11865 EST VOA WOF 0 0 0 55.88N 20.52E NE 62B U2 64B
1289=RT 23 1403 11865 LAT VOA WOF 111 12 78 55.56N 22.20E U2 66A AL 35C AN 2C BE 42C CA 44C DS 25C
FL 36C KR 60C LR 39C PS 34C SS 39C KR 60A
1290=RT 21 1401 11865 LAT VOA WOF 0 0 0 54.02N 9.81E U2 67C NE 56B
1291=RT 29 0449 7260 RUSS BBC CYPRUS 0 0 0 56.79N 25.82E N1 140C U2 62B
1292=RT 30 1722 11825 RUSS RL L9+L10 987 306 125 55.76N 22.49E AL 42C BE 39C FE 18C SS 38C
1293=RT 24 1350 11835 RUSS VOA WOF 0 0 0 55.30N 34.71E NO 90B N1 125C
1294=RT 5 1834 11845 RUSS BBC CYPRUS 4668 214 145 26.04S 88.76E be 41C CA 38C LR 45C PS 39C
1295=RT 21 1004 11875 RUSS RL L5+L6 0 0 0 54.70N 14.73E U2 67B NE 63B
1296=RT 30 2047 15340 RUSS RL G16 0 0 0 56.84N 28.44E FL 32C SS 34C
1297=RT 24 1631 11825 UKR RL L9+L10 837 375 146 56.14N 28.86E AN 1C wp 177C AL 31C LR 38C
1298=S5 30 2057 9615 CZEC DW SIN 2358 385 135 54.68N 8.27E DS 32C FE 28C GI 37C

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1299=S5 26  0713  9725 CZEC RFE  G8          2162  440  112  50.00N  19.41E  FL 46C KI 31C SS 40C
1300=S5  5  2105  9725 CZEC RFE  G3             0    0    0  53.01N   7.77E  BE 51C GI 39C
1301=S5 27  0705  9725 CZEC RFE  G8             0    0    0  49.14N  18.64E  KI 36C SS 43C
1302=S5  2  1722 15255 CZEC RFE  G2B            0    0    0  34.74S  97.21E  BE 52C LR 49C
1303=S5  2  1939 15255 CZEC RFE  G2B            0    0    0  49.36N  12.92E  FL 43C LR 48C
1304=S5 31  2004 15255 CZEC RFE  G2B         1102  216  120  52.34N  10.55E  AL 43C BE 52C DS 32C FE 28C FL 39C LR 48C
                                                                             PS 39C
1305=S5 28  1949 15255 CZEC RFE  G5             0    0    0  50.40N  14.76E  PS 42C SS 42C
1306=S5  6  1646 15255 CZEC RFE  G2B         1477  254  100  54.66N    .20E  BE 52C FL 35C SS 39C
1307=S5 31  2121 15255 CZEC RFE  G2B            0    0    0  51.41N  13.39E  BE 51C SS 41C
1308=S5 27  1330 15255 CZEC RFE  G5          4245  292  116  51.37N  12.63E  BE 50C FL 42C KI 37C PS 43C
1309=S7 19  1200  6105 RUSS RL   L11            0    0    0  52.81N   8.95E  NE 75B U2 78B
1310=S7  4  1241 15370 TI   RL   B4          1181  244   93  54.79N   9.83W  LR 45C PS 46C SS 36C
1311=S7 23  1715 11885 UKR  RL   P2             0    0    0  48.01N  20.02E  DS 31C SS 44C
1312=SB 23  1336  6100 ???? ???????????       0    0    0  69.47N  40.53E  NO 40B N1 60B
1313=SF 23  0040  6190 ???? ???????????       0    0    0  58.40N  32.82E  U2 58B NO 80B
1314=SF 23  1600 11805 RUSS VOA  KAV         2821  345  116  61.92N  28.22E  BE 35C FL 27C SS 29C
1315=SF  7  0830 17725 RUSS RL   B5             0    0    0  56.42N  21.44E  BK 52A U2 62B
1316=SF  7  1015 17725 RUSS RL   B5             0    0    0  16.80N 109.04E  U2 65B NO 70A
1317=SF  3  0900 17895 RUSS RL   P3+P4           0    0    0  43.78S 163.52E  NE 68B U2 60C
1318=SF  6  1230 17895 RUSS RL   P3+P4           0    0    0  50.41N  77.94E  BK 62A NO 69A
1319=SF 19  0300  6125 UKR  VOA  WOF          356   18   76  55.41N  18.45E  NE 64B NE 62B U2 65B
1320=SM 21  1005 11870 ???? ???????????       0    0    0  53.20N  38.31E  NE 74B NO 93A
1321=SM  3  2151  9505 BR   RL   HD             0    0    0  55.18N  32.89W  BE 52C CA 51C
1322=SM  2  1424 15290 RUSS RL   L2          2119  288  120  51.78N  24.28E  BE 42C FL 43C LR 41C PS 41C SS 40C
1323=SM  1  1212 17725 RUSS RL   B5             0    0    0  46.69N  49.08E  NO 96A N2 127B
1324=ST 20  1535 11960 EST  VOA  MUN          406   50   74  56.61N  17.83E  U2 59C AL 40C BE 40C PS 39C SS 32C
1325=ST  7  1330  9735 GEOR VOA  MUN            0    0    0  59.50N  23.92E  NO 78A N1 137A
1326=SU  4  2324  7295 TI   RL   L9+L10       1785  304  109  50.79N  10.56E  FL 39C LR 47C PS 45C SS 43C
1327=T  18  0823 11900 ???? ???????????       0    0    0  54.88N  48.37E  N1 106B NO 81B
1328=T1 26  1712 15255 CZEC RFE  G5           676  251  124  49.93N  15.35E  AN  9C BE 52C KI 40C LR 46C LV 25C PS 44C
                                                                             SS 40C
1329=TK 30  2312  7215 ???? ???????????       0    0    0  49.71N  56.25E  N1 105B NO 85B
1330=TK 30  2317  7225 ???? ???????????       0    0    0  50.21N  55.66E  N1 105B N2 115B
1331=TK  7  2240  9525 ???? ???????????    2786  313  149  56.21N  59.69E  BE 27C CA 26C FL 19C GI 11C LR 22C PS 20C
1332=TK  2  0213  9675 ???? ???????????     562   53  146  40.56N  69.58E  N1 100A N2 109B N1 100A NO 86A
1333=TK  4  2356  9760 UZBE VOA  KAV        1078  244   88  57.04N  13.78W  KI 44C LR 40C SS 35C
1334=TK  1  1530  9770 RUSS DW   JUL            0    0    0  15.88S 106.75E  U2 87B NO 89B
1335=TK 30  0612 15165 ???? ???????????       0    0    0  48.14N  58.01E  N1 105A NO 86A
1336=TK 29  0125  7190 AZ   RL   L2           260   24  124  50.94N  38.94E  U2 77B NO 98B NO 98A
1337=TK 30  0117  7190 AZ   RL   L2          1867  204  143  30.64N  78.16E  NO 85B N1 100C U2 80B
1338=TK 20  2257  7155 BR   RL   P6             0    0    0  53.99N  33.29E  FL 33C SS 36C
1339=TK  7  0202  9680 BR   RL   G1A          858  146  123  45.60N  55.01E  U2 78B a1 128C DS 18C GI 15C KI 15C SS 36C
1340=TK 18  1837 11970 BR   RL   P4             0    0    0  55.01N  42.62E  BE 36C SS 33C
1341=TK  1  1727 11970 BR   RL   HB          1231  377  142  45.99N  40.37E  BE 43C FE  1C GI 43C KI 29C SS 37C
1342=TK 22  1858 11970 BR   RL   P4           996  136   83  61.70N  18.57W  BE 36C CA 42C FL 27C PS 40C SS 36C
1343=TK 26  1805 15130 BR   RL   P5             0    0    0  41.64N  63.11E  NO 90B U2 78B
1344=TK 25  2200  7155 EST  RFE  P6           259   32  118  51.39N  49.49E  NE 70B NE 76B NE 77B U2 72B NO 87A
1345=TK 25  2134  7155 EST  RFE  P6          1842  277  121  55.40N  26.01E  AL 32C BE 44C FL 32C LR 40C SS 35C
1346=TK  1  2056 11970 EST  RFE  P2           999  187   99  55.37N   8.24W  AL 40C BE 52C PS 50C SS 35C
1347=TK 28  1703 15130 EST  RFE  P5             0    0    0  24.13S 122.71E  U2 80C NO 80C
1348=TK 27  1800 15130 EST  RFE  P5           988   22   87  52.96N  14.99E  NE 79B NE 80C u2 70C FL 42C PS 37C SS 38C
1349=TK 28  1600 15270 EST  VOA  WOF          102   30  122  52.48N  20.96E  U2 80C BE 34C 1r 27C PS 30C NO 120C NO 120C
1350=TK 24  1530 11970 LAT  RFE  HD             0    0    0  34.67N  70.92E  NO 90B U2 80B
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1351=TK	27	1600	15130	LAT	RFE	P5	613	57	128	46.16N	58.98E	NE 78B	NO 88A	NE 78B			
1352=TK	23	2015	9680	LITH	RFE	P5	1248	195	98	63.56N	.45W	AL 39C	BE 35C	LR 32C	SS 34C		
1353=TK	21	2045	11970	LITH	RFE	P4	516	335	120	60.43N	2.88W	AN 19C	DS 28C	fe 171C	KI 34C	1v 175C	SS 30C
1354=TK	1	1539	15130	LITH	RFE	P6	2904	404	129	52.72N	40.67E	BE 37C	LR 36C	SS 36C			
1355=TK	28	1604	15130	LITH	RFE	P5	7517	418	145	6.63S	107.83E	U2 80C	U2 80B	NO 83B			
1356=TK	26	1640	15130	LITH	RFE	P5	0	0	0	53.66N	40.30E	NO 90B	U2 70B				
1357=TK	28	2309	7155	RUSS	RL	P6	0	0	0	51.40N	34.34E	NO 102B	U2 78B				
1358=TK	25	0100	7190	RUSS	RL	G3A	159	11	72	53.36N	9.78E	NE 64B	DS 4C	FL 31C	SS 34C	NE 67B	U2 75B
1359=TK	29	0056	7190	RUSS	RL	G3A	0	0	0	21.21N	88.21E	U2 78B	N2 99B				
1360=TK	4	2240	7220	RUSS	RL	P4	0	0	0	52.47N	23.73W	FL 42C	SS 34C				
1361=TK	4	1700	9520	RUSS	RL	L5	0	0	0	45.73N	59.55E	BK 78A	U2 75C				
1362=TK	4	2108	9520	RUSS	RL	BIB	0	0	0	40.28N	70.10E	N1 100B	U2 75C				
1363=TK	1	2100	9520	RUSS	RL	BIB	423	14	85	52.83N	11.79E	NE 80B	AL 39C	PS 41C	SS 35C	NE 78B	U2 79B
												n1 110B					
1364=TK	7	1635	9520	RUSS	RL	L5	0	0	0	2.47N	105.85E	U2 76B	NO 80C				
1365=TK	1	0000	9555	RUSS	RL	P1	205	9	84	52.74N	9.58E	NE 78B	NE 78B	U2 79A			
1366=TK	22	0049	9555	RUSS	RL	G13+G14	2077	515	148	23.37N	66.95E	FL 37C	GI 9C	LR 51C	ps 59C	SS 36C	
1367=TK	24	0135	9555	RUSS	RL	G1	377	21	96	52.04N	24.44E	AL 37C	BD 80C	KI 39C	KR 80C	PS 38C	SS 36C
												BD 80B	KR 80B				
1368=TK	1	0100	9555	RUSS	RL	P1	100	1	72	52.25N	5.10E	NE 79B	NE 72B	U2 75C			
1369=TK	25	0220	9555	RUSS	RL	G1	249	15	93	53.44N	25.12E	AL 34C	BD 75C	FL 33C	KR 72C	LR 19C	SS 40C
												BD 75A	KR 72B				
1370=TK	5	2301	9555	RUSS	RL	P1	0	0	0	40.61N	64.94E	U2 78B	N1 105A				
1371=TK	6	0000	9555	RUSS	RL	P1	0	0	0	50.80N	37.57E	BK 79A	U2 78B				
1372=TK	23	0232	9555	RUSS	RL	G1	321	15	96	52.52N	25.47E	BD 77C	FL 43C	KR 80C	SS 34C	BD 77A	KR 80B
1373=TK	2	2000	9660	RUSS	RL	HC	2879	39	102	51.60S	176.92E	NE 86B	U2 80C	U2 80C			
1374=TK	7	2236	9680	RUSS	RL	HC	1999	130	71	70.47N	21.56W	BE 26C	CA 27C	FL 19C	LR 24C	PS 22C	
1375=TK	27	0122	11725	RUSS	RL	P1	1441	9	113	51.15S	174.62W	KR 81B	FL 43C	KR 81C	SS 37C	KR 81B	
1376=TK	24	1415	11875	RUSS	RL	L6	1304	318	153	35.46N	66.41E	an 179C	DS 0C	FL 27C	PS 27C	SS 36C	BE 35C
												CA 36C	DS 0C	FL 28C	PS 27C	SS 36C	
1377=TK	23	1208	11875	RUSS	RL	L5+L6	529	36	100	51.23N	29.08E	AN 3C	BE 38C	PS 39C	KR 82B		
1378=TK	1	1144	11875	RUSS	RL	L9+L10	2102	265	103	55.81N	6.90W	AL 46C	FL 39C	PS 41C			
1379=TK	23	0053	11915	RUSS	RL	P4	0	0	0	56.68N	56.11W	FL 23C	LR 31C				
1380=TK	19	2257	11970	RUSS	RL	P4	1988	390	146	49.27N	56.05E	AL 28C	an 154C	FL 26C	GI 11C	LR 32C	SS 31C
1381=TK	30	2131	11970	RUSS	RL	P4	1712	496	158	45.67N	66.58E	DS 3C	fe 179C	FL 26C	GI 9C	1v 179C	SS 30C
												wp 141C					
1382=TK	1	0148	11970	RUSS	RL	P2	2168	510	164	30.48N	81.46E	AL 6C	FL 20C	KI 5C	SS 33C	wp 150C	
1383=TK	22	2329	11970	RUSS	RL	P5	682	160	153	36.29N	76.48E	AL 21C	an 155C	BE 28C	DS 3C	FL 25C	GI 7C
												LR 27C	1v 40C	PS 21C	SS 35C	N3 105B	U2 80B
1384=TK	25	0025	11970	RUSS	RL	P5	283	4	102	51.97S	179.94E	BD 78C	KR 100C	LR 27C	PS 22C	SS 36C	BD 78B
												KR 100C					
1385=TK	28	2215	11970	RUSS	RL	P4	1582	343	149	47.43N	56.18E	BE 33C	DS 15C	FL 42C	GI 14C	KI 16C	PS 18C
												SS 32C					
1386=TK	27	2305	11970	RUSS	RL	P5	0	0	0	48.42S	38.38W	DS 140C	WP 135C				
1387=TK	24	2312	11970	RUSS	RL	P5	1761	245	128	64.67N	31.52E	AL 32C	BE 29C	DS 3C	KI 29C	LR 27C	PS 22C
1388=TK	24	2250	11970	RUSS	RL	P4	2716	405	156	32.62N	74.73E	AL 14C	BE 27C	FL 24C	LR 27C	PS 22C	SS 36C
1389=TK	22	2200	11970	RUSS	RL	P4	821	78	120	46.79N	56.44E	NE 77B	NE 77B	U2 80B	AL 18C	BE 32C	FL 23C
												LR 28C	PS 27C				
1390=TK	21	2156	11970	RUSS	RL	P4	497	44	114	46.94N	47.80E	BL 90B	IT 90C	KO 77B	KR 84B		
1391=TK	22	2105	11970	RUSS	RL	P4	529	23	88	53.83N	20.00E	NE 72B	FL 26C	LR 28C	PS 27C	U2 77B	
1392=TK	30	1356	15130	RUSS	RL	P5	1350	119	155	30.17N	74.92E	N2 108A	N1 103C	NO 90B			
1393=TK	29	1431	15130	RUSS	RL	P5	0	0	0	46.51S	138.73E	U2 95C	NO 87A				
1394=TK	28	0512	15170	RUSS	RL	P3	1315	116	130	42.58N	61.86E	U2 77C	NO 90B	U2 78B			
1395=TK	28	0635	15170	RUSS	RL	P3	0	0	0	41.64N	63.11E	NO 90B	U2 78B				

1396=TK	30	0600	15170	RUSS	RL	P3	0	0	0	52.01N	57.94E	NO 80C	N1 100B				
1397=TK	2	1429	15290	RUSS	RL	L2	0	0	0	52.26N	2.47E	AL 47C	SS 40C				
1398=TK	26	1838	15290	RUSS	RL	P3	856	250	130	54.90N	26.98E	BE 43C	FE 20C	FL 33C	GI 14C	KI 17C	LR 44C
												LV 28C	SS 43C	wp 26C			
1399=TK	1	1339	15290	RUSS	RL	L2	686	120	72	61.85N	29.61W	AL 43C	BE 33C	FL 29C	SS 36C		
1400=TK	30	1808	15290	RUSS	RL	P3	0	0	0	64.78N	15.67E	FL 27C	GI 26C				
1401=TK	28	1600	15290	RUSS	RL	L2	118	18	107	51.48N	31.48E	NE 81B	NO 105C	NE 81B	U2 80A	NO 105C	
1402=TK	21	1513	15290	RUSS	RL	L2	443	33	119	46.23N	53.09E	AL 23C	BE 32C	CA 34C	FL 26C	gi 113C	PS 21C
												SS 35C	BL 83B	IT 88A	KO 78B	KR 82A	
1403=TK	4	1535	15290	RUSS	RL	P1+P2	1631	374	113	54.01N	16.05E	AL 38C	FL 43C	SS 36C			
1404=TK	5	1317	15290	RUSS	RL	L2	2556	441	139	45.46N	51.46E	AL 23C	FL 33C	LR 40C	SS 36C		
1405=TK	28	1700	15290	RUSS	RL	P3	5402	247	140	22.75S	121.78E	NE 83B	U2 80A	NO 80B	NE 83B		
1406=TK	7	1227	15290	RUSS	RL	L2	1250	231	100	62.95N	.19E	AL 37C	LR 26C	PS 37C	SS 36C		
1407=TK	27	0745	21455	RUSS	RL	L3	0	0	0	52.11N	26.93E	U2 79B	NO 110B				
1408=TK	18	2331	11915	TI	RL	P4	856	126	144	31.75N	73.55E	SS 38C	NO 89A	U2 90C	AL 12C	BE 34C	CA 43C
												DS 2C	GI 5C	KI 9C	PS 11C	SS 38C	
1409=TK	28	0315	7190	UKR	VOA	TAN	0	0	0	49.23N	40.58E	NO 100B	U2 80B				
1410=TK	28	1835	7245	UKR	RL	L7+L8	0	0	0	22.29N	87.22E	U2 78B	NO 85B				
1411=TK	21	2156	11885	UKR	RL	P2	1529	389	161	25.91N	73.88E	AL 18C	DS 0C	fe 175C	FL 43C	GI 10C	LR 22C
												PS 15C	SS 36C				
1412=TK	21	2200	11885	UKR	RL	P2	658	13	86	52.64N	11.00E	NE 82B	U2 80B	NE 81B			
1413=TK	31	2206	11885	UKR	RL	P3	1406	571	165	45.41N	59.96E	DS 3C	FE 1C	SS 36C			
1414=TR	29	0046	7175	????	????????????		0	0	0	47.71N	31.32E	NO 115A	N2 153B				
1415=TR	6	1430	9565	ARM	VOA	WOF	0	0	0	38.44N	41.33E	N1 135B	U2 99B				
1416=TR	5	2309	9505	BR	RL	HD	1188	70	74	53.45N	41.26W	BE 53C	FL 36C	KI 41C	LR 49C		
1417=TR	29	0038	7165	RUSS	RL	G3B	0	0	0	45.11N	34.83E	NO 115A	U2 93B				
1418=TR	30	1636	15245	RUSS	BBC	CYPRUS	0	0	0	56.17N	39.44W	FL 33C	PS 40C				
1419=TR	29	0121	7180	TB	RL	L7+L8	105	12	129	52.21N	23.29E	u2 94B	NO 116A	NO 116A	U2 80C		
1420=TU	21	2230	6010	RUSS	DW	JUL	0	0	0	52.79N	55.99E	NO 80B	U2 66B				
1421=TU	18	2000	6095	RUSS	VOA	MUN	1915	122	128	46.61S	170.58E	NE 63B	U2 54C	NE 66B			
1422=TU	18	1900	6095	RUSS	VOA	MUN	185	10	69	53.20N	8.77E	NE 69B	U2 68C	NE 64B			
1423=TU	22	1900	6140	????	????????????		233	21	114	55.12N	37.84E	NO 88A	U2 67B	BE 38C			
1424=TU	27	1932	7105	RUSS	VOA	MUN	0	0	0	55.48N	27.96E	U2 67B	N1 138C				
1425=TU	25	0200	7105	????	????????????		1125	25	91	55.41N	32.65E	NE 68B	NE 68B	U2 67B			
1426=TU	28	0230	7240	RUSS	VOA	MUN	0	0	0	55.00N	17.70E	BK 54A	U2 67B				
1427=TU	30	0400	7240	RUSS	VOA	MUN	0	0	0	57.30N	36.52E	NO 82A	N1 117A				
1428=TU	25	0342	7240	RUSS	VOA	MUN	0	0	0	53.63N	49.40E	U2 67B	NO 83A				
1429=TU	2	1610	9650	RUSS	DW	WER	0	0	0	56.04N	34.12E	U2 65B	NO 88B				
1430=TU	3	1530	9650	RUSS	DW	WER	104	30	125	55.74N	37.35E	U2 70C	N1 120C	N1 120C	NO 85B		
1431=TU	4	1523	9650	RUSS	DW	WER	0	0	0	54.71N	43.21E	NO 85B	N1 113C				
1432=TU	7	1544	9650	RUSS	DW	WER	0	0	0	53.59N	46.78E	NO 85B	U2 68B				
1433=TU	23	1009	11700	RUSS	IBA	JER	964	34	95	55.07N	32.83E	an 166C	BD 68C	BE 40C	SS 35C	BD 68B	U2 68B
1434=TU	24	1834	11805	RUSS	VOA	MUN	0	0	0	53.59N	46.78E	U2 68B	NO 85B				
1435=TU	21	1700	11845	????	????????????		104	27	144	50.67S	178.95E	NE 65B	U2 30B	NE 74B			
1436=TU	24	1733	11855	RUSS	DW	WER	0	0	0	53.59N	46.78E	U2 68C	NO 85B				
1437=TU	19	1600	11905	RUSS	DW	WER	0	0	0	55.84N	23.05E	BK 57A	U2 65B				
1438=TU	27	1600	15105	RUSS	DW	JUL	263	16	81	55.69N	28.56E	BK 62A	NE 65B	U2 68C			
1439=TU	31	1730	15245	RUSS	BBC	SKL	903	79	100	55.54N	42.25E	BE 35C	FL 30C	U2 65B			
1440=TU	25	1830	15390	RUSS	BBC	SKL	365	32	85	55.27N	30.20E	BK 64B	U2 68C	BE 37C	FL 37C	PS 32C	
1441=TU	18	2200	5955	EST	RFE	HB	311	17	75	54.63N	15.62E	NE 65B	U2 68B	NE 65B			
1442=TU	25	2200	7155	EST	RFE	P6	0	0	0	54.07N	43.66E	NE 70B	U2 68C				
1443=TU	3	1900	11970	LAT	RFE	P2	0	0	0	52.28N	6.44W	LR 50C	SS 39C				
1444=TU	20	2101	6095	RUSS	VOA	MUN	0	0	0	53.59N	46.78E	U2 68C	NO 85C				
1445=TU	18	2113	6095	RUSS	VOA	MUN	0	0	0	56.28N	37.43E	U2 64B	NE 65B				

1446=TU	20	1700	6105	RUSS	RL	L11	0	0	0	56.08N	31.49E	NO	90C	U2	65C											
1447=TU	19	1600	6105	RUSS	RL	L11	103	22	94	54.15N	25.20E	NE	73B	NE	73B	NO	105C	n1	120D							
1448=TU	22	2012	6105	RUSS	RL	L2	0	0	0	54.61N	14.00E	NO	129C	U2	67B											
1449=TU	19	1930	6140	RUSS	VOA	WOF	0	0	0	54.80N	17.54E	NE	66B	U2	68B											
1450=TU	25	0200	7155	RUSS	RL	P6	0	0	0	7.53N	113.29E	NE	71B	U2	67B											
1451=TU	25	0100	7165	RUSS	RL	G3B	0	0	0	56.05N	27.89E	NE	65B	U2	65B											
1452=TU	22	0020	7220	RUSS	RL	HC	0	0	0	7.78S	127.11E	BD	64B	KR	70A											
1453=TU	4	0013	7220	RUSS	RL	P4	0	0	0	50.28N	29.42W	FL	44C	SS	34C											
1454=TU	26	1800	7220	RUSS	RL	L7+L8	130	24	100	55.32N	34.63E	NE	68B	NE	69B	NO	90B	U2	65C							
1455=TU	1	1700	9555	RUSS	VOA	MUN	159	28	101	56.19N	36.01E	NE	65B	U2	65B	NO	86B									
1456=TU	6	1800	9555	RUSS	VOA	MUN	72	16	101	56.22N	37.26E	U2	65B	NO	85A	BK	62A									
1457=TU	7	1838	9555	RUSS	RL	HA	0	0	0	33.95N	77.59E	U2	76B	NO	85B											
1458=TU	1	1630	9565	RUSS	RL	L2	245	37	106	55.07N	41.59E	NE	67B	U2	68B	NO	85B									
1459=TU	7	1630	9565	RUSS	RL	L2	65	22	89	57.81N	36.89E	u2	69B	BK	57A	N1	115C	NO	80C							
1460=TU	1	1700	9565	RUSS	RL	L2	197	25	113	54.66N	42.05E	NE	69B	U2	67B	NO	86A									
1461=TU	7	1839	9585	RUSS	VOA	MUN	0	0	0	55.80N	39.13E	U2	65C	NO	85C											
1462=TU	24	1233	11740	RUSS	VOA	KAV	0	0	0	56.01N	26.57E	U2	65B	N1	140C											
1463=TU	22	1630	11780	RUSS	BBC	WOOF	282	20	81	56.59N	33.08E	BK	60A	AL	29C	AN	2C	BE	37C	CA	35C	LR	34C			
												LV	10C	PS	30C	SS	36C									
1464=TU	21	1700	11805	RUSS	VOA	KAV	388	18	73	54.72N	15.11E	NE	64B	U2	67C	NE	63B									
1465=TU	23	1600	11805	RUSS	VOA	KAV	0	0	0	51.04N	60.17E	NO	80B	U2	67B											
1466=TU	19	1520	11805	RUSS	VOA	KAV	0	0	0	55.80N	39.13E	NO	85B	U2	65B											
1467=TU	22	0530	11805	RUSS	RL	L6	0	0	0	56.08N	26.65E	BK	59A	SS	35C											
1468=TU	30	2019	11845	RUSS	BBC	CYPRUS	2607	341	114	59.74N	24.77E	BE	39C	fe	178C	FL	28C	SS	32C							
1469=TU	7	1809	11845	RUSS	BBC	CYPRUS	1384	216	101	58.90N	1.60E	BE	45C	FL	35C	KI	30C	PS	38C	SS	32C					
1470=TU	30	1744	11845	RUSS	BBC	CYPRUS	3653	478	135	48.13N	50.95E	BE	35C	FL	34C	SS	36C									
1471=TU	28	1104	11875	RUSS	RL	L5+L6	1289	215	100	57.21N	2.34W	BE	45C	CA	48C	SS	36C									
1472=TU	31	1102	11875	RUSS	RL	L9+L10	0	0	0	53.49N	40.10E	FL	31C	SS	35C											
1473=TU	21	1005	11885	RUSS	RL	L9+L10	73	1	66	52.25N	5.09E	NE	80B	U2	75C	NE	68B									
1474=TU	21	1103	11885	RUSS	RL	L9+L10	0	0	0	54.19N	14.34E	U2	70C	NE	67B											
1475=TU	18	1438	11970	RUSS	RL	HD	0	0	0	55.18N	25.56E	NO	100C	U2	68C											
1476=TU	25	1201	15120	RUSS	VOA	WOF	289	44	106	54.33N	37.76E	U2	68B	NO	90C	U2	72C									
1477=TU	28	1332	15130	RUSS	RL	P5	390	32	44	49.65N	63.10W	BE	37C	LR	37C	PS	40C									
1478=TU	25	1209	15235	RUSS	VOA	WOF	506	57	109	53.73N	46.11E	U2	67B	U2	69B	NO	85C									
1479=TU	28	1000	15290	RUSS	RL	L2	219	12	70	53.35N	9.55E	NE	66B	NE	66B	U2	73C									
1480=TU	30	1200	15290	RUSS	RL	L2	0	0	0	55.43N	31.93E	U2	67B	BE	40C											
1481=TU	28	1200	15290	RUSS	RL	L2	0	0	0	54.19N	14.34E	NE	67B	U2	70C											
1482=TU	28	1100	15290	RUSS	RL	L2	649	20	85	55.27N	24.97E	NE	67B	NE	69B	U2	67B									
1483=TU	26	1030	15340	RUSS	RL	L4	0	0	0	55.43N	20.43E	BK	56A	U2	66B											
1484=TU	28	0800	15370	RUSS	RL	B6	9781	112	121	48.42N	70.60E	NE	68B	NE	69B	U2	65B									
1485=TU	1	1130	17855	RUSS	VOA	KAV	170	30	107	55.43N	31.98E	U2	67B	SS	36C	NO	92B									
1486=TU	22	1513	17895	RUSS	RL	P1+P2	2541	366	130	55.72N	31.66E	BE	37C	DS	19C	LR	40C									
1487=TU	27	0204	7180	TB	RL	L7+L8	0	0	0	45.00N	90.00E	BD	64B	U2	64B											
1488=TU	22	0500	6170	UKR	RL	L5+L6	141	20	81	55.94N	31.66E	BL	68B	IT	70B	KO	50B	KR	63C							
1489=TU	29	1910	7245	UKR	RL	L7+L8	0	0	0	53.59N	46.78E	NO	85C	U2	68C											
1490=TU	4	1726	9565	UKR	RL	L2	0	0	0	56.52N	35.94E	NO	85B	N1	120B											
1491=TU	5	1935	9565	UKR	RL	L2	486	39	89	55.46N	26.57E	U2	67B	AL	32C	BE	42C	LR	40C	PS	34C					
1492=TU	2	1845	9565	UKR	RL	L2	1485	272	112	53.19N	12.11E	AL	42C	BE	50C	FL	39C	SS	39C							
1493=TU	7	1730	9565	UKR	RL	L2	83	19	117	56.20N	38.05E	NO	84A	N1	118B	U2	67B									
1494=TU	7	1830	9565	UKR	RL	L2	0	0	0	54.91N	40.14E	U2	67B	N1	117B											
1495=TU	2	0500	9660	UKR	RL	P4	857	83	125	45.16N	58.18E	NE	80B	NE	80B	NO	90B									
1496=TU	7	1936	9740	UKR	VOA	PHT	0	0	0	56.52N	35.94E	NO	85B	N1	120B											
1497=TU	1	0441	11885	UKR	RL	P3	0	0	0	40.45S	93.60E	AL	9C	PS	169C											
1498=U7	20	1100	6065	????	????????????		38	18	124	49.83N	16.79E	U2	95B	N1	170B	BK	98B	NO	140B							

1499=U7	25	1100	7130	????	????????????		180	7	84	52.04S	179.55E	n0	135C	BK	98A	NE	95B	NE	95B	U2	98B	n1	170C			
												NE	90B													
1500=U7	27	0436	5985	CZEC	RFE	G2	2218	395	109	50.49N	15.15E	FL	41C	PS	42C	SS	42C									
1501=U7	19	0430	5985	CZEC	RFE	G2	586	33	166	45.01N	25.13E	FL	44C	PS	44C	SS	45C	N1	156A							
1502=U7	5	2235	9725	CZEC	RFE	G3	332	30	64	48.70N	59.13W	BE	55C	CA	59C	LR	47C									
1503=U7	6	2216	9725	CZEC	RFE	G3	1364	83	80	52.99N	36.23W	BE	57C	FL	39C	LR	49C	PS	45C							
1504=U7	23	0711	9725	CZEC	RFE	G8	718	408	133	51.10N	15.05E	AN	11C	DS	32C	KI	32C	SS	43C							
1505=U7	24	1734	11970	EST	RFE	HD	704	133	81	54.68N	27.49W	BE	54C	FL	38C	SS	30C									
1506=U7	3	1853	11970	LAT	RFE	P2	706	141	96	51.64N	17.20W	BE	55C	FL	44C	GI	54C	KI	45C	LR	54C	SS	41C			
1507=U7	25	0722	6105	RUSS	RL	L6	3596	308	143	11.50N	74.67E	BD	95C	KR	100C	lr	61C	PS	27C	BD	95C	KR	100C			
1508=U7	2	0631	6105	RUSS	RL	HB	0	0	0	45.75N	27.61E	FL	42C	PS	41C											
1509=U7	26	0606	6105	RUSS	RL	L6	166	22	59	46.71N	64.48W	BE	58C	CA	62C	FL	32C	LR	44C	PS	39C					
1510=U7	26	1000	7220	RUSS	RL	L7+L8	127	26	101	51.34S	178.81W	BK	96A	NE	71B	NE	71B									
1511=U7	26	0612	7220	RUSS	RL	L7+L8	336	7	98	51.69N	3.64E	BD	98C	FL	37C	KR	100C	lr	50C	PS	37C	BD	98B			
												KR	100B													
1512=U7	28	2004	7220	RUSS	RL	B7	0	0	0	24.82N	60.36E	U2	97B	N1	120C											
1513=U7	26	2213	7295	RUSS	RL	L9+L10	0	0	0	52.43N	9.98E	BE	51C	SS	40C											
1514=U7	4	0722	9520	RUSS	RL	HD	0	0	0	51.50N	10.24E	BE	52C	SS	41C											
1515=U7	4	1002	9520	RUSS	RL	HD	1738	291	111	51.50N	11.06E	BE	52C	LR	46C	SS	41C									
1516=U7	23	1931	9725	RUSS	RL	L10	1097	438	136	49.78N	32.35E	DS	30C	FE	14C	FL	31C	SS	43C							
1517=U7	1	2046	11770	RUSS	RL	B5	2723	318	125	48.16N	21.61E	BE	51C	FL	41C	GI	36C	LR	47C							
1518=U7	30	1728	11825	RUSS	RL	L9+L10	5389	567	146	22.90N	58.37E	AL	33C	BE	50C	FL	41C									
1519=U7	25	1710	11825	RUSS	RL	L9+L10	5060	424	147	8.36S	73.26E	AL	35C	BE	51C	fl	37C	LR	48C	PS	46C					
1520=U7	24	1447	11885	RUSS	RL	L9+L10	0	0	0	48.48N	42.20E	FL	34C	SS	39C											
1521=U7	1	1716	15290	RUSS	RL	P1	0	0	0	2.62N	67.31E	BE	52C	LR	47C											
1522=U7	6	1655	15290	RUSS	RL	P1	0	0	0	47.73N	64.03W	BE	45C	PS	42C											
1523=U7	18	1511	17895	RUSS	RL	P1+P2	0	0	0	46.32N	16.71W	BE	68C	SS	44C											
1524=U7	6	1430	17895	RUSS	RL	P3+P4	1100	196	93	55.78N	11.63W	BE	51C	PS	43C	SS	34C									
1525=U7	25	1730	15370	TB	RL	HR	1930	301	114	51.26N	16.73E	BE	52C	FL	41C	PS	36C	SS	41C							
1526=U7	4	0159	7295	TI	RL	L9+L10	0	0	0	50.07N	3.19W	FL	45C	SS	42C											
1527=U7	7	0144	7295	TI	RL	L9+L10	1129	178	104	51.74N	4.26W	BE	56C	CA	55C	LR	45C	PS	48C	SS	42C					
1528=U7	2	1257	15370	TI	RL	B4	0	0	0	50.43N	12.67E	FL	42C	LR	47C											
1529=U7	31	1106	15370	TI	RL	B4	0	0	0	2.62N	67.31E	BE	52C	LR	47C											
1530=U7	7	1239	15370	TI	RL	B4	0	0	0	52.99N	39.63W	LR	49C	PS	45C											
1531=U7	7	1522	15370	TI	RL	B4	4511	496	147	10.18N	66.19E	AL	31C	BE	50C	FL	42C	LR	47C							
1532=U7	29	2256	7245	UKR	RL	L7+L8	611	62	70	53.74N	45.81W	BE	51C	GI	51C	PS	38C									
1533=U7	24	1634	11825	UKR	RL	L9+L10	1160	190	93	56.41N	9.45W	BE	54C	FL	33C	PS	32C	SS	39C							
1534=U7	30	1902	11885	UKR	RL	P2	5515	548	143	34.54N	50.34E	AL	33C	FL	38C	PS	40C									
1535=U7	24	1742	11885	UKR	RL	P2	714	414	134	51.65N	21.96E	AN	4C	DS	34C	FL	33C	SS	42C							
1536=U7	2	1657	17895	UKR	RL	P4	1395	207	104	54.21N	1.61E	BE	50C	FL	32C	LR	49C	PS	43C	SS	42C					
1537=U7	7	1552	17895	UKR	RL	P4	1619	293	151	6.97S	75.07E	AL	41C	BE	52C	CA	43C	FL	44C	KI	16C	LR	48C			
												PS	41C													
1538=U7	7	1629	17895	UKR	RL	P4	4617	350	133	40.34N	34.46E	AL	41C	BE	52C	FL	43C	LR	47C	PS	42C					
1539=UA	7	0710	11970	????	????????????		0	0	0	48.74N	151.22E	FE	305C	WP	317C											
1540=UA	29	1130	6105	RUSS	RL	L11	0	0	0	50.35N	138.01E	DS	323C	WP	317C											
1541=UA	27	1202	6105	RUSS	RL	L11	625	187	55	50.93N	141.25E	AN	288C	DS	322C	FE	308C	KI	326C	LV	317C	WP	318C			
1542=UA	22	0804	6105	RUSS	RL	L11	2856	226	48	49.66N	139.39E	AN	287C	DS	323C	KI	322C	LV	316C	ps	318C					
1543=UA	24	1101	6105	RUSS	RL	L11	811	304	68	46.73N	140.33E	DS	323C	FE	305C	LV	316C	WP	312C							
1544=UA	31	0600	6105	RUSS	RL	HB	3679	286	44	46.13N	132.14E	AN	288C	DS	322C	LV	316C									
1545=UA	24	1400	6105	RUSS	RL	L11	3147	254	47	48.41N	136.62E	AN	287C	DS	322C	LV	316C									
1546=UA	28	1019	6105	RUSS	RL	L11	670	214	55	50.14N	138.79E	AN	288C	DS	324C	KI	324C	LV	315C	WP	317C					
1547=UA	28	0604	6105	RUSS	RL	L6	732	240	54	48.65N	135.71E	AN	288C	DS	324C	LV	315C	WP	315C							
1548=UA	21	1030	6105	RUSS	RL	L11	759	248	53	48.03N	134.42E	AN	288C	DS	323C	LV	317C	WP	314C							
1549=UA	23	1230	6105	RUSS	RL	L11	647	201	54	48.55N	139.81E	AN	286C	DS	322C	FE	307C	KI	325C	LV	315C	WP	315C			

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1550=UA 18  0900  6105 RUSS RL  L11      752  224   51  47.01N 134.26E   AN 287C  DS 322C  FE 312C  KI 330C  LV 315C  WP 313C
1551=UA 31  0730  6105 RUSS RL  L11      668  206   54  49.52N 138.77E   AN 285C  DS 324C  FE 314C  LV 319C  WP 315C
1552=UA 23  0830  6105 RUSS RL  L11      656  225   53  48.19N 138.55E   AN 288C  DS 320C  LV 316C  PS 319C  WP 313C
1553=UA 29  1003  6105 RUSS RL  L11        0    0    0  50.15N 140.70E   AN 286C  WP 317C
1554=UA 21  0830  6105 RUSS RL  L11      812  265   52  46.24N 132.09E   AN 288C  DS 323C  LV 316C  WP 312C
1555=UA 19  1540  6105 RUSS RL  L11      854  314   65  47.70N 137.41E   an 325C  DS 317C  FE 313C  LV 315C  WP 314C
1556=UA 29  0838  6105 RUSS RL  L11        0    0    0  47.01N 129.55E   DS 324C  WP 313C
1557=UA 28  0740  6105 RUSS RL  L6       686  211   53  47.87N 137.70E   AN 288C  DS 324C  FE 306C  KI 322C  LV 314C  WP 314C
1558=UA 28  1237  6105 RUSS RL  L11      760  248   53  47.91N 134.37E   AN 288C  DS 325C  LV 315C  WP 314C
1559=UA 30  1136  6105 RUSS RL  L11     1003  364   76  50.27N 138.51E   DS 324C  LV 316C  WP 317C
1560=UA 21  0930  6105 RUSS RL  L11      814  265   52  46.36N 131.99E   AN 288C  DS 323C  LV 317C  WP 312C
1561=UA 23  1330  6105 RUSS RL  L11      731  230   51  44.64N 135.71E   AN 286C  DS 323C  FE 304C  KI 322C  LV 313C  WP 310C
1562=UA 30  0913  6105 RUSS RL  L11        0    0    0  50.47N 135.71E   DS 324C  WP 317C
1563=UA 30  1332  6105 RUSS RL  L11      562  244   79  49.42N 154.28E   DS 323C  FE 299C  LV 316C  WP 317C
1564=UA 19  1311  6105 RUSS RL  L11      807  265   52  46.08N 132.35E   AN 288C  DS 322C  LV 315C  WP 312C
1565=UA 26  0610  6105 RUSS RL  L6       715  218   53  48.61N 136.22E   AN 287C  DS 322C  FE 311C  LV 321C  WP 314C
1566=UA 30  1443  6105 RUSS RL  L11        0    0    0  50.35N 138.01E   DS 323C  WP 317C
1567=UA 24  0800  6105 RUSS RL  L6       756  251   53  47.13N 134.67E   AN 287C  DS 322C  LV 316C  WP 313C
1568=UA 22  1303  6105 RUSS RL  L11      518  188   56  51.11N 145.71E   AN 287C  BE 323C  DS 320C  LV 315C  WP 315C
1569=UA 28  0811  6105 RUSS RL  L11      756  248   53  47.75N 134.60E   AN 288C  DS 324C  LV 314C  WP 314C
1570=UA 24  0900  6105 RUSS RL  L11      638  211   56  50.85N 140.74E   AN 287C  DS 322C  LV 316C  WP 318C
1571=UA 27  1322  6105 RUSS RL  L11      636  197   55  50.24N 140.62E   AN 287C  DS 326C  FE 308C  LV 315C  WP 317C
1572=UA 27  0836  6105 RUSS RL  L11      992  359   68  46.52N 135.03E   DS 322C  KI 323C  LV 317C  WP 312C
1573=UA 22  0907  6105 RUSS RL  L11     2568  200   51  51.93N 143.22E   AN 287C  DS 323C  KI 322C  LV 317C
1574=UA 30  0707  6105 RUSS RL  L6       763  251   53  47.51N 134.30E   AN 287C  DS 324C  LV 318C  WP 313C
1575=UA 27  1426  6105 RUSS RL  L11     2264  163   55  54.27N 147.60E   AN 288C  DS 325C  FE 308C  LV 317C
1576=UA 22  1002  6105 RUSS RL  L11      452   35   30  49.44N 137.22E   AN 287C  DS 322C  ki 272C  LV 318C  WP 316C  SL  24B
1577=UA 28  0908  6105 RUSS RL  L11      708  232   54  49.41N 136.95E   AN 288C  DS 324C  LV 315C  WP 316C
1578=UA 27  0606  6105 RUSS RL  L6         0    0    0  47.04N 136.18E   FE 311C  WP 313C
1579=UA 27  1051  6105 RUSS RL  L11      685  233   55  50.32N 138.17E   AN 288C  LV 317C  WP 317C
1580=UA 29  1322  6105 RUSS RL  L11        0    0    0  47.01N 129.55E   DS 324C  WP 313C
1581=UA 19  1231  6105 RUSS RL  L11      741  229   52  47.00N 134.99E   AN 287C  DS 322C  FE 311C  LV 315C  WP 313C
1582=UA 23  0720  6105 RUSS RL  L6       684  203   53  49.55N 137.76E   AN 287C  DS 320C  FE 317C  KI 325C  LV 315C  WP 316C
1583=UA 26  1709  7170 RUSS VOA KAV        0    0    0  55.90N 162.90E   AN 279C  WP 330C
1584=UA  5  0855  7220 RUSS RL  L5+L6     833  253   50  44.68N 130.81E   AN 287C  DS 321C  FE 313C  LV 317C  WP 310C
1585=UA  3  0910  7220 RUSS RL  L5+L6     640  202   57  52.50N 140.90E   AN 289C  DS 322C  LV 318C  WP 320C
1586=UA  7  0923  7220 RUSS RL  L5+L6     657  209   54  48.44N 139.38E   AN 281C  DS 322C  FE 325C  LV 314C  WP 311C
1587=UA 26  0433 15370 RUSS RL  B6         0    0    0  47.07N 131.97E   AN 289C  WP 313C
1588=UB 21  0230  6090 RUSS VOA MUN        0    0    0  49.68N  31.60E   NO 110C  N1 140C
1589=UB 27  0421  6150 RUSS VOA MUN        0    0    0  31.79N  47.18E   BE  50C  PS  40C
1590=UB 24  0328  7220 RUSS RL  HC       686   44   98  53.16N  28.06E   BD  75C  FE  19C  LR  37C  BD  75C
1591=UB 22  2158 11835 RUSS VOA KAV     1904  228  100  56.06N  10.20W   AL  46C  FL  38C  LR  46C
1592=UB  3  1232 11875 RUSS RL  L9+L10     0    0    0  50.46N  28.16E   AL  38C  PS  37C
1593=UB 22  1919 15380 UKR  RL  P6         0    0    0  50.64N  22.64E   PS  39C  SS  41C
1594=UD 21  0900     0 ???? ???????????    0    0    0  59.09N 175.01W   DS 323C  LV 320C
1595=UD  2  1926  9585 RUSS VOA MUN      823  271   50  42.77N 131.78E   AN 288C  FE 308C  LV 307C  WP 309C
1596=UD  1  1837  9715 RUSS VOA KAV        0    0    0  61.17N 179.42W   AN 283C  FE 313C
1597=UD 21  2019 11805 RUSS VOA MUN      439   62   57  36.63S  60.56E   AN 309C  FE 348C  LV 300C  wp 313C
1598=UD  2  2040 11805 ???? ???????????  910  276   48  41.53N 127.99E   AN 288C  DS 322C  FE 309C  LV 314C  WP 307C
1599=UD 30  2310 11835 ???? ???????????  893  282   49  43.18N 128.33E   AN 288C  FE 310C  LV 320C  WP 308C
1600=UD  2  1942 11945 ???? ???????????  938  292   48  42.46N 126.47E   AN 290C  FE 310C  LV 317C  WP 308C
1601=UD  3  2130 11835 RUSS VOA KAV     4165  346   41  40.95N 123.63E   AN 290C  LV 316C  LV 316C
1602=UD  2  1730 11845 RUSS BBC CYPRUS   963  338   62  44.54N 133.14E   DS 322C  FE 310C  LV 314C  WP 310C
1603=UQ  1  0008  9625 CASI RL  BIB ▲      0    0    0  54.87N  29.40E   U2  69B  NE  70B
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1604=UQ	2	1708	9635	RUSS	BBC	CYPRUS	0	0	0	53.18N	27.78E	NO	105C	U2	75C								
1605=UQ	2	1600	9635	RUSS	BBC	CYPRUS	2568	237	148	28.12N	89.41E	NO	78B	U2	75C	N1	90B						
1606=UQ	21	1402	11875	RUSS	RL	L6	1013	242	125	46.18N	59.49E	U2	74C	AL	31C	DS	OC						
1607=UQ	1	0127	11970	RUSS	RL	P2	1759	213	121	86.35N	29.31E	AL	6C	fe	170C	FL	3C	GI	2C	KI	5C	1v	134C
												PS	3C										
1608=UQ	29	1237	15290	RUSS	RL	L2	0	0	0	57.14N	26.09E	NO	90D	SS	34C								
1609=UQ	2	0900	17725	RUSS	RL	B5	0	0	0	52.41N	59.88E	NO	78B	U2	65C								
1610=UQ	7	0535	17725	RUSS	RL	P5	0	0	0	42.44N	74.48E	U2	70C	NO	80B								
1611=UR	5	1530	9680	DARI	VOA	KAV	0	0	0	60.58N	60.81E	BK	51A	U2	51B								
1612=US	6	1817	9515	????	????????????		0	0	0	49.46N	33.46E	N1	137A	NO	108A								
1613=US	19	1612	11880	????	????????????		0	0	0	10.60N	61.37E	NO	115B	N1	125D								
1614=US	31	0102	7180	TB	RL	L7+L8	1526	249	113	56.31N	14.52E	AL	37C	BE	45C	FL	34C	PS	40C	SS	36C		
1615=US	30	0202	7180	TB	RL	L7+L8	803	48	64	51.24N	52.83W	BE	53C	FL	36C	PS	37C						
1616=US	27	0204	7180	TB	RL	L7+L8	0	0	0	59.59N	30.47W	BE	43C	CA	43C								
1617=US	1	0040	7180	TB	RL	L7+L8	775	211	129	29.76S	85.63E	AL	42C	BE	48C	PS	65C						
1618=US	7	0145	7180	TB	RL	L7+L8	907	126	67	50.90N	48.74W	FL	36C	KI	45C	PS	45C						
1619=US	23	0234	7180	TB	RL	L7+L8	2535	403	116	52.55N	25.03E	FL	36C	LR	41C	SS	39C						
1620=US	3	2349	7295	TI	RL	L9+L10	604	44	69	52.72N	48.10W	BE	53C	CA	52C	FL	37C	KI	37C	LR	47C	PS	35C
1621=US	31	0120	7295	TI	RL	L9+L10	2827	248	113	55.33N	8.59E	AL	38C	BE	51C	FL	35C	PS	40C				
1622=US	19	0050	7295	TI	RL	L9+L10	342	48	79	55.21N	16.24E	BE	41C	CA	43C	FL	39C	GI	31C	LR	45C	PS	39C
												SS	39C	BD	65C								
1623=US	24	0034	7295	TI	RL	L9+L10	1442	242	104	54.00N	1.42E	BE	51C	LR	47C	SS	38C						
1624=US	25	0028	7295	TI	RL	L9+L10	312	34	78	54.69N	22.42E	BE	50C	KR	65C	LR	42C	KR	65C	BE	39C	FL	36C
												GI	31C	LR	36C	PS	35C						
1625=US	5	2221	7295	TI	RL	L9+L10	1408	72	72	56.03N	39.70W	BE	48C	CA	48C	LR	42C						
1626=US	3	2230	7295	TI	RL	L9+L10	1039	71	77	54.22N	38.19W	BE	53C	CA	53C	FL	40C	LR	44C				
1627=US	6	0134	7295	TI	RL	L9+L10	648	144	69	54.81N	35.45W	FL	38C	LR	46C	SS	25C						
1628=US	26	0200	7295	TI	RL	L9+L10	152	1	80	52.26N	5.24E	NE	81B	NE	80B	U2	83B						
1629=US	31	2328	7295	TI	RL	L9+L10	5208	225	106	58.24N	5.10E	BE	45C	FL	35C	LR	41C	PS	36C				
1630=US	31	1342	17750	TI	RL	HC	2733	410	122	48.71N	31.57E	BE	47C	FL	36C	SS	42C						
1631=US	30	1649	11885	UKR	RL	P2	5708	550	145	32.92N	54.93E	AL	31C	FL	36C	LR	42C						
1632=VD	25	1556	15105	RUSS	DW	JUL	0	0	0	60.86N	4.63E	AL	37C	FE	26C								
1633=VF	28	2300	7190	POLI	RFE	G3B	0	0	0	56.87N	53.79E	N1	96B	N2	108A								
1634=VG	25	2200	7200	????	????????????		2391	149	137	43.86S	169.58E	NE	57B	NE	57B	U2	45C						
1635=VG	2	1639	11960	RUSS	IBA	JER	0	0	0	50.52N	63.04W	LR	36C	PS	37C								
1636=VG	7	1501	11805	RUSS	VOA	KAV	918	408	137	56.14N	28.66E	FE	14C	FL	36C	LV	18C	SS	32C				
1637=VG	22	1534	11835	RUSS	VOA	WOF	1052	257	133	56.40N	36.56E	AL	28C	an	177C	BE	35C	CA	36C	FE	12C	FL	29C
												LR	35C	SS	34C								
1638=VG	31	1051	11835	RUSS	BBC	CYPRUS	0	0	0	52.63N	39.23E	FL	32C	SS	36C								
1639=VG	30	1224	15225	RUSS	VOA	WOF	0	0	0	67.04N	8.68W	BE	33C	PS	28C								
1640=VG	26	1332	15290	RUSS	RL	L2	4478	484	150	29.00N	54.85E	BE	46C	ca	63C	GI	24C	KI	27C	PS	37C		
1641=VG	27	0930	15340	RUSS	RL	L4	0	0	0	59.09N	30.71E	NO	78B	N1	122B								
1642=VL	29	0115	7105	PASH	VOA	KAV	562	128	144	43.45N	65.34E	U2	76C	N2	110B	U2	73C						
1643=VL	30	0127	7105	PASH	VOA	KAV	0	0	0	21.26S	106.94E	N1	95B	NO	92B								
1644=VL	25	0100	7105	????	????????????		9605	58	111	49.97N	47.24E	NE	78B	U2	75C	NE	78B						
1645=VL	22	2230	11946	????	????????????		0	0	0	68.13N	18.95W	AN	23C	BE	30C								
1646=VL	31	0140	7105	RUSS	VOA	MUN	0	0	0	38.45N	72.95E	U2	75C	NO	85B								
1647=VL	30	0500	15380	RUSS	RL	P6	963	111	134	35.49N	74.69E	BK	81A	N1	100C	NO	85B						
1648=VL	3	1302	17895	RUSS	RL	P3+P4	0	0	0	49.96N	47.22E	U2	75C	NE	78B								
1649=VN	2	1329	11725	POLI	RFE	GLORIA	0	0	0	55.67N	51.93E	AL	23C	LR	27C								
1650=VR	25	1430	15340	ARM	RL	L4	557	209	122	58.54N	17.12E	AL	38C	AN	6C	BE	38C	CA	39C	FL	36C	LV	22C
												PS	36C	SS	32C								
1651=VR	22	1445	11760	GEOR	VOA	KAV	229	35	119	57.40N	55.76E	U2	55B	NO	72A	N1	92B						
1652=VR	31	1700	15340	GEOR	RL	L4	438	34	70	57.45N	17.96E	U2	55B	AL	43C	FL	31C	GI	25C				

1653=VR	7	1618	15340	GEOR	RL	L4	0	0	0	7.80N	72.23E	AL	27C	PS	32C										
1654=VR	18	0200	5955	RUSS	RL	HB	0	0	0	56.05N	27.89E	NE	65B	U2	65C										
1655=VR	25	0430	7105	RUSS	VOA	MUN	0	0	0	51.40S	178.92E	NE	80B	U2	52C										
1656=VR	29	0448	9520	RUSS	RL	B4	2751	461	144	39.84N	59.16E	AL	26C	BE	38C	FL	30C	SS	40C						
1657=VR	26	0514	9520	RUSS	RL	L5	0	0	0	25.43N	61.36W	LR	132C	SS	32C										
1658=VR	30	0510	9520	RUSS	RL	L5	0	0	0	54.72N	21.01E	PS	36C	SS	37C										
1659=VR	28	0511	9520	RUSS	RL	L5	0	0	0	53.38N	24.44E	PS	36C	SS	38C										
1660=VR	24	1230	11705	RUSS	VOA	KAV	311	53	107	56.68N	37.76E	U2	67C	AL	30C	BE	39C	CA	39C	PS	28C	SS	38C		
												AL	31C	an	180C	BE	39C	CA	39C	PS	28C	SS	38C		
												NO	80C												
1661=VR	27	1327	11705	RUSS	VOA	KAV	1868	234	114	65.55N	16.10E	BE	35C	CA	37C	GI	22C	PS	18C						
1662=VR	29	1242	11705	RUSS	VOA	KAV	4407	516	151	44.61N	51.84E	GI	24C	KI	16C	LR	35C								
1663=VR	19	1345	11705	RUSS	VOA	KAV	724	312	144	60.51N	26.11E	AN	1C	DS	22C	FL	27C	GI	29C	PS	28C				
1664=VR	24	1341	11705	RUSS	VOA	KAV	92	37	125	58.16N	26.56E	AL	23C	BE	37C	CA	38C	FL	26C	PS	28C	NO	85C		
												N1	135C	AL	23C	an	180C	BE	37C	CA	38C	DS	22C		
												FL	26C	ki	100C	PS	28C	SS	38C						
1665=VR	29	1247	15290	RUSS	RL	L2	2402	203	91	65.24N	13.45W	AL	31C	LR	32C	PS	36C								
1666=VR	5	1237	15340	RUSS	RL	L4	1053	239	96	58.39N	6.18W	AL	42C	FL	39C	PS	37C	SS	31C						
1667=VR	22	1651	15340	RUSS	RL	L4	0	0	0	52.39N	11.94E	PS	41C	SS	40C										
1668=VR	26	1101	15445	RUSS	RL	HD	895	364	137	49.79N	25.48E	AN	3C	BE	47C	CA	45C								
1669=VU	4	1730	11960	YIDD	IBA	JER	0	0	0	44.47N	137.94E	LV	312C	WP	310C										
1670=VU	3	2307	9695	RUSS	RL	B6	0	0	0	23.93N	114.10E	AN	287C	LV	310C										
1671=VU	2	2234	9695	RUSS	RL	B6	0	0	0	9.33S	98.03E	AN	285C	LV	298C										
1672=VU	4	1850	11885	RUSS	RL	G4	862	273	50	44.13N	129.55E	AN	290C	FE	309C	LV	314C	WP	310C						
1673=VU	1	2205	11935	RUSS	RL	P6	889	307	49	42.44N	128.76E	AN	288C	FE	310C	WP	308C								
1674=VU	29	0001	11885	TI	RL	P2	1474	357	25	13.83S	83.48E	AN	288C	DS	322C	GI	356C	LV	319C						
1675=VU	18	0139	11885	TI	RL	B6	588	211	55	46.75N	143.21E	AN	280C	FE	308C	LV	312C	WP	313C						
1676=VU	20	0055	11885	TI	RL	P2	892	408	60	47.84N	129.62E	an	329C	FE	311C	PS	345C	WP	315C						
1677=VU	30	0100	11885	TI	RL	P2	0	0	0	42.48N	127.86E	AN	288C	LV	315C										
1678=VU	28	0028	11885	TI	RL	P2	795	257	51	45.14N	132.58E	AN	288C	FE	309C	LV	314C	WP	311C						
1679=VU	1	1904	11885	UKR	RL	P3	4320	329	40	39.61N	127.68E	AN	286C	FE	310C	LV	313C								
1680=VU	2	1742	11885	UKR	RL	L7+L8	0	0	0	37.11N	123.97E	FE	311C	LV	313C										
1681=VU	4	1537	11885	UKR	RL	L7+L8	0	0	0	1.24S	89.75E	DS	325C	LV	314C										
1682=W4	6	1843	15115	BULG	RFE	G7	906	288	130	45.64N	19.27E	AL	44C	AN	8C	BE	54C	FL	45C	KI	41C	PS	46C		
1683=W4	25	1730	15115	BULG	RFE	G7	2636	488	164	40.46N	22.29E	AN	5C	FE	31C	LV	22C								
1684=W4	24	1917	15115	BULG	RFE	G7	3766	452	127	43.16N	22.29E	AL	46C	FL	46C	KI	40C								
1685=W4	7	1606	15115	BULG	RFE	G7	3703	414	124	45.11N	20.00E	AL	46C	FL	45C	PS	45C								
1686=W4	30	1902	15115	BULG	RFE	G7	1131	59	130	41.36N	26.82E	U2	110B	AL	41C	BE	53C	DS	32C	FE	23C	FL	45C		
												GI	36C	LR	49C	LV	24C	PS	45C						
1687=WA	27	1643	7215	????	????????????		0	0	0	53.77N	44.90E	NO	86B	N2	125B										
1688=WA	23	0909	11880	????	????????????		0	0	0	58.24N	38.01E	NO	78B	N1	112A										
1689=WA	20	1046	11880	????	????????????		0	0	0	56.52N	35.94E	N1	120C	NO	85C										
1690=WA	30	0830	15185	DARI	DW	JUL	0	0	0	52.57N	49.58E	BK	70A	N2	120B										
1691=WA	30	0800	15275	????	????????????		0	0	0	55.26N	48.58E	N1	105B	NO	80B										
1692=WA	4	1530	17845	DARI	VOA	KAV	0	0	0	54.85N	18.18E	BK	56B	U2	68A										
1693=WA	1	1500	17845	PASH	VOA	KAV	0	0	0	48.08N	64.64E	U2	69B	NO	81A										
1694=WA	5	0830	17875	DARI	DW	WER	213	26	104	53.78N	45.18E	BK	68A	NO	85B	U2	69A								
1695=WA	23	2236	7155	BR	RL	P6	0	0	0	58.27N	.47W	BE	46C	SS	33C										
1696=WA	25	2134	7155	EST	RFE	P6	0	0	0	52.86N	46.33E	BE	36C	FL	29C										
1697=WA	25	2200	7155	EST	RFE	P6	457	53	109	53.16N	46.08E	NE	70B	NO	85C	U2	72B								
1698=WA	4	0001	5955	RUSS	RL	HB	548	100	84	54.92N	24.03W	BE	58C	FL	29C	PS	40C	SS	38C	BE	51C	FL	37C		
												SS	34C												
1699=WA	19	0134	5955	RUSS	RL	HB	0	0	0	55.91N	37.29E	NO	86A	U2	65C										
1700=WA	19	0300	6160	RUSS	VOA	WOF	56	1	59	52.25N	5.10E	NE	72B	NE	55B	U2	75C								

1701=WA	21	1006	11885	RUSS	RL	L9+L10	0	0	0	45.49N	77.59E	U2	65C	NE	68B												
1702=WA	19	1312	11885	RUSS	RL	L9+L10	2620	331	136	45.88N	45.62E	BE	40C	CA	39C	FL	30C	LR	38C	PS	32C	SS	42C				
1703=WA	28	1122	11885	RUSS	RL	L9+L10	0	0	0	53.03N	26.97E	AN	2C	SS	38C												
1704=WA	29	1043	11885	RUSS	RL	L9+L10	791	64	99	54.79N	36.89E	an	177C	BE	37C	LR	34C	SS	41C	BD	68B						
1705=WA	23	1211	11885	RUSS	RL	L9+L10	852	29	117	54.81N	42.82E	NO	85A	AL	26C	BE	37C	CA	32C	LR	32C	PS	29C				
												SS	38C														
1706=WA	21	1301	11885	RUSS	RL	L9+L10	536	47	102	53.33N	42.04E	BD	69C	BE	37C	CA	38C	LR	34C	PS	28C	SS	32C				
												BD	69C	KR	72B	U2	69C										
1707=WA	30	1111	11885	RUSS	RL	L9+L10	3027	423	140	45.81N	53.72E	an	168C	BE	35C	LR	33C	PS	29C	SS	38C						
1708=WA	23	0720	11885	RUSS	RL	L9+L10	0	0	0	55.66N	20.55E	U2	65B	NO	105D												
1709=WA	21	1103	11885	RUSS	RL	L9+L10	291	41	107	55.27N	44.06E	U2	65B	NO	83B	NE	67B										
1710=WA	25	1014	11885	RUSS	RL	L9+L10	1757	247	113	56.75N	14.41E	BE	38C	CA	44C	LR	43C	SS	40C								
1711=WD	30	2110	7105	RUSS	VOA	MUN	129	15	146	58.06N	29.94E	N2	145C	N1	127A	N2	145B										
1712=WD	30	0311	7240	RUSS	VOA	MUN	217	52	135	46.90N	43.50E	U2	84B	N1	125B	NO	100B										
1713=WD	1	1604	11960	????	????????????		0	0	0	41.51N	38.61E	FE	14C	FL	41C												
1714=WD	2	1640	11960	RUSS	IBA	JER	1224	126	79	60.80N	27.78W	AL	41C	BE	41C	PS	37C										
1715=WD	1	1728	11960	YIDD	IBA	JER	0	0	0	51.62N	28.52E	AN	1C	KI	30C												
1716=WD	27	1600	15105	RUSS	DW	JUL	110	7	67	52.65N	6.59E	NE	65B	U2	80C	FL	37C	LR	40C	PS	37C	SS	28C				
1717=WD	31	1727	15245	RUSS	BBC	SKL	341	17	89	52.66N	24.73E	AN	18C	DS	22C	FE	15C	GI	23C	LR	38C	LV	15C				
												wp	172C	BK	75A												
1718=WD	23	0300	6160	RUSS	VOA	WOF	0	0	0	55.15N	19.50E	NO	110B	U2	67B												
1719=WD	2	1802	9770	RUSS	DW	WER	0	0	0	47.77N	26.16E	AL	41C	PS	40C												
1720=WD	24	2031	11835	RUSS	VOA	KAV	6734	319	116	56.99N	18.57E	BE	41C	FL	37C	PS	36C										
1721=WD	3	1639	11845	RUSS	BBC	CYPRUS	0	0	0	53.79N	20.62E	LR	41C	SS	38C												
1722=WD	31	1632	15225	RUSS	BBC	WOOF	515	1	100	58.81N	5.75E	BE	45C	FL	36C	SS	34C	AN	1C	NO	90B	NO	105B				
1723=WD	30	1634	15245	RUSS	BBC	CYPRUS	1738	329	97	55.83N	2.08E	FL	38C	PS	40C	SS	36C										
1724=WD	28	1059	15290	RUSS	RL	L2	0	0	0	44.51N	42.79E	N1	128A	NO	106A												
1725=WD	4	0448	9625	TI	RL	B7	213	24	132	48.67N	41.64E	NO	100A	NO	100A	N1	125B										
1726=WD	24	1606	6160	UKR	VOA	KAV	0	0	0	41.11N	43.54E	N1	130C	NO	110C												
1727=WD	1	1930	9740	UKR	VOA	PHT	0	0	0	53.66N	40.30E	NO	90B	U2	70B												
1728=WG	23	1100	11725	POLI	RFE	G15+G16	0	0	0	60.04N	37.51E	N1	107B	NO	72A												
1729=WG	24	1335	11725	POLI	RFE	G16	0	0	0	52.01N	57.94E	NO	80B	N1	100C												
1730=WI	31	0357	7180	????	????????????		0	0	0	49.83N	55.99E	NO	85C	N2	115C												
1731=WI	2	1613	9650	RUSS	DW	WER	0	0	0	46.27N	56.42E	N2	118B	NO	90C												
1732=WI	3	1730	9660	RUSS	VOA	KAV	1562	90	68	60.65N	36.02W	BE	39C	CA	40C	LR	35C										
1733=WI	3	1635	9770	RUSS	BBC	CYP	531	55	87	55.38N	24.03E	U2	67C	AL	34C	GI	33C	PS	31C	SS	42C						
1734=WI	19	1810	11905	RUSS	DW	JUL	1054	34	73	53.51N	6.88E	U2	67C	FL	38C	SS	42C										
1735=WI	19	1620	11905	RUSS	DW	WER	0	0	0	53.41N	51.44E	NO	82B	N1	105C												
1736=WI	30	1723	11960	YIDD	IBA	JER	1672	294	132	52.33N	36.57E	AL	26C	BE	37C	FL	42C	GI	27C	LR	42C	SS	35C				
1737=WI	19	1400	11970	????	????????????		0	0	0	52.79N	55.99E	NO	80B	U2	66B												
1738=WI	25	1530	15105	RUSS	DW	JUL	383	21	81	56.94N	33.86E	BK	59A	AL	32C	BE	37C	FL	27C	LR	34C	PS	31C				
1739=WI	22	1730	11970	EST	RFE	HD	0	0	0	54.09N	10.21E	NE	57B	U2	67B												
1740=WI	24	1730	11970	EST	RFE	HD	1112	270	152	15.63S	89.24E	AL	8C	BE	36C	FL	37C	PS	32C								
1741=WI	24	1534	11970	LAT	RFE	HD	0	0	0	40.80N	120.66W	FE	170C	LV	15C												
1742=WI	25	0400	7180	LITH	RFE	P1	502	33	77	56.21N	22.85E	NE	62B	FE	17C	LV	20C	SS	40C								
1743=WI	2	0500	9680	LITH	RFE	P1	0	0	0	11.24N	88.76E	NE	88B	NO	90B												
1744=WI	19	2045	6070	RUSS	BBC	CYPRUS	0	0	0	56.40N	15.67E	NO	110B	U2	58C												
1745=WI	25	0331	7220	RUSS	RL	HC	1468	33	103	57.99N	27.11E	NO	85B	FL	33C	LR	34C										
1746=WI	26	2010	7230	RUSS	BBC	CYPRUS	0	0	0	55.48N	18.56E	NO	110B	U2	65C												
1747=WI	6	0402	9505	RUSS	RL	HA	0	0	0	55.61N	35.91E	U2	66B	NO	88A												
1748=WI	1	1830	9660	RUSS	RL	LAMPER	0	0	0	54.53N	39.92E	NO	88B	U2	68C												
1749=WI	25	1638	11710	RUSS	VOA	WOF	1650	97	69	62.61N	32.71W	BE	36C	CA	37C	LR	34C	PS	32C								
1750=WI	24	1830	11770	RUSS	RL	HD	75	25	113	56.86N	28.79E	BE	35C	FE	14C	FL	33C	LV	13C	PS	32C	SS	42C				
												N1	135C	U2	70C	NO	90C	NO	85B								

1751=WI	22	1530	11835	RUSS	VOA	WOF	0	0	0	53.59N	46.78E	U2 68B	NO 85B				
1752=WI	24	1133	11835	RUSS	BBC	CYP	157	37	134	56.51N	38.93E	U2 63C	N1 115B	BE 38C	CA 40C	LR 41C	PS 26C
												SS 38C					
1753=WI	30	2025	11835	RUSS	VOA	KAV	3343	428	129	53.87N	43.06E	BE 37C	FL 29C	SS 34C			
1754=WI	22	1836	11955	RUSS	BBC	F	1740	227	109	61.23N	13.62E	BE 37C	CA 38C	ds 141C	FL 31C	PS 33C	SS 32C
1755=WI	23	1700	11960	RUSS	VOA	MUN	433	76	106	53.15N	40.73E	AL 31C	BE 34C	CA 38C	FL 33C	LR 40C	PS 32C
												DS 3C	FE 12C	U2 71B			
1756=WI	30	1206	15290	RUSS	RL	L2	0	0	0	54.37N	39.18E	AL 30C	BE 38C				
1757=WI	5	0303	9660	UKR	RL	P4	0	0	0	87.36N	40.48W	AN 5C	FE 4C				
1758=WI	24	1630	11825	UKR	RL	L9+L10	0	0	0	63.27N	28.17E	AN 1C	FE 14C				
1759=WL	31	2057	11805	????	????????????		0	0	0	44.49N	136.30E	DS 319C	WP 310C				
1760=WL	20	1835	11835	RUSS	VOA	WOF	1412	160	78	56.84N	175.83E	DS 318C	FE 308C	GI 315C	KI 330C	LV 314C	
1761=WL	21	2118	11865	????	????????????		643	218	54	45.56N	140.27E	AN 283C	DS 317C	FE 305C	LV 310C	WP 312C	
1762=WL	27	0810	9675	RUSS	VOA	PHT	2716	264	45	44.91N	140.15E	AN 281C	KI 321C	LV 312C			
1763=WL	2	1802	9770	RUSS	DW	WER	0	0	0	53.50N	155.47E	AN 280C	LV 315C				
1764=WL	31	2041	11835	RUSS	VOA	KAV	2937	264	46	46.58N	136.92E	AN 285C	DS 319C	LV 315C			
1765=WL	30	2013	11835	RUSS	VOA	KAV	0	0	0	47.83N	137.87E	DS 321C	WP 314C				
1766=WL	25	2157	15340	RUSS	RL	G16	1677	170	52	51.87N	151.34E	AL 322C	AN 282C	KI 325C	LV 311C		
1767=WL	6	2210	11885	UKR	RL	P3	0	0	0	45.93N	141.99E	FE 307C	WP 312C				
1768=WL	31	2109	11885	UKR	RL	P3	651	237	55	46.01N	140.08E	AN 282C	DS 319C	LV 312C	WP 312C		
1769=WM	21	0008	11720	????	????????????		0	0	0	60.16N	42.57E	NO 70C	N1 100C				
1770=WM	23	1814	11970	BR	RL	P4	0	0	0	17.72S	123.70E	NO 75B	U2 74B				
1771=WM	25	1835	11970	BR	RL	P4	1252	165	93	59.96N	13.52W	BE 42C	FL 37C	GI 34C	KI 40C	PS 41C	
1772=WM	18	1830	11970	BR	RL	P4	2137	280	116	60.49N	23.92E	BE 34C	CA 37C	FL 31C	lv 165C	SS 33C	
1773=WM	2	2201	9725	CZEC	RFE	G3	8110	3	0	52.00S	179.87W	U2 78B	U2 78B	ss 44C	U2 75B	U2 75B	
1774=WM	6	2200	9725	CZEC	RFE	G3	1111	86	116	48.41S	164.77E	N3 60C	U2 76A	U2 76B			
1775=WM	4	2210	9725	CZEC	RFE	G3	0	0	0	2.17S	78.43E	FL 44C	PS 30C				
1776=WM	3	2105	9725	CZEC	RFE	G3	866	38	87	52.65N	9.10E	BE 51C	SS 32C	U2 80C			
1777=WM	7	2208	9725	CZEC	RFE	G3	2331	368	159	.92S	88.51E	U2 92C	BE 25C	CA 23C	FL 20C	PS 21C	
1778=WM	7	2312	9725	CZEC	RFE	G3	3097	439	141	50.50N	55.72E	FL 25C	LR 25C	PS 28C	SS 34C		
1779=WM	27	0700	15255	CZEC	RFE	G3	314	37	111	50.67N	49.20E	BK 74A	NO 88B	U2 76B			
1780=WM	25	0638	15255	CZEC	RFE	G3	0	0	0	33.95N	77.59E	NO 85A	U2 76B				
1781=WM	26	0604	15255	CZEC	RFE	G3	949	130	141	39.14N	71.25E	U2 76B	N1 100B	NO 85B			
1782=WM	29	0711	15255	CZEC	RFE	G3	0	0	0	42.47N	66.30E	N1 102B	U2 75B				
1783=WM	28	0640	15255	CZEC	RFE	G3	0	0	0	46.43N	56.15E	NO 90B	U2 76A				
1784=WM	25	0810	15255	CZEC	RFE	G3	0	0	0	48.23N	53.01E	NO 90B	U2 75B				
1785=WM	23	2006	11970	LITH	RFE	P4	2288	396	111	58.79N	20.86E	FL 29C	PS 34C	SS 34C			
1786=WM	19	2009	11970	LITH	RFE	P4	540	42	84	53.27N	11.03E	an 170C	BE 49C	CA 49C	FL 35C	SS 35C	wp 140C
												BD 75C					
1787=WM	26	0016	7155	RUSS	RL	P6	0	0	0	52.52N	49.76E	U2 69B	NO 85B				
1788=WM	3	0002	9680	RUSS	RL	G1A	0	0	0	50.19N	46.35E	KR 77B	U2 75C				
1789=WM	7	2309	9680	RUSS	RL	HC	0	0	0	34.33N	79.05E	BE 26C	FL 19C				
1790=WM	19	2000	11845	RUSS	BBC	CYPRUS	530	34	81	52.94N	7.29E	U2 75C	BE 51C	CA 48C			
1791=WM	24	0232	11915	RUSS	RL	HD	1780	404	148	19.03N	92.43E	an 162C	PS 3C	SS 32C	U2 76B		
1792=WM	20	0030	11915	RUSS	RL	P4	0	0	0	47.07N	61.17E	BK 75A	NO 85C				
1793=WM	25	0245	11915	RUSS	RL	HD	0	0	0	36.58N	76.54W	FL 16C	LR 175C				
1794=WM	22	2105	11970	RUSS	RL	P4	165	18	85	53.23N	18.35E	NE 72B	BK 74B	FL 26C	SS 33C	wp 137C	U2 77B
1795=WM	20	0144	11970	RUSS	RL	P5	1919	226	146	29.99N	86.63E	NO 85C	N1 90B	U2 72B			
1796=WM	23	2301	11970	RUSS	RL	P5	844	167	82	62.52N	21.65W	AL 42C	fe 174C	LR 26C	PS 34C	SS 37C	wp 127C
1797=WM	24	2251	11970	RUSS	RL	P4	0	0	0	54.25N	8.04E	AL 43C	SS 38C				
1798=WM	22	0400	11970	RUSS	RL	P5	0	0	0	52.10N	36.23E	NE 78C	NO 98B				
1799=WM	18	2315	11970	RUSS	RL	P5	0	0	0	41.40N	68.21E	NO 86A	U2 75C				
1800=WM	19	2216	11970	RUSS	RL	P4	1536	201	118	50.13N	56.44E	U2 70C	an 154C	BE 32C	SS 36C		
1801=WM	21	1820	11885	UKR	RL	P2	0	0	0	52.99N	10.44E	U2 77C	NE 75B				

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1802=WM 23   1900 11885 UKR  RL   P2          400   11   85  58.99N   8.80E  u2  77B  AL  43C  BE  40C  CA  47C  FL  31C  LR  40C
                                                                              PS  35C  SS  38C  NO  85C  DS   0C  NO  80C
1803=WM 24   2132 11885 UKR  RL   P2            0    0    0  50.57N  70.08E  U2  63B  N1  90B
1804=WQ 20   2118  6105 CZEC RFE  G2            0    0    0  51.09N  18.85E  N1 165C  NO 130B
1805=WQ 28   0830 15355 HUNG RFE  G6            0    0    0  50.19N  20.41E  NE  96A  NO 129A
1806=WR 31   0311 15290 RUSS RL   P2         1770  611  120  49.64S  51.00W  FE 137C  LV 140C  WP 136C
1807=WS 22   1247 15280 RUSS VOA  WOF        4886  514  155   5.63N  70.89E  KI  21C  LR  43C  PS  32C
1808=WS  3   1324 15290 RUSS RL   L2            0    0    0  60.65N  19.76W  BE  43C  CA  42C
1809=XD  4   0330  9635 RUSS VOA  WOF           0    0    0  50.67N  36.21E  U2  79B  BK  80A
1810=XI  6   1330 17725 RUSS RL   G3            0    0    0  51.80N  27.05E  BK  79A  U2  80C
1811=XI  1   1809 17885 RUSS RL   P3            0    0    0  54.13N  16.48E  AL  40C  LR  42C
1812=XN 25   2320  7235 ???? ???????????       0    0    0  50.89N  30.76E  NO 108A  N1 140A
1813=XN 18   1730 11700 YIDD IBA  JER         163   34  121  51.72N  27.74E  NO 110C  U2  80C  NO 110C
1814=XN 28   1715 15240 YIDD IBA  JER        1141  286  156  65.69N  16.15E  AN   5C  DS  15C  FE  22C  LV  20C
1815=XN 24   1440 11725 POLI RFE  G16           0    0    0  55.26N  48.58E  NO  80B  N1 105C
1816=XN  1   2130  9555 RUSS RL   HA            0    0    0  52.28N   5.49E  NE  81B  U2  83C
1817=XN 19   0340  6125 UKR  VOA  WOF           0    0    0  55.30N  16.94E  NO 115C  U2  65B
1818=XR 26   1035  7120 ???? ???????????       0    0    0  51.27N 136.79E  AN 290C  WP 318C
1819=XR  2   0007 11725 RUSS RL   G4            0    0    0  59.52N 126.39E  AN 306C  WP 327C
1820=XU 29   0500  7180 LAT  RFE  P1            0    0    0  55.82N  19.97E  BK  53B  U2  64B
1821=XW  4   0711 17750 RUSS RL   HC            0    0    0  48.40N  38.53E  N1 130C  NO 104A
1822=Z1  7   0226  9680 BR   RL   G1A           0    0    0  49.36N  12.92E  FL  43C  LR  48C
1823=Z1 28   0501  9680 BR   RL   P1          570  252  139  49.39N  23.56E  AL  30C  AN   3C  BE  54C  CA  55C  KI  37C  lr  87C
                                                                              SS  35C  AN   4C  FE  17C  ki 166C  wp 179C
1824=Z1  5   0225  9680 BR   RL   G1A         671    3   81  52.11N   1.02E  BD  78C  f1  45C  LR  48C  PS  45C  SS  39C  BD  78B
1825=Z1  1   1724 11970 BR   RL   HB         1901   98  151  24.40S  80.27E  AL  46C  KI  29C  LR  49C
1826=Z1  2   1722 15130 BR   RL   P6         2162  170  117  50.12N  10.79E  AL  45C  BE  53C  FL  42C  LR  48C  PS  46C  AL  45C
                                                                              BE  53C  FL  42C  LR  48C  PS  46C
1827=Z1  6   0114  9680 EST  RFE  G1A         1360  406  151  39.89N  26.24E  AN   3C  DS  32C  GI  38C  KI  41C  LV  25C
1828=Z1  1   0330  9680 EST  RFE  P1          733   89  126  42.69N  28.41E  AN   3C  FE  16C  FL  43C  PS  46C  SS  46C  U2 105C
1829=Z1  2   0102  9680 EST  RFE  G1A         825  246  107  57.45N  21.19W  a1  12C  DS  31C  FE  43C  LV  33C  PS  43C
1830=Z1 31   0110  9680 EST  RFE  G1A        3403  291  124  50.23N  21.38E  AL  38C  BE  51C  FL  40C  KI  39C  PS  37C
1831=Z1  5   2036 11970 EST  RFE  P2         2270  147   99  56.05N  12.78W  AL  44C  BE  52C  CA  51C  LR  44C
1832=Z1  3   1656 15130 EST  RFE  P6         1268  285  152   8.02S  75.55E  BE  54C  CA  46C  FL  42C  GI  20C  KI  13C  LR  51C
                                                                              PS  42C
1833=Z1  1   1403 15130 LAT  RFE  P6            0    0    0  30.13S  91.59E  LR  50C  PS  41C
1834=Z1  2   1440 15130 LAT  RFE  P6            0    0    0  51.95N   4.38W  FL  43C  LR  50C
1835=Z1  1   1846 15130 LAT  RFE  P6         3060  260  125  47.50N  18.03E  AL  42C  BE  54C  GI  41C  KI  35C  LR  50C  PS  43C
1836=Z1  6   0438  9680 LITH RFE  P1         1011   56  139  31.81N  40.52E  an 179C  FE   9C  KI  10C  KR 115C  wp 176C  KR 115A
                                                                              NO 130C
1837=Z1  4   0458  9680 LITH RFE  P1            0    0    0  44.89N  25.72E  N1 155B  NO 130B
1838=Z1  3   1909 11970 LITH RFE  P2          813   33   63  47.57N  60.85W  BE  58C  KI  46C  LR  49C  ps  41C
1839=Z1  7   1557 15130 LITH RFE  P6         3574  344  123  48.20N  18.83E  AL  45C  BE  51C  FL  44C  ps 168C
1840=Z1  2   1515 15130 LITH RFE  P6          906  294  134  46.12N  23.21E  AL  38C  AN   5C  DS  32C  FL  43C  KI  40C  LR  50C
                                                                              PS  42C
1841=Z1  7   0027  9680 RUSS RL   G1A        2047  471  161  33.70N  27.83E  AN   1C  DS  34C  FE  26C  LV  26C
1842=Z1  6   0037  9680 RUSS RL   G1A        1209  294  111  58.20N   4.85W  FL  33C  GI  40C  KI  40C  LV  25C
1843=Z1  3   2314  9680 RUSS RL   HC            0    0    0  43.41S 114.13E  U2 106B  NO 103B
1844=Z1  2   0000  9680 RUSS RL   HC          774  139   97  51.62N  15.11W  ne  90B  AL  59C  BE  57C  FL  46C  LR  48C  PS  46C
                                                                              SS  42C  ne  90B  ne  90B
1845=Z1  5   2220  9680 RUSS RL   HC            0    0    0  43.78N  69.72W  BE  50C  LR  45C
1846=Z1  1   2205  9680 RUSS RL   HC          109   28  136  45.68N  20.15E  NO 140B  U2 108B  AL  41C  BE  52C  FE  27C  FL  41C
                                                                              GI  33C  KI  37C  LR  47C  LV  27C  PS  43C
1847=Z1  4   2215  9680 RUSS RL   HC         2654  279  122  47.04N  17.08E  BE  56C  FL  40C  GI  36C  LR  51C  PS  45C
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1848=Z1	3	2213	9680	RUSS	RL	HC	2487	38	124	44.21N	24.58E	nO 105B	nO 105B	BD 106C	BE 55C	FL 41C	GI 37C
												KI 34C	LR 47C	BD 106B			
1849=Z1	3	0006	9680	RUSS	RL	G1A	1352	3	98	51.86N	1.00E	al 59C	BD 104C	BE 57C	FL 46C	LR 48C	PS 46C
												SS 42C	BD 104B	U2 104B			
1850=Z1	2	2200	9680	RUSS	RL	HC	1732	130	94	52.74N	21.62W	ne 72B	BE 57C	CA 56C	FL 43C	PS 46C	
1851=Z1	3	2334	9705	RUSS	RL	G3B	2505	300	121	49.75N	15.20E	BE 51C	FL 42C	GI 38C	PS 45C		
1852=Z1	31	1818	11885	RUSS	RL	G4	3153	445	151	41.08N	27.30E	DS 32C	FE 21C	GI 37C	LV 25C	wp 178C	
1853=Z1	3	1250	15130	RUSS	RL	P6	0	0	0	47.92N	24.36E	AN 4C	LR 45C				
1854=Z1	3	1350	15445	RUSS	RL	P5	843	364	134	51.46N	20.94E	AN 6C	BE 47C	lr 160C	PS 41C		
1855=Z1	30	2038	9565	UKR	RL	P1	1097	270	129	49.75N	18.50E	BE 53C	FE 23C	FL 35C	GI 37C	LR 48C	LV 24C
1856=Z1	28	1823	11885	UKR	RL	P2	1444	368	155	45.53N	23.69E	AN 6C	DS 32C	FE 23C	GI 39C	LV 18C	
1857=Z1	21	1909	11885	UKR	RL	P2	834	361	146	54.53N	14.14E	AN 10C	DS 38C	FE 21C	FL 35C	lv 170C	wp 177C
1858=Z1	30	1725	11885	UKR	RL	P2	0	0	0	61.58N	21.16E	AN 5C	FE 18C				
1859=Z1	28	1920	11885	UKR	RL	P2	1186	335	156	48.09N	20.15E	AN 4C	DS 32C	FE 23C	GI 38C	LV 23C	WP 10C
1860=Z1	22	1956	11885	UKR	RL	P2	0	0	0	44.10N	24.31E	NO 134A	N1 158A				
1861=Z1	27	1900	11885	UKR	RL	P2	1118	407	156	50.25N	29.02E	AN 5C	DS 25C	LV 5C	PS 42C		
1862=Z1	23	1900	11885	UKR	RL	P2	2055	51	163	55.05N	21.33E	AN 5C	FE 20C	LV 20C	wp 178C	nO 185C	N1 155C
1863=Z1	31	1745	11885	UKR	RL	L7+L8	734	230	138	57.08N	14.60E	AN 9C	DS 32C	FE 14C	GI 39C	LV 25C	AL 28C
												GI 39C	PS 40C				
1864=Z1	30	1912	11885	UKR	RL	P2	1501	414	158	44.32N	26.25E	AN 4C	DS 30C	FE 19C	GI 38C		
1865=Z3	20	1121	6015	????	????????????		0	0	0	50.14N	14.72E	N1 175B	NO 145B				
1866=Z3	3	1150	11855	????	????????????		533	39	67	50.45N	54.48W	BE 53C	CA 56C	PS 46C			
1867=Z3	7	1610	17835	CZEC	RFE	G3B	0	0	0	32.05S	94.74E	BE 51C	PS 14C				
1868=ZA	30	1129	15380	RUSS	RL	P3+P4	0	0	0	45.13N	51.01E	BE 39C	SS 39C				
1869=ZM	27	1100	15370	????	????????????		610	17	93	52.04N	26.18E	BK 78A	AN 2C	SS 43C			
1870=ZM	26	0209	9660	RUSS	RL	HA	2391	386	113	53.12N	21.34E	FL 40C	LR 40C	SS 38C			
1871=ZM	27	1420	11885	RUSS	RL	L9+L10	3680	185	91	58.89N	13.62W	BE 45C	FL 37C	PS 40C			
1872=ZM	21	1300	11885	RUSS	RL	L9+L10	0	0	0	51.60N	11.69E	BK 78A	KR 85B				
1873=ZM	7	1135	11885	RUSS	RL	L7+L8	4771	351	135	43.02N	38.41E	AL 38C	BE 46C	FL 41C	LR 42C	PS 39C	
1874=ZM	23	1508	17750	TI	RL	HC	6222	349	116	55.65N	16.06E	FL 37C	LR 39C	PS 38C			
1875=ZM	2	1506	11885	UKR	RL	L7+L8	1789	293	121	51.15N	23.97E	AL 41C	BE 45C	FL 40C	PS 38C	SS 41C	
1876=ZT	1	0403	9650	RUSS	DW	JUL	597	205	55	48.43N	142.71E	AN 282C	FE 311C	LV 313C	WP 315C		
1877=ZT	23	2003	9520	RUSS	RL	B5	1609	172	80	55.14N	178.11E	DS 313C	FE 304C	LV 315C			
1878=ZT	29	2002	9520	RUSS	RL	B5	570	211	56	48.02N	144.38E	AN 281C	DS 320C	LV 311C	WP 315C		
1879=ZT	29	1912	9520	RUSS	RL	L5	978	346	79	46.66N	142.60E	DS 321C	LV 310C	WP 313C			
1880=ZT	21	1948	9520	RUSS	RL	L5	709	280	72	46.38N	146.30E	DS 316C	FE 305C	LV 311C	WP 313C		
1881=ZT	27	1910	9520	RUSS	RL	L5	689	273	94	49.05N	156.83E	DS 315C	LV 310C	WP 319C			
1882=ZT	24	1908	9520	RUSS	RL	L5	704	278	72	50.29N	145.20E	an 356C	DS 320C	FE 307C	LV 319C	WP 317C	
1883=ZT	28	1915	9520	RUSS	RL	L5	668	271	74	48.53N	147.92E	DS 320C	FE 306C	LV 311C	WP 316C		
1884=ZT	3	2131	9555	RUSS	RL	HA	697	256	52	45.22N	137.55E	AN 285C	FE 304C	WP 311C			
1885=ZT	27	2216	9555	RUSS	RL	G13+G14	598	207	55	48.16N	142.63E	AN 283C	FE 307C	LV 313C	WP 315C		
1886=ZT	6	1815	9555	RUSS	RL	HA	571	219	54	47.20N	144.30E	AN 281C	FE 304C	WP 314C			
1887=ZT	22	0730	11885	RUSS	RL	L9+L10	353	3	150	37.87N	128.63E	SL 330B	AN 286C	DS 323C	KI 316C	LV 307C	
1888=ZT	31	0722	11885	RUSS	RL	L7+L8	625	206	54	46.40N	141.13E	AN 282C	DS 322C	FE 304C	KI 324C	LV 314C	WP 312C
1889=ZT	18	0732	11885	RUSS	RL	L9+L10	0	0	0	4.39S	39.26E	AN 349C	WP 313C				
1890=ZT	30	0740	11885	RUSS	RL	L9+L10	0	0	0	37.28N	127.89E	AN 284C	LV 311C				
1891=ZT	23	0804	11965	RUSS	VOA	PHT	5544	451	36	29.46N	116.21E	AN 288C	DS 322C	LV 311C			
1892=ZT	27	0700	11885	UKR	RL	P4	844	268	52	46.90N	130.47E	AN 290C	DS 326C	LV 315C	WP 313C		
1893=ZT	26	0609	11885	UKR	RL	P4	585	190	55	48.70N	143.36E	AN 283C	DS 318C	FE 309C	KI 324C	LV 312C	WP 316C
1894=ZT	28	0700	11885	UKR	RL	P4	0	0	0	42.16N	131.47E	AN 285C	LV 313C				

APPENDIX B: LOCATIONS OF EMITTERS OF INTENTIONAL HARMFUL INTERFERENCE DETERMINED FROM THE COMPOSITE DATA FILE FOR OCTOBER 1984 AND FOR MARCH/APRIL 1985

OCTOBER, 1984

HIT #	HIT NAME	BPE LAT	BPE LONG	SMA AXIS	SMI AXIS	ORIEN	# INDEXES	# OF BEARINGS USED
1=1F		50.69S	178.33W	920	181	109deg	2	4 of 4 bearings

526.00 527.00
BR085 K0079 IT060 KR079

2=1G		55.10N	19.95E	47	10	62deg	34	102 of 130 bearings		

528.00 529.00 530.00 531.00 532.00 533.00 534.00 535.00 536.00 537.00
538.00 539.00 540.00 541.00 542.00 543.00 544.00 545.00 546.00 547.00
548.00 549.00 550.00 551.00 552.00 553.00 554.00 555.00 556.00 557.00
558.00 559.00 560.00 561.00
NE068 BR055 IT072 K0037 KR052 NE067 UK057 it050 it050 K0040 NE065 UK056 IT076 K0045 ko060
KR050 MU055 BR060 IT075 BR050 K0037 uk057 IT090 K0038 KR070 K0039 UK057 K0038 KR055 SS042
IT094 K0039 KR051 BR053 IT058 KR050 n0075 WP345 BE032 WP348 uk057 AL011 SS026 BR052 ko074
KR062 BR050 it054 K0038 KR045 WP349 uk056 SS039 NE067 K0040 BR055 IT071 K0048 KR052 BR045
K0038 SS030 n1120 UK060 n0078 WP353 BR055 IT064 ko060 MU045 UK060 SS034 br094 it097 K0036
KR055 MU046 K0030 MU050 UK060 BR051 K0037 BR051 K0055 BR054 it055 K0050 KR058 mu052 BE039
IT060 mu050 BE030 BR055 it055 MU044 FL029 BR060 it055 K0040 mu056 BE036 n0080 BR047 it055
K0043 KR060 mu044 BR060 IT070 ko060 kr073 mu057 NE066 BE045 BR064 IT070 K0050 KR062 mu048
NE066 BR060 IT065 K0050 KR063 mu052 FL038 NE063 BE032 NE066

3=4F		52.31N	19.34E	46	10	91deg	43	125 of 187 bearings		

562.00 563.00 564.00 565.00 566.00 567.00 568.00 569.00 570.00 571.00
572.00 573.00 574.00 575.00 576.00 577.00 578.00 579.00 580.00 581.00
582.00 583.00 584.00 585.00 586.00 587.00 588.00 589.00 590.00 591.00
592.00 593.00 594.00 595.00 596.00 597.00 598.00 599.00 600.00 601.00
602.00 603.00 604.00
FL020 BR070 it085 ko078 KR080 LR030 SS036 BR090 IT082 KR082 MU060 BR081 it050 ko077 KR085
mu080 BR045 IT082 ko074 KR080 MU060 SS036 SS036 br065 it084 ko076 KR082 mu075 ko076 SS034
IT085 MU055 MU060 UK085 ko079 BR070 IT086 KR083 NE077 NE077 UK075 NE077 BR070 ko081 ko081
mu075 ko088 it085 KR080 IT090 K0049 DS010 n0085 BR080 IT085 ko078 KR082 mu070 it085 ko079
KR070 mu065 SS040 SS035 br064 ko072 KR080 uk060 WP322 WP325 K0057 KR080 mu502 NE073 NE076
K0064 BR090 it087 KR082 SS036 NE076 n0085 UK079 SS041 BE038 UK082 n1104 BR079 IT085 KR076
K0060 SS036 SS037 ko079 ko079 BR080 KR083 uk063 BE032 FL019 PS023 SS037 n0085 ko075 UK078
n0080 BR080 it083 ko070 KR085 NE075 ne060 LR028 it086 KR083 SS042 BR082 IT080 ko077 KR086
BR092 it087 ko083 KR085 BR090 IT087 ko077 KR085 mu070 an333 UK079 UK075 BR089 MU060 UK080
BR086 it072 IT082 SS036 n0095 IT087 SS038 BE032 BR085 MU050 FL025 UK080 UK078 SS034 BR085
IT084 KR086 FL032 UK080 SS041 NE079 BR095 it088 ko074 kr089 MU058 NE077 BR080 IT086 ko078
MU050 UK079 BR085 it083 KR085 n0090 UK079 BR086 it083 br058 ko072 MU060 n0090 SS035 BR085
IT086 ko078 KR083 mu075 FE352 it050 mu082

4=4N		54.37N	26.50E	123	28	76deg	10	17 of 29 bearings		

605.00 606.00 607.00 608.00 609.00 610.00 611.00 612.00 613.00 614.00
it062 KR063 BR067 K0052 WP341 br062 it063 K0055 mu060 K0056 MU048 BR075 IT080 K0055 kr061
MU045 n0075 NE073 n0075 K0050 n0072 IT065 it062 ko058 n0090 ko064 IT080 K0054 MU050

5=7K		52.43N	27.41E	92	20	95deg	14	37 of 37 bearings		

615.00 616.00 617.00 618.00 619.00 620.00 621.00 622.00 623.00 624.00
625.00 626.00 627.00 628.00
NE074 K0060 BR100 IT105 IT085 MU070 NE069 UK074 BR076 IT085 K0078 KR080 MU075 BR078 IT085

SS035 BR065 IT083 KR080 MU072 WP326 WP323 SS036 IT083 KR080 UK078 KR085 KR085 MU050 SS034
N0085 NE074 UK078 N0090 BR085 BR080 MU074

6=8L 52.58N 13.32E 25 1 53deg 31 72 of 132 bearings
629.00 630.00 631.00 632.00 633.00 634.00 635.00 636.00 637.00 638.00
639.00 640.00 641.00 642.00 643.00 644.00 645.00 646.00 647.00 648.00
649.00 650.00 651.00 652.00 653.00 654.00 655.00 656.00 657.00 658.00
659.00
BR080 it080 ko059 kr085 NE069 ko054 KR080 BR060 it074 ko059 mu060 br130 it060 ko065 KR095
KR070 mu080 UK073 BR075 ko058 KR071 FE004 UK068 it075 ko047 ne063 ne064 ko075 KR067 NE069
BR090 KR070 uk068 NE066 ko074 KR079 NE068 NE068 BR055 NE077 UK070 NE077 BR045 ko062 MU050
SS035 BR035 it072 ko062 KR065 mu045 uk070 UK070 BR080 it078 ko061 KR070 mu048 UK070 PS034
BR065 it081 ko066 KR073 mu055 UK071 it078 mu050 SS038 UK071 BR040 ko061 KR072 mu045 UK068
BR035 it075 ko060 KR067 UK069 KR065 BR053 KR060 it081 ko066 KR078 mu070 n0082 BR065 it070
ko051 KR076 UK072 BR066 it072 BR067 it072 ko063 KR072 mu068 BR065 it070 K0048 KR070 mu050
n0080 NE066 NE068 BR069 it065 ko063 kr050 mu050 n0080 NE068 NE066 n0080 NE066 BR055 it070
K0040 KR070 MU045 BR070 it083 BR081 it078 ko063 KR069 UK074 BR078 it072

7=99 7.79N 79.90E 1466 1179 12deg 7 14 of 14 bearings
660.00 661.00 662.00 663.00 664.00 665.00 666.00
WP295 AL328 AL008 WP295 LR042 WP296 WP292 LR001 AL336 WP307 WP325 AL048 LR042 AL035

8=AD 46.16N 36.51E 212 29 116deg 11 36 of 38 bearings
667.00 668.00 669.00 670.00 671.00 672.00 673.00 674.00 675.00 676.00
677.00
BR105 IT106 IT098 K0095 MU090 MU090 IT103 K0083 kr100 BE047 UK081 FL037 IT106 MU085 IT105
K0090 KR094 MU092 BR098 IT100 KR090 UK090 BR102 IT101 KR090 UK088 BR098 it084 K0085 MU085
BR104 K0085 KR070 MU085 KR095 UK092 MU085 FL037

9=AG 57.21N 48.44E 196 35 93deg 11 42 of 46 bearings
678.00 679.00 680.00 681.00 682.00 683.00 684.00 685.00 686.00 687.00
688.00
DS315 wp295 KR058 MU055 AN342 K0052 WP341 BR062 IT063 K0050 MU060 BR060 IT062 K0038 K0038
n0120 K0052 IT065 kr052 MU058 BR066 IT075 K0052 KR072 MU055 UK060 N1092 AN344 N0080 UK060
KR061 BR065 IT075 K0053 MU058 UK059 N0080 BR068 it059 K0058 KR063 MU056 IT059 K0058 KR063
MU056

10=AK 56.77N 95.31E 4663 227 123deg 2 7 of 11 bearings
689.00 690.00
br110 it122 ko089 kr102 BR050 IT050 IT050 K0046 K0046 KR045 MU045

11=AN 54.51N 28.05E 150 28 85deg 9 23 of 30 bearings
692.00 693.00 694.00 695.00 696.00 697.00 698.00 699.00 700.00
IT090 K0059 BR070 IT077 K0055 KR075 br045 IT072 ko064 KR065 ko062 MU048 br080 IT078 K0056
KR075 ko061 UK070 K0060 UK065 ne052 n0085 UK065 BR070 UK066 BR075 IT075 K0054 KR072 MU055

12=B1 49.16N 19.60E 53 15 121deg 29 73 of 75 bearings
708.00 709.00 710.00 711.00 712.00 713.00 714.00 715.00 716.00 717.00
718.00 719.00 720.00 721.00 722.00 723.00 724.00 725.00 726.00 727.00
728.00 729.00 730.00 731.00 732.00 733.00 734.00 735.00 736.00
BR121 IT125 K0067 KR100 FL040 IT087 K0076 br092 KR084 NE096 BR120 NE096 BR123 IT125 K0070
KR110 MU075 IT129 KR100 N0127 NE097 SS042 LR048 LR045 UK100 N0131 LR046 IT121 KR100 BE051
SS041 IT122 KR099 BR120 BE050 NE099 SS042 BE050 n1190 BE051 UK100 FL041 LR045 LR046 FL043
BR128 IT124 K0077 KR098 PS041 BE051 FL041 SS040 BE049 SS041 BE051 BR129 FL041 SS043 BE051

PS042 UK090 FL040 FL040 BE052 FL041 LR047 UK096 FL042 K0087 KR102 BE050 UK099 BE053 UK097

13=B5 32.89N 39.02E 736 70 138deg 4 16 of 17 bearings
737.00 738.00 739.00 740.00
BR125 it080 K0112 KR115 K0115 BR125 IT126 KR115 MU120 IT122 K0110 KR114 MU115 BR130 IT124
K0110 KR115

14=BA 26.62N 112.34E 0 0 0deg 1 2 of 2 bearings
741.00
LV313 FE313

15=BD 52.05N 17.71E 76 31 94deg 8 24 of 27 bearings
742.00 743.00 744.00 745.00 746.00 747.00 748.00 749.00
BR100 BR070 IT117 K0045 MU055 BR090 IT093 ko080 KR083 mu080 FL041 K0056 IT105 K0050 KR080
UK075 n0106 UK068 FE015 LR038 FL037 FE013 FL034 UK070 BR110 IT105 K0059

16=BG 52.58N 13.33E 24 1 60deg 61 134 of 214 bearings
750.00 751.00 752.00 753.00 754.00 755.00 756.00 757.00 758.00 759.00
760.00 761.00 762.00 763.00 764.00 765.00 766.00 767.00 768.00 769.00
770.00 771.00 772.00 773.00 774.00 775.00 776.00 777.00 778.00 779.00
780.00 781.00 782.00 783.00 784.00 785.00 786.00 787.00 788.00 789.00
790.00 791.00 792.00 793.00 794.00 795.00 796.00 797.00 798.00 799.00
800.00 801.00 802.00 803.00 804.00 805.00 806.00 807.00 808.00 809.00
810.00
NE072 NE072 KR070 BR080 n0093 BR065 it080 KR065 BR071 it073 ko052 KR064 BR070 it080 K0043
KR063 BR070 it070 K0027 KR066 NE074 UK068 BR084 it080 ko060 KR075 IT090 ko060 n0085 AL036
SS038 BR060 it066 ko050 KR070 mu052 FL030 SS033 BE042 PS023 BR070 it075 ko110 mu110 SS034
LV350 FL032 AL033 LR032 PS040 SS036 n0080 FL032 BR060 it070 ko050 KR064 mu057 FL032 FE005
SS041 n0085 UK068 FL038 UK060 BR050 ko062 KR065 n0090 BR045 ko055 mu050 BR067 it077 ko055
KR067 mu055 ko060 it073 UK067 AL028 NE066 ko060 BR070 mu045 NE067 IT118 ko084 IT118 ko084
BR054 KR063 mu045 IT060 mu050 KR060 n0078 BR080 KR114 it075 it075 K0050 K0050 BR078 it090
K0035 KR064 it073 K0035 BR077 mu035 NE067 BR070 it073 NE067 BE041 SS039 lr332 NE067 NE068
NE068 it065 KR065 mu045 ne065 it073 BR073 kr063 NE067 BE035 UK066 BR068 FL032 uk070 BR070
K0058 KR065 SS040 BE031 SS026 n0089 BR052 it072 KR064 BR069 it072 KR063 n0086 BR070 SS035
AL016 BR066 KR066 K0048 KR078 FL031 mu056 FE008 PS029 LR031 BE038 SS033 BR070 it075 ko053
mu060 BR060 it065 K0050 KR063 mu052 it065 LR039 it057 K0038 n0090 ko052 KR067 mu055 BR050
it050 K0047 KR055 MU020 FL037 SS030 BR078 it072 ko053 KR064 BR068 it078 KR065 BR068 IT075
ko060 KR065 ko060 UK060 BR081 it075 ko064 KR070 it070 KR065 BR101 it102 ko075 kr088 mu060
it072 UK060 BR107 it089

17=BL 55.21N 22.73E 0 0 0deg 1 2 of 2 bearings
811.00
UK066 FL035

18=BN 54.04N 17.53E 0 0 0deg 1 2 of 2 bearings
812.00
BR058 IT085

19=BQ 50.38N 19.08E 85 20 100deg 16 25 of 42 bearings
813.00 814.00 815.00 816.00 817.00 818.00 819.00 820.00 821.00 822.00
823.00 824.00 825.00 826.00 827.00 828.00
BR120 it100 PS028 LR038 ko094 KR100 IT110 ko090 kr099 mu120 br085 KR091 br090 it095 ko082
KR095 MU090 ko094 KR088 BR101 K0075 BR090 IT111 SS045 UK090 K0064 KR090 UK087 NE090 it101
KR092 mu090 UK090 br090 it088 UK090 br060 ko085 KR093 mu090 UK088 BE045

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20=BR        52.27N  16.40E    81   26   97deg    6    22 of   22 bearings
             829.00  830.00  831.00  832.00  833.00  834.00
            BR055 IT067 K0070 KR070 MU060 BR102 SS048 BR100 IT102 K0058 KR089 BR085 IT108 K0060 KR080
            MU045 KI025 PS036 BE043 LR038 LV018 KI025

21=CB        53.65N  35.94E   340   50   89deg    7    13 of   19 bearings
             842.00  843.00  844.00  845.00  846.00  847.00  848.00
            br100 IT075 K0065 KR072 mu050 K0064 MU060 K0070 MU060 ko075 kr086 br085 IT079 IT079 ko070
            BR075 K0059 KR070 MU056

22=CU        53.34N  14.00E   214   55   79deg    2     4 of    4 bearings
             849.00  850.00
            IT100 KR065 IT100 KR064

23=D1        49.89N  15.95E    86   59  133deg    1     4 of    4 bearings
             851.00
            BR145 IT140 K0060 KR105

24=D3        50.18N  15.27E   132   81  123deg    9    20 of   20 bearings
             852.00  853.00  854.00  855.00  856.00  857.00  858.00  859.00  860.00
            BE051 FE027 PS037 FL036 SS043 NO140 BE051 PS043 IT075 MU065 BE053 FL042 PS042 LR046 FL042
            SS043 UK098 FL042 FL041 AL044

25=DA        50.61N  24.45E   127   30  105deg    5    13 of   19 bearings
             862.00  863.00  864.00  865.00  866.00
            br055 it057 ko052 MU060 br080 it080 K0070 KR070 MU075 WP325 n0058 BR100 IT101 KR085 MU085
            BR105 IT092 K0080 KR095

26=DG        55.47N  27.21E   186   26   76deg    4    11 of   13 bearings
             867.00  868.00  869.00  870.00
            BR062 IT075 K0048 KR064 mu057 BR070 IT070 K0055 BR065 IT071 K0050 BR067 it062

27=DK        52.32N  15.85E     0    0    0deg    1     2 of    2 bearings
             871.00
            BR098 IT110

28=DL        50.16N  23.62E     0    0    0deg    1     2 of    2 bearings
             872.00
            K0070 KR090

29=DP        37.97N  68.89E     0    0    0deg    1     2 of    2 bearings
             873.00
            K0080 KR082

30=DR        54.58N  19.98E    30    8   74deg   44   160 of  164 bearings
             874.00  875.00  876.00  877.00  878.00  879.00  880.00  881.00  882.00  883.00
             884.00  885.00  886.00  887.00  888.00  889.00  890.00  891.00  892.00  893.00
             894.00  895.00  896.00  897.00  898.00  899.00  900.00  901.00  902.00  903.00
             904.00  905.00  906.00  907.00  908.00  909.00  910.00  911.00  912.00  913.00
             914.00  915.00  916.00  917.00
            NE067 AL345 NE067 BR055 IT070 K0035 KR062 UK069 BR065 IT076 K0039 KR057 MU030 NE068 LR042
            NE067 UK072 BR050 IT050 K0032 KR050 BE042 IT089 ko084 BR053 IT081 KR066 MU050 K0043 MU035
            BR075 BR100 K0043 MU042 BR070 IT079 K0042 KR065 BR065 IT072 K0040 KR065 BR069 IT076 K0038
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KR068 MU026 NE067 NE067 BR063 IT073 K0042 KR070 MU035 BR061 IT073 K0047 KR067 SS036 UK069
BR060 K0064 BR070 IT076 K0040 KR065 MU050 UK070 BR065 IT075 K0040 KR070 BE043 UK071 NE066
BR070 IT080 K0040 KR066 MU045 BR095 IT085 K0053 KR085 UK070 PS039 K0044 KR064 UK068 NE068
N3190 UK065 UK068 BR066 IT075 K0045 KR066 MU045 NE068 NE068 BE044 UK070 IT085 SS040 n0162
N3184 UK069 NO105 UK069 BR064 IT080 K0044 KR056 BR064 IT070 BR060 IT072 K0050 KR064 UK068
BR066 IT071 K0045 KR060 PS032 UK075 BR055 IT062 K0039 KR065 SS037 NE069 BR051 IT070 K0060
KR068 UK069 NE070 K0058 UK072 IT071 K0050 KR067 IT075 BR064 IT075 UK070 BR070 IT070 K0055
KR066 MU050 LR337 BE046 BR100 BE043 ne025 UK071 BR055 IT075 K0039 KR059 ko063 KR069

31=F2 46.84N 13.82E 148 31 121deg 3 6 of 8 bearings
932.00 933.00 934.00
K0103 MU130 it135 K0110 kr105 MU115 BE054 FL047

32=F9 51.38N 13.31E 0 0 0deg 1 2 of 2 bearings
935.00
IT136 KR088

33=FA 46.05N 129.02E 1515 480 49deg 4 8 of 8 bearings
936.00 937.00 938.00 939.00
WP312 AN291 LV315 AN291 WP310 AN291 WP313 FE307

34=FG 52.22N 17.57E 62 16 99deg 15 39 of 45 bearings
940.00 941.00 942.00 943.00 944.00 945.00 946.00 947.00 948.00 949.00
950.00 951.00 952.00 953.00 954.00
BR100 IT100 K0080 KR093 BR102 MU040 SS039 BR100 IT094 KR084 BR088 IT090 K0058 KR077 UK092
BR108 IT102 KR080 BR098 IT100 K0050 KR080 MU041 BR070 it070 KR079 BR094 IT080 UK090 BE044
LR040 FL035 BE044 FL038 LR044 ko077 mu075 NE093 mu088 BR090 IT095 ko075 mu070 BE043 PS036

35=FL 50.33N 29.67E 132 23 106deg 9 28 of 28 bearings
956.00 957.00 958.00 959.00 960.00 961.00 962.00 963.00 964.00
AN347 BR090 IT096 K0085 KR090 MU075 BR090 IT097 UK090 K0075 KR085 MU072 SS045 UK085 AN354
N1125 BR098 IT092 K0080 KR083 AL035 KI322 BR098 IT112 K0056 KR085 BR095 IT095

36=FM 47.08N 133.77E 2059 845 70deg 2 4 of 4 bearings
965.00 966.00
FE312 WP313 FE313 WP313

37=FR 41.01N 64.38E 1991 355 126deg 4 9 of 10 bearings
967.00 968.00 969.00 970.00
UK080 FE340 BR089 IT090 K0062 KR080 mu040 BR095 WP324 UK075

38=FU 53.01N 23.86E 80 19 87deg 17 52 of 52 bearings
971.00 972.00 973.00 974.00 975.00 976.00 977.00 978.00 979.00 980.00
981.00 982.00 983.00 984.00 985.00 986.00 987.00
BR100 IT102 K0061 KR085 BR105 IT103 K0065 KR094 AN293 UK070 BR080 BR080 K0090 BR090 IT084
N0083 K0068 K0065 MU060 WP321 AN294 BR083 IT080 BR090 IT105 K0061 KR075 AN347 UK075 NE070
IT071 NE068 BR080 IT075 K0062 IT078 KR075 AN330 BR079 IT079 K0072 KR075 MU055 UK073 WP326
WP323 N0072 UK075 BR045 IT084 K0060 MU050

39=G1 48.75N 23.49E 365 49 92deg 2 4 of 5 bearings
988.00 989.00
K0078 KR097 MU083 K0080 kr085

40=G6 50.92N 20.32E 0 0 0deg 1 2 of 2 bearings

990.00
BR108 IT110

41=GI 52.58N 13.33E 25 1 53deg 62 126 of 207 bearings
996.00 997.00 998.00 999.00 1000.00 1001.00 1002.00 1003.00 1004.00 1005.00
1006.00 1007.00 1008.00 1009.00 1010.00 1011.00 1012.00 1013.00 1014.00 1015.00
1016.00 1017.00 1018.00 1019.00 1020.00 1021.00 1022.00 1023.00 1024.00 1025.00
1026.00 1027.00 1028.00 1029.00 1030.00 1031.00 1032.00 1033.00 1034.00 1035.00
1036.00 1037.00 1038.00 1039.00 1040.00 1041.00 1042.00 1043.00 1044.00 1045.00
1046.00 1047.00 1048.00 1049.00 1050.00 1051.00 1052.00 1053.00 1054.00 1055.00
1056.00 1057.00
n0070 BR075 SS036 UK075 BR040 IT115 it070 mu045 BR100 mu050 NE072 BR042 BR060 it073 ko050
KR064 mu057 BR060 it066 ko050 KR070 mu056 BR070 it065 K0045 KR067 FL026 n0082 BR060 it064
K0049 KR065 mu050 LR036 BR075 it073 K0049 KR060 BR040 it070 SS034 ds330 al339 BR070 it070
K0060 KR065 n0080 BR060 it064 NE072 FL034 SS034 UK067 GI039 FL039 GI025 it069 KR074 ne063
ne063 BR040 it071 MU060 BR040 it069 ko058 kr062 BR040 it073 ko056 mu050 BR045 it072 NE076
UK072 n0075 uk063 BR070 K0040 BR093 K0048 MU036 UK067 n3150 BR085 it090 ko050 KR070 uk065
BR070 it068 ko043 KR060 UK065 BR040 K0040 UK070 ko061 UK065 FL033 BE035 ko050 KR067 LR037
PS036 FL026 n0082 BR061 it067 ko055 KR064 mu054 BR053 it065 ko047 KR068 UK071 BE031 ko050
BR076 IT070 KR073 UK065 SS034 WP349 LR036 NE068 SS033 n0080 uk064 NE068 NE079 NE072 BR102
it076 KR064 MU026 NE084 SS034 BR100 it070 KR090 MU055 UK069 SS039 UK075 SS036 SS036 n0085
uk065 UK070 LR032 SS034 SS034 uk065 BR082 it072 K0055 BE024 SS035 UK065 BR080 it080 it073
KR065 SS034 n0085 UK067 uk064 SS034 it075 n3150 uk065 BR090 it066 KR062 SS033 uk066 it076
KR083 mu065 n0083 UK065 al340 BR061 it067 BR062 it065 K0050 kr061 BR080 it080 ko080 BR040
K0038 mu055 BR060 it080 KR060 MU036 ko070 mu060 ko054 mu055 SS036 LR033

42=GJ 55.45N 36.15E 411 37 88deg 3 9 of 14 bearings
1058.00 1059.00 1060.00
br060 IT070 ko050 KR065 MU055 BR070 it081 ko050 KR065 mu081 IT070 K0056 KR071 MU055

43=GM 49.89N 136.95E 758 327 68deg 11 23 of 23 bearings
1061.00 1062.00 1063.00 1064.00 1065.00 1066.00 1067.00 1068.00 1069.00 1070.00
1071.00
WP317 DS320 WP316 AN289 WP316 DS320 WP317 DS323 AN289 DS325 WP317 WP317 DS320 DS321 WP316
WP315 DS325 DS321 WP317 DS320 WP317 LV316 DS320

44=GR 50.63N 133.29E 766 316 64deg 13 35 of 35 bearings
1072.00 1073.00 1074.00 1075.00 1076.00 1077.00 1078.00 1079.00 1080.00 1081.00
1082.00 1083.00 1084.00
FE311 WP314 WP317 DS333 LV316 WP318 WP317 DS323 WP313 DS330 WP318 LV316 FE312 AN289 DS320
FE310 FE310 AL037 FE310 DS322 LV321 WP313 AL009 WP313 FE310 DS320 WP335 KI019 LV320 FE331
DS322 WP313 GI053 FE310 WP316

45=GS 54.36N 40.40E 665 64 98deg 3 6 of 9 bearings
1085.00 1086.00 1087.00
br145 it145 K0060 kr102 MU055 BR076 IT075 NE070 UK068

46=HD 51.93N 119.87E 4432 1423 57deg 2 4 of 4 bearings
1088.00 1089.00
WP317 LV330 FE310 LV330

47=HP 50.06N 17.00E 354 129 91deg 2 4 of 4 bearings
1095.00 1096.00
KR098 MU060 GI037 BE044

48=IG 50.41N 135.97E 270 83 52deg 65 188 of 189 bearings
1097.00 1098.00 1099.00 1100.00 1101.00 1102.00 1103.00 1104.00 1105.00 1106.00
1107.00 1108.00 1109.00 1110.00 1111.00 1112.00 1113.00 1114.00 1115.00 1116.00
1117.00 1118.00 1119.00 1120.00 1121.00 1122.00 1123.00 1124.00 1125.00 1126.00
1127.00 1128.00 1129.00 1130.00 1131.00 1132.00 1133.00 1134.00 1135.00 1136.00
1137.00 1138.00 1139.00 1140.00 1141.00 1142.00 1143.00 1144.00 1145.00 1146.00
1147.00 1148.00 1149.00 1150.00 1151.00 1152.00 1153.00 1154.00 1155.00 1156.00
1157.00 1158.00 1159.00 1160.00 1161.00
AN290 WP317 FE310 FE310 WP317 AN291 WP315 FE311 FE312 WP314 AN290 FE310 WP314 DS322 AN289
DS320 AN290 LV320 FL031 WP317 FE311 WP316 LV315 DS320 WP317 DS322 AN287 AN302 WP316 FE301
DS321 AL334 LV316 AN289 WP316 LV326 DS321 FE313 LV322 WP316 FE326 DS330 WP318 FE323 DS331
FE316 AN289 WP315 FE315 KI342 DS325 AN287 WP317 AN291 WP318 FE310 FE335 WP317 DS333 WP320
AN291 FE315 WP317 AN290 FE310 DS320 WP317 FE305 WP315 AN288 WP318 AN288 AN290 WP320 LV316
WP317 AN288 WP315 FE321 WP312 FE310 WP317 FE312 LV317 AL338 WP317 DS322 LV317 AL338 FL035
ps155 WP318 DS320 LV315 WP317 DS324 FE311 WP313 GI329 DS321 WP317 FL053 PS357 FE310 DS322
FE310 FL054 WP317 LV315 AL336 GI346 LR351 WP317 AL334 DS316 DS322 FE313 AL334 SS345 GI330
DS329 FE317 KI310 WP315 FE317 LV318 DS321 WP318 DS320 LV315 WP317 LV316 AL338 DS318 WP328
WP326 FE308 WP314 LV316 FE315 WP316 LV320 WP316 DS321 WP317 LV318 DS320 AN289 AN290 WP318
AN290 WP317 DS320 WP316 WP317 FE308 FE310 LV315 LV316 FE312 DS024 WP317 DS318 FE311 AN287
WP313 DS319 FE310 LV315 DS321 GI337 FE310 LV318 WP317 AL330 LV317 FE312 WP323 KI346 DS320
FE310 WP318 FE313 LV316 AN287 FE314 WP318 LV316 FE313

49=IN 49.26N 30.32E 354 50 110deg 4 8 of 11 bearings
1162.00 1163.00 1164.00 1165.00
BR100 IT095 KO070 KR092 KO077 it073 BR092 it094 ko092 FL038 PS038

50=IU 36.06N 60.63E 8293 617 129deg 1 3 of 3 bearings
1174.00
IT095 KR093 MU090

51=JS 16.92N 95.49E 0 0 0deg 1 2 of 2 bearings
1175.00
IT083 KR080

52=K3 46.00N 20.07E 103 21 130deg 8 28 of 29 bearings
1176.00 1177.00 1178.00 1179.00 1180.00 1181.00 1182.00 1183.00
IT132 KO107 KR118 MU114 NE113 NE113 NE111 NE111 BR150 KO110 KR116 SS047 FL044 KI041 BE057
PS050 FL046 PS047 GI033 LR048 FL044 KI041 BR143 IT132 KR115 IT138 KR114 KO110 mu130

53=K8 47.02N 18.40E 464 82 134deg 1 3 of 5 bearings
1184.00
SS041 br135 IT137 ko110 KR115

54=KB 47.22N 130.99E 435 127 47deg 48 128 of 131 bearings
1185.00 1186.00 1187.00 1188.00 1189.00 1190.00 1191.00 1192.00 1193.00 1194.00
1195.00 1196.00 1197.00 1198.00 1199.00 1200.00 1201.00 1202.00 1203.00 1204.00
1205.00 1206.00 1207.00 1208.00 1209.00 1210.00 1211.00 1212.00 1213.00 1214.00
1215.00 1216.00 1217.00 1218.00 1219.00 1220.00 1221.00 1222.00 1223.00 1224.00
1225.00 1226.00 1227.00 1228.00 1229.00 1230.00 1231.00 1232.00
br090 IT095 LV316 WP312 BR065 IT070 KR065 AN289 FE318 AN289 DS330 FE313 LV310 WP325 GI327
AN291 DS330 FE312 WP317 GI326 WP316 GI343 FE311 LV316 WP323 AN289 WP317 GI325 DS330 DS320
GI341 BE355 AN286 LV307 AN289 WP313 DS322 FE312 AN289 AN289 DS325 AL038 GI329 KI335 WP318
AN290 FE313 WP322 AN286 WP312 AN289 LV319 DS325 FE310 AN289 LV319 FE311 DS325 AN291 LV319

FE315 GI036 DS325 DS325 WP342 FE313 DS325 FE315 AN290 FE311 WP324 AN287 WP317 FE312 AL343
FE335 FE317 WP308 LV316 FE315 DS320 AN289 DS321 WP314 LV313 WP317 DS320 LV316 FE311 DS321
WP316 LV318 FE313 AN289 DS320 DS323 LV316 FE312 AN287 WP314 DS320 LV315 FE310 gi103 DS326
FE312 LV315 WP312 AN287 WP314 DS320 LV313 DS321 LV315 DS321 LV316 WP313 FE314 AN289 WP323
LV310 FE310 an001 WP323 WP317 DS320 AN285 LV316 FE312 AN288 DS320

55=KD 54.68N 23.99E 36 7 76deg 68 262 of 292 bearings
1233.00 1234.00 1235.00 1236.00 1237.00 1238.00 1239.00 1240.00 1241.00 1242.00
1243.00 1244.00 1245.00 1246.00 1247.00 1248.00 1249.00 1250.00 1251.00 1252.00
1253.00 1254.00 1255.00 1256.00 1257.00 1258.00 1259.00 1260.00 1261.00 1262.00
1263.00 1264.00 1265.00 1266.00 1267.00 1268.00 1269.00 1270.00 1271.00 1272.00
1273.00 1274.00 1275.00 1276.00 1277.00 1278.00 1279.00 1280.00 1281.00 1282.00
1283.00 1284.00 1285.00 1286.00 1287.00 1288.00 1289.00 1290.00 1291.00 1292.00
1293.00 1294.00 1295.00 1296.00 1297.00 1298.00 1299.00 1300.00
NE067 K0050 KR065 NE067 BR094 IT110 ko085 KR067 BR072 K0055 KR063 MU045 n0143 BR045 IT074
ko057 KR065 MU055 AN358 br040 IT072 K0062 KR085 it071 K0062 BR070 it071 K0056 KR070 MU048
BR078 IT070 ko057 KR064 BR030 IT070 ko057 KR060 MU050 BR055 IT077 KR060 MU048 BR069 IT070
KR063 MU045 UK070 FL040 BR070 BR100 it110 KR080 K0049 mu065 MU050 BR080 it071 K0045 KR065
MU050 K0055 KR067 MU050 BR062 IT065 ko037 KR061 LR049 UK067 BE045 BR062 IT080 K0048 kr095
MU055 K0050 KR067 WP346 AN351 UK067 BR070 K0045 KR069 n0080 UK065 BR065 IT065 K0045 KR062
MU046 K0045 KR068 NE067 UK065 SS037 BR081 K0045 KR064 MU057 N0105 NE068 BR075 IT070 K0050
KR066 UK065 n0090 BR070 K0051 KR067 UK064 UK066 K0034 BR072 K0052 BR065 IT070 ko125 KR065
BR070 BR070 IT073 K0046 KR064 BR064 IT080 K0055 KR065 BR064 IT070 K0045 kr052 it062 K0052
KR063 MU050 NE073 BR062 IT072 K0040 KR065 MU050 NE073 UK068 BR064 IT070 K0044 NE068 NE068
BR070 K0059 KR065 UK066 BR065 IT065 K0050 KR055 BR072 K0056 KR064 SS036 n0081 NE067 NE064
UK060 BR069 IT072 K0057 KR063 BR062 IT070 KR065 BR065 IT073 K0039 KR066 NE065 BR074 K0057
KR060 MU050 NE067 BR045 IT071 K0057 KR065 MU050 UK060 UK066 SS028 SS042 IT066 ko055 KR055
MU050 UK069 PS038 UK069 n3150 NE073 NE073 NE074 NE074 NE074 uk109 K0057 n0085 IT073 KR066
MU050 BR073 IT089 BR070 it130 K0053 KR070 MU050 NE067 NE067 BR070 IT070 K0053 KR063 MU040
BR070 IT080 K0052 KR064 MU030 BR070 K0045 KR065 FL037 BR075 IT070 K0048 KR070 BR074 IT070
K0051 KR067 NE069 NE067 K0050 br138 it135 K0050 MU040 SS037 BR075 K0045 KR068 SS034 UK065
BR065 IT070 K0050 KR065 UK070 UK068 BE040 n1135 al324 BR074 IT070 K0052 KR068 UK065 K0050
BR075 KR066 mu080 NE070 BR072 IT076 K0044 KR065 MU050 NE077 NE070 UK066 K0058 IT072 KR064
BR062 K0052 br055 IT069 K0050 KR065 MU056

56=KF 50.28N 16.02E 54 48 97deg 2 5 of 7 bearings
1301.00 1302.00
BR138 IT135 K0055 kr110 MU053 ko071 MU055

57=KU 47.25N 128.01E 1169 478 61deg 8 16 of 16 bearings
1308.00 1309.00 1310.00 1311.00 1312.00 1313.00 1314.00 1315.00
AN290 WP312 AN291 WP314 DS322 WP313 DS322 WP313 FE312 WP313 WP317 DS322 LV316 FE311 GI033
BE052

58=KV 58.28N 25.79E 178 28 65deg 6 14 of 17 bearings
1316.00 1317.00 1318.00 1319.00 1320.00 1321.00
BR040 K0037 BR045 IT058 K0035 KR045 IT059 K0043 KR052 br075 ko086 GI030 UK054 BR054 IT056
ko060 KR055

59=L2 44.39N 23.10E 302 66 129deg 3 6 of 7 bearings
1322.00 1323.00 1324.00
IT130 KR119 BR130 IT132 K0102 br145 K0110

60=L8 48.63N 12.62E 0 0 0deg 1 2 of 2 bearings

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            1325.00
            SS044 UK103

61=LB        44.30N  37.31E     0    0    0deg    1     2 of    2 bearings
            1326.00
            BR108 KR097

62=LF        41.55N  65.69E  1826  343  130deg    5    12 of   12 bearings
            1327.00 1328.00 1329.00 1330.00 1331.00
            WP327 SS038 IT090 KR080 UK075 SS039 BR075 SS036 NO085 UK074 AN333 DS350

63=LK        53.25N  19.58E    45    9   82deg   54   148 of  212 bearings
            1338.00 1339.00 1340.00 1341.00 1342.00 1343.00 1344.00 1345.00 1346.00 1347.00
            1348.00 1349.00 1350.00 1351.00 1352.00 1353.00 1354.00 1355.00 1356.00 1357.00
            1358.00 1359.00 1360.00 1361.00 1362.00 1363.00 1364.00 1365.00 1366.00 1367.00
            1368.00 1369.00 1370.00 1371.00 1372.00 1373.00 1374.00 1375.00 1376.00 1377.00
            1378.00 1379.00 1380.00 1381.00 1382.00 1383.00 1384.00 1385.00 1386.00 1387.00
            1388.00 1389.00 1390.00 1391.00
            BR065 IT075 ko070 KR075 MU060 UK067 BR045 IT072 K0060 KR072 MU055 NE071 UK067 BR077 IT090
            KR072 BR074 it076 ko074 uk068 BR079 it077 ko071 KR075 MU055 UK075 LR047 AL008 n0105 GI043
            PS045 BR063 IT060 BR075 KR071 UK070 K0045 BR070 KR074 ko090 UK070 SS044 BR074 IT096 ko074
            KR074 UK065 UK070 AN338 AN343 SS031 BE063 al343 DS353 DS357 be335 BR080 ko070 BR080 it076
            ko073 KR078 lv283 WP315 uk060 wp313 gi348 WP324 UK075 BR060 ko064 kr120 MU060 BR082 IT075
            K0062 kr099 AN005 NE067 UK075 NE067 be354 n0080 it074 KR064 MU050 ne061 UK068 GI023 LR047
            ne061 BR040 it073 K0063 UK067 SS027 UK075 it076 ko068 MU055 uk060 BR090 it052 kr040 MU075
            ko065 KR068 mu063 NE075 NE075 BR050 IT080 ko063 KR072 MU070 NE070 NE069 UK075 it130 ko070
            kr110 ko070 WP317 n3110 it075 ko080 UK070 SS040 BR070 KR073 MU050 BR072 SS036 UK067 it067
            it067 KR070 MU045 MU045 be322 NE080 UK069 BR078 K0055 KR075 mu065 BR077 it078 it077 KR072
            UK069 BR070 it076 ko070 KR075 MU055 AN330 UK075 BR074 K0055 MU055 BR077 it078 ko072 KR072
            UK072 KR075 IT103 ko072 KR080 MU030 BR080 it077 ko071 KR075 MU055 UK077 ko068 MU045 BR075
            it076 BR075 BR075 ko070 KR078 UK085 BR078 IT080 ko073 KR076 MU060 UK068 NO126 BR077 IT078
            ko072 KR075 mu070 UK070 BR076 it078 ko072 KR080 BR078 BR078 IT082 K0055 KR068 BR090 IT100
            ko075 MU050

64=LM        52.56N  13.37E    44    3   96deg   12    35 of   42 bearings
            1392.00 1393.00 1394.00 1395.00 1396.00 1397.00 1398.00 1399.00 1400.00 1401.00
            1402.00 1403.00
            NE083 NE083 kr095 IT112 K0045 KR085 BR068 it072 K0060 MU045 uk094 NO120 ko090 ko090 UK090
            LR045 UK092 BE054 BR105 IT092 K0050 KR065 MU045 BR090 IT115 K0040 KR065 KR090 mu045 BE050
            PS042 FL039 IT116 KR085 BR104 IT110 KR085 uk093 FL041 BR110 IT112 K0064

65=LT        26.40N  76.25E 21518  348  138deg    2     5 of    6 bearings
            1404.00 1405.00
            BR093 IT092 kr080 BR095 IT091 KR088

66=M2        47.39N  50.95E     0    0    0deg    1     2 of    2 bearings
            1406.00
            BR087 IT087

67=M3        49.94N  14.87E  8819  476  117deg    4     8 of    8 bearings
            1407.00 1408.00 1409.00 1410.00
            FL048 BE051 BE054 FL042 BE051 FL041 BE051 LR048

68=M5        45.75N  17.39E   215   38  120deg    1     3 of    3 bearings
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          1411.00
          PS045 K0106 KR124

69=MA      53.16N  18.66E   268   49   86deg    1     4 of    4 bearings
          1412.00
          BR078 IT095 K0050 KR070

70=MF      52.58N  13.34E    27    1   56deg   31    76 of  108 bearings
          1413.00 1414.00 1415.00 1416.00 1417.00 1418.00 1419.00 1420.00 1421.00 1422.00
          1423.00 1424.00 1425.00 1426.00 1427.00 1428.00 1429.00 1430.00 1431.00 1432.00
          1433.00 1434.00 1435.00 1436.00 1437.00 1438.00 1439.00 1440.00 1441.00 1442.00
          1443.00
          BR080 it090 K0055 KR070 FL043 AL042 gi094 DS089 KI040 BR055 it073 ko064 KR068 mu050 n0086
          UK068 UK070 n0086 BE045 DS005 BR080 it078 UK068 UK075 KR060 ko060 it073 K0053 BR069 KR070
          mu055 SS042 n0110 BR065 it076 K0060 KR069 BR067 it081 ko070 UK075 uk057 SS034 BR070 it073
          ko078 KR070 UK068 SS034 KR072 NE072 NE067 BR068 K0030 KR070 NE067 K0045 UK070 BR106 KR070
          UK069 BR075 it070 ko070 KR075 uk069 SS036 PS044 BR052 it074 ko065 mu045 AL038 UK068 SS036
          BR095 ko062 NE069 NE067 BR090 IT085 KR071 NE072 UK067 NE072 NE072 ko059 KR070 KR070 NE072
          NE072 UK069 UK060 DS000 UK075 BR044 it075 KR070 IT075 ko053 NE072 NE072 IT080 ko090 kr090
          ko060 KR060 mu062

71=MI      50.73N  19.28E     0    0    0deg    1     2 of    2 bearings
          1451.00
          BR114 KR090

72=MP      51.59N  15.50E   108   30  106deg    2     9 of   13 bearings
          1452.00 1453.00
          NE092 LR044 BR130 IT109 ko085 KR100 mu130 n0113 uk092 NE092 KR085 KR085 SS037

73=MS      49.84N  15.97E    77   40  113deg    1     4 of    5 bearings
          1454.00
          BR145 it125 K0060 KR102 MU055

74=MU      52.57N  13.31E    31    1   73deg   92   269 of  436 bearings
          1455.00 1456.00 1457.00 1458.00 1459.00 1460.00 1461.00 1462.00 1463.00 1464.00
          1465.00 1466.00 1467.00 1468.00 1469.00 1470.00 1471.00 1472.00 1473.00 1474.00
          1475.00 1476.00 1477.00 1478.00 1479.00 1480.00 1481.00 1482.00 1483.00 1484.00
          1485.00 1486.00 1487.00 1488.00 1489.00 1490.00 1491.00 1492.00 1493.00 1494.00
          1495.00 1496.00 1497.00 1498.00 1499.00 1500.00 1501.00 1502.00 1503.00 1504.00
          1505.00 1506.00 1507.00 1508.00 1509.00 1510.00 1511.00 1512.00 1513.00 1514.00
          1515.00 1516.00 1517.00 1518.00 1519.00 1520.00 1521.00 1522.00 1523.00 1524.00
          1525.00 1526.00 1527.00 1528.00 1529.00 1530.00 1531.00 1532.00 1533.00 1534.00
          1535.00 1536.00 1537.00 1538.00 1539.00 1540.00 1541.00 1542.00 1543.00 1544.00
          1545.00 1546.00
          UK075 BR088 KR090 BR070 it081 KR077 mu074 SS044 SS035 wp317 BE036 WP317 DS357 it087 BR081
          mu055 BR076 it083 al337 lv316 it084 mu070 KI356 PS033 FE346 WP325 al336 ss185 lv315 DS002
          PS030 WP323 FE344 KI012 it080 ko057 KR072 mu058 BR084 it083 ko073 KR080 AN340 UK077 BR078
          it085 KR080 mu072 SS041 UK077 ko070 mu065 SS046 FE344 BR080 mu070 BR075 IT090 ko081 KR070
          MU045 SS046 BE039 wp317 mu070 BR079 ko080 SS044 AN002 FE357 UK077 AN340 it085 ko076 mu075
          mu075 WP325 FE346 SS043 NE072 an333 UK090 FL047 SS049 LR043 NE073 BR050 IT084 ko074 KR078
          mu060 FL027 SS036 fe340 UK075 AN346 DS350 BE062 WP317 SS036 IT085 ko075 KR080 mu070 GI019
          FL025 be026 SS036 UK075 AL020 WP316 PS022 UK075 WP325 uk057 BR125 it053 ko075 BE063 PS342
          KR080 UK080 SS038 an328 BR090 it090 ko075 mu056 UK080 BR085 ko054 KR086 SS034 an298 DS342
          SS038 an334 BR086 ko078 an340 SS035 AL008 NE079 SS036 BR090 it082 ko068 KR081 NE079 BR096
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IT092 ko080 KR070 mu080 SS038 UK075 BR088 it078 K0059 KR065 MU045 SS038 UK077 UK071 SS035
SS035 BR085 it085 ko058 KR078 FL039 NE070 NE070 UK075 BR090 it082 ko068 KR081 BR040 IT100
uk090 WP347 AN348 al328 be012 lv306 ps342 SS031 DS000 NE068 NE068 it085 it085 SS038 BR053
it082 ko073 KR077 UK075 BE033 an049 FL043 WP332 BR095 it082 ko077 KR080 mu059 KR060 AN350
NE068 NE068 DS357 al331 FL056 BR070 IT075 K0020 kr045 MU025 n0082 gi337 PS044 WP304 fl008
BR090 IT110 ko070 KR080 mu075 be027 PS014 LV334. FE354 KI008 LV002 BR086 it083 ko077 KR093
mu075 WP326 be350 DS001 GI018 lv317 PS359 SS042 KI007 FL049 BR090 BR086 IT090 ko078 KR080
mu090 n1095 DS002 gi337 al328 NE078 ps338 NE078 ss197 IT075 mu065 FL043 al336 FL056 AL068
it080 SS035 PS035 DS002 GI018 KI005 lv317 SS046 SS050 PS001 BR090 IT110 ko070 KR080 mu075
fl009 PS013 al333 NE068 SS045 PS035 BR085 IT100 ko080 KR095 mu064 NE068 BR085 it086 ko080
KR080 mu070 SS043 GI019 SS035 AL068 PS035 NE068 be000 NE068 DS357 LR030 wp099 BE035 SS041
NE075 NE075 DS357 ps356 FE003 al328 LV005 LV359 DS001 FE354 AN006 DS357 BR065 it075 K0050
mu068 mu068 KR079 mu075 ps346 DS001 UK073 BR072 it080 ko070 KR077 mu070 UK076 br170 it082
ko075 mu046 BR082 it083 ko072 KR080 mu065 SS036 n0086 UK075 SS037 GI012 BE036 BR080 it083
it083 ko072 ko072 KR080 mu050 NE076 ko087 UK075 n0087 SS037 WP322 kr084 SS037 BR084 it080
ko072 kr083 mu055 UK075 NE074 BR080 IT084 KR080 MU050 BR080 ko100 kr090 mu045 UK075 BR080
it083 ko068 KR085 mu048 BR084 IT080 ko073 kr083 mu060 UK075 n0080 NE073 UK075 BR040 it082
ko068 KR080 n0090 BE062 DS350 FE347 wp316 ps145 ko073 it087 KR069 mu070 it069 br045 BR046
it063 UK079 BR086 ko085 KR075 mu055 n0070 BR055 it070 ko080 mu068 BE040 AL008 n0085 al341
lv317

75=MX    53.33N  15.46E   135   28   68deg    3     6 of    7 bearings
1547.00 1548.00 1549.00
IT102 kr095 BR065 IT070 KR064 FL035 SS035

76=NB    44.02N  69.70E 14324  253  124deg    1     3 of    3 bearings
1550.00
BR080 IT079 KR074

77=NS    47.60N  27.90E    70   12  115deg   32   105 of  124 bearings
1551.00 1552.00 1553.00 1554.00 1555.00 1556.00 1557.00 1558.00 1559.00 1560.00
1561.00 1562.00 1563.00 1564.00 1565.00 1566.00 1567.00 1568.00 1569.00 1570.00
1571.00 1572.00 1573.00 1574.00 1575.00 1576.00 1577.00 1578.00 1579.00 1580.00
1581.00 1582.00
BR100 IT100 K0082 KR090 BR110 IT105 ko047 MU085 n0098 BE048 K0073 KR095 IT109 K0088 KR100
MU090 FL040 BR115 IT109 KR100 MU095 KR101 MU088 n0100 N3160 K0069 kr076 K0065 BE043 FL036
LR046 SS026 BE041 FE353 K0079 br055 SS033 K0084 UK090 FL040 BR110 it090 mu073 FL040 BR110
IT107 KR100 MU095 UK095 PS040 BE048 SS043 BR115 IT110 K0080 KR100 BR110 KR100 UK090 SS042
FL040 BR105 IT108 ko089 KR100 MU090 UK094 FL041 SS041 PS045 BE048 LR045 BR115 IT109 K0090
KR100 MU092 br080 br080 IT100 KR100 N0110 FL040 KR100 MU090 FL041 SS040 UK090 SS042 N0105
FL041 BR111 IT100 KR100 UK090 ne079 ne075 BE033 FL039 ko093 ko093 KR100 ne078 IT109 K0081
KR100 MU095 ne078 BR114 ko090 KR100 IT110 K0070 UK092 IT110 K0073 KR100 n0109 KR099 br075
IT100 K0082 KR095 MU090

78=NU    55.30N  29.26E     0    0    0deg    1     2 of    2 bearings
1583.00
IT075 K0051

79=P3    47.56N  18.89E    48   17  134deg   29    95 of  105 bearings
1584.00 1585.00 1586.00 1587.00 1588.00 1589.00 1590.00 1591.00 1592.00 1593.00
1594.00 1595.00 1596.00 1597.00 1598.00 1599.00 1600.00 1601.00 1602.00 1603.00
1604.00 1605.00 1606.00 1607.00 1608.00 1609.00 1610.00 1611.00 1612.00
IT132 N0133 BR145 IT128 K0095 KR115 MU110 BR140 IT135 ko112 MU090 AL032 LV316 DS026 MU090
MU090 ne069 DS020 FE023 KI026 WP360 LR049 LV016 AN006 AL045 ne080 BR130 FE022 N0130 AN007
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KI030 WP004 AL050 DS034 KI040 FE020 LV020 NO140 wp255 GI029 DS030 PS046 FE023 BE051 n1155
BR120 FL043 BE057 AL042 UK105 DS032 KI356 LV020 BR138 IT132 KO111 KR114 MU090 NO133 KR115
BE054 uk110 NO133 AL038 PS045 KI038 KI038 DS039 kr120 PS044 LR048 FE018 GI037 BR146 IT135
KO085 AL043 UK105 FL042 GI033 DS033 BR150 BR148 KO099 BE056 FE023 IT131 KR110 FL050 NO130
BE053 GI035 PS045 BE055 FL042 BE053 ne073 LR047 LR051 nO175 KI045 DS031 BR130 IT130 mu130

80=P6          53.72S 173.26W     0     0    0deg     1      2 of     2 bearings
1613.00
BR109 IT085

81=PA          44.79S 173.72W   1761   147   143deg     3      5 of     7 bearings
1614.00 1615.00 1616.00
it049 KO040 kr043 KO037 MU047 KO035 MU050

82=PB          52.57N  13.31E     12     1    58deg    80    174 of   265 bearings
1617.00 1618.00 1619.00 1620.00 1621.00 1622.00 1623.00 1624.00 1625.00 1626.00
1627.00 1628.00 1629.00 1630.00 1631.00 1632.00 1633.00 1634.00 1635.00 1636.00
1637.00 1638.00 1639.00 1640.00 1641.00 1642.00 1643.00 1644.00 1645.00 1646.00
1647.00 1648.00 1649.00 1650.00 1651.00 1652.00 1653.00 1654.00 1655.00 1656.00
1657.00 1658.00 1659.00 1660.00 1661.00 1662.00 1663.00 1664.00 1665.00 1666.00
1667.00 1668.00 1669.00 1670.00 1671.00 1672.00 1673.00 1674.00 1675.00 1676.00
1677.00 1678.00 1679.00 1680.00 1681.00 1682.00 1683.00 1684.00 1685.00 1686.00
1687.00 1688.00 1689.00 1690.00 1691.00 1692.00 1693.00 1694.00 1695.00 1696.00
BR097 it107 ko082 KR070 mu086 NE068 NE068 IT105 SS040 br146 IT108 ko085 KR085 mu045 IT108
ko090 BR110 IT112 ko085 KR095 nO113 BR092 IT109 ko155 KR080 mu085 IT108 KR090 SS039 uk100
BE049 IT100 ko085 IT100 ko080 BR110 IT110 KR075 MU045 BR110 IT109 ko086 kr098 mu092 nO110
GI036 BE043 UK065 NE092 ko091 AL041 SS037 BR125 KR097 mu135 GI032 ko072 IT115 mu070 ko110
kr100 FL038 GI033 ko090 kr100 BR130 IT108 ko057 kr099 mu045 BE049 AN005 AL040 BE049 GI038
BR090 BR072 IT090 ko078 KR080 mu075 br114 IT110 kr100 nO116 BR104 SS043 IT111 BR105 IT100
KO058 IT107 kr096 IT107 FL041 nO117 BR096 IT099 ko063 KR092 mu055 BR100 IT094 FL038 UK090
BR113 IT086 KR084 mu090 UK067 FL040 FE012 IT115 ko054 MU045 AN005 LR045 UK090 LR044 SS044
an290 BR104 ko095 kr095 MU055 BR092 it078 ko070 KR095 BR105 IT105 ko086 kr095 SS043 IT095
FL041 IT105 ko092 KR090 mu050 LV016 UK084 LR042 AN359 BE051 BR100 IT104 ko090 KR050 mu060
IT110 ko080 mu085 br144 IT110 KR090 mu100 UK090 BE055 LR042 NE068 NE068 IT120 ko078 kr093
mu080 UK090 BE043 FL043 br135 KR058 BE056 uk095 IT110 ko073 kr095 BE056 FL039 br132 IT100
ko090 mu080 ko086 SS034 br127 IT100 ko090 mu095 ko089 BR130 KR092 FL037 BR100 it107 ko090
mu050 SS027 SS038 FE019 BR062 IT070 ko046 KR075 MU055 BR050 MU035 SS042 FE018 BR116 ko088
mu090 uk095 FL040 IT113 PS044 UK090 NE105 PS040 UK096 KI032 GI032 ko077 KR091 IT132 KR090
NE074 PS041 NE093 ko080 NE092 ko075 BR105 ko086 mu085 BR050 mu065 UK090 nO120 NE075 LR046
SS042 NE090 IT109 KR085 IT107 ko062 KR090 BR115 IT130 ko086 KR095 mu080 BR100 IT108 it088
mu090 UK090 IT110 ko088 KR067 uk095 BR110 FL032 PS043 BE049

83=PK          56.81N  40.99E    294    56    86deg     7     18 of    18 bearings
1698.00 1699.00 1700.00 1701.00 1702.00 1703.00 1704.00
WP335 KI003 LV357 WP328 WP317 MU048 IT063 KR063 SS032 BR065 IT060 KO050 KR075 NO075 WP326
AN333 KO030 MU057

84=PL          51.99N  18.83E     89    25    95deg    13     26 of    32 bearings
1705.00 1706.00 1707.00 1708.00 1709.00 1710.00 1711.00 1712.00 1713.00 1714.00
1715.00 1716.00 1717.00
BE042 PS040 ko085 KR089 BE044 FL035 FE024 DS017 GI024 BR096 IT096 KO035 ko080 KR090 FL042
PS036 ko075 KR080 UK083 ko075 mu077 AL034 NE079 UK065 ne073 SS040 BE047 UK081 SS038 MU055
MU055 SS041
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85=R7          44.14N  21.97E    78   15  136deg   11    38 of   43 bearings
              1718.00 1719.00 1720.00 1721.00 1722.00 1723.00 1724.00 1725.00 1726.00 1727.00
              1728.00
              BR137 IT136 KO108 KR120 MU120 UK110 BR135 IT137 NO136 IT137 KO108 KR120 BR140 IT136 KO104
              KR112 MU115 UK110 BE056 it100 KO065 UK120 PS044 PS044 br075 KR120 BE055 BR140 IT137 KR120
              UK110 BR130 IT139 KR120 BR137 IT130 KR120 mu050 NO137 br110 it097 KR120 MU120

86=R9          51.06N  14.88E    37   15  122deg   36    86 of   87 bearings
              1729.00 1730.00 1731.00 1732.00 1733.00 1734.00 1735.00 1736.00 1737.00 1738.00
              1739.00 1740.00 1741.00 1742.00 1743.00 1744.00 1745.00 1746.00 1747.00 1748.00
              1749.00 1750.00 1751.00 1752.00 1753.00 1754.00 1755.00 1756.00 1757.00 1758.00
              1759.00 1760.00 1761.00 1762.00 1763.00 1764.00
              BE047 FE027 BE051 LV016 NO131 BE052 PS041 PS042 SS036 BE049 FL036 AL037 NE098 IT126 KR100
              BE051 BR090 MU053 PS043 BE051 NE090 SS043 FL041 AL028 PS044 FL044 PS044 BE049 SS040 BE055
              NO130 FL043 PS044 NO150 uk105 LR045 BE055 BR160 IT125 KR098 KR098 BE051 DS032 PS040 LR048
              PS044 BE053 UK100 WP348 UK094 KO084 NE086 UK095 IT132 KR080 BR129 IT125 BE050 PS042 FL041
              LR048 PS044 AL041 SS043 PS044 NE074 SS036 LR047 FL052 AN008 LR047 FL042 LR046 BE051 KI338
              NE066 IT127 FL040 GI018 AL037 LR041 BE051 PS040 BE052 PS040 FL040 LR041

87=RA          33.43N 116.15E     0    0    0deg    1     2 of    2 bearings
              1765.00
              FE314 LV315

88=RB          55.42N  23.55E   126   23   71deg    4    12 of   16 bearings
              1766.00 1767.00 1768.00 1769.00
              BR063 IT075 KO045 KR063 BR060 KO042 KR062 IT072 BR064 IT070 KO043 MU050 br110 it110 ko059
              kr099

89=RD          57.43N  32.57W     0    0    0deg    1     2 of    2 bearings
              1770.00
              BE047 AL047

90=RI          56.48N  34.52E   456   62   77deg    1     3 of    5 bearings
              1771.00
              BR063 IT070 KO051 kr066 mu060

91=RQ          55.60N  22.18E   443   54   72deg    1     3 of    3 bearings
              1772.00
              KO040 IT070 KR060

92=RS          50.75S 164.02E     0    0    0deg    1     2 of    2 bearings
              1773.00
              BR096 KO110

93=RT          54.73N  19.02E   120   24   61deg    9    22 of   26 bearings
              1774.00 1775.00 1776.00 1777.00 1778.00 1779.00 1780.00 1781.00 1782.00
              SS043 BE043 KO039 KR061 BR055 it060 KO032 KR057 UK070 FL035 SS045 BR055 IT060 ko070 KR056
              n3155 UK068 BR060 IT060 KO050 KR075 mu060 GI024 PS034 BE043 AL034

94=SG          47.68S 170.81W   273    8  133deg    3     7 of   10 bearings
              1824.00 1825.00 1826.00
              KO040 KO040 IT038 BR070 it065 KO049 kr065 MU055 kr090 MU070

95=SM          51.43S 173.53W   206    6   25deg    5     8 of   14 bearings
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          1827.00 1828.00 1829.00 1830.00 1831.00
          BR080 IT095 KR083 mu075 BR090 it120 ko073 KR105 KR082 n1115 KR075 mu065 KR088 mu046

96=ST      55.64N  26.90E   122   42   75deg    6    11 of   16 bearings
          1833.00 1834.00 1835.00 1836.00 1837.00 1838.00
          BR065 IT085 K0050 KR070 MU055 br088 ko090 kr087 KR060 BE033 N1140 BR061 uk055 NE065 SS042
          ko035

97=SU      50.21N  38.90E   134   23  105deg   16    79 of   79 bearings
          1839.00 1840.00 1841.00 1842.00 1843.00 1844.00 1845.00 1846.00 1847.00 1848.00
          1849.00 1850.00 1851.00 1852.00 1853.00 1854.00
          SS034 BR091 IT086 K0074 KR081 N0099 SS034 BR091 IT086 K0074 KR081 BR095 IT090 K0070 KR080
          BR090 IT086 K0075 KR081 UK076 NE076 N0105 UK075 BR091 IT082 K0074 KR081 N0099 N3126 BR091
          IT082 K0074 KR081 BR087 IT090 K0082 KR074 MU070 FL032 AL012 SS036 BR078 IT086 KR080 SS040
          FL041 NE070 NE070 FL051 UK075 NE079 N0099 FL051 NE079 UK075 BR095 IT090 K0070 KR080 BR080
          IT090 K0076 KR081 MU075 DS312 SS038 NE071 BR060 IT065 K0068 MU075 BR080 IT090 IT080 K0076
          KR081 MU075 DS352 SS034

98=TK      52.37N  25.48E    64   10   96deg   62   225 of  290 bearings
          1855.00 1856.00 1857.00 1858.00 1859.00 1860.00 1861.00 1862.00 1863.00 1864.00
          1865.00 1866.00 1867.00 1868.00 1869.00 1870.00 1871.00 1872.00 1873.00 1874.00
          1875.00 1876.00 1877.00 1878.00 1879.00 1880.00 1881.00 1882.00 1883.00 1884.00
          1885.00 1886.00 1887.00 1888.00 1889.00 1890.00 1891.00 1892.00 1893.00 1894.00
          1895.00 1896.00 1897.00 1898.00 1899.00 1900.00 1901.00 1902.00 1903.00 1904.00
          1905.00 1906.00 1907.00 1908.00 1909.00 1910.00 1911.00 1912.00 1913.00 1914.00
          1915.00 1916.00
          BR089 IT088 KR080 SS039 al340 ko080 UK080 SS042 n0087 FE352 FL040 K0080 mu080 mu084 WP322
          BE035 SS032 GI010 SS033 mu075 mu075 DS002 LV002 DS002 FL036 BR084 IT088 ko078 KR082 MU065
          br055 IT087 ko079 KR082 FL030 UK070 BR090 IT093 K0060 KR077 AL060 SS038 IT082 K0060 kr060
          n0080 UK079 SS038 BR082 it076 K0070 KR080 WP323 NE072 NE072 IT086 kr094 WP317 IT090 KR080
          UK075 n0075 LR026 BE034 NE079 ko084 IT087 SS037 NE080 SS036 ko082 KR082 mu080 n0089 UK080
          BR082 IT090 ko077 kr062 mu085 UK065 SS039 BR090 IT087 K0070 kr090 MU075 UK080 n0089 SS036
          BR085 IT089 ko077 kr084 MU075 BR083 IT087 ko080 KR082 DS015 UK070 LR023 SS036 gi327 SS041
          IT084 KR083 mu090 DS000 AL036 FE349 WP322 FL035 KR080 al342 NE073 PS043 AL037 IT086 PS006
          SS040 be346 BE035 GI005 PS032 BR090 IT110 K0070 KR080 mu075 PS035 be350 FL071 LR025 WP324
          FE340 gi321 DS356 SS043 PS358 SS041 LR020 WP313 PS045 NE078 be340 BR089 IT087 ko075 KR085
          mu080 SS041 DS000 FL020 DS008 FL035 BR090 IT110 K0070 KR080 MU075 LR022 PS035 BE031 BR080
          IT090 ko078 KR078 mu075 LR024 n3123 FL028 SS046 DS358 BE025 BR056 IT080 K0060 KR100 MU070
          PS034 BE034 BR085 IT080 KR080 MU045 MU045 PS351 KI006 SS046 ds255 GI008 NE077 DS003 n3121
          mu083 mu083 AL037 FE358 KR087 mu075 ko076 MU075 UK076 PS012 BR090 IT088 ko081 kr085 n0091
          BE048 LR023 WP318 UK080 SS038 PS042 BR090 IT095 KR082 SS036 BE046 UK078 KR082 MU056 n0084
          UK074 WP323 BE031 SS037 BR095 IT084 BR080 BR085 IT091 ko090 UK076 SS037 SS037 n0090 NE078
          SS038 BR104 IT095 ko073 kr100 NE078 NE085 NE085 UK090 SS038 BR104 IT095 ko073 kr100 BR090
          IT088 ko078 kr091 AN345 SS038 PS062 BR080 IT086 K0060 SS036 UK075 ne066 UK076 ne066 FL030
          SS040 AL037 ko088 KR082 MU060 PS014 DS012 AN352 SS036 FL044 ko081 n3110 LR025 uk060 DS012
          SS038 IT092 kr086 MU070 PS049

99=TR      50.64N  19.23E    87   28  111deg   12    20 of   32 bearings
          1917.00 1918.00 1919.00 1920.00 1921.00 1922.00 1923.00 1924.00 1925.00 1926.00
          1927.00 1928.00
          BR110 it132 ko089 KR100 uk094 FL045 IT108 KR090 ko090 mu095 IT112 KR100 n0115 BE042 SS040
          br080 it082 KR100 MU050 UK090 BE051 BR109 IT110 KR098 MU060 K0080 mu095 ko085 kr102 br098
          MU055 GI031
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100=TU

54.57N 24.86E 26 5 78deg 198 615 of 753 bearings

1930.00 1931.00 1932.00 1933.00 1934.00 1935.00 1936.00 1937.00 1938.00 1939.00
1940.00 1941.00 1942.00 1943.00 1944.00 1945.00 1946.00 1947.00 1948.00 1949.00
1950.00 1951.00 1952.00 1953.00 1954.00 1955.00 1956.00 1957.00 1958.00 1959.00
1960.00 1961.00 1962.00 1963.00 1964.00 1965.00 1966.00 1967.00 1968.00 1969.00
1970.00 1971.00 1972.00 1973.00 1974.00 1975.00 1976.00 1977.00 1978.00 1979.00
1980.00 1981.00 1982.00 1983.00 1984.00 1985.00 1986.00 1987.00 1988.00 1989.00
1990.00 1991.00 1992.00 1993.00 1994.00 1995.00 1996.00 1997.00 1998.00 1999.00
2000.00 2001.00 2002.00 2003.00 2004.00 2005.00 2006.00 2007.00 2008.00 2009.00
2010.00 2011.00 2012.00 2013.00 2014.00 2015.00 2016.00 2017.00 2018.00 2019.00
2020.00 2021.00 2022.00 2023.00 2024.00 2025.00 2026.00 2027.00 2028.00 2029.00
2030.00 2031.00 2032.00 2033.00 2034.00 2035.00 2036.00 2037.00 2038.00 2039.00
2040.00 2041.00 2042.00 2043.00 2044.00 2045.00 2046.00 2047.00 2048.00 2049.00
2050.00 2051.00 2052.00 2053.00 2054.00 2055.00 2056.00 2057.00 2058.00 2059.00
2060.00 2061.00 2062.00 2063.00 2064.00 2065.00 2066.00 2067.00 2068.00 2069.00
2070.00 2071.00 2072.00 2073.00 2074.00 2075.00 2076.00 2077.00 2078.00 2079.00
2080.00 2081.00 2082.00 2083.00 2084.00 2085.00 2086.00 2087.00 2088.00 2089.00
2090.00 2091.00 2092.00 2093.00 2094.00 2095.00 2096.00 2097.00 2098.00 2099.00
2100.00 2101.00 2102.00 2103.00 2104.00 2105.00 2106.00 2107.00 2108.00 2109.00
2110.00 2111.00 2112.00 2113.00 2114.00 2115.00 2116.00 2117.00 2118.00 2119.00
2120.00 2121.00 2122.00 2123.00 2124.00 2125.00 2126.00 2127.00

BR075 IT078 K0065 KR068 BR070 IT072 KR066 MU060 br077 it100 NE069 NE069 K0050 K0050 kr080
IT071 KR075 K0050 K0050 BR075 IT080 br095 mu090 br086 IT071 BR070 IT075 K0048 KR060 NE061
NE061 n0080 BR074 IT089 K0055 KR070 BR080 IT075 ko064 KR070 NE082 br094 IT088 K0058 KR070
MU045 NE082 UK060 IT081 KR064 BE033 UK067 BR070 IT068 IT068 ko056 kr056 BR070 IT070 KR067
IT105 KR067 IT070 K0060 K0060 IT072 KR066 ko060 KR068 AL032 br045 it065 K0045 MU046 PS028
NE066 IT070 K0050 KR067 mu055 NE069 BR062 IT070 K0048 KR066 MU055 br090 it095 K0045 KR070
MU056 BR090 IT070 K0055 MU055 SS032 BR090 IT070 K0055 MU055 SS033 K0055 KR065 UK067 NE067
UK068 NE070 BR063 it058 K0049 KR066 MU053 BE041 FL037 BR066 IT075 KR070 mu070 n0085 FL033
SS036 n0085 br060 it070 K0050 KR069 mu060 UK068 n0088 BR063 it054 K0049 KR066 MU055 BR080
IT074 ko090 KR078 MU060 BR067 IT070 K0056 KR067 BR065 IT072 K0049 KR066 K0055 KR068 BR070
IT070 ko088 MU050 ko074 KR072 K0060 kr115 IT072 K0057 KR065 MU045 UK060 BE034 SS038 it103
MU055 BR070 IT073 K0052 KR065 BR062 IT072 K0050 MU045 UK074 K0053 ne036 ne036 n0070 K0059
KR070 UK070 KR068 MU055 UK070 AL038 BE051 ko055 KR070 WP349 SS033 K0059 KR070 BR075 kr105
NE077 NE066 BR070 IT073 KR065 it116 K0065 KR070 MU050 UK063 UK073 FL034 PS031 AL032 SS040
BR070 IT071 K0053 KR071 BE038 BR070 IT070 K0051 KR066 UK067 UK066 SS033 K0052 SS036 N0100
BR072 it069 KR066 NE067 KR065 WP349 SS030 BR072 IT068 K0052 KR065 BR060 IT070 kr095 BR095
IT075 K0063 UK062 BR076 IT070 KR067 FL032 BR075 IT080 K0045 KR064 MU050 BR076 BR076 IT075
BR070 KR070 KR070 ko005 KR070 BR075 IT090 K0056 KR067 BR075 it070 SS041 n0130 UK067 n0083
IT060 KR075 NE061 n0090 K0043 KR064 UK065 uk055 SS033 BR083 IT075 BR070 ko064 BR076 IT070
KR069 K0055 UK066 BR070 IT074 KR064 BR053 K0057 KR070 UK065 BR090 IT076 ko061 kr085 K0070
KR082 NE082 br094 it120 ko071 KR070 NE082 n0090 br096 IT090 ko070 mu080 br100 it095 ko070
kr085 br096 it049 KR080 BR070 IT095 K0064 KR065 UK060 BR078 IT080 K0060 KR070 UK068 br045
IT075 ko036 KR065 NE070 NE070 UK065 BR085 IT074 NE065 UK067 n0080 BR080 IT070 K0060 KR067
NE070 NE070 n0085 UK066 br090 IT072 BR070 it071 K0050 KR070 NE072 UK065 K0055 UK060 IT068
NE081 br120 IT072 K0060 KR067 MU065 NE067 UK067 NE067 IT070 ko058 BR050 it073 K0057 KR066
MU045 NE068 NE068 UK067 SS046 FL031 NE061 NE061 UK067 FL032 it071 K0053 KR062 MU045 UK065
SS042 UK067 it072 K0057 KR067 MU045 IT100 ko065 K0050 KR066 MU045 K0058 MU050 SS043 br042
IT084 K0057 MU045 K0055 BR070 IT073 KR067 UK065 ko062 BR066 KR067 NE071 BR065 IT100 K0063
KR060 BR060 IT078 K0060 kr058 MU055 SS038 BR062 IT070 K0048 KR066 br060 IT072 K0060 KR064
mu080 br060 IT060 K0050 KR067 MU050 SS034 BR072 IT070 K0060 KR070 MU056 UK068 AL027 BR063
IT100 K0060 KR072 mu060 BR067 IT085 K0050 KR068 MU060 K0061 mu070 BR062 IT073 KR069 mu060
IT073 KR069 mu060 BR065 IT070 K0050 KR067 MU055 UK068 N0092 BR061 IT069 K0048 KR068 MU060
BR070 IT070 K0050 KR068 MU060 NE070 NE070 UK063 BR065 IT065 ko070 KR060 MU056 BR065 IT069

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ko070 kr105 MU055 BR066 mu060 K0049 KR068 UK067 br060 IT090 K0050 KR067 mu060 UK068 IT070
K0050 KR065 MU055 UK074 IT071 K0052 KR066 MU054 BR067 IT072 ko070 MU050 SS034 N0115 ne095
K0044 KR068 ne095 it109 K0056 UK060 FL034 SS036 IT070 ko065 KR065 mu056 K0055 UK070 kr090
MU055 ko070 mu060 ko072 BR085 KR070 mu080 SS040 SS042 UK069 br118 it108 ko056 KR074 br124
IT115 ko074 KR070 ko069 KR071 UK070 SS040 UK065 BR090 K0048 MU055 K0048 UK067 WP351 BR075
K0055 KR073 BR070 KR070 NE081 KR075 NE081 UK065 NE068 K0060 KR070 SS038 NE079 SS038 UK070
BR081 IT072 K0040 KR065 MU050 NE072 UK065 UK067 ko056 KR070 MU050 IT085 KR070 it070 it070
K0055 K0055 KR068 UK066 ko070 KR070 MU065 K0050 MU065 UK065 SS040 IT080 ko058 KR067 MU058
UK070 SS032 SS040 UK060 IT080 KR070 MU040 NE072 NE072 UK062 IT073 K0053 KR062 IT084 KR065
ko080 UK066 UK065 FL028 BE042 n0085 BR072 IT073 K0056 MU050 br040 ko066 K0050 KR070 NE067
DS020 br040 it070 K0059 KR070 MU065 UK067 NE067 NE067 UK067 NE067 K0054 MU050 br040 IT071
K0065 KR066 UK067 br040 it072 K0062 MU065 SS040 LR043 UK065 BR065 IT074 ko054 KR065 MU045
BR065 it071 K0052 KR066 br087 it091 KR080 UK067 br089 IT090 ko080 KR080 BR075 IT071 UK065
br043 IT082 K0060 KR064 IT073 MU050 br040 IT072 K0056 MU048 br040 IT070 K0058 KR067 MU045
br040 IT071 K0059 KR070 MU065 BE043 SS032 BR065 it068 K0070 kr088 mu060 NE067 NE067 BR075
IT070 ko070 KR065 mu068 UK065 BR070 IT070 K0050 KR066 MU060 LR038 UK075 BR064 it055 K0051
KR066 MU055 MU055 IT071 K0054 KR066 MU058 LR031 br087 IT075 K0051 KR067 mu075 SS040 KI022

101=TW    30.05N 120.48E     0    0    0deg    1     2 of    2 bearings
2128.00
FE309 LV310

102=U7    49.95N  15.72E    50   20  108deg   57   151 of  152 bearings
2129.00 2130.00 2131.00 2132.00 2133.00 2134.00 2135.00 2136.00 2137.00 2138.00
2139.00 2140.00 2141.00 2142.00 2143.00 2144.00 2145.00 2146.00 2147.00 2148.00
2149.00 2150.00 2151.00 2152.00 2153.00 2154.00 2155.00 2156.00 2157.00 2158.00
2159.00 2160.00 2161.00 2162.00 2163.00 2164.00 2165.00 2166.00 2167.00 2168.00
2169.00 2170.00 2171.00 2172.00 2173.00 2174.00 2175.00 2176.00 2177.00 2178.00
2179.00 2180.00 2181.00 2182.00 2183.00 2184.00 2185.00
BR130 IT135 K0057 KR107 AL035 BE053 GI048 AL006 FL041 SS042 LR048 PS044 UK098 FL046 PS048
FL044 LR045 UK098 PS045 SS036 FL041 FL041 SS043 FL046 SS041 UK098 LR043 PS039 BE051 SS043
FL041 LR049 FL040 SS041 GI032 SS042 BE049 PS035 IT133 K0062 KR100 BE052 UK100 FL045 AL040
SS043 LR046 FL041 SS037 SS043 UK100 FL040 PS045 BE051 SS043 LV017 PS039 FL042 UK080 SS036
BE053 SS042 it078 KR088 BR145 IT080 K0090 UK090 FL041 SS043 BE038 FL048 BE034 FL048 N0130
SS043 N0116 PS045 UK095 SS043 IT095 SS044 UK095 PS035 SS044 FL041 FL041 SS048 LR044 UK100
SS040 UK098 FL040 BE051 SS043 IT080 MU075 SS042 BE050 FL042 SS042 BE051 LR044 FL041 K0060
KR087 SS043 UK096 AL045 NE098 FL041 SS035 PS036 AL043 FL042 SS033 FL044 PS044 PS042 SS042
UK098 AL043 FL042 FL041 PS044 AL044 BE052 SS042 PS044 FL039 LR048 UK090 NE090 FL044 PS035
LR045 SS041 AN012 BE050 FL042 PS045 SS042 FL048 LR049 DS048 SS042 FL047 AL007 FL041 AL043
FL044 UK100

103=UA    48.72N 131.86E   809  291   53deg   10    24 of   24 bearings
2186.00 2187.00 2188.00 2189.00 2190.00 2191.00 2192.00 2193.00 2194.00 2195.00
AN287 WP317 AN292 WP315 BE031 WP315 WP317 LV316 FE309 DS320 WP317 DS323 LV316 AN292 FE314
WP313 LV316 WP315 DS320 DS317 FE311 AN287 AN297 WP325

104=UB    47.56N  26.13E   321   75  109deg    2     5 of    5 bearings
2196.00 2197.00
K0086 MU085 BR116 IT115 KR098

105=UD    47.95N 135.37E  1379  300   47deg    4    10 of   10 bearings
2198.00 2199.00 2200.00 2201.00
DS322 AN283 WP313 AN289 DS321 LV310 GI327 WP316 FE313 LV316
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106=UG          63.70N  54.13E  1620  111   82deg    1     4 of    5 bearings
               2202.00
               BR047 it040 KO040 KR045 MU040

107=UM          47.68S 170.80W   199    8  156deg    2     5 of    5 bearings
               2203.00 2204.00
               BR050 KO038 MU035 KO057 MU065

108=UN          57.13N  32.51E   151   20   77deg    7    29 of   36 bearings
               2205.00 2206.00 2207.00 2208.00 2209.00 2210.00 2211.00
               WP344 UK060 br083 ko068 kr078 IT060 ko065 NE062 SS025 BR065 BR065 IT067 IT067 KO057 KO057
               KR060 MU045 MU045 NO080 BR060 BR060 KO052 KO052 KR062 MU045 MU045 BR060 BR060 IT064 IT064
               ko056 ko056 KR062 MU045 MU045 n3125

109=UR          58.37N  21.33E     0    0    0deg    1     2 of    2 bearings
               2212.00
               IT051 KR045

110=UZ          49.85N  16.65E   107   69  110deg    1     4 of    4 bearings
               2229.00
               BR136 IT134 KO063 KR102

111=VF          47.30N  41.14E   551   59  112deg    2     5 of    7 bearings
               2230.00 2231.00
               KO080 br080 kr080 MU076 BR095 IT095 KR087

112=VG          51.43S 173.54W   408    8  145deg    3     7 of   11 bearings
               2232.00 2233.00 2234.00
               BR047 IT040 ko040 KR045 mu040 ds020 ss039 BR070 IT055 KO108 KR072

113=VL          45.17S 159.14E 17996  598  121deg    2     3 of    6 bearings
               2235.00 2236.00
               IT079 KR083 BR085 it088 ko072 mu054

114=VM          47.61S 170.96W   409   15  124deg    2     4 of    4 bearings
               2237.00 2238.00
               KO061 MU062 KO055 MU070

115=VR          53.65N  15.52E    29    8   55deg   20    68 of   76 bearings
               2241.00 2242.00 2243.00 2244.00 2245.00 2246.00 2247.00 2248.00 2249.00 2250.00
               2251.00 2252.00 2253.00 2254.00 2255.00 2256.00 2257.00 2258.00 2259.00 2260.00
               BR045 it057 KO035 KR048 MU065 IT065 ko055 KR052 mu050 UK056 LR042 BE041 AL038 uk056 BR050
               IT070 KO040 MU037 BR045 KR050 uk056 BR057 IT074 KO037 UK065 BR051 IT091 IT068 KO038 BR062
               IT079 KR065 MU030 KO038 BR052 IT102 KO035 KR070 nO078 BR065 KO036 KR063 BR061 IT086 KO032
               KR068 MU010 IT100 KO047 KR064 NO131 IT075 KO040 KR060 MU030 BR059 IT097 KO026 KR066 BR055
               it060 KO037 UK060 BR047 IT055 KO030 UK063 uk056 BR045 KO035 SS038 PS032 GI018 FE012 FL038
               PS038

116=VU          51.11N 150.87E  1738  633   56deg    1     3 of    3 bearings
               2261.00
               AN280 FE307 WP320

117=W1          48.53N  18.63E    44   15  126deg   24    84 of   86 bearings
               2262.00 2263.00 2264.00 2265.00 2266.00 2267.00 2268.00 2269.00 2270.00 2271.00
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          2272.00 2273.00 2274.00 2275.00 2276.00 2277.00 2278.00 2279.00 2280.00 2281.00
          2282.00 2283.00 2284.00 2285.00
          LV003 FE025 NO132 BR130 IT124 KR112 BE060 SS040 K0084 FL046 BR125 IT125 KR110 DS030 AL042
          PS040 BE050 PS351 UK105 NO130 FE025 BR120 IT126 K0068 KR112 MU062 DS030 LR046 FE023 BE053
          BR124 IT125 LR045 DS025 KI036 GI037 AN355 DS028 LV027 BE051 BE055 FE025 LR048 DS025 AN004
          FE024 KI036 GI037 AL037 LR042 UK105 n0125 ne082 BE051 AL044 AL044 KI038 KI038 BE051 BE044
          PS043 KI040 FL041 K0074 K0072 KR113 NE101 BR140 IT126 K0102 KR108 UK108 BR140 IT123 K0080
          KR112 MU105 LR047 FE353 AN006 AL041 IT126 K0088 IT126 K0081 KR113

118=W3     52.68N  12.88E     0    0    0deg    1     2 of    2 bearings
          2286.00
          IT120 KR070

119=WA     53.43N  10.48E    35   15  121deg   15    20 of   39 bearings
          2287.00 2288.00 2289.00 2290.00 2291.00 2292.00 2293.00 2294.00 2295.00 2296.00
          2297.00 2298.00 2299.00 2300.00 2301.00
          br078 it072 KR070 FL032 UK075 GI043 IT134 mu100 br074 it077 br076 it075 UK070 kr067 br100
          IT105 ko084 NE069 br080 it078 br079 it080 FL030 BE040 SS034 br090 IT105 ko052 br076 ko050
          KR065 UK060 NE066 UK065 SS042 GI031 SS035 UK070 n3130

120=WG     51.77N  52.82E  1102  166  110deg    3     7 of   10 bearings
          2309.00 2310.00 2311.00
          BR074 K0070 N0080 UK075 UK066 K0055 it094 mu020 SS026 n3155

121=WI     52.57N  13.31E    17    1   42deg   60   119 of  210 bearings
          2312.00 2313.00 2314.00 2315.00 2316.00 2317.00 2318.00 2319.00 2320.00 2321.00
          2322.00 2323.00 2324.00 2325.00 2326.00 2327.00 2328.00 2329.00 2330.00 2331.00
          2332.00 2333.00 2334.00 2335.00 2336.00 2337.00 2338.00 2339.00 2340.00 2341.00
          2342.00 2343.00 2344.00 2345.00 2346.00 2347.00 2348.00 2349.00 2350.00 2351.00
          2352.00 2353.00 2354.00 2355.00 2356.00 2357.00 2358.00 2359.00 2360.00 2361.00
          2362.00 2363.00 2364.00 2365.00 2366.00 2367.00 2368.00 2369.00 2370.00 2371.00
          ko050 IT085 KR060 MU055 BR070 it070 ko059 KR069 UK065 BR070 K0067 BR080 it054 BR078 IT126
          K0059 KR070 MU050 BR090 it073 KR090 AN347 UK069 ko060 KR078 BR063 it068 ko049 KR065 ne062
          SS034 BR064 it074 KR064 BR065 it107 KR068 ko055 KR093 it074 mu045 NE098 K0065 NE098 FL043
          LR037 UK105 SS043 BR060 it068 ko047 mu045 BR060 it068 ko047 mu045 mu045 NE069 uk066 it071
          ko055 mu060 UK075 AN001 BR083 K0050 K0035 KR068 BR080 it062 NE083 BR080 it070 ko048 KR069
          BR090 it070 ko050 KR071 BR090 it071 n0085 BR075 ko060 KR075 uk054 UK070 BR070 it047 K0035
          KR070 it074 ko053 KR065 KR065 mu048 BR100 it073 ko061 MU050 it070 KR070 MU050 UK070 BR048
          KR064 BR125 it072 ko075 KR065 ne066 ne066 uk060 UK067 n0090 FE011 it072 KR066 BR050 IT080
          K0040 BR098 IT100 ko050 KR080 mu041 uk057 LR036 BR064 it074 ko061 KR064 mu080 n0085 BE042
          uk065 n3152 BR062 it070 K0045 KR070 mu070 LR039 BR063 it080 ko060 KR065 mu060 UK070 UK066
          BR095 it070 K0045 KR050 FL025 n3150 BR082 it075 ko050 KR075 BR090 it087 ko050 kr099 mu070
          IT074 ko048 KR070 mu075 BE044 ne064 ko054 ne064 BR065 ko055 ko045 mu056 mu056 KR080 UK067
          BR076 KR070 UK067 uk050 ko056 KR080 SS034 UK070 SS032 KR071 mu045 BR070 it075 BR065 it072
          kr090 mu045 it072 KR068 BR069 it070 BR045 IT075 uk060 SS040 NE074 uk060 ne067 BR060 IT090

122=WL     50.69N 147.16E     0    0    0deg    1     2 of    2 bearings
          2372.00
          AN282 DS320

123=WN     48.34N  12.06E     0    0    0deg    1     2 of    2 bearings
          2382.00
          K0070 MU066
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124=WQ          48.53N  22.19E    37   11  114deg   26    89 of   95 bearings
               2382.00 2383.00 2384.00 2385.00 2386.00 2387.00 2388.00 2389.00 2390.00 2391.00
               2392.00 2393.00 2394.00 2395.00 2396.00 2397.00 2398.00 2399.00 2400.00 2401.00
               2402.00 2403.00 2404.00 2405.00 2406.00 2407.00
               KO070 mu066 KO080 KR098 KI346 KR095 AL045 LR046 BR122 KO093 KR105 MU090 BR120 KO090 BR136
               IT120 KO084 UK096 nO096 BR112 IT112 KO089 BR120 IT118 KR106 BR119 KR100 BR115 it079 KO075
               KR099 BR115 IT132 KO075 KR100 UK095 IT123 KO085 KR100 MU080 NO126 UK099 BR116 it110 KO084
               KR100 MU050 UK098 NO125 KO078 MU075 NE096 KO084 BR112 KR098 NE096 UK096 NO130 IT122 KO083
               KR100 MU080 KO082 UK090 BR108 IT123 KR101 UK098 BR123 IT124 KO085 KR100 br150 IT118 KO080
               KR100 NO120 BR111 IT120 KO080 KR104 MU080 KO075 KR098 FL041 LR045 br090 KO080 KR103 UK095
               BR115 IT115 KR093 BR128 IT125

125=WT           3.41S  31.70E     0    0    0deg    1     2 of    2 bearings
               2408.00
               WP331 AN358

126=XI          48.61N  37.33E     0    0    0deg    1     2 of    2 bearings
               2409.00
               BR095 NO105

127=XU          50.74N  19.28E   243   70   93deg    1     4 of    6 bearings
               2412.00
               NE094 br087 it070 KO062 KR090 MU060

128=XW          42.87N  41.49E     0    0    0deg    1     2 of    2 bearings
               2413.00
               NO110 UK090

129=Z2          45.23N  20.39E    70   20  129deg   11    41 of   44 bearings
               2414.00 2415.00 2416.00 2417.00 2418.00 2419.00 2420.00 2421.00 2422.00 2423.00
               2424.00
               IT135 KO085 UK113 BR150 IT134 KO105 KR115 MU130 KO107 BR124 IT135 KR125 BR138 IT135 KO110
               KR112 MU117 ne107 nO131 KR123 KR123 KI040 PS046 NE111 KO104 IT130 KR120 NE111 LR050 PS046
               SS041 FL044 BR148 IT133 KO110 mu135 KI040 SS048 BR150 KO105 MU111 BE056 BE055 PS046

130=Z3          49.40N  16.05E    99   36  110deg    9    26 of   26 bearings
               2425.00 2426.00 2427.00 2428.00 2429.00 2430.00 2431.00 2432.00 2433.00
               BR145 IT146 KO070 KR102 FL041 BE054 PS044 LR046 FL040 PS045 FL042 UK098 SS042 SS046 UK100
               FL041 BE050 LR043 UK093 BE050 FL041 BE050 UK095 LR046 LR047 SS036

131=ZL          35.22S 150.05E 52385 1178  134deg    1     3 of    3 bearings
               2434.00
               BR078 IT072 KR072

132=ZM          52.56N  13.41E    91    3   97deg    9    20 of   28 bearings
               2435.00 2436.00 2437.00 2438.00 2439.00 2440.00 2441.00 2442.00 2443.00
               BR070 it080 KO040 kr045 MU040 BR098 ko072 KR085 FL034 it090 SS036 kr084 UK085 FL038 LR040
               NE076 LR038 FL037 nO110 BE044 PS038 BR098 it097 KR090 mu069 SS041 BE047 SS041

133=ZT          47.28N 138.16E   606  246   59deg   15    41 of   41 bearings
               2444.00 2445.00 2446.00 2447.00 2448.00 2449.00 2450.00 2451.00 2452.00 2453.00
               2454.00 2455.00 2456.00 2457.00 2458.00
               FE308 WP313 LV310 FE308 WP313 WP312 DS320 LV314 AN287 WP313 FE313 WP312 AN290 AN282 WP313
               FE305 AN275 WP316 LV311 WP311 AN289 WP314 AN289 FE325 AN280 WP316 DS316 WP313 WP313 FE308
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LV310 DS319 GI339 KI319 WP312 PSO36 DS319 WP312 FE310 KI324 GI323

MARCH/APRIL, 1985

HIT #	HIT NAME	BPE LAT	BPE LONG	SMA AXIS	SMI AXIS	ORIEN	# INDEXES	# OF BEARINGS USED
1=1G		58.75N	32.47E	55	17	97deg	38	120 of 138 bearings

146.00 147.00 148.00 149.00 150.00 151.00 152.00 153.00 154.00 155.00
156.00 157.00 158.00 159.00 160.00 161.00 162.00 163.00 164.00 165.00
166.00 167.00 168.00 169.00 170.00 171.00 172.00 173.00 174.00 175.00
176.00 177.00 178.00 179.00 180.00 181.00 182.00 183.00

N0074 U2056 N0075 n1097 FL032 LR039 SS044 n0072 n1099 N1121 U2066 NE061 U2063 NE064 N0080
U2060 NE061 U2056 NE060 U2067 N0079 N0081 NE057 N0081 U2065 N0085 lr140 SS032 U2060 N0085
DS020 SS034 N0073 N1117 N1115 N0075 N0073 N2146 N1118 BE034 n0071 N0074 U2054 N0075 n3115
n0071 U2056 n0071 bk043 NE061 KG030 BK050 NE061 U2068 N0080 BE038 CA036 FL030 LR035 PS034
SS036 bd070 U2068 N0082 AN003 DS012 SS030 U2058 n1070 AN003 DS010 lv179 U2074 N0075 N1118
N0070 U2060 BD065 BE038 CA039 DS010 KR065 lr152 SS035 BD065 kr065 n0072 U2065 U2065 N0073
U2065 AL027 BD065 KR068 PS024 SS035 BD065 kr068 N0070 BE039 CA039 GI045 LR035 PS033 SS035
BD070 KR055 SS033 BD070 KR055 BE042 CA048 lr143 SS034 AL029 GI029 PS033 CA038 FL029 KI021
AL029 BE038 CA036 LR034 PS038 SS035 AL031 BE038 CA036 LR034 PS028 SS035 u2070 N0074 BE034
FL032 KI023 LR035

2=45		32.53N	69.51E	0	0	0deg	1	2 of 2 bearings

184.00

BE034 SS040

3=4F		47.73N	58.36E	216	47	129deg	54	197 of 206 bearings

185.00 186.00 187.00 188.00 189.00 190.00 191.00 192.00 193.00 194.00
195.00 196.00 197.00 198.00 199.00 200.00 201.00 202.00 203.00 204.00
205.00 206.00 207.00 208.00 209.00 210.00 211.00 212.00 213.00 214.00
215.00 216.00 217.00 218.00 219.00 220.00 221.00 222.00 223.00 224.00
225.00 226.00 227.00 228.00 229.00 230.00 231.00 232.00 233.00 234.00
235.00 236.00 237.00 238.00

PS024 SS035 SS037 U2079 N1110 N0085 N0083 BK078 N1100 N0100 SS038 U2077 U2077 NE078 AL024
LR032 PS024 N0084 U2080 N1103 N2110 N0083 U2078 BK088 U2078 BE032 FL027 LR026 PS045 SS034
N0075 N1100 U2075 SS036 N0083 N0083 U2076 N2112 n0097 EK096 U2077 U2077 NE078 BE038 FL015
LR038 PS042 U2078 N0085 BD078 LR050 SS034 BD078 U2078 U2079 N1105 N0085 N1105 N0089 U2074
N1100 BE027 CA027 FL020 LR022 PS019 BE034 FL026 PS026 SS036 BE034 CA029 SS032 N0070 N1100
an156 BE034 GI009 SS036 N0088 BE033 CA024 DS004 fe174 FL027 LR028 PS020 SS033 AL036 FL028
PS018 SS034 LS075 AL019 CA029 DS005 FE001 FL027 GI011 LR028 PS020 SS034 wp147 NE077 N0085
BK070 U2077 N0090 AL019 an154 BE032 CA033 SS038 NE079 U2072 BE034 SS036 BE033 LR027 PS021
SS030 N0070 U2080 an169 BE037 SS039 N0087 N1100 U2076 N2095 N0085 AL021 BE032 CA028 FL027
LR028 PS020 SS035 U2075 BE027 FE014 FL025 GI005 LR025 SS035 U2077 BE032 FL026 PS020 SS035
N0085 AL022 BD080 BE034 CA034 FL026 KI015 KR080 LR018 PS019 SS038 BD080 KR080 BE034 CA036
SS038 N0090 U2080 N0084 N2107 U2081 BE034 SS036 an169 BE032 CA030 PS020 SS038 N1100 N0088
AL018 BE032 FL032 LR028 PS019 SS035 n0102 N2117 NE070 U2070 n0070 U2062 NE066 U2075 NE074
NE073 U2077 NE076 U2076 NE076 NE069 U2075 NE076 U2067 BK075 U2076

4=4N		55.86N	55.45E	445	83	110deg	10	28 of 29 bearings

239.00 240.00 241.00 242.00 243.00 244.00 245.00 246.00 247.00 248.00

U2059 N0075 an170 BE029 CA034 LR033 PS030 SS054 KR061 AL035 LR025 N1080 N0070 U2059 N0072
BE029 CA032 AL026 BE029 FL025 LR025 SS032 U2060 N1095 N0075 U2076 N0072 BK065 U2075

5=7K		43.89N	67.87E	818	106	134deg	19	50 of 51 bearings

249.00 250.00 251.00 252.00 253.00 254.00 255.00 256.00 257.00 258.00

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 259.00  260.00  261.00  262.00  263.00  264.00  265.00  266.00  267.00
U2078 NO083 N1087 U2075 U2075 NO080 BE034 FL024 GI014 KI011 PS047 SS033 NO085 U2074 NO082
N1101 U2071 NO084 U2076 NO083 BE032 CA033 DS001 fe174 FL026 KI007 LR032 PS027 SS034 NE077
NO080 U2073 N1100 NO085 U2075 NO095 N1100 NO085 NE075 NE075 U2076 U2076 NO080 NE077 U2075
BE033 PS022 NO080 N1096 U2076 NE076

6=A5      39.25N  28.14E   690  146  141deg   15    50 of   50 bearings
 281.00  282.00  283.00  284.00  285.00  286.00  287.00  288.00  289.00  290.00
 291.00  292.00  293.00  294.00  295.00
N1150 NO130 BE055 CA054 BE053 FL045 KI040 PS044 BE051 SS048 BE052 LR050 PS043 BE054 FL045
PS046 U2115 BE055 FL042 LR048 PS046 SS047 FL045 LR048 PS045 SS047 FL044 LR048 PS045 AL046
BE055 LR050 PS045 FL045 PS045 AL042 BE052 KI036 LR050 PS043 SS046 BE056 FL047 LR049 PS046
SS046 LR050 SS047 NO135 U2115

7=AD      44.31N  47.06E   931  112  128deg    4    10 of   10 bearings
 296.00  297.00  298.00  299.00
NO103 U2090 NO100 NE088 U2092 NE088 NE088 U2092 NO100 U2082

8=AG      53.38N  69.21E   443   96  128deg    9    19 of   23 bearings
 300.00  301.00  302.00  303.00  304.00  305.00  306.00  307.00  308.00
an104 fe135 lv132 U2060 NO071 BK062 wp156 NO070 U2060 BK058 U2061 NO075 U2060 N1087 NO070
N1088 N2094 NE075 U2060 NE063 U2061 NO070 N1090

9=AK      41.90S 166.44E     0    0    0deg    1     2 of    2 bearings
 309.00
U2048 NE058

10=AN     51.97S 179.98W   521   11  114deg    3     5 of    8 bearings
 310.00  311.00  312.00
bk062 U2064 ne063 ne063 U2068 NE089 U2067 NE079

11=AR     54.85N  40.94E   768   91   97deg    3     4 of    6 bearings
 313.00  314.00  315.00
NO085 U2068 BK066 u2073 bk056 U2070

12=AS     47.36N  54.12E   656  147  136deg    3     7 of    7 bearings
 316.00  317.00  318.00
FL040 SS035 NE077 NE077 U2083 NO090 N1110

13=AU     46.92S  45.13W  5719 1829  123deg    1     4 of    4 bearings
 319.00
AN108 DS140 LV136 WP133

14=AW     63.63N 171.11E   751  131   81deg    7    22 of   22 bearings
 320.00  321.00  322.00  323.00  324.00  325.00  326.00
AN290 DS324 FE317 LV315 AN300 DS329 FE319 GI325 LV324 WP343 DS321 FE318 AN298 DS328 FE319
GI326 WP345 DS330 FE319 WP344 DS328 WP315

15=B1     48.47N  21.44E    81   23  129deg   38   137 of  137 bearings
 327.00  328.00  329.00  330.00  331.00  332.00  333.00  334.00  335.00  336.00
 337.00  338.00  339.00  340.00  341.00  342.00  343.00  344.00  345.00  346.00
 347.00  348.00  349.00  350.00  351.00  352.00  353.00  354.00  355.00  356.00
 357.00  358.00  359.00  360.00  361.00  362.00  363.00  364.00
N1165 NO130 AL041 BE050 FL041 LR047 PS042 BE051 FL041 GI040 KI045 PS041 NO128 U2098 AL046
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LR047 AL041 BE052 FL039 KI036 LV025 SS042 AL043 LR049 PS043 SS043 AL041 FL041 LR047 PS039
SS042 PS041 SS043 U2096 BL124 IT121 K0078 KR101 N0131 U2097 N0125 N1150 BE058 SS034 LR049
LV025 PS042 SS039 BE053 FL041 LR046 PS044 LR044 SS043 BE050 FL041 PS045 BE051 FL041 LR043
PS041 SS045 N0135 U2101 BE053 LR047 PS041 SS039 AL044 BE051 FL035 SS039 BE052 FL053 PS040
SS045 BE052 FL041 LR046 PS040 SS033 BE050 FL040 PS042 BE051 FL045 GI061 KI030 PS042 SS042
AL043 BE052 KI036 LR046 PS042 SS046 KI035 PS042 BE050 FL033 PS042 BE050 PS042 AL043 FL041
GI010 LR047 PS023 BE052 PS042 SS043 FE021 LR046 SS034 AL043 BE051 FL042 LR048 PS042 SS042
BE051 FL041 LR047 PS042 BE053 DS031 LR047 BE051 LR044 PS042 FL042 LR048 BE053 FL041 SS045
BE051 PS041

16=B3    37.72N  42.08E  1171  178  143deg    2    11 of   12 bearings
          365.00  366.00
BD099 DS015 FE016 FL045 KI019 LR061 LV018 SS047 wp158 BD099 N0116 N1134

17=BA    51.32N 139.45E  1654  452   53deg    4    10 of   10 bearings
          367.00  368.00  369.00  370.00
AN289 LV316 LV318 WP315 AN294 LV309 AN286 FE309 LV317 WP321

18=BD    55.12N  27.38E   168   54   99deg   16    53 of   53 bearings
          371.00  372.00  373.00  374.00  375.00  376.00  377.00  378.00  379.00  380.00
          381.00  382.00  383.00  384.00  385.00  386.00
N0097 U2067 U2072 AL040 FL033 GI036 KI033 PS034 SS035 FL037 LR039 PS030 SS036 PS031 U2075
FL035 KI028 PS040 AL036 FL033 N0095 N1135 AL034 BE043 LR036 PS038 SS034 BE047 CA048 KI034
SS038 AL034 BE035 FL031 LR039 BE042 FL038 KI038 LR051 BE042 FL032 FE006 AN004 FE008 FL041
FL040 PS043 LR037 PS042 SS034 NE066 U2074 NE063

19=BG    55.89N  38.48E    73   24  107deg   21    60 of   63 bearings
          387.00  388.00  389.00  390.00  391.00  392.00  393.00  394.00  395.00  396.00
          397.00  398.00  399.00  400.00  401.00  402.00  403.00  404.00  405.00  406.00
          407.00
N1114 U2066 N1120 N0100 N1116 N0082 U2066 BK066 bk052 AL040 U2068 N0085 U2068 N0090 U2066
NE066 U2066 N0080 NE066 NE069 BD068 DS020 KR064 SS038 BD068 KR064 NE068 N0105 BK044 U2070
NE068 BD066 KR064 SS038 BD066 KR064 NE066 U2065 NE063 NE064 U2066 bk043 U2066 PS028 SS035
U2067 bk044 U2061 DS010 SS037 BE037 CA034 PS025 SS036 N0085 N0085 U2075 U2060 N0085 U2066
N0080 U2063 N0085

20=BL    54.53N  28.82E   206   71  104deg    6    21 of   21 bearings
          408.00  409.00  410.00  411.00  412.00  413.00
N1135 N0100 BE045 DS024 PS033 AL038 BE045 CA048 LR052 PS042 FL033 LR044 NE070 U2073 BE031
BD068 BE032 FL037 LR034 PS039 BD068

21=BP    51.60N  33.28E  6059 1081  129deg    1     6 of    6 bearings
          414.00
BE041 CA044 DS018 FL033 PS035 SS038

22=BQ    45.28N  43.73E   171   35  132deg   21    58 of   58 bearings
          415.00  416.00  417.00  418.00  419.00  420.00  421.00  422.00  423.00  424.00
          425.00  426.00  427.00  428.00  429.00  430.00  431.00  432.00  433.00  434.00
          435.00
BK089 U2088 N0104 N1125 N0101 NE081 N0098 FL038 LR041 N1128 N0107 N1125 N0102 N0100 N1130
N0104 BE046 CA048 FL032 GI022 LR042 PS038 BD087 KR095 N1122 BK091 N0104 N1125 N0103 N0105
U2090 NE091 BD095 NE086 NE091 U2090 U2090 U2089 N0104 FL033 LR044 SS044 BE039 CA046 LR037
PS034 SS041 N0099 N1128 N0107 BK087 N0105 U2084 N0100 N1123 N3150 BE045 SS043
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23=BR 46.26N 44.62E 3269 557 141deg 2 4 of 4 bearings
436.00 437.00
N1120 NO105 LRO40 SSO36

24=BU 49.77N 37.92E 323 77 121deg 6 12 of 14 bearings
438.00 439.00 440.00 441.00 442.00 443.00
NO099 U2075 NO105 U2075 n1091 BEO52 SSO35 U2082 FLO34 SSO38 U2084 nO090 N1128 NO100

25=CA 53.06N 19.10E 1408 113 90deg 2 5 of 5 bearings
444.00 445.00
ANO16 SSO40 NEO79 ANO03 LVO13

26=CB 50.70N 51.54E 423 98 142deg 4 7 of 8 bearings
446.00 447.00 448.00 449.00
NO090 U2082 N1107 N2121 U2070 neO67 BKO74 U2070

27=D3 49.55N 17.02E 208 87 123deg 19 82 of 82 bearings
452.00 453.00 454.00 455.00 456.00 457.00 458.00 459.00 460.00 461.00
462.00 463.00 464.00 465.00 466.00 467.00 468.00 469.00 470.00
ANO08 CAO48 LRO50 PSO46 SSO42 BEO54 LRO47 PSO32 FLO36 PSO43 SSO42 NO145 N1165 ALO43 CAO49
FEO24 FLO40 LRO46 PSO42 SSO43 BEO53 GIO40 PSO46 SSO41 BEO49 FEO30 FLO42 GIO40 KIO42 LVO24
PSO45 SSO42 ALO40 FLO43 GIO39 LRO48 PSO43 ALO42 BEO50 DSO32 FLO41 GIO38 LRO49 PSO45 ALO14
LRO47 PSO42 SSO42 ALO44 BEO52 DSO33 FLO42 LRO48 PSO43 SSO36 FLO42 LRO47 PSO40 SSO43 FLO43
SSO42 BEO48 FLO41 LRO49 CAO53 FLO33 BEO54 LRO48 BEO57 FLO37 LRO45 PSO45 ALO46 BEO51 CAO52
FLO41 PSO43 BDO96 BDO96 BEO48 LRO38 BDO96

28=D4 49.60N 12.85E 17408 974 120deg 1 4 of 4 bearings
471.00
ALO45 BEO54 LRO46 PSO45

29=DP 53.21N 31.58E 0 0 0deg 1 2 of 2 bearings
476.00
NEO76 NO100

30=DR 55.15N 20.05E 43 16 88deg 48 149 of 156 bearings
477.00 478.00 479.00 480.00 481.00 482.00 483.00 484.00 485.00 486.00
487.00 488.00 489.00 490.00 491.00 492.00 493.00 494.00 495.00 496.00
497.00 498.00 499.00 500.00 501.00 502.00 503.00 504.00 505.00 506.00
507.00 508.00 509.00 510.00 511.00 512.00 513.00 514.00 515.00 516.00
517.00 518.00 519.00 520.00 521.00 522.00 523.00 524.00
n1108 nO079 BKO50 U2071 BEO43 LRO43 PSO45 SSO33 BEO45 CAO46 FLO34 PSO34 SSO38 ALO35 BEO46
ds208 LRO45 PSO38 SSO36 BEO47 FLO36 PSO37 SSO42 U2071 bkO43 BEO47 KIO33 SSO34 U2073 NO109
N1153 U2070 BDO70 FLO40 KRO60 LRO43 SSO40 BDO70 KRO60 NEO61 U2075 BEO38 CAO39 FLO40 LRO60
NEO60 NO100 U2072 BDO75 KRO63 SSO40 BDO75 KRO63 LRO42 SSO36 U2075 NO105 NO105 U2075 NO105
U2070 N1155 bkO38 U2070 NO105 PSO36 SSO36 NEO68 NO110 NEO69 FLO36 PSO41 NO108 NEO64 NEO74
NEO74 U2065 PSO24 SSO34 FLO36 LRO50 PSO35 SSO36 an110 BDO60 KIO29 KRO63 LRO20 LVO19 PSO34
SSO33 BDO60 KRO63 BKO48 U2067 ALO38 SSO37 LRO42 PSO36 BEO42 FLO37 PSO39 SSO36 U2066 NO106
BEO43 FLO35 LRO39 PSO36 SSO35 BEO50 CAO54 FLO30 PSO31 SSO38 BEO46 CAO45 SSO40 NEO70 NO105
BEO46 LRO42 SSO36 NEO70 NO107 U2070 U2055 NO095 FLO36 PSO39 BEO43 FLO36 FLO38 PSO42 ALO43
BEO47 LRO38 ALO38 FLO34 GIO31 wp145 NEO68 U2065 NEO66 U2071 NEO68 NO105 BKO52 N1145 U2069
FLO35 LRO43 PSO25 BEO51 FLO33 LRO46

31=DU 59.43N 30.93E 35 13 108deg 38 94 of 103 bearings
526.00 527.00 528.00 529.00 530.00 531.00 532.00 533.00 534.00 535.00

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          536.00  537.00  538.00  539.00  540.00  541.00  542.00  543.00  544.00  545.00
          546.00  547.00  548.00  549.00  550.00  551.00  552.00  553.00  554.00  555.00
          556.00  557.00  558.00  559.00  560.00  561.00  562.00  563.00
         bk030 U2054 N0070 N1120 N1120 N0078 n0044 n2069 N0077 N1120 N0077 N1120 U2052 N0077 N0077
         N1120 N0077 N1120 N1120 N2140 N0077 N1120 N0077 N1120 N0077 N1120 N0077 N1120 N1128 N0073
         N0076 N1121 N1118 N2141 N1125 U2060 n0042 n2069 U2058 N1120 BD055 ds144 KI021 lv136 PS027
         SS038 BD055 U2057 N0075 N0077 N0077 U2052 U2060 N0076 N1118 N2138 N0075 SS041 U2055 N0077
         N1120 U2055 AL018 FL028 KI016 AN012 BE058 CA060 GI019 KI015 BE046 CA041 FL029 GI032 LR038
         N0073 U2057 N1118 n0102 u2095 BE037 GI024 AL030 SS039 BE040 LR035 PS031 AL042 DS017 FE014
         GI023 LV020 AL026 FL037 GI039 PS028 FL032 LR039 AL009 GI022 KI009 PS042 SS032

32=DW     57.02N  67.56E  1276  107  130deg    2     5 of    5 bearings
          564.00  565.00
         N0068 N1084 N0069 N0063 N1082

33=FA     62.24N 177.17E   612   91   81deg    6    21 of   21 bearings
          566.00  567.00  568.00  569.00  570.00  571.00
         AN290 DS323 FE324 KI324 LV328 AN294 LV315 WP311 DS320 LV313 AN331 DS322 FE312 LV320 WP313
         AN289 DS322 LV316 WP313 AN288 WP313

34=FG     49.83N  36.93E   304   84  111deg    7    14 of   14 bearings
          572.00  573.00  574.00  575.00  576.00  577.00  578.00
         KI033 PS036 BK083 N1130 FL031 U2070 FL031 PS033 FL037 LR041 BE044 FL039 FL037 LR041

35=FL     49.36N  37.72E   243   65  145deg    6    13 of   13 bearings
          579.00  580.00  581.00  582.00  583.00  584.00
         N1124 U2083 BE044 FL039 PS030 N0100 U2086 FL038 SS038 N0105 N2144 N0105 N1128

36=FM     46.97N 129.99E  1650  586   56deg    4    12 of   12 bearings
          585.00  586.00  587.00  588.00
         AN295 FE313 LV318 WP313 LV315 WP309 FE310 LV316 WP317 AN289 LV319 WP312

37=FR     38.45N  72.94E     0    0    0deg    1     2 of    2 bearings
          589.00
         N0085 U2075

38=FU     54.03N  17.61E   139   26   85deg   15    41 of   46 bearings
          590.00  591.00  592.00  593.00  594.00  595.00  596.00  597.00  598.00  599.00
          600.00  601.00  602.00  603.00  604.00
         NE069 U2080 NE070 NE081 NE080 U2073 U2071 n1070 U2083 SS040 NE074 n0075 NE072 U2069 AL012
         BE041 KI008 PS031 SS034 BE038 FL027 PS036 SS030 BE028 DS003 FL035 KI003 PS034 SS028 U2069
         U2070 n0075 BK059 U2076 U2067 DS020 LR027 LV022 wp144 bk076 U2075 N0110 U2071 NE070 NE067
         AL041

39=G3     43.34N  22.70E   231   58  143deg    9    30 of   32 bearings
          605.00  606.00  607.00  608.00  609.00  610.00  611.00  612.00  613.00
         U2108 N0145 N1165 U2107 N1150 N0135 N1170 U2119 AN004 FL043 lr150 wp176 U2117 BE052 FL045
         GI033 PS043 AL045 BE053 PS045 BE053 FL044 LR049 AL045 BE055 FL046 GI040 PS045 AL044 DS033
         LR048 SS049

40=GI     56.78N  32.78E    71   19   96deg   41   126 of  134 bearings
          614.00  615.00  616.00  617.00  618.00  619.00  620.00  621.00  622.00  623.00
          624.00  625.00  626.00  627.00  628.00  629.00  630.00  631.00  632.00  633.00
          634.00  635.00  636.00  637.00  638.00  639.00  640.00  641.00  642.00  643.00
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644.00 645.00 646.00 647.00 648.00 649.00 650.00 651.00 652.00 653.00
654.00
n1155 n0135 NE065 NE066 N0085 U2060 N1125 N0080 AL034 BE041 FL038 AL036 BE051 LR043 SS033
BE040 FL031 SS034 LR045 SS033 N0084 BD067 KR063 SS034 BD067 KR063 BK059 U2064 BK050 N0090
U2060 NE063 N0086 N0085 N1115 N0090 N1120 BD066 SS032 BD066 U2076 bk043 N0091 U2071 NE066
U2069 BE042 FL028 SS036 BE027 LR032 PS049 SS028 BK054 NE062 U2062 NE062 N0090 U2067 BE039
CA039 LR045 SS033 BD065 KR065 PS039 BD065 KR065 BE035 SS033 N0080 U2060 N0080 U2060 N1125
BE036 PS035 SS034 AL024 FL043 BE035 CA037 FL041 PS042 BE033 CA031 fe125 ps152 PS332 BD072
KI021 KR063 SS037 BD072 KR063 LR027 PS042 N0075 DS025 LV015 BD068 KR060 SS036 BD068 KR060
U2068 U2065 BK056 U2062 N0084 BE043 LR032 PS028 U2064 BE035 LR033 PS030 BE038 FL033 LR040
n0065 U2065 U2070 N0085 AL040 FL037 SS038 bd086 FL035 GI035 KI027 PS040 SS037 bd086

41=GM 41.55N 130.64E 119 56 15deg 20 65 of 65 bearings
655.00 656.00 657.00 658.00 659.00 660.00 661.00 662.00 663.00 664.00
665.00 666.00 667.00 668.00 669.00 670.00 671.00 672.00 673.00 674.00
AN290 WP315 AN296 DS323 FE311 WP315 AN290 WP314 AN287 DS324 LV320 WP314 LV317 WP316 AL326
BE325 GI321 LR328 PS329 SS322 WP314 AN292 DS322 LV311 WP315 SL028 AL320 BE321 CA316 LR321
PS324 AN294 LV318 AN294 LV317 WP317 AN294 DS322 WP311 AN291 DS324 FE311 WP315 AN291 FE311
KI325 WP315 LV316 WP325 DS322 WP314 LV315 TO337 AN291 DS320 WP316 AN292 DS326 FE344 LV318
WP315 SL330 DS323 AN294 DS322

42=GR 44.61N 131.34E 129 82 1deg 46 184 of 184 bearings
675.00 676.00 677.00 678.00 679.00 680.00 681.00 682.00 683.00 684.00
685.00 686.00 687.00 688.00 689.00 690.00 691.00 692.00 693.00 694.00
695.00 696.00 697.00 698.00 699.00 700.00 701.00 702.00 703.00 704.00
705.00 706.00 707.00 708.00 709.00 710.00 711.00 712.00 713.00 714.00
715.00 716.00 717.00 718.00 719.00 720.00
DS320 LV309 WP324 DS323 FE313 GI315 WP313 DS320 FE309 LV320 WP315 AN310 DS323 LV315 WP314
AN311 DS323 FE312 LV315 WP311 AN287 DS322 KI323 LV317 AN316 DS323 LV319 WP314 AN287 LV318
AN286 DS323 FE304 GI322 KI322 LV313 SL025 AN289 KI324 AN287 DS323 GI311 KI316 LV317 WP316
AN328 DS322 FE311 LV320 WP317 AN288 DS321 LV320 AN287 DS322 FE300 LV315 WP313 FE309 LV318
AN286 DS322 FE307 GI337 KI325 AN287 DS320 KI319 LV314 PS329 WP310 AN287 DS322 FE309 LV316
AN285 DS326 FE296 KI347 LV315 WP313 DS326 FE310 LV315 WP313 AN287 DS327 KI322 WP315 AN290
DS324 KI318 LV317 WP315 DS324 FE306 LV320 WP313 WL326 AN290 DS325 KI323 LV316 WP312 AN290
DS322 FE310 LV317 WP316 AN293 DS325 LV318 WP314 AN289 DS322 LV316 WP313 AN341 DS323 LV319
WP314 AN351 DS323 FE310 LV315 PS324 WP314 LV315 WP313 TO320 TO320 AN298 DS322 FE317 KI327
LV316 AN292 DS322 LV316 WP312 DS323 LV316 AN286 FE310 AN280 FE307 WP313 AN303 DS322 FE311
GI332 LV316 AN293 FE310 LV317 WP323 DS323 WP319 AN290 DS323 FE309 LV320 WP317 DS326 FE310
FL320 SS320 DS320 LV310 WP318 AN288 DS320 FE309 LV320 DS344 WP314 KI334 WP311 DS323 FE311
WP315 AN290 FE307 WP315

43=GU 60.40N 143.09E 1733 785 84deg 3 8 of 8 bearings
721.00 722.00 723.00
KI355 LV311 PS336 WP327 DS322 WP327 LV340 WP330

44=HM 52.80N 52.21E 528 151 127deg 3 6 of 8 bearings
724.00 725.00 726.00
N1105 n0075 BD069 KR068 BD069 KR068 n0076 N1105

45=HP 48.02N 35.53E 296 61 116deg 6 11 of 14 bearings
727.00 728.00 729.00 730.00 731.00 732.00
ne070 ne073 u2073 BE042 CA044 NE091 NE092 U2090 N1135 N0106 N0100 U2092 U2090 BK087

46=IG 45.25N 126.60E 134 89 11deg 101 414 of 415 bearings

733.00 734.00 735.00 736.00 737.00 738.00 739.00 740.00 741.00 742.00
743.00 744.00 745.00 746.00 747.00 748.00 749.00 750.00 751.00 752.00
753.00 754.00 755.00 756.00 757.00 758.00 759.00 760.00 761.00 762.00
763.00 764.00 765.00 766.00 767.00 768.00 769.00 770.00 771.00 772.00
773.00 774.00 775.00 776.00 777.00 778.00 779.00 780.00 781.00 782.00
783.00 784.00 785.00 786.00 787.00 788.00 789.00 790.00 791.00 792.00
793.00 794.00 795.00 796.00 797.00 798.00 799.00 800.00 801.00 802.00
803.00 804.00 805.00 806.00 807.00 808.00 809.00 810.00 811.00 812.00
813.00 814.00 815.00 816.00 817.00 818.00 819.00 820.00 821.00 822.00
823.00 824.00 825.00 826.00 827.00 828.00 829.00 830.00 831.00 832.00
833.00
AN292 WP320 AN285 FE309 WP322 AN290 FE312 WP313 AN286 DS324 FE311 GI324 LV317 WP316 AN287
DS323 FE312 GI333 LR333 LV317 PS343 WP316 AN286 LV318 WP313 AN290 DS323 FE310 KI327 LV314
WP309 AN289 DS320 LV314 WP316 AN289 DS320 LV314 WP316 DS324 FE311 LV318 WP315 AN286 FE308
GI307 LV315 PS305 WP317 AN286 FE307 LV316 WP324 AN297 DS315 FE297 KI348 LV315 WP312 FE310
LV318 WP322 AN320 FE302 LV316 WP325 AN277 FE300 LV312 WP322 DS321 WP316 AN323 FE308 LV318
WP317 AN292 FE312 LV319 WP322 FE311 LV320 AN281 FE307 LV315 WP324 DS322 KI323 LV318 PS326
WP316 AN289 DS322 FE311 LV316 AN279 DS320 FE295 LV316 WP324 AN282 FE305 LV300 AN285 FE309
LV312 AN291 DS322 FE313 KI321 LV316 WP321 TO330 AN285 FE305 WP329 AN293 DS320 GI343 KI322
LV313 WP320 AN285 FE305 AN310 DS324 GI333 LV316 WP317 AN341 DS325 FE312 KI330 LV318 PS330
WP319 AN303 BE317 CA314 GI284 KI312 LR302 PS322 SS324 AN290 DS322 LV319 WP319 BE347 CA335
GI339 KI315 LR350 DS320 GI338 LV315 WP316 AN354 DS322 FE319 LV316 WP320 AL336 AN354 DS322
FE319 LR342 LV316 WP320 DS322 WP318 DS320 GI342 KI321 LV313 WP318 DS323 FL323 AN295 DS323
LV315 WP320 AN290 WP352 AL336 LR336 PS331 AL342 KI314 PS339 BE310 FL324 LR324 LR348 PS321
PS331 FE309 LV294 WP316 AN358 DS311 FE319 LV313 WP320 AN289 DS324 FE327 LV313 WP316 FL324
PS298 FE311 LV316 WP317 AN288 DS323 FE310 LV313 WP315 DS337 LV314 AN295 DS320 FE313 LV318
WP315 AN289 FE310 LV315 WP317 AN289 DS319 FE310 LV312 WP316 AN289 DS322 FE309 LV315 WP317
AN288 FE308 LV314 WP317 AN288 FE311 LV316 WP315 AN285 FE305 LV316 WP313 AN284 KI307 LV312
WP315 AN277 FE305 LV313 WP317 FE309 LV317 WP317 AN290 DS322 FE311 FE311 WP314 DS322 FE311
LV315 WP317 DS323 FE312 LV318 WP316 DS322 FE311 LV315 WP318 DS322 LV313 WP318 AN290 DS324
FE310 LV316 WP312 AN289 DS322 FE311 KI313 WP317 AN290 DS323 KI316 WP315 SL330 DS324 FE312
LV317 WP314 AN290 DS321 FE311 SS326 WP313 AN349 DS324 LV317 WP313 AN290 WP315 FE311 LV315
WP313 AN288 WP317 FE310 LV315 WP317 sl223 DS325 FE314 LV317 WP357 FE310 LV315 WP313 FE305
LV315 WP317 AN291 FE312 LV317 WP315 AN287 DS324 FE314 LV317 AN290 WP317 AN290 WP313 AN290
DS323 FE310 KI355 LV316 WP322 AN290 DS322 FE312 LV316 WP313 AN290 FE311 LV318 WP317 DS323
FE311 LV315 WP313 AN288 FE311 WP317 AN290 DS322 FE311 LV319 WP315 AN287 DS323 FE310 LV316
AN290 DS322 FE310 SS326 WP316 AN288 LV317 DS000 FE311 LV315 FE304 WP321 AN288 DS322 FE310
LV316 DS322 FE310 LV316 DS322 FE312 KI322 LV317 AN290 FE310 LV318 WP317 FE313 LV317 WP316
AN289 DS323 FE310 LV314 WP316 AN290 FE311 LV318 PS345 WP317

47=IR 58.03N 33.25E 631 71 78deg 3 6 of 7 bearings
834.00 835.00 836.00
NO080 U2060 BE037 LR035 SS037 BK055 u2071

48=K7 42.75N 25.10E 165 33 137deg 21 50 of 55 bearings
837.00 838.00 839.00 840.00 841.00 842.00 843.00 844.00 845.00 846.00
847.00 848.00 849.00 850.00 851.00 852.00 853.00 854.00 855.00 856.00
857.00
N1160 NO137 NE113 NO133 bk128 U2114 AL046 BE054 FL039 AN008 BE052 LR056 AL042 BE055 u2120
NO135 AL044 FE021 AL042 FE022 AL047 BE054 AN003 PS044 AN003 PS042 AL039 FL035 PS044 AN003
1v129 BK117 U2113 U2115 NO135 u2120 NO138 N1157 N1158 AL046 BE051 LR047 PS043 AN003 FL046
NO135 BK116 NO134 BE050 CA050 NO134 N2158 u2120 AN005 NO130

49=KB 49.97N 136.45E 162 98 29deg 66 254 of 254 bearings

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 858.00  859.00  860.00  861.00  862.00  863.00  864.00  865.00  866.00  867.00
 868.00  869.00  870.00  871.00  872.00  873.00  874.00  875.00  876.00  877.00
 878.00  879.00  880.00  881.00  882.00  883.00  884.00  885.00  886.00  887.00
 888.00  889.00  890.00  891.00  892.00  893.00  894.00  895.00  896.00  897.00
 898.00  899.00  900.00  901.00  902.00  903.00  904.00  905.00  906.00  907.00
 908.00  909.00  910.00  911.00  912.00  913.00  914.00  915.00  916.00  917.00
 918.00  919.00  920.00  921.00  922.00  923.00
AN287 DS320 WP312 DS320 LV315 WP313 AN287 LV316 AN288 FE309 LV314 AN288 DS323 FE311 GI327
LV315 AN291 DS322 FE311 LV315 AN288 DS322 FE310 LV315 DS325 LV318 AN290 DS322 FE310 GI326
LV318 WP317 DS322 LV315 WP325 AN285 DS322 FE309 AN290 FE311 LV310 WP313 AN288 FE309 LV315
WP317 DS322 LV318 WP317 AN286 DS322 FE313 GI327 LV318 WP317 AN289 DS321 FE307 LV320 WP316
AL334 AN288 DS322 AN289 DS308 FE312 LV320 WP317 AN319 DS325 GI327 AN289 DS322 GI328 LV319
WP323 AN289 FE310 LV315 AN290 DS322 FE311 LV317 AN289 DS321 FE327 KI335 TO350 BE340 FL321
KI335 LR342 AN288 FE311 AN295 DS325 FE313 LV322 AN290 DS322 FE310 LV318 AN293 LV317 AL336
LR336 PS333 AN286 DS321 KI330 LV316 AN299 DS321 AN291 DS326 FE310 LV305 AN289 KI326 LV317
AN292 DS323 FE314 WP317 AN318 DS325 GI327 KI328 LV318 AN289 FE309 AN290 FE313 DS325 FE313
AN289 DS323 FE312 AN290 FE310 LV316 AN290 FE312 AN289 DS331 FE324 LV315 AN289 DS322 FE325
LV315 WP314 AN287 DS324 FE310 DS323 FE313 LV317 AN288 DS322 FE312 GI317 KI327 LV317 WP339
AN289 DS317 GI354 LV315 AN289 FE310 WP313 AN286 DS324 FE312 LV312 WP317 AN287 DS322 LV316
WP315 AN289 FE310 LV315 WP315 AL318 AN292 DS323 FE312 LV315 PS318 WP315 DS323 FE312 LV318
FE311 LV316 WP313 AN289 DS323 FE311 LV317 AN289 DS320 LV313 WP313 FE312 KI350 DS325 FE312
WP313 AN289 LV318 WP317 DS324 FE312 WP313 DS322 LV303 DS324 LR325 LV313 AL312 LR343 PS318
LV315 WP317 AN284 WP312 DS321 FE311 LV317 WP313 AN288 DS321 FE311 LV315 WP313 FE311 LV320
WP313 FE310 LV316 WP313 AN277 DS322 FE311 LV316 WP322 AN289 DS324 FE307 LV317 WP315

50=KD     56.49N  35.93E    41   16  107deg   45   106 of  110 bearings
 924.00  925.00  926.00  927.00  928.00  929.00  930.00  931.00  932.00  933.00
 934.00  935.00  936.00  937.00  938.00  939.00  940.00  941.00  942.00  943.00
 944.00  945.00  946.00  947.00  948.00  949.00  950.00  951.00  952.00  953.00
 954.00  955.00  956.00  957.00  958.00  959.00  960.00  961.00  962.00  963.00
 964.00  965.00  966.00  967.00  968.00
N0086 N1120 N0088 N1141 N0092 N1124 N0085 N1119 N0085 N2130 N0087 N1118 N0085 N1116 N1120
N0085 NE066 U2069 NE065 U2067 BE043 LR046 SS030 N0082 N1121 U2065 N0090 U2060 BK056 U2068
N0080 N0090 U2065 N0080 U2070 FL040 SS036 AL092 BE045 LR042 SS033 U2063 N0081 N1121 N0080
U2065 NE060 SS036 U2075 N0085 N0085 N1125 N0085 U2068 N0085 U2068 bk037 U2070 N0090 U2075
NE066 NE066 U2062 NE070 U2062 NE070 U2065 BE043 BK062 U2064 EK093 BK062 U2062 U2065 N1116
BK062 N1115 U2063 BK065 U2065 N1116 BK061 U2063 BK057 U2068 KI012 SS039 U2068 n0103 AN041
LV047 SS037 U2064 N0089 n0104 BK056 U2064 AL032 BE038 PS028 SS037 U2065 U2090 N0080 U2072
n0102 NE065 U2060 N0087 NE066

51=KF     43.09N  72.13E  3476  225  134deg    3     7 of    7 bearings
 969.00  970.00  971.00
U2065 N0080 N0081 U2076 NE075 NE075 N0081

52=KM     46.22N  39.36E   178   47  128deg   11    25 of   27 bearings
 972.00  973.00  974.00  975.00  976.00  977.00  978.00  979.00  980.00  981.00
 982.00
BE036 FL039 KI039 LR047 NE088 U2092 BK089 N1130 U2093 N0107 U2093 n3110 NE091 NE091 N0105
N1130 N0110 U2098 BD087 it111 BK093 U2088 NE082 N0107 FL038 LR044 SS030

53=KU     46.89S  45.94W  5908 2156  121deg    1     3 of    3 bearings
 983.00
AN108 LV135 WP133
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54=KV          56.19N  30.93E   397  112  137deg    2     4 of    4 bearings
               984.00  985.00
              AL038 KI030 N1130 N0090

55=L1          52.16N  59.53W     0    0    0deg    1     2 of    2 bearings
               986.00
              BE036 CA046

56=L8          55.65N   5.28W  3883  551  101deg    3     7 of    7 bearings
               987.00  988.00  989.00
              BE052 LR048 PS042 PS040 SS034 AL040 LR047

57=LD          56.87N  53.79E     0    0    0deg    1     2 of    2 bearings
               990.00
              N1096 N2108

58=LF          41.05N  68.86E  1978  290  130deg    3     5 of    6 bearings
               991.00  992.00  993.00
              N1100 u2058 U2077 N1100 BK078 U2077

59=LG          51.95N  18.93E  1258  261  122deg   20    77 of   78 bearings
               994.00  995.00  996.00  997.00  998.00  999.00 1000.00 1001.00 1002.00 1003.00
              1004.00 1005.00 1006.00 1007.00 1008.00 1009.00 1010.00 1011.00 1012.00 1013.00
              AL033 LR044 PS041 FL042 LR047 PS039 BE052 FL040 SS036 AN014 KI028 BE051 CA044 FL040 LR046
              AL043 BE051 FL035 LR045 KI042 LR045 PS042 AL036 LR047 AL038 AN004 BE047 DS028 FE021 GI029
              KI032 LR047 LV024 PS040 SS042 wp171 AL040 BE048 DS028 FE021 FL040 GI034 LV025 SS042 AL042
              FL035 GI034 LR044 PS040 PS041 SS041 BE046 FL036 PS041 BE046 FL038 LR044 AL040 BE048 CA042
              FL036 LR041 AL041 BE047 FL036 LR043 PS040 SS043 FL040 KI033 AL041 BE047 LR044 LR049 PS040
              KI031 LR043 PS040

60=LK          54.84N  31.51E   274   48   99deg   13    26 of   35 bearings
              1014.00 1015.00 1016.00 1017.00 1018.00 1019.00 1020.00 1021.00 1022.00 1023.00
              1024.00 1025.00 1026.00
              an148 wp138 an172 wp143 an148 fe165 wp144 AL042 LR041 PS041 U2072 FL032 LR045 PS039 AL038
              FL042 BD072 BD072 U2072 U2070 N0090 U2069 U2068 BE028 CA025 FL022 SS036 NE072 U2066 n0075
              NE067 N0096 U2068 U2068 n0076

61=LR          63.49S  11.13E  3367  610   82deg    3     7 of   10 bearings
              1027.00 1028.00 1029.00
              AN142 DS148 LV132 WP147 al022 ds003 KI168 ps023 AN108 DS140

62=LT          50.96N  47.40E     0    0    0deg    1     2 of    2 bearings
              1030.00
              N0090 N2125

63=M3          51.32N  13.25E  2753  458  114deg    6    23 of   23 bearings
              1031.00 1032.00 1033.00 1034.00 1035.00 1036.00
              AL034 DS032 LR048 PS045 SS041 AL045 BE050 FL043 LR048 SS039 FL041 LR048 PS043 FL041 LR048
              PS040 SS044 FL041 PS041 SS041 BE052 FL037 PS040

64=MF          55.33N  29.29E   117   25   94deg   19    51 of   53 bearings
              1037.00 1038.00 1039.00 1040.00 1041.00 1042.00 1043.00 1044.00 1045.00 1046.00
              1047.00 1048.00 1049.00 1050.00 1051.00 1052.00 1053.00 1054.00 1055.00
              BE041 CA051 SS044 N0090 U2067 NE059 U2064 BK062 U2069 U2073 BE038 FL041 KI022 U2070 n1090
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NE065 U2068 NE066 U2069 BE036 FL032 SS035 U2065 U2067 N0085 LR045 SS032 N0095 U2066 NE064
NE082 N008[illegible] U2067 NE072 NE066 U2067 BK069 N0090 BD070 BE042 CA043 GI048 LR042 PS043 SS036
BD070 FL033 SS034 an178 BE042 FL031 SS038 BD070

65=ML 46.30S [illegible]5.74W 2600 972 122deg 6 15 of 16 bearings
1064.00 1065.00 1066.00 1067.00 1068.00 1069.00
AN109 WP130 AN108 DS142 FE130 LV143 WP133 AN106 FE127 ds002 WP137 FE132 WP129 AN105 LV132
WP129

66=MP 46.57N 32.84E 492 74 118deg 28 112 of 115 bearings
1070.00 1071.00 1072.00 1073.00 1074.00 1075.00 1076.00 1077.00 1078.00 1079.00
1080.00 1081.00 1082.00 1083.00 1084.00 1085.00 1086.00 1087.00 1088.00 1089.00
1090.00 1091.00 1092.00 1093.00 1094.00 1095.00 1096.00 1097.00
BE048 FL043 LR046 PS050 AL037 an180 BE047 DS000 FE015 FL040 LR043 LV015 SS041 N1135 BE051
CA055 FL038 LR048 ps166 BE050 FL039 GI028 LR046 PS042 SS045 AL043 BE045 FL039 LR047 PS038
SS047 BE051 FE015 FL039 LR043 BE048 FL041 PS041 SS041 AL040 BE050 FL032 PS046 SS040 AL042
PS042 SS040 BD093 BE047 FL038 KR095 BD093 KR095 FL042 PS045 SS041 FL041 SS041 BD090 BE050
FL036 LR043 PS044 SS039 BD090 KR095 FL044 SS035 BE050 FL038 BE047 CA051 FL039 LR044 PS040
SS038 AL048 BE052 FL043 SS038 FL037 LR047 SS039 FL036 SS040 FL038 SS038 BE049 CA049 SS038
U2090 BE052 CA052 SS035 BD093 BE058 FL044 n0090 BE042 FL036 SS037 FL040 SS036 BE054 CA051
FL034 LR049 BE052 FL037 LR047 SS035 BE057 CA057 FL019 SS039

67=MU 46.41N [illegible]0.92E 333 57 125deg 63 210 of 269 bearings
1098.00 1099.00 1100.00 1101.00 1102.00 1103.00 1104.00 1105.00 1106.00 1107.00
1108.00 1109.00 1110.00 1111.00 1112.00 1113.00 1114.00 1115.00 1116.00 1117.00
1118.00 1119.00 1120.00 1121.00 1122.00 1123.00 1124.00 1125.00 1126.00 1127.00
1128.00 1129.00 1130.00 1131.00 1132.00 1133.00 1134.00 1135.00 1136.00 1137.00
1138.00 1139.00 1140.00 1141.00 1142.00 1143.00 1144.00 1145.00 1146.00 1147.00
1148.00 1149.00 1150.00 1151.00 1152.00 1153.00 1154.00 1155.00 1156.00 1157.00
1158.00 1159.00 1160.00
N0090 N1110 BK080 N1095 U2072 N2120 N0080 N1090 N0082 AL037 BE050 FL037 GI057 SS032 N0084
U2079 N0095 U2080 N0090 U2069 N0080 BK073 U2077 BE055 FL041 SS038 FL030 LR030 BE035 FL035
LR035 NE076 NE076 an154 GI008 lv103 PS020 SS036 U2075 N0085 NE072 U2076 NE078 U2076 NE075
U2075 NE078 U2076 U2075 BE038 SS044 BK078 U2077 BD077 KR081 LS063 SS038 BD077 KR081 LS063
BK076 U2077 lv132 wp142 N0075 N2106 AL038 BE045 DS000 FL035 lv135 PS031 SS024 U2071 LR027
PS018 SS034 fl173 ki189 LR034 PS012 SS030 BE031 SS027 KI007 PS012 BD072 BE006 fe178 FL005
KR080 lr177 PS002 BD072 KR078 KR080 an109 BE032 CA031 ds136 fe177 GI007 KI004 LR008 lv136
PS008 SS036 DS000 fe166 FE346 KI004 LV003 wp147 an154 ds179 lv135 wp149 AL042 BE047 FL045
KI010 SS033 FE000 AL012 BE031 FL001 GI006 KI005 LR006 PS009 SS036 N0086 U2072 an155 DS006
fe167 GI008 KI009 an155 ds142 fe132 GI008 KI009 lv137 wp120 an171 fe178 be172 FL026 KI008
LR024 PS020 SS034 an153 DS001 fe176 KI010 wp149 N0085 al152 an108 ds176 KI003 lv136 wp133
NE070 N0090 NE070 N0080 U2075 AL039 an108 BE043 KI010 SS025 be166 fe178 FL023 lv174 PS015
SS043 al159 an150 fe162 SS037 wp144 an154 KI010 wp148 AL040 FL046 SS038 an148 fe165 GI003
KI008 lv131 PS003 LR007 SS040 FL023 LR028 PS017 SS039 an157 ds178 fe178 FL023 LR028 LV006
PS017 SS039 an154 DS003 GI008 KI009 U2072 N0080 FL028 PS024 an154 BE032 LR027 PS059 SS042
wp143 BE045 DS002 FL026 KI009 SS026 wp150 an104 LV044 ds179 FE005 FL024 LR032 BE047 CA053
FL037 GI036 KI031 LR040 PS041 SS036 BD077 NE077 NE076 U2071 U2070 AL019 BE030 LR027 SS035
U2078 N0085 N0080 U2077 NE069 NE069 U2066 U2068 N0085 U2075 BK075 AL037 BE043 SS037

68=MV 39.18S 108.78W 5356 1552 158deg 1 4 of 4 bearings
1161.00
AN154 FE172 LV165 WP142

69=MX 49.96N 39.16E 0 0 0deg 1 2 of 2 bearings

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          1162.00
          NO100 N1127

70=NA      60.30N  45.70E     0    0    0deg    1     2 of    2 bearings
          1163.00
          N1095 N2110

71=NS      48.94N  34.29E   115   31  132deg   28    81 of   85 bearings
          1164.00 1165.00 1166.00 1167.00 1168.00 1169.00 1170.00 1171.00 1172.00 1173.00
          1174.00 1175.00 1176.00 1177.00 1178.00 1179.00 1180.00 1181.00 1182.00 1183.00
          1184.00 1185.00 1186.00 1187.00 1188.00 1189.00 1190.00 1191.00
          n1105 NO105 N1136 NO108 NO107 N1134 U2088 NO110 NO105 N1140 AL038 AL043 an170 BE046 CA045
          DS030 FL031 KI035 LR040 PS037 SS042 AL037 BE044 FL041 LR041 SS043 NO109 BE057 FL038 SS041
          BE048 FL033 LR044 PS040 NE074 nO135 U2090 NO095 FL041 LR043 SS042 nO085 LR043 SS040 BE047
          FL041 LR041 FL028 SS043 AL043 BE051 FL039 LR045 SS043 AL042 BE050 LR048 BE045 FL040 PS039
          SS042 U2095 NO110 N2140 N1125 U2093 BD078 FL036 BD078 NO115 FL045 SS033 GI025 PS043 FL038
          LR049 NE087 NE087 NO110 NO110 U2092 N1130 NO105 U2096 NE090

72=PA      54.82N  16.43E   441   59   76deg    3    13 of   13 bearings
          1192.00 1193.00 1194.00
          U2058 BE046 KI028 SS031 AL043 BE040 FL034 BD068 KR060 SS042 BD068 KR060 U2068

73=PB      49.66N  25.53E   115   32  117deg   32   109 of  109 bearings
          1195.00 1196.00 1197.00 1198.00 1199.00 1200.00 1201.00 1202.00 1203.00 1204.00
          1205.00 1206.00 1207.00 1208.00 1209.00 1210.00 1211.00 1212.00 1213.00 1214.00
          1215.00 1216.00 1217.00 1218.00 1219.00 1220.00 1221.00 1222.00 1223.00 1224.00
          1225.00 1226.00
          NE091 NO123 NE091 NO137 NE091 BE038 FL034 GI040 KI036 LR045 PS042 BE058 CA057 KI044 LR049
          PS042 LR046 PS040 N1140 NO118 BE049 FL039 BK092 U2094 SS042 AL040 BE050 CA048 GI037 PS039
          LR048 PS040 NO114 U2094 KI021 PS008 FL037 SS042 NO110 U2093 U2093 NO110 AL042 BE051 CA048
          GI034 LR040 FL043 PS041 SS035 U2090 AL045 BE049 CA045 FL039 LR049 PS043 BE046 KI038 LR047
          BE046 KI036 LR039 AL044 LR035 AN005 KI033 BE049 FL041 LR046 PS040 BE038 FL037 LR038 PS038
          BE050 CA043 FL041 KI035 LR044 PS040 BE047 FL038 KI034 LR043 AL039 FL041 PS040 BE047 LR046
          PS040 SS041 AL037 FL036 LR041 AL042 BE054 CA059 FL039 LR046 PS041 BE045 FL038 LR043 PS035
          SS040 BD084 FL038 PS040

74=PF      57.43N 147.51E   927  286   63deg    6    21 of   21 bearings
          1227.00 1228.00 1229.00 1230.00 1231.00 1232.00
          AN294 WP330 AN292 FE314 LV318 WP329 DS325 FE315 LV320 SS322 WP326 FE315 GI347 WP312 AN291
          DS328 FE313 LV317 WP332 FE315 LV327

75=PK      54.63N  78.13E  1445  290  130deg    3     5 of    6 bearings
          1233.00 1234.00 1235.00
          U2055 nO087 NE055 U2056 U2054 N2086

76=PL      51.40N  35.92E   203   46  132deg   10    29 of   29 bearings
          1236.00 1237.00 1238.00 1239.00 1240.00 1241.00 1242.00 1243.00 1244.00 1245.00
          N1130 NO100 NO099 N1132 U2080 NO100 FL033 PS043 U2081 NO100 BE044 LR041 PS034 FL036 SS041
          AL043 BE045 FL036 LR042 SS041 AL041 BE042 LR041 PS041 SS040 BE042 FL041 LR041 PS040

77=R6      43.48N  30.21E   812  162  137deg   24   110 of  120 bearings
          1246.00 1247.00 1248.00 1249.00 1250.00 1251.00 1252.00 1253.00 1254.00 1255.00
          1256.00 1257.00 1258.00 1259.00 1260.00 1261.00 1262.00 1263.00 1264.00 1265.00
          1266.00 1267.00 1268.00 1269.00
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          AN004 DS032 lv170 wp176 U2110 AL038 AN001 BE053 DS030 FE023 FL030 GI035 KI033 LV024 PS041
          wp177 AL042 BE055 CA059 FL037 LR045 PS036 u2110 AL045 BE050 CA059 DS031 KI035 LV026 PS044
          SS043 AL041 BE055 LR047 PS038 BE054 CA044 FL038 PS040 AN008 LR045 AL043 BE044 LR045 PS036
          AN002 LR050 AL041 BE050 GI057 PS045 n0095 n0095 AL042 BE049 KI040 LR050 PS042 BE052 FL037
          LR048 AL043 BE051 DS035 FL039 KI036 AL042 AN005 BE051 CA049 DS035 FE022 FL041 KI036 LR047
          LV040 PS045 wp179 BE054 FE036 FL031 GI041 LR050 LV045 PS046 AL039 FL038 GI035 LR049 BE051
          CA047 GI035 LR045 PS044 AN001 DS033 FE022 KI028 PS044 wp177 NO118 BE053 CA047 FL042 KI039
          LR047 PS044 NO120 u2105 BE051 LR048 BE053 GI041 KI010 lr162 PS044 AN003 PS041 LR046 PS043

78=R9      53.49N  36.52W  1695  184   79deg    5    13 of   13 bearings
          1270.00 1271.00 1272.00 1273.00 1274.00
          LR048 PS043 BE063 PS042 SS033 BE052 LR049 PS043 FL039 LR048 PS040 DS032 LR048

79=RA      46.38S  43.27W  5382 1591  125deg    1     5 of    5 bearings
          1275.00
          AN106 DS141 KI144 LV135 WP132

80=RB      54.81N  21.52E   113   51  118deg    6    13 of   13 bearings
          1276.00 1277.00 1278.00 1279.00 1280.00 1281.00
          AN004 LV011 PS010 NO108 N1155 BK061 U2070 BE049 SS035 BE021 PS043 FE016 FL043

81=RD      46.39N 118.30E  8533  543  142deg    2     5 of    7 bearings
          1282.00 1283.00
          u2052 n0055 NE047 BK044 NO046 NE046 N1053

82=RQ       4.31S  72.95E     0    0    0deg    1     2 of    2 bearings
          1284.00
          AL032 PS040

83=RT      56.48N  27.72E   122   34   85deg   13    46 of   47 bearings
          1285.00 1286.00 1287.00 1288.00 1289.00 1290.00 1291.00 1292.00 1293.00 1294.00
          1295.00 1296.00 1297.00
          NE060 AL036 BE043 CA041 FE017 FL034 SS037 FL032 KI027 BE045 FL034 NE062 U2064 U2066 AL035
          AN002 BE042 CA044 DS025 FL036 KR060 LR039 PS034 SS039 KR060 U2067 NE056 N1140 U2062 AL042
          BE039 FE018 SS038 NO090 N1125 BE041 CA038 LR045 PS039 U2067 NE063 FL032 SS034 AN001 wp177
          AL031 LR033

84=S5      51.49N  11.95E  1783  380  116deg   11    32 of   32 bearings
          1298.00 1299.00 1300.00 1301.00 1302.00 1303.00 1304.00 1305.00 1306.00 1307.00
          1308.00
          DS032 FE028 GI037 FL046 KI031 SS040 BE051 GI039 KI036 SS043 BE052 LR049 FL043 LR048 AL043
          BE052 DS032 FE028 FL039 LR048 PS039 PS042 SS042 BE052 FL035 SS039 BE051 SS041 BE050 FL042
          KI037 PS043

85=S7      52.77N   8.60E   756   44   79deg    3     7 of    7 bearings
          1309.00 1310.00 1311.00
          NE075 U2078 LR045 PS046 SS036 DS031 SS044

86=SB      69.47N  40.53E     0    0    0deg    1     2 of    2 bearings
          1312.00
          N0040 N1060

87=SM      47.04N  48.19E   901  157  136deg    4     9 of   11 bearings
          1320.00 1321.00 1322.00 1323.00
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ne074 n0093 BE052 CA051 BE042 FL043 LR041 PS041 SS040 N0096 N2127

88=ST 59.32N 24.23E 88 45 120deg 2 7 of 7 bearings
1324.00 1325.00
U2059 AL040 BE040 PS039 SS032 N0078 N1137

89=SU 50.79N 10.56E 6508 1107 109deg 1 4 of 4 bearings
1326.00
FL039 LR047 PS045 SS043

90=T1 49.93N 15.35E 2463 914 124deg 1 7 of 7 bearings
1328.00
AN009 BE052 KI040 LR046 LV025 PS044 SS040

91=TK 45.40N 59.21E 200 40 130deg 85 341 of 361 bearings
1329.00 1330.00 1331.00 1332.00 1333.00 1334.00 1335.00 1336.00 1337.00 1338.00
1339.00 1340.00 1341.00 1342.00 1343.00 1344.00 1345.00 1346.00 1347.00 1348.00
1349.00 1350.00 1351.00 1352.00 1353.00 1354.00 1355.00 1356.00 1357.00 1358.00
1359.00 1360.00 1361.00 1362.00 1363.00 1364.00 1365.00 1366.00 1367.00 1368.00
1369.00 1370.00 1371.00 1372.00 1373.00 1374.00 1375.00 1376.00 1377.00 1378.00
1379.00 1380.00 1381.00 1382.00 1383.00 1384.00 1385.00 1386.00 1387.00 1388.00
1389.00 1390.00 1391.00 1392.00 1393.00 1394.00 1395.00 1396.00 1397.00 1398.00
1399.00 1400.00 1401.00 1402.00 1403.00 1404.00 1405.00 1406.00 1407.00 1408.00
1409.00 1410.00 1411.00 1412.00 1413.00
N1105 N0085 N1105 N2115 BE027 CA026 FL019 GI011 LR022 PS020 N1100 N2109 N1100 N0086 KI044
LR040 SS035 U2087 N0089 N1105 N0086 U2077 N0098 n0098 N0085 N1100 U2080 FL033 SS036 U2078
al128 DS018 GI015 KI015 SS036 BE036 SS033 BE043 FE001 GI043 KI029 SS037 BE036 CA042 FL027
PS040 SS036 N0090 U2078 NE070 NE076 NE077 U2072 N0087 AL032 BE044 FL032 LR040 SS035 AL040
BE052 PS050 SS035 U2080 N0080 NE079 NE080 U2070 FL042 PS037 SS038 U2080 BE034 LR027 PS030
n0120 n0120 N0090 U2080 NE078 N0088 NE078 AL039 BE035 LR032 SS034 AN019 DS028 fe171 KI034
lv175 SS030 BE037 LR036 SS036 U2080 U2080 N0083 N0090 U2070 N0102 U2078 NE064 DS004 FL031
SS034 NE067 U2075 U2078 n2099 FL042 SS034 BK078 U2075 N1100 U2075 NE080 AL039 PS041 SS035
NE078 U2079 N1110 U2076 N0080 NE078 NE078 U2079 FL037 GI009 LR051 PS059 SS036 AL037 BD080
KI039 KR080 PS038 SS036 BD080 KR080 NE079 NE072 U2075 AL034 BD075 FL033 KR072 LR019 SS040
BD075 KR072 U2078 N1105 BK079 U2078 BD077 FL043 KR080 SS034 BD077 KR080 NE086 U2080 U2080
BE026 CA027 FL019 LR024 PS022 KR081 FL043 KR081 SS037 KR081 an179 DS000 FL027 PS027 SS036
BE035 CA036 DS000 FL028 PS027 SS036 AN003 BE038 PS039 KR082 AL046 FL039 PS041 FL023 LR031
AL028 an154 FL026 GI011 LR032 SS031 DS003 fe179 FL026 GI009 lv179 SS030 wp141 AL006 FL020
KI005 SS033 wp150 AL021 an155 BE028 DS003 FL025 GI007 LR027 LV040 PS021 SS035 n3105 U2080
BD078 KR100 LR027 PS022 SS036 BD078 KR100 BE033 DS015 FL042 GI014 KI016 PS018 SS032 ds140
wp135 AL032 BE029 DS003 KI029 LR027 PS022 AL014 BE027 FL024 LR027 PS022 SS036 NE077 NE077
U2080 AL018 BE032 FL023 LR028 PS027 BL090 IT090 K0077 KR084 NE072 FL026 LR028 PS027 U2077
N2108 N1103 N0090 U2095 N0087 U2077 N0090 U2078 N0090 U2078 N0080 N1100 AL047 SS040 BE043
FE020 FL033 GI014 KI017 LR044 LV028 SS043 WP026 AL043 BE033 FL029 SS036 FL027 GI026 NE081
N0105 NE081 U2080 N0105 AL023 BE032 CA034 FL026 gi113 PS021 SS035 BL083 IT088 K0078 KR082
AL038 FL043 SS036 AL023 FL033 LR040 SS036 NE083 U2080 N0080 NE083 AL037 LR026 PS037 SS036
U2079 n0110 SS038 N0089 U2090 AL012 BE034 CA043 DS002 GI005 KI009 PS011 SS038 N0100 U2080
U2078 N0085 AL018 DS000 fe175 FL043 GI010 LR022 PS015 SS036 NE082 U2080 NE081 DS003 FE001
SS036

92=TR 45.97N 33.35E 302 50 136deg 6 16 of 16 bearings
1414.00 1415.00 1416.00 1417.00 1418.00 1419.00
N0115 N2153 N1135 U2099 BE053 FL036 KI041 LR049 N0115 U2093 FL033 PS040 U2094 N0116 N0116
U2080

93=TU 56.13N 34.96E 43 13 100deg 78 210 of 216 bearings
1420.00 1421.00 1422.00 1423.00 1424.00 1425.00 1426.00 1427.00 1428.00 1429.00
1430.00 1431.00 1432.00 1433.00 1434.00 1435.00 1436.00 1437.00 1438.00 1439.00
1440.00 1441.00 1442.00 1443.00 1444.00 1445.00 1446.00 1447.00 1448.00 1449.00
1450.00 1451.00 1452.00 1453.00 1454.00 1455.00 1456.00 1457.00 1458.00 1459.00
1460.00 1461.00 1462.00 1463.00 1464.00 1465.00 1466.00 1467.00 1468.00 1469.00
1470.00 1471.00 1472.00 1473.00 1474.00 1475.00 1476.00 1477.00 1478.00 1479.00
1480.00 1481.00 1482.00 1483.00 1484.00 1485.00 1486.00 1487.00 1488.00 1489.00
1490.00 1491.00 1492.00 1493.00 1494.00 1495.00 1496.00 1497.00
N0080 U2066 NE063 U2054 NE066 NE069 U2068 NE064 N0088 U2067 BE038 U2067 N1138 NE068 NE068
U2067 bk054 U2067 N0082 N1117 U2067 N0083 U2065 N0088 U2070 N1120 N1120 N0085 N0085 N1113
N0085 U2068 an166 BD068 BE040 SS035 BD068 U2068 U2068 N0085 NE065 u2030 NE074 U2068 N0085
BK057 U2065 BK062 NE065 U2068 BE035 FL030 U2065 BK064 U2068 BE037 FL037 PS032 NE065 U2068
NE065 NE070 U2068 LR050 SS039 U2068 N0085 U2064 NE065 N0090 U2065 NE073 NE073 N0105 N1120
n0129 U2067 NE066 U2068 NE071 U2067 NE065 U2065 BD064 KR070 FL044 SS034 NE068 NE069 N0090
U2065 NE065 U2065 N0086 U2065 N0085 BK062 U2076 N0085 NE067 U2068 N0085 U2069 BK057 N1115
N0080 NE069 U2067 N0086 U2065 N0085 U2065 N1140 BK060 AL029 AN002 BE037 CA035 LR034 LV010
PS030 SS036 NE064 U2067 NE063 N0080 U2067 N0085 U2065 BK059 SS035 BE039 fe178 FL028 SS032
BE045 FL035 KI030 PS038 SS032 BE035 FL034 SS036 BE045 CA048 SS036 FL031 SS035 NE080 U2075
NE068 U2070 NE067 N0100 U2068 U2068 N0090 U2072 BE037 LR037 PS040 U2067 U2069 N0085 NE066
NE066 U2073 U2067 BE040 NE067 U2070 NE067 NE069 U2067 BK056 U2066 NE068 NE069 U2065 U2067
SS036 N0092 BE037 DS019 LR040 BD064 U2064 BL068 IT070 K0050 KR063 N0085 U2068 N0085 N1120
U2067 AL032 BE042 LR040 PS034 AL042 BE050 FL039 SS039 N0084 N1118 U2067 U2067 N1117 NE080
NE080 N0090 N0085 N1120 AL009 ps169

94=U7 50.23N 18.92E 62 23 110deg 41 149 of 149 bearings
1498.00 1499.00 1500.00 1501.00 1502.00 1503.00 1504.00 1505.00 1506.00 1507.00
1508.00 1509.00 1510.00 1511.00 1512.00 1513.00 1514.00 1515.00 1516.00 1517.00
1518.00 1519.00 1520.00 1521.00 1522.00 1523.00 1524.00 1525.00 1526.00 1527.00
1528.00 1529.00 1530.00 1531.00 1532.00 1533.00 1534.00 1535.00 1536.00 1537.00
1538.00
U2095 N1170 BK098 N0140 N0135 BK098 NE095 NE095 U2098 N1170 NE090 FL041 PS042 SS042 FL044
PS044 SS045 N1156 BE055 CA059 LR047 BE057 FL039 LR049 PS045 AN011 DS032 KI032 SS043 BE054
FL038 SS030 BE055 FL044 GI054 KI045 LR054 SS041 BD095 KR100 LR061 PS027 BD095 KR100 FL042
PS041 BE058 CA062 FL032 LR044 PS039 BK096 NE071 NE071 BD098 FL037 KR100 LR050 PS037 BD098
KR100 U2097 N1120 BE051 SS040 BE052 SS041 BE052 LR046 SS041 DS030 FE014 FL031 SS043 BE051
FL041 GI036 LR047 AL033 BE050 FL041 AL035 BE051 FL037 LR048 PS046 FL034 SS039 BE052 LR047
BE045 PS042 BE068 SS044 BE051 PS043 SS034 BE052 FL041 PS036 SS041 FL045 SS042 BE056 CA055
LR045 PS048 SS042 FL042 LR047 BE052 LR047 LR049 PS045 AL031 BE050 FL042 LR047 BE051 GI051
PS038 BE054 FL033 PS032 SS039 AL033 FL038 PS040 AN004 DS034 FL033 SS042 BE050 FL032 LR049
PS043 SS042 AL041 BE052 CA043 FL044 KI016 LR048 PS041 AL041 BE052 FL043 LR047 PS042

95=UA 49.47N 137.84E 294 92 43deg 49 197 of 197 bearings
1539.00 1540.00 1541.00 1542.00 1543.00 1544.00 1545.00 1546.00 1547.00 1548.00
1549.00 1550.00 1551.00 1552.00 1553.00 1554.00 1555.00 1556.00 1557.00 1558.00
1559.00 1560.00 1561.00 1562.00 1563.00 1564.00 1565.00 1566.00 1567.00 1568.00
1569.00 1570.00 1571.00 1572.00 1573.00 1574.00 1575.00 1576.00 1577.00 1578.00
1579.00 1580.00 1581.00 1582.00 1583.00 1584.00 1585.00 1586.00 1587.00
FE305 WP317 DS323 WP317 AN288 DS322 FE308 KI326 LV317 WP318 AN287 DS323 KI322 LV316 PS318
DS323 FE305 LV316 WP312 AN288 DS322 LV316 AN287 DS322 LV316 AN288 DS324 KI324 LV315 WP317
AN288 DS324 LV315 WP315 AN288 DS323 LV317 WP314 AN286 DS322 FE307 KI325 LV315 WP315 AN287
DS322 FE312 KI330 LV315 WP313 AN285 DS324 FE314 LV319 WP315 AN288 DS320 LV316 PS319 WP313
AN286 WP317 AN288 DS323 LV316 WP312 AN325 DS317 FE313 LV315 WP314 DS324 WP313 AN288 DS324

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FE306 KI322 LV314 WP314 AN288 DS325 LV315 WP314 DS324 LV316 WP317 AN288 DS323 LV317 WP312
AN286 DS323 FE304 KI322 LV313 WP310 DS324 WP317 DS323 FE299 LV316 WP317 AN288 DS322 LV315
WP312 AN287 DS322 FE311 LV321 WP314 DS323 WP317 AN287 DS322 LV316 WP313 AN287 BE323 DS320
LV315 WP315 AN288 DS324 LV314 WP314 AN287 DS322 LV316 WP318 AN287 DS326 FE308 LV315 WP317
DS322 KI323 LV317 WP312 AN287 DS323 KI322 LV317 AN287 DS324 LV318 WP313 AN288 DS325 FE308
LV317 AN287 DS322 KI272 LV318 WP316 SL024 AN288 DS324 LV315 WP316 FE311 WP313 AN288 LV317
WP317 DS324 WP313 AN287 DS322 FE311 LV315 WP313 AN287 DS320 FE317 KI325 LV315 WP316 AN279
WP330 AN287 DS321 FE313 LV317 WP310 AN289 DS322 LV318 WP320 AN281 DS322 FE325 LV314 WP311
AN289 WP313

96=UB    52.81N  27.83E   272  115  120deg    6    15 of   15 bearings
1588.00 1589.00 1590.00 1591.00 1592.00 1593.00
NO110 N1140 BE050 PS040 BD075 FE019 LR037 BD075 AL046 FL038 LR046 AL038 PS037 PS039 SS041

97=UD    47.47N 132.89E  1149  327   51deg    9    32 of   32 bearings
1594.00 1595.00 1596.00 1597.00 1598.00 1599.00 1600.00 1601.00 1602.00
DS323 LV320 AN288 FE308 LV307 WP309 AN283 FE313 AN309 FE348 LV300 WP313 AN288 DS322 FE309
LV314 WP307 AN288 FE310 LV320 WP308 AN290 FE310 LV317 WP308 AN290 LV316 LV316 DS322 FE310
LV314 WP310

98=UQ    52.22N  56.81E   769  138  123deg    8    21 of   23 bearings
1603.00 1604.00 1605.00 1606.00 1607.00 1608.00 1609.00 1610.00
U2069 NE070 NO105 U2075 NO078 U2075 N1090 U2074 AL031 DS000 AL006 fe170 FL003 GI002 KI005
1v134 PS003 NO090 SS034 NO078 U2065 U2070 NO080

99=UR    60.58N  60.81E     0    0    0deg    1     2 of    2 bearings
1611.00
BK051 U2051

100=US   52.62N  28.69E   100   40  125deg   20    76 of   76 bearings
1612.00 1613.00 1614.00 1615.00 1616.00 1617.00 1618.00 1619.00 1620.00 1621.00
1622.00 1623.00 1624.00 1625.00 1626.00 1627.00 1628.00 1629.00 1630.00 1631.00
N1137 NO108 NO115 N1125 AL037 BE045 FL034 PS040 SS036 BE053 FL036 PS037 BE043 CA043 AL042
BE048 PS065 FL036 KI045 PS045 FL036 LR041 SS039 BE053 CA052 FL037 KI037 LR047 PS035 AL038
BE051 FL035 PS040 BE041 CA043 FL039 GI031 LR045 PS039 SS039 BD065 BE051 LR047 SS038 BE050
KR065 LR042 KR065 BE039 FL036 GI031 LR036 PS035 BE048 CA048 LR042 BE053 CA053 FL040 LR044
FL038 LR046 SS025 NE081 NE080 U2083 BE045 FL035 LR041 PS036 BE047 FL036 SS042 AL031 FL036
LR042

101=VD   60.86N   4.63E     0    0    0deg    1     2 of    2 bearings
1632.00
AL037 FE026

102=VF   56.87N  53.79E     0    0    0deg    1     2 of    2 bearings
1633.00
N1096 N2108

103=VG   58.95N  30.44E   148   71   98deg    8    27 of   28 bearings
1634.00 1635.00 1636.00 1637.00 1638.00 1639.00 1640.00 1641.00
NE057 NE057 U2045 LR036 PS037 FE014 FL036 LV018 SS032 AL028 an177 BE035 CA036 FE012 FL029
LR035 SS034 FL032 SS036 BE033 PS028 BE046 CA063 GI024 KI027 PS037 NO078 N1122

104=VN   55.67N  51.93E     0    0    0deg    1     2 of    2 bearings
1649.00
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AL023 LR027

105=VR 59.10N 26.45E 144 43 91deg 19 79 of 84 bearings
1650.00 1651.00 1652.00 1653.00 1654.00 1655.00 1656.00 1657.00 1658.00 1659.00
1660.00 1661.00 1662.00 1663.00 1664.00 1665.00 1666.00 1667.00 1668.00
AL038 AN006 BE038 CA039 FL036 LV022 PS036 SS032 U2055 N0072 n1092 U2055 AL043 FL031 GI025
AL027 PS032 NE065 U2065 ne080 U2052 AL026 BE038 FL030 SS040 lr132 SS032 PS036 SS037 PS036
SS038 U2067 AL030 BE039 CA039 PS028 SS038 AL031 an180 BE039 CA039 PS028 SS038 N0080 BE035
CA037 GI022 PS018 GI024 KI016 LR035 AN001 DS022 FL027 GI029 PS028 AL023 BE037 CA038 FL026
PS028 N0085 N1135 AL023 an180 BE037 CA038 DS022 FL026 KI100 PS028 SS038 AL031 LR032 PS036
AL042 FL039 PS037 SS031 PS041 SS040 AN003 BE047 CA045

106=VU 54.99N 150.25E 727 177 58deg 13 38 of 38 bearings
1669.00 1670.00 1671.00 1672.00 1673.00 1674.00 1675.00 1676.00 1677.00 1678.00
1679.00 1680.00 1681.00
LV312 WP310 AN287 LV310 AN285 LV298 AN290 FE309 LV314 WP310 AN288 FE310 WP308 AN288 DS322
GI356 LV319 AN280 FE308 LV312 WP313 AN329 FE311 PS345 WP315 AN288 LV315 AN288 FE309 LV314
WP311 AN286 FE310 LV313 FE311 LV313 DS325 LV314

107=W4 44.27N 21.68E 1817 142 126deg 5 25 of 25 bearings
1682.00 1683.00 1684.00 1685.00 1686.00
AL044 AN008 BE054 FL045 KI041 PS046 AN005 FE031 LV022 AL046 FL046 KI040 AL046 FL045 PS045
U2110 AL041 BE053 DS032 FE023 FL045 GI036 LR049 LV024 PS045

108=WA 54.67N 43.87E 113 33 115deg 24 79 of 81 bearings
1687.00 1688.00 1689.00 1690.00 1691.00 1692.00 1693.00 1694.00 1695.00 1696.00
1697.00 1698.00 1699.00 1700.00 1701.00 1702.00 1703.00 1704.00 1705.00 1706.00
1707.00 1708.00 1709.00 1710.00
N0086 N2125 N0078 N1112 N1120 N0085 BK070 N2120 N1105 N0080 BK056 U2068 U2069 N0081 BK068
N0085 U2069 BE046 SS033 BE036 FL029 NE070 N0085 U2072 BE058 FL029 PS040 SS038 BE051 FL037
SS034 N0086 U2065 NE072 NE055 U2075 U2065 NE068 BE040 CA039 FL030 LR038 PS032 SS042 AN002
SS038 an177 BE037 LR034 SS041 BD068 N0085 AL026 BE037 CA032 LR032 PS029 SS038 BD069 BE037
CA038 LR034 PS028 SS032 BD069 KR072 U2069 an168 BE035 LR033 PS029 SS038 U2065 N0105 U2065
N0083 NE067 BE038 CA044 LR043 SS040

109=WD 52.87N 34.77E 83 30 127deg 17 51 of 54 bearings
1711.00 1712.00 1713.00 1714.00 1715.00 1716.00 1717.00 1718.00 1719.00 1720.00
1721.00 1722.00 1723.00 1724.00 1725.00 1726.00 1727.00
N2145 N1127 N2145 U2084 N1125 N0100 FE014 FL041 AL041 BE041 PS037 AN001 KI030 NE065 U2080
FL037 LR040 PS037 SS028 AN018 DS022 FE015 GI023 LR038 LV015 wp172 BK075 n0110 U2067 AL041
PS040 BE041 FL037 PS036 LR041 SS038 BE045 FL036 SS034 AN001 N0090 N0105 FL038 PS040 SS036
N1128 n0106 N0100 N0100 N1125 N1130 N0110 N0090 U2070

110=WI 56.70N 32.56E 101 29 102deg 29 95 of 103 bearings
1730.00 1731.00 1732.00 1733.00 1734.00 1735.00 1736.00 1737.00 1738.00 1739.00
1740.00 1741.00 1742.00 1743.00 1744.00 1745.00 1746.00 1747.00 1748.00 1749.00
1750.00 1751.00 1752.00 1753.00 1754.00 1755.00 1756.00 1757.00 1758.00
N0085 n2115 n2118 N0090 BE039 CA040 LR035 U2067 AL034 GI033 PS031 SS042 U2067 FL038 SS042
N0082 n1105 AL026 BE037 FL042 GI027 LR042 SS035 N0080 U2066 BK059 AL032 BE037 FL027 LR034
PS031 NE057 U2067 AL008 BE036 FL037 PS032 fe170 LV015 NE062 FE017 LV020 SS040 ne088 N0090
n0110 U2058 N0085 FL033 LR034 n0110 U2065 U2066 N0088 N0088 U2068 BE036 CA037 LR034 PS032
BE035 FE014 FL033 LV013 PS032 SS042 N1135 U2070 N0090 N0085 U2068 N0085 U2063 N1115 BE038
CA040 LR041 PS026 SS038 BE037 FL029 SS034 BE037 CA038 ds141 FL031 PS033 SS032 AL031 BE034
CA038 FL033 LR040 PS032 DS003 FE012 U2071 AL030 BE038 AN005 FE004 AN001 FE014

111=WL 46.37N 141.04E 997 321 53deg 10 32 of 32 bearings
1759.00 1760.00 1761.00 1762.00 1763.00 1764.00 1765.00 1766.00 1767.00 1768.00
DS319 WP310 DS318 FE308 GI315 KI330 LV314 AN283 DS317 FE305 LV310 WP312 AN281 KI321 LV312
AN280 LV315 AN285 DS319 LV315 DS321 WP314 AL322 AN282 KI325 LV311 FE307 WP312 AN282 DS319
LV312 WP312

112=WM 49.17N 55.42E 323 56 122deg 35 107 of 117 bearings
1769.00 1770.00 1771.00 1772.00 1773.00 1774.00 1775.00 1776.00 1777.00 1778.00
1779.00 1780.00 1781.00 1782.00 1783.00 1784.00 1785.00 1786.00 1787.00 1788.00
1789.00 1790.00 1791.00 1792.00 1793.00 1794.00 1795.00 1796.00 1797.00 1798.00
1799.00 1800.00 1801.00 1802.00 1803.00
NO070 N1100 NO075 U2074 BE042 FL037 GI034 KI040 PS041 BE034 CA037 FL031 lv165 SS033 U2078
U2078 SS044 U2075 U2075 n3060 U2076 U2076 FL044 PS030 BE051 SS032 U2080 U2092 BE025 CA023
FL020 PS021 FL025 LR025 PS028 SS034 BK074 NO088 U2076 NO085 U2076 U2076 N1100 NO085 N1102
U2075 NO090 U2076 NO090 U2075 FL029 PS034 SS034 an170 BE049 CA049 FL035 SS035 wp140 BD075
U2069 NO085 KR077 U2075 BE026 FL019 U2075 BE051 CA048 an162 PS003 SS032 U2076 BK075 NO085
FL016 lr175 NE072 BK074 FL026 SS033 wp137 U2077 NO085 N1090 U2072 AL042 fe174 LR026 PS034
SS037 wp127 AL043 SS038 NE078 NO098 NO086 U2075 U2070 an154 BE032 SS036 U2077 NE075 U2077
AL043 BE040 CA047 FL031 LR040 PS035 SS038 NO085 DS000 NO080 U2063 N1090

113=WQ 50.31N 20.05E 127 42 126deg 2 4 of 4 bearings
1804.00 1805.00
N1165 NO130 NE096 NO129

114=WR 49.64S 51.00W 6452 2227 120deg 1 3 of 3 bearings
1806.00
FE137 LV140 WP136

115=WS 7.07N 70.31E 16466 1534 154deg 2 5 of 5 bearings
1807.00 1808.00
KI021 LR043 PS032 BE043 CA042

116=XD 50.67N 36.21E 0 0 0deg 1 2 of 2 bearings
1809.00
U2079 BK080

117=XI 51.28N 21.14E 12026 1014 123deg 2 5 of 5 bearings
1010.00 1011.00
FL040 KI033 AL041 BE047 LR044

118=XU 55.82N 19.97E 0 0 0deg 1 2 of 2 bearings
1820.00
BK053 U2064

119=XW 48.40N 38.53E 0 0 0deg 1 2 of 2 bearings
1821.00
N1130 NO104

120=Z1 48.70N 20.16E 78 30 131deg 43 205 of 222 bearings
1822.00 1823.00 1824.00 1825.00 1826.00 1827.00 1828.00 1829.00 1830.00 1831.00
1832.00 1833.00 1834.00 1835.00 1836.00 1837.00 1838.00 1839.00 1840.00 1841.00
1842.00 1843.00 1844.00 1845.00 1846.00 1847.00 1848.00 1849.00 1850.00 1851.00
1852.00 1853.00 1854.00 1855.00 1856.00 1857.00 1858.00 1859.00 1860.00 1861.00

1862.00 1863.00 1864.00
FL043 LR048 AL030 AN003 BE054 CA055 KI037 LR087 SS035 AN004 FE017 ki166 wp179 BD078 FL045
LR048 PS045 SS039 bd078 AL046 KI029 LR049 AL045 BE053 FL042 LR048 PS046 AL045 BE053 FL042
LR048 PS046 AN003 DS032 GI038 KI041 LV025 AN003 FE016 FL043 PS046 SS046 U2105 AL012 DS031
FE043 LV033 PS043 AL038 BE051 FL040 KI039 PS037 AL044 BE052 CA051 LR044 BE054 CA046 FL042
GI020 KI013 LR051 PS042 LR050 PS041 FL043 LR050 AL042 BE054 GI041 KI035 LR050 PS043 an179
FE009 KI010 KR115 wp176 kr115 NO130 N1155 NO130 BE058 KI046 LR049 PS041 AL045 BE051 FL044
ps168 AL038 AN005 DS032 FL043 KI040 LR050 PS042 AN001 DS034 FE026 LV026 FL033 GI040 KI040
LV025 U2106 nO103 NE090 AL059 BE057 FL046 LR048 PS046 SS042 NE090 NE090 BE050 LR045 NO140
U2108 AL041 BE052 FE027 FL041 GI033 KI037 LR047 LV027 PS043 BE056 FL040 GI036 LR051 PS045
nO105 nO105 BD106 BE055 FL041 GI037 KI034 LR047 BD106 AL059 BD104 BE057 FL046 LR048 PS046
SS042 BD104 U2104 ne072 BE057 CA056 FL043 PS046 BE051 FL042 GI038 PS045 DS032 FE021 GI037
LV025 wp178 AN004 LR045 AN006 BE047 lr160 PS041 BE053 FE023 FL035 GI037 LR048 LV024 AN006
DS032 FE023 GI039 LV018 AN010 DS038 FE021 FL035 lv170 wp177 AN005 FE018 AN004 DS032 FE023
GI038 LV023 WP010 NO134 N1158 AN005 DS025 LV005 PS042 AN005 FE020 LV020 wp178 nO185 N1155
AN009 DS032 FE014 GI039 LV025 AL028 GI039 PS040 AN004 DS030 FE019 GI038

121=Z3 49.87N 14.83E 436 95 162deg 3 6 of 7 bearings
1865.00 1866.00 1867.00
N1175 NO145 BE053 CA056 PS046 BE051 ps014

122=ZA 45.13N 51.01E 0 0 0deg 1 2 of 2 bearings
1868.00
BE039 SS039

123=ZM 51.94N 17.25E 784 33 86deg 7 24 of 24 bearings
1869.00 1870.00 1871.00 1872.00 1873.00 1874.00 1875.00
BK078 AN002 SS043 FL040 LR040 SS038 BE045 FL037 PS040 BK078 KR085 AL038 BE046 FL041 LR042
PS039 FL037 LR039 PS038 AL041 BE045 FL040 PS038 SS041

124=ZT 40.96N 126.47E 291 76 152deg 19 69 of 70 bearings
1876.00 1877.00 1878.00 1879.00 1880.00 1881.00 1882.00 1883.00 1884.00 1885.00
1886.00 1887.00 1888.00 1889.00 1890.00 1891.00 1892.00 1893.00 1894.00
AN282 FE311 LV313 WP315 DS313 FE304 LV315 AN281 DS320 LV311 WP315 DS321 LV310 WP313 DS316
FE305 LV311 WP313 DS315 LV310 WP319 an356 DS320 FE307 LV319 WP317 DS320 FE306 LV311 WP316
AN285 FE304 WP311 AN283 FE307 LV313 WP315 AN281 FE304 WP314 SL330 AN286 DS323 KI316 LV307
AN282 DS322 FE304 KI324 LV314 WP312 AN349 WP313 AN284 LV311 AN288 DS322 LV311 AN290 DS326
LV315 WP313 AN283 DS318 FE309 KI324 LV312 WP316 AN285 LV313

APPENDIX C: THE NUMBER OF INSTANCES A SPECIFIC MARKER IDENTIFIER WAS OBSERVED ON THE INDICATED FREQUENCY

C.1 ALL BROADCASTERS - OCTOBER 1984

MARKERS DETECTED BY FREQUENCY OCTOBER 1984 for BROADCASTER ALL

5955(282)	115-KD	34-MF	33-TU	22-WA	21-**	15-DR	8-GI	8-U7	3-AS	3-G1	2-1D	2-DU	2-RT	1-1G	1-8L
	1-A2	1-B1	1-BR	1-FG	1-GF	1-KB	1-MA	1-MU	1-ST	1-TK	1-VR	1-WI			
5965(5)	4-FL	1-WA													
5970(189)	71-DR	26-GI	21-1G	12-8L	12-TU	11-**	11-1D	9-BG	8-MA	3-ZL	1-BU	1-DL	1-IG	1-MU	1-WI
5985(51)	27-WQ	4-DA	4-MA	3-**	3-TU	2-AD	2-DR	2-TR	1-HM	1-KD	1-MF	1-VI			
5990(20)	6-TU	5-PB	4-WQ	3-**	1-FR	1-GS									
6010(12)	6-WI	4-TU	2-**												
6015(6)	4-WI	1-FR	1-VM												
6020(15)	5-BD	3-LM	3-TU	2-VN	1-DL	1-PB									
6025(40)	17-TU	4-FG	3-**	3-RV	2-BG	2-CB	2-P6	2-WQ	1-KD	1-MF	1-MS	1-VG	1-XN		
6060(58)	15-BG	11-DR	5-1D	5-1G	5-RT	4-**	3-AN	3-BU	2-B9	1-AD	1-BL	1-GI	1-LF	1-MA	
6070(37)	13-WI	6-**	4-RT	3-PB	3-UB	1-BA	1-BL	1-DM	1-FA	1-FM	1-FR	1-IR	1-WD		
6080(5)	2-1G	1-1D	1-AD	1-CB											
6085(32)	9-WI	7-**	4-BD	3-PB	2-L2	1-CB	1-DG	1-FM	1-LR	1-RT	1-TU	1-W1			
6090(32)	10-TU	5-**	5-BG	5-WI	3-SF	1-IG	1-LM	1-PB	1-WD						
6095(30)	7-TU	7-WI	3-BD	3-PB	2-**	2-MU	2-VR	1-AW	1-BL	1-DL	1-WL				
6105(242)	66-VR	44-**	26-US	24-TU	23-BG	10-R9	9-WI	8-B1	7-AN	5-ST	4-G7	4-N7	3-Z3	1-CB	1-D3
	1-DG	1-MA	1-MU	1-RB	1-UN	1-W9	1-WG								
6115(56)	16-B1	8-**	7-R9	7-US	6-U7	6-Z3	3-MS	2-G7	1-D1						
6125(54)	8-PB	7-DR	6-1G	5-TU	4-BD	4-LM	4-RT	3-IR	2-**	2-MG	2-WI	1-AD	1-AN	1-HM	1-ID
	1-LG	1-SM	1-UN												
6130(1)	1-1G														
6140(55)	13-**	6-TU	6-WI	5-SF	4-PB	3-KD	3-LM	3-RV	2-1G	1-BD	1-BG	1-CA	1-IR	1-MG	1-MI
	1-RT	1-US	1-WQ	1-XN											
6150(82)	17-WG	12-WI	11-PB	10-**	7-1G	7-DR	4-BU	3-RQ	3-TU	2-BG	2-KV	1-1D	1-FG	1-MG	1-XN
6160(157)	41-KD	25-BU	19-DR	13-**	13-1G	12-GI	8-PB	4-BG	4-WQ	3-IR	2-1D	2-BD	2-BR	2-G1	2-VR
	1-MG	1-RB	1-TU	1-VG	1-XN										
6170(157)	31-**	26-BG	22-WA	15-SF	14-TU	7-PB	3-AN	3-FL	3-MP	3-SG	3-WI	2-BR	2-CA	2-DL	2-RV
	2-ST	2-UN	2-WQ	1-AU	1-BI	1-BU	1-GB	1-IR	1-KD	1-LM	1-MA	1-MJ	1-TR	1-XN	1-XU
	1-ZM														
6180(43)	14-DU	6-**	5-LM	4-WD	3-BG	3-KD	2-XI	2-XN	1-FL	1-MG	1-TR	1-WQ			
6185(1)	1-**														
6195(2)	1-**	1-TU													
7105(27)	8-**	5-TU	3-MG	2-SM	2-WI	1-CB	1-FR	1-FU	1-HM	1-PB	1-RQ	1-WD			
7115(45)	27-WQ	5-GI	4-AK	2-**	2-BI	2-TU	1-B1	1-GM	1-IG						
7120(41)	19-TU	8-**	5-FA	2-FU	1-BL	1-FG	1-LR	1-RV	1-VM	1-WI	1-XN				
7130(40)	23-1G	6-WG	5-**	4-IG	1-BG	1-PK									
7140(3)	1-AW	1-B1	1-GR												
7145(3)	2-BG	1-**													
7155(189)	72-**	19-FU	18-GI	17-AN	7-BR	7-DR	6-UN	4-BG	4-FG	4-LM	4-TU	4-U7	3-GA	3-MF	3-PK
	3-RL	2-RT	2-W3	1-AR	1-G1	1-GS	1-MN	1-VU	1-WA	1-WI					
7165(30)	7-KD	6-R9	5-B1	5-SM	3-KB	1-BI	1-TU	1-Z3	1-ZM						
7170(71)	32-TU	21-**	6-UD	3-WR	2-FM	2-PB	1-BL	1-FA	1-GM	1-HM	1-MU				
7180(146)	37-TU	24-U7	18-KD	14-**	8-DU	7-PB	5-DR	5-WI	3-1D	3-AD	2-FA	2-FM	2-UA	1-AS	1-AW
	1-BG	1-CA	1-FG	1-IG	1-MF	1-MG	1-MS	1-MU	1-RA	1-TK	1-TR	1-VR	1-WR	1-ZM	

7190(386)	101-BG	95-KD	70-DR	28-**	22-8L	13-1G	13-TU	9-MU	9-TK	8-DG	3-IG	2-GU	2-MF	2-WG	1-DP
	1-LK	1-MG	1-MS	1-PK	1-SU	1-UA	1-WD	1-WM							
7210(25)	18-SU	4-IG	1-1G	1-BG	1-WI										
7220(506)	71-**	48-IG	48-MU	45-TU	37-U7	32-GR	31-UA	30-DR	22-SU	10-ST	9-GM	9-LK	9-RV	9-SF	7-LM
	7-MF	7-PB	7-S8	6-BG	6-KD	6-US	5-RB	5-XU	4-KV	3-8L	3-NS	2-AN	2-BR	2-DK	2-GS
	2-LG	2-MG	2-ML	2-RD	1-A2	1-CB	1-DU	1-FL	1-FU	1-G7	1-GF	1-IR	1-MA	1-PL	1-RT
	1-UD	1-UZ	1-VI												
7230(33)	11-**	5-SU	5-TU	4-FG	3-WI	2-FA	2-GM	1-XI							
7235(7)	5-8L	2-SU													
7245(95)	39-TK	12-GI	12-TU	10-**	5-MF	3-MA	2-FU	2-LK	2-PB	2-U7	1-BA	1-RB	1-ST	1-UK	1-UN
	1-WI														
7250(19)	7-**	4-US	4-WQ	1-BG	1-CB	1-DR	1-UD								
7255(78)	15-B1	13-TK	10-**	8-MF	6-AN	6-WI	5-R9	3-PK	3-TU	2-DA	1-AS	1-AU	1-DU	1-GI	1-IG
	1-KV	1-MS													
7260(14)	7-BG	3-8L	1-**	1-B1	1-LM	1-TR									
7270(126)	19-**	14-WM	12-BG	9-PK	8-KU	5-FG	5-HM	5-LM	5-MP	4-WD	4-WI	3-FA	3-PB	2-AN	2-GM
	2-KD	2-MA	2-SM	2-TK	1-AD	1-AG	1-AW	1-DG	1-FU	1-GR	1-IG	1-KB	1-LK	1-LR	1-MG
	1-MU	1-NS	1-RA	1-TR	1-TS	1-TU	1-XI								
7280(36)	13-**	6-PB	2-MJ	2-MP	2-TU	1-FU	1-GM	1-GR	1-IG	1-MI	1-MU	1-PF	1-UA	1-WI	1-WL
	1-WR														
7295(119)	30-**	24-U7	10-DU	8-WM	5-WI	4-FU	4-UZ	3-AD	3-NS	3-PB	2-AN	2-B9	2-MP	2-PL	2-UA
	1-B1	1-BG	1-CB	1-GL	1-GM	1-IF	1-MU	1-PD	1-SF	1-TK	1-TR	1-TU	1-UB	1-XI	1-XN
9505(216)	42-GI	26-**	21-LK	19-TU	13-TK	10-SF	8-PB	7-FL	7-MF	7-WA	6-BR	6-U7	5-AG	5-RT	5-SR
	2-AN	2-BG	2-BQ	2-LF	2-R9	2-Z2	2-Z3	1-FU	1-G1	1-HP	1-K3	1-KD	1-KM	1-KV	1-MU
	1-NS	1-PD	1-RL	1-SM	1-UK	1-WI	1-WM								
9520(591)	118-KB	85-**	75-GI	70-PB	31-MF	21-ZT	18-KD	17-MU	14-GM	14-U7	13-R9	12-TU	10-IG	8-RB	7-WI
	6-LM	6-NS	5-BQ	5-FU	5-GJ	5-US	4-IN	3-UA	2-AG	2-BG	2-DA	2-KV	2-WD	2-ZM	1-AD
	1-AN	1-AR	1-AU	1-BD	1-CA	1-FL	1-G7	1-GR	1-KU	1-LK	1-MP	1-MS	1-PA	1-PD	1-PL
	1-R7	1-RT	1-RV	1-SM	1-ST	1-UD	1-UM	1-UN	1-VL	1-VU	1-ZL				
9530(86)	29-LK	11-DR	9-IG	7-**	4-1D	4-1G	4-FU	4-PB	3-NS	2-GM	2-RT	2-VU	1-DA	1-GI	1-KB
	1-KU	1-ML													
9540(25)	10-4F	8-**	4-7K	2-8L	1-1F										
9555(237)	63-MU	29-**	25-ZT	20-LK	9-FU	9-PB	8-TU	8-WI	6-SU	6-UN	5-GM	5-IG	5-U7	4-R9	3-DP
	3-LM	3-SF	3-TR	3-W1	2-AD	2-TK	2-WM	1-FG	1-FK	1-FL	1-FM	1-GU	1-KL	1-LG	1-MI
	1-PK	1-SD	1-VG	1-WA	1-WD	1-XN									
9565(139)	16-P3	15-**	15-R9	10-TK	9-BG	8-SF	8-TU	8-WA	6-KM	5-KB	4-IG	3-D3	3-LG	3-MI	3-PB
	3-VU	2-SD	2-VM	1-4F	1-AD	1-B1	1-CB	1-DP	1-F9	1-FG	1-HM	1-MU	1-NS	1-RT	1-ST
	1-VG	1-WI	1-Z3	1-ZT											
9575(7)	4-4F	1-**	1-FU	1-GU											
9580(1)	1-FG														
9585(96)	33-MU	15-WI	14-TU	11-PB	9-**	4-IG	2-LM	1-AB	1-AD	1-DP	1-FU	1-RV	1-SF	1-VG	1-XU
9595(10)	6-**	3-SF	1-S5												
9600(29)	20-TU	5-**	3-PD	1-CB											
9605(9)	7-KD	1-7K	1-8L												
9615(6)	2-1G	2-LF	1-7K	1-VN											
9625(126)	42-TU	13-**	11-WI	7-D3	7-IG	6-UN	5-BQ	4-MU	3-KB	3-PD	3-R9	3-TK	2-F9	2-LK	2-PB
	2-UR	1-1D	1-CA	1-DL	1-DU	1-FA	1-GA	1-HM	1-KD	1-PM	1-W1	1-XI			

9635(46)	17-WI	5-KD	3-**	2-1G	2-AG	2-AS	2-MF	2-MU	1-1D	1-BG	1-FL	1-FM	1-GM	1-GR	1-HM
	1-ID	1-IG	1-SM	1-UD										
9645(27)	15-4F	10-**	2-7K											
9650(30)	16-4F	6-7K	4-**	3-1F	1-TU									
9660(215)	40-TU	33-PB	32-**	14-DR	11-FU	9-BQ	9-KM	7-WI	6-D3	4-BG	4-PA	3-BU	3-GM	3-IG	3-MU
	2-IN	2-MG	2-SM	2-UD	2-UN	2-VR	2-ZT	1-AG	1-AK	1-AN	1-BA	1-BR	1-DL	1-GB	1-GF
	1-GR	1-GU	1-KB	1-LK	1-LM	1-MP	1-MS	1-PD	1-RT	1-VG	1-VL	1-WM			
9670(1)	1-GR														
9675(29)	9-K3	6-GM	2-**	2-WL	2-XR	1-BA	1-DA	1-FA	1-FM	1-PF	1-PL	1-Z2	1-ZL		
9680(164)	47-LK	36-P3	19-**	18-SF	9-IG	4-FL	3-AR	3-BG	3-LF	2-DK	2-G3	2-GM	2-MU	2-PB	2-TU
	2-VU	2-WI	1-FA	1-LM	1-R9	1-SU	1-VR	1-W3							
9690(11)	11-**														
9695(4)	3-**	1-UA													
9705(333)	103-8L	67-**	59-KD	32-1G	17-4N	12-AN	10-GI	8-4F	5-7K	4-UD	2-1F	2-LG	1-1D	1-3L	1-BG
	1-BL	1-DN	1-IG	1-KL	1-KU	1-LK	1-TK	1-W1	1-YU						
9715(20)	9-TU	4-NS	2-**	1-AW	1-FG	1-KB	1-PB	1-WL							
9725(257)	68-WQ	45-**	25-MU	20-MF	14-NS	12-B1	9-BG	7-GM	5-TK	5-UD	5-WM	4-TS	4-TU	3-BI	3-FM
	3-GR	3-WI	2-BA	2-IG	2-PK	2-UA	2-VU	1-BL	1-FA	1-FU	1-G7	1-GF	1-MN	1-MS	1-P7
	1-UR	1-WD	1-WL	1-WR											
9735(34)	20-BG	7-**	2-CA	1-AN	1-AR	1-B9	1-FU	1-KV							
9740(4)	2-**	1-GR	1-UA												
9750(141)	40-**	21-W1	18-U7	15-PB	12-TU	7-WI	4-BN	3-UM	2-8L	2-DU	2-FU	2-MG	2-PD	2-WM	1-1G
	1-AD	1-B1	1-DN	1-GM	1-LM	1-TK	1-VL	1-VU							
9760(25)	8-FU	7-SU	6-MU	2-**	1-1G	1-TU									
9770(54)	9-PB	7-**	5-KB	4-DA	4-WI	2-AR	2-AW	2-BD	2-FG	2-LK	2-LM	2-MF	2-WL	1-BQ	1-FA
	1-FL	1-FM	1-FU	1-HM	1-MG	1-SM	1-ZM								
9825(1)	1-**														
11705(24)	8-RV	5-VG	3-**	3-WI	1-FA	1-LM	1-RT	1-TU	1-W1						
11710(124)	49-**	15-TU	8-4F	6-7K	6-GI	4-8L	4-MU	3-PB	3-WI	3-XN	2-1F	2-4N	2-BD	2-BG	2-KV
	2-MI	2-RT	1-AN	1-GS	1-KB	1-LM	1-TK	1-VG	1-VI	1-VM	1-XD				
11725(512)	103-**	61-8L	60-TK	56-1G	54-MU	32-BG	30-GI	29-4F	18-7K	15-MX	10-PB	9-4N	6-DA	5-GJ	5-RI
	2-A2	2-IG	2-LM	1-AK	1-BD	1-DG	1-DU	1-FL	1-GS	1-MA	1-SF	1-VF	1-VL	1-VM	1-VN
	1-WI														
11740(51)	11-WI	9-**	8-DU	6-TU	5-FG	4-PB	2-VL	1-AD	1-KU	1-MU	1-RT	1-WR	1-ZM		
11760(31)	6-IG	5-GM	4-IN	4-ML	2-LF	2-NS	2-TK	2-ZT	1-**	1-FA	1-FU	1-WI			
11770(351)	105-MU	41-W1	40-IG	39-TK	36-**	23-KB	10-GR	6-D3	6-GI	5-TU	4-LG	4-US	4-ZM	3-BQ	3-RD
	2-IN	2-LM	2-PB	2-RB	2-VU	2-WI	2-WM	1-FL	1-FU	1-GM	1-IF	1-MG	1-MP	1-PD	1-VR
11780(29)	8-TK	5-IR	3-BD	3-FG	2-**	2-MU	2-PK	1-AG	1-LM	1-MP	1-PD				
11795(10)	5-TU	1-**	1-KV	1-LM	1-US	1-VG									
11805(70)	23-WI	14-**	5-IR	5-WD	4-VG	3-BD	2-GR	2-PD	2-W1	1-FM	1-FR	1-GI	1-GM	1-HM	1-MI
	1-RT	1-U7	1-WA	1-ZK											
11815(9)	4-**	3-TU	2-G7												
11825(119)	45-MU	20-B1	14-**	11-WI	5-R7	4-AS	4-LK	2-S5	2-SF	2-TU	1-BI	1-BR	1-D1	1-G7	1-L8
	1-MA	1-R9	1-W1	1-WA	1-Z3										
11835(97)	23-**	16-WI	10-GR	6-VG	5-KB	4-LF	3-BA	3-BD	3-FR	3-WD	2-HM	2-WQ	1-AW	1-BG	1-FG
	1-FL	1-GM	1-GS	1-K3	1-KV	1-LG	1-MG	1-MP	1-MU	1-PD	1-RT	1-TU	1-UA	1-XN	
11845(61)	25-TU	10-**	5-BD	4-IR	3-FG	3-RT	1-B1	1-BA	1-BL	1-CB	1-FA	1-GR	1-MG	1-VG	1-VU
	1-WD	1-WL													

11850(6)	3-**	2-IG	1-LF												
11855(66)	16-MU	12-AS	9-B1	8-**	7-PK	4-KD	2-DR	1-BI	1-D1	1-G7	1-IG	1-LF	1-MA	1-R9	1-S5
11865(40)	14-AG	10-SF	5-SG	2-**	2-KV	2-ST	2-TU	1-AR	1-TR	1-WG					
11875(354)	59-TU	52-**	30-R9	28-LK	24-U7	21-DR	21-KD	14-PK	11-AD	10-RT	7-DU	6-HD	6-UA	6-VR	6-XU
	4-BU	3-BG	3-IG	3-PA	2-BR	2-CU	2-GR	2-GS	2-HP	2-KB	2-UR	2-VL	1-B1	1-BD	1-CA
	1-D3	1-FA	1-FR	1-FU	1-GU	1-KM	1-KV	1-LM	1-M3	1-MA	1-MU	1-PD	1-R7	1-RV	1-ST
	1-TK	1-VG	1-W9	1-WI	1-XI	1-ZM									
11885(606)	117-**	107-TU	66-IG	40-KU	31-GR	27-R9	21-MU	15-ZM	14-PB	13-KB	11-D3	10-VR	9-R7	8-LG	7-BR
	7-WD	6-DR	6-UA	5-AG	5-DN	5-NS	5-PM	4-FU	3-BQ	3-GI	3-LM	3-RQ	3-SD	3-SU	3-TK
	3-UB	3-UN	3-VL	2-BG	2-CU	2-GM	2-KV	2-MF	2-RS	2-SF	2-SG	2-U7	2-WQ	2-XN	1-AN
	1-BL	1-DG	1-FG	1-GF	1-GL	1-HM	1-KD	1-M3	1-MG	1-ML	1-UR	1-VG	1-VN	1-XW	
11895(48)	17-WQ	14-WM	5-**	4-TR	4-US	1-DU	1-GM	1-NW	1-WG						
11915(61)	16-MU	12-WM	10-**	5-IG	4-PB	4-TK	3-D3	2-SF	1-AD	1-KB	1-LG	1-SU	1-WI		
11925(17)	3-**	3-LF	2-PB	2-SM	2-WD	1-D3	1-FG	1-KB	1-NS	1-VM					
11930(31)	12-KD	11-IG	4-**	1-BA	1-FA	1-GM	1-GR								
11935(206)	43-TK	38-**	22-KB	19-U7	11-WI	9-MU	9-UA	8-SU	5-BD	4-LM	4-TU	3-UM	3-Z2	2-CB	2-IG
	2-ML	2-PB	2-UN	1-AG	1-BG	1-BQ	1-CA	1-DU	1-F2	1-FM	1-G7	1-GM	1-GR	1-IR	1-K3
	1-LK	1-MP	1-P3	1-SF	1-US	1-WD									
11945(16)	4-4N	3-**	3-GM	2-PD	1-FA	1-FM	1-IG	1-VN							
11955(1)	1-**														
11960(60)	18-TK	10-TU	9-**	5-PA	4-LF	3-AN	2-BD	2-IR	2-VR	1-FA	1-FG	1-RT	1-ST	1-VG	
11965(14)	4-DU	3-ZT	2-**	1-DR	1-FA	1-GM	1-GR	1-UA							
11970(413)	64-**	45-P3	33-U7	25-IG	20-SU	18-TU	17-VR	15-TK	14-MU	13-WI	12-KB	11-DU	11-GI	9-DA	7-SF
	6-AN	6-BQ	6-KF	6-PB	6-WM	5-DR	5-FG	4-D3	4-KU	4-PK	4-R9	4-WD	3-LG	3-UN	3-VG
	3-VI	2-AD	2-CB	2-LM	2-PA	2-W3	2-XU	1-BD	1-BR	1-GS	1-IF	1-KD	1-MA	1-MF	1-MP
	1-NS	1-RA	1-ST	1-UM	1-VM	1-WQ	1-WR								
15115(58)	21-**	14-Z2	8-K8	4-LK	3-AG	3-F2	2-R7	1-LM	1-RT	1-WI					
15120(28)	6-KM	5-**	4-WI	3-LM	2-DP	2-DU	2-PB	1-BL	1-FG	1-HM	1-VG				
15125(11)	4-**	3-XN	2-HM	1-IR	1-TU										
15130(250)	80-TU	38-**	36-P3	21-R9	11-TK	9-HM	5-CB	5-PB	3-FL	3-IR	3-LG	3-U7	2-G3	2-LM	2-LT
	2-PD	2-PL	2-W3	2-WQ	1-AD	1-AN	1-BN	1-DM	1-FG	1-GB	1-GJ	1-KV	1-LF	1-LK	1-MG
	1-NS	1-P6	1-RQ	1-WD	1-WG	1-XI	1-Z3	1-ZM							
15145(179)	69-4F	51-**	24-4N	4-7K	4-AN	4-MX	4-VF	4-VN	3-8L	3-UR	2-UN	1-3L	1-DA	1-FA	1-LM
	1-TK	1-TU	1-VL												
15170(144)	59-MF	26-AG	15-LK	12-**	11-B1	5-WM	3-PK	2-MU	1-A2	1-AD	1-B9	1-BI	1-BL	1-D1	1-DU
	1-R9	1-UM	1-W1	1-Z3											
15195(2)	2-KM														
15215(12)	4-MF	2-TU	1-B1	1-BI	1-G7	1-L8	1-N7	1-UD							
15225(47)	25-TK	7-TU	4-**	2-GM	1-AD	1-AS	1-BQ	1-FG	1-KM	1-LG	1-LM	1-UK	1-WI		
15235(73)	20-TU	11-LK	6-GI	6-WI	5-**	5-PB	3-FG	3-HM	2-NS	2-WD	2-XI	1-AR	1-LF	1-P7	1-PF
	1-RV	1-UM	1-UR	1-VG											
15245(3)	2-WI	1-FG													
15255(168)	94-NS	27-AS	13-B1	8-AG	7-R9	3-**	3-Z3	2-G3	2-TU	1-D3	1-GA	1-L8	1-MF	1-MS	1-MU
	1-R7	1-S5	1-WQ												
15270(43)	21-TK	13-SF	3-**	2-FR	1-ST	1-TU	1-UR	1-VI							
15280(25)	6-**	4-WI	3-HM	1-BG	1-IR	1-LG	1-NS	1-PB	1-SM	1-UB	1-UM	1-VR	1-W9	1-WG	1-WQ

15290(292)	52-**	32-TU	28-MU	21-LK	19-R7	18-UN	13-PL	11-KB	8-PB	7-R9	7-WI	4-DA	4-TR	3-BL	3-FG
	3-FK	3-FR	3-HP	3-MG	3-RT	3-SM	2-CB	2-GI	2-GL	2-IN	2-LM	2-ML	2-NS	2-SF	2-ST
	2-UR	1-CA	1-D3	1-DR	1-FA	1-FL	1-IG	1-IR	1-KL	1-LF	1-LG	1-LT	1-P6	1-PD	1-PK
	1-RL	1-RS	1-RV	1-UB	1-UG	1-VG	1-VR	1-WA	1-XI	1-ZT					
15325(16)	4-VI	3-UR	2-**	1-FA	1-IG	1-KB	1-L2	1-LF	1-RD	1-TR					
15340(251)	52-TU	41-U7	24-R9	23-**	15-DU	10-WI	8-AD	8-MG	8-VR	7-PL	6-PB	6-SF	4-CB	4-FG	4-FL
	4-NS	3-IF	3-KM	3-LM	3-ZM	2-HP	2-PK	2-VI	1-AB	1-FA	1-GU	1-IR	1-P6	1-RB	1-S5
	1-TR	1-XN													
15355(13)	3-WQ	1-CB	1-D3	1-FG	1-FL	1-NS	1-PL	1-SF	1-SM	1-TR	1-VI				
15370(181)	37-R7	33-U7	19-**	19-WI	7-IG	6-PK	5-AD	5-MG	4-CB	3-FU	3-GI	3-HM	3-P3	3-TU	3-ZT
	2-P7	2-UR	2-WA	1-BG	1-BL	1-BN	1-BR	1-D3	1-FA	1-FG	1-FL	1-GU	1-HP	1-IN	1-KB
	1-KF	1-KU	1-MF	1-NS	1-PA	1-PD	1-US	1-W1	1-XI	1-ZM					
15380(239)	40-TK	38-**	29-W1	23-TU	14-SF	11-UN	10-D3	10-WI	8-MU	6-BR	5-MF	4-FG	3-IG	3-LM	3-MG
	3-PB	3-SM	2-CB	2-PL	2-ST	1-AU	1-CS	1-DP	1-DR	1-FK	1-GU	1-IR	1-KB	1-LG	1-LK
	1-MA	1-PD	1-RD	1-TR	1-UG	1-VI	1-WG	1-WQ	1-WR	1-XI					
15390(10)	2-**	2-4F	2-7K	2-CB	1-LM	1-VF									
15410(4)	1-**	1-IG	1-LF	1-LR											
15415(8)	3-DU	2-WI	1-**	1-BL	1-MG										
15430(20)	14-AK	2-IG	1-**	1-GL	1-GU	1-VU									
15435(7)	5-TU	1-**	1-MU												
15445(103)	27-MU	12-**	12-SF	9-WI	8-R9	5-TR	4-TU	4-W1	2-CB	2-D3	2-FG	2-MF	2-PB	2-VL	1-F9
	1-GR	1-IN	1-LM	1-MG	1-PL	1-RB	1-RQ	1-ST	1-W9						
17725(177)	34-MU	26-SF	19-**	10-PB	9-P3	8-R7	7-W1	5-FL	5-FU	5-LM	4-BQ	4-FG	4-K3	4-M5	4-WI
	3-Z2	2-AG	2-G7	2-MG	1-BL	1-BR	1-D3	1-DM	1-DR	1-GB	1-GR	1-HP	1-KV	1-MJ	1-N7
	1-NS	1-R9	1-RB	1-RT	1-SM	1-TK	1-UB	1-UG	1-US						
17735(75)	28-4F	15-**	12-7K	6-PK	3-4N	3-L8	2-TU	1-FL	1-LM	1-NS	1-WM	1-Z2	1-Z3		
17740(2)	1-**	1-FL													
17750(133)	25-LK	23-TU	14-**	11-M3	11-MU	10-ZM	9-DR	4-BQ	3-BG	3-LM	3-LT	3-PL	2-CB	2-LG	2-WI
	1-AD	1-DM	1-FG	1-FL	1-GR	1-HP	1-SM	1-TR							
17760(164)	30-LK	26-R9	15-**	14-TU	8-WI	7-PB	6-LM	6-NS	5-CB	5-PL	4-FG	4-HP	4-MG	4-SD	3-BQ
	2-DM	2-DR	2-DU	2-LG	2-TR	2-XD	1-FL	1-HM	1-KL	1-MU	1-PD	1-R7	1-RL	1-SF	1-UK
	1-UM	1-VM													
17770(88)	14-R9	13-**	8-PL	6-TU	5-BG	5-LG	4-BQ	4-MG	3-CB	3-PB	3-RT	2-FL	2-HP	2-SM	1-BL
	1-BN	1-D3	1-DR	1-FU	1-HM	1-IR	1-LM	1-TR	1-UB	1-US	1-XI	1-XN	1-Z3		
17780(9)	3-**	2-FG	2-SM	1-MG	1-PB										
17800(1)	1-**														
17805(153)	84-4F	22-**	16-4N	9-7K	9-MU	3-LG	3-VF	3-VN	2-RS	1-PK	1-ZK				
17835(38)	28-Z3	7-**	1-D3	1-TU	1-ZT										
17855(58)	12-LK	8-TU	6-**	4-CB	3-AD	3-HM	3-SM	3-TR	2-BN	2-BQ	2-FG	2-FL	2-WI	2-XD	1-DR
	1-IR	1-UB	1-VG												
17865(25)	6-LK	5-TU	4-AD	4-FU	2-HM	1-IR	1-MG	1-UM	1-WI						
17885(28)	4-**	4-UB	3-FL	3-PB	2-FG	2-LM	2-WI	1-BL	1-CB	1-D3	1-LG	1-PL	1-SM	1-UG	1-VG
17895(189)	50-LK	28-TU	17-**	11-M3	6-MG	6-US	6-WI	5-CB	5-FU	5-PB	5-VL	5-XI	4-FG	4-FL	4-VR
	3-GI	3-HP	3-LG	3-PD	3-SD	2-PL	2-SM	1-DN	1-KD	1-KM	1-LR	1-LT	1-R7	1-RL	1-U7
	1-VF														
21455(111)	18-AD	18-BQ	8-LM	8-WI	7-**	6-KM	5-FG	5-PL	4-KF	4-RT	4-SM	4-WM	4-XW	3-FL	2-CB
	2-PA	2-PB	2-VL	1-AB	1-LT	1-MG	1-TR	1-XN							

21500(6)	2-SM	2-VL	1-**	1-XI											
21510(76)	16-ZM	11-AD	10-XW	7-**	7-D3	3-FG	3-US	2-BQ	2-KF	2-LM	2-PB	2-WI	1-MG	1-MS	1-SD
	1-SM	1-SU	1-TK	1-VM	1-WA	1-WQ									
21520(8)	4-**	1-BL	1-VI	1-WI	1-XD										
21530(8)	3-Z3	2-L8	1-**	1-G7	1-WQ										
21570(5)	2-**	2-SM	1-AD												
21580(12)	12-Z2														
21665(49)	21-7K	15-**	5-4N	2-4F	2-SF	2-VN	1-TU	1-UR							
21720(10)	3-**	3-L8	3-Z3	1-VM											
21735(21)	4-**	3-PB	2-AD	2-D3	2-FL	2-KM	2-PA	1-BL	1-MG	1-RV	1-UB				
21745(78)	12-WM	7-PB	6-BQ	5-TK	4-FG	4-LM	4-SM	3-PA	3-SF	3-WD	2-**	2-D3	2-KM	2-NS	2-UB
	2-WL	2-XD	1-BD	1-DP	1-FL	1-HP	1-IR	1-L8	1-LG	1-RT	1-ST	1-TU	1-VR	1-XI	1-Z3
25690(3)	2-FG	1-SM													

FREQUENCIES DETECTED FOR SPECIFIED MARKERS OCTOBER 1984 for BROADCASTER ALL

**(***)	5955-	21	5970-	11	5985-	3	5990-	3	6010-	2	6025-	3	6060-	4	6070-	6	6085-	7	6090-	5		
	6095-	2	6105-	44	6115-	8	6125-	2	6140-	13	6150-	10	6160-	13	6170-	31	6180-	6	6185-	1		
	6195-	1	7105-	8	7115-	2	7120-	8	7130-	5	7145-	1	7155-	72	7170-	21	7180-	14	7190-	28		
	7220-	71	7230-	11	7245-	10	7250-	7	7255-	10	7260-	1	7270-	19	7280-	13	7295-	30	9505-	26		
	9520-	85	9530-	7	9540-	8	9555-	29	9565-	15	9575-	1	9585-	9	9595-	6	9600-	5	9625-	13		
	9635-	3	9645-	10	9650-	4	9660-	32	9675-	2	9680-	19	9690-	11	9695-	3	9705-	67	9715-	2		
	9725-	45	9735-	7	9740-	2	9750-	40	9760-	2	9770-	7	9825-	1	11705-	3	11710-	49	11725-	103		
	11740-	9	11760-	1	11770-	36	11780-	2	11795-	1	11805-	14	11815-	4	11825-	14	11835-	23	11845-	10		
	11850-	3	11855-	8	11865-	2	11875-	52	11885-	117	11895-	5	11915-	10	11925-	3	11930-	4	11935-	38		
	11945-	3	11955-	1	11960-	9	11965-	2	11970-	64	15115-	21	15120-	5	15125-	4	15130-	38	15145-	51		
	15170-	12	15225-	4	15235-	5	15255-	3	15270-	3	15280-	6	15290-	52	15325-	2	15340-	23	15370-	19		
	15380-	38	15390-	2	15410-	1	15415-	1	15430-	1	15435-	1	15445-	12	17725-	19	17735-	15	17740-	1		
	17750-	14	17760-	15	17770-	13	17780-	3	17800-	1	17805-	22	17835-	7	17855-	6	17885-	4	17895-	17		
	21455-	7	21500-	1	21510-	7	21520-	4	21530-	1	21570-	2	21665-	15	21720-	3	21735-	4	21745-	2		
1D(32)	5955-	2	5970-	11	6060-	5	6080-	1	6150-	1	6160-	2	7180-	3	9530-	4	9625-	1	9635-	1		
	9705-	1																				
1F(8)	9540-	1	9650-	3	9705-	2	11710-	2														
1G(193)	5955-	1	5970-	21	6060-	5	6080-	2	6125-	6	6130-	1	6140-	2	6150-	7	6160-	13	7130-	23		
	7190-	13	7210-	1	9530-	4	9615-	2	9635-	2	9705-	32	9750-	1	9760-	1	11725-	56				
3L(2)	9705-	1	15145-	1																		
4F(276)	9540-	10	9565-	1	9575-	4	9645-	15	9650-	16	9705-	8	11710-	8	11725-	29	15145-	69	15390-	2		
	17735-	28	17805-	84	21665-	2																
4N(80)	9705-	17	11710-	2	11725-	9	11945-	4	15145-	24	17735-	3	17805-	16	21665-	5						
7K(91)	9540-	4	9605-	1	9615-	1	9645-	2	9650-	6	9705-	5	11710-	6	11725-	18	15145-	4	15390-	2		
	17735-	12	17805-	9	21665-	21																
8L(222)	5955-	1	5970-	12	7190-	22	7220-	3	7235-	5	7260-	3	9540-	2	9605-	1	9705-	103	9750-	2		
	11710-	4	11725-	61	15145-	3																
A2(5)	5955-	1	7220-	1	11725-	2	15170-	1														
AB(3)	9585-	1	15340-	1	21455-	1																
AD(89)	5985-	2	6060-	1	6080-	1	6125-	1	7180-	3	7270-	1	7295-	3	9520-	1	9555-	2	9565-	1		
	9585-	1	9750-	1	11740-	1	11875-	11	11915-	1	11970-	2	15130-	1	15170-	1	15225-	1	15340-	8		
	15370-	5	17750-	1	17855-	3	17865-	4	21455-	18	21510-	11	21570-	1	21735-	2						
AG(71)	7270-	1	9505-	5	9520-	2	9635-	2	9660-	1	11780-	1	11865-	14	11885-	5	11935-	1	15115-	3		
	15170-	26	15255-	8	17725-	2																
AK(20)	7115-	4	9660-	1	11725-	1	15430-	14														
AN(76)	6060-	3	6105-	7	6125-	1	6170-	3	7155-	17	7220-	2	7255-	6	7270-	2	7295-	2	9505-	2		
	9520-	1	9660-	1	9705-	12	9735-	1	11710-	1	11885-	1	11960-	3	11970-	6	15130-	1	15145-	4		
AR(10)	7155-	1	9520-	1	9680-	3	9735-	1	9770-	2	11865-	1	15235-	1								
AS(51)	5955-	3	7180-	1	7255-	1	9635-	2	11825-	4	11855-	12	15225-	1	15255-	27						
AU(4)	6170-	1	7255-	1	9520-	1	15380-	1														
AW(8)	6095-	1	7140-	1	7180-	1	7270-	1	9715-	1	9770-	2	11835-	1								
B1(119)	5955-	1	6105-	8	6115-	16	7115-	1	7140-	1	7165-	5	7255-	15	7260-	1	7295-	1	9565-	1		
	9725-	12	9750-	1	11825-	20	11845-	1	11855-	9	11875-	1	15170-	11	15215-	1	15255-	13				
B9(6)	6060-	2	7295-	2	9735-	1	15170-	1														
BA(11)	6070-	1	7245-	1	9660-	1	9675-	1	9725-	2	11835-	3	11845-	1	11930-	1						

BD(49)	6020-	5	6085-	4	6095-	3	6125-	4	6140-	1	6160-	2	9520-	1	9770-	2	11710-	2	11725-	1		
	11780-	3	11805-	3	11835-	3	11845-	5	11875-	1	11935-	5	11960-	2	11970-	1	21745-	1				
BG(329)	5970-	9	6025-	2	6060-	15	6090-	5	6105-	23	6140-	1	6150-	2	6160-	4	6170-	26	6180-	3		
	7130-	1	7145-	2	7155-	4	7180-	1	7190-	101	7210-	1	7220-	6	7250-	1	7260-	7	7270-	12		
	7295-	1	9505-	2	9520-	2	9565-	9	9635-	1	9660-	4	9680-	3	9705-	1	9725-	9	9735-	20		
	11710-	2	11725-	32	11835-	1	11875-	3	11885-	2	11935-	1	15280-	1	15370-	1	17750-	3	17770-	5		
BI(11)	6170-	1	7115-	2	7165-	1	9725-	3	11825-	1	11855-	1	15170-	1	15215-	1						
BL(21)	6060-	1	6070-	1	6095-	1	7120-	1	7170-	1	9705-	1	9725-	1	11845-	1	11885-	1	15120-	1		
	15170-	1	15290-	3	15370-	1	15415-	1	17725-	1	17770-	1	17885-	1	21520-	1	21735-	1				
BN(9)	9750-	4	15130-	1	15370-	1	17770-	1	17855-	2												
BQ(79)	9505-	2	9520-	5	9625-	5	9660-	9	9770-	1	11770-	3	11885-	3	11935-	1	11970-	6	15225-	1		
	17725-	4	17750-	4	17760-	3	17770-	4	17855-	2	21455-	18	21510-	2	21745-	6						
BR(40)	5955-	1	6160-	2	6170-	2	7155-	7	7220-	2	9505-	6	9660-	1	11825-	1	11875-	2	11885-	7		
	11970-	1	15370-	1	15380-	6	17725-	1														
BU(41)	5970-	1	6060-	3	6150-	4	6160-	25	6170-	1	9660-	3	11875-	4								
CA(11)	6140-	1	6170-	2	7180-	1	9520-	1	9625-	1	9735-	2	11875-	1	11935-	1	15290-	1				
CB(60)	6025-	2	6080-	1	6085-	1	6105-	1	7105-	1	7220-	1	7250-	1	7295-	1	9565-	1	9600-	1		
	11845-	1	11935-	2	11970-	2	15130-	5	15290-	2	15340-	4	15355-	1	15370-	4	15380-	2	15390-	2		
	15445-	2	17750-	2	17760-	5	17770-	3	17855-	4	17885-	1	17895-	5	21455-	2						
CS(1)	15380-	1																				
CU(4)	11875-	2	11885-	2																		
D1(4)	6115-	1	11825-	1	11855-	1	15170-	1														
D3(74)	6105-	1	9565-	3	9625-	7	9660-	6	11770-	6	11875-	1	11885-	11	11915-	3	11925-	1	11970-	4		
	15255-	1	15290-	1	15355-	1	15370-	1	15380-	10	15445-	2	17725-	1	17770-	1	17835-	1	17885-	1		
	21510-	7	21735-	2	21745-	2																
DA(34)	5985-	4	7255-	2	9520-	2	9530-	1	9675-	1	9770-	4	11725-	6	11970-	9	15145-	1	15290-	4		
DG(13)	6085-	1	6105-	1	7190-	8	7270-	1	11725-	1	11885-	1										
DK(4)	7220-	2	9680-	2																		
DL(7)	5970-	1	6020-	1	6095-	1	6170-	2	9625-	1	9660-	1										
DM(6)	6070-	1	15130-	1	17725-	1	17750-	1	17760-	2												
DN(8)	9705-	1	9750-	1	11885-	5	17895-	1														
DP(10)	7190-	1	9555-	3	9565-	1	9585-	1	15120-	2	15380-	1	21745-	1								
DR(321)	5955-	15	5970-	71	5985-	2	6060-	11	6125-	7	6150-	7	6160-	19	7155-	7	7180-	5	7190-	70		
	7220-	30	7250-	1	9530-	11	9660-	14	11855-	2	11875-	21	11885-	6	11965-	1	11970-	5	15290-	1		
	15380-	1	17725-	1	17750-	9	17760-	2	17770-	1	17855-	1										
DU(95)	5955-	2	6180-	14	7180-	8	7220-	1	7255-	1	7295-	10	9625-	1	9750-	2	11725-	1	11740-	8		
	11875-	7	11895-	1	11935-	1	11965-	4	11970-	11	15120-	2	15170-	1	15340-	15	15415-	3	17760-	2		
F2(4)	11935-	1	15115-	3																		
F9(4)	9565-	1	9625-	2	15445-	1																
FA(32)	6070-	1	7120-	5	7170-	1	7180-	2	7230-	2	7270-	3	9625-	1	9675-	1	9680-	1	9725-	1		
	9770-	1	11705-	1	11760-	1	11845-	1	11875-	1	11930-	1	11945-	1	11960-	1	11965-	1	15145-	1		
	15290-	1	15325-	1	15340-	1	15370-	1														
FG(102)	5955-	1	6025-	4	6150-	1	7120-	1	7155-	4	7180-	1	7230-	4	7270-	5	9555-	1	9565-	1		
	9580-	1	9715-	1	9770-	2	11740-	5	11780-	3	11835-	1	11845-	3	11885-	1	11925-	1	11960-	1		
	11970-	5	15120-	1	15130-	1	15225-	1	15235-	3	15245-	1	15290-	3	15340-	4	15355-	1	15370-	1		
	15380-	4	15445-	2	17725-	4	17750-	1	17760-	4	17780-	2	17855-	2	17885-	2	17895-	4	21455-	5		
	21510-	3	21745-	4	25690-	2																

FK(5)	9555-	1	15290-	3	15380-	1																
FL(63)	5965-	4	6170-	3	6180-	1	7220-	1	9505-	7	9520-	1	9555-	1	9635-	1	9680-	4	9770-	1		
	11725-	1	11770-	1	11835-	1	15130-	3	15290-	1	15340-	4	15355-	1	15370-	1	17725-	5	17735-	1		
	17740-	1	17750-	1	17760-	1	17770-	2	17855-	2	17885-	3	17895-	4	21455-	3	21735-	2	21745-	1		
FM(16)	6070-	1	6085-	1	7170-	2	7180-	2	9555-	1	9635-	1	9675-	1	9725-	3	9770-	1	11805-	1		
	11935-	1	11945-	1																		
FR(14)	5990-	1	6015-	1	6070-	1	7105-	1	11805-	1	11835-	3	11875-	1	15270-	2	15290-	3				
FU(101)	7105-	1	7120-	2	7155-	19	7220-	1	7245-	2	7270-	1	7280-	1	7295-	4	9505-	1	9520-	5		
	9530-	4	9555-	9	9575-	1	9585-	1	9660-	11	9725-	1	9735-	1	9750-	2	9760-	8	9770-	1		
	11760-	1	11770-	1	11875-	1	11885-	4	15370-	3	17725-	5	17770-	1	17865-	4	17895-	5				
G1(7)	5955-	3	6160-	2	7155-	1	9505-	1														
G3(6)	9680-	2	15130-	2	15255-	2																
G7(18)	6105-	4	6115-	2	7220-	1	9520-	1	9725-	1	11815-	2	11825-	1	11855-	1	11935-	1	15215-	1		
	17725-	2	21530-	1																		
GA(5)	7155-	3	9625-	1	15255-	1																
GB(4)	6170-	1	9660-	1	15130-	1	17725-	1														
GF(5)	5955-	1	7220-	1	9660-	1	9725-	1	11885-	1												
GI(282)	5955-	8	5970-	26	6060-	1	6160-	12	7115-	5	7155-	18	7245-	12	7255-	1	9505-	42	9520-	75		
	9530-	1	9705-	10	11710-	6	11725-	30	11770-	6	11805-	1	11885-	3	11970-	11	15235-	6	15290-	2		
	15370-	3	17895-	3																		
GJ(11)	9520-	5	11725-	5	15130-	1																
GL(5)	7295-	1	11885-	1	15290-	2	15430-	1														
GM(77)	7115-	1	7170-	1	7220-	9	7230-	2	7270-	2	7280-	1	7295-	1	9520-	14	9530-	2	9555-	5		
	9635-	1	9660-	3	9675-	6	9680-	2	9725-	7	9750-	1	11760-	5	11770-	1	11805-	1	11835-	1		
	11885-	2	11895-	1	11930-	1	11935-	1	11945-	3	11965-	1	15225-	2								
GR(105)	7140-	1	7220-	32	7270-	1	7280-	1	9520-	1	9635-	1	9660-	1	9670-	1	9725-	3	9740-	1		
	11770-	10	11805-	2	11835-	10	11845-	1	11875-	2	11885-	31	11930-	1	11935-	1	11965-	1	15445-	1		
	17725-	1	17750-	1																		
GS(10)	5990-	1	7155-	1	7220-	2	11710-	1	11725-	1	11835-	1	11875-	2	11970-	1						
GU(10)	7190-	2	9555-	1	9575-	1	9660-	1	11875-	1	15340-	1	15370-	1	15380-	1	15430-	1				
HD(6)	11875-	6																				
HM(45)	5985-	1	6125-	1	7105-	1	7170-	1	7270-	5	9565-	1	9625-	1	9635-	1	9770-	1	11805-	1		
	11835-	2	11885-	1	15120-	1	15125-	2	15130-	9	15235-	3	15280-	3	15370-	3	17760-	1	17770-	1		
	17855-	3	17865-	2																		
HP(21)	9505-	1	11875-	2	15290-	3	15340-	2	15370-	1	17725-	1	17750-	1	17760-	4	17770-	2	17895-	3		
	21745-	1																				
ID(2)	6125-	1	9635-	1																		
IF(6)	7295-	1	11770-	1	11970-	1	15340-	3														
IG(300)	5970-	1	6090-	1	7115-	1	7130-	4	7180-	1	7190-	3	7210-	4	7220-	48	7255-	1	7270-	1		
	7280-	1	9520-	10	9530-	9	9555-	5	9565-	4	9585-	4	9625-	7	9635-	1	9660-	3	9680-	9		
	9705-	1	9725-	2	11725-	2	11760-	6	11770-	40	11850-	2	11855-	1	11875-	3	11885-	66	11915-	5		
	11930-	11	11935-	2	11945-	1	11970-	25	15290-	1	15325-	1	15370-	7	15380-	3	15410-	1	15430-	2		
IN(16)	9520-	4	9660-	2	11760-	4	11770-	2	15290-	2	15370-	1	15445-	1								
IR(39)	6070-	1	6125-	3	6140-	1	6160-	3	6170-	1	7220-	1	11780-	5	11805-	5	11845-	4	11935-	1		
	11960-	2	15125-	1	15130-	3	15280-	1	15290-	1	15340-	1	15380-	1	17770-	1	17855-	1	17865-	1		
	21745-	1																				
K3(16)	9505-	1	9675-	9	11835-	1	11935-	1	17725-	4												

K8(8) 15115- 8

KB(233) 5955- 1 7165- 3 7270- 1 9520-118 9530- 1 9565- 5 9625- 3 9660- 1 9715- 1 9770- 5
11710- 1 11770- 23 11835- 5 11875- 2 11885- 13 11915- 1 11925- 1 11935- 22 11970- 12 15290- 11
15325- 1 15370- 1 15380- 1

KD(424) 5955-115 5985- 1 6025- 1 6140- 3 6160- 41 6170- 1 6180- 3 7165- 7 7180- 18 7190- 95
7220- 6 7270- 2 9505- 1 9520- 18 9605- 7 9625- 1 9635- 5 9705- 59 11855- 4 11875- 21
11885- 1 11930- 12 11970- 1 17895- 1

KF(13) 11970- 6 15370- 1 21455- 4 21510- 2

KL(4) 9555- 1 9705- 1 15290- 1 17760- 1

KM(40) 9505- 1 9565- 6 9660- 9 11875- 1 15120- 6 15195- 2 15225- 1 15340- 3 17895- 1 21455- 6
21735- 2 21745- 2

KU(57) 7270- 8 9520- 1 9530- 1 9705- 1 11740- 1 11885- 40 11970- 4 15370- 1

KV(22) 6150- 2 7220- 4 7255- 1 9505- 1 9520- 2 9735- 1 11710- 2 11795- 1 11835- 1 11865- 2
11875- 1 11885- 2 15130- 1 17725- 1

L2(3) 6085- 2 15325- 1

L8(12) 11825- 1 15215- 1 15255- 1 17735- 3 21530- 2 21720- 3 21745- 1

LF(28) 6060- 1 9505- 2 9615- 2 9680- 3 11760- 2 11835- 4 11850- 1 11855- 1 11925- 3 11960- 4
15130- 1 15235- 1 15290- 1 15325- 1 15410- 1

LG(50) 6125- 1 7220- 2 9555- 1 9565- 3 9705- 2 11770- 4 11835- 1 11885- 8 11915- 1 11970- 3
15130- 3 15225- 1 15280- 1 15290- 1 15380- 1 17750- 2 17760- 2 17770- 5 17805- 3 17885- 1
17895- 3 21745- 1

LK(346) 7190- 1 7220- 9 7245- 2 7270- 1 9505- 21 9520- 1 9530- 29 9555- 20 9625- 2 9660- 1
9680- 47 9705- 1 9770- 2 11825- 4 11875- 28 11935- 1 15115- 4 15130- 1 15170- 15 15235- 11
15290- 21 15380- 1 17750- 25 17760- 30 17855- 12 17865- 6 17895- 50

LM(118) 6020- 3 6090- 1 6125- 4 6140- 3 6170- 1 6180- 5 7155- 4 7220- 7 7260- 1 7270- 5
9520- 6 9555- 3 9585- 2 9660- 1 9680- 1 9750- 1 9770- 2 11705- 1 11710- 1 11725- 2
11770- 2 11780- 1 11795- 1 11875- 1 11885- 3 11935- 4 11970- 2 15115- 1 15120- 3 15130- 2
15145- 1 15225- 1 15290- 2 15340- 3 15380- 3 15390- 1 15445- 1 17725- 5 17735- 1 17750- 3
17760- 6 17770- 1 17885- 2 21455- 8 21510- 2 21745- 4

LR(5) 6085- 1 7120- 1 7270- 1 15410- 1 17895- 1

LT(8) 15130- 2 15290- 1 17750- 3 17895- 1 21455- 1

M3(24) 11875- 1 11885- 1 17750- 11 17895- 11

M5(4) 17725- 4

MA(28) 5955- 1 5970- 8 5985- 4 6060- 1 6105- 1 6170- 1 7220- 1 7245- 3 7270- 2 11725- 1
11825- 1 11855- 1 11875- 1 11970- 1 15380- 1

MF(199) 5955- 34 5985- 1 6025- 1 7155- 3 7180- 1 7190- 2 7220- 7 7245- 5 7255- 8 9505- 7
9520- 31 9635- 2 9725- 20 9770- 2 11885- 2 11970- 1 15170- 59 15215- 4 15255- 1 15370- 1
15380- 5 15445- 2

MG(66) 6125- 2 6140- 1 6150- 1 6160- 1 6180- 1 7105- 3 7180- 1 7190- 1 7220- 2 7270- 1
9660- 2 9750- 2 9770- 1 11770- 1 11835- 1 11845- 1 11885- 1 15130- 1 15290- 3 15340- 8
15370- 5 15380- 3 15415- 1 15445- 1 17725- 2 17760- 4 17770- 4 17780- 1 17865- 1 17895- 6
21455- 1 21510- 1 21735- 1

MI(9) 6140- 1 7280- 1 9555- 1 9565- 3 11710- 2 11805- 1

MJ(4) 6170- 1 7280- 2 17725- 1

ML(12) 7220- 2 9530- 1 11760- 4 11885- 1 11935- 2 15290- 2

MN(2) 7155- 1 9725- 1

MP(19) 6170- 3 7270- 5 7280- 2 7295- 2 9520- 1 9660- 1 11770- 1 11780- 1 11835- 1 11935- 1
11970- 1

MS(12)	6025-	1	6115-	3	7180-	1	7190-	1	7255-	1	9520-	1	9660-	1	9725-	1	15255-	1	21510-	1				
MU(635)	5955-	1	5970-	1	6095-	2	6105-	1	7170-	1	7180-	1	7190-	9	7220-	48	7270-	1	7280-	1				
	7295-	1	9505-	1	9520-	17	9555-	63	9565-	1	9585-	33	9625-	4	9635-	2	9660-	3	9680-	2				
	9725-	25	9760-	6	11710-	4	11725-	54	11740-	1	11770-	105	11780-	2	11825-	45	11835-	1	11855-	16				
	11875-	1	11885-	21	11915-	16	11935-	9	11970-	14	15170-	2	15255-	1	15290-	28	15380-	8	15435-	1				
	15445-	27	17725-	34	17750-	11	17760-	1	17805-	9														
MX(19)	11725-	15	15145-	4																				
N7(6)	6105-	4	15215-	1	17725-	1																		
NS(161)	7220-	3	7270-	1	7295-	3	9505-	1	9520-	6	9530-	3	9565-	1	9715-	4	9725-	14	11760-	2				
	11885-	5	11925-	1	11970-	1	15130-	1	15235-	2	15255-	94	15280-	1	15290-	2	15340-	4	15355-	1				
	15370-	1	17725-	1	17735-	1	17760-	6	21745-	2														
NW(1)	11895-	1																						
P3(146)	9565-	16	9680-	36	11935-	1	11970-	45	15130-	36	15370-	3	17725-	9										
P6(5)	6025-	2	15130-	1	15290-	1	15340-	1																
P7(4)	9725-	1	15235-	1	15370-	2																		
PA(23)	9520-	1	9660-	4	11875-	3	11960-	5	11970-	2	15370-	1	21455-	2	21735-	2	21745-	3						
PB(374)	5990-	5	6020-	1	6070-	3	6085-	3	6090-	1	6095-	3	6125-	8	6140-	4	6150-	11	6160-	8				
	6170-	7	7105-	1	7170-	2	7180-	7	7220-	7	7245-	2	7270-	3	7280-	6	7295-	3	9505-	8				
	9520-	70	9530-	4	9555-	9	9565-	3	9585-	11	9625-	2	9660-	33	9680-	2	9715-	1	9750-	15				
	9770-	9	11710-	3	11725-	10	11740-	4	11770-	2	11885-	14	11915-	4	11925-	2	11935-	2	11970-	6				
	15120-	2	15130-	5	15235-	5	15280-	1	15290-	8	15340-	6	15380-	3	15445-	2	17725-	10	17760-	7				
	17770-	3	17780-	1	17885-	3	17895-	5	21455-	2	21510-	2	21735-	3	21745-	7								
PD(29)	7295-	1	9505-	1	9520-	1	9600-	3	9625-	3	9660-	1	9750-	2	11770-	1	11780-	1	11805-	2				
	11835-	1	11875-	1	11945-	2	15130-	2	15290-	1	15370-	1	15380-	1	17760-	1	17895-	3						
PF(3)	7280-	1	9675-	1	15235-	1																		
PK(66)	7130-	1	7155-	3	7190-	1	7255-	3	7270-	9	9555-	1	9725-	2	11780-	2	11855-	7	11875-	14				
	11970-	4	15170-	3	15290-	1	15340-	2	15370-	6	17735-	6	17805-	1										
PL(55)	7220-	1	7295-	2	9520-	1	9675-	1	15130-	2	15290-	13	15340-	7	15355-	1	15380-	2	15445-	1				
	17750-	3	17760-	5	17770-	8	17885-	1	17895-	2	21455-	5												
PM(6)	9625-	1	11885-	5																				
R7(85)	9520-	1	11825-	5	11875-	1	11885-	9	15115-	2	15255-	1	15290-	19	15370-	37	17725-	8	17760-	1				
	17895-	1																						
R9(238)	6105-	10	6115-	7	7165-	6	7255-	5	9505-	2	9520-	13	9555-	4	9565-	15	9625-	3	9680-	1				
	11825-	1	11855-	1	11875-	30	11885-	27	11970-	4	15130-	21	15170-	1	15255-	7	15290-	7	15340-	24				
	15445-	8	17725-	1	17760-	26	17770-	14																
RA(3)	7180-	1	7270-	1	11970-	1																		
RB(21)	6105-	1	6160-	1	7220-	5	7245-	1	9520-	8	11770-	2	15340-	1	15445-	1	17725-	1						
RD(7)	7220-	2	11770-	3	15325-	1	15380-	1																
RI(5)	11725-	5																						
RL(7)	7155-	3	9505-	1	15290-	1	17760-	1	17895-	1														
RQ(9)	6150-	3	7105-	1	11885-	3	15130-	1	15445-	1														
RS(5)	11885-	2	15290-	1	17805-	2																		
RT(63)	5955-	2	6060-	5	6070-	4	6085-	1	6125-	4	6140-	1	7155-	2	7220-	1	9505-	5	9520-	1				
	9530-	2	9565-	1	9660-	1	11705-	1	11710-	2	11740-	1	11805-	1	11835-	1	11845-	3	11875-	10				
	11960-	1	15115-	1	15290-	3	17725-	1	17770-	3	21455-	4	21745-	1										
RV(32)	6025-	3	6140-	3	6170-	2	7120-	1	7220-	9	9520-	1	9585-	1	11705-	8	11875-	1	15235-	1				
	15290-	1	21735-	1																				

S5(6)	9595-	1	11825-	2	11855-	1	15255-	1	15340-	1														
S8(7)	7220-	7																						
SD(14)	9555-	1	9565-	2	11885-	3	17760-	4	17895-	3	21510-	1												
SF(181)	6090-	3	6140-	5	6170-	15	7220-	9	7295-	1	9505-	10	9555-	3	9565-	8	9585-	1	9595-	3				
	9680-	18	11725-	1	11825-	2	11865-	10	11885-	2	11915-	2	11935-	1	11970-	7	15270-	13	15290-	2				
	15340-	6	15355-	1	15380-	14	15445-	12	17725-	26	17760-	1	21665-	2	21745-	3								
SG(10)	6170-	3	11865-	5	11885-	2																		
SM(52)	6125-	1	7105-	2	7165-	5	7270-	2	9505-	1	9520-	1	9635-	1	9660-	2	9770-	1	11925-	2				
	15280-	1	15290-	3	15355-	1	15380-	3	17725-	1	17750-	1	17770-	2	17780-	2	17855-	3	17885-	1				
	17895-	2	21455-	4	21500-	2	21510-	1	21570-	2	21745-	4	25690-	1										
SR(5)	9505-	5																						
ST(33)	5955-	1	6105-	5	6170-	2	7220-	10	7245-	1	9520-	1	9565-	1	11865-	2	11875-	1	11960-	1				
	11970-	1	15270-	1	15290-	2	15380-	2	15445-	1	21745-	1												
SU(95)	7190-	1	7210-	18	7220-	22	7230-	5	7235-	2	9555-	6	9680-	1	9760-	7	11885-	3	11915-	1				
	11935-	8	11970-	20	21510-	1																		
TK(400)	5955-	1	7180-	1	7190-	9	7245-	39	7255-	13	7270-	2	7295-	1	9505-	13	9555-	2	9565-	10				
	9625-	3	9705-	1	9725-	5	9750-	1	11710-	1	11725-	60	11760-	2	11770-	39	11780-	8	11875-	1				
	11885-	3	11915-	4	11935-	43	11960-	18	11970-	15	15130-	11	15145-	1	15225-	25	15270-	21	15380-	40				
	17725-	1	21510-	1	21745-	5																		
TR(37)	5985-	2	6170-	1	6180-	1	7180-	1	7260-	1	7270-	1	7295-	1	9555-	3	11865-	1	11895-	4				
	15290-	4	15325-	1	15340-	1	15355-	1	15380-	1	15445-	5	17750-	1	17760-	2	17770-	1	17855-	3				
	21455-	1																						
TS(5)	7270-	1	9725-	4																				
TU(***)	5955-	33	5970-	12	5985-	3	5990-	6	6010-	4	6020-	3	6025-	17	6085-	1	6090-	10	6095-	7				
	6105-	24	6125-	5	6140-	6	6150-	3	6160-	1	6170-	14	6195-	1	7105-	5	7115-	2	7120-	19				
	7155-	4	7165-	1	7170-	32	7180-	37	7190-	13	7220-	45	7230-	5	7245-	12	7255-	3	7270-	1				
	7280-	2	7295-	1	9505-	19	9520-	12	9555-	8	9565-	8	9585-	14	9600-	20	9625-	42	9650-	1				
	9660-	40	9680-	2	9715-	9	9725-	4	9750-	12	9760-	1	11705-	1	11710-	15	11740-	6	11770-	5				
	11795-	5	11815-	3	11825-	2	11835-	1	11845-	25	11865-	2	11875-	59	11885-	107	11935-	4	11960-	10				
	11970-	18	15125-	1	15130-	80	15145-	1	15215-	2	15225-	7	15235-	20	15255-	2	15270-	1	15290-	32				
	15340-	52	15370-	3	15380-	23	15435-	5	15445-	4	17735-	2	17750-	23	17760-	14	17770-	6	17835-	1				
	17855-	8	17865-	5	17895-	28	21665-	1	21745-	1														
U7(305)	5955-	8	6115-	6	7155-	4	7180-	24	7220-	37	7245-	2	7295-	24	9505-	6	9520-	14	9555-	5				
	9750-	18	11805-	1	11875-	24	11885-	2	11935-	19	11970-	33	15130-	3	15340-	41	15370-	33	17895-	1				
UA(67)	7180-	2	7190-	1	7220-	31	7280-	1	7295-	2	9520-	3	9695-	1	9725-	2	9740-	1	11835-	1				
	11875-	6	11885-	6	11935-	9	11965-	1																
UB(19)	6070-	3	7295-	1	11885-	3	15280-	1	15290-	1	17725-	1	17770-	1	17855-	1	17885-	4	21735-	1				
	21745-	2																						
UD(22)	7170-	6	7220-	1	7250-	1	9520-	1	9635-	1	9660-	2	9705-	4	9725-	5	15215-	1						
UG(4)	15290-	1	15380-	1	17725-	1	17885-	1																
UK(4)	7245-	1	9505-	1	15225-	1	17760-	1																
UM(13)	9520-	1	9750-	3	11935-	3	11970-	1	15170-	1	15235-	1	15280-	1	17760-	1	17865-	1						
UN(65)	6105-	1	6125-	1	6170-	2	7155-	6	7245-	1	9520-	1	9555-	6	9625-	6	9660-	2	11885-	3				
	11935-	2	11970-	3	15145-	2	15290-	18	15380-	11														
UR(19)	9625-	2	9725-	1	11875-	2	11885-	1	15145-	3	15235-	1	15270-	1	15290-	2	15325-	3	15370-	2				
	21665-	1																						

US(71)	6105-	26	6115-	7	6140-	1	7220-	6	7250-	4	9520-	5	11770-	4	11795-	1	11895-	4	11935-	1		
	15370-	1	17725-	1	17770-	1	17895-	6	21510-	3												
UZ(5)	7220-	1	7295-	4																		
VF(10)	11725-	1	15145-	4	15390-	1	17805-	3	17895-	1												
VG(35)	6025-	1	6160-	1	9555-	1	9565-	1	9585-	1	9660-	1	11705-	5	11710-	1	11795-	1	11805-	4		
	11835-	6	11845-	1	11875-	1	11885-	1	11960-	1	11970-	3	15120-	1	15235-	1	15290-	1	17855-	1		
	17885-	1																				
VI(16)	5985-	1	7220-	1	11710-	1	11970-	3	15270-	1	15325-	4	15340-	2	15355-	1	15380-	1	21520-	1		
VL(23)	9520-	1	9660-	1	9750-	1	11725-	1	11740-	2	11875-	2	11885-	3	15145-	1	15445-	2	17895-	5		
	21455-	2	21500-	2																		
VM(11)	6015-	1	7120-	1	9565-	2	11710-	1	11725-	1	11925-	1	11970-	1	17760-	1	21510-	1	21720-	1		
VN(15)	6020-	2	9615-	1	11725-	1	11885-	1	11945-	1	15145-	4	17805-	3	21665-	2						
VR(126)	5955-	1	6095-	2	6105-	66	6160-	2	7180-	1	9660-	2	9680-	1	11770-	1	11875-	6	11885-	10		
	11960-	2	11970-	17	15280-	1	15290-	1	15340-	8	17895-	4	21745-	1								
VU(16)	7155-	1	9520-	1	9530-	2	9565-	3	9680-	2	9725-	2	9750-	1	11770-	2	11845-	1	15430-	1		
W1(114)	6085-	1	9555-	3	9625-	1	9705-	1	9750-	21	11705-	1	11770-	41	11805-	2	11825-	1	15170-	1		
	15370-	1	15380-	29	15445-	4	17725-	7														
W3(7)	7155-	2	9680-	1	11970-	2	15130-	2														
W9(4)	6105-	1	11875-	1	15280-	1	15445-	1														
WA(68)	5955-	22	5965-	1	6170-	22	7155-	1	9505-	7	9555-	1	9565-	8	11805-	1	11825-	1	15290-	1		
	15370-	2	21510-	1																		
WD(45)	6070-	1	6090-	1	6180-	4	7105-	1	7190-	1	7270-	4	9520-	2	9555-	1	9725-	1	11805-	5		
	11835-	3	11845-	1	11885-	7	11925-	2	11935-	1	11970-	4	15130-	1	15235-	2	21745-	3				
WG(31)	6105-	1	6150-	17	7130-	6	7190-	2	11865-	1	11895-	1	15130-	1	15280-	1	15380-	1				
WI(399)	5955-	1	5970-	1	6010-	6	6015-	4	6070-	13	6085-	9	6090-	5	6095-	7	6105-	9	6125-	2		
	6140-	6	6150-	12	6170-	3	7105-	2	7120-	1	7155-	1	7180-	5	7210-	1	7230-	3	7245-	1		
	7255-	6	7270-	4	7280-	1	7295-	5	9505-	1	9520-	7	9555-	8	9565-	1	9585-	15	9625-	11		
	9635-	17	9660-	7	9680-	2	9725-	3	9750-	7	9770-	4	11705-	3	11710-	3	11725-	1	11740-	11		
	11760-	1	11770-	2	11805-	23	11825-	11	11835-	16	11875-	1	11915-	1	11935-	11	11970-	13	15115-	1		
	15120-	4	15225-	1	15235-	6	15245-	2	15280-	4	15290-	7	15340-	10	15370-	19	15380-	10	15415-	2		
	15445-	9	17725-	4	17750-	2	17760-	8	17855-	2	17865-	1	17885-	2	17895-	6	21455-	8	21510-	2		
	21520-	1																				
WL(11)	6095-	1	7280-	1	9675-	2	9715-	1	9725-	1	9770-	2	11845-	1	21745-	2						
WM(90)	7190-	1	7270-	14	7295-	8	9505-	1	9555-	2	9660-	1	9725-	5	9750-	2	11770-	2	11895-	14		
	11915-	12	11970-	6	15170-	5	17735-	1	21455-	4	21745-	12										
WQ(172)	5985-	27	5990-	4	6025-	2	6140-	1	6160-	4	6170-	2	6180-	1	7115-	27	7250-	4	9725-	68		
	11835-	2	11885-	2	11895-	17	11970-	1	15130-	2	15255-	1	15280-	1	15355-	3	15380-	1	21510-	1		
	21530-	1																				
WR(9)	7170-	3	7180-	1	7280-	1	9725-	1	11740-	1	11970-	1	15380-	1								
XD(8)	11710-	1	17760-	2	17855-	2	21520-	1	21745-	2												
XI(21)	6180-	2	7230-	1	7270-	1	7295-	1	9625-	1	11875-	1	15130-	1	15235-	2	15290-	1	15370-	1		
	15380-	1	17770-	1	17895-	5	21500-	1	21745-	1												
XN(22)	6025-	1	6140-	1	6150-	1	6160-	1	6170-	1	6180-	2	7120-	1	7295-	1	9555-	1	11710-	3		
	11835-	1	11885-	2	15125-	3	15340-	1	17770-	1	21455-	1										
XR(2)	9675-	2																				
XU(15)	6170-	1	7220-	5	9585-	1	11875-	6	11970-	2												
XW(15)	11885-	1	21455-	4	21510-	10																

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YU(   1)   9705-   1
Z2(  36)   9505-   2  9675-   1 11935-   3 15115-  14 17725-   3 17735-   1 21580-  12
Z3(  56)   6105-   3  6115-   6  7165-   1  9505-   2  9565-   1 11825-   1 15130-   1 15170-   1 15255-   3 17735-   1
          17770-   1 17835-  28 21530-   3 21720-   3 21745-   1
ZK(   2)  11805-   1 17805-   1
ZL(   5)   5970-   3  9520-   1  9675-   1
ZM(  58)   6170-   1  7165-   1  7180-   1  9520-   2  9770-   1 11740-   1 11770-   4 11875-   1 11885-  15 15130-   1
          15340-   3 15370-   1 17750-  10 21510-  16
ZT(  59)   9520-  21  9555-  25  9565-   1  9660-   2 11760-   2 11965-   3 15290-   1 15370-   3 17835-   1
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APPENDIX C: THE NUMBER OF INSTANCES A SPECIFIC MARKER IDENTIFIER WAS OBSERVED ON THE INDICATED FREQUENCY

C.2 GROUPED BY BROADCASTER - OCTOBER 1984

MARKERS DETECTED BY FREQUENCY OCTOBER 1984 for BROADCASTER BBC

5965(5)	4-LG	1-GM													
5990(20)	6-TU	5-KB	4-DA	3-**	1-AR	1-HP									
6010(12)	6-TK	4-TU	2-**												
6015(5)	4-TK	1-S5													
6070(37)	13-TK	6-**	4-4N	3-KB	3-UD	1-FG	1-FR	1-HP	1-M3	1-ML	1-PK	1-RB	1-WR		
6085(9)	5-TK	4-**													
6125(25)	7-IG	6-U7	5-TU	4-4N	2-TK	1-UN									
6140(13)	6-**	3-IN	2-U7	1-KU	1-TK										
6150(6)	3-U7	1-**	1-IG	1-ZT											
6180(3)	2-**	1-AG													
6195(3)	1-**	1-RB	1-TU												
7120(40)	19-TU	8-**	5-M3	2-B1	1-KU	1-RD	1-RT	1-S5	1-TK	1-XW					
7130(2)	1-MF	1-VG													
7155(9)	7-IG	2-SF													
7210(23)	18-FA	4-PB	1-TK												
7230(33)	11-**	5-FA	5-TU	4-RT	3-TK	2-M3	2-WA	1-BD							
7235(7)	5-D3	2-FA													
7260(13)	7-MF	3-D3	1-**	1-AG	1-P3										
7295(2)	1-**	1-P3													
9530(8)	4-U7	4-ZT													
9575(7)	4-WI	1-**	1-B1	1-XI											
9580(1)	1-RT														
9600(26)	20-TU	5-**	1-FL												
9635(38)	17-TK	2-**	2-KD	2-PD	2-SF	2-UA	1-BQ	1-BR	1-KM	1-LG	1-MF	1-PB	1-U7	1-WA	1-WQ
	1-WR	1-ZT													
9750(19)	6-**	4-KB	2-D3	2-TU	2-ZM	1-K3	1-MU	1-U7							
9760(1)	1-U7														
9770(31)	9-KB	4-TK	3-**	2-AK	2-KV	2-SU	2-WM	1-BQ	1-BR	1-IN	1-LG	1-M3	1-RT	1-WR	
9825(1)	1-**														
11780(28)	8-MU	5-FR	3-RT	3-WM	2-**	2-KD	2-VG	1-FU	1-IN	1-UA					
11795(10)	5-TU	1-**	1-FM	1-G7	1-IN	1-W1									
11845(58)	25-TU	10-**	5-WM	4-FR	3-RT	1-FG	1-FL	1-G7	1-KV	1-M3	1-ML	1-P3	1-PK	1-RV	1-WQ
	1-ZM														
11945(8)	4-DU	1-M3	1-PB	1-SG	1-WA										
11955(1)	1-**														
15225(2)	1-RT	1-TK													
15245(3)	2-TK	1-RT													
15390(10)	2-**	2-FL	2-TR	2-WI	1-IN	1-VF									
15435(7)	5-TU	1-**	1-KD												
17855(2)	1-BR	1-FR													
17865(1)	1-FR														

FREQUENCIES DETECTED FOR SPECIFIED MARKERS OCTOBER 1984 for BROADCASTER BBC

**(	81)	5990-	3	6010-	2	6070-	6	6085-	4	6140-	6	6150-	1	6180-	2	6195-	1	7120-	8	7230-	11
		7260-	1	7295-	1	9575-	1	9600-	5	9635-	2	9750-	6	9770-	3	9825-	1	11780-	2	11795-	1
		11845-	10	11955-	1	15390-	2	15435-	1												
4N(	8)	6070-	4	6125-	4																
AG(	2)	6180-	1	7260-	1																
AK(	2)	9770-	2																		
AR(	1)	5990-	1																		
B1(	3)	7120-	2	9575-	1																
BD(	1)	7230-	1																		
BQ(	2)	9635-	1	9770-	1																
BR(	3)	9635-	1	9770-	1	17855-	1														
D3(	10)	7235-	5	7260-	3	9750-	2														
DA(	4)	5990-	4																		
DU(	4)	11945-	4																		
FA(	25)	7210-	18	7230-	5	7235-	2														
FG(	2)	6070-	1	11845-	1																
FL(	4)	9600-	1	11845-	1	15390-	2														
FM(	1)	11795-	1																		
FR(	12)	6070-	1	11780-	5	11845-	4	17855-	1	17865-	1										
FU(	1)	11780-	1																		
G7(	2)	11795-	1	11845-	1																
GM(	1)	5965-	1																		
HP(	2)	5990-	1	6070-	1																
IG(	15)	6125-	7	6150-	1	7155-	7														
IN(	7)	6140-	3	9770-	1	11780-	1	11795-	1	15390-	1										
K3(	1)	9750-	1																		
KB(	21)	5990-	5	6070-	3	9750-	4	9770-	9												
KD(	5)	9635-	2	11780-	2	15435-	1														
KM(	1)	9635-	1																		
KU(	2)	6140-	1	7120-	1																
KV(	3)	9770-	2	11845-	1																
LG(	6)	5965-	4	9635-	1	9770-	1														
M3(	11)	6070-	1	7120-	5	7230-	2	9770-	1	11845-	1	11945-	1								
MF(	9)	7130-	1	7260-	7	9635-	1														
ML(	2)	6070-	1	11845-	1																
MU(	9)	9750-	1	11780-	8																
P3(	3)	7260-	1	7295-	1	11845-	1														
PB(	6)	7210-	4	9635-	1	11945-	1														
PD(	2)	9635-	2																		
PK(	2)	6070-	1	11845-	1																
RB(	2)	6070-	1	6195-	1																
RD(	1)	7120-	1																		
RT(	15)	7120-	1	7230-	4	9580-	1	9770-	1	11780-	3	11845-	3	15225-	1	15245-	1				
RV(	1)	11845-	1																		
S5(	2)	6015-	1	7120-	1																

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SF(  4)   7155-  2  9635-  2
SG(  1)  11945-  1
SU(  2)   9770-  2
TK( 60)   6010-  6  6015-  4  6070- 13  6085-  5  6125-  2  6140-  1  7120-  1  7210-  1  7230-  3  9635- 17
          9770-  4 15225-  1 15245-  2
TR(  2)  15390-  2
TU( 97)   5990-  6  6010-  4  6125-  5  6195-  1  7120- 19  7230-  5  9600- 20  9750-  2 11795-  5 11845- 25
         15435-  5
U7( 18)   6125-  6  6140-  2  6150-  3  9530-  4  9635-  1  9750-  1  9760-  1
UA(  3)   9635-  2 11780-  1
UD(  3)   6070-  3
UN(  1)   6125-  1
VF(  1)  15390-  1
VG(  3)   7130-  1 11780-  2
W1(  1)  11795-  1
WA(  4)   7230-  2  9635-  1 11945-  1
WI(  6)   9575-  4 15390-  2
WM( 10)   9770-  2 11780-  3 11845-  5
WQ(  2)   9635-  1 11845-  1
WR(  3)   6070-  1  9635-  1  9770-  1
XI(  1)   9575-  1
XW(  1)   7120-  1
ZM(  3)   9750-  2 11845-  1
ZT(  6)   6150-  1  9530-  4  9635-  1
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MARKERS DETECTED BY FREQUENCY OCTOBER 1984 for BROADCASTER VOA

5955(27)	13-IG	6-GI	5-**	1-GU	1-U7	1-ZT									
5985(9)	4-VI	2-IG	2-Z3	1-F9											
6015(1)	1-HP														
6020(14)	5-WM	3-IN	3-TU	2-SG	1-KB										
6025(37)	17-TU	4-RT	3-**	3-RD	2-DA	2-FL	2-MF	1-G7	1-KU	1-LK	1-SF				
6060(56)	15-MF	11-IG	5-4N	5-U7	5-ZT	4-**	3-SM	3-UN	1-GI	1-GU	1-MP	1-PK	1-Z3		
6080(5)	2-U7	1-FL	1-Z3	1-ZT											
6085(19)	4-TK	4-WM	3-**	3-KB	1-4N	1-FL	1-TU	1-WR	1-XW						
6090(32)	10-TU	5-**	5-MF	5-TK	3-CB	1-FG	1-IN	1-KB	1-PB						
6095(29)	7-TK	7-TU	3-KB	3-WM	2-**	2-KD	2-LM	1-AK	1-KV	1-PK					
6105(2)	1-**	1-FL													
6125(28)	8-KB	4-IN	4-WM	3-FR	2-**	2-ZM	1-BQ	1-BR	1-GR	1-LF	1-Z3				
6130(1)	1-U7														
6140(42)	7-**	6-TU	5-CB	5-TK	4-KB	3-LK	3-RD	1-4N	1-DA	1-FR	1-MF	1-RL	1-W1	1-WM	1-XU
	1-ZM														
6150(76)	17-BA	12-TK	11-KB	9-**	6-IG	4-SM	4-U7	3-ST	3-TU	2-FM	2-MF	1-KU	1-RT	1-ZM	
6160(156)	41-LK	25-SM	19-IG	13-**	13-U7	12-GI	8-KB	4-DA	4-MF	3-FR	2-GS	2-LM	2-WM	2-ZT	1-BU
	1-G7	1-KU	1-TU	1-WL	1-ZM										
6180(40)	14-4F	5-IN	4-**	4-FG	3-LK	3-MF	2-BD	2-KU	1-DA	1-LG	1-ZM				
6185(1)	1-**														
7105(27)	8-**	5-TU	3-ZM	2-BQ	2-TK	1-B1	1-BR	1-FG	1-FL	1-HP	1-KB	1-ST			
7120(1)	1-PK														
7130(38)	23-U7	6-BA	5-**	4-PB											
7140(3)	1-AK	1-P3	1-WQ												
7170(71)	32-TU	21-**	6-KM	3-S8	2-KB	2-WR	1-BR	1-KD	1-M3	1-PK	1-WA				
7180(57)	16-LK	12-TU	7-KB	5-TK	4-**	3-ZT	2-1G	2-M3	2-WR	1-L2	1-PB	1-S8	1-ZM		
7190(9)	5-**	1-KD	1-LK	1-MU	1-ZM										
7210(2)	1-MF	1-U7													
7245(28)	12-GI	5-SF	3-**	3-GU	2-KB	1-BU	1-LF	1-XN							
7270(124)	19-**	14-NS	12-MF	9-VG	8-F2	5-BR	5-FU	5-IN	5-RT	4-FG	4-TK	3-KB	3-M3	2-BQ	2-GU
	2-LK	2-MU	2-UN	2-WA	1-AG	1-AK	1-B1	1-BD	1-BG	1-KD	1-L2	1-PB	1-R9	1-SU	1-TU
	1-UA	1-WQ	1-XW	1-Z3	1-ZM										
7280(34)	13-**	6-KB	2-FU	2-TU	1-1G	1-B1	1-KD	1-KV	1-PB	1-RL	1-S8	1-TK	1-UM	1-WA	1-WQ
9530(78)	29-SU	11-IG	9-PB	7-**	4-B1	4-KB	3-R9	2-4N	2-RV	2-WA	1-BG	1-DN	1-F2	1-GI	1-VI
9540(24)	10-WI	8-**	4-TR	2-D3											
9555(21)	7-**	4-TK	3-VN	1-AG	1-FG	1-G7	1-GM	1-IN	1-KU	1-RT					
9585(95)	33-KD	15-TK	14-TU	11-KB	9-**	4-PB	2-IN	1-B1	1-CB	1-DP	1-G7	1-RD	1-VN	1-Z3	
9605(9)	7-LK	1-D3	1-TR												
9615(6)	2-MP	2-U7	1-SG	1-TR											
9635(7)	5-LK	1-**	1-U7												
9645(27)	15-WI	10-**	2-TR												
9650(27)	16-WI	6-TR	4-**	1-TU											
9660(51)	20-KB	11-B1	6-TU	5-**	3-WA	2-IG	2-KM	1-BG	1-GS						
9670(1)	1-WQ														
9675(18)	6-WA	2-**	2-BN	2-KV	1-AD	1-M3	1-ML	1-UM	1-VI	1-WR					

9690(11)	11-**															
9715(20)	9-TU	4-R9	2-**	1-AK	1-BG	1-KB	1-KV	1-RT								
9735(33)	20-MF	7-**	2-XU	1-B1	1-FM	1-GJ	1-UN									
9740(4)	2-**	1-1G	1-WQ													
9750(8)	3-TK	2-**	2-DM	1-DR												
9760(24)	8-B1	7-FA	6-KD	2-**	1-TU											
9770(23)	5-BG	4-**	4-VI	2-GJ	2-SF	1-B1	1-HM	1-IN	1-R7	1-RT	1-ZM					
11705(23)	8-RD	5-G7	3-**	3-TK	1-4N	1-IN	1-M3	1-TU								
11710(122)	49-**	15-TU	8-WI	6-GI	6-TR	4-D3	4-KD	3-KB	3-KU	3-TK	2-4N	2-DU	2-FM	2-MF	2-RL	
	2-WM	1-AR	1-BG	1-F9	1-G1	1-G7	1-IN	1-MU	1-S5	1-UN						
11740(51)	11-TK	9-**	8-4F	6-TU	5-RT	4-KB	2-K3	1-4N	1-F2	1-HM	1-KD	1-S8	1-Z3			
11760(27)	6-PB	5-WA	4-DN	2-AN	2-MP	2-MU	2-R9	1-**	1-B1	1-M3	1-TK					
11805(65)	23-TK	14-**	5-FG	5-FR	4-G7	3-WM	2-WQ	1-4N	1-BR	1-DR	1-GI	1-GM	1-HP	1-RL	1-WA	
	1-WR															
11835(95)	23-**	16-TK	10-WQ	6-G7	5-BG	4-MP	3-FG	3-HP	3-ML	3-WM	2-BR	2-DA	1-1G	1-4N	1-AK	
	1-AR	1-FM	1-FU	1-GR	1-KD	1-KU	1-LG	1-MF	1-RT	1-TU	1-WA	1-ZM				
11845(3)	3-4N															
11850(6)	3-**	2-PB	1-MP													
11865(36)	14-UA	10-CB	2-**	2-FM	2-TU	2-XN	1-AG	1-BA	1-GJ	1-IF						
11925(17)	3-**	3-MP	2-BQ	2-FG	2-KB	1-BG	1-R9	1-RT	1-S5	1-US						
11930(31)	12-LK	11-PB	4-**	1-M3	1-ML	1-WA	1-WQ									
11945(6)	3-**	2-WA	1-WR													
11960(60)	18-MU	10-TU	9-**	5-PA	4-MP	3-UN	2-FR	2-LM	2-WM	1-4N	1-G7	1-M3	1-RT	1-XN		
11965(14)	4-4F	3-AN	2-**	1-1G	1-IG	1-M3	1-WA	1-WQ								
15120(28)	6-MG	5-**	4-TK	3-IN	2-4F	2-KB	2-VN	1-BR	1-G7	1-PK	1-RT					
15195(2)	2-MG															
15225(44)	25-MU	7-TU	4-**	2-WA	1-GR	1-IN	1-MG	1-PD	1-R7	1-Z3						
15235(71)	20-TU	11-SU	6-GI	6-TK	5-**	5-KB	3-BR	3-RT	2-BD	2-FG	2-R9	1-BL	1-G7	1-GJ	1-MP	
	1-RD	1-UM														
15270(43)	21-MU	13-CB	3-**	2-HP	1-BL	1-F9	1-TU	1-XN								
15280(23)	6-**	4-TK	3-BR	1-BA	1-BQ	1-DA	1-FR	1-GR	1-KB	1-LM	1-MF	1-R9	1-UD			
15325(15)	4-F9	3-BL	2-**	1-AG	1-BG	1-M3	1-MP	1-PB	1-UB							
15410(5)	1-**	1-MP	1-PB	1-VU	1-XW											
15415(8)	3-4F	2-TK	1-**	1-PK	1-ZM											
15430(20)	14-CA	2-PB	1-**	1-PM	1-RV	1-XI										
17740(2)	1-**	1-LG														
17780(9)	3-**	2-BQ	2-RT	1-KB	1-ZM											
17800(1)	1-**															
17855(57)	12-SU	8-TU	6-**	4-FL	3-AG	3-BQ	3-Z3	2-BR	2-DM	2-G1	2-LG	2-R7	2-RT	2-TK	1-DL	
	1-G7	1-IG	1-UD													
17865(20)	5-SU	4-B1	4-TU	4-Z3	2-BR	1-ZM										
21500(6)	2-BQ	2-K3	1-**	1-BD												
21520(8)	4-**	1-F9	1-G1	1-PK	1-TK											
21570(5)	2-**	2-BQ	1-Z3													

FREQUENCIES DETECTED FOR SPECIFIED MARKERS OCTOBER 1984 for BROADCASTER VOA

**(391)	5955-	5	6025-	3	6060-	4	6085-	3	6090-	5	6095-	2	6105-	1	6125-	2	6140-	7	6150-	9
	6160-	13	6180-	4	6185-	1	7105-	8	7130-	5	7170-	21	7180-	4	7190-	5	7245-	3	7270-	19
	7280-	13	9530-	7	9540-	8	9555-	7	9585-	9	9635-	1	9645-	10	9650-	4	9660-	5	9675-	2
	9690-	11	9715-	2	9735-	7	9740-	2	9750-	2	9760-	2	9770-	4	11705-	3	11710-	49	11740-	9
	11760-	1	11805-	14	11835-	23	11850-	3	11865-	2	11925-	3	11930-	4	11945-	3	11960-	9	11965-	2
	15120-	5	15225-	4	15235-	5	15270-	3	15280-	6	15325-	2	15410-	1	15415-	1	15430-	1	17740-	1
	17780-	3	17800-	1	17855-	6	21500-	1	21520-	4	21570-	2								
1G(6)	7180-	2	7280-	1	9740-	1	11835-	1	11965-	1										
4F(31)	6180-	14	11740-	8	11965-	4	15120-	2	15415-	3										
4N(19)	6060-	5	6085-	1	6140-	1	9530-	2	11705-	1	11710-	2	11740-	1	11805-	1	11835-	1	11845-	3
	11960-	1																		
AD(1)	9675-	1																		
AG(7)	7270-	1	9555-	1	11865-	1	15325-	1	17855-	3										
AK(5)	6095-	1	7140-	1	7270-	1	9715-	1	11835-	1										
AN(5)	11760-	2	11965-	3																
AR(2)	11710-	1	11835-	1																
B1(34)	7105-	1	7270-	1	7280-	1	9530-	4	9585-	1	9660-	11	9735-	1	9760-	8	9770-	1	11760-	1
	17865-	4																		
BA(25)	6150-	17	7130-	6	11865-	1	15280-	1												
BD(6)	6180-	2	7270-	1	15235-	2	21500-	1												
BG(17)	7270-	1	9530-	1	9660-	1	9715-	1	9770-	5	11710-	1	11835-	5	11925-	1	15325-	1		
BL(5)	15235-	1	15270-	1	15325-	3														
BN(2)	9675-	2																		
BQ(17)	6125-	1	7105-	2	7270-	2	11925-	2	15280-	1	17780-	2	17855-	3	21500-	2	21570-	2		
BR(22)	6125-	1	7105-	1	7170-	1	7270-	5	11805-	1	11835-	2	15120-	1	15235-	3	15280-	3	17855-	2
	17865-	2																		
BU(2)	6160-	1	7245-	1																
CA(14)	15430-	14																		
CB(32)	6090-	3	6140-	5	9585-	1	11865-	10	15270-	13										
D3(7)	9540-	2	9605-	1	11710-	4														
DA(11)	6025-	2	6140-	1	6160-	4	6180-	1	11835-	2	15280-	1								
DL(1)	17855-	1																		
DM(4)	9750-	2	17855-	2																
DN(5)	9530-	1	11760-	4																
DP(1)	9585-	1																		
DR(2)	9750-	1	11805-	1																
DU(2)	11710-	2																		
F2(10)	7270-	8	9530-	1	11740-	1														
F9(8)	5985-	1	11710-	1	15270-	1	15325-	4	21520-	1										
FA(7)	9760-	7																		
FG(23)	6090-	1	6180-	4	7105-	1	7270-	4	9555-	1	11805-	5	11835-	3	11925-	2	15235-	2		
FL(10)	6025-	2	6080-	1	6085-	1	6105-	1	7105-	1	17855-	4								
FM(8)	6150-	2	9735-	1	11710-	2	11835-	1	11865-	2										
FR(15)	6125-	3	6140-	1	6160-	3	11805-	5	11960-	2	15280-	1								
FU(8)	7270-	5	7280-	2	11835-	1														

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G1(  4)  11710-  1 17855-  2 21520-  1
G7( 24)   6025-  1  6160-  1  9555-  1  9585-  1 11705-  5 11710-  1 11805-  4 11835-  6 11960-  1 15120-  1
         15235-  1 17855-  1
GI( 45)   5955-  6  6060-  1  6160- 12  7245- 12  9530-  1 11710-  6 11805-  1 15235-  6
GJ(  5)   9735-  1  9770-  2 11865-  1 15235-  1
GM(  2)   9555-  1 11805-  1
GR(  4)   6125-  1 11835-  1 15225-  1 15280-  1
GS(  3)   6160-  2  9660-  1
GU(  7)   5955-  1  6060-  1  7245-  3  7270-  2
HM(  2)   9770-  1 11740-  1
HP(  8)   6015-  1  7105-  1 11805-  1 11835-  3 15270-  2
IF(  1)  11865-  1
IG( 66)   5955- 13  5985-  2  6060- 11  6150-  6  6160- 19  9530- 11  9660-  2 11965-  1 17855-  1
IN( 28)   6020-  3  6090-  1  6125-  4  6180-  5  7270-  5  9555-  1  9585-  2  9770-  1 11705-  1 11710-  1
         15120-  3 15225-  1
K3(  4)  11740-  2 21500-  2
KB(114)   6020-  1  6085-  3  6090-  1  6095-  3  6125-  8  6140-  4  6150- 11  6160-  8  7105-  1  7170-  2
          7180-  7  7245-  2  7270-  3  7280-  6  9530-  4  9585- 11  9660- 20  9715-  1 11710-  3 11740-  4
         11925-  2 15120-  2 15235-  5 15280-  1 17780-  1
KD( 51)   6095-  2  7170-  1  7190-  1  7270-  1  7280-  1  9585- 33  9760-  6 11710-  4 11740-  1 11835-  1
KM(  8)   7170-  6  9660-  2
KU( 10)   6025-  1  6150-  1  6160-  1  6180-  2  9555-  1 11710-  3 11835-  1
KV(  5)   6095-  1  7280-  1  9675-  2  9715-  1
L2(  2)   7180-  1  7270-  1
LF(  2)   6125-  1  7245-  1
LG(  5)   6180-  1 11835-  1 17740-  1 17855-  2
LK( 91)   6025-  1  6140-  3  6160- 41  6180-  3  7180- 16  7190-  1  7270-  2  9605-  7  9635-  5 11930- 12
LM(  7)   6095-  2  6160-  2 11960-  2 15280-  1
M3( 13)   7170-  1  7180-  2  7270-  3  9675-  1 11705-  1 11760-  1 11930-  1 11960-  1 11965-  1 15325-  1
MF( 69)   6025-  2  6060- 15  6090-  5  6140-  1  6150-  2  6160-  4  6180-  3  7210-  1  7270- 12  9735- 20
         11710-  2 11835-  1 15280-  1
MG(  9)  15120-  6 15195-  2 15225-  1
ML(  5)   9675-  1 11835-  3 11930-  1
MP( 20)   6060-  1  9615-  2 11760-  2 11835-  4 11850-  1 11925-  3 11960-  4 15235-  1 15325-  1 15410-  1
MU( 70)   7190-  1  7270-  2 11710-  1 11760-  2 11960- 18 15225- 25 15270- 21
NS( 14)   7270- 14
P3(  1)   7140-  1
PA(  5)  11960-  5
PB( 44)   6090-  1  7130-  4  7180-  1  7270-  1  7280-  1  9530-  9  9585-  4 11760-  6 11850-  2 11930- 11
         15325-  1 15410-  1 15430-  2
PD(  1)  15225-  1
PK(  7)   6060-  1  6095-  1  7120-  1  7170-  1 15120-  1 15415-  1 21520-  1
PM(  1)  15430-  1
R7(  4)   9770-  1 15225-  1 17855-  2
R9( 14)   7270-  1  9530-  3  9715-  4 11760-  2 11925-  1 15235-  2 15280-  1
RD( 16)   6025-  3  6140-  3  9585-  1 11705-  8 15235-  1
RL(  5)   6140-  1  7280-  1 11710-  2 11805-  1
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RT(29)	6025-	4	6150-	1	7270-	5	9555-	1	9715-	1	9770-	1	11740-	5	11835-	1	11925-	1	11960-	1				
	15120-	1	15235-	3	17780-	2	17855-	2																
RV(3)	9530-	2	15430-	1																				
S5(2)	11710-	1	11925-	1																				
S8(6)	7170-	3	7180-	1	7280-	1	11740-	1																
SF(8)	6025-	1	7245-	5	9770-	2																		
SG(3)	6020-	2	9615-	1																				
SM(32)	6060-	3	6150-	4	6160-	25																		
ST(4)	6150-	3	7105-	1																				
SU(58)	7270-	1	9530-	29	15235-	11	17855-	12	17865-	5														
TK(143)	6085-	4	6090-	5	6095-	7	6140-	5	6150-	12	7105-	2	7180-	5	7270-	4	7280-	1	9555-	4				
	9585-	15	9750-	3	11705-	3	11710-	3	11740-	11	11760-	1	11805-	23	11835-	16	15120-	4	15235-	6				
	15280-	4	15415-	2	17855-	2	21520-	1																
TR(20)	9540-	4	9605-	1	9615-	1	9645-	2	9650-	6	11710-	6												
TU(206)	6020-	3	6025-	17	6085-	1	6090-	10	6095-	7	6140-	6	6150-	3	6160-	1	7105-	5	7170-	32				
	7180-	12	7270-	1	7280-	2	9585-	14	9650-	1	9660-	6	9715-	9	9760-	1	11705-	1	11710-	15				
	11740-	6	11835-	1	11865-	2	11960-	10	15225-	7	15235-	20	15270-	1	17855-	8	17865-	4						
U7(53)	5955-	1	6060-	5	6080-	2	6130-	1	6150-	4	6160-	13	7130-	23	7210-	1	9615-	2	9635-	1				
UA(15)	7270-	1	11865-	14																				
UB(1)	15325-	1																						
UD(2)	15280-	1	17855-	1																				
UM(3)	7280-	1	9675-	1	15235-	1																		
UN(10)	6060-	3	7270-	2	9735-	1	11710-	1	11960-	3														
US(1)	11925-	1																						
VG(9)	7270-	9																						
VI(10)	5985-	4	9530-	1	9675-	1	9770-	4																
VN(6)	9555-	3	9585-	1	15120-	2																		
VU(1)	15410-	1																						
W1(1)	6140-	1																						
WA(28)	7170-	1	7270-	2	7280-	1	9530-	2	9660-	3	9675-	6	11760-	5	11805-	1	11835-	1	11930-	1				
	11945-	2	11965-	1	15225-	2																		
WI(49)	9540-	10	9645-	15	9650-	16	11710-	8																
WL(1)	6160-	1																						
WM(29)	6020-	5	6085-	4	6095-	3	6125-	4	6140-	1	6160-	2	11710-	2	11805-	3	11835-	3	11960-	2				
WQ(19)	7140-	1	7270-	1	7280-	1	9670-	1	9740-	1	11805-	2	11835-	10	11930-	1	11965-	1						
WR(8)	6085-	1	7170-	2	7180-	2	9675-	1	11805-	1	11945-	1												
XI(1)	15430-	1																						
XN(5)	7245-	1	11865-	2	11960-	1	15270-	1																
XU(3)	6140-	1	9735-	2																				
XW(3)	6085-	1	7270-	1	15410-	1																		
Z3(17)	5985-	2	6060-	1	6080-	1	6125-	1	7270-	1	9585-	1	11740-	1	15225-	1	17855-	3	17865-	4				
	21570-	1																						
ZM(17)	6125-	2	6140-	1	6150-	1	6160-	1	6180-	1	7105-	3	7180-	1	7190-	1	7270-	1	9770-	1				
	11835-	1	15415-	1	17780-	1	17865-	1																
ZT(12)	5955-	1	6060-	5	6080-	1	6160-	2	7180-	3														

MARKERS DETECTED BY FREQUENCY OCTOBER 1984 for BROADCASTER RFE

5955(79)	35-LK	13-SF	8-GM	6-**	4-DR	4-TU	2-4F	2-4N	2-PD	1-GS	1-IG	1-RT			
5970(185)	71-IG	26-GI	21-U7	12-D3	12-TU	11-**	11-ZT	9-MF	8-GU	1-KD	1-PB	1-SM	1-TK		
5985(41)	27-DA	4-GU	3-**	3-TU	2-AG	1-BR	1-LK								
6105(72)	26-W1	10-MS	8-**	8-P3	6-MF	4-TU	3-MI	2-TK	1-1F	1-BA	1-LM	1-UN	1-US		
6115(50)	16-P3	8-**	7-MS	7-W1	6-DR	6-MI									
6170(29)	7-MF	6-GM	4-**	2-KB	2-TU	2-XN	1-DP	1-FR	1-KF	1-RD	1-UN	1-XU			
7115(45)	27-DA	5-GI	4-CA	2-**	2-GL	2-TU	1-P3	1-PB	1-WA						
7155(79)	35-**	8-B1	8-GI	6-UN	5-LF	4-MF	3-DR	3-GS	2-4N	1-AR	1-RV	1-SF	1-TK	1-VG	
7165(30)	7-LK	6-MS	5-BQ	5-P3	3-BG	1-GL	1-HM	1-MI	1-TU						
7180(32)	9-DR	9-TU	4-**	4-4F	2-LK	1-HM	1-MU	1-PD	1-XU						
7190(330)	94-MF	92-LK	70-IG	21-**	15-D3	13-TU	13-U7	3-PB	2-SF	1-B9	1-BA	1-FG	1-NS	1-SU	1-VN
	1-XI														
7255(35)	15-P3	7-SF	6-**	5-MS	1-PD	1-VG									
9505(86)	15-GI	11-**	9-SU	7-SF	6-GM	5-4N	5-CB	5-GS	4-UA	3-LG	3-MU	3-TU	2-MI	2-MS	1-DR
	1-KD	1-LK	1-NS	1-R7	1-UN										
9555(164)	62-KD	20-AN	20-SU	13-**	6-B1	6-FA	5-PB	5-WA	4-LF	4-TU	3-DR	3-KB	2-AG	2-CB	2-MU
	2-TK	1-IN	1-LG	1-MS	1-RL	1-VG									
9565(14)	6-**	2-MU	1-AN	1-KB	1-MS	1-P3	1-R9	1-WI							
9595(10)	6-**	3-CB	1-AS												
9680(39)	16-SU	7-CB	4-**	4-LG	3-GJ	2-TK	1-KD	1-MP	1-MS						
9695(4)	3-**	1-1G													
9705(327)	103-D3	67-**	59-LK	32-U7	17-DU	12-UN	10-GI	8-WI	5-TR	4-KM	2-GR	1-F2	1-K8	1-MF	1-MU
	1-PB	1-PK	1-SU	1-ZT											
9725(185)	68-DA	30-**	19-SF	14-R9	9-MF	7-P3	5-KM	4-WA	3-TK	3-WQ	3-WR	2-1G	2-GL	2-ML	2-MU
	2-PB	2-VG	1-B1	1-FG	1-KV	1-M3	1-N7	1-NS	1-PK	1-S8					
11725(384)	100-**	61-D3	56-U7	32-MF	30-GI	18-TR	18-WI	15-MU	12-UR	9-DU	9-KB	6-VI	2-IN	2-KD	2-PB
	2-RB	1-4F	1-AR	1-CB	1-GU	1-K3	1-S5	1-SG	1-TK	1-VF	1-WM				
11815(7)	4-**	3-TU													
11825(110)	45-KD	20-P3	14-**	11-TK	4-PD	4-SU	2-AS	2-CB	1-GL	1-GM	1-GS	1-GU	1-MI	1-MS	1-MX
	1-TU														
11855(64)	16-KD	12-PD	9-P3	8-**	7-VG	4-LK	2-IG	1-AS	1-GL	1-GU	1-MP	1-MS	1-PB		
11895(39)	17-DA	8-NS	5-**	4-AG	4-W1	1-4F									
11935(18)	5-WM	3-**	3-DR	3-TU	2-FL	1-KB	1-R7								
11970(41)	12-DR	7-TK	5-VI	4-**	4-CB	4-LM	2-DP	2-PA	1-US						
15115(31)	21-**	4-SU	3-UA	1-4N	1-IN	1-TK									
15125(11)	4-**	3-KU	2-BR	1-FR	1-TU										
15130(53)	24-TU	8-MS	5-MU	4-**	2-DR	2-IN	1-BD	1-HM	1-IR	1-KB	1-R9	1-SU	1-UN	1-Z3	
15145(178)	69-WI	51-**	24-DU	4-SG	4-TR	4-UN	4-UR	4-VF	3-BL	3-D3	2-LF	1-IN	1-K3	1-M3	1-MU
	1-TU	1-VI													
15170(135)	59-SF	26-UA	12-**	11-P3	11-SU	5-NS	3-VG	2-KD	1-4F	1-GL	1-MI	1-MS	1-PK	1-Z3	
15215(10)	4-SF	2-TU	1-GL	1-KM	1-MX	1-P3									
15255(165)	94-R9	27-PD	13-P3	8-UA	7-MS	3-**	3-MI	2-IR	2-TU	1-AS	1-DA	1-KD	1-MX	1-SF	1-US
15355(12)	3-DA	1-AD	1-AG	1-BQ	1-CB	1-F9	1-FL	1-LG	1-R9	1-RT					
17725(25)	8-**	4-LG	2-KB	2-TK	1-4N	1-B1	1-BQ	1-IN	1-PK	1-UA	1-US	1-WQ	1-ZM		
17735(74)	28-WI	15-**	12-TR	6-VG	3-DU	3-MX	2-TU	1-IN	1-LG	1-MI	1-NS	1-R9			

17805(150)	84-WI	22-**	16-DU	9-KD	9-TR	3-GR	3-SG	3-VF	1-VG
17835(38)	28-MI	7-**	1-AN	1-TU	1-US				
17865(3)	1-SU	1-TK	1-TU						
21530(7)	3-MI	2-MX	1-**	1-DA					
21665(49)	21-TR	15-**	5-DU	2-CB	2-SG	2-WI	1-BL	1-TU	
21720(10)	3-**	3-MI	3-MX	1-S5					
21745(6)	2-UD	1-IN	1-KB	1-RB	1-US				

FREQUENCIES DETECTED FOR SPECIFIED MARKERS OCTOBER 1984 for BROADCASTER RFE

**(552)	5955-	6	5970-	11	5985-	3	6105-	8	6115-	8	6170-	4	7115-	2	7155-	35	7180-	4	7190-	21	
	7255-	6	9505-	11	9555-	13	9565-	6	9595-	6	9680-	4	9695-	3	9705-	67	9725-	30	11725-	100	
	11815-	4	11825-	14	11855-	8	11895-	5	11935-	3	11970-	4	15115-	21	15125-	4	15130-	4	15145-	51	
	15170-	12	15255-	3	17725-	8	17735-	15	17805-	22	17835-	7	21530-	1	21665-	15	21720-	3			
1F(1)	6105-	1																			
1G(3)	9695-	1	9725-	2																	
4F(9)	5955-	2	7180-	4	11725-	1	11895-	1	15170-	1											
4N(11)	5955-	2	7155-	2	9505-	5	15115-	1	17725-	1											
AD(1)	15355-	1																			
AG(9)	5985-	2	9555-	2	11895-	4	15355-	1													
AN(22)	9555-	20	9565-	1	17835-	1															
AR(2)	7155-	1	11725-	1																	
AS(5)	9595-	1	11825-	2	11855-	1	15255-	1													
B1(16)	7155-	8	9555-	6	9725-	1	17725-	1													
B9(1)	7190-	1																			
BA(2)	6105-	1	7190-	1																	
BD(1)	15130-	1																			
BG(3)	7165-	3																			
BL(4)	15145-	3	21665-	1																	
BQ(7)	7165-	5	15355-	1	17725-	1															
BR(3)	5985-	1	15125-	2																	
CA(4)	7115-	4																			
CB(27)	9505-	5	9555-	2	9595-	3	9680-	7	11725-	1	11825-	2	11970-	4	15355-	1	21665-	2			
D3(194)	5970-	12	7190-	15	9705-	103	11725-	61	15145-	3											
DA(144)	5985-	27	7115-	27	9725-	68	11895-	17	15255-	1	15355-	3	21530-	1							
DP(3)	6170-	1	11970-	2																	
DR(43)	5955-	4	6115-	6	7155-	3	7180-	9	9505-	1	9555-	3	11935-	3	11970-	12	15130-	2			
DU(74)	9705-	17	11725-	9	15145-	24	17735-	3	17805-	16	21665-	5									
F2(1)	9705-	1																			
F9(1)	15355-	1																			
FA(6)	9555-	6																			
FG(2)	7190-	1	9725-	1																	
FL(3)	11935-	2	15355-	1																	
FR(2)	6170-	1	15125-	1																	
GI(94)	5970-	26	7115-	5	7155-	8	9505-	15	9705-	10	11725-	30									
GJ(3)	9680-	3																			
GL(9)	7115-	2	7165-	1	9725-	2	11825-	1	11855-	1	15170-	1	15215-	1							
GM(21)	5955-	8	6170-	6	9505-	6	11825-	1													
GR(5)	9705-	2	17805-	3																	
GS(10)	5955-	1	7155-	3	9505-	5	11825-	1													
GU(15)	5970-	8	5985-	4	11725-	1	11825-	1	11855-	1											
HM(3)	7165-	1	7180-	1	15130-	1															
IG(144)	5955-	1	5970-	71	7190-	70	11855-	2													
IN(10)	9555-	1	11725-	2	15115-	1	15130-	2	15145-	1	17725-	1	17735-	1	21745-	1					
IR(3)	15130-	1	15255-	2																	
K3(2)	11725-	1	15145-	1																	

K8(1)	9705- 1									
KB(20)	6170- 2	9555- 3	9565- 1	11725- 9	11935- 1	15130- 1	17725- 2	21745- 1		
KD(140)	5970- 1	9505- 1	9555- 62	9680- 1	11725- 2	11825- 45	11855- 16	15170- 2	15255- 1	17805- 9
KF(1)	6170- 1									
KM(10)	9705- 4	9725- 5	15215- 1							
KU(3)	15125- 3									
KV(1)	9725- 1									
LF(11)	7155- 5	9555- 4	15145- 2							
LG(14)	9505- 3	9555- 1	9680- 4	15355- 1	17725- 4	17735- 1				
LK(201)	5955- 35	5985- 1	7165- 7	7180- 2	7190- 92	9505- 1	9705- 59	11855- 4		
LM(5)	6105- 1	11970- 4								
M3(2)	9725- 1	15145- 1								
MF(162)	5970- 9	6105- 6	6170- 7	7155- 4	7190- 94	9705- 1	9725- 9	11725- 32		
MI(52)	6105- 3	6115- 6	7165- 1	9505- 2	11825- 1	15170- 1	15255- 3	17735- 1	17835- 28	21530- 3
	21720- 3									
ML(2)	9725- 2									
MP(2)	9680- 1	11855- 1								
MS(51)	6105- 10	6115- 7	7165- 6	7255- 5	9505- 2	9555- 1	9565- 1	9680- 1	11825- 1	11855- 1
	15130- 8	15170- 1	15255- 7							
MU(32)	7180- 1	9505- 3	9555- 2	9565- 2	9705- 1	9725- 2	11725- 15	15130- 5	15145- 1	
MX(11)	11825- 1	15215- 1	15255- 1	17735- 3	21530- 2	21720- 3				
N7(1)	9725- 1									
NS(17)	7190- 1	9505- 1	9725- 1	11895- 8	15170- 5	17735- 1				
P3(107)	6105- 8	6115- 16	7115- 1	7165- 5	7255- 15	9565- 1	9725- 7	11825- 20	11855- 9	15170- 11
	15215- 1	15255- 13								
PA(2)	11970- 2									
PB(16)	5970- 1	7115- 1	7190- 3	9555- 5	9705- 1	9725- 2	11725- 2	11855- 1		
PD(47)	5955- 2	7180- 1	7255- 1	11825- 4	11855- 12	15255- 27				
PK(4)	9705- 1	9725- 1	15170- 1	17725- 1						
R7(2)	9505- 1	11935- 1								
R9(112)	9565- 1	9725- 14	15130- 1	15255- 94	15355- 1	17735- 1				
RB(3)	11725- 2	21745- 1								
RD(1)	6170- 1									
RL(1)	9555- 1									
RT(2)	5955- 1	15355- 1								
RV(1)	7155- 1									
S5(2)	11725- 1	21720- 1								
S8(1)	9725- 1									
SF(113)	5955- 13	7155- 1	7190- 2	7255- 7	9505- 7	9725- 19	15170- 59	15215- 4	15255- 1	
SG(10)	11725- 1	15145- 4	17805- 3	21665- 2						
SM(1)	5970- 1									
SU(68)	7190- 1	9505- 9	9555- 20	9680- 16	9705- 1	11825- 4	15115- 4	15130- 1	15170- 11	17865- 1
TK(34)	5970- 1	6105- 2	7155- 1	9555- 2	9680- 2	9725- 3	11725- 1	11825- 11	11970- 7	15115- 1
	17725- 2	17865- 1								
TR(69)	9705- 5	11725- 18	15145- 4	17735- 12	17805- 9	21665- 21				

TU(99)	5955-	4	5970-	12	5985-	3	6105-	4	6170-	2	7115-	2	7165-	1	7180-	9	7190-	13	9505-	3
	9555-	4	11815-	3	11825-	1	11935-	3	15125-	1	15130-	24	15145-	1	15215-	2	15255-	2	17735-	2
	17835-	1	17865-	1	21665-	1														
U7(122)	5970-	21	7190-	13	9705-	32	11725-	56												
UA(42)	9505-	4	15115-	3	15170-	26	15255-	8	17725-	1										
UD(2)	21745-	2																		
UN(26)	6105-	1	6170-	1	7155-	6	9505-	1	9705-	12	15130-	1	15145-	4						
UR(16)	11725-	12	15145-	4																
US(6)	6105-	1	11970-	1	15255-	1	17725-	1	17835-	1	21745-	1								
VF(8)	11725-	1	15145-	4	17805-	3														
VG(22)	7155-	1	7255-	1	9555-	1	9725-	2	11855-	7	15170-	3	17735-	6	17805-	1				
VI(12)	11725-	6	11970-	5	15145-	1														
VN(1)	7190-	1																		
W1(37)	6105-	26	6115-	7	11895-	4														
WA(10)	7115-	1	9555-	5	9725-	4														
WI(210)	9565-	1	9705-	8	11725-	18	15145-	69	17735-	28	17805-	84	21665-	2						
WM(6)	11725-	1	11935-	5																
WQ(4)	9725-	3	17725-	1																
WR(3)	9725-	3																		
XI(1)	7190-	1																		
XN(2)	6170-	2																		
XU(2)	6170-	1	7180-	1																
Z3(2)	15130-	1	15170-	1																
ZM(1)	17725-	1																		
ZT(12)	5970-	11	9705-	1																

MARKERS DETECTED BY FREQUENCY OCTOBER 1984 for BROADCASTER RL

5955(172)	80-LK	29-TU	21-SF	14-GM	10-**	4-DR	2-GI	1-BG	1-D3	1-IG	1-KD	1-LM	1-MU	1-N7	1-P3
	1-PD	1-TK	1-XN	1-ZT											
5985(1)	1-SF														
6105(160)	65-LM	35-**	20-TU	17-MF	7-TK	6-UN	5-XN	1-BU	1-GU	1-KD	1-LF	1-VR			
6170(121)	27-**	19-MF	16-GM	15-CB	12-TU	5-KB	3-FU	3-LG	3-TK	2-DA	2-GS	2-LF	2-UN	1-AG	1-GL
	1-GU	1-HM	1-IN	1-KU	1-LK	1-RD	1-SM	1-XU							
7145(3)	2-MF	1-**													
7155(91)	37-**	11-B1	11-UN	10-GI	4-GS	4-IN	4-RT	4-TU	2-VG	1-DR	1-GJ	1-GM	1-LF		
7180(56)	16-TU	15-DR	6-**	5-IG	4-4F	3-Z3	1-AG	1-AK	1-KD	1-LM	1-MF	1-RT	1-SF		
7190(39)	8-KD	8-MU	7-D3	7-MF	2-**	2-LK	1-1G	1-BA	1-FA	1-VG	1-XI				
7220(496)	71-**	48-KD	48-PB	45-TU	37-DR	32-WQ	31-1G	30-IG	22-FA	10-XN	9-CB	9-RD	9-SU	9-WA	7-IN
	7-KB	7-SF	6-LK	6-MF	6-W1	5-BU	5-DP	4-FM	3-D3	3-R9	2-AR	2-DN	2-GR	2-GS	2-UB
	2-UN	2-ZM	1-4F	1-4N	1-AD	1-AW	1-B1	1-F9	1-FL	1-FR	1-GU	1-KM	1-LG	1-LR	1-N7
7245(66)	39-MU	12-TU	7-**	2-B1	2-DR	2-SU	1-ML	1-TK							
7250(19)	7-**	4-DA	4-W1	1-FL	1-IG	1-KM	1-MF								
7255(42)	13-MU	6-TK	6-UN	4-**	3-TU	2-VG	2-VI	1-4F	1-FM	1-GI	1-KF	1-PB	1-SF		
7260(1)	1-IN														
7295(110)	29-**	24-DR	10-4F	8-NS	5-TK	4-B1	3-KB	3-R9	3-Z3	2-1G	2-AD	2-FU	2-UN	1-AG	1-BD
	1-CB	1-DL	1-FL	1-KD	1-KU	1-MF	1-MU	1-PM	1-TU	1-UD	1-WA				
9505(118)	27-GI	16-TU	15-**	12-SU	10-MU	8-KB	5-CB	5-DR	4-LG	2-MF	2-MP	1-B1	1-BQ	1-FM	1-GM
	1-GS	1-MG	1-R7	1-R9	1-TK	1-UA	1-UN	1-WD							
9520(577)	118-BG	85-**	75-GI	70-KB	31-SF	21-AN	18-LK	17-KD	14-DR	14-WA	13-MS	12-TU	10-PB	8-BU	7-TK
	6-IN	6-R9	5-B1	5-R7	5-W1	3-1G	2-FG	2-FM	2-HM	2-MF	2-UA	2-VI	1-1F	1-4N	1-AD
	1-BQ	1-F2	1-FU	1-GJ	1-K3	1-KF	1-KM	1-LF	1-LG	1-PA	1-RD	1-RV	1-SU	1-UN	1-WM
	1-WQ	1-XN	1-XU	1-Z3											
9555(46)	9-**	6-KB	5-AN	4-TU	3-B1	3-MS	2-DR	2-LF	2-NS	2-TK	2-Z3	1-CB	1-GR	1-IN	1-KD
	1-WR	1-XI													
9565(107)	14-MS	9-**	9-MF	8-CB	8-GM	8-MU	8-TU	6-MG	5-BG	4-PB	3-GR	3-RL	3-RV	3-US	2-KB
	2-S5	1-4N	1-BR	1-FL	1-G7	1-KD	1-L8	1-MI	1-RT	1-TK	1-VN	1-XN	1-Z3		
9625(117)	42-TU	13-**	11-TK	7-PB	7-US	6-LF	5-R7	4-KD	3-BG	3-MS	3-MU	2-BL	2-KB	2-SU	1-4F
	1-BD	1-BR	1-LK	1-M3	1-XU	1-ZT									
9660(158)	34-TU	27-**	13-KB	12-IG	9-MG	9-R7	7-TK	6-US	4-MF	4-PA	3-KD	3-PB	3-SM	2-AN	2-BQ
	2-LF	2-LM	2-ZM	1-4N	1-CA	1-FU	1-G7	1-IN	1-K3	1-ML	1-N7	1-NS	1-SU	1-UA	1-UN
	1-WQ	1-XI													
9680(86)	31-SU	15-**	11-CB	9-PB	3-MF	2-IR	2-KB	2-MP	2-RV	2-TU	2-WA	1-FA	1-IN	1-KD	1-LM
	1-M3														
9725(64)	25-KD	15-**	5-P3	4-NS	4-TU	3-MU	3-WA	2-RV	1-BL	1-GL	1-SF				
9750(88)	32-**	17-DR	11-KB	10-TU	4-TK	2-4F	2-B1	2-DM	2-NS	1-IN	1-P3	1-RV	1-W3	1-WA	1-Z3
11725(117)	52-KD	45-MU	11-WI	3-**	3-UR	1-CA	1-KB	1-LG							
11770(306)	105-KD	40-PB	39-MU	36-**	23-BG	10-WQ	6-GI	6-US	5-TU	4-GR	4-HM	4-W1	3-R7	3-UB	2-BU
	2-IN	2-KB	2-NS	2-RV	2-TK	1-B1	1-FU	1-LG	1-LM	1-WA	1-ZM				
11825(1)	1-TU														
11875(345)	59-TU	52-**	30-MS	28-SU	24-DR	21-IG	21-LK	14-VG	11-Z3	10-4N	7-4F	6-1G	6-DP	6-LM	4-SM
	3-MF	3-PA	3-PB	2-AR	2-BG	2-BL	2-GS	2-K3	2-WD	2-WQ	1-B1	1-BD	1-BI	1-FM	1-G7
	1-GU	1-HM	1-HP	1-IN	1-KD	1-M3	1-MG	1-MU	1-P3	1-RD	1-TK	1-US	1-VL	1-W3	1-WM
	1-XI	1-XN	1-XU												

11885(578)	117-**	107-TU	66-PB	40-F2	31-WQ	27-MS	21-KD	15-HM	14-KB	13-BG	11-US	10-LM	8-GR	7-FG	7-GS
	6-1G	6-IG	5-R9	5-UA	4-B1	3-FA	3-GI	3-IN	3-K3	3-LF	3-MU	3-R7	3-ST	3-UD	2-CB
	2-DA	2-DR	2-FM	2-KU	2-MF	2-SF	2-WA	1-BL	1-BR	1-DL	1-DN	1-G7	1-LK	1-N7	1-PK
	1-PM	1-RT	1-SG	1-UN	1-VL	1-VM	1-ZM								
11895(8)	6-NS	1-BA	1-WA												
11915(61)	16-KD	12-NS	10-**	5-PB	4-KB	4-MU	3-US	2-CB	1-BG	1-FA	1-GR	1-TK	1-Z3		
11935(178)	43-MU	35-**	22-BG	16-DR	11-TK	9-1G	9-KD	8-FA	4-IN	2-DN	2-LF	2-PB	1-4F	1-CB	1-FG
	1-FR	1-FU	1-KB	1-MF	1-SU	1-TU	1-UA	1-W1	1-WA	1-WQ	1-WR	1-XU			
11970(323)	60-**	25-PB	21-DR	20-FA	18-TU	15-MU	14-KD	13-LM	12-BG	11-4F	11-GI	6-1D	6-KB	6-NS	6-R7
	6-TK	6-UN	5-IG	5-RT	4-F2	4-FG	4-MS	4-VG	4-VI	3-CB	3-F9	3-G7	3-GR	3-LF	3-US
	2-FL	2-IN	2-Z3	1-AR	1-DA	1-FU	1-GS	1-GU	1-L2	1-LK	1-R9	1-S5	1-S8	1-SF	1-WM
	1-XN														
15130(153)	56-TU	34-**	13-MS	9-BR	6-MU	5-FL	4-KB	3-FR	3-GR	3-LG	2-AD	2-DA	2-DG	1-BA	1-DM
	1-DR	1-FG	1-FM	1-IR	1-MI	1-MP	1-RT	1-ST	1-ZM						
15170(4)	4-SU														
15290(263)	52-**	32-TU	28-KD	21-SU	18-LF	13-AD	11-BG	8-KB	7-MS	7-TK	4-AG	4-VI	3-4N	3-BQ	3-HP
	3-PK	3-RT	3-WD	3-ZM	2-BL	2-CB	2-DN	2-FL	2-GI	2-IN	2-PM	2-R9	2-XN	1-AN	1-BD
	1-DG	1-FR	1-G7	1-GM	1-GR	1-IG	1-LG	1-LM	1-M3	1-MP	1-P6	1-PB	1-RD	1-UD	1-US
	1-VG	1-XU													
15340(246)	52-TU	41-DR	24-MS	23-**	15-4F	10-TK	8-LM	8-Z3	8-ZM	7-AD	6-CB	6-KB	4-FL	4-LG	4-R9
	4-RT	3-HM	3-IN	3-MG	2-F9	2-VG	2-WD	1-AG	1-AS	1-BU	1-FR	1-KU	1-M3	1-XI	
15355(1)	1-US														
15370(137)	33-DR	19-**	19-TK	7-PB	6-VG	5-Z3	5-ZM	4-FL	3-AN	3-B1	3-BR	3-GI	3-TU	2-BL	2-GM
	1-1D	1-BD	1-BG	1-DM	1-F2	1-GS	1-HM	1-L8	1-LG	1-M3	1-MF	1-PA	1-PK	1-R9	1-RT
	1-SF	1-US	1-W1	1-WD	1-XI										
15380(206)	40-MU	38-**	23-TU	14-CB	11-LF	10-TK	10-US	8-KD	6-GS	5-SF	4-RT	3-BQ	3-IN	3-KB	3-PB
	3-ZM	2-AD	2-FL	2-XN	1-AG	1-BA	1-BD	1-BG	1-DA	1-F9	1-FR	1-GR	1-GU	1-IG	1-KF
	1-S8	1-SU	1-UB	1-VN	1-XI										
15445(96)	27-KD	12-**	12-CB	9-TK	8-MS	5-AG	4-TU	2-FL	2-K3	2-KB	2-RT	2-SF	2-US	1-AD	1-BU
	1-IN	1-ST	1-WQ	1-XN	1-ZM										
17725(110)	34-KD	26-CB	11-**	8-KB	4-B1	4-IN	4-R7	4-RT	2-TK	1-BU	1-FM	1-GS	1-IG	1-LG	1-MS
	1-MU	1-R9	1-UA	1-UD	1-W1	1-WD	1-ZM								
17750(133)	25-SU	23-TU	14-**	11-KD	11-VL	10-HM	9-IG	4-R7	3-AD	3-DG	3-IN	3-MF	2-FL	2-GR	2-TK
	1-AG	1-BQ	1-LG	1-PF	1-RT	1-WD	1-WQ	1-Z3							
17760(152)	30-SU	26-MS	15-**	14-TU	8-TK	7-KB	6-IN	6-R9	5-AD	5-FL	4-RT	4-WD	4-ZM	3-R7	2-4F
	2-AG	2-G1	2-GR	2-IG	1-BR	1-CB	1-KD	1-LG	1-S5						
17770(89)	14-MS	13-**	8-AD	6-TU	5-GR	5-MF	4-R7	4-ZM	3-4N	3-FL	3-KB	2-BQ	2-LG	2-WD	1-AG
	1-B1	1-BD	1-BR	1-DM	1-FR	1-IG	1-IN	1-KU	1-MI	1-PK	1-UD	1-US	1-W1	1-W3	
17885(28)	4-**	4-UD	3-KB	3-LG	2-IN	2-RT	2-TK	1-AD	1-BQ	1-FL	1-G7	1-GR	1-HD	1-PK	1-US
17895(182)	50-SU	28-TU	17-**	11-VL	6-TK	6-W1	6-ZM	5-B1	5-BD	5-FL	5-K3	5-KB	4-LG	4-LM	4-RT
	3-GI	3-GR	3-WD	2-AD	2-BQ	1-B9	1-DG	1-DL	1-DR	1-LK	1-MG	1-VF	1-XW		
21455(110)	18-R7	18-Z3	8-IN	8-TK	7-**	6-MG	5-AD	5-RT	4-1D	4-4N	4-BQ	4-NS	4-VM	3-LG	2-FL
	2-K3	2-KB	2-PA	1-AG	1-DG	1-KU	1-ZM								
21510(75)	16-HM	11-Z3	10-VM	7-**	7-US	3-RT	3-W1	2-1D	2-IN	2-KB	2-R7	2-TK	1-BQ	1-DA	1-FA
	1-GM	1-MU	1-PF	1-S5	1-ZM										
21735(21)	4-**	3-KB	2-LG	2-MG	2-PA	2-US	2-Z3	1-PK	1-RD	1-UD	1-ZM				
21745(76)	12-NS	6-KB	6-R7	5-MU	4-BQ	4-RT	3-CB	3-FG	3-IN	3-PA	2-**	2-G1	2-KV	2-MG	2-R9
	1-4N	1-BD	1-D1	1-FR	1-GR	1-LG	1-LM	1-MI	1-MX	1-PF	1-SD	1-TU	1-US	1-VN	1-WD
	1-WM	1-XN													
25690(3)	2-RT	1-BQ													

FREQUENCIES DETECTED FOR SPECIFIED MARKERS OCTOBER 1984 for BROADCASTER RL

**(***)	5955- 10	6105- 35	6170- 27	7145- 1	7155- 37	7180- 6	7190- 2	7220- 71	7245- 7	7250- 7
	7255- 4	7295- 29	9505- 15	9520- 85	9555- 9	9565- 9	9625- 13	9660- 27	9680- 15	9725- 15
	9750- 32	11725- 3	11770- 36	11875- 52	11885-117	11915- 10	11935- 35	11970- 60	15130- 34	15290- 52
	15340- 23	15370- 19	15380- 38	15445- 12	17725- 11	17750- 14	17760- 15	17770- 13	17885- 4	17895- 17
	21455- 7	21510- 7	21735- 4	21745- 2						
1D(13)	11970- 6	15370- 1	21455- 4	21510- 2						
1F(1)	9520- 1									
1G(58)	7190- 1	7220- 31	7295- 2	9520- 3	11875- 6	11885- 6	11935- 9			
4F(55)	7180- 4	7220- 1	7255- 1	7295- 10	9625- 1	9750- 2	11875- 7	11935- 1	11970- 11	15340- 15
	17760- 2									
4N(25)	7220- 1	9520- 1	9565- 1	9660- 1	11875- 10	15290- 3	17770- 3	21455- 4	21745- 1	
AD(53)	7220- 1	7295- 2	9520- 1	15130- 2	15290- 13	15340- 7	15380- 2	15445- 1	17750- 3	17760- 5
	17770- 8	17885- 1	17895- 2	21455- 5						
AG(19)	6170- 1	7180- 1	7295- 1	15290- 4	15340- 1	15380- 1	15445- 5	17750- 1	17760- 2	17770- 1
	21455- 1									
AK(1)	7180- 1									
AN(32)	9520- 21	9555- 5	9660- 2	15290- 1	15370- 3					
AR(5)	7220- 2	11875- 2	11970- 1							
AS(1)	15340- 1									
AW(1)	7220- 1									
B1(48)	7155- 11	7220- 1	7245- 2	7295- 4	9505- 1	9520- 5	9555- 3	9750- 2	11770- 1	11875- 1
	11885- 4	15370- 3	17725- 4	17770- 1	17895- 5					
B9(1)	17895- 1									
BA(4)	7190- 1	11895- 1	15130- 1	15380- 1						
BD(13)	7295- 1	9625- 1	11875- 1	15290- 1	15370- 1	15380- 1	17770- 1	17895- 5	21745- 1	
BG(213)	5955- 1	9520-118	9565- 5	9625- 3	11770- 23	11875- 2	11885- 13	11915- 1	11935- 22	11970- 12
	15290- 11	15370- 1	15380- 1							
BI(1)	11875- 1									
BL(10)	9625- 2	9725- 1	11875- 2	11885- 1	15290- 2	15370- 2				
BQ(26)	9505- 1	9520- 1	9660- 2	15290- 3	15380- 3	17750- 1	17770- 2	17885- 1	17895- 2	21455- 4
	21510- 1	21745- 4	25690- 1							
BR(17)	9565- 1	9625- 1	11885- 1	15130- 9	15370- 3	17760- 1	17770- 1			
BU(19)	6105- 1	7220- 5	9520- 8	11770- 2	15340- 1	15445- 1	17725- 1			
CA(2)	9660- 1	11725- 1								
CB(122)	6170- 15	7220- 9	7295- 1	9505- 5	9555- 1	9565- 8	9680- 11	11885- 2	11915- 2	11935- 1
	11970- 3	15290- 2	15340- 6	15380- 14	15445- 12	17725- 26	17760- 1	21745- 3		
D1(1)	21745- 1									
D3(11)	5955- 1	7190- 7	7220- 3							
DA(13)	6170- 2	7250- 4	11885- 2	11970- 1	15130- 2	15380- 1	21510- 1			
DG(8)	15130- 2	15290- 1	17750- 3	17895- 1	21455- 1					
DL(3)	7295- 1	11885- 1	17895- 1							
DM(5)	9750- 2	15130- 1	15370- 1	17770- 1						
DN(7)	7220- 2	11885- 1	11935- 2	15290- 2						
DP(11)	7220- 5	11875- 6								
DR(260)	5955- 4	7155- 1	7180- 15	7220- 37	7245- 2	7295- 24	9505- 5	9520- 14	9555- 2	9750- 17
	11875- 24	11885- 2	11935- 16	11970- 21	15130- 1	15340- 41	15370- 33	17895- 1		

F2(46)	9520- 1	11885- 40	11970- 4	15370- 1						
F9(7)	7220- 1	11970- 3	15340- 2	15380- 1						
FA(57)	7190- 1	7220- 22	9680- 1	11885- 3	11915- 1	11935- 8	11970- 20	21510- 1		
FG(18)	9520- 2	11885- 7	11935- 1	11970- 4	15130- 1	21745- 3				
FL(43)	7220- 1	7250- 1	7295- 1	9565- 1	11970- 2	15130- 5	15290- 2	15340- 4	15370- 4	15380- 2
	15445- 2	17750- 2	17760- 5	17770- 3	17885- 1	17895- 5	21455- 2			
FM(13)	7220- 4	7255- 1	9505- 1	9520- 2	11875- 1	11885- 2	15130- 1	17725- 1		
FR(10)	7220- 1	11935- 1	15130- 3	15290- 1	15340- 1	15380- 1	17770- 1	21745- 1		
FU(10)	6170- 3	7295- 2	9520- 1	9660- 1	11770- 1	11935- 1	11970- 1			
G1(4)	17760- 2	21745- 2								
G7(9)	9565- 1	9660- 1	11875- 1	11885- 1	11970- 3	15290- 1	17885- 1			
GI(143)	5955- 2	7155- 10	7255- 1	9505- 27	9520- 75	11770- 6	11885- 3	11970- 11	15290- 2	15370- 3
	17895- 3									
GJ(2)	7155- 1	9520- 1								
GL(2)	6170- 1	9725- 1								
GM(44)	5955- 14	6170- 16	7155- 1	9505- 1	9565- 8	15290- 1	15370- 2	21510- 1		
GR(41)	7220- 2	9555- 1	9565- 3	11770- 4	11885- 8	11915- 1	11970- 3	15130- 3	15290- 1	15380- 1
	17750- 2	17760- 2	17770- 5	17885- 1	17895- 3	21745- 1				
GS(27)	6170- 2	7155- 4	7220- 2	9505- 1	11875- 2	11885- 7	11970- 1	15370- 1	15380- 6	17725- 1
GU(6)	6105- 1	6170- 1	7220- 1	11875- 1	11970- 1	15380- 1				
HD(1)	17885- 1									
HM(53)	6170- 1	9520- 2	11770- 4	11875- 1	11885- 15	15340- 3	15370- 1	17750- 10	21510- 16	
HP(4)	11875- 1	15290- 3								
IG(96)	5955- 1	7180- 5	7220- 30	7250- 1	9660- 12	11875- 21	11885- 6	11970- 5	15290- 1	15380- 1
	17725- 1	17750- 9	17760- 2	17770- 1						
IN(73)	6170- 1	7155- 4	7220- 7	7260- 1	9520- 6	9555- 1	9660- 1	9680- 1	9750- 1	11770- 2
	11875- 1	11885- 3	11935- 4	11970- 2	15290- 2	15340- 3	15380- 3	15445- 1	17725- 4	17750- 3
	17760- 6	17770- 1	17885- 2	21455- 8	21510- 2	21745- 3				
IR(3)	9680- 2	15130- 1								
K3(16)	9520- 1	9660- 1	11875- 2	11885- 3	15445- 2	17895- 5	21455- 2			
KB(219)	6170- 5	7220- 7	7295- 3	9505- 8	9520- 70	9555- 6	9565- 2	9625- 2	9660- 13	9680- 2
	9750- 11	11725- 1	11770- 2	11885- 14	11915- 4	11935- 1	11970- 6	15130- 4	15290- 8	15340- 6
	15380- 3	15445- 2	17725- 8	17760- 7	17770- 3	17885- 3	17895- 5	21455- 2	21510- 2	21735- 3
	21745- 6									
KD(439)	5955- 1	6105- 1	7180- 1	7190- 8	7220- 48	7295- 1	9520- 17	9555- 1	9565- 1	9625- 4
	9660- 3	9680- 1	9725- 25	11725- 52	11770-105	11875- 1	11885- 21	11915- 16	11935- 9	11970- 14
	15290- 28	15380- 8	15445- 27	17725- 34	17750- 11	17760- 1				
KF(3)	7255- 1	9520- 1	15380- 1							
KM(3)	7220- 1	7250- 1	9520- 1							
KU(7)	6170- 1	7295- 1	11885- 2	15340- 1	17770- 1	21455- 1				
KV(2)	21745- 2									
L2(1)	11970- 1									
L8(2)	9565- 1	15370- 1								
LF(52)	6105- 1	6170- 2	7155- 1	9520- 1	9555- 2	9625- 6	9660- 2	11885- 3	11935- 2	11970- 3
	15290- 18	15380- 11								
LG(38)	6170- 3	7220- 1	9505- 4	9520- 1	11725- 1	11770- 1	15130- 3	15290- 1	15340- 4	15370- 1
	17725- 1	17750- 1	17760- 1	17770- 2	17885- 3	17895- 4	21455- 3	21735- 2	21745- 1	

LK(132) 5955- 80 6170- 1 7190- 2 7220- 6 9520- 18 9625- 1 11875- 21 11885- 1 11970- 1 17895- 1
LM(114) 5955- 1 6105- 65 7180- 1 9660- 2 9680- 1 11770- 1 11875- 6 11885- 10 11970- 13 15290- 1
15340- 8 17895- 4 21745- 1
LR(1) 7220- 1
M3(6) 9625- 1 9680- 1 11875- 1 15290- 1 15340- 1 15370- 1
MF(89) 6105- 17 6170- 19 7145- 2 7180- 1 7190- 7 7220- 6 7250- 1 7295- 1 9505- 2 9520- 2
9565- 9 9660- 4 9680- 3 11875- 3 11885- 2 11935- 1 15370- 1 17750- 3 17770- 5
MG(31) 9505- 1 9565- 6 9660- 9 11875- 1 15340- 3 17895- 1 21455- 6 21735- 2 21745- 2
MI(4) 9565- 1 15130- 1 17770- 1 21745- 1
ML(2) 7245- 1 9660- 1
MP(6) 9505- 2 9680- 2 15130- 1 15290- 1
MS(187) 9520- 13 9555- 3 9565- 14 9625- 3 11875- 30 11885- 27 11970- 4 15130- 13 15290- 7 15340- 24
15445- 8 17725- 1 17760- 26 17770- 14
MU(289) 5955- 1 7190- 8 7245- 39 7255- 13 7295- 1 9505- 10 9565- 8 9625- 3 9725- 3 11725- 45
11770- 39 11875- 1 11885- 3 11915- 4 11935- 43 11970- 15 15130- 6 15380- 40 17725- 1 21510- 1
21745- 5
MX(1) 21745- 1
N7(4) 5955- 1 7220- 1 9660- 1 11885- 1
NS(59) 7295- 8 9555- 2 9660- 1 9725- 4 9750- 2 11770- 2 11895- 6 11915- 12 11970- 6 21455- 4
21745- 12
P3(8) 5955- 1 9725- 5 9750- 1 11875- 1
P6(1) 15290- 1
PA(16) 9520- 1 9660- 4 11875- 3 15370- 1 21455- 2 21735- 2 21745- 3
PB(234) 7220- 48 7255- 1 9520- 10 9565- 4 9625- 7 9660- 3 9680- 9 11770- 40 11875- 3 11885- 66
11915- 5 11935- 2 11970- 25 15290- 1 15370- 7 15380- 3
PD(1) 5955- 1
PF(3) 17750- 1 21510- 1 21745- 1
PK(8) 11885- 1 15290- 3 15370- 1 17770- 1 17885- 1 21735- 1
PM(4) 7295- 1 11885- 1 15290- 2
R7(73) 9505- 1 9520- 5 9625- 5 9660- 9 11770- 3 11885- 3 11970- 6 17725- 4 17750- 4 17760- 3
17770- 4 21455- 18 21510- 2 21745- 6
R9(35) 7220- 3 7295- 3 9505- 1 9520- 6 11885- 5 11970- 1 15290- 2 15340- 4 15370- 1 17725- 1
17760- 6 21745- 2
RD(14) 6170- 1 7220- 9 9520- 1 11875- 1 15290- 1 21735- 1
RL(3) 9565- 3
RT(56) 7155- 4 7180- 1 9565- 1 11885- 1 11970- 5 15130- 1 15290- 3 15340- 4 15370- 1 15380- 4
15445- 2 17725- 4 17750- 1 17760- 4 17885- 2 17895- 4 21455- 5 21510- 3 21745- 4 25690- 2
RV(11) 9520- 1 9565- 3 9680- 2 9725- 2 9750- 1 11770- 2
S5(5) 9565- 2 11970- 1 17760- 1 21510- 1
S8(2) 11970- 1 15380- 1
SD(1) 21745- 1
SF(74) 5955- 21 5985- 1 7180- 1 7220- 7 7255- 1 9520- 31 9725- 1 11885- 2 11970- 1 15370- 1
15380- 5 15445- 2
SG(1) 11885- 1
SM(8) 6170- 1 9660- 3 11875- 4
ST(5) 11885- 3 15130- 1 15445- 1
SU(218) 7220- 9 7245- 2 9505- 12 9520- 1 9625- 2 9660- 1 9680- 31 11875- 28 11935- 1 15170- 4
15290- 21 15380- 1 17750- 25 17760- 30 17895- 50

TK(162)	5955-	1	6105-	7	6170-	3	7245-	1	7255-	6	7295-	5	9505-	1	9520-	7	9555-	2	9565-	1		
	9625-	11	9660-	7	9750-	4	11770-	2	11875-	1	11915-	1	11935-	11	11970-	6	15290-	7	15340-	10		
	15370-	19	15380-	10	15445-	9	17725-	2	17750-	2	17760-	8	17885-	2	17895-	6	21455-	8	21510-	2		
TU(707)	5955-	29	6105-	20	6170-	12	7155-	4	7180-	16	7220-	45	7245-	12	7255-	3	7295-	1	9505-	16		
	9520-	12	9555-	4	9565-	8	9625-	42	9660-	34	9680-	2	9725-	4	9750-	10	11770-	5	11825-	1		
	11875-	59	11885-	107	11935-	1	11970-	18	15130-	56	15290-	32	15340-	52	15370-	3	15380-	23	15445-	4		
	17750-	23	17760-	14	17770-	6	17895-	28	21745-	1												
UA(11)	9505-	1	9520-	2	9660-	1	11885-	5	11935-	1	17725-	1										
UB(6)	7220-	2	11770-	3	15380-	1																
UD(12)	7295-	1	11885-	3	15290-	1	17725-	1	17770-	1	17885-	4	21735-	1								
UN(39)	6105-	6	6170-	2	7155-	11	7220-	2	7255-	6	7295-	2	9505-	1	9520-	1	9660-	1	11885-	1		
	11970-	6																				
UR(3)	11725-	3																				
US(67)	9565-	3	9625-	7	9660-	6	11770-	6	11875-	1	11885-	11	11915-	3	11970-	3	15290-	1	15355-	1		
	15370-	1	15380-	10	15445-	2	17770-	1	17885-	1	21510-	7	21735-	2	21745-	1						
VF(1)	17895-	1																				
VG(32)	7155-	2	7190-	1	7255-	2	11875-	14	11970-	4	15290-	1	15340-	2	15370-	6						
VI(12)	7255-	2	9520-	2	11970-	4	15290-	4														
VL(24)	11875-	1	11885-	1	17750-	11	17895-	11														
VM(15)	11885-	1	21455-	4	21510-	10																
VN(3)	9565-	1	15380-	1	21745-	1																
VR(1)	6105-	1																				
W1(32)	7220-	6	7250-	4	9520-	5	11770-	4	11935-	1	15370-	1	17725-	1	17770-	1	17895-	6	21510-	3		
W3(3)	9750-	1	11875-	1	17770-	1																
WA(35)	7220-	9	7295-	1	9520-	14	9680-	2	9725-	3	9750-	1	11770-	1	11885-	2	11895-	1	11935-	1		
WD(21)	9505-	1	11875-	2	15290-	3	15340-	2	15370-	1	17725-	1	17750-	1	17760-	4	17770-	2	17895-	3		
	21745-	1																				
WI(11)	11725-	11																				
WM(4)	9520-	1	11875-	1	11970-	1	21745-	1														
WQ(80)	7220-	32	9520-	1	9660-	1	11770-	10	11875-	2	11885-	31	11935-	1	15445-	1	17750-	1				
WR(2)	9555-	1	11935-	1																		
XI(7)	7190-	1	9555-	1	9660-	1	11875-	1	15340-	1	15370-	1	15380-	1								
XN(26)	5955-	1	6105-	5	7220-	10	9520-	1	9565-	1	11875-	1	11970-	1	15290-	2	15380-	2	15445-	1		
	21745-	1																				
XU(6)	6170-	1	9520-	1	9625-	1	11875-	1	11935-	1	15290-	1										
XW(1)	17895-	1																				
Z3(70)	7180-	3	7295-	3	9520-	1	9555-	2	9565-	1	9750-	1	11875-	11	11915-	1	11970-	2	15340-	8		
	15370-	5	17750-	1	21455-	18	21510-	11	21735-	2												
ZM(45)	7220-	2	9660-	2	11770-	1	11885-	1	15130-	1	15290-	3	15340-	8	15370-	5	15380-	3	15445-	1		
	17725-	1	17760-	4	17770-	4	17895-	6	21455-	1	21510-	1	21735-	1								
ZT(2)	5955-	1	9625-	1																		

APPENDIX C: THE NUMBER OF INSTANCES A SPECIFIC MARKER IDENTIFIER WAS OBSERVED ON THE INDICATED FREQUENCY

C.3 ALL BROADCASTERS - MARCH/APRIL 1985

MARKERS DETECTED BY FREQUENCY MARCH-APRIL 1985 for BROADCASTER ALL

5955(135)	31-MF	20-KD	15-TU	14-WA	6-**	6-GI	6-MU	6-U7	5-1G	5-DR	5-UN	4-VR	3-DU	2-SM	1-BG
	1-BL	1-FL	1-IG	1-RT	1-SB	1-YU									
5970(176)	67-DR	59-KD	10-1G	10-RB	7-8L	7-GI	5-**	5-BU	4-1D	1-IG	1-S5				
5985(48)	9-B1	7-U7	6-D3	5-**	5-GI	4-KD	4-WQ	3-RB	1-1G	1-8L	1-BU	1-G3	1-LF		
5990(5)	1-MU	1-NI	1-SF	1-TU	1-WA										
5995(3)	3-AD														
6010(16)	5-BD	3-TU	2-KD	1-**	1-CB	1-DU	1-U7	1-WD	1-YU						
6015(4)	1-**	1-AD	1-MU	1-UN											
6020(12)	4-S5	1-**	1-B1	1-DR	1-KD	1-RT	1-SF	1-XN	1-Z3						
6025(24)	5-BD	3-KD	2-**	2-LG	2-VR	1-AS	1-CB	1-FL	1-PB	1-RQ	1-RT	1-RV	1-TU	1-WA	1-WD
6030(10)	9-**	1-B5													
6050(1)	1-AD														
6060(43)	10-1G	9-DR	6-RB	4-BG	3-4N	2-1D	2-BU	2-GL	1-**	1-8L	1-AN	1-BL	1-WG		
6065(6)	4-U7	1-**	1-B1												
6070(11)	4-SF	3-WI	1-**	1-CB	1-MI	1-RB									
6080(7)	3-DU	1-AD	1-BG	1-RT	1-WD										
6085(35)	19-**	3-BD	3-WI	2-RV	2-WD	1-FG	1-FL	1-KD	1-LG	1-RT	1-ZM				
6090(27)	5-**	4-DR	3-TU	3-UB	3-US	3-WD	2-BD	1-SU	1-WI	1-XD	1-XN				
6095(43)	28-TU	2-IR	2-PK	2-US	2-WD	1-BD	1-BL	1-RP	1-RT	1-SM	1-XU	1-YU			
6105(531)	181-UA	81-GR	44-U7	34-**	25-S7	25-TU	24-IG	22-MF	17-DU	11-D7	10-BG	10-SB	6-SF	5-B1	5-FA
	5-ST	4-AU	3-US	3-XU	2-LG	2-WQ	1-AN	1-BI	1-CA	1-D3	1-FL	1-IT	1-K7	1-L8	1-LM
	1-RV	1-TR	1-Z3												
6120(14)	10-**	3-IG	1-1D												
6125(81)	21-DR	8-GI	8-IG	7-BU	5-VR	4-BG	4-RB	4-SF	3-**	3-TU	3-XN	1-1D	1-1G	1-8L	1-AG
	1-BD	1-BL	1-GU	1-RQ	1-UB	1-US	1-WD								
6130(13)	6-DU	1-**	1-1D	1-1G	1-BD	1-BG	1-TU	1-WI							
6135(18)	11-GI	5-**	2-B1												
6140(37)	15-TU	4-LK	3-**	3-WD	2-MF	2-RQ	1-1D	1-1G	1-BD	1-BK	1-BL	1-DU	1-RT	1-WI	
6150(71)	11-MF	9-WA	7-GI	6-PA	5-4N	4-1D	3-AG	3-BU	3-DR	3-UB	2-**	2-1G	2-BD	2-BG	2-VN
	2-XN	1-RB	1-RQ	1-TU	1-WD	1-WI									
6160(94)	13-GI	10-DR	8-MA	7-1D	7-1G	7-KD	7-WA	7-WD	4-**	4-DU	3-8L	3-BD	3-MF	2-BL	1-AN
	1-LG	1-LR	1-MP	1-PB	1-RB	1-RQ	1-SF	1-US							
6170(220)	107-MP	35-GI	17-MF	11-BG	8-**	8-TU	8-US	4-DU	3-RB	2-AG	2-BL	2-U7	2-XN	1-AS	1-CA
	1-CB	1-DR	1-LG	1-PL	1-SF	1-ST	1-WD	1-WI	1-ZM						
6180(8)	7-DU	1-LG													
6195(2)	1-TR	1-TU													
7105(82)	22-TU	13-VL	6-NS	5-FG	5-FR	4-WD	3-VR	3-XN	2-BG	2-MU	2-PK	2-WI	2-XI	1-CB	1-FL
	1-IG	1-IR	1-LG	1-NI	1-RP	1-RT	1-SF	1-WL	1-ZM						
7115(31)	10-WQ	4-**	3-TU	2-DU	2-MG	2-PL	2-WI	1-AG	1-KF	1-MI	1-TK	1-WA	1-XN		
7120(29)	8-AG	7-BG	3-WA	2-FU	2-IG	2-TU	1-BL	1-FA	1-RT	1-SF	1-VR				
7125(8)	4-LF	1-**	1-FL	1-FR	1-PL										
7130(31)	8-**	8-1G	7-U7	4-CA	1-4N	1-B1	1-MA	1-S5							
7135(1)	1-VL														
7140(7)	3-**	2-IG	1-B5	1-WD											
7145(17)	6-DU	3-TU	2-SF	1-BG	1-LG	1-PB	1-VM	1-WA	1-XN						

7150(10) 5-** 3-GR 1-AG 1-PB
7155(153) 22-** 22-TK 15-TU 13-BG 12-WA 11-AR 9-PB 8-WM 6-DU 5-MF 4-WI 3-DR 3-LG 3-U7 3-US
2-AG 2-FU 1-1D 1-4F 1-DP 1-KF 1-M3 1-RB 1-RT 1-SB 1-SF 1-SM
7165(60) 7-BG 6-B1 6-TU 4-MF 4-TR 4-UN 3-AR 3-MG 3-WD 3-WI 2-** 2-CB 2-SM 2-US 1-DU
1-GF 1-KD 1-PB 1-R9 1-U7 1-VM 1-XN 1-ZM
7170(27) 7-TU 4-KD 2-AG 2-RB 2-TR 2-UA 2-WI 1-AD 1-AR 1-DR 1-FU 1-IG 1-XN
7180(135) 25-US 21-GI 12-TR 12-WI 11-DU 9-TU 5-** 5-4F 4-BL 4-DR 3-BG 3-NA 3-UN 2-AG 2-AR
2-KD 2-XU 1-BD 1-MF 1-RP 1-SB 1-SM 1-VF 1-WD 1-WL 1-XD 1-XI
7190(218) 72-BG 34-TK 32-DR 21-1G 15-4F 7-US 4-AS 3-TU 3-VF 3-WG 2-7K 2-DA 2-GI 2-RB 2-SM
2-ZM 1-** 1-1D 1-AD 1-BR 1-DU 1-IG 1-LK 1-MF 1-MG 1-TR 1-VM 1-XN
7200(38) 10-TU 6-MF 5-4F 3-LG 3-PK 3-VG 2-UD 1-** 1-B1 1-B5 1-CB 1-PB 1-RT
7210(9) 2-** 2-DR 2-DU 1-1D 1-PB 1-RT
7220(468) 67-GR 59-GI 53-IG 46-GM 37-DU 27-** 26-TU 20-UA 18-U7 17-BG 8-NS 7-KD 7-PB 5-TK 5-TR
5-WI 4-AN 4-BD 4-FU 4-LG 4-MF 4-UB 3-DA 3-MU 2-KB 2-NI 2-PK 2-PL 2-SB 2-UR
2-VR 1-1D 1-8L 1-BU 1-DR 1-FA 1-FG 1-L8 1-LM 1-RB 1-SU 1-TL 1-UQ 1-VI 1-VU
1-WA 1-WM 1-ZM
7230(16) 5-WI 3-PB 2-IG 2-TU 1-** 1-LD 1-MP 1-WD
7235(4) 3-4F 1-MF
7240(28) 12-TU 5-WD 2-FG 2-PB 2-VM 1-** 1-SM 1-TR 1-VG 1-XN
7245(69) 11-TU 10-U7 8-DR 6-PB 5-** 5-TK 3-MG 2-DU 2-IR 1-BG 1-CA 1-KF 1-LG 1-LM 1-MF
1-NI 1-PA 1-PL 1-RQ 1-SM 1-ST 1-TL 1-TR 1-VM 1-WD 1-WI
7250(17) 2-** 2-AG 2-AR 2-PL 2-TR 2-WA 1-AN 1-RG 1-SF 1-TL 1-WI
7255(73) 29-MU 10-** 5-TU 3-D3 3-NS 3-TR 3-WI 2-G3 2-KD 2-PL 2-SF 1-A5 1-AG 1-BG 1-BI
1-DU 1-FU 1-SM 1-VR 1-WD
7260(17) 9-GI 3-** 2-DR 2-RT 1-PB
7265(2) 1-** 1-VL
7270(61) 6-** 5-DR 5-GR 4-DU 4-PB 3-AG 3-GL 3-WD 2-BG 2-PK 2-RQ 2-RT 2-SF 2-TK 2-WA
2-XU 1-AD 1-BD 1-CB 1-D3 1-DP 1-FU 1-KF 1-KV 1-LF 1-LM 1-NI 1-S5
7275(5) 1-AD 1-FG 1-FR 1-PB 1-VL
7280(18) 6-DR 3-FU 2-** 2-PB 2-TK 1-RD 1-RT 1-UA
7285(8) 2-** 1-G3 1-NS 1-PB 1-PL 1-WD 1-WI
7295(153) 59-US 14-U7 12-** 9-MP 5-CG 5-WI 4-SU 4-VR 3-DP 3-DR 3-KV 3-PL 3-WA 2-BG 2-FU
2-MF 2-XN 1-1D 1-AS 1-BL 1-FL 1-GU 1-MW 1-NI 1-NS 1-PB 1-RQ 1-RT 1-SF 1-ST
1-TU 1-UA 1-VG 1-VL 1-XU
9505(208) 30-FU 16-NS 15-WI 14-DR 13-AN 11-HP 9-BQ 8-GI 8-PB 6-DU 6-MU 6-PL 5-KM 5-SF 5-TR
4-PK 4-TU 4-UN 4-XI 3-DA 3-FG 3-FL 3-SM 3-WD 2-AD 2-AS 2-U7 1-BL 1-CB 1-FI
1-KD 1-MG 1-NA 1-R9 1-RD 1-RQ 1-TK 1-VL 1-VR 1-XN 1-XW
9520(652) 162-KB 91-IG 47-DR 32-MU 32-TK 27-ZT 24-** 19-U7 18-DU 17-GM 17-GR 17-VR 12-KD 9-R6 8-AU
8-TR 7-MF 7-RQ 7-WI 6-BG 6-BQ 6-DP 6-US 5-LG 5-TU 4-AN 4-KM 4-UR 3-AG 3-BD
3-FU 3-GI 3-KV 3-LK 3-PL 2-BR 2-CA 2-GS 2-RT 2-ST 1-BL 1-BU 1-DA 1-LM 1-NS
1-PB 1-RV 1-S7 1-SF 1-UD 1-UN 1-VL 1-VN 1-ZM
9530(103) 29-IG 13-8L 10-GI 9-WI 4-BA 4-KU 3-BD 2-** 2-BG 2-BQ 2-IR 2-MU 2-RQ 2-RT 2-UQ
2-WG 1-4N 1-BL 1-CB 1-FG 1-LF 1-MG 1-NA 1-NS 1-PB 1-ST 1-UR 1-VR 1-XI
9540(5) 3-MP 1-GI 1-TK
9555(227) 41-TK 22-IG 21-TU 18-LK 17-** 17-R6 12-D3 11-ZT 5-FG 5-LF 5-NS 5-RB 4-GR 4-MF 4-XI
3-GI 3-MG 3-PB 3-TR 2-G3 2-L4 2-SF 2-XN 1-AN 1-AS 1-BQ 1-DP 1-GM 1-HP 1-KD
1-KR 1-MA 1-MU 1-PL 1-R9 1-SB 1-SM 1-UA 1-US

9565(170)	35-TU	18-IG	16-KB	14-PB	12-D3	10-FU	8-WI	7-AN	6-Z1	5-TR	4-BG	3-NS	2-**	2-BD	2-FG
	2-HP	2-LF	2-LG	2-MA	2-MG	2-PL	2-TK	2-UR	1-AG	1-AR	1-DP	1-GU	1-MP	1-PA	1-SU
	1-XI	1-XN	1-Z3												
9575(1)	1-XN														
9585(43)	7-RQ	5-WI	4-BQ	4-UD	3-IG	3-WD	2-FG	2-MG	2-SM	2-TU	1-BL	1-CB	1-LG	1-NI	1-NS
	1-PF	1-RT	1-VM	1-XI											
9590(1)	1-MW														
9595(3)	3-B1														
9605(5)	3-4N	1-**	1-BG												
9615(33)	12-B1	7-4F	3-**	3-S5	2-A5	2-D4	1-4N	1-R6	1-RG	1-TU					
9625(100)	15-**	7-LT	7-PB	6-UQ	5-FG	5-TU	5-VL	5-WD	4-AD	4-KD	3-D3	3-SM	3-VR	3-WI	2-1G
	2-B3	2-FR	2-HP	2-LG	2-MP	1-CB	1-LF	1-MF	1-NI	1-PK	1-PL	1-S5	1-UN	1-VM	1-XD
	1-XI	1-XN	1-XW												
9635(55)	13-KD	7-UQ	6-1G	5-WI	3-**	3-KV	2-FG	2-GU	2-RT	2-XD	1-B1	1-BD	1-MP	1-NI	1-SM
	1-TU	1-UR	1-VR	1-WD	1-XU										
9640(7)	7-G3														
9645(1)	1-BG														
9650(42)	13-TU	6-WI	4-ZT	3-FG	2-B1	2-BD	2-FU	2-PB	1-**	1-4F	1-IR	1-K7	1-LF	1-LG	1-MU
	1-PL														
9660(196)	17-KF	14-BU	13-**	13-PB	12-WI	12-ZM	11-UQ	10-TK	7-LG	7-U7	6-AD	6-FU	6-MG	5-RA	5-VL
	4-MV	4-TU	3-AG	3-BL	3-BQ	3-HP	3-LF	2-1G	2-BD	2-CB	2-IG	2-MU	2-NS	2-PL	2-XI
	2-XN	2-XW	1-FG	1-FL	1-GS	1-LK	1-PA	1-RP	1-UR	1-WD	1-XU				
9670(11)	2-FL	2-TK	2-WD	1-NS	1-PB	1-R6	1-SM	1-UR							
9675(14)	7-GR	3-WL	2-BA	1-GM	1-IG										
9680(265)	124-Z1	34-TK	27-LK	7-K7	7-WM	6-FU	5-MU	5-UR	5-WI	4-AD	4-LF	4-PF	3-**	3-PB	3-SM
	3-TR	2-BQ	2-D4	2-KD	2-KF	2-L4	2-US	1-AG	1-CB	1-FG	1-HP	1-KM	1-LG	1-MG	1-RT
	1-VR														
9690(10)	3-BG	2-**	2-BD	1-AN	1-LD	1-MU									
9695(42)	13-R6	11-TK	4-MG	4-VU	2-4F	2-FG	2-RG	1-D3	1-HP	1-RB	1-SM				
9705(289)	63-KD	43-4F	39-1G	28-1D	20-**	20-8L	17-BG	14-4N	12-AN	8-DA	4-7K	4-Z1	3-PB	3-VF	2-DB
	2-FL	2-MX	1-AD	1-LM	1-NS	1-UD	1-XI								
9710(3)	1-**	1-7K	1-KD												
9715(21)	4-**	3-MP	2-AD	2-TU	2-UD	2-WD	1-8L	1-FR	1-PB	1-SM	1-TK	1-XI			
9725(166)	30-WM	19-AS	15-U7	15-WQ	10-B1	10-PB	10-TU	9-S5	7-**	6-AG	4-LR	3-MG	3-XI	2-D3	2-FA
	2-MF	2-MP	2-WD	2-WI	2-ZM	1-AD	1-BD	1-BG	1-CB	1-GS	1-IR	1-LK	1-LM	1-SM	1-WG
	1-XR														
9735(17)	4-KV	3-BL	3-RT	2-BU	2-ST	1-PA	1-RB	1-XU							
9740(7)	4-TU	2-WD	1-PB												
9750(90)	24-MU	12-4F	9-BQ	8-**	6-HP	5-TU	3-7K	3-SM	2-8L	2-AD	2-CB	2-D3	2-IG	1-BK	1-FG
	1-FU	1-HM	1-MF	1-MG	1-MX	1-NS	1-RT	1-VL							
9760(16)	9-TK	3-SF	2-4N	1-7K	1-WQ										
9770(55)	12-TK	9-WI	5-KM	3-**	3-FU	3-UB	3-WD	2-TU	2-WL	1-AG	1-BD	1-BU	1-CB	1-FG	1-GI
	1-KD	1-LG	1-NS	1-PB	1-RP	1-VR	1-XI								
11700(24)	8-WI	6-TU	5-XN	2-CB	1-**	1-BN	1-WS								
11705(79)	49-VR	9-**	4-TU	2-CG	2-MF	2-US	1-BD	1-BL	1-BR	1-DP	1-IG	1-KB	1-LK	1-MP	1-UR
	1-VM	1-YU													
11710(75)	16-**	10-WI	7-BL	6-7K	5-4F	5-IR	5-PB	4-VG	2-AW	2-BD	2-LG	2-PF	2-WD	1-4N	1-KV
	1-LM	1-MF	1-VU	1-XN	1-XU										

11720(21)	12-**	7-4N	1-4F	1-KB										
11725(406)	116-1G	63-4F	53-7K	37-MU	29-**	28-4N	10-IG	9-8L	8-BG	8-TK	8-WG	7-GI	5-CA	3-XN	2-BA
	2-DA	2-LG	2-MF	2-MX	2-VN	2-WM	2-XR	1-AD	1-KB	1-TU	1-UN	1-VM	1-YU		
11740(34)	7-WI	5-TU	4-BD	3-**	3-VG	2-AG	2-NI	2-RQ	1-BL	1-CB	1-CG	1-FA	1-RT	1-XN	
11760(25)	10-VR	8-GM	2-IG	1-**	1-DA	1-LK	1-ML	1-UR							
11770(219)	98-MU	18-WI	16-KB	10-PB	8-DR	7-SM	6-BQ	5-FG	5-PF	4-DB	4-NI	4-U7	3-**	3-NS	3-PL
	3-TU	2-BG	2-BK	2-BU	2-CB	2-FL	2-KV	2-RQ	2-UQ	1-BD	1-HM	1-MG	1-RT	1-UB	1-YU
11780(24)	14-TU	3-WI	2-BQ	1-BD	1-BL	1-NI	1-VG	1-YU							
11795(9)	4-LR	2-RT	1-AD	1-NI	1-TU										
11805(87)	24-TU	7-SF	6-KD	5-KB	5-UD	4-PB	4-VG	3-BD	3-BQ	3-HM	3-NI	2-**	2-CB	2-NS	2-WI
	1-AN	1-BL	1-FL	1-FR	1-KM	1-LF	1-MG	1-PL	1-RT	1-SM	1-WD	1-YU			
11815(3)	1-AD	1-SM	1-U7												
11825(104)	34-D3	13-U7	11-B1	11-RT	8-**	4-K7	3-AG	3-WA	3-WI	2-A5	2-BD	2-UN	1-B5	1-BL	1-BU
	1-CB	1-MF	1-PA	1-RQ	1-UB										
11835(198)	41-KB	20-BD	20-WI	13-WL	12-IG	11-LG	10-VG	7-**	6-RT	5-LF	5-WD	4-GS	4-UB	4-UD	3-AW
	3-BL	3-NS	3-PF	2-FL	2-GR	2-HM	2-IR	2-MG	2-NI	2-PB	2-TU	1-DB	1-FR	1-KV	1-MI
	1-RV	1-SM	1-TR	1-VL											
11845(126)	40-MP	22-TU	12-RT	11-BD	6-PB	4-**	4-GR	4-KD	4-UD	3-WI	3-WM	2-HM	2-NI	2-SM	2-WD
	1-BL	1-CB	1-KV	1-LM	1-VG										
11850(17)	8-MF	6-A5	2-K7	1-G3											
11855(37)	8-TU	7-NS	4-B1	3-AG	3-K7	2-FU	2-PK	1-AN	1-BU	1-D4	1-G3	1-NI	1-SM	1-U7	1-WD
11865(47)	18-RT	9-**	6-B1	3-BL	3-KB	2-KV	2-PA	2-ST	1-TU	1-WI					
11875(340)	39-FU	28-**	28-NS	26-TU	21-TK	20-MF	17-GU	16-LK	15-K7	13-KM	10-BQ	8-KB	8-RT	7-XW	6-IG
	6-UQ	5-BD	5-R9	5-RQ	4-WI	3-DR	3-FG	3-GS	3-LG	3-PB	3-UB	2-BG	2-DB	2-FL	2-GI
	2-KV	2-MP	2-NI	2-PA	1-4F	1-AD	1-BI	1-DP	1-DU	1-FI	1-FR	1-HP	1-MG	1-RB	1-RV
	1-TR	1-VG	1-VL	1-VN	1-VR	1-XI	1-XR	1-Z1							
11885(556)	79-IG	54-Z1	48-WA	39-DU	29-VU	28-U7	27-ZT	26-TU	25-WM	21-**	17-TK	16-NS	16-ZM	14-BG	12-US
	10-MF	9-D3	7-LG	6-WL	5-DR	5-ML	5-MU	4-KV	4-PL	3-AN	3-FM	2-1D	2-B1	2-BI	2-FL
	2-GM	2-LM	2-PA	2-PB	2-S7	2-SM	2-TR	2-UA	2-UN	2-VL	1-AD	1-BD	1-DB	1-FR	1-GU
	1-HP	1-KD	1-KM	1-LK	1-MI	1-NI	1-PK	1-SU	1-VN	1-VR	1-WI				
11895(8)	2-**	2-US	1-DU	1-RQ	1-UN	1-WA									
11905(58)	17-IG	9-WI	8-D3	7-TU	4-BD	3-HM	2-VG	2-WM	2-XN	1-**	1-NI	1-PB	1-SM		
11915(148)	64-MU	17-TK	17-WM	10-BQ	8-IG	6-**	6-GR	3-AN	3-UA	2-DR	2-PL	2-U7	2-WI	1-KU	1-NS
	1-SB	1-SM	1-TU	1-WD											
11925(22)	6-FA	5-PF	2-KM	1-CB	1-DB	1-FL	1-GM	1-IR	1-LF	1-MU	1-UD	1-VL			
11930(22)	13-KD	2-IG	1-**	1-CG	1-DA	1-GR	1-KU	1-LR	1-RD						
11935(221)	49-MU	49-R6	27-SU	15-G3	13-KB	11-ML	9-**	9-BQ	5-A5	4-NS	3-CB	3-VU	2-IG	2-K7	2-MF
	2-PB	2-SM	2-WM	1-FL	1-KD	1-PL	1-RB	1-SF	1-UA	1-UB	1-VG	1-W4	1-WD	1-WI	1-XN
11945(8)	4-MF	2-**	2-7K												
11955(15)	6-WI	3-FM	2-FL	2-PB	1-FG	1-MG									
11960(73)	22-WI	9-ST	8-PB	5-WD	4-PA	3-**	3-KV	2-AG	2-IT	2-RQ	2-RT	2-VG	2-VU	1-CB	1-FL
	1-HM	1-LG	1-TK	1-WM	1-XN										
11965(31)	14-RD	3-KU	3-ZT	2-BA	2-GM	2-LR	1-FA	1-GR	1-IG	1-RB	1-UD				
11970(501)	131-TK	83-WM	45-R6	31-**	31-IG	27-FU	19-WI	16-U7	13-TU	13-Z1	10-UQ	8-BL	6-BP	6-KB	6-NS
	6-SU	5-ST	4-KM	4-RT	3-KU	3-MU	3-PA	2-BQ	2-BU	2-IT	2-PF	2-WG	1-AD	1-AG	1-AK
	1-BD	1-DU	1-FG	1-KD	1-LF	1-LM	1-PB	1-PL	1-RB	1-RD	1-RQ	1-SF	1-US	1-VR	1-YU
15105(29)	11-WD	8-WI	5-TU	2-MG	1-HM	1-NS	1-VG								

15115(124)	43-A5	27-W4	21-G3	11-K7	7-LK	4-AG	3-M7	2-**	2-MF	2-WA	1-L4	1-MX			
15120(22)	8-TU	3-NS	2-PB	2-VM	2-XI	1-NI	1-SM	1-TK	1-XD	1-YU					
15125(4)	2-TK	1-IR	1-PB												
15130(128)	45-Z1	39-TK	10-TU	6-BL	5-FU	4-LG	3-PA	3-RT	2-US	1-**	1-BG	1-HM	1-HP	1-LF	1-PB
	1-PK	1-PL	1-VL	1-WD	1-WI										
15145(147)	77-4F	26-LG	14-**	13-4N	10-7K	3-PK	1-PL	1-TK	1-VR	1-ZA					
15160(17)	4-A5	4-MF	3-D3	2-**	1-D4	1-K7	1-M7	1-W4							
15170(142)	55-4F	22-B1	16-PK	13-NS	9-TK	7-FU	5-AS	2-LG	2-PB	2-WI	1-**	1-4N	1-IG	1-KF	1-LM
	1-TR	1-TU	1-WD	1-ZM											
15180(15)	8-**	7-4F													
15185(12)	3-WA	2-LK	1-**	1-BU	1-FA	1-LG	1-UD	1-VG	1-WD						
15195(3)	2-MA	1-4F													
15205(1)	1-TU														
15215(2)	1-**	1-WM													
15225(49)	7-TU	7-WD	6-FG	5-**	3-BD	3-BQ	3-PB	2-FL	2-SM	2-VG	1-IR	1-KD	1-MF	1-MG	1-NI
	1-PL	1-TR	1-XI	1-XN											
15235(53)	8-TU	7-GI	4-PB	4-WD	3-NS	3-SM	3-UQ	2-**	2-MG	2-PA	2-VG	2-WI	1-AG	1-BD	1-FG
	1-FL	1-HM	1-IG	1-IR	1-TL	1-UB	1-XI	1-XN							
15240(20)	5-XN	3-**	2-DB	2-PB	2-RQ	1-CB	1-LF	1-NS	1-TK	1-TR	1-TU				
15245(46)	15-PB	11-WD	8-TU	3-DB	2-HM	2-LF	2-TR	1-FR	1-KB	1-PL					
15255(245)	60-B1	36-NS	32-S5	25-MF	24-AG	18-WM	12-L8	11-D3	8-T1	6-**	5-AS	2-MU	2-WG	1-8L	1-PL
	1-TK	1-Z3													
15270(8)	6-TK	1-**	1-PL												
15275(9)	4-CG	2-WA	1-**	1-PL	1-TR										
15280(26)	5-NS	3-TU	3-WS	2-**	2-BD	2-FL	2-HM	1-FG	1-KF	1-LG	1-MG	1-PB	1-PL	1-XI	
15290(277)	58-TK	47-TU	18-R6	15-PL	12-MU	10-LG	8-FG	6-AW	6-BR	6-FI	6-U7	6-VR	6-WI	5-**	5-SM
	5-VG	4-CB	4-PB	3-CA	3-MG	3-ML	3-UQ	3-VI	3-WD	3-WR	2-AK	2-DB	2-GF	2-LT	2-NS
	2-WS	2-ZM	1-AD	1-AN	1-BD	1-BN	1-BQ	1-FL	1-GR	1-HP	1-NI	1-PA	1-RB	1-RG	1-UB
	1-VL	1-XI													
15325(13)	5-A5	3-KB	2-PL	2-UR	1-**										
15330(10)	4-A5	3-K7	2-R6	1-PL											
15340(161)	29-VR	20-TU	19-**	12-WI	9-NS	9-PB	8-R9	5-FL	5-LG	5-LK	4-PL	4-SF	4-WL	3-AD	2-B1
	2-BQ	2-DU	2-RT	2-VG	1-A5	1-BD	1-FI	1-FU	1-HP	1-KF	1-LM	1-MG	1-TR	1-UB	1-UR
	1-VM	1-WG	1-XN	1-ZM											
15355(9)	4-**	4-WQ	1-PL												
15370(105)	18-U7	12-TU	11-MU	8-WI	8-ZM	5-**	4-DR	4-UQ	3-FU	3-S7	3-VL	2-BG	2-D3	2-FG	2-FL
	2-IG	2-SM	2-UA	1-AD	1-BL	1-BQ	1-FR	1-GI	1-LM	1-NS	1-PL	1-RP	1-RT	1-TR	1-VN
15380(127)	20-**	12-K7	10-NS	7-MU	7-TU	7-WI	6-FR	6-R6	5-LK	4-CB	4-PB	4-UB	4-VL	3-UN	3-ZA
	2-AW	2-D3	2-FL	2-FU	2-LG	2-SM	2-US	1-AN	1-BD	1-DR	1-FG	1-KD	1-MG	1-RT	1-SB
	1-VR	1-XI	1-XN												
15390(25)	8-4F	6-TU	3-FG	2-**	1-7K	1-AU	1-MG	1-NS	1-TR	1-UB					
15415(14)	4-GI	2-CB	2-LF	2-SM	1-**	1-FG	1-NI	1-WI							
15430(25)	10-GI	8-AK	2-VU	2-WD	1-FA	1-SB	1-TU								
15435(10)	3-**	3-WA	1-KD	1-LM	1-TU	1-WD									
15445(109)	37-K7	20-TU	7-WI	5-VR	4-KF	4-Z1	3-**	3-BR	3-DR	3-FU	3-LK	3-PB	3-WM	2-FG	2-WD
	1-CB	1-IG	1-PL	1-UB	1-VI	1-XD	1-XI								
17705(1)	1-**														

17710(20)	3-BL	3-CB	3-HM	2-PL	2-SM	1-**	1-BN	1-FL	1-PB	1-TU	1-VM	1-XI			
17715(16)	10-**	2-PL	1-A5	1-SM	1-UD	1-VM									
17725(138)	12-BQ	12-MU	11-SM	10-SF	10-UQ	9-NS	7-4N	6-CB	6-D4	5-UN	4-AD	4-FG	4-TU	4-XI	3-**
	3-FL	3-KF	3-KM	2-4F	2-A5	2-IG	2-K7	2-L4	2-VM	2-WI	1-AG	1-AK	1-BD	1-BI	1-HP
	1-KR	1-LT	1-PB												
17735(79)	27-4F	14-4N	11-**	10-MX	6-7K	2-CG	2-UQ	1-A5	1-BG	1-BQ	1-IG	1-NS	1-PL	1-TU	
17740(14)	4-LR	2-4F	2-4N	2-LK	1-BQ	1-IR	1-ML	1-VN							
17750(130)	23-M3	23-MU	12-AD	9-BQ	7-**	6-CB	6-XW	5-TK	4-US	3-BG	3-FG	3-SM	3-ZM	2-BU	2-HM
	2-TU	2-WM	1-DA	1-IG	1-KD	1-KF	1-KM	1-KR	1-LT	1-MA	1-MG	1-NS	1-PL	1-VL	1-VM
	1-WI	1-XD													
17760(119)	20-LK	13-DR	10-AD	9-HP	7-NS	6-**	5-KM	5-VR	4-FL	4-LT	4-R9	4-SM	3-CB	3-TU	2-BQ
	2-DB	2-FG	2-FI	2-HM	2-KF	2-PL	1-AU	1-BG	1-KB	1-MG	1-MW	1-NI	1-TK	1-WI	
17770(22)	4-**	2-BQ	2-HM	2-MG	2-PB	2-WI	1-CB	1-FG	1-FU	1-HP	1-IR	1-NS	1-PL	1-TR	
17780(20)	5-BQ	3-HM	2-**	2-CB	2-HP	2-XI	1-IR	1-NS	1-PL	1-VM					
17800(6)	1-**	1-4N	1-BN	1-FL	1-HM	1-VL									
17805(66)	36-4F	10-7K	9-**	4-LG	2-4N	1-AN	1-DR	1-PL	1-RD	1-WM					
17815(8)	2-HM	2-NS	1-CB	1-FL	1-SM	1-TU									
17825(3)	2-**	1-VR													
17835(25)	12-**	6-D3	2-WA	2-Z3	1-CB	1-G3	1-TU								
17845(6)	6-WA														
17855(45)	8-AD	8-KM	6-**	5-TU	2-FG	2-HM	2-MG	2-NS	2-WA	2-XI	1-DB	1-FL	1-SM	1-UB	1-VM
	1-XR														
17865(24)	10-LK	7-CG	2-AD	1-1G	1-GM	1-KD	1-KR	1-WA							
17875(10)	3-WA	2-AD	1-**	1-DB	1-LK	1-ML	1-TU								
17885(20)	3-LG	3-NS	2-FG	2-HP	2-MG	2-XI	1-**	1-GF	1-PB	1-PL	1-TR	1-TU			
17895(126)	23-U7	10-NS	9-**	8-TU	7-BQ	6-AD	6-LK	6-SF	5-HP	4-FU	4-MU	4-SM	4-WI	4-XI	3-CB
	3-MG	2-GI	2-IR	2-VL	2-XD	1-BD	1-FL	1-GL	1-HM	1-KM	1-LT	1-MW	1-PL	1-VM	1-VR
	1-WR	1-ZM													
21455(28)	5-TK	4-DR	2-**	2-BQ	2-KV	2-LT	1-AD	1-CB	1-FI	1-KF	1-PL	1-RQ	1-RT	1-TR	1-VL
	1-XW	1-ZA													
21500(5)	3-RT	1-**	1-AD												
21510(35)	10-DR	4-XW	4-ZM	3-**	3-FU	3-WM	2-AD	2-LT	1-CB	1-PL	1-RQ	1-VL			
21520(6)	2-RT	1-**	1-KM	1-LG	1-MV										
21530(2)	2-**														
21580(2)	1-A5	1-TU													
21590(2)	1-**	1-AD													
21630(1)	1-**														
21650(2)	1-**	1-ZM													
21665(9)	6-**	3-4F													
21700(1)	1-LT														
21720(2)	1-CB	1-L8													
21735(17)	4-TK	3-BI	2-PB	2-RT	1-**	1-BD	1-BG	1-FG	1-LM	1-MU					
21745(20)	3-**	3-US	2-BI	2-D3	2-LM	2-PB	2-RT	1-BQ	1-DP	1-KV	1-LG				

FREQUENCIES DETECTED FOR SPECIFIED MARKERS MARCH-APRIL 1985 for BROADCASTER ALL

**(811)	5955-	6	5970-	5	5985-	5	6010-	1	6015-	1	6020-	1	6025-	2	6030-	9	6060-	1	6065-	1
	6070-	1	6085-	19	6090-	5	6105-	34	6120-	10	6125-	3	6130-	1	6135-	5	6140-	3	6150-	2
	6160-	4	6170-	8	7115-	4	7125-	1	7130-	8	7140-	3	7150-	5	7155-	22	7165-	2	7180-	5
	7190-	1	7200-	1	7210-	2	7220-	27	7230-	1	7240-	1	7245-	5	7250-	2	7255-	10	7260-	3
	7265-	1	7270-	6	7280-	2	7285-	2	7295-	12	9520-	24	9530-	2	9555-	17	9565-	2	9605-	1
	9615-	3	9625-	15	9635-	3	9650-	1	9660-	13	9680-	3	9690-	2	9705-	20	9710-	1	9715-	4
	9725-	7	9750-	8	9770-	3	11700-	1	11705-	9	11710-	16	11720-	12	11725-	29	11740-	3	11760-	1
	11770-	3	11805-	2	11825-	8	11835-	7	11845-	4	11865-	9	11875-	28	11885-	21	11895-	2	11905-	1
	11915-	6	11930-	1	11935-	9	11945-	2	11960-	3	11970-	31	15115-	2	15130-	1	15145-	14	15160-	2
	15170-	1	15180-	8	15185-	1	15215-	1	15225-	5	15235-	2	15240-	3	15255-	6	15270-	1	15275-	1
	15280-	2	15290-	5	15325-	1	15340-	19	15355-	4	15370-	5	15380-	20	15390-	2	15415-	1	15435-	3
	15445-	3	17705-	1	17710-	1	17715-	10	17725-	3	17735-	11	17750-	7	17760-	6	17770-	4	17780-	2
	17800-	1	17805-	9	17825-	2	17835-	12	17855-	6	17875-	1	17885-	1	17895-	9	21455-	2	21500-	1
	21510-	3	21520-	1	21530-	2	21590-	1	21630-	1	21650-	1	21665-	6	21735-	1	21745-	3		
1D(56)	5970-	4	6060-	2	6120-	1	6125-	1	6130-	1	6140-	1	6150-	4	6160-	7	7155-	1	7190-	1
	7210-	1	7220-	1	7295-	1	9705-	28	11885-	2										
1G(233)	5955-	5	5970-	10	5985-	1	6060-	10	6125-	1	6130-	1	6140-	1	6150-	2	6160-	7	7130-	8
	7190-	21	9625-	2	9635-	6	9660-	2	9705-	39	11725-	116	17865-	1						
4F(382)	7155-	1	7180-	5	7190-	15	7200-	5	7235-	3	9615-	7	9650-	1	9695-	2	9705-	43	9750-	12
	11710-	5	11720-	1	11725-	63	11875-	1	15145-	77	15170-	55	15180-	7	15195-	1	15390-	8	17725-	2
	17735-	27	17740-	2	17805-	36	21665-	3												
4N(106)	6060-	3	6150-	5	7130-	1	9530-	1	9605-	3	9615-	1	9705-	14	9760-	2	11710-	1	11720-	7
	11725-	28	15145-	13	15170-	1	17725-	7	17735-	14	17740-	2	17800-	1	17805-	2				
7K(99)	7190-	2	9705-	4	9710-	1	9750-	3	9760-	1	11710-	6	11725-	53	11945-	2	15145-	10	15390-	1
	17735-	6	17805-	10																
8L(60)	5970-	7	5985-	1	6060-	1	6125-	1	6160-	3	7220-	1	9530-	13	9705-	20	9715-	1	9750-	2
	11725-	9	15255-	1																
A5(78)	7255-	1	9615-	2	11825-	2	11850-	6	11935-	5	15115-	43	15160-	4	15325-	5	15330-	4	15340-	1
	17715-	1	17725-	2	17735-	1	21580-	1												
AD(92)	5995-	3	6015-	1	6050-	1	6080-	1	7170-	1	7190-	1	7270-	1	7275-	1	9505-	2	9625-	4
	9660-	6	9680-	4	9705-	1	9715-	2	9725-	1	9750-	2	11725-	1	11795-	1	11815-	1	11875-	1
	11885-	1	11970-	1	15290-	1	15340-	3	15370-	1	17725-	4	17750-	12	17760-	10	17855-	8	17865-	2
	17875-	2	17895-	6	21455-	1	21500-	1	21510-	2	21590-	1								
AG(84)	6125-	1	6150-	3	6170-	2	7115-	1	7120-	8	7150-	1	7155-	2	7170-	2	7180-	2	7250-	2
	7255-	1	7270-	3	9520-	3	9565-	1	9660-	3	9680-	1	9725-	6	9770-	1	11740-	2	11825-	3
	11855-	3	11960-	2	11970-	1	15115-	4	15235-	1	15255-	24	17725-	1						
AK(12)	11970-	1	15290-	2	15430-	8	17725-	1												
AN(57)	6060-	1	6105-	1	6160-	1	7220-	4	7250-	1	9505-	13	9520-	4	9555-	1	9565-	7	9690-	1
	9705-	12	11805-	1	11855-	1	11885-	3	11915-	3	15290-	1	15380-	1	17805-	1				
AR(20)	7155-	11	7165-	3	7170-	1	7180-	2	7250-	2	9565-	1								
AS(39)	6025-	1	6170-	1	7190-	4	7295-	1	9505-	2	9555-	1	9725-	19	15170-	5	15255-	5		
AU(14)	6105-	4	9520-	8	15390-	1	17760-	1												
AW(13)	11710-	2	11835-	3	15290-	6	15380-	2												
B1(161)	5985-	9	6020-	1	6065-	1	6105-	5	6135-	2	7130-	1	7165-	6	7200-	1	9595-	3	9615-	12
	9635-	1	9650-	2	9725-	10	11825-	11	11855-	4	11865-	6	11885-	2	15170-	22	15255-	60	15340-	2

B3(2)	9625-	2																						
B5(4)	6030-	1	7140-	1	7200-	1	11825-	1																
BA(10)	9530-	4	9675-	2	11725-	2	11965-	2																
BD(115)	6010-	5	6025-	5	6085-	3	6090-	2	6095-	1	6125-	1	6130-	1	6140-	1	6150-	2	6160-	3				
	7180-	1	7220-	4	7270-	1	9520-	3	9530-	3	9565-	2	9635-	1	9650-	2	9660-	2	9690-	2				
	9725-	1	9770-	1	11705-	1	11710-	2	11740-	4	11770-	1	11780-	1	11805-	3	11825-	2	11835-	20				
	11845-	11	11875-	5	11885-	1	11905-	4	11970-	1	15225-	3	15235-	1	15280-	2	15290-	1	15340-	1				
	15380-	1	17725-	1	17895-	1	21735-	1																
BG(232)	5955-	1	6060-	4	6080-	1	6105-	10	6125-	4	6130-	1	6150-	2	6170-	11	7105-	2	7120-	7				
	7145-	1	7155-	13	7165-	7	7180-	3	7190-	72	7220-	17	7245-	1	7255-	1	7270-	2	7295-	2				
	9520-	6	9530-	2	9565-	4	9605-	1	9645-	1	9690-	3	9705-	17	9725-	1	11725-	8	11770-	2				
	11875-	2	11885-	14	15130-	1	15370-	2	17735-	1	17750-	3	17760-	1	21735-	1								
BI(11)	6105-	1	7255-	1	11875-	1	11885-	2	17725-	1	21735-	3	21745-	2										
BK(4)	6140-	1	9750-	1	11770-	2																		
BL(62)	5955-	1	6060-	1	6095-	1	6125-	1	6140-	1	6160-	2	6170-	2	7120-	1	7180-	4	7295-	1				
	9505-	1	9520-	1	9530-	1	9585-	1	9660-	3	9735-	3	11705-	1	11710-	7	11740-	1	11780-	1				
	11805-	1	11825-	1	11835-	3	11845-	1	11865-	3	11970-	8	15130-	6	15370-	1	17710-	3						
BN(4)	11700-	1	15290-	1	17710-	1	17800-	1																
BP(6)	11970-	6																						
BQ(127)	9505-	9	9520-	6	9530-	2	9555-	1	9585-	4	9660-	3	9680-	2	9750-	9	11770-	6	11780-	2				
	11805-	3	11875-	10	11915-	10	11935-	9	11970-	2	15225-	3	15290-	1	15340-	2	15370-	1	17725-	12				
	17735-	1	17740-	1	17750-	9	17760-	2	17770-	2	17780-	5	17895-	7	21455-	2	21745-	1						
BR(13)	7190-	1	9520-	2	11705-	1	15290-	6	15445-	3														
BU(46)	5970-	5	5985-	1	6060-	2	6125-	7	6150-	3	7220-	1	9520-	1	9660-	14	9735-	2	9770-	1				
	11770-	2	11825-	1	11855-	1	11970-	2	15185-	1	17750-	2												
CA(17)	6105-	1	6170-	1	7130-	4	7245-	1	9520-	2	11725-	5	15290-	3										
CB(75)	6010-	1	6025-	1	6070-	1	6170-	1	7105-	1	7165-	2	7200-	1	7270-	1	9505-	1	9530-	1				
	9585-	1	9625-	1	9660-	2	9680-	1	9725-	1	9750-	2	9770-	1	11700-	2	11740-	1	11770-	2				
	11805-	2	11825-	1	11845-	1	11925-	1	11935-	3	11960-	1	15240-	1	15290-	4	15380-	4	15415-	2				
	15445-	1	17710-	3	17725-	6	17750-	6	17760-	3	17770-	1	17780-	2	17815-	1	17835-	1	17895-	3				
	21455-	1	21510-	1	21720-	1																		
CG(22)	7295-	5	11705-	2	11740-	1	11930-	1	15275-	4	17735-	2	17865-	7										
D3(120)	5985-	6	6105-	1	7255-	3	7270-	1	9555-	12	9565-	12	9625-	3	9695-	1	9725-	2	9750-	2				
	11825-	34	11885-	9	11905-	8	15160-	3	15255-	11	15370-	2	15380-	2	17835-	6	21745-	2						
D4(12)	9615-	2	9680-	2	11855-	1	15160-	1	17725-	6														
D7(11)	6105-	11																						
DA(22)	7190-	2	7220-	3	9505-	3	9520-	1	9705-	8	11725-	2	11760-	1	11930-	1	17750-	1						
DB(22)	9705-	2	11770-	4	11835-	1	11875-	2	11885-	1	11925-	1	15240-	2	15245-	3	15290-	2	17760-	2				
	17855-	1	17875-	1																				
DP(16)	7155-	1	7270-	1	7295-	3	9520-	6	9555-	1	9565-	1	11705-	1	11875-	1	21745-	1						
DR(303)	5955-	5	5970-	67	6020-	1	6060-	9	6090-	4	6125-	21	6150-	3	6160-	10	6170-	1	7155-	3				
	7170-	1	7180-	4	7190-	32	7210-	2	7220-	1	7245-	8	7260-	2	7270-	5	7280-	6	7295-	3				
	9505-	14	9520-	47	11770-	8	11875-	3	11885-	5	11915-	2	15370-	4	15380-	1	15445-	3	17760-	13				
	17805-	1	21455-	4	21510-	10																		
DU(187)	5955-	3	6010-	1	6080-	3	6105-	17	6130-	6	6140-	1	6160-	4	6170-	4	6180-	7	7115-	2				
	7145-	6	7155-	6	7165-	1	7180-	11	7190-	1	7210-	2	7220-	37	7245-	2	7255-	1	7270-	4				
	9505-	6	9520-	18	11875-	1	11885-	39	11895-	1	11970-	1	15340-	2										

FA(19)	6105-	5	7120-	1	7220-	1	9725-	2	11740-	1	11925-	6	11965-	1	15185-	1	15430-	1				
FG(89)	6085-	1	7105-	5	7220-	1	7240-	2	7275-	1	9505-	3	9530-	1	9555-	5	9565-	2	9585-	2		
	9625-	5	9635-	2	9650-	3	9660-	1	9680-	1	9695-	2	9750-	1	9770-	1	11770-	5	11875-	3		
	11955-	1	11970-	1	15225-	6	15235-	1	15280-	1	15290-	8	15370-	2	15380-	1	15390-	3	15415-	1		
	15445-	2	17725-	4	17750-	3	17760-	2	17770-	1	17855-	2	17885-	2	21735-	1						
FI(12)	9505-	1	11875-	1	15290-	6	15340-	1	17760-	2	21455-	1										
FL(56)	5955-	1	6025-	1	6085-	1	6105-	1	7105-	1	7125-	1	7295-	1	9505-	3	9660-	1	9670-	2		
	9705-	2	11770-	2	11805-	1	11835-	2	11875-	2	11885-	2	11925-	1	11935-	1	11955-	2	11960-	1		
	15225-	2	15235-	1	15280-	2	15290-	1	15340-	5	15370-	2	15380-	2	17710-	1	17725-	3	17760-	4		
	17800-	1	17815-	1	17855-	1	17895-	1														
FM(6)	11885-	3	11955-	3																		
FR(22)	7105-	5	7125-	1	7275-	1	9625-	2	9715-	1	11805-	1	11835-	1	11875-	1	11885-	1	15245-	1		
	15370-	1	15380-	6																		
FU(174)	7120-	2	7155-	2	7170-	1	7220-	4	7255-	1	7270-	1	7280-	3	7295-	2	9505-	30	9520-	3		
	9565-	10	9650-	2	9660-	6	9680-	6	9750-	1	9770-	3	11855-	2	11875-	39	11970-	27	15130-	5		
	15170-	7	15340-	1	15370-	3	15380-	2	15445-	3	17770-	1	17895-	4	21510-	3						
G3(52)	5985-	1	7255-	2	7285-	1	9555-	2	9640-	7	11850-	1	11855-	1	11935-	15	15115-	21	17835-	1		
GF(4)	7165-	1	15290-	2	17885-	1																
GI(242)	5955-	6	5970-	7	5985-	5	6125-	8	6135-	11	6150-	7	6160-	13	6170-	35	7180-	21	7190-	2		
	7220-	59	7260-	9	9505-	8	9520-	3	9530-	10	9540-	1	9555-	3	9770-	1	11725-	7	11875-	2		
	15235-	7	15370-	1	15415-	4	15430-	10	17895-	2												
GL(6)	6060-	2	7270-	3	17895-	1																
GM(79)	7220-	46	9520-	17	9555-	1	9675-	1	11760-	8	11885-	2	11925-	1	11965-	2	17865-	1				
GR(199)	6105-	81	7150-	3	7220-	67	7270-	5	9520-	17	9555-	4	9675-	7	11835-	2	11845-	4	11915-	6		
	11930-	1	11965-	1	15290-	1																
GS(11)	9520-	2	9660-	1	9725-	1	11835-	4	11875-	3												
GU(23)	6125-	1	7295-	1	9565-	1	9635-	2	11875-	17	11885-	1										
HM(38)	9750-	1	11770-	1	11805-	3	11835-	2	11845-	2	11905-	3	11960-	1	15105-	1	15130-	1	15235-	1		
	15245-	2	15280-	2	17710-	3	17750-	2	17760-	2	17770-	2	17780-	3	17800-	1	17815-	2	17855-	2		
	17895-	1																				
HP(52)	9505-	11	9555-	1	9565-	2	9625-	2	9660-	3	9680-	1	9695-	1	9750-	6	11875-	1	11885-	1		
	15130-	1	15290-	1	15340-	1	17725-	1	17760-	9	17770-	1	17780-	2	17885-	2	17895-	5				
IG(447)	5955-	1	5970-	1	6105-	24	6120-	3	6125-	8	7105-	1	7120-	2	7140-	2	7170-	1	7190-	1		
	7220-	53	7230-	2	9520-	91	9530-	29	9555-	22	9565-	18	9585-	3	9660-	2	9675-	1	9750-	2		
	11705-	1	11725-	10	11760-	2	11835-	12	11875-	6	11885-	79	11905-	17	11915-	8	11930-	2	11935-	2		
	11965-	1	11970-	31	15170-	1	15235-	1	15370-	2	15445-	1	17725-	2	17735-	1	17750-	1				
IR(25)	6095-	2	7105-	1	7245-	2	9530-	2	9650-	1	9725-	1	11710-	5	11835-	2	11925-	1	15125-	1		
	15225-	1	15235-	1	17740-	1	17770-	1	17780-	1	17895-	2										
IT(5)	6105-	1	11960-	2	11970-	2																
K7(101)	6105-	1	9650-	1	9680-	7	11825-	4	11850-	2	11855-	3	11875-	15	11935-	2	15115-	11	15160-	1		
	15330-	3	15380-	12	15445-	37	17725-	2														
KB(280)	7220-	2	9520-	162	9565-	16	11705-	1	11720-	1	11725-	1	11770-	16	11805-	5	11835-	41	11865-	3		
	11875-	8	11935-	13	11970-	6	15245-	1	15325-	3	17760-	1										
KD(242)	5955-	20	5970-	59	5985-	4	6010-	2	6020-	1	6025-	3	6085-	1	6160-	7	7165-	1	7170-	4		
	7180-	2	7220-	7	7255-	2	9505-	1	9520-	12	9555-	1	9625-	4	9635-	13	9680-	2	9705-	63		
	9710-	1	9770-	1	11805-	6	11845-	4	11885-	1	11930-	13	11935-	1	11970-	1	15225-	1	15380-	1		
	15435-	1	17750-	1	17865-	1																

KF(37)	7115-	1	7155-	1	7245-	1	7270-	1	9660-	17	9680-	2	15170-	1	15280-	1	15340-	1	15445-	4
	17725-	3	17750-	1	17760-	2	21455-	1												
KM(55)	9505-	5	9520-	4	9680-	1	9770-	5	11805-	1	11875-	13	11885-	1	11925-	2	11970-	4	17725-	3
	17750-	1	17760-	5	17855-	8	17895-	1	21520-	1										
KR(4)	9555-	1	17725-	1	17750-	1	17865-	1												
KU(12)	9530-	4	11915-	1	11930-	1	11965-	3	11970-	3										
KV(33)	7270-	1	7295-	3	9520-	3	9635-	3	9735-	4	11710-	1	11770-	2	11835-	1	11845-	1	11865-	2
	11875-	2	11885-	4	11960-	3	21455-	2	21745-	1										
L4(7)	9555-	2	9680-	2	15115-	1	17725-	2												
L8(15)	6105-	1	7220-	1	15255-	12	21720-	1												
LD(2)	7230-	1	9690-	1																
LF(37)	5985-	1	7125-	4	7270-	1	9530-	1	9555-	5	9565-	2	9625-	1	9650-	1	9660-	3	9680-	4
	11805-	1	11835-	5	11925-	1	11970-	1	15130-	1	15240-	1	15245-	2	15415-	2				
LG(127)	6025-	2	6085-	1	6105-	2	6160-	1	6170-	1	6180-	1	7105-	1	7145-	1	7155-	3	7200-	3
	7220-	4	7245-	1	9520-	5	9565-	2	9585-	1	9625-	2	9650-	1	9660-	7	9680-	1	9770-	1
	11710-	2	11725-	2	11835-	11	11875-	3	11885-	7	11960-	1	15130-	4	15145-	26	15170-	2	15185-	1
	15280-	1	15290-	10	15340-	5	15380-	2	17805-	4	17885-	3	21520-	1	21745-	1				
LK(135)	6140-	4	7190-	1	9520-	3	9555-	18	9660-	1	9680-	27	9725-	1	11705-	1	11760-	1	11875-	16
	11885-	1	15115-	7	15185-	2	15340-	5	15380-	5	15445-	3	17740-	2	17760-	20	17865-	10	17875-	1
	17895-	6																		
LM(19)	6105-	1	7220-	1	7245-	1	7270-	1	9520-	1	9705-	1	9725-	1	11710-	1	11845-	1	11885-	2
	11970-	1	15170-	1	15340-	1	15370-	1	15435-	1	21735-	1	21745-	2						
LR(16)	6160-	1	9725-	4	11795-	4	11930-	1	11965-	2	17740-	4								
LT(21)	9625-	7	15290-	2	17725-	1	17750-	1	17760-	4	17895-	1	21455-	2	21510-	2	21700-	1		
M3(24)	7155-	1	17750-	23																
M7(4)	15115-	3	15160-	1																
MA(15)	6160-	8	7130-	1	9555-	1	9565-	2	15195-	2	17750-	1								
MF(208)	5955-	31	6105-	22	6140-	2	6150-	11	6160-	3	6170-	17	7155-	5	7165-	4	7180-	1	7190-	1
	7200-	6	7220-	4	7235-	1	7245-	1	7295-	2	9520-	7	9555-	4	9625-	1	9725-	2	9750-	1
	11705-	2	11710-	1	11725-	2	11825-	1	11850-	8	11875-	20	11885-	10	11935-	2	11945-	4	15115-	2
	15160-	4	15225-	1	15255-	25														
MG(62)	7115-	2	7165-	3	7190-	1	7245-	3	9505-	1	9530-	1	9555-	3	9565-	2	9585-	2	9660-	6
	9680-	1	9695-	4	9725-	3	9750-	1	11770-	1	11805-	1	11835-	2	11875-	1	11955-	1	15105-	2
	15225-	1	15235-	2	15280-	1	15290-	3	15340-	1	15380-	1	15390-	1	17750-	1	17760-	1	17770-	2
	17855-	2	17885-	2	17895-	3														
MI(4)	6070-	1	7115-	1	11835-	1	11885-	1												
ML(22)	11760-	1	11885-	5	11935-	11	15290-	3	17740-	1	17875-	1								
MP(173)	6160-	1	6170-	107	7230-	1	7295-	9	9540-	3	9565-	1	9625-	2	9635-	1	9715-	3	9725-	2
	11705-	1	11845-	40	11875-	2														
MU(445)	5955-	6	5990-	1	6015-	1	7105-	2	7220-	3	7255-	29	9505-	6	9520-	32	9530-	2	9555-	1
	9650-	1	9660-	2	9680-	5	9690-	1	9750-	24	11725-	37	11770-	98	11885-	5	11915-	64	11925-	1
	11935-	49	11970-	3	15255-	2	15290-	12	15370-	11	15380-	7	17725-	12	17750-	23	17895-	4	21735-	1
MV(5)	9660-	4	21520-	1																
MW(4)	7295-	1	9590-	1	17760-	1	17895-	1												
MX(16)	9705-	2	9750-	1	11725-	2	15115-	1	17735-	10										
NA(5)	7180-	3	9505-	1	9530-	1														

NI(35)	5990-	1	7105-	1	7220-	2	7245-	1	7270-	1	7295-	1	9585-	1	9625-	1	9635-	1	11740-	2		
	11770-	4	11780-	1	11795-	1	11805-	3	11835-	2	11845-	2	11855-	1	11875-	2	11885-	1	11905-	1		
	15120-	1	15225-	1	15290-	1	15415-	1	17760-	1												
NS(244)	7105-	6	7220-	8	7255-	3	7285-	1	7295-	1	9505-	16	9520-	1	9530-	1	9555-	5	9565-	3		
	9585-	1	9660-	2	9670-	1	9705-	1	9750-	1	9770-	1	11770-	3	11805-	2	11835-	3	11855-	7		
	11875-	28	11885-	16	11915-	1	11935-	4	11970-	6	15105-	1	15120-	3	15170-	13	15235-	3	15240-	1		
	15255-	36	15280-	5	15290-	2	15340-	9	15370-	1	15380-	10	15390-	1	17725-	9	17735-	1	17750-	1		
	17760-	7	17770-	1	17780-	1	17815-	2	17855-	2	17885-	3	17895-	10								
PA(30)	6150-	6	7245-	1	9565-	1	9660-	1	9735-	1	11825-	1	11865-	2	11875-	2	11885-	2	11960-	4		
	11970-	3	15130-	3	15235-	2	15290-	1														
PB(219)	6025-	1	6160-	1	7145-	1	7150-	1	7155-	9	7165-	1	7200-	1	7210-	1	7220-	7	7230-	3		
	7240-	2	7245-	6	7260-	1	7270-	4	7275-	1	7280-	2	7285-	1	7295-	1	9505-	8	9520-	1		
	9530-	1	9555-	3	9565-	14	9625-	7	9650-	2	9660-	13	9670-	1	9680-	3	9705-	3	9715-	1		
	9725-	10	9740-	1	9770-	1	11710-	5	11770-	10	11805-	4	11835-	2	11845-	6	11875-	3	11885-	2		
	11905-	1	11935-	2	11955-	2	11960-	8	11970-	1	15120-	2	15125-	1	15130-	1	15170-	2	15225-	3		
	15235-	4	15240-	2	15245-	15	15280-	1	15290-	4	15340-	9	15380-	4	15445-	3	17710-	1	17725-	1		
	17770-	2	17885-	1	21735-	2	21745-	2														
PF(22)	9585-	1	9680-	4	11710-	2	11770-	5	11835-	3	11925-	5	11970-	2								
PK(39)	6095-	2	7105-	2	7200-	3	7220-	2	7270-	2	9505-	4	9625-	1	11855-	2	11885-	1	15130-	1		
	15145-	3	15170-	16																		
PL(91)	6170-	1	7115-	2	7125-	1	7220-	2	7245-	1	7250-	2	7255-	2	7285-	1	7295-	3	9505-	6		
	9520-	3	9555-	1	9565-	2	9625-	1	9650-	1	9660-	2	11770-	3	11805-	1	11885-	4	11915-	2		
	11935-	1	11970-	1	15130-	1	15145-	1	15225-	1	15245-	1	15255-	1	15270-	1	15275-	1	15280-	1		
	15290-	15	15325-	2	15330-	1	15340-	4	15355-	1	15370-	1	15445-	1	17710-	2	17715-	2	17735-	1		
	17750-	1	17760-	2	17770-	1	17780-	1	17805-	1	17885-	1	17895-	1	21455-	1	21510-	1				
R6(161)	9520-	9	9555-	17	9615-	1	9670-	1	9695-	13	11935-	49	11970-	45	15290-	18	15330-	2	15380-	6		
R9(20)	7165-	1	9505-	1	9555-	1	11875-	5	15340-	8	17760-	4										
RA(5)	9660-	5																				
RB(47)	5970-	10	5985-	3	6060-	6	6070-	1	6125-	4	6150-	1	6160-	1	6170-	3	7155-	1	7170-	2		
	7190-	2	7220-	1	9555-	5	9695-	1	9735-	1	11875-	1	11935-	1	11965-	1	11970-	1	15290-	1		
RD(19)	7280-	1	9505-	1	11930-	1	11965-	14	11970-	1	17805-	1										
RG(5)	7250-	1	9615-	1	9695-	2	15290-	1														
RP(6)	6095-	1	7105-	1	7180-	1	9660-	1	9770-	1	15370-	1										
RQ(45)	6025-	1	6125-	1	6140-	2	6150-	1	6160-	1	7245-	1	7270-	2	7295-	1	9505-	1	9520-	7		
	9530-	2	9585-	7	11740-	2	11770-	2	11825-	1	11875-	5	11895-	1	11960-	2	11970-	1	15240-	2		
	21455-	1	21510-	1																		
RT(113)	5955-	1	6020-	1	6025-	1	6080-	1	6085-	1	6095-	1	6140-	1	7105-	1	7120-	1	7155-	1		
	7200-	1	7210-	1	7260-	2	7270-	2	7280-	1	7295-	1	9520-	2	9530-	2	9585-	1	9635-	2		
	9680-	1	9735-	3	9750-	1	11740-	1	11770-	1	11795-	2	11805-	1	11825-	11	11835-	6	11845-	12		
	11865-	18	11875-	8	11960-	2	11970-	4	15130-	3	15340-	2	15370-	1	15380-	1	21455-	1	21500-	3		
	21520-	2	21735-	2	21745-	2																
RV(7)	6025-	1	6085-	2	6105-	1	9520-	1	11835-	1	11875-	1										
S5(52)	5970-	1	6020-	4	7130-	1	7270-	1	9615-	3	9625-	1	9725-	9	15255-	32						
S7(31)	6105-	25	9520-	1	11885-	2	15370-	3														
SB(19)	5955-	1	6105-	10	7155-	1	7180-	1	7220-	2	9555-	1	11915-	1	15380-	1	15430-	1				
SF(69)	5990-	1	6020-	1	6070-	4	6105-	6	6125-	4	6160-	1	6170-	1	7105-	1	7120-	1	7145-	2		

	7155-	1	7250-	1	7255-	2	7270-	2	7295-	1	9505-	5	9520-	1	9555-	2	9760-	3	11805-	7		
	11935-	1	11970-	1	15340-	4	17725-	10	17895-	6												
SM(95)	5955-	2	6095-	1	7155-	1	7165-	2	7180-	1	7190-	2	7240-	1	7245-	1	7255-	1	9505-	3		
	9555-	1	9585-	2	9625-	3	9635-	1	9670-	1	9680-	3	9695-	1	9715-	1	9725-	1	9750-	3		
	11770-	7	11805-	1	11815-	1	11835-	1	11845-	2	11855-	1	11885-	2	11905-	1	11915-	1	11935-	2		
	15120-	1	15225-	2	15235-	3	15290-	5	15370-	2	15380-	2	15415-	2	17710-	2	17715-	1	17725-	11		
	17750-	3	17760-	4	17815-	1	17855-	1	17895-	4												
ST(29)	6105-	5	6170-	1	7245-	1	7295-	1	9520-	2	9530-	1	9735-	2	11865-	2	11960-	9	11970-	5		
SU(41)	6090-	1	7220-	1	7295-	4	9565-	1	11885-	1	11935-	27	11970-	6								
T1(8)	15255-	8																				
TK(555)	7115-	1	7155-	22	7190-	34	7220-	5	7245-	5	7270-	2	7280-	2	9505-	1	9520-	32	9540-	1		
	9555-	41	9565-	2	9660-	10	9670-	2	9680-	34	9695-	11	9715-	1	9760-	9	9770-	12	11725-	8		
	11875-	21	11885-	17	11915-	17	11960-	1	11970-	131	15120-	1	15125-	2	15130-	39	15145-	1	15170-	9		
	15240-	1	15255-	1	15270-	6	15290-	58	17750-	5	17760-	1	21455-	5	21735-	4						
TL(4)	7220-	1	7245-	1	7250-	1	15235-	1														
TR(73)	6105-	1	6195-	1	7165-	4	7170-	2	7180-	12	7190-	1	7220-	5	7240-	1	7245-	1	7250-	2		
	7255-	3	9505-	5	9520-	8	9555-	3	9565-	5	9680-	3	11835-	1	11875-	1	11885-	2	15170-	1		
	15225-	1	15240-	1	15245-	2	15275-	1	15340-	1	15370-	1	15390-	1	17770-	1	17885-	1	21455-	1		
TU(715)	5955-	15	5990-	1	6010-	3	6025-	1	6090-	3	6095-	28	6105-	25	6125-	3	6130-	1	6140-	15		
	6150-	1	6170-	8	6195-	1	7105-	22	7115-	3	7120-	2	7145-	3	7155-	15	7165-	6	7170-	7		
	7180-	9	7190-	3	7200-	10	7220-	26	7230-	2	7240-	12	7245-	11	7255-	5	7295-	1	9505-	4		
	9520-	5	9555-	21	9565-	35	9585-	2	9615-	1	9625-	5	9635-	1	9650-	13	9660-	4	9715-	2		
	9725-	10	9740-	4	9750-	5	9770-	2	11700-	6	11705-	4	11725-	1	11740-	5	11770-	3	11780-	14		
	11795-	1	11805-	24	11835-	2	11845-	22	11855-	8	11865-	1	11875-	26	11885-	26	11905-	7	11915-	1		
	11970-	13	15105-	5	15120-	8	15130-	10	15170-	1	15205-	1	15225-	7	15235-	8	15240-	1	15245-	8		
	15280-	3	15290-	47	15340-	20	15370-	12	15380-	7	15390-	6	15430-	1	15435-	1	15445-	20	17710-	1		
	17725-	4	17735-	1	17750-	2	17760-	3	17815-	1	17835-	1	17855-	5	17875-	1	17885-	1	17895-	8		
	21580-	1																				
U7(272)	5955-	6	5985-	7	6010-	1	6065-	4	6105-	44	6170-	2	7130-	7	7155-	3	7165-	1	7220-	18		
	7245-	10	7295-	14	9505-	2	9520-	19	9660-	7	9725-	15	11770-	4	11815-	1	11825-	13	11855-	1		
	11885-	28	11915-	2	11970-	16	15290-	6	15370-	18	17895-	23										
UA(214)	6105-	181	7170-	2	7220-	20	7280-	1	7295-	1	9555-	1	11885-	2	11915-	3	11935-	1	15370-	2		
UB(34)	6090-	3	6125-	1	6150-	3	7220-	4	9770-	3	11770-	1	11825-	1	11835-	4	11875-	3	11935-	1		
	15235-	1	15290-	1	15340-	1	15380-	4	15390-	1	15445-	1	17855-	1								
UD(27)	7200-	2	9520-	1	9585-	4	9705-	1	9715-	2	11805-	5	11835-	4	11845-	4	11925-	1	11965-	1		
	15185-	1	17715-	1																		
UN(33)	5955-	5	6015-	1	7165-	4	7180-	3	9505-	4	9520-	1	9625-	1	11725-	1	11825-	2	11885-	2		
	11895-	1	15380-	3	17725-	5																
UQ(67)	7220-	1	9530-	2	9625-	6	9635-	7	9660-	11	11770-	2	11875-	6	11970-	10	15235-	3	15290-	3		
	15370-	4	17725-	10	17735-	2																
UR(22)	7220-	2	9520-	4	9530-	1	9565-	2	9635-	1	9660-	1	9670-	1	9680-	5	11705-	1	11760-	1		
	15325-	2	15340-	1																		
US(151)	6090-	3	6095-	2	6105-	3	6125-	1	6160-	1	6170-	8	7155-	3	7165-	2	7180-	25	7190-	7		
	7295-	59	9520-	6	9555-	1	9680-	2	11705-	2	11885-	12	11895-	2	11970-	1	15130-	2	15380-	2		
	17750-	4	21745-	3																		
VF(7)	7180-	1	7190-	3	9705-	3																

VG(47)	7200-	3	7240-	1	7295-	1	11710-	4	11740-	3	11780-	1	11805-	4	11835-	10	11845-	1	11875-	1		
	11905-	2	11935-	1	11960-	2	15105-	1	15185-	1	15225-	2	15235-	2	15290-	5	15340-	2				
VI(5)	7220-	1	15290-	3	15445-	1																
VL(50)	7105-	13	7135-	1	7265-	1	7275-	1	7295-	1	9505-	1	9520-	1	9625-	5	9660-	5	9750-	1		
	11835-	1	11875-	1	11885-	2	11925-	1	15130-	1	15290-	1	15370-	3	15380-	4	17750-	1	17800-	1		
	17895-	2	21455-	1	21510-	1																
VM(21)	7145-	1	7165-	1	7190-	1	7240-	2	7245-	1	9585-	1	9625-	1	11705-	1	11725-	1	15120-	2		
	15340-	1	17710-	1	17715-	1	17725-	2	17750-	1	17780-	1	17855-	1	17895-	1						
VN(9)	6150-	2	9520-	1	11725-	2	11875-	1	11885-	1	15370-	1	17740-	1								
VR(158)	5955-	4	6025-	2	6125-	5	7105-	3	7120-	1	7220-	2	7255-	1	7295-	4	9505-	1	9520-	17		
	9530-	1	9625-	3	9635-	1	9680-	1	9770-	1	11705-	49	11760-	10	11875-	1	11885-	1	11970-	1		
	15145-	1	15290-	6	15340-	29	15380-	1	15445-	5	17760-	5	17825-	1	17895-	1						
VU(42)	7220-	1	9695-	4	11710-	1	11885-	29	11935-	3	11960-	2	15430-	2								
W4(29)	11935-	1	15115-	27	15160-	1																
WA(133)	5955-	14	5990-	1	6025-	1	6150-	9	6160-	7	7115-	1	7120-	3	7145-	1	7155-	12	7220-	1		
	7250-	2	7270-	2	7295-	3	11825-	3	11885-	48	11895-	1	15115-	2	15185-	3	15275-	2	15435-	3		
	17835-	2	17845-	6	17855-	2	17865-	1	17875-	3												
WD(130)	6010-	1	6025-	1	6080-	1	6085-	2	6090-	3	6095-	2	6125-	1	6140-	3	6150-	1	6160-	7		
	6170-	1	7105-	4	7140-	1	7165-	3	7180-	1	7230-	1	7240-	5	7245-	1	7255-	1	7270-	3		
	7285-	1	9505-	3	9585-	3	9625-	5	9635-	1	9660-	1	9670-	2	9715-	2	9725-	2	9740-	2		
	9770-	3	11710-	2	11805-	1	11835-	5	11845-	2	11855-	1	11915-	1	11935-	1	11960-	5	15105-	11		
	15130-	1	15170-	1	15185-	1	15225-	7	15235-	4	15245-	11	15290-	3	15430-	2	15435-	1	15445-	2		
WG(20)	6060-	1	7190-	3	9530-	2	9725-	1	11725-	8	11970-	2	15255-	2	15340-	1						
WI(346)	6070-	3	6085-	3	6090-	1	6130-	1	6140-	1	6150-	1	6170-	1	7105-	2	7115-	2	7155-	4		
	7165-	3	7170-	2	7180-	12	7220-	5	7230-	5	7245-	1	7250-	1	7255-	3	7285-	1	7295-	5		
	9505-	15	9520-	7	9530-	9	9565-	8	9585-	5	9625-	3	9635-	5	9650-	6	9660-	12	9680-	5		
	9725-	2	9770-	9	11700-	8	11710-	10	11740-	7	11770-	18	11780-	3	11805-	2	11825-	3	11835-	20		
	11845-	3	11865-	1	11875-	4	11885-	1	11905-	9	11915-	2	11935-	1	11955-	6	11960-	22	11970-	19		
	15105-	8	15130-	1	15170-	2	15235-	2	15290-	6	15340-	12	15370-	8	15380-	7	15415-	1	15445-	7		
	17725-	2	17750-	1	17760-	1	17770-	2	17895-	4												
WL(30)	7105-	1	7180-	1	9675-	3	9770-	2	11835-	13	11885-	6	15340-	4								
WM(209)	7155-	8	7220-	1	9680-	7	9725-	30	11725-	2	11845-	3	11885-	25	11905-	2	11915-	17	11935-	2		
	11960-	1	11970-	83	15215-	1	15255-	18	15445-	3	17750-	2	17805-	1	21510-	3						
WQ(36)	5985-	4	6105-	2	7115-	10	9725-	15	9760-	1	15355-	4										
WR(4)	15290-	3	17895-	1																		
WS(6)	11700-	1	15280-	3	15290-	2																
XD(10)	6090-	1	7180-	1	9625-	1	9635-	2	15120-	1	15445-	1	17750-	1	17895-	2						
XI(47)	7105-	2	7180-	1	9505-	4	9530-	1	9555-	4	9565-	1	9585-	1	9625-	1	9660-	2	9705-	1		
	9715-	1	9725-	3	9770-	1	11875-	1	15120-	2	15225-	1	15235-	1	15280-	1	15290-	1	15380-	1		
	15445-	1	17710-	1	17725-	4	17780-	2	17855-	2	17885-	2	17895-	4								
XN(51)	6020-	1	6090-	1	6125-	3	6150-	2	6170-	2	7105-	3	7115-	1	7145-	1	7165-	1	7170-	1		
	7190-	1	7240-	1	7295-	2	9505-	1	9555-	2	9565-	1	9575-	1	9625-	1	9660-	2	11700-	5		
	11710-	1	11725-	3	11740-	1	11905-	2	11935-	1	11960-	1	15225-	1	15235-	1	15240-	5	15340-	1		
	15380-	1																				
XR(5)	9725-	1	11725-	2	11875-	1	17855-	1														
XU(13)	6095-	1	6105-	3	7180-	2	7270-	2	7295-	1	9635-	1	9660-	1	9735-	1	11710-	1				
XW(22)	9505-	1	9625-	1	9660-	2	11875-	7	17750-	6	21455-	1	21510-	4								

YU(10) 5955- 1 6010- 1 6095- 1 11705- 1 11725- 1 11770- 1 11780- 1 11805- 1 11970- 1 15120- 1
Z1(251) 9565- 6 9680-124 9705- 4 11875- 1 11885- 54 11970- 13 15130- 45 15445- 4
Z3(6) 6020- 1 6105- 1 9565- 1 15255- 1 17835- 2
ZA(5) 15145- 1 15380- 3 21455- 1
ZM(59) 6085- 1 6170- 1 7105- 1 7165- 1 7190- 2 7220- 1 9520- 1 9660- 12 9725- 2 11885- 16
 15170- 1 15290- 2 15340- 1 15370- 8 17750- 3 17895- 1 21510- 4 21650- 1
ZT(72) 9520- 27 9555- 11 9650- 4 11885- 27 11965- 3

APPENDIX C: THE NUMBER OF INSTANCES A SPECIFIC MARKER IDENTIFIER WAS OBSERVED ON THE INDICATED FREQUENCY

C.4 GROUPED BY BROADCASTER - MARCH/APRIL 1985

MARKERS DETECTED BY FREQUENCY MARCH-APRIL 1985 for BROADCASTER BBC

5990(5)	1-MU	1-NI	1-SF	1-TU	1-WA										
6010(1)	1-DU														
6030(10)	9-**	1-B5													
6070(11)	4-SF	3-WI	1-**	1-CB	1-MI	1-RB									
6085(27)	19-**	2-RV	2-WI	1-FG	1-FL	1-WD	1-ZM								
6120(14)	10-**	3-IG	1-1D												
6125(59)	21-DR	8-GI	8-IG	7-BU	4-RB	3-BG	3-TU	1-**	1-1D	1-1G	1-8L	1-US			
6140(6)	1-**	1-1D	1-1G	1-DU	1-MF	1-WI									
6150(12)	4-1D	2-BG	2-DR	2-MF	1-**	1-1G									
6195(2)	1-TR	1-TU													
7105(1)	1-WL														
7120(18)	8-AG	3-WA	2-IG	2-TU	1-BL	1-FA	1-SF								
7130(7)	6-**	1-4N													
7140(5)	3-**	1-B5	1-WD												
7155(5)	3-DR	1-1D	1-MF												
7170(2)	1-WI	1-XN													
7210(2)	1-PB	1-RT													
7230(16)	5-WI	3-PB	2-IG	2-TU	1-**	1-LD	1-MP	1-WD							
7235(4)	3-4F	1-MF													
7255(3)	2-KD	1-**													
7260(17)	9-GI	3-**	2-DR	2-RT	1-PB										
7295(4)	3-DR	1-1D													
9530(7)	4-BA	3-WI													
9575(1)	1-XN														
9590(1)	1-MW														
9625(25)	15-**	4-KD	2-1G	2-B3	1-PK	1-S5									
9635(42)	13-KD	7-UQ	6-1G	5-WI	3-KV	2-**	1-BD	1-NI	1-RT	1-UR	1-VR	1-XU			
9750(22)	12-4F	3-7K	2-**	2-8L	1-BK	1-MU	1-MX								
9760(7)	3-SF	2-4N	1-7K	1-TK											
9770(18)	6-WI	2-**	1-AG	1-BU	1-CB	1-FG	1-FU	1-TK	1-TU	1-UB	1-VR	1-XI			
11720(21)	12-**	7-4N	1-4F	1-KB											
11780(22)	14-TU	3-WI	1-BD	1-BL	1-NI	1-VG	1-YU								
11795(9)	4-LR	2-RT	1-AD	1-NI	1-TU										
11835(11)	7-WI	2-BL	2-VG												
11845(70)	22-TU	11-BD	6-PB	4-GR	4-RT	4-UD	3-WI	3-WM	2-HM	2-NI	2-SM	2-WD	1-**	1-BL	1-CB
	1-LM	1-VG													
11945(6)	4-MF	2-7K													
11955(15)	6-WI	3-FM	2-FL	2-PB	1-FG	1-MG									
15180(15)	8-**	7-4F													
15205(1)	1-TU														
15225(27)	6-WD	4-**	3-BD	3-FG	3-PB	2-SM	1-FL	1-IR	1-NI	1-PL	1-TR	1-XN			
15235(1)	1-**														
15245(46)	15-PB	11-WD	8-TU	3-DB	2-HM	2-LF	2-TR	1-FR	1-KB	1-PL					
15270(1)	1-**														
15390(25)	8-4F	6-TU	3-FG	2-**	1-7K	1-AU	1-MG	1-NS	1-TR	1-UB					

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15435(  4)   1-**    1-LM    1-TU    1-WD
17705(  1)   1-**
17715( 13)  10-**    2-PL    1-A5
17780( 10)   4-BQ    2-**    1-HM    1-HP    1-NS    1-PL
17825(  1)   1-**
17855(  1)   1-XI
21630(  1)   1-**
21700(  1)   1-LT
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FREQUENCIES DETECTED FOR SPECIFIED MARKERS MARCH-APRIL 1985 for BROADCASTER BBC

**(122)	6030-	9	6070-	1	6085-	19	6120-	10	6125-	1	6140-	1	6150-	1	7130-	6	7140-	3	7230-	1			
	7255-	1	7260-	3	9625-	15	9635-	2	9750-	2	9770-	2	11720-	12	11845-	1	15180-	8	15225-	4			
	15235-	1	15270-	1	15390-	2	15435-	1	17705-	1	17715-	10	17780-	2	17825-	1	21630-	1					
1D(9)	6120-	1	6125-	1	6140-	1	6150-	4	7155-	1	7295-	1											
1G(11)	6125-	1	6140-	1	6150-	1	9625-	2	9635-	6													
4F(31)	7235-	3	9750-	12	11720-	1	15180-	7	15390-	8													
4N(10)	7130-	1	9760-	2	11720-	7																	
7K(7)	9750-	3	9760-	1	11945-	2	15390-	1															
8L(3)	6125-	1	9750-	2																			
A5(1)	17715-	1																					
AD(1)	11795-	1																					
AG(9)	7120-	8	9770-	1																			
AU(1)	15390-	1																					
B3(2)	9625-	2																					
B5(2)	6030-	1	7140-	1																			
BA(4)	9530-	4																					
BD(16)	9635-	1	11780-	1	11845-	11	15225-	3															
BG(5)	6125-	3	6150-	2																			
BK(1)	9750-	1																					
BL(5)	7120-	1	11780-	1	11835-	2	11845-	1															
BQ(4)	17780-	4																					
BU(8)	6125-	7	9770-	1																			
CB(3)	6070-	1	9770-	1	11845-	1																	
DB(3)	15245-	3																					
DR(31)	6125-	21	6150-	2	7155-	3	7260-	2	7295-	3													
DU(2)	6010-	1	6140-	1																			
FA(1)	7120-	1																					
FG(9)	6085-	1	9770-	1	11955-	1	15225-	3	15390-	3													
FL(4)	6085-	1	11955-	2	15225-	1																	
FM(3)	11955-	3																					
FR(1)	15245-	1																					
FU(1)	9770-	1																					
GI(17)	6125-	8	7260-	9																			
GR(4)	11845-	4																					
HM(5)	11845-	2	15245-	2	17780-	1																	
HP(1)	17780-	1																					
IG(15)	6120-	3	6125-	8	7120-	2	7230-	2															
IR(1)	15225-	1																					
KB(2)	11720-	1	15245-	1																			
KD(19)	7255-	2	9625-	4	9635-	13																	
KV(3)	9635-	3																					
LD(1)	7230-	1																					
LF(2)	15245-	2																					
LM(2)	11845-	1	15435-	1																			
LR(4)	11795-	4																					

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LT(  1)  21700-  1
MF(  9)   6140-  1  6150-  2  7155-  1  7235-  1 11945-  4
MG(  2)  11955-  1 15390-  1
MI(  1)   6070-  1
MP(  1)   7230-  1
MU(  2)   5990-  1  9750-  1
MW(  1)   9590-  1
MX(  1)   9750-  1
NI(  7)   5990-  1  9635-  1 11780-  1 11795-  1 11845-  2 15225-  1
NS(  2)  15390-  1 17780-  1
PB( 31)   7210-  1  7230-  3  7260-  1 11845-  6 11955-  2 15225-  3 15245- 15
PK(  1)   9625-  1
PL(  5)  15225-  1 15245-  1 17715-  2 17780-  1
RB(  5)   6070-  1  6125-  4
RT( 10)   7210-  1  7260-  2  9635-  1 11795-  2 11845-  4
RV(  2)   6085-  2
S5(  1)   9625-  1
SF(  9)   5990-  1  6070-  4  7120-  1  9760-  3
SM(  4)  11845-  2 15225-  2
TK(  2)   9760-  1  9770-  1
TR(  5)   6195-  1 15225-  1 15245-  2 15390-  1
TU( 63)   5990-  1  6125-  3  6195-  1  7120-  2  7230-  2  9770-  1 11780- 14 11795-  1 11845- 22 15205-  1
         15245-  8 15390-  6 15435-  1
UB(  2)   9770-  1 15390-  1
UD(  4)  11845-  4
UQ(  7)   9635-  7
UR(  1)   9635-  1
US(  1)   6125-  1
VG(  4)  11780-  1 11835-  2 11845-  1
VR(  2)   9635-  1  9770-  1
WA(  4)   5990-  1  7120-  3
WD( 23)   6085-  1  7140-  1  7230-  1 11845-  2 15225-  6 15245- 11 15435-  1
WI( 45)   6070-  3  6085-  2  6140-  1  7170-  1  7230-  5  9530-  3  9635-  5  9770-  6 11780-  3 11835-  7
         11845-  3 11955-  6
WL(  1)   7105-  1
WM(  3)  11845-  3
XI(  2)   9770-  1 17855-  1
XN(  3)   7170-  1  9575-  1 15225-  1
XU(  1)   9635-  1
YU(  1)  11780-  1
ZM(  1)   6085-  1
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MARKERS DETECTED BY FREQUENCY MARCH-APRIL 1985 for BROADCASTER VOA

5955(18)	11-KD	5-1G	1-**	1-IG											
5985(5)	4-**	1-LF													
5995(3)	3-AD														
6015(4)	1-**	1-AD	1-MU	1-UN											
6020(3)	1-**	1-RT	1-XN												
6025(24)	5-BD	3-KD	2-**	2-LG	2-VR	1-AS	1-CB	1-FL	1-PB	1-RQ	1-RT	1-RV	1-TU	1-WA	1-WD
6050(1)	1-AD														
6060(43)	10-1G	9-DR	6-RB	4-BG	3-4N	2-1D	2-BU	2-GL	1-**	1-8L	1-AN	1-BL	1-WG		
6080(7)	3-DU	1-AD	1-BG	1-RT	1-WD										
6085(8)	3-BD	1-KD	1-LG	1-RT	1-WD	1-WI									
6090(27)	5-**	4-DR	3-TU	3-UB	3-US	3-WD	2-BD	1-SU	1-WI	1-XD	1-XN				
6095(43)	28-TU	2-IR	2-PK	2-US	2-WD	1-BD	1-BL	1-RP	1-RT	1-SM	1-XU	1-YU			
6105(2)	2-DU														
6125(22)	5-VR	4-SF	3-XN	2-**	1-AG	1-BD	1-BG	1-BL	1-GU	1-RQ	1-UB	1-WD			
6130(2)	1-1D	1-1G													
6140(31)	15-TU	4-LK	3-WD	2-**	2-RQ	1-BD	1-BK	1-BL	1-MF	1-RT					
6150(59)	9-MF	9-WA	7-GI	6-PA	5-4N	3-AG	3-BU	3-UB	2-BD	2-VN	2-XN	1-**	1-1G	1-DR	1-RB
	1-RQ	1-TU	1-WD	1-WI											
6160(94)	13-GI	10-DR	8-MA	7-1D	7-1G	7-KD	7-WA	7-WD	4-**	4-DU	3-8L	3-BD	3-MF	2-BL	1-AN
	1-LG	1-LR	1-MP	1-PB	1-RB	1-RQ	1-SF	1-US							
6180(8)	7-DU	1-LG													
7105(81)	22-TU	13-VL	6-NS	5-FG	5-FR	4-WD	3-VR	3-XN	2-BG	2-MU	2-PK	2-WI	2-XI	1-CB	1-FL
	1-IG	1-IR	1-LG	1-NI	1-RP	1-RT	1-SF	1-ZM							
7120(11)	7-BG	2-FU	1-RT	1-VR											
7125(8)	4-LF	1-**	1-FL	1-FR	1-PL										
7130(15)	8-1G	4-CA	2-**	1-MA											
7135(1)	1-VL														
7140(2)	2-IG														
7170(25)	7-TU	4-KD	2-AG	2-RB	2-TR	2-UA	1-AD	1-AR	1-DR	1-FU	1-IG	1-WI			
7180(5)	2-4F	1-GI	1-MF	1-WL											
7190(16)	4-TK	3-BG	3-US	2-AS	1-AD	1-GI	1-LK	1-VM							
7210(7)	2-**	2-DR	2-DU	1-1D											
7220(5)	3-GI	1-1D	1-8L												
7240(28)	12-TU	5-WD	2-FG	2-PB	2-VM	1-**	1-SM	1-TR	1-VG	1-XN					
7245(9)	4-DR	1-**	1-MF	1-PA	1-ST	1-VM									
7265(2)	1-**	1-VL													
7270(60)	6-**	5-DR	5-GR	4-DU	4-PB	3-AG	3-GL	3-WD	2-BG	2-PK	2-RQ	2-RT	2-SF	2-TK	2-WA
	2-XU	1-AD	1-BD	1-CB	1-DP	1-FU	1-KF	1-KV	1-LF	1-LM	1-NI	1-S5			
7280(18)	6-DR	3-FU	2-**	2-PB	2-TK	1-RD	1-RT	1-UA							
9530(96)	29-IG	13-8L	10-GI	6-WI	4-KU	3-BD	2-**	2-BG	2-BQ	2-IR	2-MU	2-RQ	2-RT	2-UQ	2-WG
	1-4N	1-BL	1-CB	1-FG	1-LF	1-MG	1-NA	1-NS	1-PB	1-ST	1-UR	1-VR	1-XI		
9540(5)	3-MP	1-GI	1-TK												
9555(8)	3-TU	2-LK	1-**	1-GI	1-SF										
9565(19)	5-TR	4-BG	2-AN	2-MA	1-**	1-AG	1-AR	1-FG	1-GU	1-NS					

9585(43)	7-RQ	5-WI	4-BQ	4-UD	3-IG	3-WD	2-FG	2-MG	2-SM	2-TU	1-BL	1-CB	1-LG	1-NI	1-NS
	1-PF	1-RT	1-VM	1-XI											
9605(5)	3-4N	1-**	1-BG												
9615(10)	7-4F	2-**	1-4N												
9625(21)	5-PB	5-TU	3-FG	2-FR	1-CB	1-LF	1-SM	1-VL	1-WD	1-XD					
9635(13)	2-FG	2-GU	2-XD	1-**	1-B1	1-MP	1-RT	1-SM	1-TU	1-WD					
9650(2)	1-4F	1-WI													
9660(44)	12-PB	6-KF	5-**	5-LG	4-WI	3-BL	1-AG	1-BD	1-CB	1-LF	1-PA	1-PL	1-WD	1-XN	1-XU
9670(1)	1-UR														
9675(14)	7-GR	3-WL	2-BA	1-GM	1-IG										
9680(9)	5-UR	2-KD	1-AD	1-VR											
9690(7)	2-**	2-BD	2-BG	1-AN											
9715(10)	2-TU	2-UD	2-WD	1-**	1-PB	1-SM	1-XI								
9735(17)	4-KV	3-BL	3-RT	2-BU	2-ST	1-PA	1-RB	1-XU							
9740(7)	4-TU	2-WD	1-PB												
9760(9)	8-TK	1-WQ													
9770(11)	5-KM	3-TK	1-**	1-FU	1-PB										
11705(79)	49-VR	9-**	4-TU	2-CG	2-MF	2-US	1-BD	1-BL	1-BR	1-DP	1-IG	1-KB	1-LK	1-MP	1-UR
	1-VM	1-YU													
11710(75)	16-**	10-WI	7-BL	6-7K	5-4F	5-IR	5-PB	4-VG	2-AW	2-BD	2-LG	2-PF	2-WD	1-4N	1-KV
	1-LM	1-MF	1-VU	1-XN	1-XU										
11740(34)	7-WI	5-TU	4-BD	3-**	3-VG	2-AG	2-NI	2-RQ	1-BL	1-CB	1-CG	1-FA	1-RT	1-XN	
11760(25)	10-VR	8-GM	2-IG	1-**	1-DA	1-LK	1-ML	1-UR							
11780(2)	2-BQ														
11805(75)	21-TU	7-SF	6-KD	5-UD	4-VG	3-BD	3-BQ	3-HM	3-NI	2-**	2-CB	2-NS	2-WI	1-AN	1-BL
	1-FL	1-FR	1-KM	1-LF	1-MG	1-PB	1-PL	1-RT	1-SM	1-YU					
11835(187)	41-KB	20-BD	13-WI	13-WL	12-IG	11-LG	8-VG	7-**	6-RT	5-LF	5-WD	4-GS	4-UB	4-UD	3-AW
	3-NS	3-PF	2-FL	2-GR	2-HM	2-IR	2-MG	2-NI	2-PB	2-TU	1-BL	1-DB	1-FR	1-KV	1-MI
	1-RV	1-SM	1-TR	1-VL											
11845(56)	40-MP	8-RT	4-KD	3-**	1-KV										
11865(33)	18-RT	3-BL	3-KB	2-**	2-KV	2-PA	2-ST	1-TU							
11925(22)	6-FA	5-PF	2-KM	1-CB	1-DB	1-FL	1-GM	1-IR	1-LF	1-MU	1-UD	1-VL			
11930(22)	13-KD	2-IG	1-**	1-CG	1-DA	1-GR	1-KU	1-LR	1-RD						
11945(2)	2-**														
11960(24)	9-ST	4-PA	3-**	2-AG	2-IT	2-RT	1-KV	1-WI							
11965(31)	14-RD	3-KU	3-ZT	2-BA	2-GM	2-LR	1-FA	1-GR	1-IG	1-RB	1-UD				
15120(22)	8-TU	3-NS	2-PB	2-VM	2-XI	1-NI	1-SM	1-TK	1-XD	1-YU					
15195(3)	2-MA	1-4F													
15225(22)	7-TU	3-BQ	3-FG	2-VG	1-**	1-FL	1-KD	1-MF	1-MG	1-WD	1-XI				
15235(52)	8-TU	7-GI	4-PB	4-WD	3-NS	3-SM	3-UQ	2-MG	2-PA	2-VG	2-WI	1-**	1-AG	1-BD	1-FG
	1-FL	1-HM	1-IG	1-IR	1-TL	1-UB	1-XI	1-XN							
15270(7)	6-TK	1-PL													
15280(26)	5-NS	3-TU	3-WS	2-**	2-BD	2-FL	2-HM	1-FG	1-KF	1-LG	1-MG	1-PB	1-PL	1-XI	
15325(13)	5-A5	3-KB	2-PL	2-UR	1-**										
15415(9)	4-GI	2-LF	2-SM	1-FG											
15430(25)	10-GI	8-AK	2-VU	2-WD	1-FA	1-SB	1-TU								
15435(6)	3-WA	2-**	1-KD												

17740(14)	4-LR	2-4F	2-4N	2-LK	1-BQ	1-IR	1-ML	1-VN								
17780(10)	2-CB	2-HM	2-XI	1-BQ	1-HP	1-IR	1-VM									
17800(6)	1-**	1-4N	1-BN	1-FL	1-HM	1-VL										
17845(6)	6-WA															
17855(44)	8-AD	8-KM	6-**	5-TU	2-FG	2-HM	2-MG	2-NS	2-WA	1-DB	1-FL	1-SM	1-UB	1-VM	1-XI	
	1-XR															
17865(24)	10-LK	7-CG	2-AD	1-1G	1-GM	1-KD	1-KR	1-WA								
21500(5)	3-RT	1-**	1-AD													
21520(6)	2-RT	1-**	1-KM	1-LG	1-MV											

FREQUENCIES DETECTED FOR SPECIFIED MARKERS MARCH-APRIL 1985 for BROADCASTER VOA

**(122)	5955-	1	5985-	4	6015-	1	6020-	1	6025-	2	6060-	1	6090-	5	6125-	2	6140-	2	6150-	1			
	6160-	4	7125-	1	7130-	2	7210-	2	7240-	1	7245-	1	7265-	1	7270-	6	7280-	2	9530-	2			
	9555-	1	9565-	1	9605-	1	9615-	2	9635-	1	9660-	5	9690-	2	9715-	1	9770-	1	11705-	9			
	11710-	16	11740-	3	11760-	1	11805-	2	11835-	7	11845-	3	11865-	2	11930-	1	11945-	2	11960-	3			
	15225-	1	15235-	1	15280-	2	15325-	1	15435-	2	17800-	1	17855-	6	21500-	1	21520-	1					
1D(12)	6060-	2	6130-	1	6160-	7	7210-	1	7220-	1													
1G(33)	5955-	5	6060-	10	6130-	1	6150-	1	6160-	7	7130-	8	17865-	1									
4F(18)	7180-	2	9615-	7	9650-	1	11710-	5	15195-	1	17740-	2											
4N(17)	6060-	3	6150-	5	9530-	1	9605-	3	9615-	1	11710-	1	17740-	2	17800-	1							
7K(6)	11710-	6																					
8L(18)	6060-	1	6160-	3	7220-	1	9530-	13															
A5(5)	15325-	5																					
AD(21)	5995-	3	6015-	1	6050-	1	6080-	1	7170-	1	7190-	1	7270-	1	9680-	1	17855-	8	17865-	2			
	21500-	1																					
AG(16)	6125-	1	6150-	3	7170-	2	7270-	3	9565-	1	9660-	1	11740-	2	11960-	2	15235-	1					
AK(8)	15430-	8																					
AN(6)	6060-	1	6160-	1	9565-	2	9690-	1	11805-	1													
AR(2)	7170-	1	9565-	1																			
AS(3)	6025-	1	7190-	2																			
AW(5)	11710-	2	11835-	3																			
B1(1)	9635-	1																					
BA(4)	9675-	2	11965-	2																			
BD(58)	6025-	5	6085-	3	6090-	2	6095-	1	6125-	1	6140-	1	6150-	2	6160-	3	7270-	1	9530-	3			
	9660-	1	9690-	2	11705-	1	11710-	2	11740-	4	11805-	3	11835-	20	15235-	1	15280-	2					
BG(29)	6060-	4	6080-	1	6125-	1	7105-	2	7120-	7	7190-	3	7270-	2	9530-	2	9565-	4	9605-	1			
	9690-	2																					
BK(1)	6140-	1																					
BL(28)	6060-	1	6095-	1	6125-	1	6140-	1	6160-	2	9530-	1	9585-	1	9660-	3	9735-	3	11705-	1			
	11710-	7	11740-	1	11805-	1	11835-	1	11865-	3													
BN(1)	17800-	1																					
BQ(16)	9530-	2	9585-	4	11780-	2	11805-	3	15225-	3	17740-	1	17780-	1									
BR(1)	11705-	1																					
BU(7)	6060-	2	6150-	3	9735-	2																	
CA(4)	7130-	4																					
CB(13)	6025-	1	7105-	1	7270-	1	9530-	1	9585-	1	9625-	1	9660-	1	11740-	1	11805-	2	11925-	1			
	17780-	2																					
CG(11)	11705-	2	11740-	1	11930-	1	17865-	7															
DA(2)	11760-	1	11930-	1																			
DB(3)	11835-	1	11925-	1	17855-	1																	
DP(2)	7270-	1	11705-	1																			
DR(42)	6060-	9	6090-	4	6150-	1	6160-	10	7170-	1	7210-	2	7245-	4	7270-	5	7280-	6					
DU(22)	6080-	3	6105-	2	6160-	4	6180-	7	7210-	2	7270-	4											
FA(9)	11740-	1	11925-	6	11965-	1	15430-	1															
FG(24)	7105-	5	7240-	2	9530-	1	9565-	1	9585-	2	9625-	3	9635-	2	15225-	3	15235-	1	15280-	1			
	15415-	1	17855-	2																			

FL(13) 6025- 1 7105- 1 7125- 1 11805- 1 11835- 2 11925- 1 15225- 1 15235- 1 15280- 2 17800- 1
17855- 1
FR(10) 7105- 5 7125- 1 9625- 2 11805- 1 11835- 1
FU(8) 7120- 2 7170- 1 7270- 1 7280- 3 9770- 1
GI(58) 6150- 7 6160- 13 7180- 1 7190- 1 7220- 3 9530- 10 9540- 1 9555- 1 15235- 7 15415- 4
15430- 10
GL(5) 6060- 2 7270- 3
GM(13) 9675- 1 11760- 8 11925- 1 11965- 2 17865- 1
GR(16) 7270- 5 9675- 7 11835- 2 11930- 1 11965- 1
GS(4) 11835- 4
GU(4) 6125- 1 9565- 1 9635- 2
HM(13) 11805- 3 11835- 2 15235- 1 15280- 2 17780- 2 17800- 1 17855- 2
HP(1) 17780- 1
IG(57) 5955- 1 7105- 1 7140- 2 7170- 1 9530- 29 9585- 3 9675- 1 11705- 1 11760- 2 11835- 12
11930- 2 11965- 1 15235- 1
IR(16) 6095- 2 7105- 1 9530- 2 11710- 5 11835- 2 11925- 1 15235- 1 17740- 1 17780- 1
IT(2) 11960- 2
KB(48) 11705- 1 11835- 41 11865- 3 15325- 3
KD(54) 5955- 11 6025- 3 6085- 1 6160- 7 7170- 4 9680- 2 11805- 6 11845- 4 11930- 13 15225- 1
15435- 1 17865- 1
KF(8) 7270- 1 9660- 6 15280- 1
KM(17) 9770- 5 11805- 1 11925- 2 17855- 8 21520- 1
KR(1) 17865- 1
KU(8) 9530- 4 11930- 1 11965- 3
KV(11) 7270- 1 9735- 4 11710- 1 11835- 1 11845- 1 11865- 2 11960- 1
LF(18) 5985- 1 7125- 4 7270- 1 9530- 1 9625- 1 9660- 1 11805- 1 11835- 5 11925- 1 15415- 2
LG(27) 6025- 2 6085- 1 6160- 1 6180- 1 7105- 1 9585- 1 9660- 5 11710- 2 11835- 11 15280- 1
21520- 1
LK(21) 6140- 4 7190- 1 9555- 2 11705- 1 11760- 1 17740- 2 17865- 10
LM(2) 7270- 1 11710- 1
LR(8) 6160- 1 11930- 1 11965- 2 17740- 4
MA(13) 6160- 8 7130- 1 9565- 2 15195- 2
MF(19) 6140- 1 6150- 9 6160- 3 7180- 1 7245- 1 11705- 2 11710- 1 15225- 1
MG(12) 9530- 1 9585- 2 11805- 1 11835- 2 15225- 1 15235- 2 15280- 1 17855- 2
MI(1) 11835- 1
ML(2) 11760- 1 17740- 1
MP(46) 6160- 1 9540- 3 9635- 1 11705- 1 11845- 40
MU(6) 6015- 1 7105- 2 9530- 2 11925- 1
MV(1) 21520- 1
NA(1) 9530- 1
NI(11) 7105- 1 7270- 1 9585- 1 11740- 2 11805- 3 11835- 2 15120- 1
NS(27) 7105- 6 9530- 1 9565- 1 9585- 1 11805- 2 11835- 3 15120- 3 15235- 3 15280- 5 17855- 2
PA(17) 6150- 6 7245- 1 9660- 1 9735- 1 11865- 2 11960- 4 15235- 2
PB(46) 6025- 1 6160- 1 7240- 2 7270- 4 7280- 2 9530- 1 9625- 5 9660- 12 9715- 1 9740- 1
9770- 1 11710- 5 11805- 1 11835- 2 15120- 2 15235- 4 15280- 1
PF(11) 9585- 1 11710- 2 11835- 3 11925- 5
PK(6) 6095- 2 7105- 2 7270- 2

PL(7)	7125- 1	9660- 1	11805- 1	15270- 1	15280- 1	15325- 2				
RB(12)	6060- 6	6150- 1	6160- 1	7170- 2	9735- 1	11965- 1				
RD(16)	7280- 1	11930- 1	11965- 14							
RP(2)	6095- 1	7105- 1								
RQ(19)	6025- 1	6125- 1	6140- 2	6150- 1	6160- 1	7270- 2	9530- 2	9585- 7	11740- 2	
RT(59)	6020- 1	6025- 1	6080- 1	6085- 1	6095- 1	6140- 1	7105- 1	7120- 1	7270- 2	7280- 1
	9530- 2	9585- 1	9635- 1	9735- 3	11740- 1	11805- 1	11835- 6	11845- 8	11865- 18	11960- 2
	21500- 3	21520- 2								
RV(2)	6025- 1	11835- 1								
S5(1)	7270- 1									
SB(1)	15430- 1									
SF(16)	6125- 4	6160- 1	7105- 1	7270- 2	9555- 1	11805- 7				
SM(16)	6095- 1	7240- 1	9585- 2	9625- 1	9635- 1	9715- 1	11805- 1	11835- 1	15120- 1	15235- 3
	15415- 2	17855- 1								
ST(15)	7245- 1	9530- 1	9735- 2	11865- 2	11960- 9					
SU(1)	6090- 1									
TK(27)	7190- 4	7270- 2	7280- 2	9540- 1	9760- 8	9770- 3	15120- 1	15270- 6		
TL(1)	15235- 1									
TR(9)	7170- 2	7240- 1	9565- 5	11835- 1						
TU(171)	6025- 1	6090- 3	6095- 28	6140- 15	6150- 1	7105- 22	7170- 7	7240- 12	9555- 3	9585- 2
	9625- 5	9635- 1	9715- 2	9740- 4	11705- 4	11740- 5	11805- 21	11835- 2	11865- 1	15120- 8
	15225- 7	15235- 8	15280- 3	15430- 1	17855- 5					
UA(3)	7170- 2	7280- 1								
UB(13)	6090- 3	6125- 1	6150- 3	11835- 4	15235- 1	17855- 1				
UD(17)	9585- 4	9715- 2	11805- 5	11835- 4	11925- 1	11965- 1				
UN(1)	6015- 1									
UQ(5)	9530- 2	15235- 3								
UR(11)	9530- 1	9670- 1	9680- 5	11705- 1	11760- 1	15325- 2				
US(11)	6090- 3	6095- 2	6160- 1	7190- 3	11705- 2					
VG(24)	7240- 1	11710- 4	11740- 3	11805- 4	11835- 8	15225- 2	15235- 2			
VL(19)	7105- 13	7135- 1	7265- 1	9625- 1	11835- 1	11925- 1	17800- 1			
VM(10)	7190- 1	7240- 2	7245- 1	9585- 1	11705- 1	15120- 2	17780- 1	17855- 1		
VN(3)	6150- 2	17740- 1								
VR(72)	6025- 2	6125- 5	7105- 3	7120- 1	9530- 1	9680- 1	11705- 49	11760- 10		
VU(3)	11710- 1	15430- 2								
WA(31)	6025- 1	6150- 9	6160- 7	7270- 2	15435- 3	17845- 6	17855- 2	17865- 1		
WD(56)	6025- 1	6080- 1	6085- 1	6090- 3	6095- 2	6125- 1	6140- 3	6150- 1	6160- 7	7105- 4
	7240- 5	7270- 3	9585- 3	9625- 1	9635- 1	9660- 1	9715- 2	9740- 2	11710- 2	11835- 5
	15225- 1	15235- 4	15430- 2							
WG(3)	6060- 1	9530- 2								
WI(57)	6085- 1	6090- 1	6150- 1	7105- 2	7170- 1	9530- 6	9585- 5	9650- 1	9660- 4	11710- 10
	11740- 7	11805- 2	11835- 13	11960- 1	15235- 2					
WL(17)	7180- 1	9675- 3	11835- 13							
WQ(1)	9760- 1									
WS(3)	15280- 3									
XD(5)	6090- 1	9625- 1	9635- 2	15120- 1						

XI(	13)	7105-	2	9530-	1	9585-	1	9715-	1	15120-	2	15225-	1	15235-	1	15280-	1	17780-	2	17855-	1
XN(	15)	6020-	1	6090-	1	6125-	3	6150-	2	7105-	3	7240-	1	9660-	1	11710-	1	11740-	1	15235-	1
XR(	1)	17855-	1																		
XU(	6)	6095-	1	7270-	2	9660-	1	9735-	1	11710-	1										
YU(	4)	6095-	1	11705-	1	11805-	1	15120-	1												
ZM(	1)	7105-	1																		
ZT(	3)	11965-	3																		

MARKERS DETECTED BY FREQUENCY MARCH-APRIL 1985 for BROADCASTER RFE

5955(28)	8-KD	3-MF	3-TU	3-WA	2-MU	2-U7	2-VR	1-DR	1-FL	1-GI	1-RT	1-YU			
5970(176)	67-DR	59-KD	10-1G	10-RB	7-8L	7-GI	5-**	5-BU	4-1D	1-IG	1-S5				
5985(43)	9-B1	7-U7	6-D3	5-GI	4-KD	4-WQ	3-RB	1-**	1-1G	1-8L	1-BU	1-G3			
6105(46)	11-MF	9-**	6-U7	5-B1	3-US	2-DU	2-WQ	2-XU	1-BI	1-D3	1-L8	1-LG	1-TR	1-Z3	
6135(18)	11-GI	5-**	2-B1												
6170(7)	4-GI	2-U7	1-RB												
7115(14)	10-WQ	2-**	1-AG	1-WA											
7145(1)	1-BG														
7155(42)	8-TU	7-BG	7-TK	5-AR	3-U7	2-**	2-WA	2-WI	1-AG	1-FU	1-M3	1-MF	1-RB	1-RT	
7165(11)	6-B1	1-**	1-KD	1-R9	1-U7	1-WD									
7180(21)	6-WI	4-GI	4-TU	3-BL	2-KD	1-AG	1-NA								
7190(152)	67-BG	32-DR	21-1G	15-4F	3-VF	3-WG	2-7K	2-DA	2-RB	1-1D	1-BR	1-DU	1-GI	1-IG	
7200(16)	6-MF	4-4F	3-PK	1-**	1-B1	1-B5									
7255(39)	27-MU	3-**	3-D3	1-AG	1-BI	1-SF	1-TR	1-WD	1-WI						
9505(22)	7-AN	5-SF	4-GI	2-PK	1-KD	1-TK	1-U7	1-WI							
9555(13)	4-MF	2-G3	2-L4	1-**	1-AS	1-KD	1-MA	1-MU							
9565(3)	1-**	1-SU	1-Z3												
9595(3)	3-B1														
9660(6)	4-MV	2-MU													
9680(75)	41-Z1	8-TK	6-LK	5-MU	4-FU	3-AD	2-US	2-WI	1-AG	1-KF	1-MG	1-PB			
9695(3)	2-4F	1-TK													
9705(275)	63-KD	43-4F	39-1G	28-1D	20-**	20-8L	17-BG	14-4N	12-AN	8-DA	4-7K	3-VF	2-MX	1-AD	1-UD
9725(119)	30-WM	19-AS	15-WQ	11-U7	10-B1	9-S5	7-**	6-AG	4-LR	2-FA	2-MF	1-BG	1-LK	1-WG	1-XR
11725(343)	116-1G	63-4F	53-7K	28-4N	22-**	9-8L	8-BG	8-WG	7-GI	7-IG	5-CA	3-XN	2-DA	2-LG	2-MF
	2-MX	2-VN	1-AD	1-KB	1-TU	1-UN									
11770(2)	2-**														
11815(3)	1-AD	1-SM	1-U7												
11825(68)	34-D3	11-B1	6-**	4-K7	3-AG	3-WA	2-A5	1-B5	1-BD	1-CB	1-MF	1-RQ			
11855(19)	7-NS	4-B1	3-AG	2-PK	1-AN	1-BU	1-U7								
11895(5)	2-US	1-DU	1-RQ	1-WA											
11935(25)	15-G3	5-A5	2-K7	1-MF	1-UA	1-W4									
11970(159)	28-R6	21-TK	20-FU	14-WM	10-WI	10-Z1	9-U7	8-BL	8-IG	7-**	6-BP	4-ST	3-RT	3-TU	2-IT
	2-PA	1-AD	1-AG	1-UQ	1-VR										
15115(124)	43-A5	27-W4	21-G3	11-K7	7-LK	4-AG	3-M7	2-**	2-MF	2-WA	1-L4	1-MX			
15125(4)	2-TK	1-IR	1-PB												
15130(71)	32-Z1	23-TK	5-FU	4-TU	3-PA	2-BL	1-RT	1-US							
15145(147)	77-4F	26-LG	14-**	13-4N	10-7K	3-PK	1-PL	1-TK	1-VR	1-ZA					
15170(115)	55-4F	22-B1	14-PK	13-NS	5-AS	2-LG	1-**	1-4N	1-LM	1-PB					
15215(2)	1-**	1-WM													
15255(244)	60-B1	36-NS	32-S5	25-MF	24-AG	18-WM	12-L8	11-D3	8-T1	6-**	5-AS	2-WG	1-8L	1-MU	1-PL
	1-TK	1-Z3													
15355(9)	4-**	4-WQ	1-PL												
15370(2)	1-MU	1-WI													
17725(16)	6-D4	2-**	2-A5	2-K7	2-L4	1-AG	1-NS								
17735(75)	27-4F	14-4N	11-**	10-MX	6-7K	2-CG	1-A5	1-BG	1-PL	1-TU	1-UQ				

17805(	2)	2-LG						
17835(	25)	12-**	6-D3	2-WA	2-Z3	1-CB	1-G3	1-TU
21530(	2)	2-**						
21580(	2)	1-A5	1-TU					
21665(	9)	6-**	3-4F					
21720(	2)	1-CB	1-L8					
21745(	3)	3-**						

FREQUENCIES DETECTED FOR SPECIFIED MARKERS MARCH-APRIL 1985 for BROADCASTER RFE

**(159)	5970-	5	5985-	1	6105-	9	6135-	5	7115-	2	7155-	2	7165-	1	7200-	1	7255-	3	9555-	1
	9565-	1	9705-	20	9725-	7	11725-	22	11770-	2	11825-	6	11970-	7	15115-	2	15145-	14	15170-	1
	15215-	1	15255-	6	15355-	4	17725-	2	17735-	11	17835-	12	21530-	2	21665-	6	21745-	3		
1D(33)	5970-	4	7190-	1	9705-	28														
1G(187)	5970-	10	5985-	1	7190-	21	9705-	39	11725-	116										
4F(289)	7190-	15	7200-	4	9695-	2	9705-	43	11725-	63	15145-	77	15170-	55	17735-	27	21665-	3		
4N(70)	9705-	14	11725-	28	15145-	13	15170-	1	17735-	14										
7K(75)	7190-	2	9705-	4	11725-	53	15145-	10	17735-	6										
8L(38)	5970-	7	5985-	1	9705-	20	11725-	9	15255-	1										
A5(54)	11825-	2	11935-	5	15115-	43	17725-	2	17735-	1	21580-	1								
AD(7)	9680-	3	9705-	1	11725-	1	11815-	1	11970-	1										
AG(47)	7115-	1	7155-	1	7180-	1	7255-	1	9680-	1	9725-	6	11825-	3	11855-	3	11970-	1	15115-	4
	15255-	24	17725-	1																
AN(20)	9505-	7	9705-	12	11855-	1														
AR(5)	7155-	5																		
AS(30)	9555-	1	9725-	19	15170-	5	15255-	5												
B1(133)	5985-	9	6105-	5	6135-	2	7165-	6	7200-	1	9595-	3	9725-	10	11825-	11	11855-	4	15170-	22
	15255-	60																		
B5(2)	7200-	1	11825-	1																
BD(1)	11825-	1																		
BG(102)	7145-	1	7155-	7	7190-	67	9705-	17	9725-	1	11725-	8	17735-	1						
BI(2)	6105-	1	7255-	1																
BL(13)	7180-	3	11970-	8	15130-	2														
BP(6)	11970-	6																		
BR(1)	7190-	1																		
BU(7)	5970-	5	5985-	1	11855-	1														
CA(5)	11725-	5																		
CB(3)	11825-	1	17835-	1	21720-	1														
CG(2)	17735-	2																		
D3(61)	5985-	6	6105-	1	7255-	3	11825-	34	15255-	11	17835-	6								
D4(6)	17725-	6																		
DA(12)	7190-	2	9705-	8	11725-	2														
DR(100)	5955-	1	5970-	67	7190-	32														
DU(4)	6105-	2	7190-	1	11895-	1														
FA(2)	9725-	2																		
FL(1)	5955-	1																		
FU(30)	7155-	1	9680-	4	11970-	20	15130-	5												
G3(40)	5985-	1	9555-	2	11935-	15	15115-	21	17835-	1										
GI(44)	5955-	1	5970-	7	5985-	5	6135-	11	6170-	4	7180-	4	7190-	1	9505-	4	11725-	7		
IG(17)	5970-	1	7190-	1	11725-	7	11970-	8												
IR(1)	15125-	1																		
IT(2)	11970-	2																		
K7(19)	11825-	4	11935-	2	15115-	11	17725-	2												
KB(1)	11725-	1																		
KD(139)	5955-	8	5970-	59	5985-	4	7165-	1	7180-	2	9505-	1	9555-	1	9705-	63				

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KF(  1)   9680-  1
L4(  5)   9555-  2 15115-  1 17725-  2
L8( 14)   6105-  1 15255- 12 21720-  1
LG( 33)   6105-  1 11725-  2 15145- 26 15170-  2 17805-  2
LK( 14)   9680-  6  9725-  1 15115-  7
LM(  1)  15170-  1
LR(  4)   9725-  4
M3(  1)   7155-  1
M7(  3)  15115-  3
MA(  1)   9555-  1
MF( 58)   5955-  3  6105- 11  7155-  1  7200-  6  9555-  4  9725-  2 11725-  2 11825-  1 11935-  1 15115-  2
         15255- 25
MG(  1)   9680-  1
MU( 39)   5955-  2  7255- 27  9555-  1  9660-  2  9680-  5 15255-  1 15370-  1
MV(  4)   9660-  4
MX( 15)   9705-  2 11725-  2 15115-  1 17735- 10
NA(  1)   7180-  1
NS( 57)  11855-  7 15170- 13 15255- 36 17725-  1
PA(  5)  11970-  2 15130-  3
PB(  3)   9680-  1 15125-  1 15170-  1
PK( 24)   7200-  3  9505-  2 11855-  2 15145-  3 15170- 14
PL(  4)  15145-  1 15255-  1 15355-  1 17735-  1
R6( 28)  11970- 28
R9(  1)   7165-  1
RB( 17)   5970- 10  5985-  3  6170-  1  7155-  1  7190-  2
RQ(  2)  11825-  1 11895-  1
RT(  6)   5955-  1  7155-  1 11970-  3 15130-  1
S5( 42)   5970-  1  9725-  9 15255- 32
SF(  6)   7255-  1  9505-  5
SM(  1)  11815-  1
ST(  4)  11970-  4
SU(  1)   9565-  1
T1(  8)  15255-  8
TK( 65)   7155-  7  9505-  1  9680-  8  9695-  1 11970- 21 15125-  2 15130- 23 15145-  1 15255-  1
TR(  2)   6105-  1  7255-  1
TU( 26)   5955-  3  7155-  8  7180-  4 11725-  1 11970-  3 15130-  4 17735-  1 17835-  1 21580-  1
U7( 44)   5955-  2  5985-  7  6105-  6  6170-  2  7155-  3  7165-  1  9505-  1  9725- 11 11815-  1 11855-  1
         11970-  9
UA(  1)  11935-  1
UD(  1)   9705-  1
UN(  1)  11725-  1
UQ(  2)  11970-  1 17735-  1
US(  8)   6105-  3  9680-  2 11895-  2 15130-  1
VF(  6)   7190-  3  9705-  3
VN(  2)  11725-  2
VR(  4)   5955-  2 11970-  1 15145-  1
W4( 28)  11935-  1 15115- 27
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WA(	14)	5955-	3	7115-	1	7155-	2	11825-	3	11895-	1	15115-	2	17835-	2
WD(	2)	7165-	1	7255-	1										
WG(	14)	7190-	3	9725-	1	11725-	8	15255-	2						
WI(	23)	7155-	2	7180-	6	7255-	1	9505-	1	9680-	2	11970-	10	15370-	1
WM(	63)	9725-	30	11970-	14	15215-	1	15255-	18						
WQ(	35)	5985-	4	6105-	2	7115-	10	9725-	15	15355-	4				
XN(	3)	11725-	3												
XR(	1)	9725-	1												
XU(	2)	6105-	2												
YU(	1)	5955-	1												
Z1(	83)	9680-	41	11970-	10	15130-	32								
Z3(	5)	6105-	1	9565-	1	15255-	1	17835-	2						
ZA(	1)	15145-	1												

MARKERS DETECTED BY FREQUENCY MARCH-APRIL 1985 for BROADCASTER RL

5955(89)	28-MF	12-TU	11-WA	5-**	5-GI	5-UN	4-DR	4-MU	4-U7	3-DU	2-SM	2-VR	1-BG	1-BL	1-KD
	1-SB														
6105(483)	181-UA	81-GR	38-U7	25-**	25-S7	25-TU	24-IG	13-DU	11-D7	11-MF	10-BG	10-SB	6-SF	5-FA	5-ST
	4-AU	1-AN	1-CA	1-FL	1-IT	1-K7	1-LG	1-LM	1-RV	1-XU					
6170(213)	107-MP	31-GI	17-MF	11-BG	8-**	8-TU	8-US	4-DU	2-AG	2-BL	2-RB	2-XN	1-AS	1-CA	1-CB
	1-DR	1-LG	1-PL	1-SF	1-ST	1-WD	1-WI	1-ZM							
7115(17)	3-TU	2-**	2-DU	2-MG	2-PL	2-WI	1-KF	1-MI	1-TK	1-XN					
7145(16)	6-DU	3-TU	2-SF	1-LG	1-PB	1-VM	1-WA	1-XN							
7155(106)	20-**	15-TK	10-WA	9-PB	8-WM	7-TU	6-AR	6-BG	6-DU	3-LG	3-MF	3-US	2-WI	1-4F	1-AG
	1-DP	1-FU	1-KF	1-SB	1-SF	1-SM									
7165(49)	7-BG	6-TU	4-MF	4-TR	4-UN	3-AR	3-MG	3-WI	2-CB	2-SM	2-US	2-WD	1-**	1-DU	1-GF
	1-PB	1-VM	1-XN	1-ZM											
7180(109)	25-US	16-GI	12-TR	11-DU	6-WI	5-**	5-TU	4-DR	3-4F	3-BG	3-UN	2-AR	2-NA	2-XU	1-AG
	1-BD	1-BL	1-RP	1-SB	1-SM	1-VF	1-WD	1-XD	1-XI						
7190(50)	30-TK	4-US	3-TU	2-AS	2-BG	2-SM	2-ZM	1-**	1-MF	1-MG	1-TR	1-XN			
7220(463)	67-GR	56-GI	53-IG	46-GM	37-DU	27-**	26-TU	20-UA	18-U7	17-BG	8-NS	7-KD	7-PB	5-TK	5-TR
	5-WI	4-AN	4-BD	4-FU	4-LG	4-MF	4-UB	3-DA	3-MU	2-KB	2-NI	2-PK	2-PL	2-SB	2-UR
	2-VR	1-BU	1-DR	1-FA	1-FG	1-L8	1-LM	1-RB	1-SU	1-TL	1-UQ	1-VI	1-VU	1-WA	1-WM
	1-ZM														
7245(60)	11-TU	10-U7	6-PB	5-TK	4-**	4-DR	3-MG	2-DU	2-IR	1-BG	1-CA	1-KF	1-LG	1-LM	1-NI
	1-PL	1-RQ	1-SM	1-TL	1-TR	1-WD	1-WI								
7250(17)	2-**	2-AG	2-AR	2-PL	2-TR	2-WA	1-AN	1-RG	1-SF	1-TL	1-WI				
7255(31)	6-**	5-TU	3-NS	2-G3	2-MU	2-PL	2-TR	2-WI	1-A5	1-BG	1-DU	1-FU	1-SF	1-SM	1-VR
7295(149)	59-US	14-U7	12-**	9-MP	5-CG	5-WI	4-SU	4-VR	3-DP	3-KV	3-PL	3-WA	2-BG	2-FU	2-MF
	2-XN	1-AS	1-BL	1-FL	1-GU	1-MW	1-NI	1-NS	1-PB	1-RQ	1-RT	1-SF	1-ST	1-TU	1-UA
	1-VG	1-VL	1-XU												
9505(186)	30-FU	16-NS	14-DR	14-WI	11-HP	9-BQ	8-PB	6-AN	6-DU	6-MU	6-PL	5-KM	5-TR	4-GI	4-TU
	4-UN	4-XI	3-DA	3-FG	3-FL	3-SM	3-WD	2-AD	2-AS	2-PK	1-BL	1-CB	1-FI	1-MG	1-NA
	1-R9	1-RD	1-RQ	1-U7	1-VL	1-VR	1-XN	1-XW							
9520(652)	162-KB	91-IG	47-DR	32-MU	32-TK	27-ZT	24-**	19-U7	18-DU	17-GM	17-GR	17-VR	12-KD	9-R6	8-AU
	8-TR	7-MF	7-RQ	7-WI	6-BG	6-BQ	6-DP	6-US	5-LG	5-TU	4-AN	4-KM	4-UR	3-AG	3-BD
	3-FU	3-GI	3-KV	3-LK	3-PL	2-BR	2-CA	2-GS	2-RT	2-ST	1-BL	1-BU	1-DA	1-LM	1-NS
	1-PB	1-RV	1-S7	1-SF	1-UD	1-UN	1-VL	1-VN	1-ZM						
9555(206)	41-TK	22-IG	18-TU	17-R6	16-LK	15-**	12-D3	11-ZT	5-FG	5-LF	5-NS	5-RB	4-GR	4-XI	3-MG
	3-PB	3-TR	2-GI	2-XN	1-AN	1-BQ	1-DP	1-GM	1-HP	1-KR	1-PL	1-R9	1-SB	1-SF	1-SM
	1-UA	1-US													
9565(148)	35-TU	18-IG	16-KB	14-PB	12-D3	10-FU	8-WI	6-Z1	5-AN	2-BD	2-HP	2-LF	2-LG	2-MG	2-NS
	2-PL	2-TK	2-UR	1-DP	1-FG	1-MP	1-PA	1-XI	1-XN						
9625(54)	7-LT	6-UQ	4-AD	4-VL	4-WD	3-D3	3-VR	3-WI	2-FG	2-HP	2-LG	2-MP	2-PB	2-SM	1-MF
	1-NI	1-PL	1-UN	1-VM	1-XI	1-XN	1-XW								
9660(146)	14-BU	12-ZM	11-KF	11-UQ	10-TK	8-**	8-WI	7-U7	6-AD	6-FU	6-MG	5-RA	5-VL	4-TU	3-BQ
	3-HP	2-1G	2-AG	2-IG	2-LF	2-LG	2-NS	2-XI	2-XW	1-BD	1-CB	1-FG	1-FL	1-GS	1-LK
	1-PB	1-PL	1-RP	1-UR	1-XN										
9680(170)	83-Z1	26-TK	21-LK	7-WM	4-LF	4-PF	3-**	3-SM	3-TR	3-WI	2-BQ	2-FU	2-PB	1-CB	1-FG
	1-HP	1-KF	1-KM	1-LG	1-RT										

9695(39)	13-R6	10-TK	4-MG	4-VU	2-FG	2-RG	1-D3	1-HP	1-RB	1-SM					
9705(14)	4-Z1	3-PB	2-DB	2-FL	1-LM	1-NS	1-XI								
9715(11)	3-**	3-MP	2-AD	1-8L	1-FR	1-TK									
9725(47)	10-PB	10-TU	4-U7	3-MG	3-XI	2-D3	2-MP	2-WD	2-WI	2-ZM	1-AD	1-BD	1-CB	1-GS	1-IR
	1-LM	1-SM													
9750(68)	23-MU	9-BQ	6-**	6-HP	5-TU	3-SM	2-AD	2-CB	2-D3	2-IG	1-FG	1-FU	1-HM	1-MF	1-MG
	1-NS	1-RT	1-VL												
11725(63)	37-MU	8-TK	7-**	3-IG	2-BA	2-WM	2-XR	1-VM	1-YU						
11770(216)	97-MU	18-WI	16-KB	10-PB	8-DR	7-SM	6-BQ	5-FG	5-PF	4-DB	4-NI	4-U7	3-NS	3-PL	3-TU
	2-BG	2-BK	2-BU	2-CB	2-FL	2-KV	2-RQ	2-UQ	1-**	1-BD	1-HM	1-MG	1-RT	1-UB	1-YU
11805(12)	5-KB	3-PB	3-TU	1-WD											
11825(36)	13-U7	11-RT	3-WI	2-**	2-UN	1-BD	1-BL	1-BU	1-PA	1-UB					
11875(340)	39-FU	28-**	28-NS	26-TU	21-TK	20-MF	17-GU	16-LK	15-K7	13-KM	10-BQ	8-KB	8-RT	7-XW	6-IG
	6-UQ	5-BD	5-R9	5-RQ	4-WI	3-DR	3-FG	3-GS	3-LG	3-PB	3-UB	2-BG	2-DB	2-FL	2-GI
	2-KV	2-MP	2-NI	2-PA	1-4F	1-AD	1-BI	1-DP	1-DU	1-FI	1-FR	1-HP	1-MG	1-RB	1-RV
	1-TR	1-VG	1-VL	1-VN	1-VR	1-XI	1-XR	1-Z1							
11885(556)	79-IG	54-Z1	48-WA	39-DU	29-VU	28-U7	27-ZT	26-TU	25-WM	21-**	17-TK	16-NS	16-ZM	14-BG	12-US
	10-MF	9-D3	7-LG	6-WL	5-DR	5-ML	5-MU	4-KV	4-PL	3-AN	3-FM	2-1D	2-B1	2-BI	2-FL
	2-GM	2-LM	2-PA	2-PB	2-S7	2-SM	2-TR	2-UA	2-UN	2-VL	1-AD	1-BD	1-DB	1-FR	1-GU
	1-HP	1-KD	1-KM	1-LK	1-MI	1-NI	1-PK	1-SU	1-VN	1-VR	1-WI				
11895(3)	2-**	1-UN													
11915(148)	64-MU	17-TK	17-WM	10-BQ	8-IG	6-**	6-GR	3-AN	3-UA	2-DR	2-PL	2-U7	2-WI	1-KU	1-NS
	1-SB	1-SM	1-TU	1-WD											
11935(196)	49-MU	49-R6	27-SU	13-KB	11-ML	9-**	9-BQ	4-NS	3-CB	3-VU	2-IG	2-PB	2-SM	2-WM	1-FL
	1-KD	1-MF	1-PL	1-RB	1-SF	1-UB	1-VG	1-WD	1-WI	1-XN					
11970(342)	110-TK	69-WM	24-**	23-IG	17-R6	10-TU	9-UQ	9-WI	7-FU	7-U7	6-KB	6-NS	6-SU	4-KM	3-KU
	3-MU	3-Z1	2-BQ	2-BU	2-PF	2-WG	1-AK	1-BD	1-DU	1-FG	1-KD	1-LF	1-LM	1-PA	1-PB
	1-PL	1-RB	1-RD	1-RQ	1-RT	1-SF	1-ST	1-US	1-YU						
15130(57)	16-TK	13-Z1	6-TU	4-BL	4-LG	2-RT	1-**	1-BG	1-HM	1-HP	1-LF	1-PB	1-PK	1-PL	1-US
	1-VL	1-WD	1-WI												
15170(27)	9-TK	7-FU	2-PK	2-WI	1-IG	1-KF	1-PB	1-TR	1-TU	1-WD	1-ZM				
15255(1)	1-MU														
15290(277)	58-TK	47-TU	18-R6	15-PL	12-MU	10-LG	8-FG	6-AW	6-BR	6-FI	6-U7	6-VR	6-WI	5-**	5-SM
	5-VG	4-CB	4-PB	3-CA	3-MG	3-ML	3-UQ	3-VI	3-WD	3-WR	2-AK	2-DB	2-GF	2-LT	2-NS
	2-WS	2-ZM	1-AD	1-AN	1-BD	1-BN	1-BQ	1-FL	1-GR	1-HP	1-NI	1-PA	1-RB	1-RG	1-UB
	1-VL	1-XI													
15340(161)	29-VR	20-TU	19-**	12-WI	9-NS	9-PB	8-R9	5-FL	5-LG	5-LK	4-PL	4-SF	4-WL	3-AD	2-B1
	2-BQ	2-DU	2-RT	2-VG	1-A5	1-BD	1-FI	1-FU	1-HP	1-KF	1-LM	1-MG	1-TR	1-UB	1-UR
	1-VM	1-WG	1-XN	1-ZM											
15370(103)	18-U7	12-TU	10-MU	8-ZM	7-WI	5-**	4-DR	4-UQ	3-FU	3-S7	3-VL	2-BG	2-D3	2-FG	2-FL
	2-IG	2-SM	2-UA	1-AD	1-BL	1-BQ	1-FR	1-GI	1-LM	1-NS	1-PL	1-RP	1-RT	1-TR	1-VN
15380(127)	20-**	12-K7	10-NS	7-MU	7-TU	7-WI	6-FR	6-R6	5-LK	4-CB	4-PB	4-UB	4-VL	3-UN	3-ZA
	2-AW	2-D3	2-FL	2-FU	2-LG	2-SM	2-US	1-AN	1-BD	1-DR	1-FG	1-KD	1-MG	1-RT	1-SB
	1-VR	1-XI	1-XN												
15445(109)	37-K7	20-TU	7-WI	5-VR	4-KF	4-Z1	3-**	3-BR	3-DR	3-FU	3-LK	3-PB	3-WM	2-FG	2-WD
	1-CB	1-IG	1-PL	1-UB	1-VI	1-XD	1-XI								

17725(122)	12-BQ	12-MU	11-SM	10-SF	10-UQ	8-NS	7-4N	6-CB	5-UN	4-AD	4-FG	4-TU	4-XI	3-FL	3-KF
	3-KM	2-4F	2-IG	2-VM	2-WI	1-**	1-AK	1-BD	1-BI	1-HP	1-KR	1-LT	1-PB		
17735(4)	1-BQ	1-IG	1-NS	1-UQ											
17750(130)	23-M3	23-MU	12-AD	9-BQ	7-**	6-CB	6-XW	5-TK	4-US	3-BG	3-FG	3-SM	3-ZM	2-BU	2-HM
	2-TU	2-WM	1-DA	1-IG	1-KD	1-KF	1-KM	1-KR	1-LT	1-MA	1-MG	1-NS	1-PL	1-VL	1-VM
	1-WI	1-XD													
17760(119)	20-LK	13-DR	10-AD	9-HP	7-NS	6-**	5-KM	5-VR	4-FL	4-LT	4-R9	4-SM	3-CB	3-TU	2-BQ
	2-DB	2-FG	2-FI	2-HM	2-KF	2-PL	1-AU	1-BG	1-KB	1-MG	1-MW	1-NI	1-TK	1-WI	
17770(22)	4-**	2-BQ	2-HM	2-MG	2-PB	2-WI	1-CB	1-FG	1-FU	1-HP	1-IR	1-NS	1-PL	1-TR	
17805(64)	36-4F	10-7K	9-**	2-4N	2-LG	1-AN	1-DR	1-PL	1-RD	1-WM					
17885(20)	3-LG	3-NS	2-FG	2-HP	2-MG	2-XI	1-**	1-GF	1-PB	1-PL	1-TR	1-TU			
17895(126)	23-U7	10-NS	9-**	8-TU	7-BQ	6-AD	6-LK	6-SF	5-HP	4-FU	4-MU	4-SM	4-WI	4-XI	3-CB
	3-MG	2-GI	2-IR	2-VL	2-XD	1-BD	1-FL	1-GL	1-HM	1-KM	1-LT	1-MW	1-PL	1-VM	1-VR
	1-WR	1-ZM													
21455(28)	5-TK	4-DR	2-**	2-BQ	2-KV	2-LT	1-AD	1-CB	1-FI	1-KF	1-PL	1-RQ	1-RT	1-TR	1-VL
	1-XW	1-ZA													
21510(35)	10-DR	4-XW	4-ZM	3-**	3-FU	3-WM	2-AD	2-LT	1-CB	1-PL	1-RQ	1-VL			
21735(17)	4-TK	3-BI	2-PB	2-RT	1-**	1-BD	1-BG	1-FG	1-LM	1-MU					
21745(17)	3-US	2-BI	2-D3	2-LM	2-PB	2-RT	1-BQ	1-DP	1-KV	1-LG					

FREQUENCIES DETECTED FOR SPECIFIED MARKERS MARCH-APRIL 1985 for BROADCASTER RL

**(373)	5955-	5	6105-	25	6170-	8	7115-	2	7155-	20	7165-	1	7180-	5	7190-	1	7220-	27	7245-	4			
	7250-	2	7255-	6	7295-	12	9520-	24	9555-	15	9660-	8	9680-	3	9715-	3	9750-	6	11725-	7			
	11770-	1	11825-	2	11875-	28	11885-	21	11895-	2	11915-	6	11935-	9	11970-	24	15130-	1	15290-	5			
	15340-	19	15370-	5	15380-	20	15445-	3	17725-	1	17750-	7	17760-	6	17770-	4	17805-	9	17885-	1			
	17895-	9	21455-	2	21510-	3	21735-	1															
1D(2)	11885-	2																					
1G(2)	9660-	2																					
4F(43)	7155-	1	7180-	3	11875-	1	17725-	2	17805-	36													
4N(9)	17725-	7	17805-	2																			
7K(10)	17805-	10																					
8L(1)	9715-	1																					
A5(2)	7255-	1	15340-	1																			
AD(59)	9505-	2	9625-	4	9660-	6	9715-	2	9725-	1	9750-	2	11875-	1	11885-	1	15290-	1	15340-	3			
	15370-	1	17725-	4	17750-	12	17760-	10	17895-	6	21455-	1	21510-	2									
AG(11)	6170-	2	7155-	1	7180-	1	7250-	2	9520-	3	9660-	2											
AK(4)	11970-	1	15290-	2	17725-	1																	
AN(31)	6105-	1	7220-	4	7250-	1	9505-	6	9520-	4	9555-	1	9565-	5	11885-	3	11915-	3	15290-	1			
	15380-	1	17805-	1																			
AR(13)	7155-	6	7165-	3	7180-	2	7250-	2															
AS(6)	6170-	1	7190-	2	7295-	1	9505-	2															
AU(13)	6105-	4	9520-	8	17760-	1																	
AW(8)	15290-	6	15380-	2																			
B1(4)	11885-	2	15340-	2																			
BA(2)	11725-	2																					
BD(27)	7180-	1	7220-	4	9520-	3	9565-	2	9660-	1	9725-	1	11770-	1	11825-	1	11875-	5	11885-	1			
	11970-	1	15290-	1	15340-	1	15380-	1	17725-	1	17895-	1	21735-	1									
BG(93)	5955-	1	6105-	10	6170-	11	7155-	6	7165-	7	7180-	3	7190-	2	7220-	17	7245-	1	7255-	1			
	7295-	2	9520-	6	11770-	2	11875-	2	11885-	14	15130-	1	15370-	2	17750-	3	17760-	1	21735-	1			
BI(9)	11875-	1	11885-	2	17725-	1	21735-	3	21745-	2													
BK(2)	11770-	2																					
BL(13)	5955-	1	6170-	2	7180-	1	7295-	1	9505-	1	9520-	1	11825-	1	15130-	4	15370-	1					
BN(1)	15290-	1																					
BQ(107)	9505-	9	9520-	6	9555-	1	9660-	3	9680-	2	9750-	9	11770-	6	11875-	10	11915-	10	11935-	9			
	11970-	2	15290-	1	15340-	2	15370-	1	17725-	12	17735-	1	17750-	9	17760-	2	17770-	2	17895-	7			
	21455-	2	21745-	1																			
BR(11)	9520-	2	15290-	6	15445-	3																	
BU(23)	7220-	1	9520-	1	9660-	14	11770-	2	11825-	1	11970-	2	17750-	2									
CA(8)	6105-	1	6170-	1	7245-	1	9520-	2	15290-	3													
CB(44)	6170-	1	7165-	2	9505-	1	9660-	1	9680-	1	9725-	1	9750-	2	11770-	2	11935-	3	15290-	4			
	15380-	4	15445-	1	17725-	6	17750-	6	17760-	3	17770-	1	17895-	3	21455-	1	21510-	1					
CG(5)	7295-	5																					
D3(47)	9555-	12	9565-	12	9625-	3	9695-	1	9725-	2	9750-	2	11885-	9	15370-	2	15380-	2	21745-	2			
D7(11)	6105-	11																					
DA(8)	7220-	3	9505-	3	9520-	1	17750-	1															
DB(13)	9705-	2	11770-	4	11875-	2	11885-	1	15290-	2	17760-	2											

DP(14) 7155- 1 7295- 3 9520- 6 9555- 1 9565- 1 11875- 1 21745- 1
DR(129) 5955- 4 6170- 1 7180- 4 7220- 1 7245- 4 9505- 14 9520- 47 11770- 8 11875- 3 11885- 5
11915- 2 15370- 4 15380- 1 15445- 3 17760- 13 17805- 1 21455- 4 21510- 10
DU(153) 5955- 3 6105- 13 6170- 4 7115- 2 7145- 6 7155- 6 7165- 1 7180- 11 7220- 37 7245- 2
7255- 1 9505- 6 9520- 18 11875- 1 11885- 39 11970- 1 15340- 2
FA(6) 6105- 5 7220- 1
FG(52) 7220- 1 9505- 3 9555- 5 9565- 1 9625- 2 9660- 1 9680- 1 9695- 2 9750- 1 11770- 5
11875- 3 11970- 1 15290- 8 15370- 2 15380- 1 15445- 2 17725- 4 17750- 3 17760- 2 17770- 1
17885- 2 21735- 1
FI(12) 9505- 1 11875- 1 15290- 6 15340- 1 17760- 2 21455- 1
FL(33) 6105- 1 7295- 1 9505- 3 9660- 1 9705- 2 11770- 2 11875- 2 11885- 2 11935- 1 15290- 1
15340- 5 15370- 2 15380- 2 17725- 3 17760- 4 17895- 1
FM(3) 11885- 3
FR(10) 9715- 1 11875- 1 11885- 1 15370- 1 15380- 6
FU(130) 7155- 1 7220- 4 7255- 1 7295- 2 9505- 30 9520- 3 9565- 10 9660- 6 9680- 2 9750- 1
11875- 39 11970- 7 15170- 7 15340- 1 15370- 3 15380- 2 15445- 3 17770- 1 17895- 4 21510- 3
G3(2) 7255- 2
GF(4) 7165- 1 15290- 2 17885- 1
GI(122) 5955- 5 6170- 31 7180- 16 7220- 56 9505- 4 9520- 3 9555- 2 11875- 2 15370- 1 17895- 2
GL(1) 17895- 1
GM(66) 7220- 46 9520- 17 9555- 1 11885- 2
GR(176) 6105- 81 7220- 67 9520- 17 9555- 4 11915- 6 15290- 1
GS(7) 9520- 2 9660- 1 9725- 1 11875- 3
GU(19) 7295- 1 11875- 17 11885- 1
HM(10) 9750- 1 11770- 1 15130- 1 17750- 2 17760- 2 17770- 2 17895- 1
HP(50) 9505- 11 9555- 1 9565- 2 9625- 2 9660- 3 9680- 1 9695- 1 9750- 6 11875- 1 11885- 1
15130- 1 15290- 1 15340- 1 17725- 1 17760- 9 17770- 1 17885- 2 17895- 5
IG(341) 6105- 24 7220- 53 9520- 91 9555- 22 9565- 18 9660- 2 9750- 2 11725- 3 11875- 6 11885- 79
11915- 8 11935- 2 11970- 23 15170- 1 15370- 2 15445- 1 17725- 2 17735- 1 17750- 1
IR(6) 7245- 2 9725- 1 17770- 1 17895- 2
IT(1) 6105- 1
K7(65) 6105- 1 11875- 15 15380- 12 15445- 37
KB(229) 7220- 2 9520-162 9565- 16 11770- 16 11805- 5 11875- 8 11935- 13 11970- 6 17760- 1
KD(25) 5955- 1 7220- 7 9520- 12 11885- 1 11935- 1 11970- 1 15380- 1 17750- 1
KF(28) 7115- 1 7155- 1 7245- 1 9660- 11 9680- 1 15170- 1 15340- 1 15445- 4 17725- 3 17750- 1
17760- 2 21455- 1
KM(38) 9505- 5 9520- 4 9680- 1 11875- 13 11885- 1 11970- 4 17725- 3 17750- 1 17760- 5 17895- 1
KR(3) 9555- 1 17725- 1 17750- 1
KU(4) 11915- 1 11970- 3
KV(17) 7295- 3 9520- 3 11770- 2 11875- 2 11885- 4 21455- 2 21745- 1
L8(1) 7220- 1
LF(15) 9555- 5 9565- 2 9660- 2 9680- 4 11970- 1 15130- 1
LG(60) 6105- 1 6170- 1 7145- 1 7155- 3 7220- 4 7245- 1 9520- 5 9565- 2 9625- 2 9660- 2
9680- 1 11875- 3 11885- 7 15130- 4 15290- 10 15340- 5 15380- 2 17805- 2 17885- 3 21745- 1
LK(97) 9520- 3 9555- 16 9660- 1 9680- 21 11875- 16 11885- 1 15340- 5 15380- 5 15445- 3 17760- 20
17895- 6

LM(14) 6105- 1 7220- 1 7245- 1 9520- 1 9705- 1 9725- 1 11885- 2 11970- 1 15340- 1 15370- 1
21735- 1 21745- 2
LT(20) 9625- 7 15290- 2 17725- 1 17750- 1 17760- 4 17895- 1 21455- 2 21510- 2
M3(23) 17750- 23
MA(1) 17750- 1
MF(110) 5955- 28 6105- 11 6170- 17 7155- 3 7165- 4 7190- 1 7220- 4 7295- 2 9520- 7 9625- 1
9750- 1 11875- 20 11885- 10 11935- 1
MG(45) 7115- 2 7165- 3 7190- 1 7245- 3 9505- 1 9555- 3 9565- 2 9660- 6 9695- 4 9725- 3
9750- 1 11770- 1 11875- 1 15290- 3 15340- 1 15380- 1 17750- 1 17760- 1 17770- 2 17885- 2
17895- 3
MI(2) 7115- 1 11885- 1
ML(19) 11885- 5 11935- 11 15290- 3
MP(126) 6170-107 7295- 9 9565- 1 9625- 2 9715- 3 9725- 2 11875- 2
MU(395) 5955- 4 7220- 3 7255- 2 9505- 6 9520- 32 9750- 23 11725- 37 11770- 97 11885- 5 11915- 64
11935- 49 11970- 3 15255- 1 15290- 12 15370- 10 15380- 7 17725- 12 17750- 23 17895- 4 21735- 1
MW(3) 7295- 1 17760- 1 17895- 1
NA(3) 7180- 2 9505- 1
NI(14) 7220- 2 7245- 1 7295- 1 9625- 1 11770- 4 11875- 2 11885- 1 15290- 1 17760- 1
NS(151) 7220- 8 7255- 3 7295- 1 9505- 16 9520- 1 9555- 5 9565- 2 9660- 2 9705- 1 9750- 1
11770- 3 11875- 28 11885- 16 11915- 1 11935- 4 11970- 6 15290- 2 15340- 9 15370- 1 15380- 10
17725- 8 17735- 1 17750- 1 17760- 7 17770- 1 17885- 3 17895- 10
PA(8) 9565- 1 11825- 1 11875- 2 11885- 2 11970- 1 15290- 1
PB(120) 7145- 1 7155- 9 7165- 1 7220- 7 7245- 6 7295- 1 9505- 8 9520- 1 9555- 3 9565- 14
9625- 2 9660- 1 9680- 2 9705- 3 9725- 10 11770- 10 11805- 3 11875- 3 11885- 2 11935- 2
11970- 1 15130- 1 15170- 1 15290- 4 15340- 9 15380- 4 15445- 3 17725- 1 17770- 2 17885- 1
21735- 2 21745- 2
PF(11) 9680- 4 11770- 5 11970- 2
PK(8) 7220- 2 9505- 2 11885- 1 15130- 1 15170- 2
PL(69) 6170- 1 7115- 2 7220- 2 7245- 1 7250- 2 7255- 2 7295- 3 9505- 6 9520- 3 9555- 1
9565- 2 9625- 1 9660- 1 11770- 3 11885- 4 11915- 2 11935- 1 11970- 1 15130- 1 15290- 15
15340- 4 15370- 1 15445- 1 17750- 1 17760- 2 17770- 1 17805- 1 17885- 1 17895- 1 21455- 1
21510- 1
R6(129) 9520- 9 9555- 17 9695- 13 11935- 49 11970- 17 15290- 18 15380- 6
R9(19) 9505- 1 9555- 1 11875- 5 15340- 8 17760- 4
RA(5) 9660- 5
RB(13) 6170- 2 7220- 1 9555- 5 9695- 1 11875- 1 11935- 1 11970- 1 15290- 1
RD(3) 9505- 1 11970- 1 17805- 1
RG(4) 7250- 1 9695- 2 15290- 1
RP(3) 7180- 1 9660- 1 15370- 1
RQ(20) 7245- 1 7295- 1 9505- 1 9520- 7 11770- 2 11875- 5 11970- 1 21455- 1 21510- 1
RT(37) 7295- 1 9520- 2 9680- 1 9750- 1 11770- 1 11825- 11 11875- 8 11970- 1 15130- 2 15340- 2
15370- 1 15380- 1 21455- 1 21735- 2 21745- 2
RV(3) 6105- 1 9520- 1 11875- 1
S7(31) 6105- 25 9520- 1 11885- 2 15370- 3
SB(18) 5955- 1 6105- 10 7155- 1 7180- 1 7220- 2 9555- 1 11915- 1 15380- 1
SF(37) 6105- 6 6170- 1 7145- 2 7155- 1 7250- 1 7255- 1 7295- 1 9520- 1 9555- 1 11935- 1
11970- 1 15340- 4 17725- 10 17895- 6

SM(67) 5955- 2 7155- 1 7165- 2 7180- 1 7190- 2 7245- 1 7255- 1 9505- 3 9555- 1 9625- 2
9680- 3 9695- 1 9725- 1 9750- 3 11770- 7 11885- 2 11915- 1 11935- 2 15290- 5 15370- 2
15380- 2 17725- 11 17750- 3 17760- 4 17895- 4
ST(10) 6105- 5 6170- 1 7295- 1 9520- 2 11970- 1
SU(39) 7220- 1 7295- 4 11885- 1 11935- 27 11970- 6
TK(449) 7115- 1 7155- 15 7190- 30 7220- 5 7245- 5 9520- 32 9555- 41 9565- 2 9660- 10 9680- 26
9695- 10 9715- 1 11725- 8 11875- 21 11885- 17 11915- 17 11970-110 15130- 16 15170- 9 15290- 58
17750- 5 17760- 1 21455- 5 21735- 4
TL(3) 7220- 1 7245- 1 7250- 1
TR(55) 7165- 4 7180- 12 7190- 1 7220- 5 7245- 1 7250- 2 7255- 2 9505- 5 9520- 8 9555- 3
9680- 3 11875- 1 11885- 2 15170- 1 15340- 1 15370- 1 17770- 1 17885- 1 21455- 1
TU(396) 5955- 12 6105- 25 6170- 8 7115- 3 7145- 3 7155- 7 7165- 6 7180- 5 7190- 3 7220- 26
7245- 11 7255- 5 7295- 1 9505- 4 9520- 5 9555- 18 9565- 35 9660- 4 9725- 10 9750- 5
11770- 3 11805- 3 11875- 26 11885- 26 11915- 1 11970- 10 15130- 6 15170- 1 15290- 47 15340- 20
15370- 12 15380- 7 15445- 20 17725- 4 17750- 2 17760- 3 17885- 1 17895- 8
U7(216) 5955- 4 6105- 38 7220- 18 7245- 10 7295- 14 9505- 1 9520- 19 9660- 7 9725- 4 11770- 4
11825- 13 11885- 28 11915- 2 11970- 7 15290- 6 15370- 18 17895- 23
UA(210) 6105-181 7220- 20 7295- 1 9555- 1 11885- 2 11915- 3 15370- 2
UB(17) 7220- 4 11770- 1 11825- 1 11875- 3 11935- 1 15290- 1 15340- 1 15380- 4 15445- 1
UD(1) 9520- 1
UN(31) 5955- 5 7165- 4 7180- 3 9505- 4 9520- 1 9625- 1 11825- 2 11885- 2 11895- 1 15380- 3
17725- 5
UQ(53) 7220- 1 9625- 6 9660- 11 11770- 2 11875- 6 11970- 9 15290- 3 15370- 4 17725- 10 17735- 1
UR(10) 7220- 2 9520- 4 9565- 2 9660- 1 15340- 1
US(131) 6170- 8 7155- 3 7165- 2 7180- 25 7190- 4 7295- 59 9520- 6 9555- 1 11885- 12 11970- 1
15130- 1 15380- 2 17750- 4 21745- 3
VF(1) 7180- 1
VG(10) 7295- 1 11875- 1 11935- 1 15290- 5 15340- 2
VI(5) 7220- 1 15290- 3 15445- 1
VL(30) 7295- 1 9505- 1 9520- 1 9625- 4 9660- 5 9750- 1 11875- 1 11885- 2 15130- 1 15290- 1
15370- 3 15380- 4 17750- 1 17895- 2 21455- 1 21510- 1
VM(9) 7145- 1 7165- 1 9625- 1 11725- 1 15340- 1 17725- 2 17750- 1 17895- 1
VN(4) 9520- 1 11875- 1 11885- 1 15370- 1
VR(79) 5955- 2 7220- 2 7255- 1 7295- 4 9505- 1 9520- 17 9625- 3 11875- 1 11885- 1 15290- 6
15340- 29 15380- 1 15445- 5 17760- 5 17895- 1
VU(37) 7220- 1 9695- 4 11885- 29 11935- 3
WA(76) 5955- 11 7145- 1 7155- 10 7220- 1 7250- 2 7295- 3 11885- 48
WD(24) 6170- 1 7165- 2 7180- 1 7245- 1 9505- 3 9625- 4 9725- 2 11805- 1 11915- 1 11935- 1
15130- 1 15170- 1 15290- 3 15445- 2
WG(3) 11970- 2 15340- 1
WI(163) 6170- 1 7115- 2 7155- 2 7165- 3 7180- 6 7220- 5 7245- 1 7250- 1 7255- 2 7295- 5
9505- 14 9520- 7 9565- 8 9625- 3 9660- 8 9680- 3 9725- 2 11770- 18 11825- 3 11875- 4
11885- 1 11915- 2 11935- 1 11970- 9 15130- 1 15170- 2 15290- 6 15340- 12 15370- 7 15380- 7
15445- 7 17725- 2 17750- 1 17760- 1 17770- 2 17895- 4
WL(10) 11885- 6 15340- 4
WM(140) 7155- 8 7220- 1 9680- 7 11725- 2 11885- 25 11915- 17 11935- 2 11970- 69 15445- 3 17750- 2
17805- 1 21510- 3

WR(4)	15290-	3	17895-	1																		
WS(2)	15290-	2																				
XD(5)	7180-	1	15445-	1	17750-	1	17895-	2														
XI(31)	7180-	1	9505-	4	9555-	4	9565-	1	9625-	1	9660-	2	9705-	1	9725-	3	11875-	1	15290-	1		
	15380-	1	15445-	1	17725-	4	17885-	2	17895-	4												
XN(17)	6170-	2	7115-	1	7145-	1	7165-	1	7190-	1	7295-	2	9505-	1	9555-	2	9565-	1	9625-	1		
	9660-	1	11935-	1	15340-	1	15380-	1														
XR(3)	11725-	2	11875-	1																		
XU(4)	6105-	1	7180-	2	7295-	1																
XW(22)	9505-	1	9625-	1	9660-	2	11875-	7	17750-	6	21455-	1	21510-	4								
YU(3)	11725-	1	11770-	1	11970-	1																
Z1(168)	9565-	6	9680-	83	9705-	4	11875-	1	11885-	54	11970-	3	15130-	13	15445-	4						
ZA(4)	15380-	3	21455-	1																		
ZM(56)	6170-	1	7165-	1	7190-	2	7220-	1	9520-	1	9660-	12	9725-	2	11885-	16	15170-	1	15290-	2		
	15340-	1	15370-	8	17750-	3	17895-	1	21510-	4												
ZT(65)	9520-	27	9555-	11	11885-	27																

MARKERS DETECTED BY FREQUENCY MARCH-APRIL 1985 for BROADCASTER DW

6010(15)	5-BD	3-TU	2-KD	1-**	1-CB	1-U7	1-WD	1-YU							
6020(9)	4-S5	1-B1	1-DR	1-KD	1-SF	1-Z3									
6065(6)	4-U7	1-**	1-B1												
6130(11)	6-DU	1-**	1-BD	1-BG	1-TU	1-WI									
7130(9)	7-U7	1-B1	1-S5												
7150(10)	5-**	3-GR	1-AG	1-PB											
7200(22)	10-TU	3-LG	3-VG	2-UD	1-4F	1-CB	1-PB	1-RT							
7270(1)	1-D3														
7275(5)	1-AD	1-FG	1-FR	1-PB	1-VL										
7285(8)	2-**	1-G3	1-NS	1-PB	1-PL	1-WD	1-WI								
9615(23)	12-B1	3-S5	2-A5	2-D4	1-**	1-R6	1-RG	1-TU							
9640(7)	7-G3														
9650(40)	13-TU	5-WI	4-ZT	3-FG	2-B1	2-BD	2-FU	2-PB	1-**	1-IR	1-K7	1-LF	1-LG	1-MU	1-PL
9670(10)	2-FL	2-TK	2-WD	1-NS	1-PB	1-R6	1-SM								
9680(11)	7-K7	2-D4	2-L4												
9690(3)	1-BG	1-LD	1-MU												
9770(26)	8-TK	3-WD	3-WI	2-UB	2-WL	1-BD	1-FU	1-GI	1-KD	1-LG	1-NS	1-RP	1-TU		
11850(17)	8-MF	6-A5	2-K7	1-G3											
11855(18)	8-TU	3-K7	2-FU	1-D4	1-G3	1-NI	1-SM	1-WD							
11865(14)	7-**	6-B1	1-WI												
11905(58)	17-IG	9-WI	8-D3	7-TU	4-BD	3-HM	2-VG	2-WM	2-XN	1-**	1-NI	1-PB	1-SM		
15105(29)	11-WD	8-WI	5-TU	2-MG	1-HM	1-NS	1-VG								
15160(17)	4-A5	4-MF	3-D3	2-**	1-D4	1-K7	1-M7	1-W4							
15185(12)	3-WA	2-LK	1-**	1-BU	1-FA	1-LG	1-UD	1-VG	1-WD						
15275(9)	4-CG	2-WA	1-**	1-PL	1-TR										
15330(10)	4-A5	3-K7	2-R6	1-PL											
17715(3)	1-SM	1-UD	1-VM												
17825(2)	1-**	1-VR													
17875(10)	3-WA	2-AD	1-**	1-DB	1-LK	1-ML	1-TU								
21590(2)	1-**	1-AD													
21650(2)	1-**	1-ZM													

FREQUENCIES DETECTED FOR SPECIFIED MARKERS MARCH-APRIL 1985 for BROADCASTER DW

**(	28)	6010-	1	6065-	1	6130-	1	7150-	5	7285-	2	9615-	1	9650-	1	11865-	7	11905-	1	15160-	2
		15185-	1	15275-	1	17825-	1	17875-	1	21590-	1	21650-	1								
4F(	1)	7200-	1																		
A5(	16)	9615-	2	11850-	6	15160-	4	15330-	4												
AD(	4)	7275-	1	17875-	2	21590-	1														
AG(	1)	7150-	1																		
B1(	23)	6020-	1	6065-	1	7130-	1	9615-	12	9650-	2	11865-	6								
BD(	13)	6010-	5	6130-	1	9650-	2	9770-	1	11905-	4										
BG(	2)	6130-	1	9690-	1																
BU(	1)	15185-	1																		
CB(	2)	6010-	1	7200-	1																
CG(	4)	15275-	4																		
D3(	12)	7270-	1	11905-	8	15160-	3														
D4(	6)	9615-	2	9680-	2	11855-	1	15160-	1												
DB(	1)	17875-	1																		
DR(	1)	6020-	1																		
DU(	6)	6130-	6																		
FA(	1)	15185-	1																		
FG(	4)	7275-	1	9650-	3																
FL(	2)	9670-	2																		
FR(	1)	7275-	1																		
FU(	5)	9650-	2	9770-	1	11855-	2														
G3(	10)	7285-	1	9640-	7	11850-	1	11855-	1												
GI(	1)	9770-	1																		
GR(	3)	7150-	3																		
HM(	4)	11905-	3	15105-	1																
IG(	17)	11905-	17																		
IR(	1)	9650-	1																		
K7(	17)	9650-	1	9680-	7	11850-	2	11855-	3	15160-	1	15330-	3								
KD(	4)	6010-	2	6020-	1	9770-	1														
L4(	2)	9680-	2																		
LD(	1)	9690-	1																		
LF(	1)	9650-	1																		
LG(	6)	7200-	3	9650-	1	9770-	1	15185-	1												
LK(	3)	15185-	2	17875-	1																
M7(	1)	15160-	1																		
MF(	12)	11850-	8	15160-	4																
MG(	2)	15105-	2																		
ML(	1)	17875-	1																		
MU(	2)	9650-	1	9690-	1																
NI(	2)	11855-	1	11905-	1																
NS(	4)	7285-	1	9670-	1	9770-	1	15105-	1												
PB(	8)	7150-	1	7200-	1	7275-	1	7285-	1	9650-	2	9670-	1	11905-	1						
PL(	4)	7285-	1	9650-	1	15275-	1	15330-	1												
R6(	4)	9615-	1	9670-	1	15330-	2														

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RG(   1)   9615-   1
RP(   1)   9770-   1
RT(   1)   7200-   1
S5(   8)   6020-   4  7130-   1  9615-   3
SF(   1)   6020-   1
SM(   4)   9670-   1 11855-   1 11905-   1 17715-   1
TK(  10)   9670-   2  9770-   8
TR(   1)  15275-   1
TU(  50)   6010-   3  6130-   1  7200-  10  9615-   1  9650-  13  9770-   1 11855-   8 11905-   7 15105-   5 17875-   1
U7(  12)   6010-   1  6065-   4  7130-   7
UB(   2)   9770-   2
UD(   4)   7200-   2 15185-   1 17715-   1
VG(   7)   7200-   3 11905-   2 15105-   1 15185-   1
VL(   1)   7275-   1
VM(   1)  17715-   1
VR(   1)  17825-   1
W4(   1)  15160-   1
WA(   8)  15185-   3 15275-   2 17875-   3
WD(  20)   6010-   1  7285-   1  9670-   2  9770-   3 11855-   1 15105-  11 15185-   1
WI(  28)   6130-   1  7285-   1  9650-   5  9770-   3 11865-   1 11905-   9 15105-   8
WL(   2)   9770-   2
WM(   2)  11905-   2
XN(   2)  11905-   2
YU(   1)   6010-   1
Z3(   1)   6020-   1
ZM(   1)  21650-   1
ZT(   4)   9650-   4
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MARKERS DETECTED BY FREQUENCY MARCH-APRIL 1985 for BROADCASTER CVA

9645(1) 1-BG

FREQUENCIES DETECTED FOR SPECIFIED MARKERS MARCH-APRIL 1985 for BROADCASTER CVA

BG(1) 9645- 1

MARKERS DETECTED BY FREQUENCY MARCH-APRIL 1985 for BROADCASTER RAI

9710(3) 1-** 1-7K 1-KD

FREQUENCIES DETECTED FOR SPECIFIED MARKERS MARCH-APRIL 1985 for BROADCASTER RAI

**(1) 9710- 1
7K(1) 9710- 1
KD(1) 9710- 1

MARKERS DETECTED BY FREQUENCY MARCH-APRIL 1985 for BROADCASTER IBA

11700(24)	8-WI	6-TU	5-XN	2-CB	1-**	1-BN	1-WS							
11770(1)	1-MU													
11960(49)	21-WI	8-PB	5-WD	2-KV	2-RQ	2-VG	2-VU	1-CB	1-FL	1-HM	1-LG	1-TK	1-WM	1-XN
15240(20)	5-XN	3-**	2-DB	2-PB	2-RQ	1-CB	1-LF	1-NS	1-TK	1-TR	1-TU			
15415(5)	2-CB	1-**	1-NI	1-WI										
17710(20)	3-BL	3-CB	3-HM	2-PL	2-SM	1-**	1-BN	1-FL	1-PB	1-TU	1-VM	1-XI		
17815(8)	2-HM	2-NS	1-CB	1-FL	1-SM	1-TU								

FREQUENCIES DETECTED FOR SPECIFIED MARKERS MARCH-APRIL 1985 for BROADCASTER IBA

**(6)	11700-	1	15240-	3	15415-	1	17710-	1			
BL(3)	17710-	3									
BN(2)	11700-	1	17710-	1							
CB(10)	11700-	2	11960-	1	15240-	1	15415-	2	17710-	3	17815- 1
DB(2)	15240-	2									
FL(3)	11960-	1	17710-	1	17815-	1					
HM(6)	11960-	1	17710-	3	17815-	2					
KV(2)	11960-	2									
LF(1)	15240-	1									
LG(1)	11960-	1									
MU(1)	11770-	1									
NI(1)	15415-	1									
NS(3)	15240-	1	17815-	2							
PB(11)	11960-	8	15240-	2	17710-	1					
PL(2)	17710-	2									
RQ(4)	11960-	2	15240-	2							
SM(3)	17710-	2	17815-	1							
TK(2)	11960-	1	15240-	1							
TR(1)	15240-	1									
TU(9)	11700-	6	15240-	1	17710-	1	17815-	1			
VG(2)	11960-	2									
VM(1)	17710-	1									
VU(2)	11960-	2									
WD(5)	11960-	5									
WI(30)	11700-	8	11960-	21	15415-	1					
WM(1)	11960-	1									
WS(1)	11700-	1									
XI(1)	17710-	1									
XN(11)	11700-	5	11960-	1	15240-	5					

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15. ABSTRACT *(A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here.)*

The results of a detailed investigation to isolate the location of sources of intentional interference to the HF broadcasting service are presented. The investigation was conducted using observations of intentional harmful interference observed at numerous locations around the world during international coordinated monitoring periods operated under the auspices of the International Frequency Registration Board--a permanent organ of the International Telecommunication Union. The types of data used, the methods of analysis employed, and the results obtained are given. In addition to the location of emitters that are the sources of intentional harmful interference to the HF broadcast service, statistics of the occurrence of intentional interference to the HF broadcast service, and statistics of the occurrence of intentional interference directed against specific broadcast operations and languages during the monitoring periods are presented.

16. Key Words *(Alphabetical order, separated by semicolons)*

direction finding; harmful interference; HF broadcasting; HF jamming; HF propagation

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