



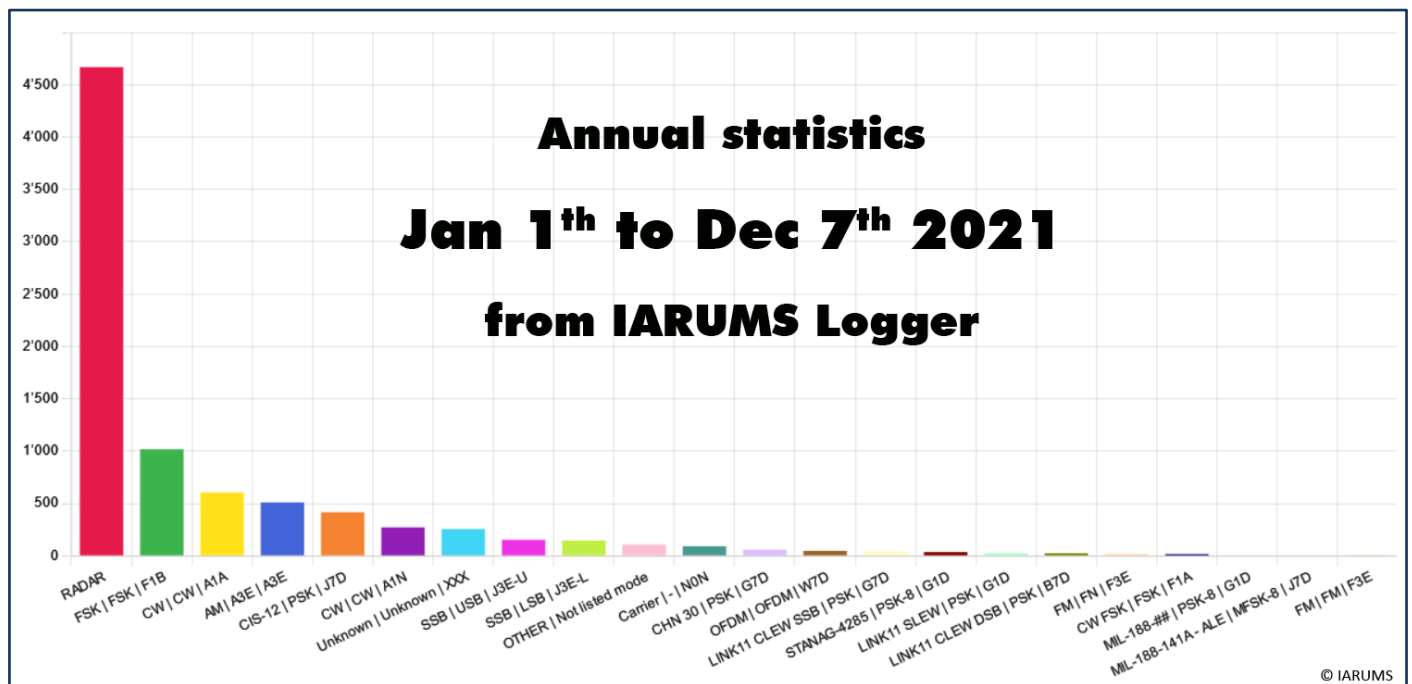
# IARU Monitoring System Region 1

## Monthly Newsletter - November 2021

by IARUMS

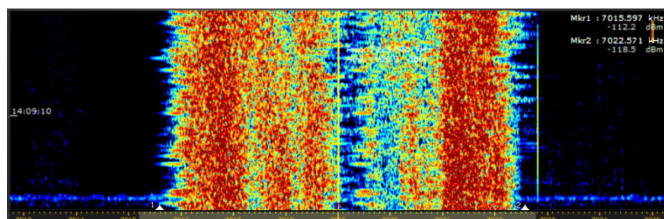
### News and Info's

Besides the huge number of well-known intruders that bother us since years almost daily, there were also new intruders to discover in November. In general, OTHR over the horizon radars were the main problem in November as well, not less than 795 observations were registered. They can be heard daily on several frequencies in our bands. The graph below from the IARU logger shows the period from January 1<sup>th</sup> to December 7<sup>th</sup> 2021.

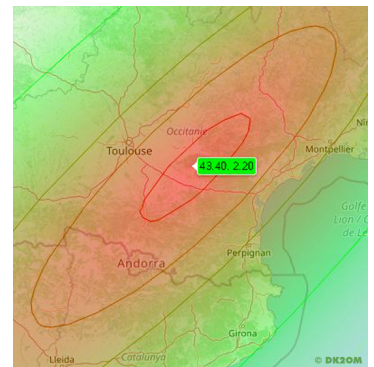


### Drifting signal in 40m band

From November 17<sup>th</sup> to 21<sup>th</sup> we noticed a strange, somewhat washed out signal, ca 7kHz wide, which drifted slowly back and forth in the 40m band and could also be followed below 7MHz. Already the first evaluation suggested a DSB (double sideband) signal. Wolf, DK2OM could determine the symbol rate with 2400 bps. It was probably a signal from the family of single tone 1800Hz PSK-8 modulated modems.



Some of us, so Gaspar EA6AMM, Wolf DK2OM, and Peter, HB9CET made multiple TDoA locations with the KIWI network at different times of the day.

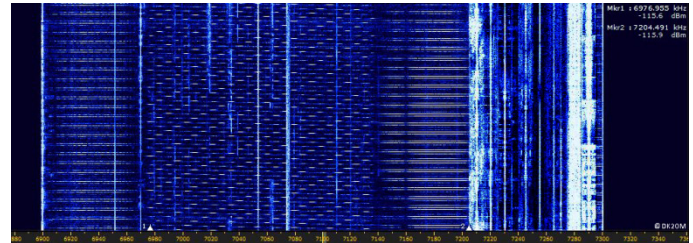


And we always landed in the similar corner, namely east-southeast of Toulouse, averaged on approx. 43.5N 2°E. Not too far away is a radio station of the French NAVY.

In the course of November 21 the signal disappeared.

Since a long time we observe wideband radars (probably of Chinese origin), so far with 160 kHz bandwidth and 10 sweeps/s. In November, however, observations with bandwidths of approx. 320 to 360 kHz accumulated. Whereby it was not clear whether it was a single signal or several tx directly next to each other. It was also often observed that the OTHR shifted the frequency back and forth, which is also sometimes the case with the "Foghorn" systems. The best place to observe these OTHR is via remote SDR in the Far East. (e.g. KIWI, Perseus, or others). It is not uncommon there that large

parts of the 40m band are almost completely covered by radar emissions, see picture. A serious impairment of amateur radio!



OTHR's all over the 40m band

**Of concern is the project of an Indian OTHR, by Tom DF5JL:**

According to a report by Alpha Defense India, the Defense Research and Development Organization's premier radar development laboratory is working on an "over-the-horizon" OTH radar system to keep a close eye on Chinese movements in the Indian Ocean region. The system design has already been completed, according to the report. The next step is the realization of a prototype.

The radar prototype is to have two different types of radar arrays — a log-periodic wire antenna array and a broadband monopole antenna array. It is believed that the log-periodic antenna array will be used to determine the best frequency (MUF), which is known to depend on

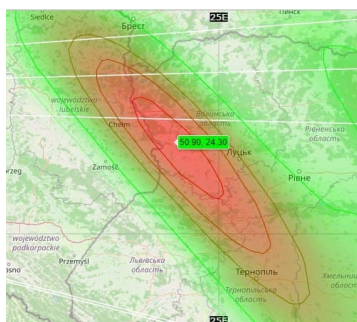
current conditions in the ionosphere and the sunspot cycle.

The monopole antenna array is to consist of an array of 32 elements. The actual system is to be developed later after extensive testing and evaluation.

This over-the-horizon radar system will then be used to monitor and track ship movements over a large area, giving the Indian armed forces the ability to look over the horizon over a large distance, so the report.

The whole article from Alpha Defense can be read here <https://alphadefense.in/oth-over-the-horizon/>

**Russian - Ukrainian Radio war on 40m**



(TDOA: 50.9N 24.3E)

A constant nuisance for years has also been the daily Russian - Ukrainian radio war on 7050, 7055 kHz and other frequencies. Music, vilest insults and disturbances of all kinds are heard daily. It's a shame what's going on.

Tom, DF5JL has just made a TDoA locating, it points to the northwestern corner of Ukraine, not far from the border with Poland and Belarus (see picture). Also several earlier localizations pointed to this region.

**Detailed reports of national coordinators**

**Abbreviations used** (as per IARUMS definitions; please do not use "own, home brew" or other abbreviations)

**aka** = also known as | **BC** = Broadcast | **BD** = Baud, (or also Burst duration) | **BRI** = Burst repetition interval | **BW** = Bandwidth | **ca** = approximate | **CHN** = **PRC** = People's Republic of China | **CF** = Center frequency | **DF** = Direction finding (radio location; see also TDoA) | **FMCW** = frequency modulated continuous wave | **FMOP** = frequency modulated on pulse | **OTHR** = over the horizon radar | **Radar** = if exact mode unknown | **SH** = Shift (Hz) | **sps** = sweeps per second | **TDoA** = Time difference of arrival | **ui** = **unid** = unidentified.

**CF:** Frequencies of digital signals are usually Center Frequencies (CF) unless otherwise specified!

**DARC;** credits to monitors: DF5JL Tom, DO1DSH Dennis, DB4UP Christoph, DO1LR Christian, DE2TRF Torsten, DL3RTL Daniel, DB3TA Alex

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
6999.0	1710	18	11					6k	unid
7001.8	1805	12	10			PSK-8A	2400	3000	
7002.0	0845	21	11					6k	unid
7013.0	2217	15	11	RUS		FMOP	40	12k	OTHR Contayner
7013.0	1547	26	11			PSK		2k4	CIS-12
7014.0	1831	10	11	CHN		FMOP	66.67	10k	OTHR 3.8s bursts
7017.2	1256	20	11					6k	unid
7035.0	2148	18	11	CHN		FMOP	50	10k	OTHR 5.1s bursts
7035.0	1744	26	11	RUS		FMOP	40	12k	OTHR Contayner
7046.0	0518	03	11				50	250	CIS-50
7052.0	1915	03	11	CHN		FMOP	66.67	10k	OTHR 3.8s bursts
7055.0	1735	09	11	UKR		J3E-L		2k9	UKR/RUS radio war
7066.0	1905	04	11	RUS		FMOP	40	12k	OTHR Contayner
7085.0	2152	09	11	RUS		FMOP	40	12k	OTHR Contayner
7088.0	1928	09	11	RUS		FMOP	40	12k	OTHR Contayner
7089.0	0740	14	11			PSK		2k6	CIS-12
7089.8	1917	10	11			PSK		2k6	LINK11 SLEW
7090.0	1450	18	11	RUS		FMOP	40	12k	OTHR Contayner
7099.0	1850	10	11	CHN		FMOP	66.67	10k	OTHR 3.8s bursts
7105.0	0440	18	11	RUS		FMOP	40	12k	OTHR Contayner
7107.0	2015	09	11	RUS		FMOP	40	12k	OTHR Contayner
7108.0	2037	15	11	RUS		FMOP	40	12k	OTHR Contayner
7109.0	2152	09	11	RUS		FMOP	40	12k	OTHR Contayner
7110.0	1750	04	11	ETH		A3E		9k	Radio Ethiopia ; 1818 UTC QRT
7115.0	2044	16	11	RUS		FMOP	40	12k	OTHR Contayner
7116.0	2138	18	11	RUS		FMOP	40	12k	OTHR Contayner
7116.0	1805	22	11	CHN		FMOP	50	10k	OTHR 5.1s bursts
7117.0	1944	03	11	RUS		FMOP	40	12k	OTHR Contayner
7121.0	2044	10	11	RUS		FMOP	40	12k	OTHR Contayner
7123.0	2107	10	11	CHN		FMOP	66.67	10k	OTHR 7.6s bursts
7124.0	1728	13	11			PSK		2k6	CIS-12
7130.0	1956	01	11			FMOP	40	12k	OTHR
7130.0	1907	15	11	RUS		FMOP	40	12k	OTHR Contayner
7134.0	1503	30	11	RUS		FMOP	40	12k	OTHR Contayner
7136.0	1830	15	11	RUS		FMOP	40	12k	OTHR Contayner
7136.0	2015	16	11	CHN		FMOP	50	10k	OTHR 5.1s bursts
7147.0	1915	03	11	CHN		FMOP	66.67	10k	OTHR 3.8s bursts
7151.0	2154	09	11	CHN		FMOP	66.67	10k	OTHR 3.8s bursts
7153.0	1706	18	11	RUS		FMOP	40	12k	OTHR Contayner
7155.0	1536	20	11	RUS		FMOP	40	12k	OTHR Contayner
7158.0	1917	10	11	CHN		FMOP	66.67	10k	OTHR 3.8s bursts
7163.0	1652	15	11	RUS		FMOP	40	12k	OTHR Contayner

**DARC;** credits to monitors: DF5JL Tom, DO1DSH Dennis, DB4UP Christoph, DO1LR Christian, DE2TRF Torsten, DL3RTL Daniel, DB3TA Alex

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7168.0	2131	03	11	CHN		FMOP	66.67	10k	OTHR 3.8s bursts
7170.0	1846	03	11	RUS		FMOP	40	12k	OTHR Contayner
7171.0	1826	22	11	RUS		FMOP	40	12k	OTHR Contayner
7173.0	2217	15	11	RUS		FMOP	40	12k	OTHR Contayner
7174.0	1806	10	11	CHN		FMOP	66.67	10k	OTHR 3.8s bursts
7175.0	1807	22	11	CHN		FMOP	66.67	10k	OTHR 3.8 bursts
7178.0	2130	03	11	RUS		FMOP	40	12k	OTHR Contayner
7180.0	1526	19	11	RUS		FMOP	40	12k	OTHR Contayner
7181.0	1648	15	11	RUS		FMOP	40	12k	OTHR Contayner
7182.0	1845	15	11			FMOP	40	12k	OTHR
7183.0	1722	18	11	RUS		FMOP	40	12k	OTHR Contayner
7186.0	1743	26	11	RUS		FMOP	40	12k	OTHR Contayner
7189.0	1554	26	11	CHN		FMOP	66.67	10k	OTHR 3.8 bursts
7190.0	2043	09	11	RUS		FMOP	40	12k	OTHR Contayner
7191.0	1848	01	11			FMOP	40	12k	OTHR
7193.0	1916	15	11	RUS		FMOP	40	12k	OTHR Contayner
7197.0	2227	15	11	RUS		FMOP	40	12k	OTHR Contayner
7197.8	1725	18	11			PSK		2k4	CIS-12
10149.0	1805	15	11					24k	OTHR
14155.0	1454	30	11	RUS		FMOP	40	12k	OTHR Contayner
14183.0	0852	29	11	CHN		FMOP	41.67	10k	OTHR 6.1s bursts
14190.0	1125	12	11	RUS		FMOP	40	12k	OTHR Contayner
14194.0	1454	30	11	RUS		FMOP	40	12k	OTHR Contayner
14218.0	0903	29	11	CHN		FMOP	62.5	10k	OTHR 4.1s bursts
14230.0	0934	14	11	CHN		FMOP	66.67	10k	OTHR 3.8s bursts
14283.0	0850	29	11	CHN		FMOP	50	10k	OTHR 5.1s bursts
14320.0	0940	14	11	CHN		FMOP	50	10k	OTHR 2.5s bursts
14327.0	0935	14	11	CHN		FMOP	66.67	10k	OTHR 3.8s bursts
14340.0	0935	14	11	CHN		FMOP	66.67	10k	OTHR 3.8s bursts
14345.0	0849	29	11	RUS		FMOP	40	12k	OTHR Contayner
21090.0	0953	29	11	CYP		FMCW	50	20k	OTHR Pluto Cyprus
21108.0	1256	20	11	RUS		FMOP	40	12k	OTHR Contayner
21113.0	0751	14	11	RUS		FMOP	40	12k	OTHR Contayner
21163.0	1130	14	11	RUS		FMOP	40	12k	OTHR Contayner. long-lasting
21233.0	1252	06	11			PSK8A	2400	2400	STANAG4285
21251.0	1413	02	11	CYP		FMCW	50	20k	OTHR Pluto Cyprus
21270.0	1416	07	11	CYP			25	20k	OTHR Pluto Cyprus
21273.0	1125	29	11	RUS		FMOP	40	12k	OTHR Contayner
21310.0	0940	11	11	CYP		FMCW	50	20k	OTHR Pluto Cyprus
21320.0	1348	09	11	CYP			25	20k	OTHR Pluto Cyprus
21320.0	1330	13	11	CYP		FMCW	50	20k	OTHR Pluto Cyprus
21350.0	0836	05	11	CYP		FMCW	50	20k	OTHR Pluto Cyprus
29091.0	1106	01	11				225/334	46k	OTHR

<b>IRTS; Michael, EI3GYB</b>									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3633	1118	07	11	IRL		LSB			DQRM against a newscast call in run by an Irish divisive splinter HAM group. Music and shouting from "Father Ted" ("Gobshite") is transmitted to disturb the call in. Also noted on the 28th at 1142z.
3684	2015	15	11			LSB			Pop music being played. Very strong signal.
3752	1620	03	11	F		LSB			DQRM against a net of French HAMs. Replaying of QSOs, CW signals, digi stuff, shouting of profanities. The sound of a fire hooter is being played. Echo sounds and mad laughter. Whistling, replaying of pop music. Stops at 1835z. Heard also on 3762 kHz on other days. Just like the last few months- no change.
3782	2120	04	11			LSB			DQRM against the SBC Thursday 80 metre net. Bag pipes being played. Shouting of profanities. Racket goes on from 2120 to 2155z.
7000	1510	17	11	INS		LSB			Indonesian fishermen. Nearly daily with good signals.
7007	0820	20	11	RUS		RADAR			Sunflower radar from 7007 to 7037 kHz. Medium strength, persistent.
7015	1330	17	11			Digital ?			UNID signal. Strong and persistent. Moving slowly down to 7 MHz. Gone at 1445z.
7050	1225	22	11	UKR/ RUS		LSB			Russian-Ukrainian radio war. Shouting of slogans. Patriotic music. Very strong signal, heard often.
7055	1500	04	11	UKR/ RUS		LSB			Russian-Ukrainian radio war. Very strong signals with shouting of slogans and patriotic music. Daily all day with a huge signal.
7088	0820	20	11	RUS		RADAR			Sunflower radar from 7088 to 7118 kHz. Medium strength, persistent.
7104	2130	18	11			RADAR			Radar from 7104 to 7172 kHz. Huge and persistent.
7110	0400	13	11	ETH		AM			Radio Ethiopia. Strong. Also heard after 1700z in the evenings with a medium signal.
7114	0530	03	11	CUB					"Carribean run runner". QRM of unknown origin on 7114 to 7121 kHz, 7134 to 7145 kHz, 7155 to 7163 kHz. Either DQRM or a mixing product from an "unclean" transmitter. Heard daily all night and in the mornings until 0930z or so. Frequencies can vary. Triangulation points towards Cuba.
7115	2000	08	11			RADAR			Radar from 7115 to 7130 kHz. Strong and persistent.
7162.5	1400	22	11						Link-11 Clew. Strong and persistent. Still on 24/11 at 1215z.



<b>IRTS; Michael, EI3GYB</b>									
<b>kHz</b>	<b>UTC</b>	<b>DD</b>	<b>MM</b>	<b>ITU</b>	<b>IDENT</b>	<b>MODE</b>	<b>BD /sps</b>	<b>SH / BW</b>	<b>DETAILS</b>
7172	1800	19	11			RADAR			Radar from 7172 to 7186 kHz. Huge and persistent.
7175	1815	15	11			RADAR			Radar from 7175 to 7205 kHz. Strong and persistent.
7180	1620	26	11			RADAR			Radar from 7180 to 7192 kHz. On and off, medium signal.
14000	1502	17	11	CHN		AM			China Radio International. Heard on several days with a weak to medium signal. Mixing product. Always ends around 1700z.
14100	1330	25	11			RADAR			Radar from 14100 to 14200 kHz. Medium signal. Moving up and down the band.
14145	1450	04	11			RADAR			Radar from 14145 to 14180 kHz. Very strong and persistent.
14200	1345	04	11			USB			DQRM: Loud pop music. ambulance sirenes, laughter, tuning. Total chaos. Stops at 1410z.
14205	0825	20	11			RADAR			Radar from 14205 to 14365 kHz. Strong. On and off.
14280	0915	18	11			RADAR			Radar from 14280 to 14310 kHz. Persistent. Medium strength.
18138	0900	18	11			RADAR			Radar from 18138 to 18255 kHz. Huge and persistent. Wipes the band clean.
18140	1025	03	11			RADAR			Radar from 18140 to 18190 kHz. Huge and persistent.
18149	1200	22	11			RADAR			Radar from 18149 to 18193 kHz. Strong and persistent.
18155	1345	10	11			RADAR			Radar from 18155 to 18173 kHz. Medium signal. Persistent.
21000	1143	03	11	E or MM		USB			Spanish fishermen. Very strong signals with loud motor noise.
21218	1300	02	11			RADAR			Radar from 21218 to 21263 kHz. Strong and persistent. Stops 1315z.
21260	1305	02	11			RADAR			Radar from 21160 to 21200 kHz. Strong and persistent. Gone at 1345z.
21260	0930	18	11			RADAR			Radar from 21260 to 21280 kHz. Persistent. Huge signals.
21310	0935	03	11			RADAR			Radar from 21310 to 21332 kHz. Medium strength, persistent.
21398	1345	29	11			RADAR			Radar from 21398 to 21410 kHz. Medium strength, persistent.
21438	1340	01	11	UKR		CW			Russian navy, Sevastopol. Strong CW signals, on and off. Heard often during the month.
28298	1245	02	11			RADAR			Radar from 28298 to 28320 kHz. Strong and persistent. Ends at 1300z.
28300	0900	01	11	IRN		RADAR			Radar moving up and down the band between 28300 and 29500 kHz. Medium to very strong signals. On and off.
28656	1125	06	11	IRN		RADAR			AM radar from 28656 to 28682 kHz. Strong and persistent.

**IRTS; Michael, EI3GYB**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
28850	1140	01	11	THL or MM		FM			Thai fishermen. Strong signals but deep QSB. Audible until fade out at around 1240z.

**OeVSV; Christoph, OE1VMC**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7110.0	1815	03	11	ETH		A3E		9K0	Audio Broadcast
7178.0	2127	03	11			RADAR		20K0E	
21270.0	1414	07	11			RADAR		20K0E	OTH 9+40dB, heading 90 degrees
14264.0	0905	20	11	CHN		RADAR		160K0E	

**PZK; (SP3AMO, SP5GNI)**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7000.0	2050	01	11			RADAR	40	10K0E	
7000.0	1945	02	11			RADAR	10	16K0E	
7000.0	1615	18	11			UI		6K0E	CF
7003.0	0715	21	11			UI		6K0E	CF - down
7008.0	0757	04	11			F1B	50	200	
7009.0	1040	21	11			UI		6K0E	S7
7058.0	1950	02	11			RADAR	40	16K0E	
7060.0	1920	04	11			RADAR	40	12K0E	RS 45 MMN S9
7057.9	1330	22	11			UI		3K2	S7
7083.0	1345	24	11			PSK		2K9	CIS-12 pilot 7084.3 S8
7090.0	1620	18	11			RADAR	40	12K0E	
7110.0	1855	14	11			RADAR	40	12K0E	
7111.0	0757	04	11			F1B	50	250	
7130.0	1720	11	11			RADAR		12K0E	S9+ continuous
7149.0	1700	18	11			RADAR	40	12K0E	
7152.0	1630	08	11			RADAR	40	12K0E	
7171.0	1350	17	11			PSK		2K9	CIS-12 pilot 7155.3 S8
7176.0	1810	14	11			RADAR	40	12K0E	
7180.0	1524	19	11			RADAR		14K0E	S9+ continuous
7183.0	1725	18	11			RADAR	40	20K0E	
7184.0	2050	01	11			RADAR	40	14K0E	
7186.0	1352	13	11			RADAR		10K0E	S7 short bursts (also 7176)
7190.0	1910	01	11			RADAR	40	20K0E	[7180.0 - 7200.0 kHz]
7190.0	1620	18	11			RADAR	40	12K0E	
7192.4	1333	24	11			PSK		2K6	S9 like Stanag 13:42 off
14093.4	1048	09	11			FSK		200	S9
14097.1	1050	09	11			UI		150	S7 3 spectral lines, or more
14095.9	1050	09	11			UI		300	S7 3 or 5 spectral lines
14113.0	1047	24	11			RADAR		10K0E	S5 short bursts
14141.0	1214	14	11			RADAR		10K0E	S7 short bursts
14160.0	1241	24	11			RADAR		8K0E	short burst
14160.0	1041	30	11			RADAR		8K0E	short bursts
14161.5	1313	05	11			RADAR		10K0E	burst

**PZK; (SP3AMO, SP5GNI)**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14182.0	0925	12	11			RADAR		10KOE	S7 short bursts
14185.0	1242	24	11			RADAR		8KOE	short burst
14197.0	1027	09	11			RADAR		10KOE	burst
14237.0	0910	09	11			RADAR		10KOE	burst
14260.0	0815	13	11			RADAR		40KOE	
14286.0	1040	09	11			RADAR		10KOE	burst
14298.0	1040	09	11			RADAR		10KOE	burst
14300.0	1147	13	11			RADAR		40KOE	one short burst
14300.0	0955	18	11			RADAR		14KOE	S9 continous
14300.0	0815	18	11			RADAR	40	12KOE	
14310.0	0912	12	11			RADAR		160KOE	9:14 dissapeared
14320.0	0917	06	11			RADAR		10KOE	S6 short bursts
14340.0	0915	12	11			RADAR		10KOE	S7 short bursts
18087.0	1110	12	11			RADAR		12KOE	S9 continous
18142.0	0720	03	11			RADAR	40	16KOE	
18144.0	0915	03	11			RADAR	40	12KOE	
18163.0	0920	03	11			RADAR	40	16KOE	RSQ 595 +20dB
18170.0	1204	08	11			RADAR		20KOE	S9+ continous
18172.0	0924	10	11			RADAR		20KOE	S9+ partially in the band
18172.0	1408	13	11			RADAR		20KOE	S9+ partially in the band
18175.0	1020	21	11			RADAR		20KOE	S9+ partially in the band
21000.1	1156	08	11			J3E-U		2K7	Male voice probably in Spanish
21030.0	1210	16	11			RADAR	10	20KOE	
21133.0	1340	22	11			RADAR		8KOE	S6
21141.0	0905	06	11			RADAR		10KOE	S6 short bursts
21290.0	1037	24	11			RADAR		20KOE	S9
21319.0	1030	30	11			RADAR		10KOE	S5
21320.0	0930	03	11			RADAR	40	20KOE	RSQ 595 +20dB
21321.0	0955	03	11			RADAR		14KOE	S5 continous
21350.0	1010	01	11			RADAR		20KOE	S9+ continous
21353.0	1203	15	11			RADAR		8KOE	S6 short bursts
21370.0	0738	03	11			RADAR	50	20KOE	07:38 UTC QRT
21410.0	1205	15	11			A3E		6KOE	S6 in French
21426.0	0938	10	11			RADAR		12KOE	S5 continous
21430.0	0730	06	11			RADAR	50	20KOE	
21430.0	0710	10	11			RADAR	40	20KOE	
21450.0	1015	21	11			RADAR		40KOE	S7 continous
28080.0	0800	06	11	IRN		RADAR		60KOE	
28300.0	1006	01	11			RADAR		60KOE	S8
28360.0	0740	06	11			RADAR	25	20KOE	
28380.0	1005	01	11			RADAR		60KOE	S8
28860.0	1007	24	11			RADAR		60KOE	S5-8 various dates and times
29080.0	1050	05	11			RADAR		60KOE	S8
29200.0	0937	04	11			RADAR		60KOE	S8
29625.0	0735	06	11			RADAR	25	20KOE	



**REF; Francis, F5MIU**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD/sps	Sh /BW	DETAILS
5360	0923	05	11			?		80 kHz	3+6+4+3 patterns of 5kHz strange !
7150	1716	17	11			FMCW	20	15 kHz	OTH Radar pulsed 50ms, S9+
14100	0855	04	11			FMCW	10	150 kHz	OTH Radar pulsed 100ms, S8
14260	0917	13	11			FMCW		180 kHz	OTH Radar pulsed 80ms, S9+
14260	0858	19	11			FMCW	40	25 kHz	OTH Radar pulsed 25ms, S9+20
14300	0848	17	11			FMCW	40	10 kHz	OTH Radar pulsed 25ms, S9+
18220	0852	16	11			FMCW	10	180 kHz	OTH Radar pulsed 100ms, S9 up to 18130kHz in ham band
21162	0757	08	11			FMCW	40	10 kHz	OTH Radar pulsed 25ms, S9
21310	0850	11	11			FMCW	50	20 kHz	OTH Radar pulsed 20ms, S9
21330	0845	30	11			FMCW	25	20 kHz	OTH Radar pulsed 40ms, S9+
21438	0815	03	11			CW			Russian marine HQ Sevastopol Predelami Rajone (many days) S9
21438	0850	10	11			CW			Russian marine HQ Sevastopol S8
21438	0844	16	11			CW			Russian marine HQ Sevastopol S9
21438	0845	19	11			CW			Russian marine HQ Sevastopol S8
21438	0900	21	11			CW			Russian marine HQ Sevastopol S9
21438	00845	24	11			CW			Russian marine HQ Sevastopol S9
21438	0910	25	11			CW			Russian marine HQ Sevastopol S9
21438	0900	29	11			CW			Russian Navy HQ Sevastopol S9+
24890	0850	03	11			FMCW	40	10 kHz	OTH Radar pulsed 25ms, S8
24905	0835	30	11			FMCW	40	10 kHz	OTH Radar pulsed 25ms, S9+
24990	0845	11	11			FMCW	40	10 kHz	OTH Radar pulsed 25ms, S8

**RSGB; Richard, G4DYA**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3510.0	1637	02	11			J3E		2K70E	USB 'The Air Horn'. Almost daily
3756.0	1627	02	11			J3E		1K70E	USB 'The Pip'. Daily
6997.0	1540	12	11	RUS		PON	40	12K0E	Container pulse radar
7002.0	1127	19	11					7K00E	Unidentified. Drifts between 6984 and 7022 kHz. Heard DD 19-23.
7006.5	1131 1141	12 29	11			F1B		250	FSK
7008.0	0635	04	11			F1B		200	FSK
7010.0	1442	05	11			J7D		2K70E	USB 7008.0 / CIS-12
7014.0	1415 1519	10 26	11			J7D		2K70E	USB 7012.0 / CIS-12
7021.0	1134 1523	12 26	11			F1B		500	FSK
7027.0	1814	08	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
7030.0	1524	26	11			A1N			Continuous dots
7032.0	1331	09	11			J7D		2K70E	USB 7030.0 / CIS-12
7036.0	1550	12	11			F1B		250	FSK
7041.0	0942	15	11					2K80E	Unidentified
7049.0	1446	10	11	RUS		PON	40	12K0E	Container pulse radar
7050.0	1501	25	11	RUS		PON	40	12K0E	Container pulse radar
7057.0	1642	10	11	RUS		PON	40	12K0E	Container pulse radar
7062.0	0832	24	11			H3E		3K00E	USB (full carrier) Numbers station, female voice, QRT at 1036z
7062.0	1543	24	11	RUS		PON	40	12K0E	Container pulse radar
7066.0	1814	08	11	RUS		PON	40	12K0E	Container pulse radar
7074.799	0823	24	11			A1N			Continuous dashes
7074.805	0838	26	11			A1N			Continuous dashes

<b>RSGB; Richard, G4DYA</b>									
<b>kHz</b>	<b>UTC</b>	<b>DD</b>	<b>MM</b>	<b>ITU</b>	<b>IDENT</b>	<b>MODE</b>	<b>BD /sps</b>	<b>SH / BW</b>	<b>DETAILS</b>
7074.808	1601	21	11			A1N			Continuous dashes
7074.834	0711	03	11			A1N			Continuous dashes
7074.878	0920	01	11			A1N			Continuous dashes
7074.987	0724	28	11			A1N			Continuous dashes
7075.002	0914	10	11			A1N			Continuous dashes
7075.006	0811 0819	12 13	11			A1N			Continuous dashes
7075.007	0803	17	11			A1N			Continuous dashes
7075.029	0835	19	11			A1N			Continuous dashes
7075.112	0916	27	11			A1N			Continuous dashes
7075.410	0713 0849	05 07	11			A1N			Continuous dashes
7089.0	0741 0710	03 05	11			J7D		2K70E	USB 7087.0 / CIS-12
7094.0	1641	10	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
7102.0	1828	08	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
7110.0	1620	01	11	ETH	R. Ethiopia	A3E			BC. Almost daily.
7111.0	0633	04	11			F1B		250	FSK
7113.0	1437	05	11			J7D		2K70E	USB 7111.0 / CIS-12
7113.0	2233	13	11	RUS		P0N	40	12K0E	Container pulse radar
7115.0	0813	02	11	CUB				5K00E	Jammer. Also heard DD 09,16,19, 21, 23-25
7117.3	1636	01	11			J7D		2K20E	USB 7115.5 / Stanag 4197
7118.0	1326	09	11			J7D		2K70E	USB 7116.0 / CIS-12
7125.0	1638	10	11	RUS		P0N	40	12K0E	Container pulse radar
7140.02	1620	03	11	ERI	VoBM	A3E			BC
7152.0	1628	08	11	RUS		P0N	40	12K0E	Container pulse radar
7157.0	0814	02	11	CUB				5K00E	Jammer. Also heard DD 09, 16, 19, 21, 23-25
7159.0	0832 0821	11 12	11			B7D		6K00E	DSB / Link 11 CLEW
7159.0	1335 0917	22 27	11			J7D		2K40E	USB 7159.0 / Link 11 CLEW
7159.0	0904	23	11			F1B		200	FSK
7164.0	1209	08	11			J7D		2K70E	USB 7162.0 / CIS-12
7169.0	0858	13	11			F1B		250	FSK
7179.502	1824	08	11			NON			Plain carrier
7181.0	1659	10	11	RUS		P0N	40	12K0E	Container pulse radar
7186.0	0938	24	11			J7D		2K70E	USB 7184.0 / CIS-12
7187.0	1659	22	11	RUS		P0N	40	12K0E	Container pulse radar
7189.0	1533	19	11	RUS		P0N	40	12K0E	Container pulse radar
7189.0	1558	26	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
7193.0	1417	19	11			F1B		200	FSK
7194.0	1144	29	11			J7D		2K70E	USB 7192.0 / CIS-12
7198.0	0847	23	11			J7D		2K70E	USB 7196.0 / CIS-12
7199.0	1239	25	11			F1B		250	FSK
7199.994	1053	04	11			A3E			BC. 1030-1058z. Also heard DD 22, 23, 25, 27
7205.0	1714	02	11	CHN		A3E		10K5E	BC. LSB extending below 7200
10150.0	1611	08	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
10152.0	1445	16	11	RUS		P0N	40	12K0E	Container pulse radar
14005.8	1703	02	11					2K40E	Unidentified. QRT 1706z.
14050.0	0928	15	11			B7D		6K60	DSB / CIS-12
14050.0	0840	29	11			F1B	50	250	FSK

**RSGB; Richard, G4DYA**

<b>kHz</b>	<b>UTC</b>	<b>DD</b>	<b>MM</b>	<b>ITU</b>	<b>IDENT</b>	<b>MODE</b>	<b>BD /sps</b>	<b>SH / BW</b>	<b>DETAILS</b>
14053.0	0841	13	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14055.0	0910	19	11	CHN		F3N	50	10K0E	FMCW radar bursts
14056.0	0941	18	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14095.0	0845	23	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14098.5	0908 1341	10 29	11					1K20E	Unidentified bursts
14105.0	0852	18	11	CHN		F3N	10	160KE	FMCW radar bursts
14108.0	0846	26	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14113.0	0826	29	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14115.0	0953	01	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14118.0	0800 0916	07 15	11			J7D		2K70E	USB 14116.0 / CIS-12
14118.0	0914	21	11	CHN		F3N	41.7	10K0E	FMCW radar bursts
14124.0	0838	13	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14125.0	0825	07	11			P0N	86.4	60K0E	Unidentified pulse transmission
14132.0	0906	23	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14136.0	0813	26	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14138.0	0915	26	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14148.0	0945	16	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14171.0	0802	25	11			J7D		2K70E	USB 14169.0 / CIS-12
14174.0	0938	03	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14175.0	0930	11	11	CHN		F3N	41.7	10K0E	FMCW radar bursts
14182.0	0918	12	11	CHN		F3N	50	10K0E	FMCW radar bursts
14183.0	0857	29	11	CHN		F3N	41.7	10K0E	FMCW radar bursts
14186.0	1435	05	11	RUS		P0N	40	12K0E	Container pulse radar
14188.0	0948	10	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14188.0	0821	29	11	RUS		P0N	40	12K0E	Container pulse radar
14194.0	0940	24	11	CHN		F3N	10	160KE	FMCW radar bursts
14195.0	1129	12	11	RUS		P0N	40	12K0E	Container pulse radar
14198.3	0636	03	11					1K20E	Unidentified bursts
14203.0	0945	25	11	CHN		F3N	10	160KE	FMCW radar bursts
14212.0	0756	02	11	CHN		F3N	10	160KE	FMCW radar bursts
14218.0	0752	02	11	CHN		F3N	10	160KE	FMCW radar bursts
14218.0	0902	29	11	CHN		F3N	62.5	10K0E	FMCW radar bursts
14234.0	0835	25	11	CHN		F3N	10	160KE	FMCW radar bursts
14235.0	0927	30	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14237.0	0904 1026	10 16	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14245.0	0906	10	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14245.0	0934	15	11	CHN		F3N	50	10K0E	FMCW radar bursts
14247.0	0844	23	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14248.0	0820 0844 0800	17 18 25	11			Q3N	20	10K0E	Unidentified FMOP radar
14250.0	0828	19	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14254.0	0907	27	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14255.0	0912	19	11	CHN		F3N	50	10K0E	FMCW radar bursts
14255.0	0810	30	11	CHN		F3N	50	10K0E	FMCW radar
14256.0	0842 0805	23 26	11	CHN		F3N	50	10K0E	FMCW radar
14258.0	0946	27	11	CHN		F3N	41.7	10K0E	FMCW radar bursts
14260.0	0823	19	11	RUS		P0N	40	12K0E	Container pulse radar
14260.0	0933	30	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14261.0	0822	13	11	CHN		F3N	20	40K0E	FMCW radar, TDoA: 35.5°N 115°E

**RSGB; Richard, G4DYA**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14261.0	0835	13	11	CHN		F3N	10	160KE	FMCW radar bursts
14270.0	0917	21	11	CHN		F3N	50	10K0E	FMCW radar bursts
14282.0	0941	03	11	CHN		F3N	10	160KE	FMCW radar bursts
14283.0	0849 0840	18 25	11	CHN		F3N	10	160KE	FMCW radar bursts
14285.0	0936	03	11	CHN		F3N	20	10K0E	FMCW radar bursts
14286.0	1043	09	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14287.0	1027	16	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14287.0	0904	27	11	CHN		F3N	41.7	10K0E	FMCW radar bursts
14294.0	0826	19	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14298.0	1044	09	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14298.5	0805	02	11					1K20E	Unidentified bursts. Also heard DD 17, 28, 30
14298.5	0710	04	11			F1D		1K20E	Unidentified FSK bursts 600 shift. Also heard DD 09, 12
14299.0	0811	24	11	CHN		F3N	10	160KE	FMCW radar bursts
14300.0	0811	18	11	RUS		P0N	40	12K0E	Container pulse radar
14302.0	0917	30	11	CHN		F3N	50	10K0E	FMCW radar bursts
14303.0	0850	11	11	CHN		F3N	83.3	10K0E	FMCW radar bursts
14308.0	0904	26	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14310.0	0817	12	11	CHN		F3N	10	160KE	FMCW radar bursts
14310.0	0913 0826	15 19	11	CHN		F3N	50	10K0E	FMCW radar bursts
14314.0	0915	21	11	CHN		F3N	10	160KE	FMCW radar bursts
14314.0	0859	23	11	CHN		F3N	50	10K0E	FMCW radar
14315.0	0903	27	11	CHN		F3N	41.7	10K0E	FMCW radar bursts
14317.0	0918	26	11	CHN		F3N	50	10K0E	FMCW radar bursts
14319.0	0908	14	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14320.0	0942	14	11	CHN		F3N	50	10K0E	FMCW radar bursts
14321.0	0921	07	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14322.0	0831	19	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14323.0	0813 0815	24 29	11	CHN		F3N	10	160KE	FMCW radar bursts
14323.0	0939	28	11	CHN		F3N	50	10K0E	FMCW radar bursts
14324.0	0822	08	11	CHN		F3N	10	160KE	FMCW radar bursts
14325.0	0922	07	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14333.0	0941	08	11	CHN		F3N	10	160KE	FMCW radar bursts
14333.0	0909	14	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14337.0	0911	10	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14338.0	0824	23	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14339.0	0915 0835	12 26	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14340.0	0943	14	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14341.0	0830	19	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14343.0	0811	26	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14344.0	0825	23	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14345.0	0901	23	11	CHN		F3N	50	10K0E	FMCW radar bursts
14345.0	0838	29	11	RUS		P0N	40	12K0E	Container pulse radar
14346.0	0905	13	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
14347.0	0902	23	11	CHN		F3N	50	10K0E	FMCW radar bursts
14352.0	0832	13	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
18065.0	1049	23	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
18070.0	1139	08	11	G		F3N	25	20K0E	FMCW, RAF Akrotiri, Cyprus
18072.0	0947	16	11	CHN		F3N	50	10K0E	FMCW radar bursts

<b>RSGB; Richard, G4DYA</b>									
<b>kHz</b>	<b>UTC</b>	<b>DD</b>	<b>MM</b>	<b>ITU</b>	<b>IDENT</b>	<b>MODE</b>	<b>BD /sps</b>	<b>SH / BW</b>	<b>DETAILS</b>
18076.0	0831	16	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
18082.0	1047	04	11	RUS		P0N	40	12K0E	Container pulse radar
18087.0	1109	12	11	RUS		P0N	40	12K0E	Container pulse radar
18090.0	1350	29	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
18107.0	0903	26	11			F1B		200	FSK
18119.0	0949	01	11	CHN		F3N	50	10K0E	FMCW radar bursts
18137.0	0902	30	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
18142.0	0712	03	11	RUS		P0N	40	12K0E	Container pulse radar
18144.0	0933	03	11	RUS		P0N	40	12K0E	Container pulse radar
18150.0	0829	11	11	CHN		F3N	50	10K0E	FMCW radar bursts
18163.0	0933	03	11	RUS		P0N	40	12K0E	Container pulse radar
18167.0	0817	08	11	RUS		P0N	40	12K0E	Container pulse radar
18168.0	0927	15	11	RUS		P0N	40	12K0E	Container pulse radar
18169.0	0902	02	11	RUS		P0N	40	12K0E	Container pulse radar
18170.0	1138 1142	08 22	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
18170.0	0801	26	11	G		F3N	25	20K0E	FMCW, RAF Akrotiri, Cyprus
18171.0	0649	03	11	RUS		P0N	40	12K0E	Container pulse radar
18172.0	1055 0917	09 10	11	RUS		P0N	40	12K0E	Container pulse radar
18175.0	0908 1028	13 21	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
18190.0	0848	12	11	CHN		F3N	10	160KE	FMCW radar bursts 18110-18270
18210.0	0803	16	11	CHN		F3N	10	160KE	FMCW radar bursts 18130-18290
18223.0	0857	18	11	CHN		F3N	10	160KE	FMCW radar bursts 18143-18303
21030.0	1030	16	11	G		F3N	25	20K0E	FMCW, RAF Akrotiri, Cyprus
21115.0	1140	22	11	RUS		P0N	40	12K0E	Container pulse radar
21120.0	0910 0918	07 18	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
21130.0	0943	16	11	G		F3N	25	20K0E	FMCW, RAF Akrotiri, Cyprus
21135.0	0900	27	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
21140.0	0914	08	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
21150.0	0942	25	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
21155.0	1329	22	11	RUS		P0N	40	12K0E	Container pulse radar
21162.0	0900	08	11	RUS		P0N	40	12K0E	Container pulse radar
21163.0	1326	14	11	RUS		P0N	40	12K0E	Container pulse radar
21165.0	0848	11	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
21168.0	1237	15	11	RUS		P0N	40	12K0E	Container pulse radar
21170.0	1422	10	11	RUS		P0N	40	12K0E	Container pulse radar
21222.0	0931	15	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
21247.0	0904	08	11	CHN		F3N	66.7	10K0E	FMCW radar bursts
21279.0	0936	01	11	CHN		F3N	10	160KE	FMCW radar bursts
21285.0	1322	28	11	G		F3N	25	20K0E	FMCW, RAF Akrotiri, Cyprus
21290.0	0936	24	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
21295.0	0846	18	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
21300.0	0822	16	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
21310.0	0851 0819	11 12	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
21310.0	1028	16	11	G		F3N	25	20K0E	FMCW, RAF Akrotiri, Cyprus
21313.0	0919	08	11	CHN		F3N	41.7	10K0E	FMCW radar bursts
21320.0	1328	13	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
21322.0	0931	03	11	RUS		P0N	40	12K0E	Container pulse radar
21328.0	0834	07	11	CHN		F3N	10	160KE	FMCW radar bursts
21330.0	0852	30	11	G		F3N	25	20K0E	FMCW, RAF Akrotiri, Cyprus

**RSGB; Richard, G4DYA**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
21345.0	1150	18	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
21357.0	0906	02	11	RUS		P0N	40	12K0E	Container pulse radar
21370.0	0919	18	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
21372.0	1139	29	11	RUS		P0N	40	12K0E	Container pulse radar
21376.0	1238	15	11	RUS		P0N	40	12K0E	Container pulse radar
21380.0	0916	08	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
21390.0	1023 1119	1627	11	G		F3N	25	20K0E	FMCW, RAF Akrotiri, Cyprus
21407.0	1326	29	11	RUS		P0N	40	12K0E	Container pulse radar
21410.0	1041	09	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
21426.0	0944	10	11	RUS		P0N	40	12K0E	Container pulse radar
21430.0	0814	09	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
21433.0	0831	29	11	CHN		F3N	41.7	10K0E	FMCW radar bursts
21435.0	0927	07	11	G		F3N	50	20K0E	FMCW, RAF Akrotiri, Cyprus
21438.0	0933	01	11	RUS	RCV	A1A			Morse. Also heard DD 02, 03, 07-10, 12, 14, 16, 19, 23, 25, 29
21450.0	0943	08	11	G		F3N	25	20K0E	FMCW, RAF Akrotiri, Cyprus
21450.0	0908	21	11			F3N	12,5	40K0E	FMCW
21476.0	0917	07	11	CHN		F3N	10	160KE	FMCW radar bursts 21396-21556
24947.0	0914	01	11	CHN		F3N	50	10K0E	FMCW radar bursts
24991.0	0825	11	11	RUS		P0N	40	12K0E	Container pulse radar
28860.0	1135 0908	05 07	11	IRN		P0N	150.2/ 313		Pulse radar

**RSK; Kamweti, 5Z4BV**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH/ BW	DETAILS
7000.0	vt	vd	11	KEN		PSK		2K5E	STANAG 4285
7030.0	0630	10	11			J3E-U		2K5E	Vernacular/French/Kiswahili QSO
7043.0	vt	vd	11	KEN		PSK		2K7E	STANAG 4285
7058.0	vt	10	11			J3E-U		2K5E	Central-eastern Africa vernacular QSO
7095.0	vt	vd	11	KEN		PSK		2K7E	STANAG 4285
7105.0	1510	24	11			J3E-U		2K5E	Central-eastern Africa Kiswahili QSO
7110.0	vt	vd	11	ETH		A3E		12kE	Ethiopia Broadcasting Corporation
7150.0	vt	vd	11	KEN		MFSK	128	2k2	2G ALE Call transmission
7172.0	vt	17	11			J3E-U		2k5	Vernacular/French/Kiswahili QSO
7180.0	1202	10	11			J3E-L		2K5E	Central-eastern Africa French-vernacular QSO
10126.0	0608	10	11			J3E-U		2K5E	Indian Ocean Sino-vernacular QSO
14011.3	1224	7	11			J3E-U		2K5E	Indian Ocean Sino-vernacular QSO
14043.0	1229	7	11			FSK			DPRK-FSK
14147.0	1230	7	11	RUS		RADAR		2K5	FMOP-OTHR Russian Contayner
14310.0	1315	10	11					2K0	Very short burst of 120 pulses p.m.
18135.0	1322	10	11			J3E		2K5E	unid phone/voice with QSB
21405.0	1324	10	11			J3E		2K5E	unid phone/voice with splatter

**SRAL; Pekka, OH2BLU**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/BW	DETAILS
7 MHz	1430-0500	*	11	RUS		RADAR	40sps	13k0E	*) Days: 3. 5. 7. 8. 10. 14. - 20. 25. 27. 29. 30. (WebSDR 27d)
7 MHz	0630-1815	*	11	RUS		RADAR	10sps	10k0E	*) Days: 2. 5. 9. 18. 22. 23.
7 MHz	0645	03	11	CHN		RADAR	50/67sps	10k0E	'foghorn'



SRAL; Pekka, OH2BLU									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/BW	DETAILS
7 MHz	1145-1630	*	11	CHN		RADAR	10sps	160k0	*) Days: 1. 2. 3. 9. 21.
7006.5	1140-1150	12	11	RUS		F1A	18	250	5F
7007.5	1130	02	11	RUS		J7D	120	2k60E	
7008.0	0750-0830	04	11	RUS		F1B		250H	
7008.5	0900-0930	03 09	11	RUS		J7D	120	2k60E	
7010.0	1015-1540/	*	11	RUS		J7D	120	2k60E	*) Days: 5. 9. 12.
7015 A	0600-1900	20 - 23	11	F		unkn		7k0E	Drifts up to 7024 kHz
7032.0	0800-1030	06 08	11	RUS		J7D	120	2k60E	
7039.0	0630-0830	10 11	11	RUS		F1B		400H	
7060.0	0620-0624/	03	11	RUS		A1A	15	20H	Short msg in English non-stop
7089.0	0730-0915/	03 14	11	RUS		J7D	120	2k60E	
7101.0	1415	24	11	RUS		A1A	20	20H	5BL
7110.0	0500-0615	01 - 31	11	ETH	R. Ethiopia	A3E		9k0	
7110.0	1330-1800	01 - 31	11	ETH	R. Ethiopia	A3E		9k0	Mostly 1500 – 1600 off air
7111.0	0630-0815	04 21	11	RUS		F1B		250H	
7113.0	1500-1530	05	11	RUS		J7D	120	2k60E	
7118.0	0800-1340/	09	11	RUS		J7D	120	2k60E	
7159.0	0800-1600	*	11	IW		G7D		6k40E	*) Days: 11. 12. dsb, 22. 27 usb. LINK, ship
7159.0	0900-1000/	23	11	RUS		F1B		200H	
7160.0	1745-1815/	22	11			A3E		9k0	MX
7161.0	1100-1130	09	11	RUS		J7D	120	2k60E	
7162.0	0715	20	11	RUS	S8LN	A1A		20H	5BL
7162.0	0630-0755/	14 21	11	RUS		F1B		250H	
7171.0	1330-1355/	17	11	RUS		J7D	120	2k60E	
7176.0	0900-1015/	14 29	11	RUS		F1B		250H	
7188.0	1130-1215	01 14	11	RUS		F1B		250H	
7193.0	0930-1440/	*	11	RUS		F1B/ NON		200H	*) Days: 1. 18. 19. 20.
7194.0	1025-1220/	17	11	RUS		J7D	120	2k60E	

**SRAL; Pekka, OH2BLU**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/BW	DETAILS
7197.0	1355-1415/	22	11	RUS		J7D	120	2k60E	
7198.0	0920	23	11	RUS		J7D	120	2k60E	
7199.0	1135-1245/	25	11	RUS		F1B		250H	
7200.0	1025-1100/	*	11	TWN	NUR	A3E		9k0	*) Days: 1. - 7. 11. - 30. Korean px, National Unity Radio
10 MHz	*	*	11	CYP		RADAR	50sps	20k0	*) not heard (WebSDR 9d)
10 MHz	1520-1900	01 14	11	RUS		RADAR	40sps	13k0E	(WebSDR 12d)
14 MHz	0700-1000	*	11	RUS		RADAR	40sps	13k0E	*) Days: 18. 19. 21. 26. (WebSDR 9d)
14 MHz	0500-1045	*	11	RUS		RADAR	10sps	10k0E	*) Days: 1. 2. 19. 20. 23.
14 MHz	0500-1415	*	11	CHN		RADAR	50/67sps	10k0E	*) Days: 5. 6. 11. 12. 15. 16. 26. 27. 29. 'foghorn'
14 MHz	0515-1200	*	11	CHN		RADAR	10sps	160k0	*) Days: 2. 3. 5. 8. 12. 13. 17. 18. 19. 20. 24. 25. 30. c. 1 min burst
14 MHz	0810-0910	23 26	11	CHN		RADAR	50sps	10k0E	
14 MHz	0500-1200	*	11	CHN		RADAR	10sps	10k0E	*) Days: 3. 16. 29.
14210.0	0600-1300	01 - 15	11			RADAR	10sps	5k0E	SuperDARN
14240.0	0610	16	11		438	R3E-u		3k0E	Synthetic female
14221.0	0445-0600/	*	11	KAZ		F1B		200H	*) Days: 2. 7. 15. 16. 19. 24. 27. 30.
14272.0	0915-1035/	11	11	RUS		A1A	20	20H	5BL
18 MHz	0600-1400	*	11	CYP		RADAR	25/50sps	20k0	*) Days: 8. 11. 20. 24. 26.(WebSDR 14d)
18 MHz	0630-1200	*	11	RUS		RADAR	40sps	13k0E	*) Days: 1. 3. 5. 8. 9. 11. - 15. (WebSDR 15d)
21 MHz	0600-1500	*	11	CYP		RADAR	25/50sps	20k0	*) Days: 1. 2. 4. 5. 6. 8. 11. 12. 13. 17. 18. 22. 24. - 27. 30. (WebSDR 24d)
21 MHz	0800-1340	*	11	RUS		RADAR	40sps	13k0E	*) ays. 2. 3. 6. 9. 11. 13. 14. 29. 30. (WebSDR 15d)
21 MHz	0810-0910	21 28	11	CHN		RADAR	12.5 sps	40k0E	
21438.0	/0830-1300	01 - 31	11	RUS	RCV	A1A	20	20H	
24 MHz	0625-1345	*	11	CHN		RADAR	12.5 sps	40k0E	*) Days: 11. 12. 29.
28 MHz	0700-1230	*	11	IRN		RADAR	150/ 313	60k0E	*) Days: 1. 2. 5. 6. 8. 9. 13. 14. 16. 20. 27. 29. alternating fq
28 MHz	0900	09	11	CHN		RADAR	10sps	40k0E	
28 MHz	0600-1300	*	11	CYP		RADAR	25/50 sps	20k0	*) Days: 1. 2. 4. 6. 7. 18. 21. (WebSDR 3d)
28860.0	0600-1230	*	11	IRN		RADAR	150/ 313	60k0E	*) Days: 1. - 14. 22. - 25. 27. 29. (WebSDR 13d)
28 MHz	*	*	11	RUS	Taxi disp.	F3E		3k0E	*) No reports

**URE; Gaspar, EA6AMM**

kHz	UTC	DD	MM	ITU	Ident	Mode	Bd/sps	SH/BW	Details
6925.0	1738	01	11	CHN		RADAR	10	160K0E	CHN wideband OTHR
6994.0	1956	11	11	RUS		RADAR	40	12K0E	OTHR Contayner
6997.0	1749	10	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
6997.1	0902 vt*	20 vd*	11	F		XXX		7K0E	XXX. BW ca 7K0E. Drifting up and down in 40 m band Long-lasting. TDoA: F, East of Toulouse. *Also 17, 19, 21 & 23/11 <a href="https://youtu.be/l88wt3tAZ1c">https://youtu.be/l88wt3tAZ1c</a>
6998.0	1806	16	11	RUS		RADAR	40	12K0E	OTHR Contayner
7000.0	1825	10	11			J3E-U			UI people calling. Male voice. UI language
7000.0	1129	24	11			J3E-U			Non amateur traffic. Male voices. Language: Italian? Portuguese?
7008.0	0743	18	11			F1B	50	250H	FSK. SH = 250 Hz
7010.0	1501	05	11			J7D	120	2K70E	CIS-12
7014.0	1819	10	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
7026.0	1808	23	11	RUS		RADAR	40	12K0E	Short bursts. "Foghorn"
7027.0	1813	08	11	CHN		RADAR		10K0E	Short bursts. "Foghorn"
7035.0	2030	17	11	RUS		RADAR	40	12K0E	OTHR Contayner
7035.0	1743	26	11	RUS		RADAR	40	12K0E	OTHR Contayner
7053.0	2101	05	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
7054.0	1536	19	11	RUS		F1B		200H	
7055.0	1502 vt*	05 vd*	11			J3E-L			UKR/RUS "radiowar" *Often
7058.0	2003	02	11	RUS		RADAR	40	12K0E	OTHR Contayner
7066.0	1757	08	11	RUS		RADAR	40	12K0E	OTHR Contayner
7066.0	1814	10	11	RUS		RADAR	40	12K0E	OTHR Contayner
7066.0	1832	22	11	RUS		RADAR	40	12K0E	OTHR Contayner
7074.8	0649 vt*	02 vd*	11			A1N			Continuous dashes *Often
7075.0	1657 vt*	10 vd*	11			A1N			Continuous dashes *Often
7085.0	1732	01	11	CHN		RADAR	10	160K0E	CHN wideband OTHR
7085.0	0609	11	11			A3E			BC. UI st. English language
7085.0	1909 vt*	22 vd*	11	RUS		RADAR	40	12K0E	OTHR Contayner *Also on 26/11, 1706 UTC
7086.0	1802	10	11	CHN		RADAR		10K0E	Short bursts. "Foghorn"
7087.0	1955	11	11	RUS		RADAR	40	12K0E	OTHR Contayner
7088.0	1920	09	11	RUS		RADAR	40	12K0E	OTHR Contayner
7089.8	1911	10	11			G1D	2400	2K40E	
7095.0	1725	10	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
7098.0	1806	24	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
7099.0	2103	05	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
7102.0	1833	08	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
7106.0	2139	11	11	RUS		RADAR	40	12K0E	OTHR Contayner
7106.0	1940	14	11	RUS		RADAR	40	12K0E	OTHR Contayner
7107.0	2011	09	11	RUS		RADAR	40	12K0E	OTHR Contayner
7108.0	2015 vt*	05 vd*	11	RUS		RADAR	40	12K0E	OTHR Contayner *Also on 15 & 19/10
7110.0	1606 vt*	01 vd*	11	ETH		A3E			BC. Ethiopia radio *Often

**URE; Gaspar, EA6AMM**

kHz	UTC	DD	MM	ITU	Ident	Mode	Bd/sps	SH/BW	Details
7115.0	0630	02	11			XXX		CA2K0E	Unknown continuous digital signal. Same signal on 7157 kHz CF. Both seen on several EU KiwiSDR too. 7115 kHz CF.
7115.0	0645 vt*	08 vd*	11	CUB		XXX		CA2K0E	Jammer *Often
7116.0	1752	22	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
7117.3	1609	01	11			G1D	2400	2K40E	STANAG-4285. After, changed to ISR Navy 4X hybrid modem.
7119.0	1807	23	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
7124.0	1933	24	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
7125.0	1654	10	11	RUS		RADAR	40	12K0E	OTHR Contayner
7128.0	1948	11	11	RUS		RADAR	40	12K0E	OTHR Contayner
7130.0	2035 vt*	01 vd*	11	RUS		RADAR	40	12K0E	OTHR Contayner *Also on 11, 15, 20 & 24 / 11
7136.0	1830	15	11	RUS		RADAR	40	12K0E	OTHR Contayner
7145.0	1725	11	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
7149.0	1909	05	11	RUS		RADAR	40	12K0E	OTHR Contayner
7157.0	0647 vt*	08 vd*	11	CUB		XXX		CA2K0E	Jammer *Often
7158.0	1806	05	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
7158.0	1811	10	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
7162.0	2052	17	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
7166.0	1947	11	11	RUS		RADAR	40	12K0E	OTHR Contayner. Also on 7128 kHz CF
7166.0	2134	23	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
7166.6	1748 *vt	12 vd*	11			G1D	2400	2K40E	STANAG 4285 *Also on 24/11, 1746 UTC
7169.0	1815	10	11			F1B	75	250H	FSK. SH = 250 Hz
7171.0	1758	10	11			J7D	120	2K70E	CIS-12
7171.0	2008 vt*	11 vd*	11	RUS		RADAR	40	12K0E	OTHR Contayner *Also on 22/11, 1829 UTC
7174.0	1804	10	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
7175.0	1806	22	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
7177.0	1755	14	11	RUS		RADAR	40	12K0E	OTHR Contayner
7178.0	1835	12	11	RUS		RADAR	40	12K0E	OTHR Contayner
7179.0	2105	05	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
7179.0	1820	19	11	RUS		RADAR	40	12K0E	OTHR Contayner
7180.0	1830	23	11	RUS		RADAR	40	12K0E	OTHR Contayner
7181.0	1717	10	11	RUS		RADAR	40	12K0E	OTHR Contayner
7182.0	1850 *vt	15 vd*	11	RUS		RADAR	40	12K0E	OTHR Contayner *Also on 17/11, 1947 UTC
7182.0	1855	24	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
7184.0	1942	01	11	RUS		RADAR	40	12K0E	OTHR Contayner
7184.0	1720	11	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
7185.0	1950	05	11	RUS		RADAR	40	12K0E	OTHR Contayner
7186.0	1742	26	11	RUS		RADAR	40	12K0E	OTHR Contayner
7189.0	1534	19	11	RUS		RADAR	40	12K0E	OTHR Contayner
7190.0	1835	10	11	RUS		RADAR	40	12K0E	OTHR Contayner
7191.0	1834	01	11	RUS		RADAR	40	12K0E	OTHR Contayner
7192.0	1912 vt*	15 vd*	11	RUS		RADAR	40	12K0E	OTHR Contayner *Also on 19/11, 1609 UTC
7192.0	1606	19	11	RUS		RADAR	40	12K0E	OTHR Contayner

<b>URE; Gaspar, EA6AMM</b>									
<b>kHz</b>	<b>UTC</b>	<b>DD</b>	<b>MM</b>	<b>ITU</b>	<b>Ident</b>	<b>Mode</b>	<b>Bd/sps</b>	<b>SH/BW</b>	<b>Details</b>
7193.0	1954	19	11	RUS		RADAR	40	12K0E	OTHR Contayner
7194.0	0520	14	11	RUS		RADAR	40	12K0E	OTHR Contayner
10101.0	0843	22	11			J3E-U			UI stations. Male voices. UI language
10106.0	0818 vt*	22 vd*	11	CHN		RADAR	20	10K0E	OTHR bursts. BD = 90 sec. BRI = 7 min *Also on 25/11, 0730 UTC
10109.0	1600	01	11	RUS		RADAR	40	12K0E	OTHR Contayner
10111.1	0827	24	11			J3E-U			Fishers. Male voices. Arabic language. Some words in French
10124.0	2021	22	11			RADAR	6.96	10K0E	OTHR bursts <a href="https://youtu.be/VRZOJQ8LNkM">https://youtu.be/VRZOJQ8LNkM</a>
10150.0	1801	10	11	RUS		RADAR	40	12K0E	OTHR Contayner
10152.0	2127	09	11			RADAR	6.96	12K0E	UI radar bursts. BW = 12K0E
10154.0	1842	14	11	RUS		RADAR	40	12K0E	OTHR Contayner
14027.0	0921	22	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14038.0	1008	16	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14040.0	0934	24	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
14045.5	0731 vt*	05 vd*	11			XXX		Ca 2K0E	Broken system. Drifting *Often around 14045.5 and 14046.5 kHz CF
14046.0	1417	08	11			G7D	60	2K50E	14046 kHz LSB. CHN-30 aka PRC-30. *Also on 07/11, 1328 UTC
14050.0	0927	15	11			J7D	120	6K60E	CIS-12. DSB. <a href="https://youtu.be/AfjH_knXwC4">https://youtu.be/AfjH_knXwC4</a>
14050.0	0831	29	11			F1B		200H	FSK. SH = 200 Hz. Idling
14052.0	0809	02	11			J7D	120	2K70	CIS-12. With carrier at 14050 kHz
14052.0	0610	14	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14061.0	0621	14	11	RUS		RADAR	40	12K0E	OTHR Contayner
14070.0	0916	09	11			J7D		2K70E	CIS-12. Submode Idle
14082.0	0934	02	11	CHN		RADAR	10	160K0E	CHN wideband OTHR
14095.0	0845	23	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14098.0	1019 vt*	20 vd*	11			J7D	120	2K70E	CIS-12 *Also on 24/11, 0830 UTC
14098.5	0731 vt*	02 vd*	11			F1B	600	600H	DPRK-FSK 600 ARQ *Often
14098.5	0731 vt*	02 vd*	11			OTHER	1200	1K20E	DPRK-1200 *Often
14100.0	1100	09	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14103.5	0732 vt*	02 vd*	11			OTHER	1200	1K20E	DPRK-1200 *Often
14103.5	0740 vt*	05 vd*	11			F1B	600	600H	DPRK-FSK 600 ARQ *Often
14107.0	0813	25	11	CHN		RADAR	10	160K0E	Wideband OTHR
14111.0	0744	22	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14113.0	0917 vt*	22 vd*	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn" *Also on 29/11, 0829 UTC
14113.5	1319	19	11			F1B	600	600H	DPRK-FSK 600 ARQ
14115.0	0948	01	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14117.0	0904	24	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
14118.0	0706	07	11			J7D	120	2K70E	CIS-12
14118.0	0914	15	11			J7D		2K70E	CIS-12. Submode idle. Overdriven
14120.0	0647	25	11	CHN		RADAR	10	160K0E	Wideband OTHR
14121.0	0858	13	11	CHN		RADAR	83.3	10K0E	Short bursts. "Foghorn"
14123.0	0911	22	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"

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kHz	UTC	DD	MM	ITU	Ident	Mode	Bd/sps	SH/BW	Details
14125.0	0832	07	11			RADAR	86	CA60K0E	Same as on 14300 kHz CF at 0814 UTC
14128.0	0750	05	11	CHN		RADAR	83.3	10K0E	Short bursts. "Foghorn"
14130.0	1418	16	11			J3E-U			Broadcast-like TX or BC relaying. Program with male voices, RUS language. Long-lasting
14132.0	0908	23	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14143.0	1251	19	11			XXX		CA2K80E	XXX. UI bursts
14145.0	0738	25	11	CHN		RADAR	10	160K0E	Wideband OTHR
14148.0	0939	16	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn". 66.7 and 62.5 sps, alternating
14152.0	1558 vt*	01 vd*	11	RUS		RADAR	40	12K0E	OTHR Contayner *Also on 16/11, 1503 UTC
14162.0	0653	02	11	CHN		RADAR	10	160K0E	Wideband OTHR
14166.0	0720	14	11	RUS		RADAR	40	12K0E	OTHR Contayner
14169.0	0918	22	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
14171.0	0726	11	11			J7D		2K70E	CIS-12. Submode idle. Overdriven
14171.0	0756	25	11			J7D	120	2K70E	CIS-12
14174.0	0929	11	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
14175.0	0930	11	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
14183.0	1000	17	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
14186.0	1420	05	11	RUS		RADAR	40	12K0E	OTHR Contayner
14190.0	1127	17	11	RUS		RADAR	40	12K0E	OTHR Contayner
14193.0	0712	14	11	CHN		RADAR	10	40K0E	OTHR. BW = 40K0E. 10 sps
14194.0	0932	24	11	CHN		RADAR	10	160K0E	Wideband OTHR
14198.5	1307 vt*	19 vd*	11			F1B	600	600H	DPRK-FSK 600 ARQ *Often
14198.5	0744 vd*	25 vd*	11			OTHER		1K20E	DPRK-1200 *Often
14208.0	0920	05	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14210.0	0625 vt*	01 vd*	11			RADAR		4K50E	SuperDARN *Often
14218.0	0653	02	11	CHN		RADAR	10	160K0E	Wideband OTHR
14220.5	0849	23	11			F1B	600	600H	DPRK-FSK 600 ARQ
14221.0	0543	14	11			F1B	50	200H	
14233.0	0657	25	11	CHN		RADAR	10	160K0E	Wideband OTHR
14235.0	0605	14	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14247.0	0846	23	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14248.0	0755 *vt*	18 vd*	11	CHN		RADAR	20	10K0E	OTHR bursts. BD = 90 sec. BRI = 7 min *Often
14250.0	0955	16	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
14252.0	0854	20	11	CHN		RADAR	10	160K0E	Wideband OTHR. 3 X CHN Wideband OTH on 20 m at the same time!
14255.0	0726	15	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14255.0	0806	30	11	CHN		RADAR	50	10K0E	OTHR
14256.0	0841 vt*	23 vd*	11	CHN		RADAR	50	10K0E	OTHR *Also on 26/11, 0934 UTC
14260.0	0927	05	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14261.0	0725	13	11			RADAR	12.5	40K0E	OTHR. BW = 40K0E. 12.5 sps.
14261.0	0729	13	11			RADAR	20	40K0E	OTHR. BW = 40K0E. 20 sps <a href="https://youtu.be/dYYjrtYSfwY">https://youtu.be/dYYjrtYSfwY</a>
14261.0	0738	15	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14262.0	0840	13	11	CHN		RADAR	10	160K0E	Wideband OTHR



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kHz	UTC	DD	MM	ITU	Ident	Mode	Bd/sps	SH/BW	Details
14267.0	0743	20	11	CHN		RADAR	10	160K0E	Wideband OTHR
14272.0	0956	11	11	CHN		A1A			Fast CW. Letters and figures. Long-lasting
14279.0	0731	23	11	CHN		RADAR	20	10K0E	OTHR bursts. BD = 90 sec. BRI = 7 min
14280.0	1011	17	11			A3E			Numbers station "S06s", "Russian Lady". Female voice. RUS language
14283.0	0827	25	11	CHN		RADAR	10	160K0E	Wideband OTHR
14285.0	0759	03	11	CHN		RADAR	20	10K0E	CHN OTHR. BW = 10K0e. 20 sps. BD = 90 sec. BRI = 7 min
14286.0	1047	09	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14287.0	0957	16	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14287.0	0831	20	11	CHN		RADAR	10	160K0E	Wideband OTHR
14289.0	0906	24	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
14293.0	0823	12	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14298.0	1047	09	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn" *Also on 24/11, 0846 UTC
14298.5	0804 vt*	01 vd*	11			OTHER	1200	1K20E	DPRK-1200 *Often
14298.5	0805 vt*	09 vd*	11			F1B	600	600H	DPRK-FSK 600 ARQ *Often
14299.0	0808	24	11	CHN		RADAR	10	160K0E	Wideband OTHR
14300.0	0814	07	11			RADAR	82	CA60K0E	OTHR BW ca 60K0E, 82 sps <a href="https://youtu.be/rYlfaWcr7iw">https://youtu.be/rYlfaWcr7iw</a>
14300.0	0750	18	11	RUS		RADAR	40	12K0E	OTHR Contayner
14302.0	0727	15	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14304.0	0908	24	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
14305.0	0939	02	11	CHN		RADAR	10	160K0E	CHN wideband OTHR
14308.0	0921	24	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
14308.0	0742	30	11			F1B	50	200H	
14309.0	0724	18	11	RUS		RADAR	40	12K0E	OTHR Contayner
14310.0	0826	12	11	CHN		RADAR	10	160K0E	Wideband OTHR
14310.0	0834	15	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
14312.2	0824	25	11			A1A			"YOU JORZH" repeated every minute. Already observed on 23 & 24/11
14313.0	0745	22	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14314.0	0725	05	11	CHN		RADAR	10	160K0E	Wideband OTHR
14314.0	0854	23	11	CHN		RADAR	50	10K0E	OTHR
14320.0	0915	06	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
14320.0	0801	25	11	CHN		RADAR	10	160K0E	Wideband OTHR
14321.0	0926	07	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14323.0	0815	24	11	CHN		RADAR	10	160K0E	Wideband OTHR *Also on 29/11, 0833 UTC
14324.0	0958	17	11	CHN		RADAR	10	160K0E	Wideband OTHR
14325.0	0941	26	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
14326.0	0926 *vt*	07 vd*	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn" *Also on 24/11, 0923 UTC
14330.0	0901	15	11	CHN		RADAR	66.7	10K0E	Short burst. "Foghorn"
14331.0	0901	11	11	CHN		RADAR	66.7	10K0E	Short bursts.
14333.0	1045	09	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
14337.0	0907	06	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14337.0	0823	13	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
14337.0	0858	24	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
14338.0	0753	23	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"

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14340.0	0700	25	11	CHN		RADAR	10	160K0E	Wideband OTHR
14344.0	0811	23	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14345.0	0910	23	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
14345.0	0838	29	11	RUS		RADAR	40	12K0E	OTHR Contayner
14346.0	0903	13	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
14347.0	0911	23	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
14349.0	0714	12	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
18060.0	0721	23	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
18061.0	0903	23	11	RUS		RADAR	40	12K0E	OTHR Contayner
18063.0	0651	08	11	RUS		RADAR	40	12K0E	OTHR Contayner. Also on 18171 kHz CF
18063.0	0718	12	11	CHN		RADAR	40	12K0E	OTHR Contayner
18065.0	1041	23	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
18171.0	0651	08	11	RUS		RADAR	40	12K0E	OTHR Contayner
18072.0	0949	16	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
18082.0	0735	23	11	CHN		RADAR	20	10K0E	OTHR bursts. BD = 90 sec. BRI = 7 min
18087.0	1201	11	11	RUS		RADAR	40	12K0E	OTHR Contayner
18090.0	1432	08	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
18119.0	0951	01	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
18123.0	1424	05	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
18130.0	0744	01	11	RUS		RADAR	40	12K0E	OTHR Contayner
18131.0	0754	05	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
18139.0	0833	22	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
18149.0	0808	05	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
18150.0	0841	11	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
18151.0	0733	14	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
18160.0	0613	11	11	G		RADAR	50	12K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
18164.0	0713 *vt	01 vd*	11	RUS		RADAR	40	12K0E	OTHR Contayner *Also on 14/11, 0635 UTC
18166.0	0943	05	11	RUS		RADAR	40	12K0E	OTHR Contayner
18167.0	0657 vt*	02 vd*	11	RUS		RADAR	40	12K0E	OTHR Contayner *Also on 08/11, 0815 UTC
18168.0	0919	15	11	RUS		RADAR	40	12K0E	OTHR Contayner
18169.0	0913	02	11	RUS		RADAR	40	12K0E	OTHR Contayner
18170.0	1114	24	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
18171.0	1005 *vt	09 vd*	11	RUS		RADAR	40	12K0E	OTHR Contayner *Also on 08 and 11/11
18172.0	0731	08 vt*	11 vd*	RUS		RADAR	40	12K0E	OTHR Contayner *Also on 09 and 11/11
18174.0	1417	05	11	RUS		RADAR	40	12K0E	OTHR Contayner
18175.0	0845 vt*	13 vd*	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus. *Also on 21/11, 1016 UTC
18210.0	0759	16	11	CHN		RADAR	10	160K0E	Wideband OTHR
18245.0	0851	20	11	CHN		RADAR	10	160K0E	Wideband OTHR
20990.0	0752	08	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus. Splatter to 21005 kHz USB. *Also on 26/11, 1138 UTC

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21000.0	0839 vt*	12 vd*	11			XXX		20K0E	UI bursts *Sometimes
21030.0	1030	16	11	G		RADAR	25	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21030.0	1030	17	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21049.0	0638	11	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21051.0	0825	08	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
21064.0	0924	30	11	RUS		RADAR	40	12K0E	OTHR Contayner
21090.0	0958 vt*	06 vd*	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus. *Also on 29/11, 1004 UTC
21102.0	0733	01	11	RUS		RADAR	40	12K0E	OTHR Contayner
21110.0	1251	17	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21117.0	0706	08	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
21120.0	0907	07	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21130.0	1422 vt*	08 vd*	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus. *Also on 17/11, 1129 UTC
21130.0	0920 vt*	16 vd*	11	G		RADAR	25	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus. *Also on 26/11, 0937 UTC
21132.0	1218	11	11	RUS		RADAR	40	12K0E	OTHR Contayner
21132.0	0724	22	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21140.0	0910	08	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21140.0	0737	11	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
21141.0	0833	06	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
21148.5	0654	11	11			F1B	600	600H	DPRK-FSK 600 ARQ
21155.0	1007	24	11	G		RADAR	25	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21162.0	0910 vt*	06 vd*	11	RUS		RADAR	40	12K0E	OTHR Contayner *Also on 08/11, 0900 UTC
21165.0	0653	11	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
21165.0	0845	11	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area; Cyprus
21168.0	1303	15	11	RUS		RADAR	40	12K0E	OTHR Contayner
21169.0	0743	15	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21171.0	0921	08	11	CHN		RADAR	41.7	50K0E	Short bursts. "Foghorn"
21173.0	0753	22	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21175.0	1053	29	11	G		RADAR	50	20K0E	OTHR PLuto. UK Sovereign Base Area of Akrotiri, Cyprus. QRT: 1053 UTC
21190.0	1050	24	11	G		RADAR	25	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21195.0	0911	09	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
21196.0	0834	08	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
21241.0	0809	30	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21245.0	0912	09	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
21250.0	1436	02	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus

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21260.0	0807 vt*	03 vd*	11			A3E			BC. UI st. Asian language and music. Sounds with echo. Intermodulation? Harmonic?. *Sometimes
21265.0	0634	01	11	CHN		RADAR	10	160K0E	Wideband OTHR
21270.0	1414 vt*	07 vd*	11	G		RADAR	25	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus. *Also on 22/11, 0926 UTC
21278.0	0929	01	11	CHN		RADAR	10	160K0E	CHN wideband OTHR. BW = 160K0E. 10 sps.
21290.0	0935	24	11	G		RADAR	25	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21297.0	0640	11	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
21300.0	0805	16	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21310.0	1010 vt*	06 vd*	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus: *Also on 11, 12 and 16/11
21310.0	1026	16	11	G		RADAR	25	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21313.0	0917	08	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21315.0	0632	01	11	CHN		RADAR	10	160K0E	Wideband OTHR
21315.0	0701	02	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
21317.0	0715	08	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
21328.0	0908	07	11	CHN		RADAR	10	160K0E	CHN wideband OTHR
21330.0	0710	01	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21330.0	0841	30	11	G		RADAR	25	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21333.0	0746	09	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
21335.0	0947	02	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21338.0	1339	15	11	RUS		RADAR	40	12K0E	OTHR Contayner
21340.0	0701	02	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21340.0	0701	30	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21342.0	0757	02	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
21346.0	0723	11	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21346.0	1236	11	11	RUS		RADAR	40	12K0E	OTHR Contayner
21350.0	1013 vt*	01 vd*	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus. *Also on 05 and 11/11
21355.0	0646	11	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21357.0	0908	02	11	RUS		RADAR	40	12K0E	OTHR Contayner
21359.0	0712	07	11	CHN		RADAR	66.7	10K0E	Short bursts. "Foghorn"
21360.0	0714	23	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21362.0	0749	30	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21363.0	0644	11	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21365.0	0755	02	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21365.0	1018	24	11	G		RADAR	25	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21367.0	0842	05	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"

<b>URE; Gaspar, EA6AMM</b>									
<b>kHz</b>	<b>UTC</b>	<b>DD</b>	<b>MM</b>	<b>ITU</b>	<b>Ident</b>	<b>Mode</b>	<b>Bd/sps</b>	<b>SH/BW</b>	<b>Details</b>
21370.0	1151	17	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21370.0	0815	23	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21370.0	1055	24	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus. Also on 21190 kHz CF
21370.0	0808	30	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21375.0	0744	05	11	CHN		RADAR	47.5	10K0E	Short bursts. "Foghorn"
21379.0	0719	30	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21380.0	0916	08	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21383.0	0803	23	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21386.0	0721	11	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21389.0	0751	30	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21390.0	1238	11	11	RUS		RADAR	40	12K0E	OTHR Contayner. Also on 21346 kHz CF
21390.0	1027	16	11	G		RADAR	25	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus. Also on 21310 kHz CF
21390.0	0719	25	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus. Also on 21445 kHz CF
21395.0	0814	05	11	CHN		RADAR	47.7	10K0E	Short bursts. "Foghorn"
21398.0	0728	22	11	CHN		RADAR	50	10K0E	OTHR
21399.0	0814	30	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21404.0	0646	14	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21410.0	1040	09	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus. *Also on 13/11, 0735 UTC
21414.0	0707	08	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
21414.0	1203	11	11	RUS		RADAR	40	12K0E	OTHR Contayner
21422.0	0820	12	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21423.0	1111	26	11	RUS		RADAR	40	12K0E	OTHR Contayner
21424.0	0828	06	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21428.0	0741	15	11	RUS		RADAR	40	12K0E	OTHR Contayner
21429.0	0645	14	11	CHN		RADAR	50	10K0E	Short bursts. "Foghorn"
21430.0	0808	09	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21431.0	0834	06	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21433.0	0836	29	11	CHN		RADAR	41.7	10K0E	Short bursts. "Foghorn"
21435.0	0931	07	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21438.0	0927 vt*	01 vd*	11	RUS	RCV	A1A			"RCV" QTC *Almost daily
21440.0	1004	17	11	G		RADAR	20	50K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21445.0	0715	25	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
21448.0	1302	19	11			NON			Carrier. Comes and goes. Sometimes, long-lasting. Observed during the last three days
21450.0	0942	21	11			RADAR	12.5	40K0E	OTHR. BW = 40K0E. 12.5 sps. Most probably, Pluto
21475.0	0915	07	11	CHN		RADAR	10	160K0E	CHN wideband OTHR

**URE; Gaspar, EA6AMM**

kHz	UTC	DD	MM	ITU	Ident	Mode	Bd/sps	SH/BW	Details
24981.0	0928	16	11	RUS		RADAR	40	12K0E	OTHR Contayner
24991.0	0836	11	11	RUS		RADAR	40	12K0E	OTHR Contayner
28100.0	0949	02	11	IRN		RADAR	150	CA45K0E	150 and 313 sps, alternating. Jumping every 4 minutes
28370.0	1003	01	11	IRN		RADAR	150	45K0E	150 and 313 sps, alternating. Jumping every 4 minutes
28500.0	1131	17	11	IRN		RADAR	150	CA45K0E	150 and 313 sps, alternating
28600.0	1001	01	11	IRN		RADAR	150	45K0E	150 and 313 sps, alternating
28710.0	0756	07	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
28770.0	1133	17	11	IRN		RADAR	150	CA54K0E	150 and 313 sps, alternating. Jumping every 4 minutes
28860.0	0956 vt*	01 vd*	11	IRN		RADAR	150	45K0E	150 and 313 sps, alternating *Often
28950.0	0814	09	11	G		RADAR	50	20K0E	OTHR Pluto. UK Sovereign Base Area of Akrotiri, Cyprus
29050.0	1135	05	11	IRN		RADAR	2256	45K0E	226 and 333 sps, alternating
29050.0	0758	07	11	IRN		RADAR	226	CA45K0E	226 and 333 sps, alternating
29100.0	1017	16	11			XXX		754H	XXX. BW ca 754 Hz. FSK?
29180.0	0957	01	11	IRN		RADAR	226	45K0E	226 and 333 sps, alternating

**USKA: Peter, HB9CET**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
6942.0	1319	29	11			Radar	10	160k0E	Wideband OTHR, partially in 40m band;
6969.0	2111	19	11			Radar	10	160k0E	Wideband OTHR, partially in 40m band
6999.0	1800	17	11			xxx	81	50k	OTHR (Iran)
7000.0	1648	26	11			Radar		10k0E	OTHR
7003.7	1231	19	11			xxx		ca 7k	unid signal, DSB mode; drifting
7008.0	1349	17	11			xxx		ca 7k	unid signal, drifting: TDoA: in the wider area SE of Toulouse
7010.0	0935	09	11			J7D	12x120	2k70E	CIS12; BPSK or QPSK; often dropouts
7011.4	1330	19	11			xxx		ca 7k	unid signal, DSB mode; drifting
7014.0	1506	26	11			J7D		2k70E	CIS12; idling only
7021.0	1523	26	11			FSK		450H	unid signal
7030.0	1516	26	11			A1N			Fast dots only, long lasting
7032.0	1335	09	11			J7D	12x120	2k70E	CIS12; BPSK or QPSK
7050.0	1336	19	11			J3E-L		ca. 3k0E	Radio War; Ordinary, a shame!
7050.5	1230	08	11			J7D	12x120	2k70E	CIS12; BPSK or QPSK
7051.0	1020	17	11			F1B		500H	
7054.0	1508	19	11			F1B		200H	strong fading
7055.0	1337 1502	19 26	11			J3E-L		ca. 3k0E	Radio War Voice and music Ordinary, a shame
7057.0	1615	10	11			FMOP	40	12k0E	OTHR; Contayner
7062.0	1541	24	11			FMOP	40	12k0E	OTHR; Contayner
7065.0	1437	26	11			J7D	12x120	2k70E	CIS12; 12 tones + pilot tone only
7066.0	1549	08	11			Radar	10	160k0E	Wideband OTHR
7066.0	2032	10	11			FMOP	40	12k0E	OTHR; Contayner
7083.0	0944	08	11			J7D	12x120	2k70E	CIS12; idling only
7089.0	0849	03	11			J7D	12x120	2k70E	CIS12;
7094.0	1641	10	11			FMOP	66.66	10k0E	OTHR; Bursts "Foghorn"
7106.0	2152	17	11			FMOP	40	12k0E	OTHR; Contayner; strong -60dBm



**USKA: Peter, HB9CET**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7108.0	2102	19	11			FMOP	40	12k0E	OTHR; Contayner
7110.0	1625	04	11	ETH		A3E		ca 9k0E	BC: Radio Ethiopia daily
7117.5	1539	01	11			G1D PSK8		ca 2k60E	1800Hz single tone mode with intro tones (MIL188-xxx) ISR Hybrid?
7118.0	1233	09	11			J7D	12x120	2k70E	CIS12; idling only
7119.0	2033	19	11			J7D	12x120	2k70E	CIS12; weak and fading
7121.0	2054	10	11			FMOP	40	12k0E	OTHR; Contayner
7152.0	1753	08	11			FMOP	40	12k0E	OTHR; Contayner
7154.0	1256	29	11			F1B		200H	strong fading; often
7159.0 USB	1549 2258	22 24	11			G7D DQPSK	75	ca 2k50E	LINK11 CLEW SSB mode; 16 tones often
7161.0	0931	09	11			J7D	12x120	2k70E	CIS12
7164.0	1224	08	11			J7D	12x120	2k70E	CIS12
7171.0 LSB	1636	10	11	CHN		G7D PSK-4	30x60	ca 2k50E	CHN30 (PRC30); Burst system weak
7171.0	2045	19	11			FMOP	66.66	10k0E	OTHR; Bursts "Foghorn"
7179.0	1802	19	11			FMOP	40	12k0E	OTHR: Contayner
7183.0	1454	26	11			FMOP	40	12k0E	OTHR; Contayner
7186.0	0904	03	11			F1B		500H	
7190.0	1529	10	11			FMOP	40	12k0E	OTHR; Contayner
7193.0	1420 1424	19	11		RDL	F1B F1A		200H	FSK followed by FSK-CW emission TDoA: Kaliningrad
7193.0	2027	19	11			FMOP	40	12k0E	OTHR; Contayner
7194.0	1541	04	11			FMOP	40	12k0E	OTHR; Contayner
14046.0 LSB	1419	08	11	CHN		G7D PSK-4	30x60	ca 2k50E	CHN30 (PRC30); Burst system
14052.0	0743	02	11			J7D	12x120	2k70E	CIS12; with additional carrier
14070.0	0919	09	11			J7D	120	2k70E	CIS12; idling
14098.0	0840	17	11			J7D	12x120	2k70E	CIS12; BPSK or QPSK often
14098.5	1342	30	11			ARQ		1200H	DPRK 1200/1200: ARQ system
14112.0	0950	17	11			FMOP	50	10k0E	OTHR; Bursts
14113.45	1321	19	11			F1B/ARQ	600	600H	DPRK 600/600 ARQ system
14128.0	0907	05	11			FMOP	83	10k0E	OTHR; Bursts
14181.0	1529	04	11			FMOP	40	12k0E	OTHR< Contayner
14198.5	1317	05	11			F1B/ARQ	600	600H	DPRK: ARQ system
14209.0	1003	05	11			FMOP	66.66	10k0E	OTHR; Bursts "Foghorn"
14256.0	0845	26	11			FMCW	50	10k0E	OTHR; strong
14264.0	0750	20	11			OTHR	10	160k0E	Wideband OTHR
14298.5	1237	03	11			ARQ	600 1200	600H 1200H	DPRK: ARQ system FSK and PSK mode often
14300.0	0857	18	11			FMOP	40	12k0E	OTHR; Contayner
14308.0	0833	17	11			F1B		500H	often
14313.0	0930	05	11			OTHR	10	160k0E	Wideband OTHR
14324.0	0944	17	11			OTHR	10	160k0E	Wideband OTHR
14338.0	1002	04	11			FMOP	66.66	10k0E	OTHR; Bursts "Foghorn"
18065.0	1050	23	11			FMCW	50	20k0E	OTHR (UK-base Cyprus); partially in 17m band
18070.0	1152	08	11			FMCW	25	20k0E	OTHR (UK-base Cyprus); partially in 17m band
18090.0	1431	08	11			FMCW	50	20k0E	OTHR (UK-base Cyprus)
18107.0	0854	26	11			F1B	36 + 50	200H	CIS 36-50, also F1A (FSK CW) often
18166.0	0953	05	11			FMOP	40	12k0E	OTHR; Contayner
21030.0	1217	16	11			FMCW	25	20k0E	OTHR; UK base Cyprus

**USKA: Peter, HB9CET**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
21030.0	1033	17	11			FMCW	50	20k0E	OTHR; UK base Cyprus
21110.0	1249	17	11			FMCW	50	20k0E	OTHR; UK-base Cyprus
21160.0	1221	16	11			FMOP	40	12k0E	OTHR; Contayner
21245.0	0911	09	11			FMOP	66.66	10k0E	OTHR; Bursts "Foghorn"
21260.0	0844	03	11			A3E		ca 9k0E	BC: weak, fading; max -90 dbm
21333.0	0908	09	11			OTHR	50	10k0E	OTHR, Bursts)
21337.0	0852	17	11			Radar	10	160k0E	Wideband OTHR
21400.0	1221	17	11			FMCW	50	20k0E	OTHR; UK-base Cyprus often
21407.0	1308	29	11			FMOP	40	12k0E	OTHR; Contayner
21438.0	0841	03	11		RCV	A1A		10H	TDoA: Area of Sevastopol daily
21440.0	1001	17	11			FMCW	50	20k0E	OTHR; UK-base Cyprus
21450.0	0937	08	11			FMCW	25	20k0E	OTHR; UK-base Cyprus
28000.0	1223	30	11			USB J3E-U		ca 2k1	unid language, maybe Spanish
28275.0	0917	05	11			F3E			Female voice; only short sequences, RUS Taxi?
28860.0	0754 0925	02 05	11	IRN		?	150 + 313	ca 45k	OTHR, Bursts; long lasting, sweep rate alternating often
29056.0	1046	05	11	IRN		?	225 + 334	ca 40k	OTHR, Bursts; long lasting, sweep rate alternating often
29091.0	0931	04	11	IRN		?	225 + 334	ca 40k	OTHR, Bursts; long lasting, sweep rate alternating
29123.0	0933	04	11	IRN		?	225 + 334	ca 40k	OTHR, Bursts; long lasting, sweep rate alternating often
29202.0	0938	04	11	IRN		?	225 + 334	ca 40k	OTHR, Bursts; long lasting, sweep rate alternating often
29257.0	0924	01	11	IRN		?	225 + 334	ca 40k	OTHR, Bursts; long lasting, sweep rate alternating often
29315.0	0945	04	11	IRN		?	225 + 334	ca 40k	OTHR, Bursts; long lasting, sweep rate alternating often

**VERON: Ruud, PG1R, Credits to observers Dick PA0GRU, Joeke PA0VDV, Kees PA2CHM, Arie PA3CNK, Rene PA3EQO**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3511.0	1815	26	11						UiMod; The Ping now on 3511 and 3756 khz not par
3527.0	2007	08	11			F1B			Revs; UiPtr; shared band
3548.0	2010	08	11			F1B			Revs; UiPtr; shared band
3690.0	2120	04	11			J3E-L		6K0E	Music; extremy bad audio; S9+15dB; reported by PE1RMO
3718.8	1905	20	11			F1B		250H	Printer; shared band!
7016.0	1529	19	11			XXX	2400	7K0E	CF; DSB signal 2 x 2k4
7055.0	1445	06	11	UKR		J3E-L			Radiowar; comments
7055.0	1050	16	11			F1B		200H	UiPtr
7055.0	1511	20	11	UKR		J3E-L			Political slogans
7105.0	1328	03	11	UKR /RUS		J3E-L			Alternative freq. Radiowar UKR-RUS ?
7189.0	2022	06	11	RUS		RADAR	40	22K0E	CF; OTHR Contayner; 2 adjacent TX, partly overlap ?
7193.0	1349	20	11			F1B		200H	Printer
14098.0	1410	26	11			A1A			Continuous dashes
14191.0	1100	03	11			RADAR		20K0E	OTHR
14199.3	1048	26	11			F1B			Unknown; high baud rate
14271.0	1015	11	11			A1A			UiCW; Strings of Cyrillic Morse

<b>VERON: Ruud, PG1R, Credits to observers Dick PA0GRU, Joeke PA0VDV, Kees PA2CHM, Arie PA3CNK, Rene PA3EQO</b>									
<b>kHz</b>	<b>UTC</b>	<b>DD</b>	<b>MM</b>	<b>ITU</b>	<b>IDENT</b>	<b>MODE</b>	<b>BD /sps</b>	<b>SH / BW</b>	<b>DETAILS</b>
14347.8	1930	06	11			A1A			Continuous rapid dots
21210.0	1402	20	11	G		RADAR	25	20K0E	CF; OTHR Pluto
21240.0	1515	23	11			F1B			Revs; UiPtr
21436.0	1010	11	11			F1B			UiPtr; Idling
21438.0	1001	18	11	RUS	RCV	A1A			RIP90 de RCV QTC 293 48 30 1527 293 Nawarea 033 782 Karta 32226
21438.0	1012	18	11	RUS	RCV	A1A			RGX94 de RCV QTC 990 37 23 1330 990 = Nawarea 036 768 Karta 32352
28174.0	1522	23	11			F1B			Revs; UiPtr
28181.0	0900	02	11			A1A			1 dash every 10 seconds; fishing buoy ?



# Season's greetings

**to all of our friends, colleagues and helpers in the background. Many thanks for your valuable work and every form of support throughout the year.**



**Merry Christmas and a happy New Year - Feliz Navidad y un Feliz Año Nuevo - Buon Natale e un Felice Anno Nuovo  
Feliz Natal e um Feliz Ano Novo - Frohe Weihnachten und ein glückliches Neues Jahr - Joyeux Noël et bonne année**

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