

# IARU Monitoring System Region 1



Monthly Newsletter - October 2022

## News and info

For many years, Over the Horizon radars have been by far the most damaging signals to the HF amateur radio bands.

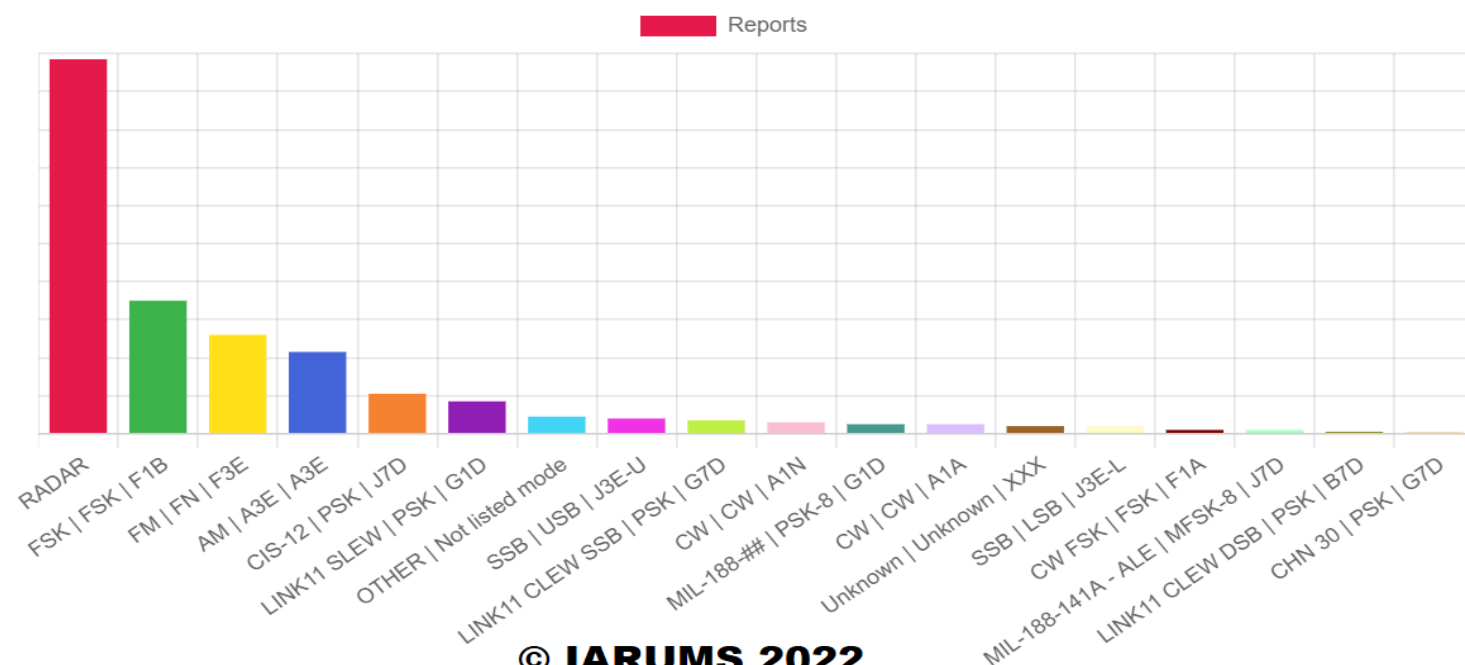
October was no exception to this sad rule. In addition to the ubiquitous Contayner OTH radar (RUS; BW = 12K0E; 40 sps), this month we highlight the high number of transmissions sent by the Iranian OTH radar operating in the 10 m band. In addition to its daily operation on 28860 kHz (BW: 45K0E, alternating 150 and 313 sps short bursts), it has also been observed across the entire 10-meter band, although particularly on frequencies near 29 MHz using the same bandwidth but sometimes with different sweep rates (alternating 226 and 333 sps short bursts).

There were also numerous times in which transmissions sent different Chinese OTH radars were received on 40, 20 and 15 m. Most of those transmissions used 10 kHz bandwidth and were sending short bursts with different sweep per second rates, 50 and 66.7 sps being the most usual.

The British OTHR located at the R.A.F Sovereign Base Area in Cyprus was also received several times on different bands, mostly on 15 m but also on 17 and 10 m.

In addition to these transmissions made by radars, we also received on multiple occasions the already known but mysterious transmissions of groups of 16 dashes in the 40 m band, in the segment usually used for FT-8 mode transmissions, specifically on 7075 kHz CF and nearby frequencies.

Also sadly, the amateur HF bands suffered from many transmissions sent in different MIL modes and from daily transmissions sent by different broadcasting stations, these last ones mostly on 40 m.



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## Detailed reports of national coordinators

**Abbreviations used** (as per IARUMS definitions)

**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** = unidentified.

**DARC; Daniel, DL3RTL. Credit to monitors: DO1MGS, Manfred; DG4KM, Kai; DL2SCH, Jürgen; DF5JL, Tom; DL8LAQ, Norbert; DL4HG, Olaf; DB4UP, Christoph; DO1LR, Christian; DL9PA, Klaus; DM2MA, Matthias; F4FPR, Benjamin; DF2KS, Sven; DB3TA, Alex**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
6999,8	1552	02	10	RUS		PSK		2k4	CIS-12
7001,0	1636	20	10	RUS		FMOP	40	12k	OTHR Contayner
7014,0	2218	02	10	RUS		FMOP	40	12k	OTHR Contayner
7015,0	1854	06	10	RUS		FMOP	40	12k	OTHR Contayner
7021,8	1416	19	10	RUS		PSK		2k4	CIS-12
7021,8	0545	20	10					2k5	Jammer
7031,0	1653	20	10	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
7039,0	2112	02	10	RUS		FMOP	40	12k	OTHR Contayner
7042,0	2020	18	10	RUS		FMOP	40	12k	OTHR Contayner
7058,0	2002	27	10	RUS		FMOP	40	12k	OTHR Contayner
7062,0	2045	02	10	RUS		FMOP	40	12k	OTHR Contayner
7064,0	1918	18	10	RUS		FMOP	40	12k	OTHR Contayner
7065,0	2020	04	10	RUS		FMOP	40	12k	OTHR Contayner
7066,0	1649	20	10	RUS		FMOP	40	12k	OTHR Contayner
7080,0	1912	20	10			FSK		250	CIS-50-50
7084,0	2112	02	10	RUS		FMOP	40	12k	OTHR Contayner
7088,0	1938	04	10	RUS		FMOP	40	12k	OTHR Contayner
7089,8	ad	vd	10			PSK	2400	2k7	LINK11 SLEW
7090,0	1930	02	10	RUS		FMOP	40	12k	OTHR Contayner
7100,0	2112	02	10	RUS		FMOP	40	12k	OTHR Contayner
7104,0	2014	05	10	RUS		FMOP	40	12k	OTHR Contayner
7105,0	2028	21	10	RUS		FMOP	40	12k	OTHR Contayner
7110,0	1617	14	10	ETH		A3E		9k	Radio Ethiopia
7114,0	0450	15	10			F1B	50	250	CIS-36-50
7130,0	2013	27	10	RUS		FMOP	40	12k	OTHR Contayner
7131,0	1926	18	10	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
7131,0	2020	18	10	RUS		FMOP	40	12k	OTHR Contayner
7132,0	1924	06	10	RUS		FMOP	40	12k	OTHR Contayner
7150,0	0615	14	10			PSK	2400	2k	STANAG 4285
7157,0	1842	20	10	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
7159,0	vt	vd	10			PSK		6k	LINK11 CLEW DSB
7160,8	0546	15	10			PSK		2k5	LINK11 CLEW SSB
7164,0	2058	21	10	RUS		FMOP	40	12k	OTHR Contayner
7166,0	2003	27	10	RUS		FMOP	40	12k	OTHR Contayner
7167,0	1939	27	10	RUS		FMOP	40	12k	OTHR Contayner
7170,0	1918	18	10	RUS		FMOP	40	12k	OTHR Contayner

**DARC; Daniel, DL3RTL. Credit to monitors: DO1MGS, Manfred; DG4KM, Kai; DL2SCH, Jürgen; DF5JL, Tom; DL8LAQ, Norbert; DL4HG, Olaf; DB4UP, Christoph; DO1LR, Christian; DL9PA, Klaus; DM2MA, Matthias; F4FPR, Benjamin; DF2KS, Sven; DB3TA, Alex**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7172,0	1935	02	10	RUS		FMOP	40	12k	OTHR Contayner
7176,0	2036	20	10	RUS		FMOP	40	12k	OTHR Contayner
7178,0	2113	31	10	RUS		FMOP	40	12k	OTHR Contayner
7180,0	2021	18	10	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
7188,0	1954	31	10	RUS		FMOP	40	12k	OTHR Contayner
7192,0	2045	02	10	RUS		FMOP	40	12k	OTHR Contayner
7193,0	2028	21	10	RUS		FMOP	40	12k	OTHR Contayner
7195,6	1400	15	10	RUS		PSK		2k4	CIS-12
7196,0	1931	18	10	RUS		FMOP	40	12k	OTHR Contayner
7200,0	vt	vd	10	ALG		A3E		10k	Telediffusion d'Algerie
14088,2	1343	20	10					2k5	unid
14114,0	1840	20	10	RUS		FMOP	40	12k	OTHR Contayner
14115,0	1645	09	10	RUS		FMOP	40	5k	OTHR
14119,0	1235	20	10	RUS		F1B	50	200	Russian Navy
14121,0	1515	09	10	RUS		FMOP	40	12k	OTHR Contayner
14145,0	1506	23	10	RUS		FMOP	40	12k	OTHR Contayner
14153,0	1506	23	10	RUS		FMOP	40	12k	OTHR Contayner
14171,0	1645	09	10	CHN		FMCW	50	10k	OTHR 5,1s bursts
14179,0	1516	09	10	CHN		FMCW	50	10k	OTHR 5,1s bursts
14241,8	1048	01	10	RUS		PSK		2k4	CIS-12
14298,6	1312	01	10					1k5	unid
18107,0	vt	vd	10	RUS		F1B	50	200	CIS-36-50
18166,0	1054	16	10				50	10k	OTHR
21010,0	0832	02	10	CYP		FMCW	50	20k	OTHR Pluto Cyprus
21129,0	1533	23	10	RUS		FMOP	40	12k	OTHR Contayner
21172,0	0945	03	10	RUS			40	5k	OTHR
21173,0	1140	08	10	RUS		FMOP	40	5k	OTHR
21177,0	1105	03	10	RUS			40	5k	OTHR
21208,0	1533	23	10	RUS		FMOP	40	12k	OTHR Contayner
21335,0	1035	08	10	CHN		FMCW	50	10k	OTHR 5,1s bursts
21430,0	1145	02	10	CYP		FMCW	50	20k	OTHR Pluto Cyprus
28050,0	1000	09	10	IRN			150/31 3	45k	Iranian OTHR 9,98/7,19s bursts
28060,0	1324	14	10			A1A			Buoy Ident SIP
28062,1	1328	14	10			F1B	56	320	Buoy #803789
28390,0	1352	24	10	CYP		FMCW	50	20k	OTHR Pluto Cyprus
28595,0	1145	02	10	CYP		FMCW	50	20k	OTHR Pluto Cyprus
28600,0	vt	vd	10	IRN			307/87 0	45k	Iranian OTHR 5,81/3,26s bursts
28745,0	0842	30	10	CYP		FMCW	50	20k	OTHR Pluto Cyprus
28860,0	vt	vd	10	IRN			150/31 3	45k	Iranian OTHR
29260,0	1132	28	10	CYP		FMCW	50	20k	OTHR Pluto Cyprus
29300,0	1517	09	10	IRN			225/33 3	45k	Iranian OTHR 8,02/5,99s bursts
29350,0	1200	23	10	IRN			225/33 3	45k	Iranian OTHR 8,02/5,99s bursts

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kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
29350,0	0839	30	10	CYP		FMCW	50	20k	OTHR Pluto Cyprus
29450,0	1526	14	10	IRN				45k	Iranian OTHR
29630,0	1145	24	10	CYP		FMCW	50	20k	OTHR Pluto Cyprus

**IRTS; Michael, EI3GYB**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3525	1140	4	10	F or MM		USB			French fishermen, medium signals.
3717	915	24	10	MM		USB			Japanese male voices. Very strong signals. Plenty of "dodo".
7050	1825	3	10	UKR / RUS		USB			Russian-Ukrainian radio war. Same as the last 7 years. Daily!
7110	1750	25	10	ETH		AM			Radio Ethiopia. Medium signal, daily.
7161.5	1600	28	10			PSK			Link 11 Clew. Very strong and persistent. Still on 31.10 at 2100z.
7200	400	14	10	ALG		AM			RTA Alger. Arabic service. Huge signal. Daily until shortly passed 0500z.
7200	1250	17	10	TWN		AM			National Unity Radio. Medium signal. Audible daily until late afternoon.
14000	1357	19	10	CHN		AM			China Radio International. Mixing product. Audible daily until 1700z. Medium signal.
14297	1300	5	10			RTTY			Traffic from a North Korean embassy. Very strong and persistent.
18109	1320	29	10			RADAR			Radar from 18109 to 18123 kHz. Intermittent, medium strength.
18150	830	1	10	UK base on Cyprus		RADAR			Radar from 18150 to 18180 kHz. Very strong and persistent. Still on at 1045z. "Pluto" MoD system.
18165	645	21	10	UK base on Cyprus		RADAR			Radar from 18165 to 18180 kHz. Huge and persistent. "Pluto" from the MoD
21438	945	13	10	UKR		CW			Russian Navy, Sevastopol. Daily with medium signals.
24978	1440	30	10	UK base on Cyprus		RADAR			Radar from 28978 to 24990 kHz. Very strong and persistent. "Pluto" MoD
25000	930	20	10	B		USB			Brazilian Cbers chatting. Medium signal.
28000	1430	1	10	IRN		Radar			Radar from 28000 to 30000 MHz. Moving up and down the entire band. Daily all daylight hours. Medium to very

**IRTS; Michael, EI3GYB**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
									strong signal. Sometimes also static on a very narrow part of the band anywhere.
28271	1225	8	10	RUS		FM			Russian taxis service. Female voice, very strong.
28735	940	20	10	RUS		FM			Russian taxi service. Female voice. Strong signal.
28775	920	20	10	MM		FM			Group of fishermen. Very strong. South East Asian language.
29010	1000	11	10	RUS		FM			Russian taxi service. Female voice. Very strong.
29017	1340	25	10	UK Base on Cyprus		RADAR			Radar from 29017 to 29040 kHz. Strong and persistent. "Pluto" MoD
29145	950	20	10	RUS		FM			Russian taxi service. Female voice. Strong. Also on 13th at 0945z
29675	915	20	10			FM			Group of South East Asian fishermen. Strong and persistent. Only interrupted by repeater traffic on the same frequency.
29965	955	13	10	RUS		FM			Russian taxi service. Female voice. Medium signal.

**PZK; SP3AMO, SP5GNI**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7000.0	1635	10	10			CIS-12		2K7	S9+10dB
7015.0	1945	06	10		UI	RADAR	40	14K0E	
7033.0	1950	30	10			RADAR		10K0E	
7071.4	1230	14	10			F1B	120	2K70E	CIS 12 / F1B / PSK
7080.0	1842	03	10			F1B		200H	
7087.9	2225	01	10			RADAR		10K0e	S7
7100.0	1108	07	10			RADAR		40K0E	S6 just ended
7100.0	vt	11	10			RADAR		60K0E	
7120.0	1300	07	10			J3E-L		2K7	S9+30dB propaganda in Russian
7130.0	1005	01	10			RADAR		10K0E	S9
7135.0	1720	25	10			F1B		200H	Rst 599
7162.0	1629	17	10			F1B		250H	
7190.0	1457	06	10			RADAR		8K0E	S8 burst
14008.0	1235	14	10			F1B		250H	
14104.8	1100	14	10			UI		1K5	S6 6 spectral lines
14128.0	1628	10	10			J3E-U		2K7	S9+20dB religious speach in Russian/English
14128.0	1028	13	10			CIS-12		2K7	S9
14140.0	1105	27	10			RADAR		20K0E	very strong signal
14152.0	1540	01	10			RADAR		14K0E	S9 bursts
14189.0	1125	20	10			RADAR		8K0E	

**PZK; SP3AMO, SP5GNI**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14190.0	1100	31	10			RADAR		14K0E	
14205.0	1026	13	10			RADAR		10K0E	S7
14205.0	1105	27	10			RADAR		20K0E	very strong signal
14208.0	0805	02	10			Radar	80	10K0E	Bursts
14240.0	1455	01	10			RADAR		90K0E	S7
14295.0	vt	vd	10			RADAR		90K0E	S7
14306.0	1123	26	10			RADAR		10K0E	bursts and at 14324.0
14315.0	1140	24	10			Radar	66	10K0E	Bursts
14325.0	1113	25	10			RADAR		10K0E	
14339.0	1145	25	10			RADAR		10K0E	burst
18077.0	1120	31	10			RADAR		14K0E	burst and at 18159.0
18107.0	vt	vd	10			F1B		200H	
18158.0	0956	10	10			RADAR		15K0E	S9+20dB
18165.0	0815	01	10	G		RADAR		20K0E	S9+
18195.0	1205	02	10			RADAR		20K0E	S7
21060.0	0955	10	10			RADAR		12K0E	S7 burst
21110.0	0925	05	10			RADAR		10K0E	S7 bursts
21172.0	vt	03	10			RADAR	40	10K0E	
21174.0	1050	21	10			RADAR		12K0E	continous and 21137 bursts
21175.0	1125	14	10			RADAR		12K0E	S9
21190.0	1145	24	10			RADAR	50	10K0E	Bursts
21209.0	0800	01	10			RADAR		10K0E	S6 bursts
21238.0	0820	03	10			RADAR		10K0E	S6 bursts
21318.0	0941	10	10			RADAR	66	10K0E	Bursts
21325.0	0940	20	10	I	UI	UI		9K0E	Italy
21332.0	1030	15	10			RADAR		10K0E	S7 bursts
21333.0	0807	11	10			RADAR	66	10K0E	Bursts
21345.0	0830	17	10			RADAR		10K0E	
21350.0	1035	27	10			RADAR		10K0E	burst
21374.0	0730	19	10			RADAR	66	10K0E	Bursts
21438.0	0943	10	10			A1A		20wpm	
28115.0	0820	01	10			F3E		6K0E	S9 Radio taxi in Russian
28600.0	vt	vd	10	IRN		RADAR		200K0e	S9 also in a few another freq's
28600.0	vt	vd	10	IRN		RADAR	300	46K0E	
29100.0	1048	31	10			UI		1K5	S7 about 20 spectral lines
29100.0	1150	24	10			A3E		9K0E	Female voice
29270.0	1330	26	10	IRN		RADAR		100K0E	also 29370.0
29500.0	1244	14	10	IRN		RADAR	150	46K0E	

**REF; Francis, F5MIU**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
18165	0800	1	10			fmcw	50	20kHz	OTH Radar pulsed 20ms, S9
14187	1718	6	10			fmcw	40	10kHz	OTH Radar pulsed 25ms, S9
14120	1610	9	10			fmcw	40	10kHz	OTH Radar pulsed 25ms, S9+
14155	1550	13	10			fmcw	40	25kHz	OTH Radar pulsed 25ms, S9+
28860	0746	18	10			fmcw	40	100kHz	OTH Radar pulsed ?ms, S9 +10 shifting

**REF; Francis, F5MIU**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
									frequencies rate
18160	0803	21	10			fmcw	40	20kHz	OTH Radar pulsed 25ms, S9+
21310	0800	22	10			fmcw	50	20kHz	OTH Radar pulsed 20ms, S9
14125	1617	30	10			fmcw	40	15kHz	OTH Radar pulsed 25ms, S9 +
18140	0756	31	10			fmcw	40	15kHz	OTH Radar pulsed 25ms, S7
14120	0800	31	10			fmcw	40	15kHz	OTH Radar pulsed 25ms, S9 +10 shifting frequencies
14190	1456	31	10			fmcw	40	15kHz	OTH Radar pulsed 25ms, S9+10

**RSGB; Richard, G4DYA**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3756.0	2041	02	10			J3E		1K70E	USB 'The Pip'. Daily. Also heard 052045z
7000.0	2035	02	10			J7D		2K70E	USB 6998.0 / CIS-12. Also heard 031641z, 041344z, 051921z, 061444z, 071446z
7012.0	2108	25	10	RUS		P0N	40	12K0E	Container pulse radar
7020.0	1350	04	10			F1B		250	FSK
7025.0	0808	31	10			F1B		200	FSK
7030.0	1359	18	10			F1B		250	FSK
7039.0	2101	02	10	RUS		P0N	40	12K0E	Container pulse radar
7062.0	2036	02	10	RUS		P0N	40	12K0E	Container pulse radar
7972.0	1257	05	10			J7D		2K70E	USB 7070.0 / CIS-12
7074.99	0836	01	10			A1N			Continuous groups of 16 dashes. Also heard 022103z, 051259z, 100920z, 170710z
7075.01	0809	24	10			A1N			Continuous groups of 16 dashes
7080.0	2037	02	10			F1B		200	FSK. Also heard 031933z, 052040z, 061837z
7088.0	1149	31	10			F1B		200	FSK
7089.8	1645	03	10			G1D		2K40E	USB 7088.0 / Link 11 SLEW. Also heard 250751z, 270858z, 290901z, 312048z
7100.0	2106	02	10	RUS		P0N	40	12K0E	Container pulse radar
7101.0	0752	12	10			F1B		200	FSK
7104.0	2041	05	10	RUS		P0N	40	12K0E	Container pulse radar
7110.0	1647	03	10	ETH	R.Ethiopia	A3E			AM broadcasting
7135.0	2111	25	10			F1B		200	FSK
7135.0	2117	25	10	CHN		F3N	50	10K0E	FMCW radar bursts
7137.0	2043	05	10			F1B		250	FSK
7148.0	2109	25	10	RUS		P0N	40	12K0E	Container pulse radar
7159.0	0921	10	10			J7D		2K40E	USB 7159.0 / Link 11 CLEW. Also heard 110715z, 181402z, 250752z, 270900z, 290859z
7162.0	0750	12	10			F1B		250	FSK. Also heard 181403z
7192.0	2038	02	10	RUS		P0N	40	12K0E	Container pulse radar
7179.0	1404	18	10			F1B		200	FSK
7199.993	1447	06	10			A3E			AM broadcasting. Also heard 071449z,

**RSGB; Richard, G4DYA**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
									181405z, 291331z
10128.0	1640	03	10	RUS		P0N	40	12K0E	Container pulse radar
14008.0	0803	12	10			F1B		500	FSK. Also heard 170941z
14038.0	1355	18	10	CHN		F3N	41.7	10K0E	FMCW radar bursts
14089.0	1357	18	10	RUS		P0N	40	12K0E	Container pulse radar
14113.7	0756	02	10					3K20E	Unidentified bursts
14119.0	0744	25	10			F1B		200	FSK. Also heard 270912z
14121.0	1519	09	10	RUS		P0N	40	12K0E	Container pulse radar
14128.0	1120	12	10			J7D		2K70E	USB 14126.0 / CIS-12
14160.0	0817	24	10			F1B		200	FSK
14205.0	1119	12	10	RUS		P0N	40	12K0E	Container pulse radar
14209.0	0749	02	10	CHN		F3N	83.3	10K0E	FMCW radar bursts
14213.0	1357	04	10	CHN		F3N	41.7	10K0E	FMCW radar bursts
14230.0	1413	18	10	CHN		F3N	50	10K0E	FMCW radar bursts
14242.0	1021	01	10			J7D		2K70E	USB 14240.0 / CIS-12
14303.5	0805	25	10			F1D		1K20E	Unidentified FSK bursts 600Hz shift
14304.0	1339	02	10	CHN		F3N	66.7	10K0E	FMCW radar bursts
14340.0	0928	02	10	CHN		F3N	83.3	10K0E	FMCW radar bursts
14342.0	0832	01	10	CHN		F3N	83.3	10K0E	FMCW radar bursts
18080.0	0702	17	10			A3E			AM broadcasting. Also heard 250737z
18107.0	0755	01	10	RUS	RDL	F1B		200	FSK. Ident in F1A. Also heard 020747z, 031651z, 041339z, 051249z, 060724z, 071441z, 100911z, 110724z, 120801z, 170703z, 181350z, 200909z, 240801z, 250742z, 270855z, 290951z, 310802z
18158.0	0954	10	10	RUS		P0N	40	12K0E	Container pulse radar
18159.0	0853	27	10	CHN		F3N	66.7	10K0E	FMCW radar bursts
18162.0	0944	11	10	CHN		F3N	66.7	10K0E	FMCW radar bursts
18165.0	0753	01	10	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
18166.0	0930	02	10	CHN		F3N	50	10K0E	FMCW radar bursts
21010.0	0821	02	10	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
21113.0	0748	01	10	CHN		F3N	66.7	10K0E	FMCW radar bursts
21172.0	1059	17	10	CHN		F3N	50	10K0E	FMCW radar bursts
21175.0	0937	17	10	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
21181.0	1048	17	10	RUS		P0N	40	12K0E	Container pulse radar
21189.0	0833	27	10	CHN		F3N	66.7	10K0E	FMCW radar bursts
21255.0	0912	20	10	CHN		F3N	66.7	10K0E	FMCW radar bursts
21276.0	0814	20	10	CHN		F3N	62.5	10K0E	FMCW radar bursts
21282.0	1057	17	10	CHN		F3N	50	10K0E	FMCW radar bursts
21313.0	0830	27	10	CHN		F3N	41.7	10K0E	FMCW radar bursts
21329.0	0743	02	10	CHN		F3N	66.7	10K0E	FMCW radar bursts
21330.0	0934	02	10	CHN		F3N	62.5	10K0E	FMCW radar bursts
21334.0	0942	11	10	CHN		F3N	66.7	10K0E	FMCW radar bursts
21343.0	1052	02	10	CHN		F3N	41.7	10K0E	FMCW radar bursts
21356.0	1116	10	10	CHN		F3N	66.7	10K0E	FMCW radar bursts
21360.0	0745	01	10	CHN		F3N	66.7	10K0E	FMCW radar bursts
21361.0	0737	02	10	CHN		F3N	41.7	10K0E	FMCW radar bursts



**RSGB; Richard, G4DYA**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
21375.0	0754	20	10	CHN		F3N	50	10K0E	FMCW radar bursts
21377.0	0754	20	10	CHN		F3N	41.7	10K0E	FMCW radar bursts
21380.0	0813	24	10	CHN		F3N	66.7	10K0E	FMCW radar bursts
21389.0	0914	20	10	CHN		F3N	66.7	10K0E	FMCW radar bursts
21393.0	0801	21	10	CHN		F3N	66.7	10K0E	FMCW radar bursts
21412.0	1027	02	10	CHN		F3N	66.7	10K0E	FMCW radar bursts
21412.0	0916	27	10	CHN		F3N	47.6	10K0E	FMCW radar bursts
21413.0	0739	02	10	CHN		F3N	66.7	10K0E	FMCW radar bursts
21418.0	0751	01	10	CHN		F3N	66.7	10K0E	FMCW radar bursts
21421.0	0935	10	10	CHN		F3N	66.7	10K0E	FMCW radar bursts. Also heard 240815z
21425.0	0722	06	10	CHN		F3N	66.7	10K0E	FMCW radar bursts
21426.0	0828	20	10	CHN		F3N	50	10K0E	FMCW radar bursts
21428.0	0842	27	10	CHN		F3N	66.7	10K0E	FMCW radar bursts
21430.0	1049	02	10	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
28350.0	1046	11	10	IRN		P0N		45K0E	Pulse radar 150.2 / 313.0 pps
28600.0	1335	04	10	IRN		P0N		45K0E	Pulse radar 307.1 / 869.5 pps. Also heard 061454z, 101003z, 181343z, 200804z, 210800z, 270825z, 310741z
28860.0	1423	09	10	IRN		P0N		45K0E	Pulse radar 150.2 / 313.0 pps. Also heard 100907z, 120754z, 170720z, 181344z, 200806z, 210758z, 250732z, 270826z
29050.0	0758	31	10	G		F3N		20K0E	FMCW radar, UK SBA, Cyprus
29100.0	1047	11	10	IRN		P0N		45K0E	Pulse radar 150.2 / 313.0 pps
29100.0	0800	25	10	IRN		P0N		45K0E	Pulse radar 224.5 / 333.8 pps
29150.0	1346	18	10	IRN		P0N		45K0E	Pulse radar 224.5 / 333.8 pps
29200.0	1428	09	10	IRN		P0N		45K0E	Pulse radar 150.2 / 313.0 pps
29200.0	1312	12	10	IRN		P0N		45K0E	Pulse radar 224.5 / 333.8 pps
29250.0	1039	11	10	IRN		P0N		45K0E	Pulse radar 150.2 / 313.0 pps
29350.0	1314	12	10	IRN		P0N		45K0E	Pulse radar 224.5 / 333.8 pps. Also heard 250759z
29400.0	0837	27	10	IRN		P0N		45K0E	Pulse radar 224.5 / 333.8 pps
29450.0	0831	20	10	IRN		P0N	313.0	45K0E	Pulse radar 313.0 pps
29550.0	0836	27	10	IRN		P0N		45K0E	Pulse radar 224.5 / 333.8 pps

**RSK; Kamweti, 5Z4BV**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps /wpm	SH/ BW	DETAILS
5353	1051	30	10	??		PSK		3k0E	CIS-12 Very faint but could be local/regional
5360	1521	31	10	??		PSK		40k	Broad OTHR-like 'segmented channels'
7000	vt	vd	10	KEN		PSK		2K5E	STANAG 4285
7110	vt	vd	10	ETH		A3E		22kE	Radio Ethiopia National Service
7150	vt	vd	10	KEN		MFSK	128	2k2	2G ALE
7154	1530	30	10	??		PSK		3k0E	CIS-12

**RSK; Kamweti, 5Z4BV**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
10151	1554	30	10	??		PSK		10k0E	OTHR variable sps pulses
28860	1312	30	10	??		PSK		60k	cellular-like mobile digital signal

**SRAL; Pekka, OH2BLU**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7 MHz	1630-0400	*	10	RUS		RADAR	40sps	13k0E	*)Days: 2. 10. 27. 31. (WebSDR 29d)
7000.0	0815-1010	*	10	RUS	RLO/ RIT	A1A	16 wpm	40H	*)Days: 17. 20. 21. 22. 5F
7000.0	0500-1800	*	10	RUS		J7D	120	2k60E	*) Days: 1. - 11.
7008.5	1130-1145	21	10	RUS		J7D	120	2k60E	
7009.0	1320-1420	05 16	10	RUS		J3E-u		3k70E	Russian vox
7015.0	1130	28	10	RUS		A1A		40H	5F
7016.0	0500-1330	04 22	10	RUS		F1B/ NON		250H	
7020.0	0720-1415	04 15	10	RUS		F1B		250H	
7022.0	0445-1400	*	10	RUS		J7D	120	2k60E	*) Days: 19. 20. 21.
7025.0	0710-1645	31	10	RUS		J7D	120	2k60E	
7030.0	0615-1630	*	10	RUS		F1B		250H	*) Days: 4. 17. 18.
7031.0	0500-1710	*	10	RUS		R3E-u		3k6E	*) Days: 17. - 20. brum
7044.0	1200-1300	*	10	RUS		F1B		250H	*) Days: 14. 17. 24. 25.
7054.0	1400-1815	*	10	RUS		F1B		200H	*)Days: 6. 13. 27.
7066.5	1745	02	10	RUS		XXX		13k0E	
7076.0	1310-1340	17	10	RUS		J7D	120	2k60E	
7080.0	1700-1900	*	10	RUS		F1B/A		200H	*) Days: 4. 5. 7. 8. 12. 21. 24. 26. 27. 5F
7088.0	1230-1900	31	10	RUS		F1B		200H	
7089.8	1500-0700	*	10	IW		G1D		2k40	*) Days: 14. - 31.
7103.0	0850-0910	13	10	RUS		J7D	120	2k60E	
7110.0	1600-1830	01 - 31	10	ETH	R. Ethiopia	A3E		9k0	
7110.0	1430-1500	31	10	ETH	R. Ethiopia	A3E		9k0	
7114.0	0000-2400	*	10	RUS		F1B/ NON		200/ 250H	*) Days: 1. 7. 10. - 15. 17. - 21.

**SRAL; Pekka, OH2BLU**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7115.6	0710-0730/	01 22	10	RUS		A1A/ NON		40H	5F
7127.0	0500-1600	01 - 31	10	RUS	NVGH etc.	A1A	20 wpm	40H	5F, 5BL
7135.0	1745-1915	*	10	RUS		F1A/B		200H	
7137.0	0600-1830	*	10	RUS		F1B/ NON		250H	*) Days: 7. 10. 17. 31.
7159.0	0500-1830	*	10	IW		G7D-u		2k40E	*) Days: 7. 8. 10. - 15. 18. 19. 20. 27. 28. 31. dsb 27. 28.
7162.0	0600-1630	*	10	RUS		F1B		250H	Days: 8. 17. 18. 25. spurious +/- 37.7 kHz on 25.
7176.0	1200-1400	*	10	RUS		J7D	120	2k60E	
7170.0	0510-0600	13 14	10	RUS		F1B		200H	
7174.0	1415-1540/	06	10	RUS		F1B		200H	
7186.0	0820-1820	15	10	RUS		J7D	120	2k60E	Carrier on 7184 kHz
7196.0	0600-1400	*	10	RUS		NON			*) Days: 1. 4. 15. 18. 21. 22.
7196.0	0630-1045	*	10	RUS	BJF6 etc	A1A	16 wpm	40H	*) Days: 7. 13. 19. 21. 22. 5BL
7200.0	1200-1500/	01 - 29	10	TWN		A3E		9k0	National Unity Radio to Korea, Tamsui TX, jammed by KRE
7200.0	0400-0520	02 - 30	10	ALG		A3E		9k0	Bechar TX, on 24. to 0610
7200.0	1200-1700	19	10	CHN	CRI	A3E		9k0	Ends with French program
10 MHz			10	G		RADAR	50sps	20k0	(WebSDR 1d)
10 MHz	1630-1800	03 21	10	RUS		RADAR	40sps	13k0E	(WebSDR 9d)
14 MHz	0430-1500	*	10	RUS		RADAR	40sps	13k0E	*) Days: 1. - 4. 7. 9. - 14. 16. 21. - 25. 28. (WebSDR 22d)
14 MHz	0800-1600	*	10	CHN		RADAR	50/67s ps	10k0E	*) Days: 3. - 6. 10. 11. 13. 14. 17. - 21. 24. - 26. 31. 'foghorn'
14000.0	1357-1457/	01 - 29	10	CHN	CRI	A3E		9k0	Tx intermodulation, //13710 & 13855 kHz
14008.0	0500-1100	12 - 26	10	RUS		F1B		500H	
14102.0	0730-0800/	19	10	RUS		J7D	120	2k60E	
14119.0	0745-1345/	*	10	RUS		F1B/A		200H	*) Days: 20. 21. 26. 27.
14160.0	0815-0830	23 24	10	RUS		F1B		250H	
14171.0	0635-0730/	20 22	10	RUS		J7D	120	2k60E	
14221.0	0500-0600/	01 - 31	10	KAZ		F1B		200H	

**SRAL; Pekka, OH2BLU**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14226.0	1035	07	10	RUS		XXX		8k0E	
14333.0	1145	21	10	RUS		A1A		40H	5BL
18 MHz	0800-1440	01-26	10	G		RADAR	25/50s ps	20k0	(WebSDR 3d)
18 MHz	0700-1315	*	10	RUS		RADAR	40sps	13k0E	*) Days: 13. 21. 30. 31. (WebSDR 12d)
18080.0	0615-0800	*	10	TWN		A3E		9k0	*) Days: 1. 2. 9. 27.
18107.0	0900-1110	15	10	RUS		F1B			
21 MHz	0450-1500	*	10	G		RADAR	25/50s ps	20k0	*) Days: 2. 17. 20. 22. 31. (WebSDR 6d)
21 MHz	0545-1545	*	10	RUS		RADAR	40sps	13k0E	*) Days: 8. 12. 13. 14. 16. 17. 27. 31. (WebSDR 5d)
21 MHz	0500-1400	*	10	CHN		RADAR	50/67s ps	10k0E	*) Days: 1. - 28. 31. 'foghorn'
21438.0	/0830-1545	01-31	10	RUS	RCV	A1A	20 wpm	40H	
28 MHz	0630-1400	*	10	G		RADAR	25/50s ps	20k0	*) Days: 1. 2. 28. 30. 31. (WebSDR 6d)
28 MHz	0700-1010	*	10	CHN		RADAR	108 sps	100k0E	*) Days: 10. 12. 14. 17. 19. 20. 22. 28.
28 MHz	0500-1500	01-31	10	IRN		RADAR	150/313	60k0E	(WebSDR 25d)
28600.0	0500-1600	01-31	10	IRN		RADAR	310/870	120k0E	(WebSDR 24d)
28860.0	0500-1600	01-31	10	IRN		RADAR	150/313	60k0E	(WebSDR 26d)
28 MHz	0530-1400	*	10	RUS	Taxi disp.	F3E		3k0E	*) Days: 1. 5. 6. 8. 10. - 23. 25. - 29. 182 reports

**USKA; Peter, HB9CET**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7000.0	1606-1134	01-07	10			J7D	120 Bd	2k70E	CIS12; 12x120 Bd PSK very long lasting almost daily
7004.8	1125-1523	07-21	10			G1D PSK8	2400 Bd	ca 2k50	short bursts; 1800 Hz single tone modem MIL 188-xxxoften
7006.8	1634-1521	13-28	10			G1D PSK8	2400 Bd	ca 2k50E	short bursts; 1800Hz single tone modem MIL188-xxxoften
7010.8	1520	28	10			G1D PSK8	2400 Bd	ca 2k50E	short bursts, 1800Hz single tone modem MIL 188-xxxoften
7015.0	2036	06	10			FMOP	40 sps	12k0E	OTHR; Contayner
7022.0	0931	19	10			J7D	120 Bd	2k70E	CIS12; 12x120 Bd PSK often
7025.0	1019	31	10			F1B	50 Bd	200H	FSK
7044.0	1229	07	10			F1B		250H	FSK
7050.0 LSB	1337	06	10			J3E-L		ca 3k0E	RUS-UKR Radio War almost daily
7054.0	1407	21	10			F1B	50 Bd	200H	FSK almost daily
7055.0	1438	03	10			J3E-L		ca 3k0E	RUS-UKR Radio War; Music

**USKA; Peter, HB9CET**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
<b>LSB</b>									
7057.0	2126	03	10			FMOP	40 sps	12k0E	OTHR; Contayner
7060.0 <b>LSB</b>	1441	03	10			J3E-L		ca 3k0E	RUS-UKR Radio War almost daily
7063.0	2150	14	10			FMOP	40 sps	12k0E	OTHR; Contayner
7078.0	1220	23	10			J7D	120 Bd	2k70E	CIS12; 12x120 Bd PSK often
7080.0	1712	05	10			F1B	50 Bd	200H	FSK often
7084.0 <b>LSB</b>	1356	21	10				30x60 B d	2k50E	CHN30; Burst system; Pilot tone at 450Hz
7089.8	1532 1243	03 15	10			G1D PSK-8	2400 B d	ca 2k70E	LINK 11 SLEW long lasting, daily
7110.0	1903	05	10			OTHR	66.66 s ps	10k0E	OTHR
7114.0	2216	07	10	RUS		F1B	50 Bd	250H	FSK
7114.0	2156	14	10	RUS		F1A		250H	CW-FSK
7127.0	1042	31	10			A1A			Numbers only
7131.0	1513	21	10			OTHR	66.66 s ps	10k0E	OTHR; bursts
7132.0	2031	06	10			FMOP	40 sps	12k0E	OTHR; Contayner
7135.0	2233 2303	19 31	10			F1B	36+50 Bd	200H	CIS 36-50
7135.0	1413	24	10			OTHR	66.66 s ps	10k0E	OTHR; Bursts; weak
7137.0	1647	13	10			F1B	50 Bd	250H	FSK often
7140.0	1509	21	10			OTHR	83 sps	10k0E	OTHR, Bursts
7149.0	1927	05	10			MFSK8			ALE: MIL 188-141; weak
7155.0 <b>LSB</b>	0944 2138	06 26	10			PSK4	30x60 B d	2k50E	CHN30; Burst system; Pilot tone at 450Hz
7159.0	1604	03	10			OTHR	66.66 s ps	10k0E	OTHR
7159.0 <b>USB</b>	0927 0756	12 26	10			G7D DQPSK	75 Bd	ca 2k50E	LINK11 CLEW <b>SSB</b> mode; 16 tones often
7159.0	0625	20	10			B7D DQPSK	75 Bd	ca 6k0E	LINK11 CLEW <b>DSB</b> mode often
7160.8	1413	15	10			G1D PSK8	2400 B d	ca 2k40E	short bursts ev MIL188-xxx PSK8 mode ?
7165.0	1521	21	10			OTHR	66.66 s ps	10k0E	OTHR; bursts
7171.0 <b>LSB</b>	1908 2134	24 26	10			PSK4	30x60 B d	2k50E	CHN30; Burst system; Pilot tone at 450Hz
7174.0	2237	19	10			FMOP	40 sps	12k0E	OTHR; Contayner
7178.0	0924	19	10			J7D	120 Bd	2k70E	CIS12; 12x120 Bd PSK
7186.0	1613	15	10			J7D	120 Bd	2k70E	CIS12; 12x120 Bd PSK
7200.0	1400	03	10			A3E		ca 9k50E	BC: NUR Radio (Taiwan) daily
14000.0	1417 1455	03 28	10		CRI	A3E			China Radio International; Intermodulation often
14008.0	1221	19	10			F1B		500H	FSK often
14015.0	1122	07	10			FMOP	40 sps	12k0E	OTHR; Contayner
14059.0	1912	05	10			OTHR	41 sps	10k0E	OTHR

**USKA; Peter, HB9CET**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14119.0	0921	24	10			F1B	50 Bd	200H	FSK; long lasting; almost daily
14119.0	0825	26	10			F1A		200H	CW-FSK
14128.0	1009	3	10			J7D	120 Bd	2k70E	CIS12; 12x120 Bd PSK
14171.0	1357	24	10			OTHR	66.66 s ps	10k0E	OTHR; short bursts
14179.0	1504	12	10			FMOP	40 sps	12k0E	OTHR; Contayner
14205.0	1227	13	10			FMOP	40 sps	12k0E	OTHR; Contayner
14221.0	2338	31	10			F1B	50 Bd	200H	FSK; long lasting almost daily
14298.5	1312	12	10			ARQ PSK	1200	1200	DPRK PSK ARQ system often
14304.0	1350	03	10			OTHR	50 sps	10k0E	OTHR
14315.0	1135	24	10			OTHR	66.66 s ps	10k0E	OTHR
14323.0	1404	03	10		BD1	J7D			ALE, MIL 188-141A; MFSK8; weak
18107.0	1345	03	10	RUS	RDL	F1B	50 Bd	200H	CIS36-50; very long lasting daily
21000.0	1432	13	10			J3E-U		2k3	Spanish; Fishermen often
21001.5	1434	13	10			F1B		200H	FSK; short bursts only
21190.0	1207	24	10			OTHR	50 sps	10k0E	OTHR; bursts
21285.0	0948	06	10			A3E		ca 9k0	BC; music + voice
21297.0	0910	26	10			OTHR	66.66 s ps	10k0E	OTHR; bursts
21308.0	0924	26	10			OTHR	66.66 s ps	10k0E	OTHR; bursts
21342.0	0952	12	10			OTHR	66.66 s ps	10k0E	OTHR; bursts
21365.0	1009	24	10			A3E			BC; Music and voice, strong fading; Multi-reception (Echo)
21371.0	1057	24	10	G		OTHR	50 sps	10k0E	OTHR
21421.0	0929	26	10			OTHR	66.66 s ps	10k0E	OTHR; bursts
21429.0	0958	07	10			FMCW	50 sps	10k0E	OTHR
21438.0	1004	07	10	RUS	RCV	A1A		10H	Area of Sevastopol daily
28065.0	1031	31	10			F3E			Short traffic only; Taxi
28105.0	1200	26	10			F3E			Short traffic only; Taxi
28125.0	1152	26	10			F3E			short traffic only; Taxi
28135.0	1209	26	10			F3E			short traffic only; Taxi
28145.0	0948	31	10			F3E			short traffic only; Taxi
28175.0	1136	26	10			F3E			short traffic only; Taxi
28185.0	1143	26	10			F3E			short traffic only; Taxi
28195.0	0944	31	10			F3E			short traffic only; Taxi often
28265.0	1002	31	10			F3E			short traffic only; Taxi
28275.0	0955	31	10			F3E			short traffic only; Taxi
28350.0	1443	28	10	IRN			313 sps	ca 45k	OTHR; Bursts; only 313sps!
28600.0	1335	03	10	IRN			307 + 870 sps	ca 45k	OTHR; Bursts; long lasting sweeprate alternating
28670.0	1433	28	10			F3E			short traffic only; Taxi
28860.0	1330	03	10	IRN			150 + 313 sps	ca 50k	OTHR; Bursts; long lasting sweeprate alternating; often

**USKA; Peter, HB9CET**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
28965.0	0945	19	10			F3E			short traffic only; Taxi
28985.0	1009	07	10			F3E			short traffic only; Taxi
29015.0	0936	19	10			F3E			short traffic only; Taxi
29025.0	1421	28	10			F3E			short traffic only; Taxi
29145.0	1010	31	10			F3E			short traffic only; Taxi
29325.0	0934	31	10			F3E			short traffic only; Taxi
29450.0	1014	31	10			OTHR	X	45k0	OTHR; bursts
29455.0	1157	24	10			OTHR	313	45k0	OTHR; bursts
29630.0	1145	24	10	G		FMCW	25 sps	20k0E	OTHR; most likely UK base Cyprus

**VERON; Ruud, PG1R. Credit to observers: Dick PA0GRU, Arie PA3CNK, Rene PA3EQO**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3745.0	1820	25	10	RUS	RMP	A1A			RBDU de RMP QTC 320 17 25 1059 320 = 11111 5F
3787.0	2015	16	10	RUS		F1B			UiPtr
7000.0	1520	06	10	RUS		J7D		2k70E	CIS-12 MPSK
7050.0	1800	15	10	UKR /RUS		J3E-L			UKR/RUS radiowar; comments on politics.
7052.0	1916	22	10	RUS		F1B		200H	
7055.0	1326	22	10	UKR /RUS		J3E-L			Endless loop; UKR/RUS radiowar
7055.0	1915	22	10	UKR /RUS		J3E-L			2 TX same frequency; comments
7080.0	1820	18	10	RUS	RDL	F1A/F1B		200H	RDL 02017 57008 K; almost daily transmissions
7089.8	1826	14	10			G1D		2K7E	CF; LINK11 SLEW PSK transmission
7135.0	2049	22	10	RUS		F1B		200H	UiPtr; very distorted signal
7135.0	1710	24	10	RUS		F1B		200H	UiPtr
7137.0	1640	13	10	RUS		F1B		250H	UiPtr; S8
7198.0	0822	23	10			J7D		2k70E	CIS-12
14119.0	1203	22	10			F1B		200H	UiPtr
14119.0	1046	25	10	RUS		F1B			Revs/UiPtr
14203.0	1234	13	10	RUS		RADAR	40	12K0E	CF; OTHR Contayner
14350.0	1025	08	10	I		J3E-U			Italian male voices; calling & whisteling; hams out of band?
21000.0	1017	05	10	E		J3E-U			Spanish fishery; male voices
28605.0	0805	22	10	IRN		RADAR	307/870	45K0E	CF; Iranian OTHR; alternating sweep rate; weak S3.

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