

# IARU Monitoring System Region 1



Monthly Newsletter - January 2023

## News and info

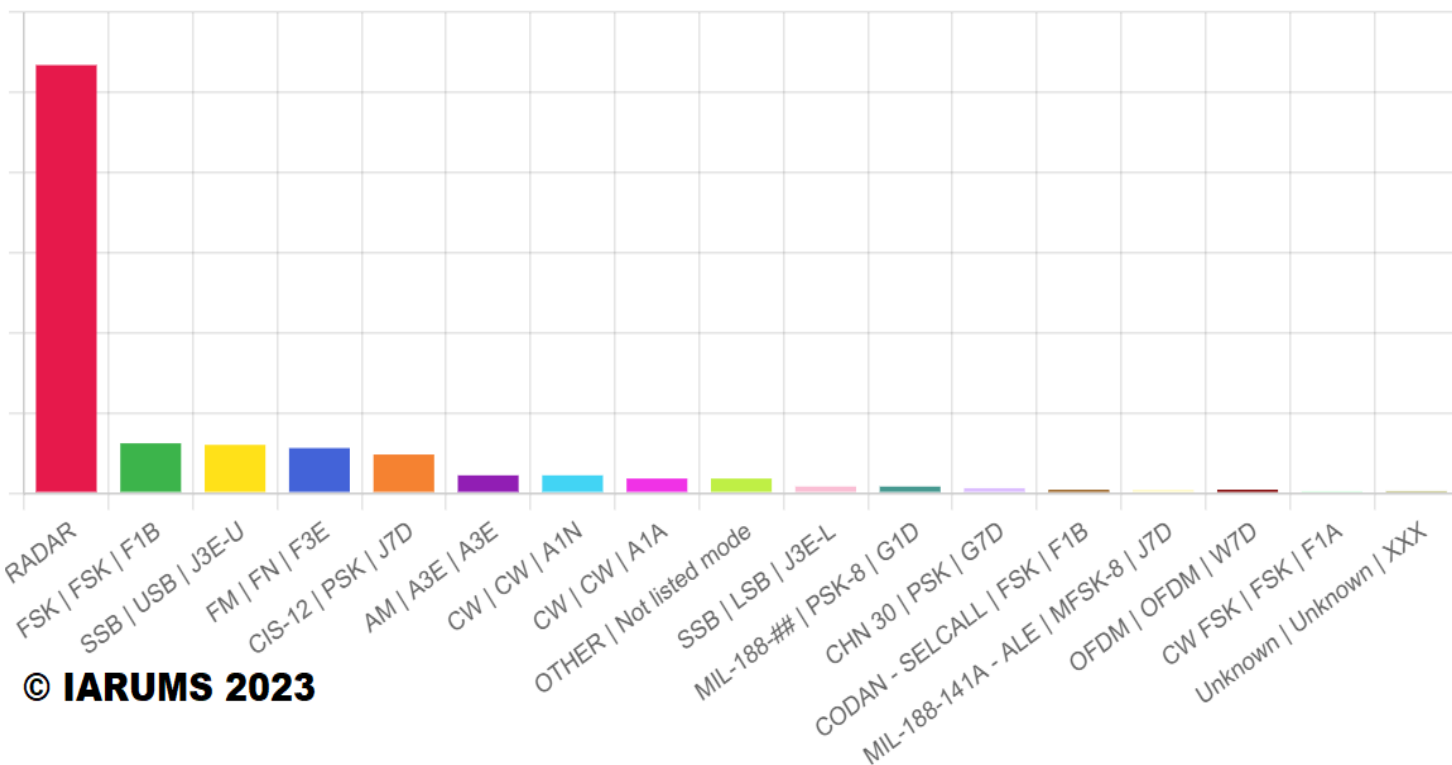
We begin the year 2023 with reports unfortunately very similar to those received during the past year. RUS, G, IRN and CHN OTH radars continue to invade the HF amateur radio bands, covering large portions of this spectrum with their powerful transmissions and the large bandwidth they use, making amateur radio activity practically impossible on the frequencies they occupy.

Fully aware of the harmful nuisance they cause, it is sad to note that the countries making these broadcasts have not changed their attitude in many years. In this respect, everything remains the same.

Nothing has changed either as far as transmissions made in MIL modes are concerned: we continue to receive transmissions in various CIS ## (F1B) modes as well as in other well-known modes: sometimes the frequencies vary, the transmission times vary, but many of these stations have been transmitting on our HF amateur bands for years.

The broadcasting station "Ethiopia Radio" (ETH), which can be heard daily on 7110 kHz A3E (AM), has not changed its behaviour either.

In the same way, we have been receiving intrusions caused by RUS taxi dispatch stations on the 10 m band for years using F3E(FM), as well as the powerful transmissions of Spanish fishermen on 15 m (J3E-U; USB), and unidentified pirates on 7000 kHz using J3E-U (USB)



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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: DL4HG, Olaf; DL2SCH, Jürgen; DF5JL, Tom; DG9SR, Sven; F4FPR, Benjamin; DC7RF, Robert; DL8LAQ, Norbert; DL7AUO, Jens; DL4MGD, Michael; DG2RON, Ronny; DL8SDJ, Michael; DJ1MK, Michael; DJ7NT, Jörg; DB3TA, Alex**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
6996,0	1728	23	01	RUS		FMOP	40	12k	OTHR Contayner
7001,0	1622	08	01	RUS		FMOP	40	12k	OTHR Contayner
7013,8	1600	05	01	RUS		PSK		2k4	CIS-12
7031,0	0520	19	01	RUS		J3E-U		4k	RUS/UKR radio war
7033,0	1622	08	01	RUS		FMOP	40	12k	OTHR Contayner
7036,0	1631	26	01	RUS		F1B		200	CIS-36-50
7053,0	1604	01	01	RUS		FMOP	40	12k	OTHR Contayner
7055,0	1938	06	01	RUS		FMOP	40	12k	OTHR Contayner
7060,0	1436	12	01	UKR		J3E-L		3k	RUS/UKR radio war
7060,0	1615	06	01	RUS		FMOP	40	12k	OTHR Contayner
7061,0	1755	21	01	RUS		FMOP	40	12k	OTHR Contayner
7063,0	1622	08	01	RUS		FMOP	40	12k	OTHR Contayner
7065,0	1609	22	01	CHN		FMCW	50	10k	OTHR 5,1s bursts
7070,5	1501	12	01	UKR		J3E-L		3k	RUS/UKR radio war
7075,0	0842	29	01			A1N			16 x A1N-dashes (7 sec long) then pause (13 sec) and endless repeat
7087,0	1725	27	01	RUS		FMOP	40	12k	OTHR Contayner
7088,0	1755	30	01	RUS		FMOP	40	12k	OTHR Contayner
7091,0	1551	12	01	UKR		J3E-L		3k	RUS/UKR radio war
7094,0	1622	08	01	RUS		FMOP	40	12k	OTHR Contayner
7101,0	1725	24	01	UKR		J3E-L		3k	RUS/UKR radio war
7110,0	1755	12	01	ETH		A3E		9k	Radio Ethiopia
7118,0	1631	01	01	RUS		FMOP	40	12k	OTHR Contayner
7118,0	2049	02	01	CHN		FMCW	50	10k	OTHR 5,1s bursts
7122,0	1722	26	01	RUS		FMOP	40	12k	OTHR Contayner
7128,0	1800	23	01	RUS		FMOP	40	12k	OTHR Contayner
7144,0	1742	12	01	RUS		FMOP	40	12k	OTHR Contayner
7145,0	2025	02	01	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
7146,0	1814	12	01	CHN		FMCW	50	10k	OTHR 5,1s bursts
7147,0	1723	28	01	RUS		FMOP	40	12k	OTHR Contayner
7166,0	1759	19	01	RUS		FMOP	40	12k	OTHR Contayner
7170,0	1725	27	01	RUS		FMOP	40	12k	OTHR Contayner
7176,0	1609	22	01	CHN		FMCW	50	10k	OTHR 5,1s bursts
7178,0	1802	23	01	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
7185,0	1753	27	01	RUS		FMOP	40	12k	OTHR Contayner
7191,0	1956	19	01	RUS		FMOP	40	12k	OTHR Contayner

**DARC; Daniel, DL3RTL. Credit to monitors: DL4HG, Olaf; DL2SCH, Jürgen; DF5JL, Tom; DG9SR, Sven; F4FPR, Benjamin; DC7RF, Robert; DL8LAQ, Norbert; DL7AUO, Jens; DL4MGD, Michael; DG2RON, Ronny; DL8SDJ, Michael; DJ1MK, Michael; DJ7NT, Jörg; DB3TA, Alex**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7205,0	1750	24	01	CHN	CRI	A3E		10k5	China Radio International partially in 40m band
14032,0	0931	15	01	RUS		FMOP	40	12k	OTHR Contayner
14100,0	1549	14	01	RUS		FMOP	40	12k	OTHR Contayner
14119,0	1636	30	01	RUS		FMOP	40	12k	OTHR Contayner
14130,0	1505	15	01	RUS		FMOP	40	12k	OTHR Contayner
14145,0	1608	22	01	RUS		FMOP	40	12k	OTHR Contayner
14168,0	1546	04	01	RUS		FMOP	40	12k	OTHR Contayner
21105,0	1449	20	01	CYP		FMCW	50	20k	OTHR Pluto Cyprus
21120,0	1015	07	01	CYP		FMCW	50	20k	OTHR Pluto Cyprus
21150,0	1313	08	01	CYP		FMCW	50	20k	OTHR Pluto Cyprus
21172,0	1130	22	01	RUS		FMOP	40	12k	OTHR Contayner
21175,0	1308	15	01	RUS		FMOP	40	12k	OTHR Contayner
21177,0	1005	04	01	RUS		FMOP	40	12k	OTHR Contayner
21180,0	1452	15	01	CYP		FMCW	50	20k	OTHR Pluto Cyprus
21192,0	0838	15	01	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
21210,0	1114	07	01	CYP		FMCW	50	20k	OTHR Pluto Cyprus
21260,0	0821	15	01	CYP		FMCW	50	20k	OTHR Pluto Cyprus
21302,0	1316	08	01	RUS		FMOP	40	12k	OTHR Contayner
21330,0	0745	08	01	CYP		FMCW	50	20k	OTHR Pluto Cyprus
21365,0	0823	15	01	CHN		FMCW	66,67	10k	OTHR 3,8s bursts
21389,0	0823	15	01	CHN		FMCW	50	10k	OTHR 5,1s bursts
21390,0	1445	06	01	CYP		FMCW	50	20k	OTHR Pluto Cyprus
21400,0	1125	15	01	CYP		FMCW	50	20k	OTHR Pluto Cyprus
21410,0	1235	01	01	CYP		FMCW	25	20k	OTHR Pluto Cyprus
21438,0	vt	vd	01	RUS		A1A			RUS NVY Sevastopol
28100,0	vt	vd	01	IRN			307/87 0	45k	Iranian OTHR
28145,0	1204	14	01	RUS		F3E		6k	Russian Taxi
28155,0	1206	14	01	RUS		F3E		6k	Russian Taxi
28165,0	1221	14	01	RUS		F3E		6k	Russian Taxi
28190,0	1122	15	01	CYP		FMCW	50	20k	OTHR Pluto Cyprus
28195,0	1216	14	01	RUS		F3E		6k	Russian Taxi
28215,0	1219	14	01	RUS		F3E		6k	Russian Taxi
28348,0	1120	01	01	CYP		FMCW	50	20k	OTHR Pluto Cyprus
28350,0	1153	01	01	CYP		FMCW	50	20k	OTHR Pluto Cyprus
28600,0	1120	01	01	IRN			307/87 0	45k	Iranian OTHR 5,81/3,26s bursts
28745,0	1122	15	01	CYP		FMCW	50	20k	OTHR Pluto Cyprus
28860,0	vt	vd	01	IRN			150/31 3	45k	Iranian OTHR 9,98/7,19s bursts
29195,0	1109	22	01	CYP		FMCW	25	20k	OTHR Pluto Cyprus
29450,0	vt	vd	01	IRN			150/31 3	45k	Iranian OTHR
29500,0	vt	vd	01	IRN			150/31 3	45k	Iranian OTHR

IRTS; Michael, EI3GYB									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3760	1600	8	1	F		LSB			D-QRM by a French station. Music. Foul language. Daily as of around 1600 to about 1900z.
7050	1705	2	1	RUS /UK R		LSB			Russian-Ukrainian radio war- the usual craic.
7110	1600	12	1	ETH		AM			Radio Ethiopia. Medium signal, almost daily.
7162	1835	9	1			RADAR			Radar from 7162 to 7177 kHz. On and off.
7165	1720	17	1			RADAR			Radar from 7165 to 7180 kHz. Strong and intermittent.
7210	1855	30	1	CHN		AM			China Radio International, daily. Splattering downwards into the 40 meter band. Very strong.
14000	1435	30	1	CHN		AM			Radio China International. Harmonic mix product. Very weak.
14175	1245	22	1			USB			Russian folk music. Very loud.
14333	1045	28	1			F1B			Medium signal. Persistent.
14333.5	1125	5	1			RTTY			Strong and persistent signal.
18165	1040	28	1	British base on Cyprus		RADAR			Radar from 18165 to 18210 kHz. "Pluto". Very strong and persistent.
21000	950	4	1	E or MM		USB			Spanish fishermen. Strong signals.
21165	1415	18	1	British base on Cyprus		RADAR			Radar from 21165 to 21180 kHz. Medium and persistent. "Pluto"
21166	1035	28	1	British base on Cyprus		RADAR			Radar from 21166 to 21188 kHz. Medium signal. Persistent.
21172	940	4	1	British base on Cyprus		RADAR			Radar from 21172 to 21182 kHz. Still audible at 1330z. "Pluto"
21312	1115	30	1	British base on		RADAR			Radar from 21312 to 21333 kHz. Strong and persistent. "Pluto"

**IRTS; Michael, EI3GYB**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
				Cypr us					
21375	1445	17	1	Briti sh base on Cypr us		RADAR			Radar from 21375 to 21405 kHz. Strong and persistent. "Pluto"
21390	1415	27	1	Briti sh base on Cypr us		RADAR			Radar from 21390 to 21420 kHz. Very strong and persistent. "Pluto"
21438	925	4	1	Ukra ine		CW			Russian navy, Sevastopol. Daily with a medium to strong signal.
28060	935	4	1	IRN		RADAR			Radar from 28060 to 28160 kHz. Strong.
28315	1440	19	1	IRN		RADAR			Radar from 28315 to 28390 kHz. Medium signal.
28380	930	4	1	IRN		RADAR			Radar from 28380 to 28480 kHz. Strong.
28450	1420	18	1	IRN		RADAR			Radar from 28450 to 28650 kHz. Persistent, medium to strong signal.
28500	1445	30	1			USB			Greek songs and music. Strong signals. Persistent.
28840	1425	18	1	IRN		RADAR			Radar from 28840 to 28890 kHz. Persistent, medium to strong signal.
29450	1300	20	1	IRN		RADAR			Radar from 29450 to 29500 kHz. Medium strength, persistent.

**PZK; SP3AMO, SP5GNI**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7008.0	1138	9	01			F1B		200H	
7014.0	vt	vd	01			CIS-12		3K0	heard very often
7013.8	vt	vd	01			PSK/F2B	120	2K50E	
7086.0	1545	28	01			J2E-L		2K7	S9+20dB anti-Russian text
7101.0	1840	24	01			J2E-L		2K7	S9+20dB anti-Russian propaganda
7107.0	2100	27	01			RADAR		8K0E	bursts also at 7190.0
7146.0	1710	28	01			RADAR		12K0E	in parallel 7180.0
7160.0	0937	17	01			J2E-U		3K5	S8 female voice, numbers in Russian
7176.0	0925	18	01			PSK/F1B	120	2K50E	S99++
7181.0	1809	24	01			RADAR		14K0E	S8
12164.0	1213	24	01			RADAR		12K0E	Burst very strong
14061.0	1215	13	01			RADAR		12K0E	S7
14110.4	1305	5	01			UI		1K0	F1B and other digi modes
14116.0	0810	29	01			F1B		250	S9++
14268.0	0943	31	01			RADAR		10K0E	S7
14305.0	1110	31	01			Radar	66	10K0E	Bursts



**PZK; SP3AMO, SP5GNI**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14336.0	1200	29	01			RADAR		10K0E	bursts also 14289.0
18121.0	1213	13	01	G		RADAR		12K0E	S9++, 11:15 still on
21000.0	1040	24	01	E		J3E-U		2K70E	
21045.0	1135	31	01			Radar	50	10K0E	Bursts
21112.0	0909	25	01			Radar	40	10K0E	Bursts
21160.0	0940	24	01			RADAR		8K0E	Burst 10 sec.
21164.0	1113	10	01			RADAR		12K0E	S5
21165.0	1210	13	01			RADAR		10K0E	burst
21165.0	0925	29	01			RADAR		20K0E	S9++
21168.0	1125	5	01			RADAR		10K0E	bursts
21175.0	1338	21	01			RADAR		20K0E	S9+
21175.0	1130	29	01			RADAR		12K0E	S8 11:34 ended
21176.0	1107	23	01			Radar	40	12K0E	
21180.0	1018	23	01			Radar	40	12K0E	
21238.0	0845	23	01			Radar	40	10K0E	Bursts
21270.0	0935	24	01	G		RADAR		20K0E	Continous and very strong
21277.0	0925	17	01			RADAR		10K0E	bursts
21325.0	0935	24	01			RADAR		10K0E	bursts and at 21365.0
21350.0	1013	10	01			RADAR		20K0E	S9++, 11:15 still on
21360.0	1135	27	01			Radar	50	20K0E	
21363.0	0933	18	01			Radar	66	10K0E	
21365.0	0835	19	01			Radar	50	20K0E	599+40 dB
21390.0	1035	13	01			RADAR		20K0E	S9
21399.0	0913	13	01			Radar	40	10K0E	Bursts
28100.0	1115	4	01			Radar	300/87 0	46K0E	
28100.0	1340	16	01			Radar	300/87 0	46K0E	599++
28105.0	1215	22	01			F3E		6K0	In Russian (radio taxi?) also 28145.0
28155.0	1035	3	01			RADAR		20K0E	
28255.0	1135	6	01	IRN		RADAR		>60K0E	bursts jumping 30kHz up and down
28395.0	0920	27	01			RADAR		20K0E	S9
28400.0	0936	18	01			Radar	150/30 0	46K0E	599++
28435.0	1545	20	01			Radar	50	20K0E	
28530.0	1025	13	01			RADAR		20K0E	S5
28600.0	vt	vd	01	IRN		RADAR	300/87 0	46K0E	
28627.0	1330	5	01			UI		2K7	S4-7 like STANAG
28710.0	0917	13	01			Radar	50	20K0E	
28770.0	0920	17	01			RADAR		20K0E	S9
28860.0	vt	vd	01			Radar	150/30 0	46K0E	
29000.0	0835	23	01			Radar	25	20K0E	599++
29000.0	1136	27	01			Radar	300/87 0	46K0E	
29150.0	0830	6	01			Radar	50	20K0E	
29225.0	0842	19	01			Radar	50	20K0E	599++

**PZK; SP3AMO, SP5GNI**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
29310.0	0945	18	01			Radar	50	20K0E	599+40dB
29485.0	1135	21	01			Radar	150/300	46K0E	
29500.0	1055	3	01	IRN		RADAR		60K0E	
29550.0	0844	19	01			Radar	150/300	46K0E	

**REF; Francis, F5MIU**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
28350	0835	1	01			fmcw	50	20kHz	OTH Radar pulsed 20ms, S9+
7148	1709	1	01			fmcw	40	20kHz	OTH Radar pulsed 25ms, S9+10dB
7155	1628	5	01			fmcw	40	20kHz	OTH Radar pulsed 25ms, S9
7130	1714	6	01			fmcw	40	20kHz	OTH Radar pulsed 25ms, S9+10dB
7063	1715	8	01			fmcw	40	15kHz	OTH Radar pulsed 25ms, S9
7057	1557	9	01			fmcw	40	15kHz	OTH Radar pulsed 25ms, S9 +20
28465	0849	12	01			fmcw	50	20kHz	OTH Radar pulsed 20ms, S8
28100	0908	16	01			fmcw	--	80kHz	OTH Radar mixed pulses rate, S8
21410	0920		01			fmcw	50	20kHz	OTH Radar pulsed 20ms, S8
14145	1806	18	01			fmcw	40	15kHz	OTH Radar pulsed 25ms, S9+10
28600	0832	19	01			fmcw	Multiple	100kHz	OTH Radar pulsed multiple rate, S9+20dB
21365	0841	19	01			fmcw	50	25kHz	OTH Radar pulsed 20ms, S9+10
14160	1723	19	01			fmcw	40	15kHz	OTH Radar pulsed 25ms, S9+10
28360	0921	20	01			fmcw	Multiple	+100kHz	OTH Radar pulsed multiple rate, S9+20dB
21270	0855	24	01			fmcw	50	20kHz	OTH Radar pulsed 20ms, S9
07150	1728	25	01			fmcw	40	15kHz	OTH Radar pulsed 25ms, S9+20dB
21000	0915	26	01			usb		3kHz	Portuguese Fisherman's ?
21360	0923	27	01			fmcw	50	20kHz	OTH Radar pulsed 20ms, S9
10110	1712	27	01			fmcw	40	20kHz	OTH Radar pulsed 25ms, S7
21000	1719	27	01			usb		3kHz	Portuguese Fisherman's same ? S7 on French CW contest
7085	1727	27	01			fmcw	40	15kHz	OTH Radar pulsed 25ms, S9+20dB
7150	1728	27	01			fmcw	40	15kHz	OTH Radar pulsed 25ms, S9+dB
18170	0930	28	01			fmcw	40	20kHz	OTH Radar pulsed 25ms, S9+10dB
28860	0913	30	01			fmcw	Multiple	+100kHz	OTH Radar pulsed multiple rate, S9+20dB
10144	1712	30	01			fmcw	40	20kHz	OTH Radar pulsed 25ms, S9+20 just on solar beacon !

**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>
3756.0	2107	04	01			J3E		1K70E	USB 'The Pip'. Daily.
6999.9	1359	17	01			J3E		2K40E	USB / Fishing pirates. Irish accents
7008.0	1123	09	01			F1B		250	FSK
7014.0	1911	04	01			J7D		2K70E	USB 7012.0 / CIS-12. Also heard 050843z, 061556z, 071626z, 081147z, 090829z, 100817z, 110804z
7018.0	1459	16	01			F1B		1000	FSK (unclean). Also heard 181444z
7038.0	1455	08	01	RUS		P0N	40	14K0E	Container pulse radar
7075.00	0746	29	01			A1N			Continuous groups of 16 dashes
7075.01	0857	02	01			A1N			Continuous groups of 16 dashes. Also heard 030759z, 180836z, 220819z, 250756z
7075.02	0832	09	01			A1N			Continuous groups of 16 dashes. Also heard 160910z
7075.03	0847	05	01			A1N			Continuous groups of 16 dashes
7075.06	0801	04	01			A1N			Continuous groups of 16 dashes
7110.0	1605	06	01	ETH	R. Ethiopia	A3E			AM broadcasting. Also heard 071633z, 081452z, 201620z
7126.0	2035	05	01	RUS		P0N	40	14K0E	Container pulse radar
7159.0	0921	12	01			F1B		200	FSK
7179.0	0904	27	01			F1B		200	FSK
7193.0	1401	01	01			F1B		250	FSK. Also heard 040933z, 081449z, 090833z, 191023z, 200908z
14026.0	0934	23	01			J7D		2K70E	USB 14024.0 / CIS-12. Also heard 260855z
14032.0	0926	15	01	RUS		P0N	40	14K0E	Container pulse radar
14050.0	0944	10	01	CHN		F3N	41.7	10K0E	FMCW radar bursts
14107.0	0944	11	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
14136.0	0917	27	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
14138.0	0952	12	01	CHN		F3N	50	10K0E	FMCW radar bursts
14148.0	0844	09	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
14212.0	0857	05	01	CHN		F3N	50	10K0E	FMCW radar bursts
14238.0	0951	06	01	CHN		F3N	50	10K0E	FMCW radar (continuous)
14245.0	0955	27	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
14255.0	0827	10	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
14260.0	0918	12	01	CHN		F3N	50	10K0E	FMCW radar bursts
14268.0	1329	01	01			F1B		250	FSK
14296.0	0929	15	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
14298.0	0835	10	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
14313.0	1109	09	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
14323.0	0955	12	01	CHN		F3N	50	10K0E	FMCW radar bursts
14334.0	0953	06	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
14334.33	1055	30	01			F1B		250	FSK
14345.0	0909	24	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
14351.0	0955	06	01	CHN		F3N	50	10K0E	FMCW radar bursts
14357.0	0935	04	01	CHN		F3N	10	160KE	FMCW radar bursts
18060.0	1244	26	01	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
18071.0	0842	09	01	CHN		F3N	50	10K0E	FMCW radar bursts



**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>
18076.0	0850	02	01	CHN		F3N	47.6	10K0E	FMCW radar bursts
18078.0	0846	29	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
18082.0	1035	19	01			F1B		200	FSK
18117.0	1033	19	01	RUS		P0N	40	14K0E	Container pulse radar
18120.0	0740	29	01	RUS		P0N	40	14K0E	Container pulse radar
18122.0	0905	20	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
18146.0	1047	15	01	CHN		F3N	50	10K0E	FMCW radar bursts
18152.0	0952	08	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
18156.0	0812	11	01	RUS		P0N	40	14K0E	Container pulse radar
18158.0	0845	02	01	RUS		P0N	40	14K0E	Container pulse radar
18165.0	0810	04	01	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
18166.0	1113	20	01	RUS		P0N	40	14K0E	Container pulse radar
18170.0	1046	12	01	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
18171.0	1026	06	01	RUS		P0N	40	14K0E	Container pulse radar
18173.0	0859	27	01	RUS		P0N	40	14K0E	Container pulse radar
21045.0	0932	23	01	CHN		F3N	50	10K0E	FMCW radar bursts
21051.0	0946	11	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
21105.0	1447	20	01	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
21111.0	0827	22	01	CHN		F3N	50	10K0E	FMCW radar bursts
21129.0	0831	22	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
21131.0	0814	29	01	CHN		F3N	50	10K0E	FMCW radar bursts
21135.0	0932	13	01	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
21172.0	1437	18	01	RUS		P0N	40	14K0E	Container pulse radar
21173.0	1348	17	01	RUS		P0N	40	14K0E	Container pulse radar
21174.0	0851	05	01	RUS		P0N	40	14K0E	Container pulse radar. Also heard 200842z, 301017z
21175.0	1121	03	01	RUS		P0N	40	14K0E	Container pulse radar. Also heard 090824z, 121027z, 211428z, 261057z
21175.0	1409	09	01	G		F3N	25	20K0E	FMCW radar, UK SBA, Cyprus
21177.0	0930	04	01	RUS		P0N	40	14K0E	Container pulse radar
21182.0	1050	12	01	RUS		P0N	40	14K0E	Container pulse radar
21188.0	1202	27	01	RUS		P0N	40	14K0E	Container pulse radar
21192.0	0828	22	01	CHN		F3N	41.7	10K0E	FMCW radar bursts
21205.0	0856	17	01	CHN		F3N	50	10K0E	FMCW radar bursts
21214.0	0935	16	01	CHN		F3N	41.7	10K0E	FMCW radar bursts
21223.0	0936	16	01	CHN		F3N	50	10K0E	FMCW radar bursts
21270.0	0904	24	01	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus. Also heard 301019z
21300.0	0857	20	01	CHN		F3N	41.7	10K0E	FMCW radar bursts
21321.0	0938	16	01	CHN		F3N	41.7	10K0E	FMCW radar bursts
21325.0	0905	24	01	CHN		F3N	50	10K0E	FMCW radar bursts
21325.0	0853	27	01	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus. Also heard 301056z.
21329.0	0901	20	01	CHN		F3N	41.7	10K0E	FMCW radar bursts
21332.0	1045	13	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
21339.0	0839	05	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
21340.0	0921	02	01	CHN		F3N	66.7	10K0E	FMCW radar bursts

**RSGB; Richard, G4DYA**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
21340.0	0943	15	01	CHN		F3N	41.7	10K0E	FMCW radar bursts
21357.0	0934	02	01	CHN		F3N	41.7	10K0E	FMCW radar bursts
21360.0	0951	27	01	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
21362.0	0915	25	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
21365.0	0906	24	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
21375.0	0854	17	01	CHN		F3N	50	10K0E	FMCW radar bursts
21386.0	0900	16	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
21388.0	0856	27	01	CHN		F3N	50	10K0E	FMCW radar bursts
21389.0	0920	02	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
21389.0	0916	13	01	CHN		F3N	41.7	10K0E	FMCW radar bursts
21390.0	1043	13	01	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus. Also heard 160952z
21400.0	1141	15	01	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
21410.0	0942	10	01	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
21411.0	1013	27	01	RUS		P0N	40	14K0E	Container pulse radar
21415.0	0903	15	01	CHN		F3N	41.7	10K0E	FMCW radar bursts
21415.0	0931	20	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
21423.0	0837	13	01	RUS		P0N	40	14K0E	Container pulse radar
21423.0	0859	20	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
21424.0	0934	02	01	RUS		P0N	40	14K0E	Container pulse radar. Also heard 160951z
21427.0	0940	16	01	CHN		F3N	66.7	10K0E	FMCW radar bursts
21430.0	1337	02	01	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus. Also heard 060959z
21438.0	0935	13	02	RUS	RCV	A1A			Morse. Also heard 160904z, 200903z
21453.0	0930	23	01	CHN		F3N	41.7	10K0E	FMCW radar bursts
24894.0	1241	26	01	RUS		P0N	40	14K0E	Container pulse radar
28100.0	1058	04	01	IRN		P0N		45K0E	Pulse radar 307.1 / 869.5 pps. Also heard 050834z, 160929z
28250.0	0819	09	01	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
28340.0	0825	17	01	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
28350.0	1354	01	01	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus. Also heard 260847z
28400.0	0832	18	01	IRN		P0N		45K0E	Pulse radar 150.2 / 313.0 pps
28600.0	0821	17	01	IRN		P0N		45K0E	Pulse radar 307.1 / 869.5 pps. Also heard 191018z, 200827z, 240807z
28605.0	0857	16	01	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
28670.0	0854	20	01	G		F3N	50	20K0E	FMCW radar, UK SBA, Cyprus
28700.0	0831	20	01	IRN		P0N		45K0E	Pulse radar 150.2 / 313.0 pps
28860.0	1057	04	01	IRN		P0N		45K0E	Pulse radar 150.2 / 313.0 pps. Also heard 081201z, 090821z, 130827z, 150900z, 170823z, 180830z, 191001z, 200830z, 210914z, 220807z, 230926z, 240805z, 250759z, 260847z, 290738z, 301013z

SRAL; Pekka, OH2BLU									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7 MHz	1600-0530	*	1	RUS		RADAR	40sps	13k0E	*)Days: 3. 4. 6. 8. 9. 11. 12. 17. 23. 25. 27. 28. (WebSDR 28d)
7 MHz	1300-1915	*	1	CHN		RADAR	50/67sps	10k0E	*) Days: 5. 7. 8. 16. 19. 20. 22. 23. 25. 31. 'foghorn'
7006.5	0815-0820/	26	1	RUS		F1B		500H	
7008.0	0945-0959/	13	1	RUS		J7D	120	2k60E	
7008.0	1145-1410/	*	1	RUS		F1B		200/250H	*)Days: 8. 14. 15. 18.
7014.0	0000-2400	*	1	RUS		J7D	120	2k60E	*) Days: 4. - 12. 23.
7014.0	1020-1140	*	1	RUS		F1B		250H	*) Days: 3. 11. 17. 23.
7018.0	1100-1830	16 - 19	1	RUS		F1A/B		1k0	5F
7021.0	1020-1140	*	1	RUS		J7D	120	2k60E	*) Days: 14. 16. 28.
7032.0	1345-1520/	06 23	1	RUS		J7D	120	2k60E	
7032.0	0545-1800	10 - 26	1	RUS		J3E-u		3k50	Non-stop Russian anthem, days 21. 26. music
7036.0	1630-1640/	26	1	RUS		F1B		250H	
7039.3	0605-0725	24 28	1	RUS	K	A1A		20H	Single letter beacon
7039.3	1855	25	1	RUS	K	A1A		20H	Single letter beacon
7039.4	1100-1430	*	1	RUS	M	A1A		20H	*) Days: 20. 24. 25. Single letter beacon
7039.4	1855	25	1	RUS	M	A1A		20H	Single letter beacon
7054.0	1100-1930	01 - 31	1	RUS		F1B		200H	
7057.0	0800-0820	21	1	RUS		J7D	120	2k60E	
7066.0	0620-1430/	*	1	RUS	HAHI etc	F1A/B		200H	*) Days: 3. 5. 26.
7068.0	1330-1405/	11	1	RUS		J7D	120	2k60E	
7088.8	0620-0810	31	1	RUS	P	A1A		20H	Single letter beacon, ex 7508.8 kHz
7089.0	1050-1100	27	1	RUS		J7D	120	2k60E	
7099.0	0700-0720	11	1	RUS		F1B		200H	
7103.0	1050-1115	18	1	RUS		J7D	120	2k60E	
7110.0	1600-1810/	01 - 31	1	ETH	R. Ethiopia	A3E		9k0	On day 4 until 2000
7110.0	1330-1500/	01 - 31	1	ETH	R. Ethiopia	A3E		9k0	

SRAL; Pekka, OH2BLU									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7122.0	0815-1145	01	1	RUS		F1B		250H	
7124.0	1800-1815	17	1	RUS		F1B		250H	
7159.0	0830-0945/	12	1	RUS		F1B/ NON		200H	
7160.0	0815	17	1	RUS		A1A		40H	
7162.0	0815-0845	01	1	RUS		F1B		200H	
7169.0	0615-0645/	20	1	RUS		J7D	120	2k60E	
7176.5	0930-0950	18	1	RUS		J7D	120	2k60E	
7179.0	0850-1510/	27	1	RUS		F1B		200H	
7184.0	0810-0835/	18	1	RUS		F1B		200H	
7193.0	0615-1500/	*	1	RUS	RDL	F1A/B/ NON		250H	*) Days: 1. 4. 7. 8. 11. 13. 14. 18. 19. 20.
7198.0	0815-1330/	*	1	RUS		J7D	120	2k60E	*) Days: 8. 11. 19. 28.
7198.5	0815-1355	29	1	RUS		J7D	120	2k60E	
10 MHz			1	G		RADAR	50sps	20k0	(WebSDR 4d)
10 MHz	1540-1900	13 26	1	RUS		RADAR	40sps	13k0E	(WebSDR 4d)
10127 A	1415-1600/	03 - 31	1	GU M	TWR	A3E?		4k0E	Spurious from 9900 kHz
10134 A	1215-1245/	23	1	GU M	TWR	DRM		6k0E	Spurious from 9910 kHz
10137 A	1130-1245/	*	1	GU M	TWR	A3E?		4k0E	*) Days: 3. 13. 20. 21. 22. 29. Spurious from 9910 kHz
14 MHz	0630-1715	*	1	RUS		RADAR	40sps	13k0E	*) Days: 6. 8. 10. 13. 14. 18. 19. 20. 22. 25. 27. (WebSDR 19d)
14 MHz	0645-1230	*	1	CHN		RADAR	50/67s ps	10k0E	*) Days: 3. 5. 6. 9. 10. 12. 13. 15. 17. 21. 22. 24. 27. 29. 'foghorn'
14003.8	0800-0900	15	1	RUS		F1B/NON		500H	
14026.0	0925-1320/	*	1	RUS		J7D		2k60E	*) Days: 23. 26. 27.
14116.0	0720-0820/	29	1	RUS		F1B		250H	
14169.0	0815-0845/	30	1	RUS		F1B		200H	
14221.0	0550-0600/	*	1	KAZ		F1B		200H	*) Days: 1. 17. 19.
14286.0	0745-1400/	01 05	1	RUS		F1B		250H	
14308.0	0730-0930	*	1	RUS		F1B		500H	*) Days: 4. 5. 13. 23. 26.

**SRAL; Pekka, OH2BLU**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
18 MHz	0600-1330	04 30	1	G		RADAR	25/50s ps	20k0	(WebSDR 44d)
18 MHz	0630-1400	*	1	RUS		RADAR	40 sps	13k0E	*) Days: 6. 12. 13. 14. 18. 19. 20. 22. 25. 27. (WebSDR 19d)
21 MHz	0545-1600	*	1	G		RADAR	25/50s ps	20k0	*) Days: 2. - 6. 8. - 11. 13. 17. - 19. 24. - 28. 30. (WebSDR 28d)
21 MHz	0600-1500	*	1	RUS		RADAR	40 sps	13k0E	*) Days: 3. 4. 5. 8. - 13. 15. 16. 18. 19. 21. - 23. 27. - 29. 31. (WebSDR 28d)
21 MHz	0600-1000	*	1	CHN		RADAR	50/67s ps	10k0E	*) Days: 1. 3. 5. 6. 9. 10. - 13. 15. 16. 19. 20. - 24. 26. 29. 30. 'foghorn'
21438.0	/0830-1330	01 - 31	1	RUS	RCV	A1A	20 wpm	40H	navip
28 MHz	0600-1430	*	1	G		RADAR	12.5/25/50s ps	20k0	*) Days: 1. 2. 5. 6. 9. 10. 13. 15. - 21. 23. 25. - 27. 31. (WebSDR 24)
28 MHz	0600-1500	*	1	IRN		RADAR	150/313	60k0E	*)Days: 1. - 9. 11. 15. - 19. 23. 24. - 29. (WebSDR 22d)
28 MHz	0600-1400	*	1	IRN		RADAR	310/870	120k0E	*)Days: 4. 5. 6. 8. - 19. 21. - 28. 31.(WebSDR 17d)
28 MHz	0655-1255	*	1	IRN		RADAR	312 sps	50k0E	*) Days: 3. 7. 8. 10. - 16.
28860.0	0600-1500	01 - 30.	1	IRN		RADAR	150/313	60k0E	(WebSDR 27d)
28 MHz	0640-1400	*	1	RUS	Taxi disp.	F3E		3k0E	*) Days: 4. 5. 6. 11. - 31. 217 reports

**USKA; Peter, HB9CET**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7000.0	2154	30	01			J3E-U		ca 2k4	unid language
7014.0	1416 2145	04 23	01			J7D	120 Bd	2k70E	CIS12 often
7018.0	1819	16	01	CIS		F1B	100 Bd	1k0E	FSK
7032.0	1309	06	01			J7D	120 Bd	2k70E	CIS12; additional carrier at 7032.0 kHz
7039.4	1825	07	01	RUS	M	A1A			Channel Marker; Magadan (very weak)
7054.0	1751 1307	01 05	01			F1B	50 Bd	200H	FSK almost daily
7109.0	2221	04	01			FMOP	40 sps	12k0E	OTHR; Contayner
7110.0	1757	01	01	ETH		A3E		ca 9k0E	BC: Radio Ethiopia almost daily
7119.0	1809	01	01			OTHR	50 sps	10k0E	Bursts
7135.0	2338	01	01			Radar	X	30k0	unid, slow sweeprate
7150.0	2344	01	01			FMOP	40 sps	12k0E	OTHR; Contayner
7152.0	1723	05	01			FMOP	40 sps	12k0E	OTHR; Contayner
7184.0	1728	29	01			FMOP	40 sps	12K0E	OTHR; Contayner
7193.0	1421	04	01	RUS		F1B	50 Bd	250H	FSK
7193.0	1308	09	01	RUS	RDL	F1A		250H	CW-FSK, stopped 1310z
14026.0	0921	23	01			J7D	120 Bd	2k70E	CIS12; weak and fading

**USKA; Peter, HB9CET**

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14198.5	1312	05	01			ARQ PSK	1200	1k20E	DPRK PSK ARQ system often
14237.0	0956	06	01			FMOP	40 sps	12k0E	OTHR; Contayner
14255.0	0847	10	01			OTHR	66.66 sps	10k0E	Bursts
14334.325	0906	30	01			F1B	50 Bd	250H	FSK; weak, fading often
18171.0	1028	06	01			FMOP	40 sps	12k0E	OTHR; Contayner; Partially in 17m band
21000.0	1544	02	01			J3E-U		ca 2k70E	Spanish, Fishermen often
21045.0	0935	23	01			FMCW	50 sps	10k0E	OTHR, bursts
21125.0	1024	03	01			FMCW	50 sps	20k0E	OTHR; UK base Cyprus
21165.0	1323	09	01			FMCW	50 sps	20k0E	OTHR; most likely UK Cyprus
21175.0	1016	03	01			FMOP	40 sps	12k0E	OTHR; Contayner
21175.0	1410	09	01			FMCW	25 sps	20k0E	OTHR; most likely UK Cyprus
21340.0	0923	02	01			FMCW	66.66 sps	10k0E	OTHR; bursts
21357.0	0948	02	01			OTHR	42 sps	10k0E	OTHR; bursts
21389.0	0919	02	01			FMCW	66.66 sps	10k0E	OTHR; bursts
21390.0	1257	06	01			FMCW	50 sps	20k0E	OTHR; UK base Cyprus
21421.0	1404	02	01			FMOP	40 sps	12k0E	OTHR; Contayner
21424.0	0940	02	01			FMOP	40 sps	12k0E	OTHR; Contayner
21430.0	1019	06	01			FMCW	50 sps	20k0E	OTHR; UK base Cyprus
21438.0	0924	02	01	RUS	RCV	A1A		10H	Area of Sevastopol daily
21453.0	0931	23	01			FMCW	42 sps	10k0E	OTHR; bursts; partially in 15m band
28590.0	0913	06	01			FMCW	50 sps	20k0E	OTHR; UK base Cyprus
28600.0	1002	02	01	IRN			307 + 870 sps	ca 45k	OTHR; Bursts; long lasting sweep rate alternating
28860.0	1234	06	01	IRN			150 + 313 sps	ca 50k	OTHR; Bursts; long lasting, sweep rate alternating often
29190.0	0927	06	01			FMCW	50 sps	20k0E	OTHR; UK base Cyprus

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

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3527.0	2015	17	01	RUS		F1B			Revs/UiPtr; shared band
3528.0	2006	17	01	RUS		F1B			UiPtr; shared band
3548.0	2004	17	01	RUS	5BL	A1A			5BL; shared band
3608.0	2040	18	01	RUS		F1B			Revs/UiPtr; shared band
3710.0	1933	17	01	RUS		F1B			Revs/UiPtr; shared band
3710.0	1955	19	01	RUS		F1B			UIPtr; shared band
3729.0	2010	20	01	RUS		A1A			UiCW; Calls to TM2; shared band
3797.0	2010	20	01	RUS		A1A			UiCW; Calling W3IY; shared band
7000.0	1610	22	01	I		J3E-L			Italian, male voices
7012.0	1601	10	01			RADAR			
7013.0	1550	05	01			PSK			12MPSK; CIS-12?
7054.0	1535	15	01	RUS		F1B		200H	Printer
7055.0	1652	09	01			RADAR			



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

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7055.0	1511	21	01	UKR /RU S		J3E-L		2K8E	UKR-RUS radiowar; comments & slogans
7193.0	1112	19	01	RUS		F1B		250H	Printer; idling; Kaliningrad
14085.0	0933	15	01	RUS		RADAR	40	12K0E	CF; OTHR Contayner
14151.0	1419	10	01			RADAR			
14177.0	0826	21	01			PSK			12MPSK; CIS-12?
14308.0	0815	13	01			F1B		500H	UiPtr
21177.0	1415	09	01	G/C YP		RADAR	25	20K0E	OTHR; UK base Cyprus
21390.0	1045	13	01	G/C YP		RADAR	50	20K0E	OTHR; UK base Cyprus
21438.0	1056	20	01	RUS	RCV	A1A			6CY de RCV QTC QTC 831 161 20 1423 1212 831 = PROGNOZ POG)DY S 1800 21 D( 1800 23

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