



IARU Monitoring System Region 1

Monthly Newsletter 7 - July 2020

edited by Peter Jost, HB9CET, assisted by Gaspar Miró, EA6AMM

News and Info's

New Coordinator for Austria

We are pleased to welcome the new coordinator of the OeVSV (Austria), Christoph (Chris) Mecklenbräuer, OE1VMC among us. We wish Chris much fun and success with his Intruder watch.

About July

In July 2020 the most frequently reported intruders were still the spiteful and provocative RUS/UKR radio war as well as the heavy harmful interference from the Russian OTHR (Over the Horizon Radar), known as Contayner. Radio locations using TDoA (Time Difference of Arrival) showed mainly in the Oblast "Nijni Novgorod" east of Moscow.

Sometimes we also found the 20 kHz wide OTHR from the UK base in Cyprus, but less than in previous years.

Due to some band openings at 10 m, some of us

heard several driftnet fishing buoys. Observations are listed once as separate report at the end.

Footnotes in the ITU radio regulations, relating also to amateur radio frequencies

Not every signal classified as an intruder is really an intruder! The numerous footnotes of the ITU Radio Regulations must always be taken into account. For example, the 14250-14350 kHz range is primarily assigned to the fixed service in some states.

Since we cannot determine the origin of signals with absolute certainty, they are usually recorded as intruders; even there is the possibility of an exception, due to a footnote in the ITU RR.

You will find the footnotes relating to Amateur Radio at the end of this newsletter. Take a look, it is important for us.

Peter Jost, HB9CET, IARUMS R1 Coordinator a.l.

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 | **DF** = Direction finding (radio location; see also TDoA) | **OTHR** = over the horizon radar | **FMCW** = frequency modulated continuous wave | **FMOP** = frequency modulated on pulse | **SH** = Shift (Hz) | **sps** = sweeps per second | **TDoA** = Time difference of arrival | **ui** = **unid** = unidentified | **vd** = various dates | **vt** = various times.

DARC									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3553.8	dly	dly	07	TUR		PSK8A	2400	2400	Stanag4285 – 600 bps long -TUR MIL - Ankara – daily, all day - legal operation
3756.0	2030	08	07	RUS		F1B	75	200	St. Peterburg
3756.8	1800	dly	07	RUS		USB			RUS MIL – channel marker – 4 tones - Tuapse – East Black Sea (nw of Sochi) – night QRG
7000.0	1600	06	07	HRV		PSK8A	2400	2400	Stanag-4285 – 600 bps long - Croatia
7022.0	0904	22	07	RUS		PSK2A	120	2600	AT3004D – traffic and submode idle Moscow
7051.0	2000	dly	07	RUS	RDL	F1B	50	200	7051.007 - Sevastopol – RUS navy – daily at 2000 utc – even audible in Japan
7050.0	div	div	div	CLA	unid	J3E-L			Clandestine stations of the Ukrainian-Russian radion war

DARC									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7055.0	div	div	div	CLA	unid	J3E-L			Clandestine stations of the Ukrainian-Russian radion war
7060.0	1308	21	07	RUS		PSK2A	120	2600	AT3004D – area of Moscow
7110.0	div	div	div	CLA	unid	J3E-L			Clandestine stations of the Ukrainian-Russian radion war
7140.0	1700	01	07	ERI		A3E		9k	7140.021 kHz - Radio Eritrea
7144.0	2046	28	07	CHN		PSK4A	60	2350	PRC 30 tone modem - LSB mode - pilot tone 450 Hz
7180.0	1700	01	07	ERI		A3E		9k	7180.021 kHz - Radio Eritrea
7182.0	1638	17	07	RUS		FMOP		12k	OTH radar Contayner - 40 sps – nw of Saransk – 7176 – 7188 kHz
7190.0	1855	29	07	CHN		A3E		40k	China Radio International on 7210 kHz – with splatters 7190 kHz – 7230 kHz – daily 1800 – 1900 utc
10124.0	1406	07	07	RUS		FMOP		12k	OTH radar Contayner - 40 sps – nw of Saransk – 10118 – 10130 kHz
10128.0	1524	05	07	RUS		FMOP		12k	OTH radar Contayner - 40 sps – nw of Saransk – 10122 – 10134 kHz
10129.0	1648	02	07	RUS		FMOP		12k	OTH radar Contayner - 40 sps – nw of Saransk – 10123 – 10135 kHz
10130.0	1920	07	07	MRC		USB			Moroccan fishery
14000.0	1400	06	07	CHN		A3E		9k	China Radio International – intermodulation from 13855 and 13710 kHz – 13855 x 2 – 13710 = 14000 kHz
14000.0	1550	10	07	E		USB			Spanish fishery
14107.0	1632	31	07	RUS		FMOP		12k	OTH radar Contayner - 40 sps – nw of Saransk – 14101 – 14113 kHz
14108.0	0850	31	07	RUS		A1A			V8KE de XKSZ - Moscow
14114.0	0924	20	07	CHN		FMOP		10k	Chinese OTH radar – 14109 – 14119 kHz - 66.66 sps – 3.8 sec bursts – „foghorn“
14115.0	1119	14	07	RUS		FMOP		12k	OTH radar Contayner - 40 sps – nw of Saransk – 14109 – 14121 kHz
14153.0	2035	31	07	RUS		FMOP		12k	OTH radar Contayner - 40 sps – nw of Saransk – 14147 – 14159 kHz
14154.0	1120	15	07	CHN		FMOP		160k	Chinese wideband OTH radar – 10 sps – 14154 – 14314 kHz – 50 sec blocks
14161.0	1406	21	07	RUS		FMOP		12k	OTH radar Contayner - 40 sps – nw of Saransk – 14155 – 14167 kHz
14186.00	1208	05	07	RUS	unid	F1B	50	500	Severomorsk
14198.0	0930	11	07	RUS		FMOP		12k	OTH radar Contayner - 40 sps – nw of Saransk – 14192 – 14204 kHz
14199.0	0920	29	07	CHN		FMOP		10k	Chinese OTH radar – 14194 – 14204 kHz - 66.66 sps – 3.8 sec bursts – „foghorn“
14200.0	1053	01	07	FEa		FMOP		50k	14175 – 14225 - Far East OTHR – 25 sps
14214.0	1024	30	07	CHN		FMOP		10k	Chinese OTH radar – 14209 – 14219 kHz - 66.66 sps – 7.6 sec bursts – „foghorn“
14221.0	2032	06	07	KAZ		F1B	50	200	Kazakhstan – west of Almaty - mostly idling - every evening
14223.0	0921	20	07	CHN		FMOP		10k	Chinese OTH radar – 14218 – 14228 kHz - 50 sps – 5 sec bursts

DARC									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14223.0	1331	27	07	RUS		FMOP		12k	OTH radar Contayner - 40 sps – nw of Saransk – 14217 – 14229 kHz
14231.0	1429	21	07	CHN		FMOP		10k	Chinese OTH radar – 14226 – 14236 kHz - 66.66 sps – 3.8 sec bursts – „foghorn“
14237.0	1024	23	07	CHN		FMOP		10k	Chinese OTH radar – 14232 – 14242 kHz - 83 sps – 3.8 sec bursts
14245.0	1245	08	07	RUS		FMOP		12k	OTH radar Contayner - 40 sps – nw of Saransk – 14239 – 14251 kHz
14258.0	0800	04	07	RUS		F1B	50	500	Moscow – legal, see ITU footnote
14261.0	1116	15	07	CHN					OFDM-39 -
14262.0	1540	15	07	RUS		FMOP		12k	OTH radar Contayner - 40 sps – nw of Saransk – 14256 – 14268 kHz
14329.0	1850	27	07	RUS		FMOP		12k	OTH radar Contayner - 40 sps – nw of Saransk – 14323 – 14335 kHz
14333.0	0916	20	07	CHN		FMOP		10k	Chinese OTH radar – 14328 – 14338 kHz - 50 sps – 5 sec bursts
14338.0	0945	30	07	RUS		FMOP		12k	OTH radar Contayner - 40 sps – nw of Saransk – 14332 – 14344 kHz
14344.0	1021	23	07	CHN		FMOP		10k	Chinese OTH radar – 14339 – 14349 kHz - 50 sps – 5 sec bursts
18166.0	1058	15	07	RUS		FMOP		12k	OTH radar Contayner - 40 sps – nw of Saransk – 18160 – 18172 kHz
18171.0	1445	24	07	CYP		FMOP		20k	UK OTH radar Cyprus – 50 sps – 18161 – 18381 kHz
21331.0	0848	31	07	CYP		FMOP		20k	UK OTH radar Cyprus – 50 sps – 21321 – 21341 kHz
21414.0	1238	03	07	CHN		FMOP		10k	OTH radar Contayner - 40 sps – nw of Saransk – 21408 – 21420 kHz
21438.0	0920	04	07	RUS	RCV	A1A			RIP90 de RCV - RUS Navy Sevastopol – with QTCs – RGX94
28000.0	1646	13	07	I		USB			Italian CBers
28000.0	0900	26	07	F		USB			French CBers splattering up
28000.0	1013	26	07	I		USB			Italian CBers with echo mike
28000.0	1210	26	07	E		USB			Spanish CBers
28000.0	1615	26	07	I		USB			Italian CBer calling “Mendoza”
28005.0	1900	15	07	F		USB			French CBers
28034.2	1656	13	07			A3E			unid pirates – 150 deg. from DL
28085.1	1912	14	07	?		F1B	51	320	F1B bursts - Enagal GPS buoy
28860.0	1515	01	07	IRN		AMOP		45k	Iranian radar - 28837 – 28883 kHz – 150 sps and 313 sps alternating – Nord Iran

IRTS; Michael, EI3GYB									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3636	1445	22	07	EI/UK/MM		USB			Two Irish fishermen. Monster signals from both ships. Both having an Ulster accent. Extremely foul language being used. Both are constantly complaining about this, that and the other. A bit like two old women talking about “today’s young people”. Loud motor noise from both ships. One of the men has a mobile phone with a bizarre ringing tone coming up once in a while. Gone around 1505z

IRTS; Michael, EI3GYB									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7050	1800	01	07	UKR/ RUS		LSB			Loop playing "Putin is a prick. Out with the Russian occupants" in Russian. Huge signal, no end to the transmission.
7055	1515	01	07	UKR/ RUS		LSB			Ukrainian-Russian radio war. Most days all hours of daylight. Propaganda, shouting of slogans and abuses in Russian. Ongoing pest not being stopped by either Russian or Ukrainian authorities who show absolutely no interest in solving the problem.
7060	1015	11	07	UKR/ RUS		LSB			Propaganda broadcast in Russian. A lot of hate speech. Third frequency this month hijacked by intruders and no action taken by Ukrainian or Russian authorities.
7140	1745	16	07	ERI		AM			Radio Eritrea. Medium strength signal. Not audible every day.
7159.5	0545	02	07			Link-11 Clew			Digital signal, most likely military. Running for several days. Stopped finally on the 7 th after 1200z. Big signal every day.
7174	2100	17	07			Link-11 Clew			Strong and persistent signal.
7188	2055	17	07			AMOP			Radar from 7188 to 7200 kHz. Strong, on and off.
14000	1405	14	07	CHN		AM			China Radio International. Intermodulation product from 13855 and 13710 kHz. Again like last month. It seems their problem is not fixed yet. Also noted on the 15 th and on the 27 th .
14108	1130	14	07			AMOP			Radar from 14108 to 14121 kHz. Very strong and persistent signals.
14118	1930	05	07			AMOP			Radar from 14118 to 14142 kHz.
14135	1355	27	07			AMOP			Radar from 14135 to 14147 kHz. Very strong and persistent. Still on at 1545z.
14144	1905	17	07			AMOP			Radar from 14144 to 14172 kHz. Huge signal. Any other traffic is impossible. This thing really wipes the band clean.
14173	0625	30	07			AMOP			Radar from 14173 to 14188 kHz. Strong and persistent. Still on at 0815z.
14178	1315	21	07			AMOP			Radar from 14178 to 14190 kHz. Huge signals.
14186	1915	04	07	RUS		F1B			Very strong and persistent. Russian military.
14210.5	0705	15	07			Digital			Strange signal sounding a wee bit similar to North Korean FSK. Very strong. Gone 0715z.
14220	2145	15	07			F1B			Medium strength signal.
14256	1920	04	07	RUS		FTB			Huge and persistent signal. Still on 7 th at 1930z.
14287	1930	17	07			PSK			Medium strength
14292.5	0805	17	07			F1B			Strong signal
14293	1330	08	07			AMOP			Radar from 14293 to 14312 kHz. Huge persistent signals.
14319	2000	28	07			AMOP			Radar from 14319 to 14332 kHz. Strong and persistent.
14320	0905	29	07			AMOP			Radar from 14320 to 14332 kHz. Strong and persistent. Running all day long non-stop until fade out after 2200z. Another killer signal wiping the band clean.
14335	1855	17	07			AMOP			Radar from 14335 to 14358 kHz. Persistent and huge signal. No other traffic possible.
28840	1035	04	07	IRN		AMOP			Radar from 28840 to 28880 kHz. Weak signal, in and out. Also heard on the 31 st at 0930z moving up and down the frequencies.

MRASZ; Laci, HA7PL									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3581.8	1759	08	07			PSK8A	2400	2400	Stanag-4285
3581.8	1733	24	07			PSK8A	2400	2400	Stanag-4285
3665.0	1636	15	07			LSB			singing , music
7055.0	1651	15	07			LSB			music, chaos, "hallo, hallo" sstv
7055.0	1805	16	07			LSB			chaos
7055.0	0705	23	07			LSB			chaos from endless tape
7055.0	1249	24	07			LSB			chaos, propaganda
7055.0	1732	24	07			LSB			Chaos
7056.0	1751	29	07			F1B		250	
7075.0	1745	20	07			OTHR			7072 – 7078 kHz
7078.0	1805	20	07			PSK2			AT3004D
7140.0	1803	20	07			A3E			
10106.0	0711	23	07			F1B		200	also at: 1415
10106.0	0842	31	07			F1A			"15160 56468 15160 K"
10106.0	0844	31	07			F1A			RDL "16235 30951 16235 30951"
10112.0	0711	23	07			F1B		1000	
14006.0	1437	09	07			F1B		250	
14006.0	1440	20	07			F1B		250	
14118.0	1112	12	07			A1A			"LCVIQ YBELI DAXZH"
14127.5	1251	24	07			OTHR			14120 – 14135 kHz
14180.0	1250	24	07			OTHR			14170 – 14190 kHz

PZK; Marek, SP3AMO + Miro, SP5GNI									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
1898.0	1855	23	7	GER	Legal	PSK		1k20E	S7
3510	vt	vd	7			UI		2k5	Chirp again
3518.2	1902	26	7		UI	PSK		1k20E	S9+5 dB changeable modes QRT 1913 UTC
3527.0	2021	5	7			PSK		270	Multitone 3 1 1 3
3531.0	1955	8	7			PSK		300	Multitone emission sps 50Hz
3532.0	0540	24	7		UI	PSK		1k20E	S7 Multitone emission 6 x 120 Hz QRT 0554 UTC
3533.1	0640	24	7		UI	NON		4k0E	S7 Chirp
3534.8	0715	17	7		UI	NON		4k0E	Chirp [MMN S7] CF 3533,6 kHz
3550	2105	19	7			PSK-4		2k9	CIS-12 pilot 3551,3 S6
3572.0	1835	23	7		UI	FSK			
3581.7	vt	vd	7			UI		3k	STANAG?
3706	1920	28	7			PSK-4		2k9	CIS-12 pilot 3707,3 S9 + 20
3731.0	1935	4	7	GER	DSSTV	FSK/PSK		1000/1500	Multitone emission sps 20 Hz/ 5 x 120
3734.5	2109	19	7			UI		2k5	Short emissions, strange spectrum
3741.0	1950	8	7		..	F1B	50	200	S9+5dB
3744.5	1837	23	7		UI	PSK			changeable modes QRT 1845 UTC
3756.0	1933	8	7			F1B	50	200	S9
3758.0	1933	8	7		UI	NON		700	Beep 2 Tone
3758.5	1930	3	7			PSK		1k40E	changeable modes sps 40 Hz
3772	2113	19	7			F1B		230	
7014.7	1815	23	7			F1B	50	200	QRT 1817 UTC
7057.0	1035	17	7		UI	PSK			S0+

PZK; Marek, SP3AMO + Miro, SP5GNI									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7060	1435	21	7			PSK-4		2k9	CIS-12 pilot 7061.3 S9
7066.0	0600	14	7	RUS	E44W	F2A/F1B	50	200	S5, changeable modes, 08.20 UTC QRT
7068	1013	14	7			PSK-4		2k9	CIS-12 pilot 7069.3 S6
7090.24	1248	27	7			A1A			Like 1 sec time marker. Carriers very close: 7088; 7089.46; 7090.94
7160.5	1200	6	7			UI		3k	Digital packets
10108	735	22	7			F1B		200	
10108	1245	27	7			F1B		200	
10114.8	735	22	7			F1B		1000	
10115.0	0740	7	7		UI	FSK		250	S3 QSB, 08.00 UTC QRT - Band secondary for Amateur Servis
14008	1300	9	7			F1B		240	S9+10
14102	1005	14	7			PSK-4		2k9	CIS-12 pilot 14103.3
14124	2133	19	7			FMOP		14k	OTHR
14144	vt	27	7			FMOP		14k	OTHR
14158	1303	30	7			FMOP		14k	OTHR
14184	1303	30	7			FMOP		17k	OTHR
14193	742	22	7			FMOP		14k	OTHR
14220.5	0430	18	7		UI	PSK		350	S5/7 changeable modes sps 25 Hz
21157	1303	9	7			FMOP		14k	OTHR S7
21270	1135	27	7			FMOP		20k	OTHR S6
21437.2	0830	24	7	RUS	RCV	A1A		20 wpm	RIP90 de RCV QTC [mixed text] QRT 0945 UTC
21438.0	0924	6	7	RUS	RDX42	A1A			v v v rmu52 de rcv rip90 rcv rcv qtc mixed text
21438.0	0900	15	7	RUS	RCV	A1A			QTC mixed text
28633.0	0922	15	7		UI	NON			S0+
28685.0	0925	15	7		UI	NON			Two lines sps 30 Hz
28860	947	4	7			FMOP		40k	OTHR
28868.0	0941	15	7			PSK			Multitone emission sps 150/300 Hz
29289.4	0814	3	7		UI	NON		1k80E	Multitone emission sps 80 Hz, 0825 UTC QRT
29500.0	0830	3	7		UI				Sweeping 29500.0 - 29700.0 kHz

REF; Francis, F5MIU									
kHz	UTC	DD	MM	ITU	IDENT	MODE	Baud	Sh /Bw	DETAILS
10155	1723	6	7			FMCW		15kHz	OTH Radar pulsed 25ms,S9
14105	1848	5	7			FMCW		15kHz	OTH Radar pulsed 20ms,S9+10
14190	1710	2	7			FMCW		15kHz	OTH Radar pulsed 25ms,S9
18090	0755	28	7			FMCW		20kHz	OTH Radar pulsed 20ms,S8
21000	0754	24	7			USB		3k	Unident language (Spanish fisherman?)
21030	0750	1	7			FMCW		20kHz	OTH Radar pulsed 20ms,S8

REP; José, CT4AN									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3505	0613	05	07	E		J3E-U			Fishery
3510	2300	08	07	F		PSK4			LINK11
3525	0704	12	07	E		J3E-U			Fishery
3600	2028	01	07	G		PSK8A			STANAG
3657	1901	01	07	UZB	V	A1A			Beacon
7000	0643	16	07			MFSK8			Mil
7039	2215	02	07	RUS	K	A1A			Beacon
7055	1644	20	07	RUS		J3E-L			Politics & jamming
7065	1618	20	07			J3E-L			Music
7068	0830	15	07	RUS		J7D			CIS 12
7075	0905	21	07	KEN		PSK	2400	2750	STANAG
7100	1900	01	07	CHN		FMOP	10	160k	OTH
7140	0650	16	07	RUS		PSK2	120	2600	AT3004
7180	dly	dly	07	ERI		9k00 A3EGN			Radio Eritrea
7199	0800	04	07			J7D	120	2.6k	CIS12
10115	1820	09	07			A1A			Spaced dots
10125	1700	20	07			J3E-U			Fishery
10150	1710	20	07	RUS		FMOP	40	12k	OTH
14102	0745	10	07			OFDM			
14135	1335	27	07	E		J3E-L			Fishery
14140	1510	07	07	CHN		FMOP	10	100k	OTH
14153	2030	30	07	RUS		FMOP	40		OTH (from Mordovia Republic)
14160	1600	10	07	CHN		FMOP	10	100k	OTH
14185	1400	20	07			FMOP	40	12k	OTH Contayner
14190	1533	11	07	CYP		FMOP	50	10k	OTH
14200	1751	09	07	RUS		FSK	50	200	Navy
14220	2200	16	07			F1B	50	200	?
14255	1610	11	07			F1B	50	500	?
14339	1305	22	07	CHN		FMOP	60	10k	Foghorn
18070	1630	22	07	CYP		FMCW	50	20k	OTH
18120	1700	04	07	CYP		FMCW	50	10k	OTH
21437	1222	dly	07			A1A			Crypto transmission (-14dBuV)
28859	0812	11	07	IRN		AMOP	300		BW=60kHz (weak with deep fade)

RSGB; Richard, G4DYA									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH /	DETAILS
3510.0	vt	vd	07			J3E		2K70E	USB "The Air Horn"
7005.0	2340	15	07	RUS		P0N	40	12K0E	Container OTH radar
7038.485 7038.489 7038.493	ady	dly	07	CZE	OK0EU	A1A			For info: QRP propagation beacon cluster. Measured freqs ~11 Hz below nominal.
7058.0	1725	29	07			F1B		250	

RSGB; Richard, G4DYA									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH /	DETAILS
7066.0	1951 1835 0743 1001 1318 0829 1630 1749	14 15 16 17 18 19 26 27	07	RUS		N0N/F1A/ F1B	50	200	Mostly plain carrier on 7065.9 space tone
7088.0	1524	29	07			F1B		200	
7090.0	2340	15	07	RUS		P0N	40	12K0E	Container OTH radar
7108.0	2315	28	07	RUS		P0N	40	12K0E	Container OTH radar
7110.0	1831	15	07	RUS		P0N	40	12K0E	Container OTH radar
7123.0	2340	15	07	RUS		P0N	40	12K0E	Container OTH radar
7126.0	2058	09	07	CHN		P0N	50	10K0E	Chinese OTH radar 5s bursts
7140.02	vt	vd	07	ERI	VoBM1	A3E			BC
7148.0	2300	26	07	RUS		P0N	40	12K0E	Container OTH radar. Ceased at 2303z
7149.0	2004	13	07			J7D		2K70E	USB 7047.0 / CIS-12. Ceased at 2005z
7159.0	1753 0938 0741 0757	04 05 06 07	07			B7D		6K00E	ISB / Link 11 CLEW TDoA: north Atlantic near Norway
7168.0	1819	10	07			F1B	250		
7173.0	1736	17	07			J7D		2K70E	USB 7171.0 / CIS-12
7188.0	2252	14	07	RUS		P0N	40	12K0E	Container OTH radar
7189.0	1707	06	07	RUS		P0N	40	12K0E	Container OTH radar
7195.0	1640	06	07	RUS		P0N	40	12K0E	Container OTH radar. Ceased at 1645z
7205.0	2051	27	07	F	RFI	A3E		10K0E	Issoudun TX splattering ±18 kHz
10100.8	ady	dly	07	D	DDK9	F1B	50	450	For info: Primary user: WX broadcast
10108.0	0833	30	07	RUS		F1B	50	200	For info: assumed primary user
10122.0	2201	22	07	RUS		P0N	40	12K0E	Container OTH radar
10123.0	2242	31	07	RUS		P0N	40	12K0E	Container OTH radar
10128.0	1826	10	07	RUS		P0N	40	12K0E	Container OTH radar
10155.0	2052	09	07	RUS		P0N	40	12K0E	Container OTH radar. Spreading below 10150 kHz.
14008.0	0840	26	07			F1B		250	Ceased at 0842z
14026.0	0931	03	07			J7D		2K70E	USB 14024.0 / CIS-12
14090.0	1728	31	07	RUS		P0N	40	12K0E	Container OTH radar
14105.0	1629	05	07	RUS		P0N	40	12K0E	Container OTH radar
14118.0	0923	05	07	RUS		J7D		2K70E	UDB 14116.0 / CIS-12
14128.0	1250	24	07	RUS		P0N	40	12K0E	Container OTH radar
14140.0	1719	31	07	RUS		P0N	40	12K0E	Container OTH radar
14143.0	2040	27	07	RUS		P0N	40	12K0E	Container OTH radar
14150.0	1426	02	07	RUS		P0N	40	12K0E	Container OTH radar
14160.0	1732	17	07	RUS		P0N	40	12K0E	Container OTH radar

RSGB; Richard, G4DYA									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH /	DETAILS
14182.0	1356	03	07	RUS		P0N	40	12K0E	Container OTH radar. Ceased at 1357z
14184.0	1250 1306	24 30	07	RUS		P0N	40	12K0E	Container OTH radar
14186.0	0917	05	07	RUS		F1B		500	
14213.0	1010	30	07	CHN		F3N	66.6	9K00E	'Foghorn' OTH radar
14221.0	2103 2045 2124 2051	02 28 30 31	07			F1B		200	
14242.0	1000	17	07			J7D		2K70E	USB 14240.0 / CIS-12
14258.0	1240	05	07			F1B		500	
14292.0	0803	17	07	RUS		F1B		500	Permitted by RR 5.152
14299.0	1250	24	07	RUS		P0N	40	12K0E	Container OTH radar
14328.0	1849	29	07	RUS		P0N	40	12K0E	Container OTH radar
14338.0	0812	30	07	RUS		P0N	40	12K0E	Container OTH radar
14347.0	1732	17	07	RUS		P0N	40	12K0E	Container OTH radar
18170.0	0918	25	07			F3N	50	20K0E	
21413.0	1302	03	07	RUS		P0N	40	12K0E	Container OTH radar
24930.0	0844	02	07	G		F3N	50	20K0E	Pluto OTH radar, British Western Sovereign Base Area, Cyprus
27965.0	1008	26	07			P0N	118.9	100KE	27915 – 28015 kHz. Ceased at 1255z
28080.0	1845	27	07		AL	A1A			Driftnet buoy
28106.5	1834	27	07		AE	A1A			Driftnet buoy
28199.0	1830	27	07		FA	A1A			Driftnet buoy
28267.8	1820	27	07		FI	A1A			Driftnet buoy

RSK; Kamweti, 5Z4BV									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH/ BW	DETAILS
7000	1142	7	7		?	J3E-U		2k7	Swahili/ vernacular msg net in central/ eastern Africa
7040	1143	8	7		?	J3E-L		2k7	Swahili/ vernacular msg net in eastern Africa
7055	pm	dly.	7	UKR/ RUS?	?	J3E-L		2k7	Russian/Ukrainian looped recordings
7072	pm	4	7	KEN	?	PSK	2400	2k75	STANAG 4285
7089.1	vt	nr.dly	7	KEN	?	J3E-U		2k7	Kiswahili/ vernacular QSO
7090	0702	9	7		?	J3E-U		2k7	Swahili/ vernacular msg net in central/ eastern Africa
7095	vt	nr.dly	7	KEN	?	PSK	2400	2k75	STANAG 4285
7110	vt	dly.	7	SOM	Warsan Radio	H3E		2k9	Commercial broadcast station
7123	vt	occ.	7	KEN	?	PSK	2400	2k75	STANAG 4285
7140	vt	dly.	7	ERI	VOBM 1	A3E		6kE	Commercial broadcast station: Voice of the Broad Masses of Eritrea 1
7150	vt	nr.dly	7	KEN	?	MFSK	125	2000	2G ALE

RSK; Kamweti, 5Z4BV									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH/ BW	DETAILS
7180	vt	dly.	7	ERI	VOBM 2	A3E		6kE	Commercial broadcast station: Voice of the Broad Masses of Eritrea 2
14100	vt	nr.dly	7	RUS	?	FMOP	8 sps	10k	Russian Kontayner

SRAL; Pekka, OH2BLU									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/	DETAILS
7 MHz	0510-1720	6 28	7	RUS	Kontainer	FMOP	40sps	13k0E	(WebSDR 14d)
7 MHz			7	RUS		FMOP	10sps	10k0E	short burst, fq jumps
7000.0	0940-0945	29	7	RUS		J7D	120	2k60E	
7002.0	0510-0515	7	7	RUS		J7D	120	2k60E	
7008.0	0940-1625	*	7	RUS		J7D	120	2k60E	*) days: 1. 5. 26.
7008.0	0750-1815	*	7	RUS		F1B		200H	*) days: 8. 10. 25. 26.
7008.5	1200	27	7	RUS		J7D	120	2k60E	
7016 A	0720-1220	*	7	RUS	RZT71	F1B		500H	Unstable fq drifts 7014 – 7018 kHz
7020.0	0800-1300	7 25	7	RUS		F1B		250H	
7022.0	1000-1445	13 22	7	RUS		J7D	120	2k60E	
7025.0	0515-1700	*	7	RUS		F1A/B		200H	
7030.0	0710-0715	12	7	RUS		F1B			
7060.0	0510-1540	2 21	7	RUS		J7D	120	2k60E	
7025.0	0515-1600	*	7	RUS		F1A/B		200H	*) Days: 8. 12. 13. 18. 22.
7066.0	h24	*	7	RUS	E44W etc	F1A/B/NON		200H	*) Days: 9. - 23. 26. 27. 5BL, NON on 7065.9 kHz most of time
7067.0	1000-1025/	14	7	RUS		J7D	120	2k60E	
7087.0	1615-1815	7	7	RUS		J7D	120	2k60E	
7088.0	0500-2130	29	7	RUS		F1B		250H	
7090.5	1615-1620/	27	7			J7D		3k50E	
7099.0	0830-1100	3	7	RUS		F1B		250H	
7111.0	0900-1000	25	7	RUS		F1B		200H	
7112.0	1100-1250/	3 18	7	RUS		J7D	120	2k60E	
7138.0	0515-0750/	13	7	RUS		F1B		200H	
7140,0	0345-0600	dly	7	ERI	VoBME	A3E		9k0	

SRAL; Pekka, OH2BLU									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/	DETAILS
7140.0	1500-1840/	dly	7	ERI	VoBME	A3E		9k0	
7142.0	1300-1315	1	7	RUS		J7D		6k0E	
7158.0	0500-1757/	*	7	RUS		F1B		250H	*) Days: 19. 24. 26. 27. 29. 30.
7159.0	0400-1530	*	7	IW		B7D		6k0E	Ship on international waters
7160.0	0515-1300	*	7	RUS		J7D	120	2k60E	*) Days: 12. 15. 18.
7171.0	0530-1100	2 24	7	RUS		J7D	120	2k60E	
7173.0	0720-1300	18	7			J7D	120	2k60E	
7176.0	0530-0600	4	7	RUS		F1B		250H	
7179.0	1350	7	7	RUS	RLV44	A1A		10H	Calls RIT
7180.0	1650	14	7	ERI	VoBME	A3E		9k0	
7186.0	1205-1515	15 19	7	RUS		J7D	120	2k60E	
7192.0	1045-1200	9	7	RUS		J7D	120	2k60E	
7196.0	1200-1400	*	7	RUS	V	A1A			*) Days: 18. 19. 24. beacon
10 MHz	0645-1615	8 30	7	CYP		FMCW	50sps	20k0	(WebSDR 6d)
10 MHz	1315-0810	*	7	RUS	Kontainer	FMOP	40sps	13k0E	*) Days: 1. 2. 4. 19.22. 23. (WebSDR 11d)
10 MHz	0630-1800	*	7	RUS		FMOP	10sps	10k0E	*) Days: 1. 6. 7. 14. 20. 22. 27. 29. 30.
14 MHz	0630-1115	*	7	RUS		FMOP	10sps	10k0E	*) Days: 2. 4. 28. 29. 30.
14 MHz	0445-1830	dly	7	RUS	Kontainer	FMOP	40sps	13k0E	(WebSDR 31d)
14 MHz	0400-1430	*	7	CHN	'foghorn'	FMOP	67sps	10k0E	*) Days: 1. 9. 13. 20. 21. 22. 23. 29. 30.
14000.0	/1357-1457/	*	7	CHN	CRI	A3E		9k0	*) Days: 5. 6. 8. - 19. 22. - 31. // 13710 kHz
14006.0	1210-1215/	28	7	RUS		J7D	120	2k60E	
14008.0	0500-1430	*	7	RUS		F1B/ NON		250H	*) Days: 1. 2. 9. 15. 19. 30. 31.
14026.0	0920-0925	3	7	RUS		J7D	120	2k60E	
14039.8	0510-0514/	19	7			F1B		250H	
14052.0	1105	23	7	RUS		J7D	120	2k60E	
14102.0	0745-1045	*	7	RUS		J7D	120	2k60E	Days: 14. 15. 16.
14108.0	0600-1300	*	7	RUS	HAQP etc	A1A		10H	*) Days: 1. 7. 8. 9. 15. 17. 18. 19. 20. 26. 30. 31. 5BL
14118.0	0545-0800	20 24	7	RUS		A1A		10H	5F, 5BL

SRAL; Pekka, OH2BLU									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/	DETAILS
14186.0	0540-1610	*	7	RUS		F1B		500H	*) Days: 1. 4. 5.
14221.0	0330-0600/	dly	7	KAZ		F1B		200H	
14258.0	0535-1610	*	7	RUS		F1B		500H	*) Days: 1. 4. 5.
14292.0	0810-1115	9 13	7	RUS	WDB9	A1A		10H	
14317.0	1225	3	7	RUS	SGKQ	A1A		10H	
18 MHz	0530-1200	*	7	CYP		FMCW	50sps	20k0	*) Days: 4. 6. 24. - 29. (WebSDR 4d)
18 MHz	0720-1440	*	7	RUS		FMOP	10sps	10k0E	*) Days: 4. 5. 13. 15. 18.
18 MHz	0730-1030	*	7	RUS	Kontainer	FMOP	40sps	13k0E	*) Days: 8. 12. 18. 22. 23.
18080.0	0700-0800	*	7	TWN	Sound of Hope	A3E		9k0	*) Days: 12. 18. 19. 23. jammed by CNR
21 MHz	0630-1400	*	7	CYP		FMCW	50sps	20k0	*) Days: 2. 22. 24. 25. 26. (WebSDR 6d)
21 MHz	0700-1500	*	7	RUS	Kontainer	FMOP	40sps	13k0E	*) Days: 3. 9. 14. 15. 24. (WebSDR 0d)
21438.0	/0830-1615	*	7	RUS	RCV	A1A		10H	*) Days: 1. - 5. 7. 8. 9. 12. 15. 17. - 20. 22. 23. 25. - 28. 31.
24 MHz			7	CYP		FMCW	50sps	20k0	(WebSDR 0d)
28 MHz			7	IRN		FMCW	*	60k0E	*) 307 & 870sps
28860.0	0400-1600	dly	7	IRN		FMCW	*	60k0E	*) 150 & 313sps
28 MHz	0800-1615	*	7	RUS	Taxi disp.	F3E		3k0E	76 reports, *) Days: 1. 3. 4. 9. 11. 13. 15. 17. 18. 19. 22. 25. 28. 31.
28 MHz			7	CYP		FMCW	50sps	20k0	

URE; Gaspar, EA6AMM									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH /	DETAILS
7000	1902	03	07			J7D	120	2K70E	CIS-12 aka AT3004D
7000	2002	10	07			FMOP	40	12K0E	OTHR Contayner
7008	1619	01	07			J7D	120	2K70E	CIS-12 aka AT3004D
7010	0607	25	07			J3E-U			Unid people talking
7017.8	1630	22	07			XXX			Unid digital signal
7017.8	1643	22	07			NON			Carrier unmodulated; appeared just after the unid digi signal QRT
7025	0654	02	07			F1B		200 Hz	
7050	0708	06 vd*	07			J3E-L			Speech, propaganda, music. UKR / RUS "radio war". *Also on 10 July
7055	1115 vt	01 vd*	07			J3E-L			UKR / RUS "radio war": hate songs, insults, music, speech loops, and propaganda. *Almost daily
7065.9	2015	16	07			NON F1B			Carrier + some short F1B bursts
7065.9	2007v vt	17 vd*	07			NON			Long - lasting. *Often

URE; Gaspar, EA6AMM									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH /	DETAILS
7087	1950	07	07			XXX		ca. 2K8E	OFDM
7090	2148	28	07			J3E-U			Endless loop (insults). UKR / RUS "radio war"
7125	0721	26	07			J3E-L			Music
7138	2306	12	07			F1B	75	200	
7159	0610 vt	02 vd*	07			G7D		6K0E	LINK 11 CLEW. DSB. All day long. *Also on 03, 04, 05, 07
7170	1821	13	07			J7D	120	2K70E	CIS-12 aka AT3004D
7173	2005	17	07			J7D	120	2K70E	CIS-12 aka AT3004D. Long - lasting. *Also on 18 July at 0629 UTC
7183	1629	17	07			FMOP	40	12K0E	OTHR Contayner
7177	2011	10	07			FMOP	40	12K0E	OTHR Contayner
7188	225	14	07			FMOP	40	12K0E	OTHR Contayner
10126	1659	13	07			FMCW	6.94	10K0E	OTHR sweeps. BD ca. 18 sec. QSY to 10124 kHz at 1720 UTC (10124 kHz = usual QRG where it is sometimes copied)
10128	1521	05	07			FMOP	40	12K0E	OTHR Contayner
10157	2155	23	07			FMOP	40	12K0E	OTHR Contayner
14008	1427 vt*	09 vd*	07			F1B	50	250	*Also on 23 July, 0951 UTC 30 July 0531 UTC. Often
14049	0849	06	07			FMOP	40	12K0E	OTHR Contayner
14052	1752	21	07			FMOP	40	12K0E	OTHR Contayner. 2 simultaneous TX: 14052 + 14109 kHz
14052	1821	21	07			FMOP	40	12K0E	OTHR Contayner
14054	0717	28	07			FMOP	40	12K0E	OTHR Contayner
14068.5	0633 vt*	08 vd*	07			XXX	600	1K20E	DPRK 1200. *Also on 14 July, 0633 UTC and 21 July, 0646 UTC
14068.5	0633	19	07			XXX	600	600 Hz	DPRK-FSK 600 ARQ
14090	1721	31	07			FMOP	40	12K0E	OTHR Contayner. 2 simultaneous TX on 20 m: 14090 + 14190 kHz
14091	1505	30	07			FMOP	40	12K0E	OTHR Contayner
14092	1453	31	07			FMOP	40	12K0E	OTHR Contayner
14095	0629	21	07			XXX	50	10K0E	OTHR
14107	1611	31	07			FMOP	40	12K0E	OTHR Contayner
14105.5	1633	05	07			FMOP	40	12K0E	OTHR Contayner
14108	11:11 vt*	01 vd*	07		**	A1A	21		Encrypted QTCs. Cyrillic CW characters used. *Often. Sometimes, unid St DQRM TX "QSY" repeatedly. **Idents: ONOR, VWCB, 8YDE, NWQA, PMGM, CBCD, DNON, 7OVM, 6SHS, XKSZ, Y2, MZD4, V8KE, JTJP
14109	1732	21	07			FMOP	40	12K0E	OTHR Contayner
14109	1752	21	07			FMOP	40	12K0E	OTHR Contayner. 2 simultaneous TX: 14109 + 14152 kHz
14114	1316	22	07			FMOP	40	12K0E	OTHR Contayner
14117.8	0552	26	07			N0N			Carrier. Long - lasting
14118	0909	05	07			J7D	120	2K70E	CIS-12 aka AT3004D
14120	1854	05	07			A1A	16		Encrypted QTCs.

URE; Gaspar, EA6AMM									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH /	DETAILS
14120	0644	16	07			FMOP	40	12KOE	OTHR Contayner
14120	1855 vt*	23 vd*	07			A1A			Unid St TX letters, numbers, signs, Cyrillic CW characters and unknown CW characters.* Also on 25 July, 1850 UTC
14127	1826	05	07			FMOP	40	12KOE	OTHR Contayner
14129	0745	21	07			FMOP	66.66	10KOE	OTHR bursts. BD ca. 4 sec. "Foghorn"
14138	0943	29	07			FMOP	66.66	10KOE	OTHR bursts. BD ca 4 sec. "Foghorn"
14138	2043	29	07			FMOP	40	12KOE	OTHR Contayner. 2 simultaneous TX on 20 m: 14138 + 14328 kHz
14140	1939	07	07			FMOP	40	12KOE	OTHR Contayner. 2 simultaneous TX: 14140 + 14173 kHz
14140	1713	31	07			FMOP	40	12KOE	OTHR Contayner. 2 simultaneous TX on 20 m: 14140 + 14107 kHz
14142	1302	15	07			FMOP	40	12KOE	OTHR Contayner
14143	1448 vt*	04 vd*	07			FMOP	40	12KOE	OTHR Contayner. *Also on 27 July, 1030UTC
14144	0910	21	07			FMOP	40	12KOE	OTHR Contayner
14149	1044	21	07			FMOP	40	12KOE	OTHR Contayner
14156	1503	31	07			FMOP	40	12KOE	OTHR Contayner
14159	2045	29	07			FMOP	40	12KOE	OTHR Contayner. 2 simultaneous TX on 20 m: 14159 + 14328 kHz
14161	1400	21	07			FMOP	40	12KOE	OTHR Contayner. 2 simultaneous TX: 14161 + 14185 kHz
14163	1452	13	07			FMOP	40	12KOE	OTHR Contayner
14173	1942	07	07			FMOP	40	12KOE	OTHR Contayner. 2 simultaneous TX: 14173 + 14140 kHz
14175	2014 vt*	04 vd*	07			FMOP	40	12KOE	OTHR Contayner. *Also on 21 July at 1003 UTC
14178	1100 vt*	14 vd*	07			FMOP	40	12KOE	OTHR Contayner. *Also on 17 July at 1411 UTC
14179	1432	09	07			FMOP	40	12KOE	OTHR Contayner
14180	0629	30	07			FMOP	40	12KOE.	OTHR Contayner
14182	2250 vt*	14 vd*	07			FMOP	40	12KOE	OTHR Contayner. Long - lasting. *Also on 15 July at 0534 UTC.
14185	1311	21	07			FMOP	40	12KOE	OTHR Contayner
14185	1400	21	07			FMOP	40	12KOE	OTHR Contayner. 2 simultaneous TX: 14185 + 14161 kHz
14186	1832 vt*	04 vd*	07			F1B	50	500 Hz	*Also on 05, 06 July
14188	0518	30	07			FMOP	40	12KOE	OTHR Contayner. 2 simultaneous TX on 20 m: 14188 + 14328 kHz
14188	1407	30	07			FMOP	40	12KOE	OTHR Contayner
14189	1319	31	07			FMOP	40	12KOE	OTHR Contayner
14190	1721	31	07			FMOP	40	12KOE	OTHR Contayner. 2 simultaneous TX on 20 m. 14190 + 14090 kHz
14191	0628 vt*	25 vd*	07			FMOP	40	12KOE	OTHR Contayner. *Also on 27 July, 0642 UTC
14194	1616	08	07			FMOP	40	12KOE	OTHR Contayner. 2 simultaneous TX: 14194 + 14300 kHz
14195	0530	22	07			XXX	50	10KOE	OTHR.

URE; Gaspar, EA6AMM									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH /	DETAILS
14195	0623 vt*	23 vd*	07			FMOP	40	12KOE	OTHR Contayner. *Also on 31 July, 1103 UTC
14200	1036	21	07			FMOP	40	12KOE	OTHR Contayner
14208.5	0634	05	07			XXX	600	600	DPRK-FSK 600
14211	0709	14	07			FMOP	40	12KOE	OTHR Contayner
14218	1919	05	07			FMOP	40	12KOE	OTHR Contayner
14220	1709	05	07			FMOP	40	12KOE	OTHR Contayner
14221	0619 vt	05 vd*	07			F1B	20	200 Hz	*Often
14221.4	2320 vt*	14 vd*	07			F1B	50	200 Hz	Long - lasting. *Also on 15 July at 0655 UTC. Usually copied at 14221 kHz
14223	1038 vt*	11 vd*	07			FMOP	40	12KOE	OTHR Contayner. *Also on 28 July, 1321 UTC
14224	0935	25	07			FMOP	66.66	10KOE	OTHR bursts. BD ca. 4 sec. "Foghorn"
14227	0818	31	07			FMOP	50	10KOE	OTHR bursts. BD ca. 4 sec. "Foghorn"
14228	0649	05	07			F1B		250 Hz	
14252	114	21	07			FMOP	40	12KOE	OTHR Contayner
14258	0707 vt	04 vd*	07			F1B		500 Hz	*Also on 05, 06 July
14265	0546	28	07			FMOP	40	12KOE	OTHR Contayner
14267	0652	27	07			FMOP	66.66	10KOE	OTHR bursts. BD ca. 4 sec. "Foghorn"
14289	2025	17	07			XXX		ca 6KOE	Unid digital signal
14292	0557	17	07			F1B	100	500 Hz	
14292	0642	18	07		WDB9 2CBA	A1A	18		Encrypted QTCs.
14292	1639	31	07			FMOP	40	12KOE	OTHR Contayner. 2 simultaneous TX on 20m: 14292 + 14107 kHz
14294	0728	21	07			J7D	120	2K7OE	CIS-12 aka AT3004D
14298	0631	09	07			FMOP	40	12KOE	OTHR Contayner
14300	1616	08	07			FMOP	40	12KOE	OTHR Contayner. 2 simultaneous TX: 14300 + 14194 kHz
14304	0658	22	07			FMOP	40	12KOE	OTHR Contayner
14328	1053 vt*	21 vd*	07			FMOP	40	12KOE	OTHR Contayner. Also on 29 July 0557 UTC (24H; long-lasting). 30 July.
14331	0637	23	07			FMOP	66.66	10KOE	OTHR bursts. BD ca. 4 sec. "Foghorn"
14338	0558	18	07			FMOP	66.66	10KOE	OTHR bursts. BD ca. 4 sec. "Foghorn"
14345	1534	24	07			FMOP	40	12KOE	OTHR Contayner
18168	0613	18	07			FMOP	40	12KOE	OTHR Contayner
18075	0556	25	07			FMCW	50	20KOE	OTHR
18086	0555	20	07			FMCW	50	20KOE	OTHR
18161	0852	06	07			FMOP	40	12KOE	OTHR Contayner
18167	1105	15	07			FMOP	40	12KOE	OTHR Contayner
21000	1433	17	07			J3E-U			Spanish fishers
21001.5	1551 vt*	27 vd*	07			XXX		200 Hz	PACTOR 2. *Also on 29 July, 0905 UTC
21150	1424	09	07			FMOP	40	12KOE	OTHR Contayner
21195	0641	14	07			FMOP	40	12KOE	OTHR Contayner
21330	0847	31	07			FMCW	50	20KOE	OTHR

URE; Gaspar, EA6AMM									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH /	DETAILS
21438	1451 vt	04 vd*	07		RCV	A1A	18		"RCV" QTCs. *Often
28860	0637 vt	02 vd*	07			XXX	150/ 313	ca. 45KOE	OTHR bursts. *Often

USKA; Peter, HB9CET									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH /	DETAILS
80m band informational only! - Amateur co-primary, shared with other also primary allocated services!									
3510.0 USB	2124	28	07			?		ca 3k0E	unid Chirp sound, long lasting, daily
3527.0	2144	24	07			F1B	50	200H	almost daily
7014.5	0803	13	07			F1B	X	500H	
7020.0 VFO USB	1002	29	07			J7D	12x120Bd	2k70E	CIS12; with additional carrier at 7020 kHz
7025.0	1449	29	07			F1B	50	200H	
7038.0	2232	07	07			J3E-U			sounds like Village radio, no ham
7039.4	2135	24	07	RUS	M	A1A			Cluster Beacon "M": Magadan daily
7054.0	1446	22	07			F1B	50	200H	weak and strong fading
7055.0	1838 2120	14 15	07			J3E-L		2k70E	Russian-Ukraininen Radio war mutual insults, hate-raps, music daily
7058.0	1446	29	07			F1B	75	250H	
7059.9	1018	22	07			N0N			long lasting carrier
7060.0	1422	09	07			J3E-L		2k70E	Russian-Ukraininen Radio war mutual insults, hate-raps, music often
7060.0	1349	21	07			J7D	12x120Bd	2k70E	CIS12, PSK
7061.0 LSB	1845	10	07			PSK-4	30x60Bd	ca 2k50E	CHN30 (PRC30); Burst system; tone spacing 75 Hz; Preamble 4x PSK4 60Bd, spacing 600Hz; Pilot tone at 450Hz
7068.0	1148	23	07			J7D	12x120Bd	2k70E	CIS12 PSK
7087.0	2100	07	07			OFDM xx	?	2k80E	OFDM with pilot tone at 3300Hz
7088.0	0621	07				F1B	75	250H	
7101.0	1349	22	07			J7D	12x120 Bd	2k70E	CIS12
7111.0 LSB	1303	21	07			PSK-4	30x60Bd	ca 2k50E	CHN30 (PRC30); Burst system; tone spacing 75 Hz; Preamble 4x PSK4 60Bd, spacing 600Hz; Pilot tone at 450Hz
7118.0	0732 1234	13 28	07			J7D	12x120Bd	2k70E	CIS12, PSK often
7138.0	0712	13	07			F1B		200H	
7140.0	1826	14	07	ERI	VOBM 1	A3E		ca 9k	BC: Voice of the broad Masses 1 daily
7158.0	0748	13	07			F1B		250H	
7160.0	0711	15	07			J7D	idling	2k70E	CIS12, idling
7180.0	1829	14	07	ERI	VOBM2	A3E		~ 9k	BC: Voice of the broad Masses 2 often
7188.0	2249	14	07			FMOP	40 sps	12k0E	OTHR; Contayner
7197.0	2223	12	07	TUR	various	MFSK8	125	1750	ALE, MIL 188-141A; TUR Emergency Network daily
14000.0	1454 1410	17 20	07	CHN?		A3E		ca 9k0E	BC; sounds like Chinese language
14008.0	0811	26	07			F1B	50	250H	often
14066.3	1506	09	07			PSK4	8x75 Bd		CHN 4+4 QPSK 75Bd, tone spacing between carriers 300Hz; between tone 4 and 5 = 450Hz
14102.0	0821	14	07			OFDM60	XX	2k80E	Pilot tone at 3300Hz
14143.0	2301	27	07			FMOP	40 sps	12k0E	OTHR; Contayner

USKA; Peter, HB9CET									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD / sps	SH /	DETAILS
14145.0	1443	15	07			FMOP	40 sps	12k0E	OTHR; Contayner
14155.0	1157	28	07			FMOP	40 sps	12k0E	OTHR; Contayner
14161.0	1357	21	07			FMOP	40 sps	12k0E	OTHR; Contayner
14171.0	0730	27	07			J7D	12x120 Bd	2k70E	PSK-2; CIS12 aka AT3004D
14177.0	0849	14	07			FMOP	40 sps	12k0E	OTHR; Contayner
14185.0	1316	21	07			FMOP	40 sps	12k0E	OTHR; Contayner
14186.0	2059	04	07			F1B		500H	
14191.0	0635	25	07			FMOP	40 sps	12k0E	OTHR; Contayner often
14221.0	2047 2321	12 27	07	KAZ		F1B	50	200H	CIS almost daily
14223.0	1348	28	07			FMOP	40 sps	12k0E	OTHR; Contayner
14241.5	0945	17	07			J7D	12x120 Bd	2k70e	PSK-2; CIS12 aka AT3004D
14258.0	0813	04	07			F1B	50	500H	TDoA near Moscow (Tom)
14261.0	1427	15	07			FMOP	40 sps	12k0E	OTHR; Contayner
14292.0	0639	17	07			F1B	XX	500H	strong
14298.0	0719	09	07			FMOP	40 sps	12k0E	OTHR; Contayner
14300.0	1448	08	07			FMOP	40 sps	12k0E	OTHR; Contayner
18075.0	0656	25	07			FMCW	50 sps	20k0E	OTHR, partially in 17m Band
18080.0	0739	13	07	TWN	Sound of Hope	A3E		ca 12k	BC; Chinese language often
21015.0	0819	27	07			FMCW	50 sps	20k0E	OTHR;
21050.0	0803	25	07			FMCW	50 sps	20k0E	OTHR;
21065.0	1502	26	07			FMOP	40 sps	12k0E	OTHR; Contayner
21438.0	0854	09	07		RCV	A1A			TDoA: Area of Sevastopol daily
28020.36	0915	16	07		MN	NON/A1A			Fishery buoy
28051.00	0913	16	07		EH	NON/A1A			Fishery buoy
28111.57	1416	09	07		BN	NON/A1A			Fishery buoy
28114.55	0954	16	07		EE	NON/A1A			Fishery buoy
28119.39	0917	16	07		FE	NON/A1A			Fishery buoy
28139.72	1409	09	07		AC	NON/A1A			Fishery buoy
28144.69	1526	09	07		CA	NON/A1A			Fishery buoy
28149.9	1414	09	07		FA	NON/A1A			Fishery buoy
28285.0	1419	09	07			J3E-L			Italian; no ham, sounds like phone talk
28299.28	1535	22	07		HA	NON/A1A			Fishery buoy
28860.0	0934	09	07	IRN		AMOP?	150 + 313 sps	ca 45k	OTHR, Bursts; long lasting, sweep rate alternating almost daily

VERON; Ruud, PG1R									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3527.0	2006	29	07	CIS	UiPTR	F1B			Revs/Ptr
7008.0	1738	10	07	RUS	UiPtr	F1B		200	
7055.0	1402	01	07	UKR	UiBC	J3E-L			Loop: "Thank you Russians stay away"
7055.0	1948	02	07		UiBC	J3E-L			propaganda loop
7055.0	1730	06	07		UiBC	J3E-L			"Ukraine shit" loop
7055.0	1534	07	07		UiBC	J3E-L			music
7055.0	1741	21	07		UiBC	J3E-L			music-voices-qrm-chaos
7060.0	1740	21	07		UiBC	J3E-L			political talks
7100.0	1731	06	07		UiBC	J3E-L			political talks Rus
7160.0	0927	06	07		Bursts				loc. Baltic Sea TDOA
10108.0	1008	18	07	CIS	UiPTR	F1B			Revs/Ptr

VERON; Ruud, PG1R									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
10108.0	0957	21	07	CIS	UiCW	F1A			XXX followed by F1B Revs/Ptr
10108.0	1007	21	07	RUS	RDL	F1A			RDL 85765 20683 K
10108.0	1016	21	07	RUS	RDL	F1A			RDL 08909 95865 K
10108.0	1006	23	07	CIS	WEGI	A1A			UUU XXX WEGI 77814 22013 BAKOZUB 4328 3447 K
10108.0	1008	29	07	RUS	RDL	F1A			RDL 93873 95614 K
10118.0	0940	17	07		UiPTR	F1B			Ptr
14008.0	1015	01	07	CIS	UiPTR	F1B			Carrier/Revs/Ptr
14029.5	1705	12	07		UiPTR	F1B			Fast Revs
14051.0	0912	06	07		OTHR	FMOP			radar
14108.0	1010	02	07	CIS	ZMN6	A1A			9E2F de ZMN6 QTC K
14108.0	1016	02	07	CIS	ZMN6	A1A			ZMN6 QTC 071 37 2 1306 071 = 382 = MMMMM 5BL
14108.0	0955	03	07	CIS	MQ1D	A1A			DONR de MQ1D QTC K
14108.0	1000	03	07	CIS	MQ1D	A1A			MQ1D QTC 999 52 3 1248 999 = 899 = MMMMM 5BL
14108.0	1043	07	07	CIS	2JO8	A1A			Calls to YCIX K7Y3 FF6N
14108.0	0955	11	07	CIS	8WIY	A1A			W7OJ de 8WIY QTC 317 39 11 1248 317 = ZME 824 = MMMMM 5BL
14108.0	0946	13	07	RUS	UiCW	A1A			tfc rpt txt ads k
14108.0	0933	18	07	CIS	HAQP	A1A			2BLM de HAQP QRV K RPT SIG K R 463 K
14108.0	1022	21	07	CIS	CDCB	A1A			CDCB ZOL ZGA ZCT QYT9 K
14108.0	1027	21	07	CIS	6SHS	A1A			7OVM de 6SHS QBE QYT6 K
14108.0	1028	21	07	CIS	6SHS	A1A			6SHS ZON ZGT ZCJ QYT9 K
14108.0	0938	22	07	CIS	6EZM	A1A			6EZM R 050 K
14108.0	0949	23	07	CIS	WEGI	A1A			XXX WEGI 22013 BAKOZUB 4328 3447
14108.0	1016	23	07	CIS	SGMN	A1A			TEKZ de SGMN QTC 641 35 23 1304 641 = 553 = MMMMM 5BL
14108.0	0908	30	07	CIS	WEGI	A1A			XXX WEGI 76331 66724 TMINODER 1886 6053 AZORFFI 6701 9394 RISKOWYJ 1694 1992 K
14108.0	0915	30	07	CIS	C1OB	A1A			XXX C1OB 51730 TEMPORUAN 3249 3412 ARYKOKRAT 0245 6323 FALOFANT 3395 7160 KROWLaa 9714 7889 K
14108.0	0956	31	07	CIS	XKSZ	A1A			1JHG de XKSZ QTC ZYD K
14108.0	0956	31	07	CIS	XKSZ	A1A			XKSZ 681 53 31 1250 681 = ZYD 617 = MMMMM 5BL
14108.0	1014	31	07	CIS	XKSZ	A1A			MZD4 de XKSZ ZWB ZYE ZTC QYT9 K
14108.0	1017	31	07	CIS	VGQQ	A1A			6KZN de VGQQ QBE QYT9 K
14108.0	1020	31	07	CIS	XKSZ	A1A			MZD4 de XKSZ ZIH ZJD ZGC QYT9 K
14108.0	1025	31	07	CIS	XKSZ	A1A			Y1CQ QTC ZIY AR (Y1CQ = CQ)
14108.0	1026	31	07	CIS	XKSZ	A1A			XKSZ 847 42 31 1306 847 = ZIY 6.. = MMMMM 5BL
14108.0	1027	31	07	CIS	XKSZ	A1A			MZD4 de XKSZ QJG QYT9 K
14108.0	1032	31	07	CIS	BWTL	A1A			1JH9 de BWTL QBE QYT9 K
14108.0	1034	31	07	CIS	XKSZ	A1A			R 847 ? Calls to 6KZN 1JH9 KEV8 6WY2 MZD4 JTJP
14210.0	0701	14	07		OTHR	FMOP			radar

VERON; Ruud, PG1R									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14226.0	1040	11	07	RUS	OTHR	FMOP			radar
14241.0	1021	17	07	RUS	UiMux	12MPSK			AT3004D loc. nr Moscow TDOA
14257.5	0922	04	07		UiPTR	F1B			Ptr
14258.0	0824	04	07		UiPtr	F1B		500	Ptr
14258.0	0857	06	07		UiPtr	F1B		500	Ptr
14258.0	0940	16	07		UiCW	A1A			Strings of VVV's
14291.0	1029	17	07		UiCAR	NON			carrier
14292.0	0935	17	07		UiPTR	F1B			Ptr
14302.0	1531	08	07		OTHR	FMOP			TDOA nr Novogorod
21299.0	0930	23	07		UiPTR	F1B			Idling
21438.0	0910	13	07	RUS	RCV	A1A			RIP90 de RCV QTC 282 44 6 1331 282 = Nawarea .32 865
21438.0	0945	13	07	RUS	RCV	A1A			RMKW de RCV QSA? QTC K

Typically for the summer time and sporadic E, driftnet buoys from fishery can be found again in the 10m band. Here is a short report by DK2OM and DJ7KG, many thanks.

DARC special: Fishery buoys on 10m as of July 2020						
Frequency	ID	Date	UTC	QTE	Hrd by	returning
28.00970	DF	23.07.2020	2049	170°	DK2OM	
28.01980	CF	21.07.2020	16:40	160-220°	DK2OM	every 2'32"
28.02030	MTI	27.07.2020	1656	170°	DK2OM	
28.02080	EB	27.07.2020	1656	160-220°	DK2OM	every 1'40"
28.09980	CF	29.07.2020	1947	130-220°	DK2OM	every 2'32"
28.10450	EE	14.07.2020	1918	150-220°	DK2OM	
28.10460	FO	14.07.2020	1920	150-170°	DK2OM	
28.10600	ME	23.07.2020	2050	170°	DK2OM	
28.10660	MT	27.07.2020	1706	130-220°	DK2OM	
28.11977	FE	21.07.2020	1651	130-220°	DK2OM	every 1'45"
28.12467	FO	21.07.2020	1650	160-220°	DK2OM	every 2'30"
28.13980	AC	21.07.2020	1636	150-220°	DK2OM	every 2'30"
28.13980	AY	14.07.2020	1918	150-220°	DK2OM	every 2'30"
28.14460	EE	23.07.2020	2039	130-220°	DK2OM	every 1'35"
28.14980	FA	18.07.2020	1934	170-220°	DK2OM	
28.16487	AR	23.07.2020	2033	170°	DK2OM	every 2'10"
28.17960	FA	15.07.2020	1914	160-220°	DK2OM	every 1'40"
28.17969	FN	15.07.2020	1913	160-170°	DK2OM	every 2'30"
28.18150	CT	18.07.2020	1935	160-170°	DK2OM	every 2'
28.18470	FO	23.07.2020	2039	160-170°	DK2OM	every 2'30"
28.18950	AY	27.07.2020	1659	130-220°	DK2OM	every 2'30"
28.18970	FA	27.07.2020	1659	160-220°	DK2OM	every 2'30"
28.18980	X	14.07.2020	1635	150°	DK2OM	
28.20110	DO	10.07.2020	1625	160-180°	DJ7KG	every 1'40"
28.20140	DK	23.07.2020	2051	170°	DK2OM	
28.20150	CO	18.07.2020	1936	160-170°	DK2OM	
28.20490	CA	29.07.2020	1937	130-220°	DK2OM	every 2'30"
28.20950	FE	15.07.2020	1918	170-220°	DK2OM	every 1'30"
28.20990	AY	21.07.2020	1639	150-220°	DK2OM	every 2'30"

DARC special: Fishery buoys on 10m as of July 2020						
Frequency	ID	Date	UTC	QTE	Hrd by	returning
28.21550	FA	27.07.2020	1702	170°	DK2OM	
28.23970	FE	10.07.2020	1615	160-180°	DJ7KG	every 1'45"
28.23990	AY	10.07.2020	1616	160-220°	DJ7KG	every 2'30"
28.24120	CT	14.07.2020	1926	150°	DK2OM	every 1'50"
28.24650	D	23.07.2020	2048	130-220°	DK2OM	every 1'43"
28.25960	AY	21.07.2020	1648	150-180°	DK2OM	
28.28980	X	14.07.2020	0808	150°	DK2OM	
28.29940	RF	15.07.2020	1908	150-170°	DK2OM	
28.29960	FR	23.07.2020	2041	160-220°	DK2OM	every 2'30"
28.29974	AY	21.07.2020	1644	130-180°	DK2OM	every 2'30"
28.29990	FA	15.07.2020	1908	170-220°	DK2OM	
28.30460	EE	23.07.2020	2035	130-220°	DK2OM	every 1'40"
28.32155	DF	23.07.2020	2047	150-220°	DK2OM	every 1'45"
28.33963	FR	27.07.2020	1703	150-180°	DK2OM	every 2'30"
28.35955	FK	21.07.2020	1652	130-220°	DK2OM	every 1'30"
28.38660	AY	21.07.2020	1652	150°	DK2OM	
28.40470	EE	23.07.2020	2045	130-220°	DK2OM	every 1'40"
28.41965	EH	18.07.2020	1937	170°	DK2OM	every 1'40"
28.47490	EA	27.07.2020	1704	170°	DK2OM	

Footnotes in the ITU Radio Regulations, affecting also amateur radio bands on shortwave

All information's non-binding. IARU is not liable for any errors or omissions.

Source: - ITU Radio Regulations 2016
 - ECA European Table of Frequency Allocations and Applications 2019
 (excellent online tool: <https://www.efis.dk/>)

160m Band

5.92 Some countries of Region 1 use radio determination systems in the bands 1606.5-1625 kHz, 1635-1800 kHz, 1850-2160 kHz, 2194-2300 kHz, 2502-2850 kHz and 3500-3800 kHz, subject to agreement obtained under No. 9.21. The radiated mean power of these stations shall not exceed 50 W

5.98 Alternative allocation: in Armenia, Azerbaijan, Belarus, Belgium, Cameroon, Congo (Rep. of the), Denmark, Egypt, Eritrea, Spain, Ethiopia, the Russian Federation, Georgia, Greece, Italy, Kazakhstan, Lebanon, Lithuania, the Syrian Arab Republic, Kyrgyzstan, Somalia, Tajikistan, Tunisia, Turkmenistan and Turkey, the frequency band 1810-1830 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-15)

5.99 Additional allocation: in Saudi Arabia, Austria, Iraq, Libya, Uzbekistan, Slovakia, Romania, Slovenia, Chad, and Togo, the band 1810-1830 kHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

5.100 In Region 1, the authorization to use the band 1810-1830 kHz by the amateur service in countries situated totally or partially north of 40° N shall be given only after consultation with the countries mentioned in Nos. 5.98 and 5.99 to define the necessary steps to be taken to prevent harmful interference between amateur stations and stations of other services operating in accordance

5.103 In Region 1, in making assignments to stations in the fixed and mobile services in the bands **1850-2045 kHz**, 2194-2498 kHz, 2502-2625 kHz and 2650-2850 kHz, administrations should bear in mind the special requirements of the maritime mobile service.

80m Band

Primary co-allocated to AMATEUR, FIXED, MOBILE EXCEPT AERONAUTICAL

5.92 Some countries of Region 1 use radio determination systems in the bands 1606.5-1625 kHz, 1635-1800 kHz, **1850-2160 kHz**, 2194-2300 kHz, 2502-2 850 kHz and **3500-3800 kHz**, subject to agreement obtained under No. 9.21. The radiated mean power of these stations shall not exceed 50 W.

40m Band

5.140 Additional allocation: in Angola, Iraq, Somalia and Togo, the frequency band **7000-7050 kHz** is also allocated to the fixed service on a primary basis. (WRC-15)

5.141 Alternative allocation: in Egypt, Eritrea, Ethiopia, Guinea, Libya, Madagascar and Niger, the band **7000 - 7050 kHz** is allocated to the fixed service on a primary basis. (WRC-12)

5.141A Additional allocation: in Uzbekistan and Kyrgyzstan, the bands **7000-7100 kHz and 7100-7200 kHz** are also allocated to the fixed and land mobile services on a secondary basis. (WRC-03)

5.141B Additional allocation: in Algeria, Saudi Arabia, Australia, Bahrain, Botswana, Brunei Darussalam, China, Comoros, Korea (Rep. of), Diego Garcia, Djibouti, Egypt, United Arab Emirates, Eritrea, Guinea, Indonesia, Iran (Islamic Republic of), Japan, Jordan, Kuwait, Libya, Mali, Morocco, Mauritania, Niger, New Zealand, Oman, Papua New Guinea, Qatar, the Syrian Arab Republic, Singapore, Sudan, South Sudan, Tunisia, Viet Nam and Yemen, the frequency band **7100-7200 kHz** is also allocated to the fixed and the mobile, except aeronautical mobile (R), services on a primary basis. (WRC-15)

20m Band

5.152 Additional allocation: in Armenia, Azerbaijan, China, Côte d'Ivoire, Georgia, Iran (Islamic Republic of), Kazakhstan, Uzbekistan, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the band **14250-14350 kHz** is also allocated to the fixed service on a primary basis. Stations of the fixed service shall not use a radiated power exceeding 24 dBW. (WRC-03)

17m Band

5.154 Additional allocation: in Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the band **18068-18168 kHz** is also allocated to the fixed service on a primary basis for use within their boundaries, with a peak envelope power not exceeding 1 kW. (WRC-03)

CEPT Europe - all bands

For frequency allocations in Europe visit the online tool from CEPT. Also read the notes on applications! You can search by country, allocation, application etc

Link: <https://www.efis.dk/sitecontent.jsp?sitecontent=ecatoble>

ECA 36 A frequency band, which has been harmonized by NATO and NATO member nations for military use as defined in the NATO Joint Civil/Military Frequency Agreement (NJFA) 2014. Note: NATO Joint Civil/Military Frequency Agreement (NJFA) - Extract for Public Disclosure – 14 February 2017

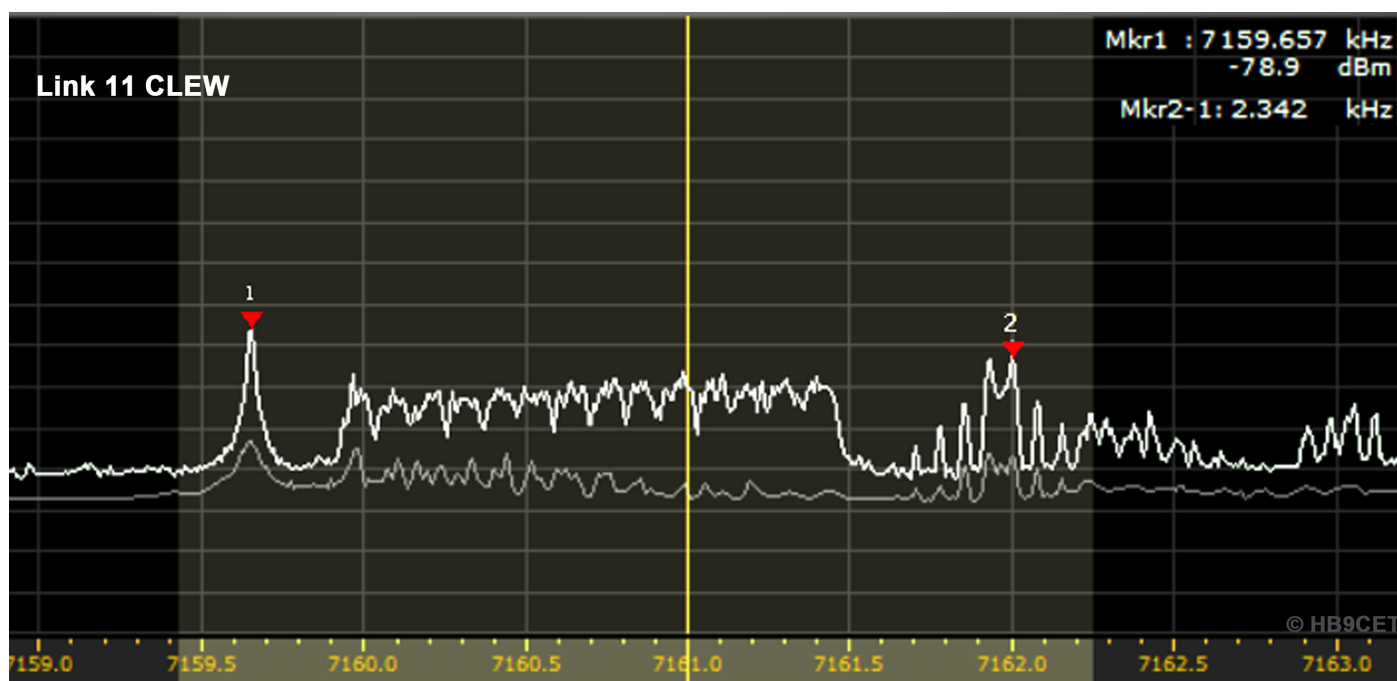
Link: <https://efis.dk/documents/51515>

Wiki: https://en.wikipedia.org/wiki/NATO_Joint_Civil/Military_Frequency_Agreement

CONSTITUTION OF THE INTERNATIONAL TELECOMMUNICATION UNION ITU Chapter VII Article 48 - Special provisions for radio

Installations for national defence services

1. Member States retain their entire freedom with regard to military radio installations.
2. Nevertheless, these installations must, so far as possible, observe statutory provisions relative to giving assistance in case of distress and to the measures to be taken to prevent harmful interference, and the provisions of the Administrative Regulations concerning the types of emission and the frequencies to be used, according to the nature of the service performed by such installations.
3. Moreover, when these installations take part in the service of public correspondence or other services governed by the Administrative Regulations, they must, in general, comply with the regulatory provisions for the conduct of such services.



LINK 11 CLEW Screenshot with Perseus SDR; RF (VFO); frequency 7159.0 kHz USB

**Visit and follow us on the new IARU-R1 Web with our newly created
IARU MS Monitoring pages!**
<https://www.iaru-r1.org/spectrum/monitoring-system/>

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Many thanks to everyone who helped us in any manner, be it with effective hardware or software. We cannot be successful without your valuable support - we need it!