



# Part 1: News and Infos

## 1. DL1BDF – Mustapha – silent key



Mustapha passed away on Sept. 10<sup>th</sup> 2018. His main passions were aviation (Lufthansa flight captain) and Amateurradio. I got his acquaintance about 20 years ago. We often met on later Hamradios and exchanged many experiences. He was very interested in saving our bands. So he decided to give us his assistance as an unofficial member of our Monitoring Team Region 1. He did so much for international friendship by amateur-radio. We will keep you in our minds dear Mustapha!

**DL1BDF (right) and DK2OM at the Hamradio 2017**

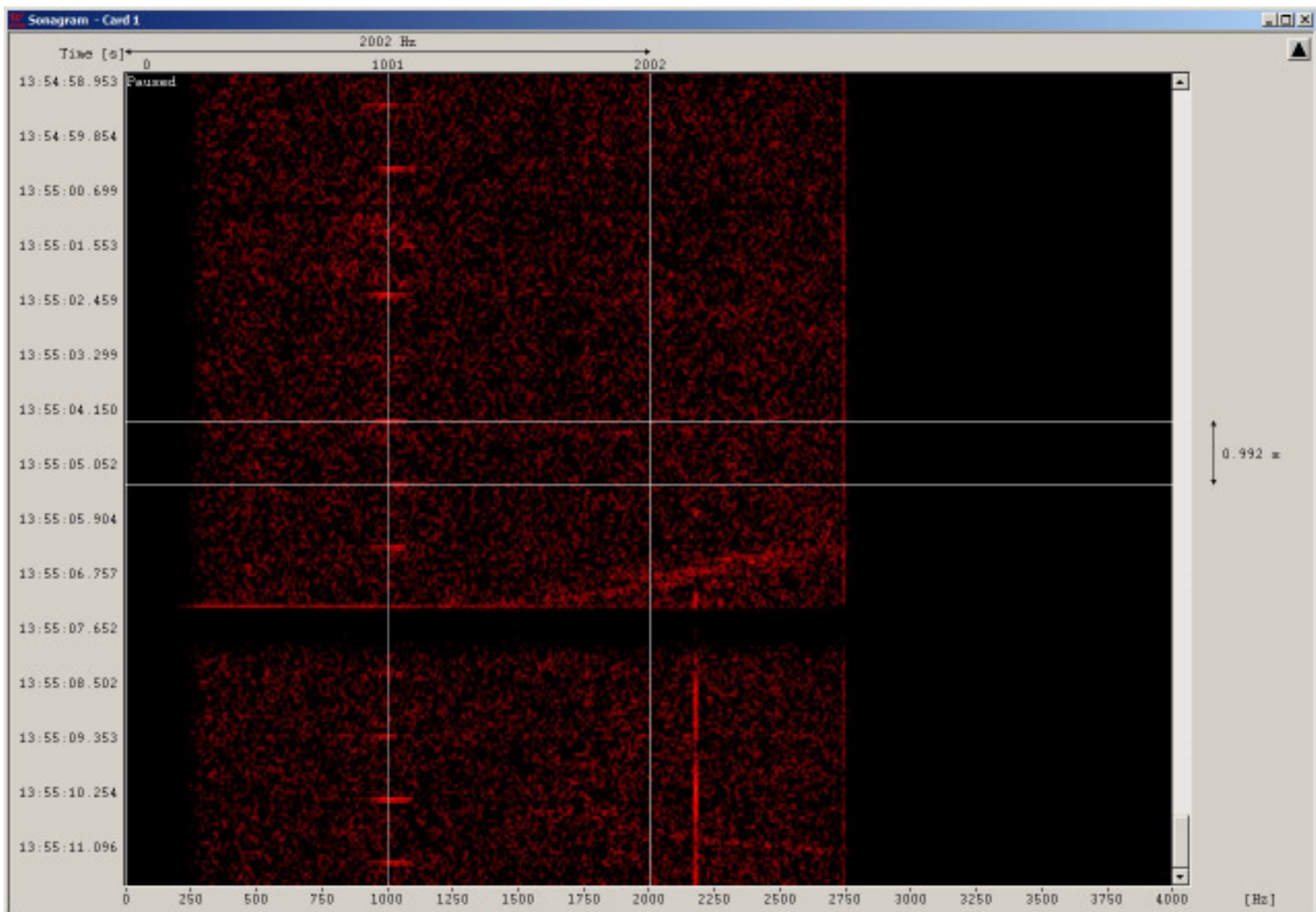
## 2. Senseless and silly QRM by a German Ham

We observed a Russian MIL F1B on 7179.0 kHz with 75 Bd and 200 Hz shift on Nov. 15<sup>th</sup>. The signal was disturbed by dots and dashes on the space QRG by a Ham in East-Germany like often before and even on 80 m (shared band).

## 3. Mysterious dots (“pips”) on our bands

Several members of our team reported mysterious pips on our bands and other shortwave ranges.

**Screenshot:** pips on 10115 kHz on Nov. 16<sup>th</sup> at 1353 utc – by DK2OM with Wavecom W-Code



## Please read the comments of DF5JL – Tom:

Hi folks,

For some time now, we observe short beeps in large parts of the HF bands, each in the exact rhythm of a second. What sounds like a time signal transmitter changes its frequency after a few minutes by a few kilohertz, up or down. Yesterday at noon such signals also appeared in the 30 m band, on 10108 and 10115 kHz.

If you work with an SDR, you can observe this frequency hopping very well: For example, the signal appears on 18834.0 kHz, then jumps to 18899.0 kHz. This is followed by 18132.0, 18077.0, 18142.0, 18067.0 and back to 18834.0 kHz. Because of a lot of reports we know: One of the mysterious transmitters is located near Chicago, near the town of Aurora or Elburn, Illinois (41.926495, -88.499110°).

It is suspected that it is an experimental licensed transmitter issued by the FCC to a company called 10Band LLC (20 kW, ERP about 800 kW) [1] and that it is associated with a planned system for low-latency exchange trading via shortwave. A transmitter of this high-speed trading system is also planned here in the Eifel near the city of Daun [2].

73 Tom DF5JL - IARU Region 1 HF Manager

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[1] <https://sniperinmahwah.wordpress.com/2018/06/07/shortwave-trading-part-ii-faq-and-other-chicago-area-sites/>

[2] <https://www.heise.de/newsticker/meldung/Boersenhandel-beschert-Kurzwellenfunk-ein-Comeback-4008891.html>

### More infos at

<https://spectrum.ieee.org/tech-talk/telecom/wireless/wall-street-tries-shortwave-radio-to-make-highfrequency-trades-across-the-atlantic>

<https://www.bloomberg.com/news/articles/2018-06-18/hft-traders-dust-off-19th-century-tool-in-search-of-market-edge>

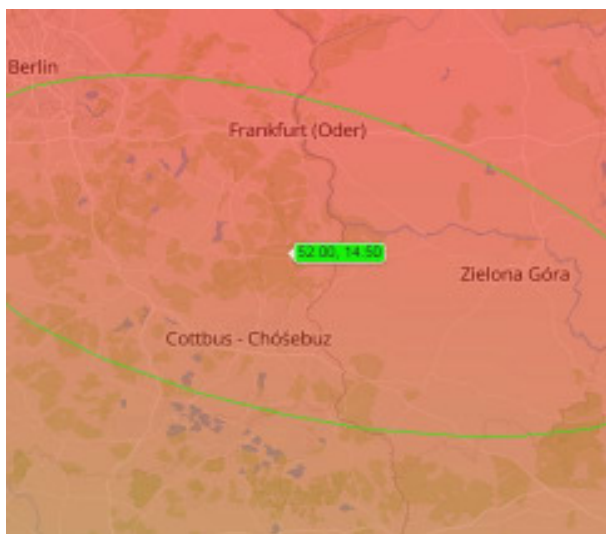
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## 4. BCs on our exclusive 40 m-band

Radio Hargeisa came back to 7120 kHz after a break of several weeks. DJ6SI (Baldur) and I took various actions to move Radio Hargeisa out of our band. But we did not have any success.

7140 and 7180 kHz were abused by Radio Eritrea. The German BNetzA Konstanz filed official complaints.

## 5. DFs with Kiwi TDoA (DF = direction finding)



7179.0 – F1B QRM from East Germany



14310.0 OTH radar from NE China

## 6. 3516.0 kHz – Spanish fishery every morning

A German HAM reported, that a Spanish fishery net is chatting on 3516.0 kHz on USB every early morning.

## 7. 1810.0 kHz – Italian pirates

We found Italian pirates on 1810.0 on USB on Nov. 26<sup>th</sup> at 1730 utc.

## 8. 7198.5 kHz – splatters from Radio Sudan

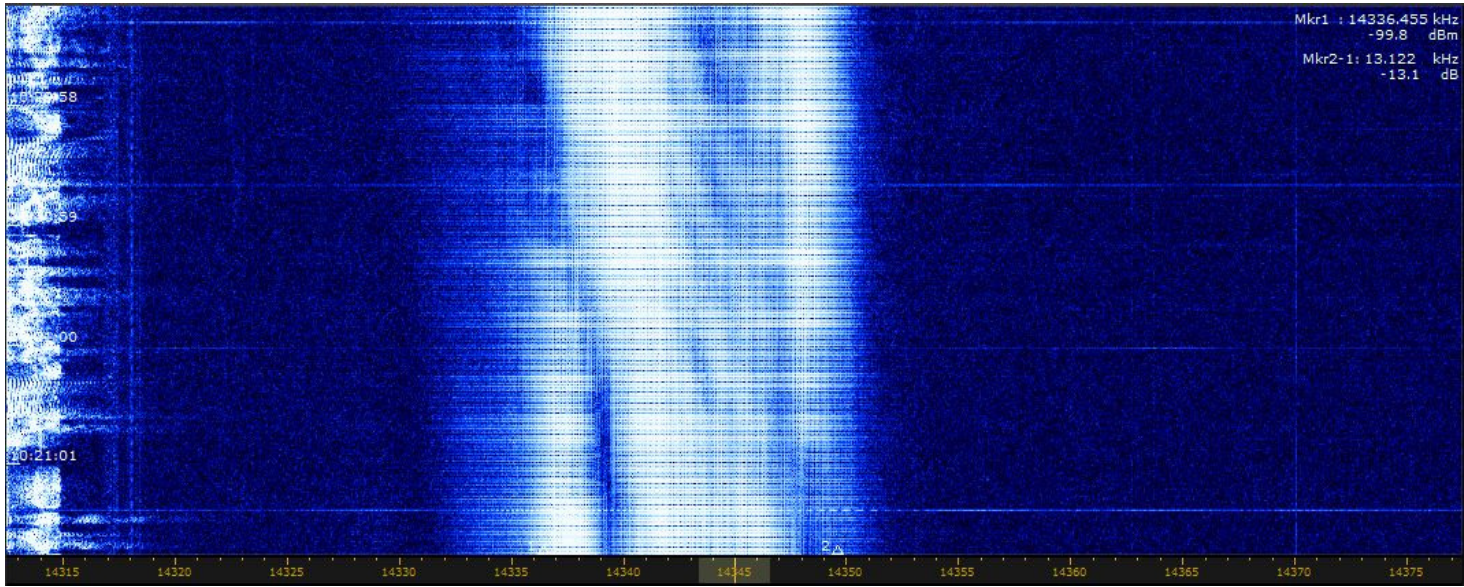
Radio Sudan on 7205 kHz caused splatters down to 7198.5 kHz. The German BNetzA Konstanz confirmed my measurements and filed an official complaint.

## 9. 29650.0 – Datawell buoy at the area of Sylt – Germany

A German HAM reported an F1B transmission on 29650.0 kHz. Parameters: F1B – 81.9 Bd – 140 Bd well known for Datawell buoys at coastal regions. The German PTT in Northern Germany will try to find out the exact location for further steps.

## 10. Russian OTH radar Contayner back on 14 MHz

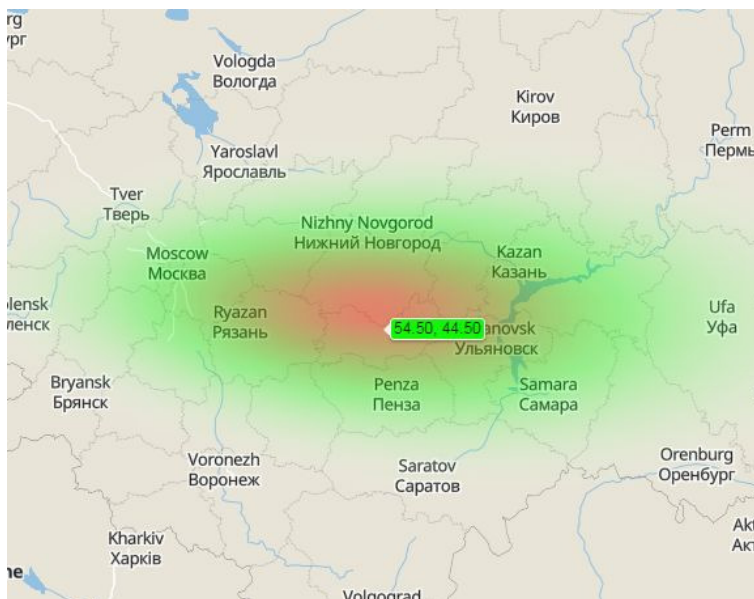
HB9CET and I observed the Russian OTH radar "Contayner" on 14 MHz. **Screenshot:** DK2OM – Contayner on 14335 – 14348 kHz with 50 sps (= PRF 50) on Nov. 22<sup>nd</sup> at 1013 utc



14335

14348

### Bearings with TDoA:



The radio location of the OTH radar transmitter on 14335 kHz is north of the city of Penza.

## 11. Miscellaneous news:

- 3516.0 kHz – USB – Spanish fishermen every morning
- 5350.0 kHz – USB – Spanish fishery – splattering up to 5353.0 kHz
- 7120 kHz – A3E – Radio Hargeisa back (daily at 1500 utc)
- 7140 and 7180 – A3E – Radio Eritrea without QRM (German PTT informed)
- 7190.0 kHz – BC from KNX 1500 – 1530 utc

- 12. Homepage IARU Region 1
- Homepage IARUMS Region 1
- Homepage IARUMS Region 2
- Homepage IARUMS Region 3
- Intruderlogger Region 1
- ITU-Monitoring Reports

- <http://www.iaru-r1.org/>
- <http://www.iarums-r1.org>
- <http://www.iarums-r2.org/>
- <http://iaru-r3.org/iaru-region-3-monitoring-system-newsletter/>
- <http://peditio.net/intruder/bluechat.cgi>
- <http://www.itu.int/en/ITU-R/terrestrial/monitoring/Pages/Regular.aspx>

Season's greetings from HB9CET (Peter) and DK2OM (Wolf)  
Best wishes and health for the new year 2019  
to all our friends and their families worldwide!

## Part 2: Detailed reports of the national Co-ordinators

DD = day \*\*\* MM = month \*\*\* dly = daily \*\*\* vt = various times \*\*\* vd = various days \*\*\* BD = Baud \*\*\* SH = shift \*\*\* SP = spacing \*\*\* Mode = mode of transmission \*\*\* A3E = AM \*\*\* A1A = CW \*\*\* J3E-U = USB \*\*\* J3E-L = LSB \*\*\* FSK (F1B) = frequency shift keying \*\*\* PSK = phase shift keying \*\*\* OFDM = orthogonal frequency division multiplex  
 ALE = (MIL-188-141A) = automatic link establishment \*\*\* MUX = multiplex \*\*\* Ui (unid) = unidentified \*\*\* Illicit = illegal  
 UiILL = unidentified illegal \*\*\* BC = broadcast \*\*\* MIL = military \*\*\* PTR = printer \*\*\* NGO = non governmental organization \*\*\* ITU = ITU country abbreviation \*\*\* PRC = People's Republic of China \*\*\* PLA = People's Liberation Army \*\*\* MFA = Ministry of Foreign Affairs \*\*\* MOI = Ministry of Interior \*\*\* MOPO = Ministry of Public Order \*\*\* IARUMS = IARU Monitoring System \*\*\* UTC = Universal Time Coordinated \*\*\* PRF = pulse repetition frequency (radar) = sps \*\*\* sps = sweeps/sec (radar systems) \*\*\* FMCW = frequency modulated continuous wave (OTH radars)  
 FMOP = frequency modulation on pulse (OTH radars) \*\*\* 5BL = cyrillic 5 lettergroups \*\*\* DF = direction finder

### DARC 1 – Germany – DG0JBJ (Mario) – OTH radar intrusions

DG0JBJ (Mario) observed 1 OTH radar on 40 m, 17 OTH radars on 20 m, 63 OTH radars on 17m, 28 OTH radars on 15 m and 0 OTH radars on 10 m in November 2018.

### DARC 2 – Germany - DK2OM (Wolf)

FSK transmissions -> center frequency between mark and space

PSK transmissions -> center QRG - ALE (MIL188-141A) -> USB QRG

exclusive bands -> black – shared bands -> blue - voice traffic -> green - BC -> red

SH = shift - SP = spread (radar) – SPS = sweeps/sec (radar) -> (aka PRF)

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
DK2OM	1810,0	1730	26	11	I		USB			Italian pirates
DK2OM	1810,5	1729	21	11	ROU		A1A			CW beacon – YR2TOP – 1810.518 kHz – just for info
DK2OM	1812,0	vt	dly	11	RUS		USB LSB			14 tones – hyperbolic radio navigation system – BRAS-3/RS-10 – Kaliningrad – daily, all day
DK2OM	1883,0	1944	26	11	RUS		F1B	75	250	east of Vologda
DK2OM	1888,0	1727	26	11	I	IPD	USB			Civitavecchia Radio, weather reports - daily
DK2OM	1925,0	vt	dly	11	I	IPL	USB			Livorno Radio, weather reports - daily
DK2OM	3503,5	vt	dly	11	G	no ITU	FSK8	125	1750	ALE – “XSS” “XPU” “XJR” – British MIL Tascomm – vt, daily - legal!
DK2OM	3520,7 RF	2045	01	11	I		PSK8A	2400	2400	Stanag-4285 – 600 bps long
DK2OM	3522,0	2055	04	11	RUS		F1B	75	250	Moscow
DK2OM	3525,0 RF	---	--	11	F		PSK8	2400	2400	Link11 – SLEW - area of Marseille
DK2OM	3525,0	1647	08	11	F		PSK8A	2400	6000	Link11-SLEW – DSB mode – Marseille – shared band!
DK2OM	3527,0	2000	dly	11	RUS		F1B	50	200	Severomorsk - daily
DK2OM	3531,0	---	--	11	RUS	REA4	N0N			unclean carrier - RUS airforce Moscow, ident: full hour + 40 min - daily
DK2OM	3532,0	---	--	11	F		PSK4	75	5800	LINK11-CLEW on both sidebands (5800 Hz wide) – area of Brest – legal!
DK2OM	3548,0	---	--	11	RUS	RDL	F1B	50	200	RUS navy Kaliningrad
DK2OM	3550,0	0630	dly	11	F		A3E			French amateurs not respecting bandplans – every morning
DK2OM	3550,7	2055	06	11	ISR		PSK4 PSK8	75 2400	2400 2400	hybrid modem – ISR Navy – PSK4 parallel and PSK8 serial - legal operation!
DK2OM	3551,5	1735	02	11	CIS		A3E			pirates in Russian voice - distorted
DK2OM	3553,8	ady	dly	11	TUR		PSK8A	2400	2400	Stanag4285 – 600 bps long -TUR MIL - Ankara – daily, all day - legal operation


DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
DK2OM	3585,0	ady	dly	11	TWN	HLL	F1C		800	WX-fax Taiwan - 120 rpm, IOC 576 - daily, all day - legal!
DK2OM	3586,0	vt	dly	11	HOL		PSK2A	40	40	Amsterdam - daily
DK2OM	3594,2	---	--	11	RUS	F	A1A			Cluster beacon F - Vladivostok RUS Navy - <b>"RJS"</b>
DK2OM	3595,0	---	--	11	RUS	K	A1A			Cluster beacon - Petropavlovsk Kamchatskiy - RUS Navy - Pacific fleet - <b>"RCC"</b>
DK2OM	3596,0	vt	dly	11	J		FSK8	125	1750	ALE, "JH1ESB" – just for info!
DK2OM	3602,0 RF	2110	03	11	TUR		PSK8A	2400	2400	Stanag-4285 - Istanbul
DK2OM	3622,5	ady	dly	11	J	JMH	F1C		800	Tokyo Meteo – 120 rpm – IOC 576 – daily, all day - legal!!!
DK2OM	3756,0	1800	dly	11	RUS		USB			RUS MIL – channel marker – Tuapse – East Black Sea – night QRG – daily
DK2OM	3792,0	2024	08	11	RUS		F1B	50	200	Kaliningrad – shared band!
DK2OM	5335,0	2013	06	11	RUS		FMOP		50k	Russian coastal radar "Sunflower" – 43 sps – 5335 – 5385 kHz - Makhachkala
DK2OM	<b>5350,0</b>	---	--	<b>11</b>	<b>E</b>		<b>USB</b>			<b>Spanish fishery – splattering up</b>
DK2OM	5355,0	2045	14	11	RUS		FMOP		50k	Russian coastal radar "Sunflower" – 43 sps – 5355 – 5405 kHz - Makhachkala
DK2OM	5361,8 RF	vt	vd	11	DNK	OUA15	PSK8A	2400	2400	Stanag-4285 – 600 bps long – assigned to Danish Navy Aarhus - legal – primary user !
DK2OM	7000,0	ady	dly	11	RUS		FMOP		14k	coastal radar Sunflower - 43 sps 7000 – 7014 kHz – NE of Vladivostok
DK2OM	7010,0	vt	vd	11	ALB	no ITU	FSK8	125	1750	ALE, "RS0" - Tirana
DK2OM	7012,0	1332	06	11	RUS		F1B	75	250	Kaliningrad
DK2OM	7018,0	---	--	11	RUS	REA4	F1B	100	800	mostly idling – Russian airforce Moscow – ident at full hour + 41 min. on F1A
DK2OM	7020,0	vt	vd	11	ALB		FSK8	125	1750	ALE, "CS004A" "RS004D" "CS004" - daily
DK2OM	7027,0	1614	08	11	RUS		F1B	50	250	
DK2OM	7030,0	0840	16	11	RUS		F1B	50	250	Moscow
DK2OM	7035,0	1540	29	11	FEa		FMOP		32	Codar like ocean surface radar 2.6 sps – 7035 – 7067 kHz
DK2OM	7036,0	1605	08	11	RUS		F1B	50	250	Moscow
DK2OM	7038,8	---	--	11	RUS	P	A1A			Cluster beacon „P“– Kaliningrad RUS Navy – <b>"RMP"</b>
DK2OM	7039,0	---	--	11	RUS	C	A1A			Cluster beacon „C“ - Moscow RUS Navy - <b>"RIW"</b>
DK2OM	7039,2	---	--	11	RUS	F	A1A			Cluster beacon „F“ - Vladivostok RUS Navy - <b>"RJS"</b>
DK2OM	7039,3	---	--	11	RUS	K	A1A			Cluster beacon "K" Petropavlovsk Kamchatskiy - RUS Navy - Pacific fleet - <b>"RCC"</b> - daily
DK2OM	7039,4	ady	dly	11	RUS	M	A1A			Cluster beacon „M“ – Magadan RUS Navy – <b>"RTS"</b> - daily
DK2OM	7040,5	vt	dly	11	HRV		FSK8	125	1750	ALE, "9A5EX" "9A0ALE" – just for info
DK2OM	7049,5	vt	dly	11	HRV G F I	9A0ALE M1DFO F6BAZ IW3IPM	FSK8	125	1750	Amateur ALE, just for info! daily – various times
DK2OM	7050,0	vt	dly	11	KGZ		FSK8	125	1750	ALE, "X" "810" "820615" "810698" – Kyrgyzstan MIL
DK2OM	<b>7055,0</b>	<b>vt</b>	<b>dly</b>	<b>11</b>	<b>UKR</b>		<b>LSB</b>			<b>music and Russian voices</b>
DK2OM	7088,8	---	--	11	S	SL0FRO	A1A			7088.830 kHz - cw-trainee, Sweden - SL0FRO - just for info!

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
DK2OM	7089,8	---	--	11	TUR		PSK8	2400	2400	Link11 - SLEW – aircraft ? west of Izmir
DK2OM	7099,5	vt	dly	11	HRV	9A0ZG	FSK8	125	1750	ALE, “9A0ZG” “9A5EX1P” “9A0OS” – daily - just for info!
DK2OM	7102,0	vt	vd	11	HRV SUI D	9A0MIL	FSK8	125	1750	ALE, “9A3MIL” “9A2KS” “HB9MHB” “9A0ZG” “9A4OS” “DK0ESD” – just for info!
DK2OM	7110,0	vt	dly	11	HRV	9A0ALE	FSK8	125	1750	ALE, “9A0ALE” – just for info
DK2OM	7111,0 LSB	1954	27	11	CHN		PSK4A	60	2350	burst system “PRC-30” – 30 tones – 450 Hz pilot tone
DK2OM	7117,0	---	--	11	RUS	REA4	F1B	100	1000	mostly idling – Russian airforce Moscow – ident on CW at 1640 utc on the mark-QRG
DK2OM	<b>7120,0</b>	<b>1500</b>	<b>15</b>	<b>11</b>	<b>SOM</b>		<b>A3E</b>		<b>9k</b>	<b>Radio Hargeisa – Somaliland</b>
DK2OM	7137,0	vt	dly	11	TWN		FSK8 LSB	125	1750	ALE, “EDKLT” “EVSNG” “ECCLT” “EFNGX” “EVNNM” “EVWRK” “EGFXA” “ECQUY” “EFYMO” “EWPEN” “ECXKF” “EWRAJ” “ECHTD” “EUIQE” “EBPGH” Taiwanese navy
DK2OM	<b>7140,0</b>	<b>1827</b>	<b>01</b>	<b>11</b>	<b>ERI</b>		<b>A3E</b>		<b>9k</b>	<b>7140.024 kHz - Radio Eritrea</b>
DK2OM	7140,0	0844	20	11	RUS		PSK2A	120	2600	AT3004D – submode idle - Kaliningrad
DK2OM	7160,0	1110	29	11	FEa		FMOP		32k	Codar like ocean surface radar 2.6 sps – 7160 – 7192 kHz
DK2OM	7179,0	0950	15	11	RUS		F1B	75	200	Arkhangelsk - disturbed on the space QRG with dashes by a German HAM in in East-Germany
DK2OM	<b>7180,0</b>	<b>1526</b>	<b>08</b>	<b>11</b>	<b>ERI</b>		<b>A3E</b>		<b>9k</b>	<b>7180.022 kHz - Radio Eritrea</b>
DK2OM	7185,0	1600	09	11	HRV		FSK8	125	1750	ALE, „9A5EX“ – just for info
DK2OM	7185,5	vt	dly	11	J TWN		FSK8	125	1750	ALE, “BV4AS” “JH1ESB” - just for info - daily
DK2OM	7193,0	1356	06	11	RUS	RDL	F1B	50	200	CIS36-50 - Kaliningrad
DK2OM	7197,0	vt	dly	11	TUR		FSK8	125	1750	ALE, „353013“ „334018“ „314013“ - Turkish Sivil Avunma – Turkish Civil Defense
DK2OM	7198,0	1105	29	11	RUS		PSK2A	120	2600	AT3004D – Moscow
DK2OM	<b>7198,5</b>	<b>1726</b>	<b>21</b>	<b>11</b>	<b>SDN</b>		<b>A3E/BC</b>		<b>11k</b>	<b>Radio Sudan – splatter from 7205 kHz</b>
DK2OM	7199,0	0839	18	11	RUS		F1B	75	250	Moscow
DK2OM	<b>7200,0</b>	<b>---</b>	<b>--</b>	<b>11</b>	<b>MMR</b>		<b>A3E</b>		<b>9k</b>	<b>Myanmar Radio</b>
DK2OM	10100,8	ady	dly	11	D	DDK9	F1B	50	450	Baudot - German Weatherservice – legal!
DK2OM	10110,0	vt	dly	11	SNG		FSK8	125	1750	ALE, “CN6” “68” – Singapore Navy - Changi Naval Base
DK2OM	10113,0	vt	vd	11	TUN		FSK8	125	1750	ALE, “TUD” “STAT5” “STAT154”
DK2OM	10114,0	vt	dly	11	ALG		FSK8	125	1750	ALE, “BSF” “ZEN” “CM2OR2”
DK2OM	10115,0	vt	dly	11	MRC		FSK8	125	1750	ALE, “100” “114” “203” “XXZ” – West Sahara
DK2OM	<b>10115,0</b>	<b>1355</b>	<b>16</b>	<b>11</b>			<b>A1A</b>			<b>mysterious pips every second</b>
DK2OM	10120,0	vt	dly	11	ALG		FSK8	125	1750	ALE, “CM6” “01012016”
DK2OM	10121,0	0849	29	11	RUS		F1B	75	250	Moscow
DK2OM	10123,0	vt	dly	11	ALG		FSK8	125	1750	ALE, “CM3” “COF” “BSF” “CM2” “ESA” – Algerian Airforce
DK2OM	10124,0	vt	dly	11	ALG		FSK8	125	1750	ALE, “OEB” - ALG airforce
DK2OM	10129,0	vt	dly	11	ALG		FSK8	125	1750	ALE, “CM1” “CTF” “772”
DK2OM	10130,0	0830	17	11	RUS		F1B	100	500	unclean - area of Chita – daily, all day

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
DK2OM	10130,0	vt	dly	11	MLI		FSK8	125	1750	ALE, „105002“ „105018“ - Mali
DK2OM	10132,0	vt	vd	11	F		USB			French amateurs not respecting bandplans and disturbing beacons
DK2OM	10136,0	vt	dly	11	ALG		FSK8	125	1750	ALE, “CM3” “BLD” “CNC” “TF2”
DK2OM	10141,0	0954	13	11	E		USB			Spanish fishery
DK2OM	10143,0 RF	1441	17	11			FMCW		13k	10143 – 10156 kHz – OTHR radar
DK2OM	10144,0	ady	dly	11	D	DK0WCY	A1A			10144.000 kHz - DK0WCY – German aurora beacon – just for info!
DK2OM	10145,0	1125	01	11	CYP				20k	OTH radar Cyprus – 50 sps
DK2OM	10145,5	vt	dly	11		JH1ESB	FSK8	125	1750	ALE, “JH1ESB” - just for info - daily
DK2OM	10145,5	vt	dly	11	TWN AUS	BV4AS	FSK8	125	1750	ALE, “BV4AS” “VK4SAA” – just for info!
DK2OM	14000,0	1100	22	11	FEa		USB			Far East pirates – east of Indonesia
DK2OM	14000,0	1600	25	11	AUS		FMOP			splatter from OTHR JORN on 13995 kHz
DK2OM	14100,0	vt	dly	11	ALG		FSK8	125	1750	ALE, “6206” “6204” “6212” “6202” “6203” “6207” “6217” “MTL” “IJ” – Mauritanian border – daily, all day
DK2OM	14105,0	0900	28	11	CHN		FMOP		10k	Chinese OTH radar – 42 sps – 6.1 sec bursts
DK2OM	14108,0	---	--	11	RUS	6TY5	A1A			encrypted groups – RUS MIL – area of Moscow
DK2OM	14109,0	vt	dly	11	TWN	HAM	FSK8	125	1750	ALE, “BV4AS” – daily - just for info!
DK2OM	14109,0	vt	dly	11	S HRV D		FSK8	125	1750	ALE, “SM3FXL” “9A4OS” “9A3BRV” “DK0ESD” - just for info!
DK2OM	14109,0	vt	vd	11	J		FSK8	125	1750	ALE, “JH1ESB” – just for info
DK2OM	14160,0	vt	dly	11	MRC		FSK8	125	1750	ALE, “9204” “9228” “9236”
DK2OM	14162,0	1006	22	11	RUS		FMOP		13k	14162 – 14175 – RUS OTH radar Contayner – 50 sps - far east
DK2OM	14173,0	vt	vd	11			FSK8	125	1750	ALE, „ABC“ „AKO“ „DD2“ „XYZ“
DK2OM	14192,0	vt	dly	11	RUS		F1B	50 75 50 100 100	500 500 200 500 200	RUS navy Kaliningrad - daily
DK2OM	14221,0	vt	dly	11	KGZ		F1B	50	200	Bishkek – mostly idling - daily various times
DK2OM	14259,0 RF	0844	27	11	RUS		OFDM	35.6	2770	OFDM 60 – PSK8B - Moscow
DK2OM	14260,0	vt	dly	11	SRB	YU1BI	FSK8	125	1750	ALE, “YU1BI” – just for info!
DK2OM	14260,0	---	--	11	UKR		A3E			female voice with encrypted msgs – figures – “SZRU” = Foreign Intelligence Service of Ukraine in Rivne
DK2OM	14295,0	vt	dly	11	SRB	YU1BI	FSK8	125	1750	ALE, “YU1BI” – just for info!
DK2OM	14303,0	1140	30	11	RUS		FMOP		7k	14299.5 – 14306.5 – RUS OTH radar Contayner – 50 sps – north of Penza
DK2OM	14308,0	0818	09	11	RUS		F1B	50/75	500	50 Bd and 75 Bd - Moscow
DK2OM	14310,0	0812	11	11	CHN		FMOP		40k	OTH radar NE China
DK2OM	14335,0	1013	22	11	RUS		FMOP		13k	14335 – 14348 – RUS OTH radar Contayner – 50 sps – north of Penza
DK2OM	14345,9	vt	dly	11	THA	HS0ZEA	A1A			HS0ZEA beacon – 14345.934 kHz - every 5 minutes – daily - just for info!



DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
DK2OM	14346,0	vt	dly	11	POR		FSK8	125	1750	ALE, "CT2IXQ" just for info – various times, daily
DK2OM	<b>18080,0</b>	<b>0630</b>	<b>dly</b>	<b>11</b>	<b>TWN</b>		<b>A3E/BC</b>			<b>Sound of Hope – Taiwan and Chinese BC jammer – daily at 06 utc and later</b>
DK2OM	18100,0	vt	dly	11	MRC		FSK8	125	1750	ALE, "A2" "A4" "A5" "A7" "S6" – "C3" "R3" "G401" "CD" "09" "G2" "LG6" "G301" "ELJADIDNET4" - daily, various times
DK2OM	18106,0	vt	vd	11	POR	CT2GOY	FSK8	125	1750	ALE, "CT2GOY" – just for info!
DK2OM	18106,2	vt	dly	11	TWN		FSK8	125	1750	ALE, "BV4AS" – just for info!
DK2OM	18107,0	vt	vd	11	RUS	RDL	F1B	50	200	CIS-50-200 - Moscow – idle and traffic – daily - Russian navy – shared band!
DK2OM	18150,0	---	--	11	RUS		F1B	100	1000	harmonic from 9075 (100 Bd, 500 Hz) - Kaliningrad
DK2OM	<b>21000,0</b>	---	--	<b>11</b>	<b>B</b>		<b>USB</b>			<b>Brazilian pirates – Rio de Janeiro with North Brazil – very often</b>
DK2OM	21096,0	vt	dly	11	INS	YD00XH	FSK8	125	1750	ALE, "YD00XH3" – daily, various times - just for info!
DK2OM	21096,0	vt	vd	11	G		FSK8	125	1750	ALE, "MIDFO" – just for info!
DK2OM	21145,0	vt	dly	11	MRC		FSK8	125	1750	ALE, "A" "B301" "C3", "IR4" "H4" "IR6" "T4" "E4" "A2" "CD" "K3" "KB2" "J5" "J52" "GR2" "GS4" "R3" "R301" "R33" "R8" "R5" "Y1" "S51" "S3" "S4" "S512" "S552" "G2" "G501" - various times, daily
DK2OM	21190,0	---	--	11	RUS		F1B	100	1000	harmonic from 10595 kHz - Moscow
DK2OM	21400,0	---	--	11	RUS		F1B	50	2000	harmonic from 5350 kHz – area of Moscow
DK2OM	21438,0	vt	vd	11	RUS	RCV	A1A			RKZ – RJV de RCV - RUS Navy Sevastopol - often
DK2OM	21446,0	---	--	11	THA	HS0ZEA	A1A			HS0ZEA beacon – every 5 minutes - just for info!
DK2OM	25000,0	---	--	11	FIN		A3E			time signal Helsinki – just for info – carrier on 25000 – dots on 25001 and 24999 – daily, all day – just for info!
DK2OM	<b>28000,0</b>	---	--	<b>11</b>	<b>B</b>		<b>A3E</b>			<b>Brazilian CBers – 28000 – 28325 – daily, all day - no change</b>
DK2OM	<b>28000,0</b>	---	--	<b>11</b>	<b>CIS</b>		<b>F3E</b>			<b>28000 – 29700 numerous CIS taxi nets – no change</b>
DK2OM	<b>28000,0</b>	<b>1420</b>	<b>04</b>	<b>11</b>	<b>CIS</b>		<b>USB</b>			<b>pirates in Russian voice – 90 deg. from DL</b>
DK2OM	28025,0	---	--	11	POR		F1B	51	320	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoy
DK2OM	28035,0	---	--	11	RUS		F3E			RUS taxi – Moscow - daily
DK2OM	28051,5	---	--	11	POR		F1B	51	320	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoy
DK2OM	28065,0	---	--	11	POR		F1B	51	320	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoy
DK2OM	28075,0	---	--	11	POR		F1B	51	320	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoy
DK2OM	28085,1	---	--	11	POR		F1B	51	320	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoy
DK2OM	28212,0	---	--	11	POR		F1B	51	320	F1B bursts - west of Lisbon –

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
										Atlantic Ocean - Enagal GPS buoy
DK2OM	28275,0	---	--	11	POR		F1B	51	320	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoy
DK2OM	28435,0	----	--	11	E		F1B	81.9	140	Datawell-buoy “Waverider” – 28435.040 kHz – Costa del Sol – Malaga
DK2OM	28499,8	---	--	11	MEa		F1B	81.9	140	Datawell-buoy “Waverider” – 28499.875 kHz – Persian Gulf
DK2OM	28860,0	---	--	11	IRN		AM-pulse		55k	Iranian radar bursts – 313 and 150 sps – long lasting
DK2OM	29114,0	---	--	11	RUS		F1B	100	2000	harmonic from 14557.0 kHz - Moscow
DK2OM	29249,9	---	--	11	E		F1B	81.9	140	Datawell-buoy “Waverider” – 29249.880 kHz – Spain Fuerteventura – reported by CT2IWW
DK2OM	29375,0	---	--	11	I		F1B	81.9	140	Datawell-buoy “Waverider” – 29374.898 kHz – Gallipoli, South Italy - daily, all day
DK2OM	29387,5	---	--	11	IND		F1B	81.9	140	Datawell-buoy “Waverider” – 29387.460 kHz – Indian NW coast, close to Pakistan - daily, all day
DK2OM	29400,0	---	--	11	USA		F1B	81.9	140	Datawell-buoy “Waverider” – 29400.070 kHz - USA north-east coast – NY daily, all day
DK2OM	29450,0	---	--	11	MRC		F1B	81.9	140	Datawell-buoy “Waverider” – 29449.863 kHz - area of El Aaiun – Morocco - daily, all day
DK2OM	29500,0	---	--	11	G		F1B	81.9	140	Datawell-buoy “Waverider” – 29499.974 kHz- area of Gibraltar – daily, all day
DK2OM	29525,0	---	--	11	MRC		F1B	81.9	140	Datawell-buoy “Waverider” – 29524.990 kHz - Agadir - Morocco – daily, all day
DK2OM	29625,0	---	--	11	USA		F1B	81.9	140	Datawell-buoy “Waverider” – 29625.024 kHz - USA north-east coast – daily, all day
DK2OM	29650,0	ady	dly	11	D		F1B	81.9	140	Datawell-buoy “Waverider” – area of Sylt / Amrum – German PTT informed
DK2OM	29685,0	---	--	11	I		VFT		2300	Italian MIL – Brescia - daily
DK2OM	29699,5	---	--	11	I		VFT		1600	Italian MIL – Brescia - daily
DK2OM	50100,0	vt	dly	11	D		QRM			1.8 - 50 MHz strong QRM by a neighbouring LED lamp - since 2 1/2 years - “many thanks” to German “PTT” Eschborn 

### IRTS – Ireland – EI3GYB (Michael)

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	DETAILS
IRTS	1812	0200	02	11	RUS		USB/LS B	Russian navy, Kaliningrad. Heard most nights late in the night.
IRTS	1920	1845	18	11	POR or MM		USB	2 Portuguese fishermen. Medium signals.
IRTS	1983	1830	12	11	HOL or MM		USB	Group of Dutch fishermen. Big signals.
IRTS	1986	2045	15	11	HOL or MM		USB	Group of Dutch fishermen. Nice signals.
IRTS	3550	0728	03	11	F		AM	French Hams keep violating the band plan. Daily.
IRTS	3590	0730	03	11	F		AM	Second group of French Hams violating the band

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	DETAILS	
									plan. Daily.
IRTS	3658	1945	22	11	UZB		CW		Letter "V" from Khiva. Daily with a good signal in the evenings.
IRTS	3661	0200	22	11	UKR/RUS		LSB		Agitprop from Ukraine and Russia like on 40 metres.
IRTS	3698	1132	10	11	E		USB		2 Spanish fishermen. Medium strength signals.
IRTS	3756	1330	29	11	RUS		USB		The Pip. Heard as early as 1330z now with a growing signal. Winter propagation makes it possible.
IRTS	3780	1855 to 1910	05	11			LSB		Somebody keeps shouting non-stop in Greek "Malakas Pusti"
IRTS	3799	1245	04	11	F or MM		USB		Group of French fishermen. Huge signals.
IRTS	5334	2100	03	11					5334 KHz to 5388 KHz radar. Nearly daily during evening, night and early morning. Wiping out all traffic on the 5 MHz WARC band.
IRTS	5360	1030	19	11	F or MM		USB		2 French fishermen. Good signals. Also heard 21/11/2018 at 1545z.
IRTS	5360	2035	22	11	MRC or MM		USB		2 Moroccan fishermen. Medium signals.
IRTS	5400	1125	23	11	F or MM		USB		Group of French fishermen. Great signals. On and off until 1300z. Also heard on 24/11 at 1710z, 26/11 at 1330z, 27/11 at 1510z, 30/11 at 0945. The fishermen are using the frequency like a telephone. The frequency is a CW spot frequency in EI and the UK. The signals splatter down to 5398.5 KHz- the main SSB calling frequency in EI and UK and destroy many QSOs now. Plenty of complains from UK Hams. A good number of QSOs can only continue on a different frequency or have to be abandoned.
IRTS	7050	1330	05	11	RUS/UKR		LSB		Russian-Ukrainian radio war. Nearly daily all day and evening.
IRTS	7055	1310	04	11	RUS/UKR		LSB		Ukrainian-Russian propaganda war. Nearly daily all day. Music, shouting of slogans. Rebroadcasting of Russian radio stations.
IRTS	7120	1810	18	11	SOM		AM		Radio Hargeisa. Loud. Heard daily in the late afternoon.
IRTS	7140	1825	04	11	ERI		AM		Radio Eritrea. Heard most days with medium signal in the late afternoon.
IRTS	7180	1830	10	11	ERI		AM		Radio Eritrea. Big signal. Heard most days in the late evening.
IRTS	7194	1135	20	11			F1B		Strong signal.
IRTS	10108	1313	16	11	USA				Ticking sound. Heard first at 1313. Very strong. Stops at 1321z sharp. Continues odd ticks per minute. Restarts fully at 1327z sharp with full 60 ticks per minute. Moves around in the band- heard also 10115 and 10114 KHz. Observed for a full hour. Still audible then.
IRTS	14192	1240	04	11	RUS		F1B		Russian navy Kaliningrad. Daily all hours of daylight. Strong.
IRTS	18142	1500	18	11	USA				Ticking sound as observed on 16/11/2018 on 10108 KHz.

### KARS – Kuwait – 9K2RR (Faisal)

### MRASZ – Hungary - HA7PL (Laci)

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	SH	DETAILS
MRASZ	3519,5	1903	09	11			F1B	200	
MRASZ	3519,5	1958	13	11			F1B	200	
MRASZ	3524,0	1509	09	11			F1B	250	
MRASZ	3527,0	1910	01	11			F1B	200	
MRASZ	3527,0	1958	13	11			F1B	200	

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	SH	DETAILS
MRASZ	3527,0	2012	26	11			F1B	200	
MRASZ	3529,0	1955	13	11			A3E		music and speech
MRASZ	3534,0	1954	13	11			USB		russian language
MRASZ	3536,0	1703	18	11			PSK2		AT3004D
MRASZ	3541,0	1601	13	11			F1B	200	
MRASZ	3548,0	1901	09	11			A1A		continuous dashes
MRASZ	3548,0	1832	12	11			A1A		dashes, deliberate disturbance
MRASZ	3548,0	1611	18	11			F1B	200	
MRASZ	3548,0	1944	18	11			A1A		continuous dashes, disturbance
MRASZ	3548,0	2008	18	11			F1B	200	
MRASZ	3548,0	1625	30	11			F1B	200	
MRASZ	3550,0	1627	30	11			PSK2		AT3004D
MRASZ	3557,0	1609	13	11			F1B	250	
MRASZ	3567,0	1602	13	11			F1B	250	
MRASZ	3572,5	1907	09	11			F1B	200	
MRASZ	3602,0	2011	26	11			F1B	250	
MRASZ	3608,0	2012	26	11			F1B	200	
MRASZ	3630,0	1608	13	11			LSB		chaos
MRASZ	3702,0	1448	21	11			F1B	250	
MRASZ	3709,0	1647	30	11			PSK2		AT3004D
MRASZ	3759,0	1856	09	11			LSB		music
MRASZ	3772,0	1859	09	11			F1B	200	
MRASZ	3775,0	1547	19	11			LSB		music, chant
MRASZ	3780,0	1548	19	11			LSB		music, chant
MRASZ	3792,0	1739	15	11			F1B	200	
MRASZ	3792,0	1549	18	11			F1B	200	
MRASZ	3792,0	1858	20	11			F1B	200	
MRASZ	3792,0	1646	30	11			F1B	200	
MRASZ	3798,0	1604	13	11			A1A		"1823 T4 272"
MRASZ	7012,0	1554	13	11			F1B	250	
MRASZ	7055,0	0830	18	11			LSB		chaos, music
MRASZ	7055,0	1521	18	11			LSB		say continuous: 'idiotista'
MRASZ	7055,0	0927	29	11			LSB		chaos
MRASZ	7056,0	1029	25	11			USB		"prijom"
MRASZ	7098,0	0800	18	11			F1B	250	
MRASZ	7120,0	1732	15	11	SOM		A3E		R. Hargaysa
MRASZ	7120,0	1550	18	11	SOM		A3E		R. Hargaysa
MRASZ	7120,0	1722	18	11	SOM		A3E		R. Hargaysa
MRASZ	7120,0	1903	20	11	SOM		A3E		R. Hargaysa
MRASZ	7120,0	1706	23	11	SOM		A3E		R. Hargaysa
MRASZ	7120,0	1835	27	11	SOM		A3E		R. Hargaysa
MRASZ	7120,0	1631	30	11	SOM		A3E		R. Hargaysa
MRASZ	7140,0	1527	18	11	ERI		A3E		R. Eritrea
MRASZ	7140,0	1810	18	11	ERI		A3E		R. Eritrea
MRASZ	7140,0	1451	21	11	ERI		A3E		R. Eritrea
MRASZ	7140,0	1709	23	11	ERI		A3E		R. Eritrea
MRASZ	7140,0	1836	27	11	ERI		A3E		R. Eritrea
MRASZ	7140,0	1631	30	11	ERI		A3E		R. Eritrea
MRASZ	7164,0	1733	15	11			PSK2		AT3004D
MRASZ	7167,0	0921	25	11			F1B	250	
MRASZ	7176,0	0922	25	11			F1B	250	
MRASZ	7179,0	1600	13	11			F1B	200	
MRASZ	7179,0	1734	15	11			F1B	200	
MRASZ	7180,0	1459	09	11	ERI		A3E		R. Eritrea
MRASZ	7180,0	1528	18	11	ERI		A3E		R. Eritrea
MRASZ	7180,0	1810	18	11	ERI		A3E		R. Eritrea
MRASZ	7180,0	1451	21	11	ERI		A3E		R. Eritrea
MRASZ	7180,0	1710	23	11	ERI		A3E		R. Eritrea
MRASZ	7180,0	1836	27	11	ERI		A3E		R. Eritrea
MRASZ	7193,0	0802	09	11			F1B	200	
MRASZ	7193,0	0928	29	11			F1B	200	
MRASZ	10112,0	0924	25	11			OTHR		10110-10134 Hz, 50 Hz
MRASZ	10121,0	0933	29	11			F1B	250	
MRASZ	10130,0	0800	09	11			F1B	500	
MRASZ	10130,0	1528	18	11			OTHR		10110-10150 kHz; 25 Hz

**OEVSV – Austria – OE3GSA (Gerd)****PZK – Poland – SP9BRP (Jan)****REF – France – F5MIU (Francis)**

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	Baud	Sh /Bw	DETAILS
R.E.F.										November 2018
	10140	1710	28				fmcw		20kHz	OTH Radar pulsed 2ms,S9
	14105	0903	28				fmcw		10kHz	OTH Radar pulsed 24ms,S9
	18085	0903	2	11			fmcw		20kHz	OTH Radar pulsed 20ms,S8
	18170	0912	8				fmcw		22kHz	OTH Radar pulsed 20ms,S9
	21370	0900	13				fmcw		20kHz	OTH Radar pulsed 20ms,S8

**REP – Portugal – CT4AN (Jose Francisco)**

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH	DETAILS
REP	1888	20.01	30	11	I	IPD	J3E-U			Civitavecchia Radio wx reports Italian language
REP	3510	09.15	22	11	F		J3E-U			French fishery
REP	3520	18.51	13	11	F		J3E-U			French fishery, daily
REP	3525	07.35	02	11	POR		J3E-U			Portuguese fishery
REP	3530	19.50	30	11			J3E-L			Unid ops using voice scrambler LSB
REP	3550	23.38	10	11	E		J3E-U			Spanish fishery
REP	<b>3550</b>	<b>07.06</b>	<b>06</b>	<b>11</b>	<b>F</b>		<b>A3E</b>			<b>French amateurs ignoring Bandplan, daily</b>
REP	3550	16.11	31	11	POR		J3E-U			Portuguese fishery
REP	3562	23.08	13	11	E		J3E-U			Spanish fishery
REP	3565	07.19	06	11			J3E-U			Unid language ops
REP	3585	10.56	22	11	POR		J3E-U			Portuguese fishery
REP	3586,65	18.12	22	11	E		J3E-U			Spanish fishery
REP	<b>3590</b>	<b>07.04</b>	<b>06</b>	<b>11</b>	<b>F</b>		<b>A3E</b>			<b>French amateurs ignoring Bandplan</b>
REP	3591,75	09.05	23	11	E		J3E-U			Spanish fishery
REP	3602	19.03	11	11			QPSK			NATO Stanag 4285 encrypted, FYI shared band
REP	3640	19.01	13	11	G	XSS XNR	MFSK8			Mil-Std 188-141A Forest Moor, UK, dly. FYI
REP	3640	08.25	20	11	E		J3E-U			Spanish fishery
REP	3756	22.40	08	11	RUS		A3E			Russian marker
REP	7000	19.11	20	11			J3E-U			Unid language
REP	7000	19.38	20	11			J3E-U			Arabic lang fishery
REP	7000	20.42	02	11	B					Brazilian fishery, OM and YL, daily
REP	7000	09.15	23	11			J3E-U			Unid language fishery ops
REP	7006,75	19.30	05	11		920014	MFSK8			Mil-Std 188-141A 92xxxx network, unid
REP	7007	20.01	21	11	B		J3E-L			Brazilian intruders, OM and YL
REP	7008	19.46	05	11	B		J3E-L			Brazilian intruders, OM and YL
REP	7010	19.48	05	11			J3E-L			Scrambled voice comms
REP	7020	09.09	23	11			J3E-L			Large voice net, unid language
REP	7035	09.30	23	11			J3E-L			Unid language ops
REP	7035,7	21.04	02	11			J3E-U			Unid language ops
REP	7040	21.01	02	11	B		J3E-U			Brazilian fishery
REP	7043	20.02	05	11	IRQ	MDB AMM	MFSK8			Mil Std 188-141A Iraqi Emergency Response Forces ALE net
REP	7045	17.12	29	11			J3E-U			Unid language net, several ops
REP	7045	Dly	Dly	11		2010	MFSK8			MilStd 188-141A 2xxx net, daily

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH	DETAILS
REP	7050	11.30	23	11	RUS		J3E-L			Russia/Ukraine war propaganda, daily
REP	7070	20.02	05	11		2201	MFSK8			MilStd 188-141A 2xxx net, daily
REP	7070	17.42	08	11		288 334	MFSK8			MilStd 188-141A xxx net & Arabic USB, daily
REP	7070	09.50	30	11			J3E-U			Arabic language fishery, strong engine noises
REP	7085	17.55	23	11	RUS		F1B	75	250	CIS50
REP	7095	23.00	09	11	CHN		FMOP	10	160k	Chinese OTH radar wideband 160 kHz
REP	7100	16.39	23	11	RUS		F1B	50	200	CIS36
REP	7110	07.20	27	11			J3E-U			Arabic lang. fishery
REP	7110	09.75	02	11	RUS		FSK	50	200	Russian CIS36-50 FSK encrypted
REP	7117	09.15	15	11	RUS		FSK	300	500	Russian FSK encrypted, TdOA near Moscow
REP	7120	18.18	16	11	SOM		A3E8K			Radio Hargeysa, Somaliland, daily
REP	7135	07.55	27	11	RUS		FSK			CIS 36-50 50/200 Russian mil. FSK / CW
REP	7140	16.03	07	11	ETH		A3E8K			Voice of the Broad Masses, Eritrea, daily
REP	7152	07.42	06	11	RUS		FSK	75	500	Russian CIS75 encrypted FSK
REP	7171	10.05	16	11			J3E-U			North African fishery, arabic like, engine noises
REP	7177	16.33	07	11	RUS		FSK	75	200	Russian CIS50 encrypted FSK
REP	7193	09.05	04	11	RUS		FSK	50	200	Russian CIS36-70 encrypted FSK, daily
REP	10111	13.29	16	11			N0N			The "pip", 1pps unid signal, several frequencies
REP	10115	21.05	18	11	E		J3E-U			Spanish fishery
REP	10115	19.00	18	11		1016	FSK-8			Unid 10xx, 20xx net sound ALE
REP	10115	18.28	14	11	MRC	1014	MFSK8			Mil Std 188-141A Royal Moroccan Army, FYI
REP	10115	18.39	14	11			FMCW	50	20k	OTH radar
REP	10120	23.58	01	11			A3E			Letters Station – letter groups
REP	10130	15.30	18	11			FMCW	50	20k	OTH radar
REP	10140	15.30	18	11			J3E-U			Spanish fishery
REP	14001,5	14.34	13	11			PSK		10k	Unid PSK modulation, 10s long
REP	14025	14.00	10	11	RUS		PSK2	120	3k	AT3004, 12x120bps
REP	14110	11.10	21	11			FMCW			OTH radar
REP	14110	14.05	09	11			FMCW	50	10k	OTH radar
REP	14122	12.59	13	11			PSK-4	2400	3k	Panther Racal HFSS burst "train", daily, all bands
REP	14145	09.09	14	11	CHN		FMOP	10	100k	Chinese OTH radar 100kHz
REP	14151,2	14.35	13	11	E		J3E-L			Spanish fishery, Galicia province
REP	14195	12.14	25	11	RUS		FSK	50	200	Navy encrypted
REP	14265	09.05	14	11	CHN		FMOP	10	160k	Chinese OTH radar 160kHz
REP	14270	09.43	30	11			FMCW	50	20k	OTH radar
REP	14303	10.28	30	11			FMCW	50	20k	OTH radar
REP	14325	10.00	05	11	E		J3E-U			Spanish fishery
REP	18100	12.45	05	11			FMCW	50	20k	OTH radar
REP	21200	14.31	05	11	MRC		J3E-U			Fishermen
REP	28025	11.45	06	11			F1B	51	270	Enagal buoy with strong QSB
REP	28555	11.00	06	11	RUS		F3E			Taxis dispatcher
REP	28725	11.15	06	11	RUS		F3E			Taxis dispatchers

**RSGB - Great Britain – G4DYA (Richard)**

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/BW	DETAILS
RSGB	~1812.0	vt	vd	11	RUS		P0X		10K7-E	BRAS/RS-10 hyperbolic navigation. Approx 14 sidebands spaced 821 Hz
RSGB	7012.0	1500	06	11			F1B		250	
RSGB	7027.0	1615	08	11			F1B		250	
RSGB	7036.0	1614	08	11			F1B		250	
RSGB	7038.5	ady	dly	11	CZE	OK0EU	A1A			For info: QRP propagation beacon
RSGB	7050.0	1527	07	11			J3E		2K90-E	LSB Russian/Ukrainian squabbling
RSGB	7088.0	1420	03	11			N0N			
RSGB	7100.0	1338 0856	09 17	11			J7D		2K70-E	USB 7098.0 / CIS-12
RSGB	7120.0	vt	vd		SOM	Radio Hargeysa	A3E			BC
RSGB	7140.0	0940	20	11			J7D		2K70-E	USB 7138.0 / CIS-12
RSGB	7140.0	vt	vd	11	ERI	VoBM1	A3E			BC
RSGB	7159.0	1029	09	11			F1B		200	
RSGB	7162.0	1431	06	11			F1B		250	
RSGB	7177.0	1839 0813	04 05	11			F1B		200	
RSGB	7180.0	vt	vd	11	ERI	VoBM2	A3E			BC
RSGB	7193.0	vt	vd	11			F1B		200	
RSGB	7198.0	0927	09	11			J7D		2K70-E	USB 7196.0 / CIS-12
RSGB	10100.8	ady	dly	11	D	DDK9	F1B	50	450	For info: Primary user: WX broadcast

**RSK – Kenya – 5Z4BV (Kamweti)**

Soc	kHz	UTC	DD	MM	ITU	Identity	Mode	Shift	Details
RSK	6999	1335	30	11	Kenya/ E. Africa?	?	J3E-u		Mil/Kiswahili Msg Net
RSK	7009	1258	14	11	Kenya/ E. Africa?	?	J3E-u		Kiswahili msg net
RSK	7015	1251	occasional	11	S. Sudan/ E. Africa?	?	J3E-u		Vernacular msg net
RSK	7030	0725	occasional	11	E. Africa?	?	J3E-l		Mil-Kiswahili msg. net
RSK	7075	1255	14	11	E. Africa?	?	J3E-i		Kiswahili QSO
RSK	7070	v.t.	occasional	11	E./ Central Africa?	?	J3E-l		Vernacular QSO
RSK	7089,1	a.m.	nr. dly.	11	Central Africa?	?	J3E-u		Mil French/vernacular msg. net
RSK	7116	0340	9	11	Western Indian Ocean	?	J3E-u		Mandarin QSO
RSK	7120	1253	7	11	S. Sudan/ E. Africa?	?	J3E-u		Kiswahili-vernacular msg net
RSK	7120	v.t.	dly	11	Somaliland	Radio Hargeysa	A3E		Broadcast
RSK	7128	0305	20	11	Western Indian Ocean	?	J3E-u		Mandarin QSO
RSK	7140	v.t.	occasional	11	Central Africa?	?	J3E-l/u		Vernacular QSO
RSK	7140	v.t.	dly	11	Eritrea	VOB	A3E		Commercial broadcast Voice of the Broad Masses of Eritrea 1
RSK	7150	1150	28	11	Central Africa?	?	J3E-l		French-vernacular QSO
RSK	7170	v.t.	occasional	11	E./ Central Africa?	?	J3E-l		Kiswahili QSO
RSK	7180	v.t.	dly	11	Eritrea	?	A3E		Commercial broadcast

Soc	kHz	UTC	DD	MM	ITU	Identity	Mode	Shift	Details
RSK	7185	v.t.	occasional	11	E. Africa?	?	J3E-u		Kiswahili/vernacular QSO
RSK	10111	0821	19	11	E./ Central Africa?	?	J3E-u		Vernacular QSO
RSK	10126,5	0320	27	11	Western Indian Ocean	?	J3E-u		Mandarin QSO
RSK	10131,5	0338	28	11	Western Indian Ocean	?	J3E-u		Mandarin QSO
RSK	14141,5	0313	16	11	?	?	J3E-u		Vernacular msg net
RSK	14188	0634	27	11	?	?	FMOP	10kHz	OTHR

### SRAL – Finland – OH2BLU (Pekka)

Society	kHz	UTC	DD	MM	ITU	IDENT	MODE	BAUD	SHIFT	REMARKS
SRAL	6999.0	1300-1335/	12	11		UiMUX	PSK2	120	2600	
SRAL	7001.0	0800-1045/	2	11	RUS	UiMUX	PSK2	120	2600	
SRAL	7008.0	0745-1350/	19 26	11		UiPTR	F1B		250	
SRAL	7012.0	1230-1607/	*	11	RUS	UiPTR	F1B/ N0N		250	
SRAL	7014.0	1100-1120	2 14	11		UiPTR	F1B		250	
SRAL	7014.0	1105-1140	17	11	RUS	UiMUX	PSK2*2	120	2600*2	Dsb, subcarriers + & - 3.3 kHz
SRAL	7019.0	0730-1445	7 9	11		UiPTR	F1B/ N0N		200	
SRAL	7021.0	0915-0925/	28	11	RUS	UiMUX	PSK2	120	2600	
SRAL	7025.0	1330-1400	4	11		UiBC	A3A			music
SRAL	7027.0	1910	22	11		UiPTR	F1B		250	
SRAL	7030.0	0740-0900	*	11	RUS	UiPTR	F1B		250	Days: 16. 20. 26.
SRAL	7031.0	0530-1250	20	11		UiCarr	N0N			
SRAL	7031.0	0615-0745	22	11	RUS	UiMUX	PSK2	120	2600	
SRAL	7036.0	1600-1645	8	11	RUS	UiPTR	F1B/ N0N		250	10kHz/ 6.6Hz bursts
SRAL	7039.4	0900-1215	22	11	RUS	M	A1A			Magadan
SRAL	7055.0	1245-1300	6	11		UiPTR	F1B		250	
SRAL	7063.0	1100-1225	21	11		UiPTR	F1B		250	
SRAL	7066.8	1250-1308/	18	11		UiCarr	N0N			
SRAL	7098.0	0730-1500	*	11	RUS	UiPTR	F1B/A N0N		250	Days:17. 19. 20.
SRAL	7099.0	0640-0710	5	11		UiCW	A1A			Z - codes
SRAL	7100.0	0845-1210/	17 25	11	RUS	UiMUX	PSK2	120	2600	
SRAL	7110.0	0950-1000	20	11		UiPTR	F1B		200	
SRAL	7117.0	0730-1310	17 23	11		UiPTR	F1A/ N0N		250	
SRAL	7120.0	/1300-1400/	14 - 30	11	SOM	R Hargeisa	A3A			
SRAL	7120.0	/1455-2005/	14 - 30	11	SOM	R Hargeisa	A3A			



Society	kHz	UTC	DD	MM	ITU	IDENT	MODE	BAUD	SHIFT	REMARKS
SRAL	7140.0	0830-1145	20	11	RUS	UiMUX	PSK2	120	2600	
SRAL	7140,0	0300-0600	dly	11	ERI	VoBME	A3E			
SRAL	7140,0	1400-1835/	dly	11	ERI	VoBME	A3E			
SRAL	7151.0	0730-0812/	6	11		UiPTR	F1B		500	
SRAL	7158.0	0630-1335	3 4	11	RUS	UiPTR	F1B		250	
SRAL	7160.0	0700-0900	21	11	RUS	RBL88	A1A			5BL
SRAL	7167.0	0720-0745	25	11		UiPTR	F1B/ N0N		250	
SRAL	7168.9	1250	3	11		UiPTR	F1B		500	
SRAL	7169.0	0800-0903/	6	11	RUS	UiPTR	F1B		200	
SRAL	7172.0	0930-1450/	2	11	RUS	UiMUX	PSK2	120	2600	
SRAL	7177.0	0715-2000	4 5 7	11		UiPTR	F1B		200	
SRAL	7179.0	0630-1330/	*	11	RUS	UiPTR	F1B/ N0N		200	Days: 12. - 17.
SRAL	7180.0	0300-0600	*	11	ERI	VoBME	A3E			Days: 6. - 27.
SRAL	7180.0	1400-1835/	*	11	ERI	VoBME	A3E			Days: 6. - 27.
SRAL	7182.0	0630-1401/	*	11	RUS	CUAB	F1A/ N0N			Calls AZJU
SRAL	7184.0	1040-1052/	19	11	RUS	UiMUX	PSK2	120	2600	
SRAL	7193.0	0800-1430	*	11	RUS	RDL	F1B/A N0N		200	Days: 1. 3. 4. 6. 7. 8. 9. 11. 13. 15. 16. 18. 19. 20. 28. 29.
SRAL	7197.1	1220-1230/	21	11		UiCarr	N0N			
SRAL	7198.0	1250	17 19	11		UiMUX	PSK2	120	2600	
SRAL	7199.0	0725-1300/	6 18	11	RUS	UiPTR	F1B		250	
SRAL	7200.0	0730-1100/	1 2	11	RUS	UiCW	A1A			50Hz dotter
SRAL	10 MHz			11	CYP	UiOTHR	FMCW			25/50Hz, 20 kHz (WebSDR 20d)
SRAL	14 MHz	0755-0900	10 11	11	CHN	UiOTHR	FMCW			40kHz/20Hz
SRAL	14 MHz	0730-1300	*	11	RUS	Kontainer	FMCW			20kHz/50Hz
SRAL	14000.0	0750-1415	28	11	ISR?	UiCarr	N0N			
SRAL	14221.0	0430-0600/	dly	11	KGZ	UiPTR	F1B		200	
SRAL	14260.0	0830-0910/	12	11		UiCarr	N0N			
SRAL	18 MHz	0600-1100	3 7 14	11	CYP	UiOTHR	FMCW			25/50Hz / 20 kHz, (WebSDR 21d)
SRAL	21 MHz	0800-1400	7 8 23	11	CYP	UiOTHR	FMCW			25/50Hz / 20 kHz, (WebSDR 16d)
SRAL	21438.0	0930	12	11	RUS	RCV	A1A			
SRAL	24 MHz			11		UiOTHR	FMCW			(WebSDR 0d)
SRAL	28 MHz			11	IRN	UiOTHR	FMCW			307 & 870 Hz / 60 kHz.
SRAL	28860.0	0830-0930	*	11	IRN	UiOTHR	FMCW			150 & 313 Hz / 60 kHz. Days: 7. 10. 19.
SRAL	28 MHz			11		UiOTHR	FMCW			25/50Hz / 20 kHz

Society	kHz	UTC	DD	MM	ITU	IDENT	MODE	BAUD	SHIFT	REMARKS
						R				(WebSDR 0d)
SRAL	28 MHz	'0720	5	11	RUS	Taxi disp.	F3E			3 reports

### URE – Spain – EA6AMM (Gaspar)

SOC	kHz	UTC	DD	M	ITU	IDENT	MODE	BD	SH	DETAILS
URE	5,363.7	06:00	16	11						STANAG 4285
URE	5,361	18:15	29	11			F1B		200	
URE	7,032.15	06:15	16	11			N1N			Pulsing carrier
URE	7,120	VD	VT	11	SOM		A3E/BC			Radio Hargesia Somali Land
URE	7,140	VD	VT	11	ERI		A3E/BC			Eritrea's Voide of the broad Masses 1
URE	7,145	21:52	7	11					10k	Digital bursts. OTH Radar?
URE	7,170	21:40	7	11						Dot per second as time signal. Dot = 20 msec long.
URE	7,165	22:04	7	11						Dot per second as time signal. Dot = 20 msec long. 22:1 UTC,, QSY 7,135 kHz. 22:16 UTC, QSY 7,160 kHz. 22:20 UTC, QSY 7,190 kHz. 22:27 UTC, QRT.
URE	7,177	09:09	5	11			F1B		200	
URE	7,179	09:00	15	11			F1B		200	
URE	7,180	VD	VT	11	ERI		A3E			BC, Eritrea, Voice of the Broad Masses 2
URE	7193	08:41	14	11	RUS		F1B	50	200	Kaliningrad
URE	7,195	21:00	4	11	FR		A3E/BC			Radio France Int, splatter from 7,200 to 7,185 kHz
URE	7,198	09:56	9	11	RUS		PSK2A	120	2600	AT3004D Moscow
URE	10,110	15:43	21	11						Dot per second as time signal. Dot = 20 mse long, transmitting at the same time on 10,100 kHz.
URE	10,114.8	VT	VD	11	RUS		F1B	100	1000	CIS14, Moscow.
URE	10,120	16:17	29	11					20k	OTH Radar
URE	10,123	08:25	21	11			F1B		250	
URE	10,127	08:48	15	11			F1B		500	
URE	10,130	15:31	21	11					20k	OTH Radar from 10,120 to 10,140 kHz.
URE	10,130	VT	VD	11	RUS		F1B		500	Unclean
URE	10,133.5	08:42	5	11	SUI	HB4FV/B	A1A			HB4FV/B, AFTT-VD Swiss army amateur station. PWR = 1W. Just for info!
URE	10,141.6	08:40	26	11			USB			Unid persons talking
URE	10,145	19:09	7	11						Dot per second as time signal. Dot = 20 msec long. 19:25, QSY to 10,125 kHz
URE	14,050	09:35	9	11			F1B		200	
URE	14,095	13:55	18	11						Dot per second as time signal. Dot = 20 msec long
URE	14,080	09:05	26	11						OTH Radar from 14,020 to 14,180 kHz. Bursts
URE	14,150	08:44	15	11					10k	OTH Radar from 14,145 to 14,155 kHz
URE	14,169	08:50	26	11			F1B		200	
URE	14,192	VT	VD	11	RUS		F1B	50	200	RUS Navy, Kaliningrad

SOC	kHz	UTC	DD	M	ITU	IDENT	MODE	BD	SH	DETAILS
URE	14,195	08,11	15	11					40k	OTH Radar from 14,195 to 14,235 kHz
URE	14,107	09:00	10	11					10k	OTH Radar. Bursts from 14,102 to 14,112 kHz.
URE	14,244	08:27	22	11					16 k	OTH Radar from 14,236 to 14,252 kHz
URE	14,249	07:48	20	11					10k	OTH Radar. Burst from 14,244 to 14,254 kHz
URE	14,258	08:31	5	11	RUS		F1B		500	Moscow
URE	14,260,8	07:17	14	11			PSK2A	120	2600	AT3004D
URE	14,308	09:15	9	11	RUS		F1B	50	500	Moscow
URE	14,320	16:07	21	11						Dot per second as time signal. Dot = 20 mse long, transmitting at the same time on 14,325 and 14,350 kHz.
URE	14,331	09:34	9	11					10k	OTH Radar, bursts from 14,326 to 14,336 kHz.

### USKA – Switzerland – HB9CET (Peter)

SOC	kHz	UTC	DD	M	M	ITU	IDENT	MODE	BD	SH (BW)	DETAILS
<b>80m band informational only! - Amateur co-primary, shared with other also primary allocated services!</b>											
USKA	3519.5	2254 1736	07 15	11				F1B	50	200	almost daily
USKA	3525.0 VFO USB	0832	06	11				DQPSK	14x75	2k7	LINK 11 CLEW; ESB Mode
USKA	3525.0	2257 1733	07 15	11				B7D 2x PSK8	2400	~6k1	LINK 11 SLEW in DSB or ISB Mode
USKA	3526.8	1322	06	11				PSK8	2400	2k7	LINK 11 SLEW
USKA	3527.0	2250	07	11				F1B	50	200	almost daily
USKA	3532.0	0830	06	11				DQPSK	14x75	~6k	LINK 11 CLEW; DSB Mode often
USKA	3548.0	1643	01	11				F1B	50	200	almost daily
USKA	3548.0	2239 - 2254	26	11	RUS	RTL		F1A	17 wpm	200	letteres and figures; encrypted
USKA	3549.0 VFO USB	2245	26	11				G1D PSK8	2400	2k7	MIL 188-110A (D2) mod (Hybrid), preamble 4 tones, PSK4 75Bd 450Hz spacing almost daily
USKA	3550.0	2249 2321	23 30	11				J7D	12x120	2k7	BPSK; CIS12 often
USKA	3553.8	2301	26	11				G1D PSK8	2400	2k4	STANAG 4285 almost daily Frame format 600bps/long
USKA	3598.0	2129	24	11				J7D	12x120	2k7	BPSK; CIS12
USKA	3603.8	2238 2257	19 23	11				G1D PSK8	2400	2k4	STANAG 4285 often Frame format 600bps/Long
USKA	3604.0	2306	08	11				J7D	12x120	2k7	BPSK; CIS12
USKA	3608.0	2304	26	11				F1B	50	200	often
USKA	3640.0	2243	11	11			XSS	MFSK8	125	1750	ALE, MIL 188-141A
USKA	3653.0	2312	29	11				F1B	50	200	often
USKA	3660.5	2241 2126	11 24	11				B7D DQPSK	14x75	5k9	LINK 11 CLEW; DSB Mode often
USKA	3701.0	2304	23	11				J7D	12x120	2k7	BPSK; CIS12
USKA	3744.8	2308 2334 2305	07 22 27	11				G1D PSK8	2400	2k7	MIL 188-110A D2 mod (Hybrid); preamble 4 tones, PSK4 75Bd 450Hz spacing often
USKA	3759.0	0011	24	11				J7D	12x120	2k7	QPSK; CIS12
USKA	3774.0	2314	29	11				J7D	12x120	2k7	BPSK; CIS12
USKA	3792.0	2216	09	11				F1B	50	200	often
USKA	3797.0	2201	20	11				F1B	75	250	
USKA	5361.8	1509	07	11	DNK			G1D	2400	2k7	STANG 4285; reported as

SOC	kHz	UTC	DD	M M	ITU	IDENT	MODE	BD	SH (BW)	DETAILS
	VFO USB						PSK8			Danish Navy in Aarhus: <b>legal !</b>
USKA	7000.0 VFO USB	1531	07	11			G1D PSK8	2400	2k7	STANAG 4285
USKA	7000.0	2341	15				J3E-U			Spanish; maybe fishery
USKA	7008.0	1314	19	11			F1B	75	250	often
USKA	7012.0	1251	06	11			F1B	75	250	
USKA	7014.0	1208	12	11			J7D	12x120	2k7	BPSK; CIS12
USKA	7016.0	1128	29	11			J7D	12x120	2k7	BPSK; CIS12
USKA	7027.0	1302	29	11			F1B	50	250	
USKA	7028.0	1345	29	11			FMOP	10 sps	160k	OTHR often
USKA	7036.0	1542	08	11	RUS		F1B	50	250	
USKA	7066.0	1313	29	11		102	MFSK8	125	1750	ALE, MIL 188-141A, To: 101
USKA	7070.0	1311	29	11			MFSK8	125	1750	ALE, MIL 188-141A often
USKA	7093.0	1244	06	11			F1B	50	200	jammed
USKA	7093.1	1244	06	11			A1	50	200	stupid Jammer; dash's only; illegal
USKA	7098.0	0953	20	11			F1B	75	250	
USKA	7099.0	1247	06	11			F1B	75	250	often
USKA	7110.0	1316	02	11			F1B	50	200	
USKA	7120.0	1724 1547	15 23	11	SOM		A3E			BC; Radio Hargaysa almost daily
USKA	7122.0	1306	29	11			J7D	12x120	2k7	QPSK; CIS12
USKA	7140.0	1533 1640	01 23	11	ERI	VOBM	A3E		~ 9k	BC almost daily
USKA	7150.0	2140	15	11		1328	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7152.0	0226	22	11			F1B	75	500	
USKA	7164.0	1719	15	11			J7D	12x120	2k7	BPSK; CIS12
USKA	7169.0	0818	06	11			F1B	75	200	
USKA	7172.0	1312	02	11			J7D	12x120	2k7	QPSK; CIS12
USKA	7179.0	0019	17	11			F1B	75	200	
USKA	7180.0	1547 1642	08 23	11	ERI	VOBM	A3E		~ 9k	BC almost daily
USKA	7186.0	0824	06	11			J7D	12x120	2k7	BPSK; CIS12
USKA	7193.0	0915 0917 0926	11 11 13	11	RUS	RDL	F1B F1B F1A	36 50	200	CIS 36-50 often ID and short encrypted msg in CW
USKA	7193.1	0927 0923	11 13	11			A1			stupid Jammer; illegal! dash's only
USKA	7197.0	2234	25	11	TUR	306023	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7197.0	2241	25	11	TUR	351013	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7197.0	2252	25	11	TUR	314013	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7197.0	2257	25	11	TUR	339013	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7197.0	2257	25	11	TUR	305013	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7197.0	2304	25	11	TUR	381018	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7197.0	2307	25	11	TUR	340013	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7197.0	2310	25	11	TUR	347018	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7198.0	0931 1312	09 19	11			J7D	12x120	2k7	BPSK; CIS12 often
USKA	14000.0	1018	30				A0			Long lasting carrier
USKA	14169.0	1107	26	11	RUS		FMOP	50 sps	10k	OTHR; Bursts; BD 10s Contayner 29B6
USKA	14192.0	1059	11	11			F1B	50	200	almost daily
USKA	14221.0	2203	26	11			F1B	50	200	often
USKA	14270.0	0945	30	11			FMOP	50 sps	10k	OTHR
USKA	14303.0	0957	30	11			FMOP	50 sps	10k	OTHR
USKA	14308.0	0901	09	11			F1B	75	500	
USKA	14335.0	1002	20	11			FMOP	50 sps	10k	OTHR; Bursts; BD 10s
USKA	18080.0	1259	02	11			FMCW	50 sps	20k	OTHR

## Veron – Netherlands – PG1R (Ruud)

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	SHIFT	DETAILS
VERON	3523,0	1819	29	11	CIS	UiCW	A1A		5BL
VERON	3527,0	2106	01	11	CIS	UiPTR	F1B		Revs/Ptr, also 20/11 20.50 UTC
VERON	3548,0	1815	29	11	CIS	UiCW	F1A		XXX, followed by F1B Revs/Ptr
VERON	3548,0	1837	29	11	RUS	RDL	F1A		RDL 13689 46064 K
VERON	3548,0	2104	01	11	CIS	UiPTR	F1B		Revs/Ptr
VERON	3548,0	1500	22	11	RUS	RDL	F1B	200	Idling; S6 QSB
VERON	3562,0	2138	06	11	RUS	RMU5 2	A1A		Calls, RMU52 QSA ? K
VERON	3656,9	2137	06	11	RUS	V	A1A		V-beacon
VERON	3669,0	1813	29	11		UiPTR	F1B		Ptr
VERON	3728,5	1820	05	11		UiPTR	F1B		Idling
VERON	3792,0	1922	19	11	CIS	UiPTR	F1B		Revs/Ptr, also 28/11 19.18 UTC
VERON	3797,0	2045	20	11		UiPTR	F1B		Ptr
VERON	6999,5	1835	17	11		UiMux	FSK8	1k8	S7
VERON	7010,0	1432	15	11		UiLL	J3E-1		E. Asian voices; S4 deep QSB
VERON	7014,0	1046	14	11	RUS	UiPtr	F1B		Printer
VERON	7050,0	vt	vd	11	RUS/ UKR		J3E-1		Russian speech; comments; no calls; sometimes 2TX
VERON	7055,0	1446	29	11	UKR		J3E-1		Music + shouting voices; S7; Kiwi-TdoA loc: near Lviv Ukraine
VERON	7055,0	1311	09	11	UKR/ RUS		J3E-1		Private war; speech & music; 2TX; S9+
VERON	7089,5	1339	28	11		UiMux	PSK8	2k4	S9 QSB
VERON	7110,0	1032	15	11	CIS	UiPTR	F1B		Revs/Ptr
VERON	7110,0	1557	17	11		UiPtr	F1B	200	Printer; S5 QSB
VERON	7120,0	1555	17	11	SOM	R. Hargey sa	A3E		S7
VERON	7179,0	1539	17	11		UiPtr	F1B	200	Printer; S5 QSB
VERON	7179,0	1427	15	11		UiPtr	F1B	200	Printer; S4 QSB
VERON	7193,0	1008	15	11	CIS	UiPTR	F1B		Revs/Ptr
VERON	7193,0	1026	15	11	RUS	RDL	F1A		RDL 04756 14008 K
VERON	7193,0	vt	vd	11	RUS	RDL	F1B	200	Printer; Kiwi-TdoA loc: Kaliningrad
VERON	7198,0	1314	17	11	RUS	UiMux	MPSK	2k6	Idling
VERON	10121,0	1000	29	11		UiPTR	F1B		Ptr
VERON	10130,0	1020	05	11		UiPTR	F1B		Ptr, also 14/11 10.12 UTC
VERON	14115,0	1540	04	11	E		J3E-u		Spanish net; several stations; male voices; no calls
VERON	14192,0	1046	13	11	RUS	UiPtr	F1B		Printer
VERON	14280,0	1017	14	11	RUS	UiVFT	J3E		5F groups, Russian language
VERON	18150,0	1304	09	11		UiRadar	FMOP	20k	OTHR 25sps; S9 QSB

# The monitoring team of IARU Region 1

credits:

Wavecom Elektronik – Buelach – Switzerland

German BNetzA Konstanz

All our friends and contributors worldwide!

Many thanks for your interest!

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