



International Amateur Radio Union

Region 1



# Monitoring System

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The monthly newsletter for Region 1

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The 29 members of the IARUMS Region 1 Monitoring Team:



### Acknowledgements

ARAT: 3V8CB – Ahmed ++ ARI: DH7SA – Salvatore ++ ARSK: 5Z4BV - Kamweti ++ DARC: DK2OM – Wolf ++ EARS: A61M – Obaid ++ ERASD: SU1SA – Sayed ++ HRS: 9A5DGZ – Gianluca ++ IARC: 4Z1AB – Amos ++ IRTS: EI3GYB - Michael KARS: 9K2RR – Faisal ++ MARL: 9H1M – Dominic ++ MRASZ: HA7PL - Laci ++ NARS: 5N9AYM – Yusuf ++ NRRL: LA4EU – Hans Arne ++ OEVS: OE3GSA – Gerd ++ PZK: SP9BRP – Jan ++ RAL: OD5RI – Riri ++ REF: F5MIU – Francis ++ REP: CT4AN – Jose ++ ROARS: A41MA - Younis ++ RSGB: G0MGX - Mark ++ SARL: ZS6NS - James ++ SRAL: OH2BLU - Pekka ++ SSA – Ullmar ++ UBA: ON8IM – Ivan ++ URE: EB1TR - Fabian ++ USKA: HB9CET - Peter ++ VERON: PA2GRU - Dick ++ ZRS: S56ZDB – Darko ++ G3VZV – Graham (satellite) ++ TG9ADV – Jorge (Co-ordinator Region 2) ++ YB3PET – Titon (Co-ordinator Region 3) ++ DF8FE – (Webmaster assis.) ++ DL8AAM (ALE) ++ DJ7KG (BUOYS) ++ DF5SX (BC) ++ DARC (server support) ++ OD5TE (Hani) ++ VE6SH – Tim (IARU President) ++ 9K2RR – Faisal (EC-IARU-R1 ++ unofficial member: ++ ASTRA - DL1BDF - Mustapha ++ PTTs: BAKOM (Swiss) ++ OFCOM (UK) ++ Dutch AT ++ Austrian PTT

Part 1: News and infos

Part 2: Detailed reports of the national co-ordinators

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## Part 1: News and Infos

### 1. DJ9KR – Uli Bihlmayer – silent key



Uli - Hamradio 2015

It is with great sadness that we report the death of Ulrich Bihlmayer, DJ9KR, who passed away on 16 December 2017 after a long illness. Uli served in the DARC Bandwacht for 45 years of which 26 years as Coordinator. At the 2005 IARU Region 1 General Conference Uli was appointed deputy coordinator of the IARU Region 1 Monitoring System. Together with IARUMS coordinator Wolfgang Hadel DK2OM, he led a team that grew from 5 to 29 members. Being a polyglot, Uli specialised in broadcast intruders and pirates on telephony. Uli was presented the IARU Region 1 medal in 2011 before he stepped down from the IARU Monitoring Service in 2012. Our thoughts are with his family at this sad time.

original text from PB2T (Hans)

Read more:

<http://www.iarums-r1.org/iarums/history.pdf>

### 2. Indonesian pirates on 7 MHz

I found many Indonesian pirates on 7000 – 7040 kHz on USB/LSB on Dec. 30<sup>th</sup>. They were active in 5 kHz increments, laughing, singing and talking. The signals were rather strong in Europe.

### 3. Sunflower on 5.35 MHz

The Russian coastal radar “Sunflower” (= Podsolnukh) covered 5335 – 5365 kHz on Dec. 19<sup>th</sup> for 2 days. Parameters: FMOP and 43 sps – Location: Makhachkala / Caspian Sea

Any traffic on our new (shared) band was impossible. This kind of radar has been developed in Russia and sold to many countries, probably China, too.

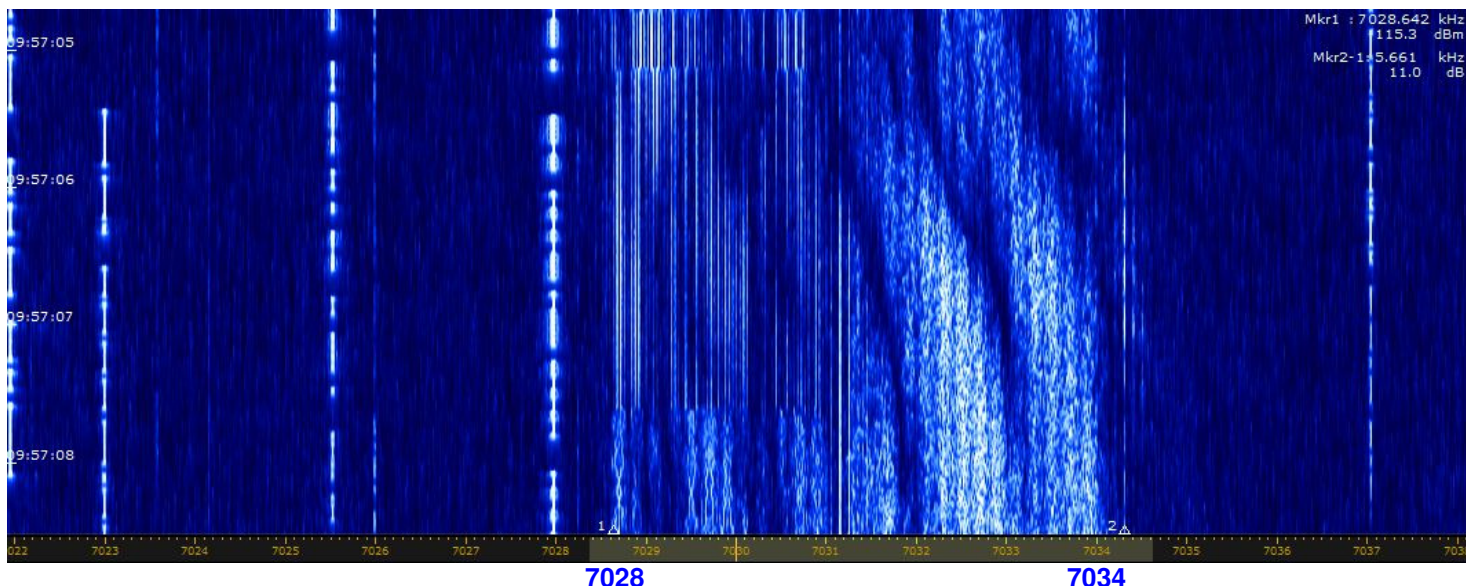
### 4. Chinese OTH-radars as usual on 7 and 14 MHz

Chinese OTH-radars were very busy on 7 and 14 MHz in December 2017. Parameters: FMOP 42, 50 and 66.66 sps – 10 kHz wide bursts with durations of 3.8 and 7.6 sec – often jumping

### 5. Russian MIL system AT3004D on DSB mode (both sidebands) on 7030 kHz

Location Sevastopol / Crimea - covering about 5.6 kHz for several days

Screenshot: DK2OM on Dec. 18<sup>th</sup> 2017 showing the emission



### 6. CIS pirates on 80 m

CIS pirates abused 3500.0 – 3600.0 on A3E (AM) with unstable carriers and weak modulation in the evening hours.



## 7. CT4AN (Jose Francisco) reports:

### **Actions carried by the Portuguese Communications Authority ANACOM during 2017**

The Portuguese National Communications Authority (ANACOM) has carried out 37 inspection actions on more than 170 fishing and recreational vessels since the beginning of the year, in cooperation with the National Maritime Authority (AMN). By the end of the year, four more inspection actions are planned in close collaboration with the Navy and the Maritime Police, which still need to be confirmed, namely because they depend on the state of the sea.

A total of 34 infractions were identified at ports in the Mainland, Azores and Madeira, of which 18 were detected in the mainland ports, 11 in the Azores, one in the ports of Madeira, and four in the ports of Madeira approach to offshore vessels.



The most recent inspection operation, under the cooperation protocol between ANACOM and the National Maritime Authority, took place last Friday November 10, at the Coastal Fishing Port of Aveiro. The objective of this joint action was to supervise the radiocommunications stations installed on board the vessels.

In the scope of this operation, were verified boats that had stations / equipment whose use was not restricted to the fishing activity for which they are intended. One of these stations was confiscated, since, among other irregularities, it was not registered in the station license of the vessel.

## 8. Miscellaneous or bad news:

- 3500.0 – 3600.0 kHz – CIS pirates on A3E (AM) with unstable carriers
- 3560.0 kHz – USB – Spanish fishermen daily at 1600 utc or later (also: 3500, 3535, 3550, 3590 kHz)
- 5350.5 kHz – USB – Spanish fishery daily – splattering up to 5353.0 kHz
- 7120.0 kHz – Radio Hargaysa Somalia – as usual
- 7140.0 kHz and 7180 kHz – Radio Eritrea and white noise QRM by Radio Ethiopia
- 14295.0 kHz - Radio Tajik (harmonic from 4765 kHz) – no change
- 18080.0 kHz – Sound of Hope – Taiwan – no change
- 21438.0 kHz – Russian Navy Sevastopol on A1A - as usual
- 28960.0 kHz – Radar Iran on FMOP burst mode - daily

## 9. Updates: <http://www.iarums-r1.org/iarums/gallery.pdf> <http://www.iarums-r1.org/iarums/history.pdf>

- 10. Homepage IARU Region 1 <http://www.iaru-r1.org/>
- Homepage IARUMS Region 1 <http://www.iarums-r1.org>
- Homepage IARUMS Region 2 <http://www.iaru-r2.org/>
- Homepage IARUMS Region 3 <http://iaru-r3.org/iaru-region-3-monitoring-system-newsletter/>
- Intruderlogger Region 1 <http://peditio.net/intruder/bluechat.cgi>
- ITU-Monitoring Reports <http://www.itu.int/en/ITU-R/terrestrial/monitoring/Pages/Regular.aspx>

## 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

### ARSK – Kenya – 5Z4BV (Kamweti)

Soc	kHz	UTC	dd	mm	ITU	Identity	MODE	Details
RSK	7.050,00	a.m.-p.m.	occasional	12	eastern Africa	?	J3E-u	Swahili-English mil with vernacular
RSK	7.075,00	0600; a.m.	near dly	12	Ethiopia-Kenya	?	J3E-l	Amharic mil data & weather relay net
RSK	7.089,00	a.m.	22	12	East-Central Africa	?	J3E-u	vernacular msg net
RSK	7.120,00	vt	dly	12	Rep.of Somalia	Hargeisha	A3E	Broadcast
RSK	7.140,00	vt	near dly	12	Radio Eritrea	?	A3E	Broadcast
RSK	7.140,00	a.m.-p.m.	near dly	12	Ethiopia?	?	A3E	Jammer
RSK	7.180,00	vt	near dly	12	Radio Eritrea	?	A3E	Broadcast, occasional QSY 7181.5kHz
RSK	7.180,00	p.m.	near dly	12	Ethiopia?	?	A3E	Jammer

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

DG0JBJ (Mario) observed 0 OTH radars on 40 m, 2 OTH radars on 20 m, 62 OTH radars on 17m, 6 OTH radars on 15 m and 0 OTH radars on 10 m in December 2017.

### 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	1810,5	2014	18	12	ROU	YR1TOP	A1A			beacon – YR1TOP – loc KN04RU – Romania - just for info!
DK2OM	1812,0	ady	dly	12	RUS		USB LSB			14 tones – hyperbolic radio navigation system – BRAS-3/RS-10 – Kaliningrad – no carrier - daily, all day
DK2OM	1852,0	vt	dly	12	I	IPP	USB			Palermo Radio, weather reports
DK2OM	1855,0	2008	06	12	I	IQP	USB			San Benedetto Radio, weather reports - daily
DK2OM	1876,0	vt	dly	12	I	IQN	USB			Lampedusa Radio, weather reports - daily
DK2OM	1888,0	2007	06	12	I	IPD	USB			Civitavecchia Radio, weather reports - daily
DK2OM	1896,5	ady	dly	12	D		PSK8	2400	2400	Stanag4285 – 600 bps long – German Navy – daily, all day
DK2OM	1925,0	2006	06	12	I	IPL	USB			Livorno Radio, weather reports - daily
DK2OM	3500,0	2156	08	12	E		USB			Spanish fishery
DK2OM	3501,8	2041	14	12			PSK8A	2400	2400	Stanag-4285 – 600 bps long
DK2OM	3503,5	vt	dly	12	G	no ITU	FSK8	125	1750	ALE – “XSS” “XPU” “XJR” –

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
										British MIL Tascomm – vt, daily - legal!
DK2OM	3525,0	2210	01	12	F		PSK4	75	5800	LINK11-CLEW on both sidebands (5800 Hz wide) – area of Marseille – legal!
DK2OM	3527,0	2211	01	12	RUS		F1B	50	200	Severomorsk - daily
DK2OM	3531,0	---	--	12	RUS	REA4	N0N			unclean carrier - RUS airforce Moscow, ident: 1940 utc - daily
DK2OM	3532,0	---	--	12	F		PSK4	75	5800	LINK11-CLEW on both sidebands (5800 Hz wide) – area of Brest – legal!
DK2OM	3535,0	0840	13	12	E		USB			Spanish fishery
DK2OM	3535,5	2052	03	12	CIS		A3E			CIS pirates – unstable carrier
DK2OM	3535,8	2042	04	12	CIS		A3E			CIS pirates – unstable carrier
DK2OM	3550,0	0730	dly	12	F		A3E			French amateurs not respecting bandplans - daily
DK2OM	3550,0	vt	vd	12	ALG	no ITU	FSK8	125	1750	ALE, “IU50” “IU52” “FN50”
DK2OM	3550,0	1840	06	12	E		USB			Spanish fishery
DK2OM	3550,7	2003	04	12	ISR		PSK4 PSK8	75 2400	2400 2400	hybrid modem – ISR Navy – PSK4 parallel and PSK8 serial - legal operation!
DK2OM	3553,8	ady	dly	12	TUR		PSK8	2400	2400	Stanag4285 – 600 bps long -TUR MIL - Ankara – daily, all day - legal operation
DK2OM	3555,6	2101	17	12	CIS		A3E			CIS pirates – unstable carrier
DK2OM	3557,0	1845	19	12	E		USB			Spanish fishery
DK2OM	3557,0	2033	25	12	RUS		F1B	75	250	Kaliningrad
DK2OM	3560,0	2100	01	12	E		USB			Spanish fishery – daily 1600 utc or later
DK2OM	3560,3	2045	03	12	CIS		A3E			CIS pirates – unstable carrier
DK2OM	3565,0	2115	13	12	E		USB			Spanish fishery
DK2OM	3576,6	ady	dly	12	I	IZ3DVW	A1A			3576.550 - uncoordinated beacon – disturbing JT65
DK2OM	3585,0	ady	dly	12	TWN	HLL	F1C		800	WX-fax Taiwan - 120 rpm, IOC 576 - daily, all day - legal!
DK2OM	3585,0	2012	04	12	E		USB			Spanish fishery
DK2OM	3587,0	vt	vd	12	E	no ITU	FSK8	125	1750	ALE, “TVV” “TXX” - Spanish Guardia Civil
DK2OM	3593,7	---	--	12	RUS	D	A1A			Cluster beacon – Sevastopol RUS Navy – “RCV”
DK2OM	3593,8	---	--	12	RUS	P	A1A			Cluster beacon – Kaliningrad RUS Navy – “RMP”
DK2OM	3593,9	---	--	12	RUS	S	A1A			Cluster beacon – Severomorsk RUS Navy – „RIT“
DK2OM	3594,0	---	--	12	RUS	C	A1A			Cluster beacon C - Moscow RUS Navy - “RIW”
DK2OM	3594,2	---	--	12	RUS	F	A1A			Cluster beacon F - Vladivostok RUS Navy - “RJS”
DK2OM	3595,0	---	--	12	RUS	K	A1A			Cluster beacon - Petropavlovsk Kamchatskiy - RUS Navy - Pacific fleet - “RCC”
DK2OM	3596,0	vt	dly	12	J		FSK8	125	1750	ALE, “JH1ESB” – just for info!
DK2OM	3617,0	vt	dly	12	HRV	9A5EX	FSK8	125	1750	ALE, “9A5EX” – HAM-ALE - just for info
DK2OM	3622,5	ady	dly	12	J	JMH	F1C		800	Tokyo Meteo – 120 rpm – IOC 576 – daily, all day - legal!!!
DK2OM	3642,0	ady	dly	12	CHN		A1A			loop – DKG6 de 3A7D Chinese military – daily, all day
DK2OM	3649,0	vt	vd	12	ALG	no ITU	FSK8	125	1750	ALE, “BI20” PA20”
DK2OM	3718,0	vt	vd	12	FEa	7CJK	A1A			loop “7CJK”
DK2OM	3756,0	2000	dly	12	RUS		A3E			RUS MIL – channel marker – Tuapse – East Black Sea – night QRG – daily – even audible in Japan
DK2OM	3757,0	ady	dly	12	FEa	RIS9	A1A			“M8JF de RIS9” - loop
DK2OM	3772,0	ady	dly	12	FEa	A4JC	A1A			“A4JC” - loop



DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
DK2OM	3777,0	vt	dly	12	FEa		A1A			"M8JF de RIS9" – loop
DK2OM	3797,0	ady	dly	12	FEa		A1A			"M8JF de RIS9" – loop
DK2OM	5323,0	2110	09	12	FEa		FMOP		53k	Far East radar "Sunflower" – 43 sps – 5323 – 5376 kHz - China or Far East Russia
DK2OM	5350,0	1650	18	12	E		USB			Spanish fishery – splattering up
DK2OM	5350,0	1822	19	12	RUS		FMOP		30k	coastal radar "Sunflower" – 43 sps – 5335 – 5365 kHz - Makhachkala
DK2OM	5350,5	1708	16	12	E		USB			Spanish fishery – splattering up to 5353.0 kHz – long lasting
DK2OM	5361,8 RF	---	--	12	DNK	OUA15	PSK8A	2400	2400	Stanag-4285 – 600 bps long – assigned to Danish Navy Aarhus - legal – primary user !
DK2OM	5362,0	2040	27	12			PSK2A	120	2600	AT3004D -
DK2OM	5368,0	1920	25	12			PSK2A	120	2600	AT3004D – submode idle
DK2OM	6998,5	--	--	12	POL		FSK8  USB	125	1750	MIL-188-141A – "BU2" "OD6" "OL1" "SZ4" "ZE2" "MA3" until 7001.0 kHz – also voice traffic male and female - Polish MIL
DK2OM	7000,0	0945	19	12	FEa		FMOP		80k	coastal radar "Sunflower" – 43 sps – 6956 – 7036 kHz – RUS or CHN
DK2OM	7000,0	1420	30	12	INS		USB LSB			Indonesian pirates - singing
DK2OM	7001,5	--	---	12	POL		PSK8	2400	2400	RF QRG 6998.5 kHz – 7000.3 kHz center - MIL-188-110A – 600 / 300 bps short – Polish MIL
DK2OM	7001,8	1544	12	12	TUR		PSK8A	2400	2400	Stanag-4285 - Izmir
DK2OM	7005,0	1447	30	12	INS		LSB			Indonesian pirates - singing
DK2OM	7008,0	1338	02	12	RUS		F1B	75	165	Moscow
DK2OM	7010,0	vt	vd	12	ALB	no ITU	FSK8	125	1750	ALE, "RS0" - Tirana
DK2OM	7010,0	1446	30	12	INS		LSB			Indonesian pirates
DK2OM	7015,0	1448	30	12	INS		LSB			Indonesian pirates
DK2OM	7018,0	---	--	12	RUS	REA4	F1B	100	800	mostly idling – Russian airforce Moscow – ident at full hour + 41 min. on F1A
DK2OM	7020,0	vt	vd	12	ALB		FSK8	125	1750	ALE, "CS004A" "RS004D" "CS004" - daily
DK2OM	7020,0	1843	14	12	CHN		FMOP		10k	Chinese OTH radar – 42 sps – 6 sec bursts
DK2OM	7020,0	1829	20	12	CHN		FMOP		40k	coastal radar "Sunflower" – 7000 – 7040 kHz – 43 sps - long lasting
DK2OM	7020,0	1445	30	12	INS		USB LSB			Indonesian pirates
DK2OM	7022,0	1526	25	12	RUS		PSK2A	120	2600	AT3004D – south of Moscow
DK2OM	7027,0	7025	20	12	RUS		PSK2A	120	2600	AT3004D - Sevastopol
DK2OM	7027,5	---	--	12	UKR	„V“	A1A			beacon "V" – Kyiv
DK2OM	7030,0	0957	18	12	RUS		PSK2A	120	5600	2 x AT3004D – DSB - Sevastopol
DK2OM	7031,0	1138	21	12	CHN		FMOP		10k	Chinese OTH radar (foghorn) – 66.66 sps – 3.8 sec bursts
DK2OM	7035,0	1449	30	12	INS		LSB			Indonesian pirates – playing music and talking about telephone
DK2OM	7039,0	---	--	12	RUS	C	A1A			Cluster beacon C - Moscow RUS Navy - "RIW"
DK2OM	7039,2	---	--	12	RUS	F	A1A			Cluster beacon F - Vladivostok RUS Navy - "RJS"
DK2OM	7039,3	----	--	12	RUS	D	A1A			Cluster beacon D Petropavlovsk Kamchatskiy - RUS Navy - Pacific fleet - "RCC" - daily
DK2OM	7039,3	1836	20	12	FEa		A1A			beacon – only dashes
DK2OM	7039,4	1719	03	12	RUS	M	A1A			Cluster beacon M – Magadan RUS Navy – „RTS“

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
DK2OM	7040,0	ady	dly	12	I		A1A			IZ3DVW – uncoordinated and unwanted beacon
DK2OM	7040,0	1528	30	12	INS		USB LSB			Indonesian pirates
DK2OM	7040,5	vt	dly	12	HRV		FSK8	125	1750	ALE, “9A5EX” “9A0ALE” – just for info
DK2OM	7043,0	1451	30	12	CHN		FMOP		10k	Chinese OTH radar (foghorn) – 66.66 sps – 3.8 sec bursts
DK2OM	7049,5	vt	dly	12	HRV G F	9A0ALE M1DFO F6BAZ	FSK8	125	1750	Amateur ALE, just for info! daily – various times
DK2OM	7050,0	vt	dly	12	KGZ		FSK8	125	1750	ALE, “X” “810” “820615” “810698” – Kyrgyzstan MIL
DK2OM	7065,0	1206	20	12	RUS		PSK2A	120	2600	AT3004D – St. Peterburg
DK2OM	7070,0	vt	vd	12	GEO	no ITU	FSK8	125	1750	ALE, “MV” “244” “686” “334” “204” “571” – daily active
DK2OM	7088,8	1435	12	12	S	SL0FRO	A1A			7088.830 kHz - cw-trainee, Sweden - SL0FRO - just for info!
DK2OM	7089,8	---	--	12	TUR CYP		PSK8	2400	2400	Link11 - SLEW – aircraft – west of Cyprus
DK2OM	7091,5	---	--	12	KAZ	„V“	A1A			7091.543 kHz - loop with spurious – ident “V” – Almaty - Kazakhstan
DK2OM	7099,5	vt	dly	12	HRV	9A0ZG	FSK8	125	1750	ALE, “9A0ZG” “9A5EX1P” “9A0OS” – daily - just for info!
DK2OM	7100,0	0942	19	12	FEa		FMOP		40k	coastal radar “Sunflower” – 43 sps – 7082 – 7122 kHz – RUS or CHN
DK2OM	7100,0	1829	20	12	CHN		FMOP		40k	coastal radar “Sunflower” – 7080 – 7120 kHz – 43 sps - long lasting
DK2OM	7102,0	vt	dly	12	TWN		FSK8	125	1750	ALE, “BV4AS” – just for info!
DK2OM	7102,0	vt	vd	12	HRV SUI D	9A0MIL	FSK8	125	1750	ALE, “9A3MIL” “9A2KS” “HB9MHB” “9A0ZG” “9A4OS” “DK0ESD” – just for info!
DK2OM	7102,0	vt	dly	12	J		FSK8	125	1750	ALE, “JH1ESB” – just for info!
DK2OM	7107,0	1511	14	12	CHN		FMOP		10k	Chinese OTH radar (foghorn) – 50 sps – 5 sec bursts
DK2OM	7110,0	vt	dly	12	HRV	9A0ALE	FSK8	125	1750	ALE, “9A0ALE” – just for info
DK2OM	7117,0	---	--	12	RUS	REA4	F1B	100	1000	mostly idling – Russian airforce Moscow – ident on CW at 1640 utc on the mark-QRG
DK2OM	7119,0	1346	02	12	RUS		PSK2A	120	2600	AT3004D - Moscow
DK2OM	7120,0	vt	dly	12	SOM		A3E		9k	Radio Hargaysa – Somalia – daily – even audible in Australia and Japan
DK2OM	7137,0	vt	dly	12	TWN		FSK8 LSB	125	1750	ALE, “DEGDG” “DRYHD” “DCOYI” “DSQLK” “DEIQW” “DETWY” Taiwanese navy – daily
DK2OM	7140,0	1520	12	12	ERI ETH		A3E		9k	7140.024 kHz - Radio Eritrea disturbed by Radio Ethiopia by white noise emissions - daily
DK2OM	7145,0	1754	15	12	FEa		FMOP		55k	Far East OTH coastal radar “Sunflower” – 7145 – 7200 kHz – 43 sps
DK2OM	7161,0	1514	14	12	CHN		FMOP		10k	Chinese OTH radar (foghorn) – 50 sps – 5 sec bursts
DK2OM	7171,0	7026	20	12	RUS		PSK2A	120	2600	AT3004D - Moscow
DK2OM	7176,0	0822	14	12	RUS		F1B	75	250	Moscow
DK2OM	7178,0	0934	12	12	RUS		PSK2A	120	2600	AT3004D - Moscow
DK2OM	7181,6	1520	12	12	ERI ETH		A3E		9k	7181,555 kHz - Radio Eritrea disturbed by Radio Ethiopia by white noise emissions - daily
DK2OM	7183,0	vt	dly	12	SUI		FSK8	125	1750	ALE, “HB9MHB” – just for info!

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
DK2OM	7183,0	1551	14	12	CHN		FMOP		10k	Chinese OTH radar (foghorn) – 50 sps – 5 sec bursts
DK2OM	7185,5	vt	dly	12	J TWN		FSK8	125	1750	ALE, “BV4AS” “JH1ESB” - just for info - daily
DK2OM	7201,0	1121	20	12	RUS		PSK2A	120	2600	AT3004D - Orenburg
DK2OM	10100,8	ady	dly	12	D		F1B	50	450	Baudot - German Weatherservice – legal!
DK2OM	10110,0	vt	dly	12	SNG	no ITU	FSK8	125	1750	ALE, “CN6” “68” – Singapore Navy - Changi Naval Base
DK2OM	10112,0	---	--	12	I		PSK8A	2400	2400	Stanag-4285 – 600 bps long – area of Rome
DK2OM	10113,0	vt	vd	12	TUN	no ITU	FSK8	125	1750	ALE, “TUD” “STAT5” “STAT154”
DK2OM	10114,0	vt	dly	12	ALG	no ITU	FSK8	125	1750	ALE, “BSF” “ZEN” “CM2OR2”
DK2OM	10114,8	0640	dly	12	RUS		F1B	100	1000	CIS14 – Moscow
DK2OM	10115,0	vt	dly	12	MRC	no ITU	FSK8	125	1750	ALE, “100” “114” “203” “XXZ” – Western Sahara
DK2OM	10116,5	---	--	12	AFS		F7D	54.3	2120	MHF50 – 33 tones - South African navy
DK2OM	10120,0	vt	dly	12	ALG	no ITU	FSK8	125	1750	ALE, “CM6” “01012016”
DK2OM	10123,0	vt	dly	12	ALG	no ITU	FSK8	125	1750	ALE, “CM3” “COF” “BSF” “CM2” “ESA” – Algerian Airforce
DK2OM	10124,0	0833	21	12	ALG		FSK8	125	1750	ALE, “OEB” - ALG airforce
DK2OM	10129,0	vt	dly	12	ALG	no ITU	FSK8	125	1750	ALE, “CM1” “CTF” “772”
DK2OM	10136,0	vt	dly	12	ALG	no ITU	FSK8	125	1750	ALE, “CM3” “BLD” “CNC” “TF2”
DK2OM	<b>10144,0</b>	<b>ady</b>	<b>dly</b>	<b>12</b>	<b>D</b>	<b>DK0WCY</b>	<b>A1A</b>			<b>10144.000 kHz - DK0WCY – German aurora beacon – just for info!</b>
DK2OM	10145,5	vt	dly	12		JH1ESB	FSK8	125	1750	ALE, “JH1ESB” - just for info - daily
DK2OM	10145,5	vt	dly	12	TWN AUS	BV4AS	FSK8	125	1750	ALE, “BV4AS” “VK4SAA” – just for info!
DK2OM	14000,0	1717	02	12	FEa		USB			male persons – Bay of Bengal
DK2OM	14000,0	1002	08	12			USB			men in RUS voice – Russian figures – disturbed by a neighbouring LED lamp
DK2OM	14000,0	0930	23	12	FEa		USB			man calling “zulu zero”
DK2OM	14100,0	vt	dly	12	ALG	no ITU	FSK8	125	1750	ALE, “6206” “6204” “6212” “6202” “6203” “6207” “6217” “MTL” “IJJ” – Mauritanian border – daily, all day
DK2OM	14100,0	0750	22	12	RUS		FMOP		10k	OTH radar – 50 sps
DK2OM	14109,0	vt	dly	12	TWN	HAM	FSK8	125	1750	ALE, “BV4AS” – daily - just for info!
DK2OM	14109,0	vt	dly	12	INS	HAM	FSK8	120	1750	ALE, “YD00XH” – just for info!
DK2OM	14109,0	vt	dly	12	S HRV D		FSK8	125	1750	ALE, “SM3FXL” “9A4OS” “9A3BRV” “DK0ESD” - just for info!
DK2OM	14109,0	vt	vd	12	J		FSK8	125	1750	ALE, “JH1ESB” – just for info
DK2OM	14113,5	1350	05	12	RUS		FSK	600	600	DPRK-FSK 600 – DPRK emba Moscow
DK2OM	14140,0	0843	21	12	CYP		FMOP		50k	OTH radar – 25 sps – 14115 - 14165 kHz
DK2OM	14140,0	0818	23	12	CYP		FMOP		50k	OTH radar – 25 sps – 14115 - 14165 kHz
DK2OM	14160,0	vt	dly	12	MRC		FSK8	125	1750	ALE, “9204” “9228” “9236”
DK2OM	14192,0	vt	vd	12	RUS		F1B	50 75 50 100 100	500 500 200 500 200	RUS navy Kaliningrad - daily
DK2OM	14200,0	0858	19	12	CHN		FMOP		10k	Chinese OTH radar – 50 sps – 5 sec bursts
DK2OM	14221,0	2020	dly	12	KGZ		F1B	50	200	CIS-50-50 - Bishkek – daily –



DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
										mostly idling
DK2OM	14257,0	0857	26	12	CHN		FMOP		10k	Chinese OTH radar – 42 sps – 6 sec bursts
DK2OM	14260,0	vt	dly	12	SRB	YU1BI	FSK8	125	1750	ALE, “YU1BI” – just for info!
DK2OM	<b>14260,0</b>	<b>---</b>	<b>--</b>	<b>12</b>	<b>UKR</b>		<b>A3E</b>			<b>female voice with encrypted msgs – figures – “SZRU” = Foreign Intelligence Service of Ukraine in Rivne</b>
DK2OM	14260,0	0910	21	12	CYP		FMOP		50k	OTH radar – 25 sps – 14235 - 14285 kHz
DK2OM	14260,0	0818	23	12	CYP		FMOP		50k	OTH radar – 25 sps – 14235 - 14285 kHz
DK2OM	14260,9	---	--	12	RUS		OFDM	35.5	2760	OFDM 60 – PSK4B – Moscow
DK2OM	14272,0	---	--	12	RUS	RCV	A1A			RUS Navy Sevastopol
DK2OM	14295,0	vt	dly	12	SRB	YU1BI	FSK8	125	1750	ALE, “YU1BI” – just for info!
DK2OM	<b>14295,0</b>	<b>ady</b>	<b>dly</b>	<b>12</b>	<b>TJK</b>		<b>A3E</b>		<b>9k</b>	<b>3<sup>rd</sup> from Radio Tajik on 4765 kHz – daily, all day</b>
DK2OM	14297,8	1000	05	12	AFG		unid		4000	unid – sounding similar to a wobbler
DK2OM	14308,0	0832	26	12	CHN		FMOP		10k	Chinese OTH radar (foghorn) – 66.66 sps – 3.8 sec bursts - jumping
DK2OM	14340,0	---	--	12	RUS		PSK2A	120	2600	AT3004D – Vladivostok with spurious emissions +/- 35 kHz and +/- 70 kHz - daily
DK2OM	14346,0	vt	dly	12	POR		FSK8	125	1750	ALE, “CT2IXQ” just for info – various times, daily
DK2OM	14348,0	vt	dly	12	THA	HS0ZEA	A1A			HS0ZEA beacon – 14347.950 kHz - every 5 minutes – daily - just for info!
DK2OM	<b>14351,6</b>	<b>---</b>	<b>--</b>	<b>12</b>	<b>E</b>		<b>OFDM PSK4A</b>	<b>30</b>	<b>2700</b>	<b>OFDM 73 + intro tone – HFD+VL - experimental transmissions – Las Palmas – just for info!</b>
DK2OM	<b>18080,0</b>	<b>0730</b>	<b>daily</b>	<b>12</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	12	MRC	no ITU	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	12	POR	CT2GOY	FSK8	125	1750	ALE, “CT2GOY” – just for info!
DK2OM	18106,2	vt	dly	12	TWN		FSK8	125	1750	ALE, “BV4AS” – just for info!
DK2OM	18107,0	vd	vt	12	RUS	RDL	F1B	50	200	CIS-50-200 - Moscow – idle and traffic – daily - Russian navy – shared band!
DK2OM	18117,5	vt	vd	12	POR	CT2IXQ	FSK8	125	1750	ALE, “CT2IXQ” – just for info
DK2OM	18140,0	vt	dly	11	SRB	YU1BI	FSK8	125	2600	ALE, “YU1BI” – just for info!
DK2OM	18150,0	---	--	12	RUS		F1B	100	1000	harmonic from 9075 (100 Bd, 500 Hz) - Kaliningrad
DK2OM	<b>21000,0</b>	<b>vt</b>	<b>vd</b>	<b>12</b>	<b>B</b>		<b>USB</b>			<b>Brazilian pirates – Rio de Janeiro with North Brazil – very often</b>
DK2OM	<b>21000,0</b>	<b>---</b>	<b>--</b>	<b>12</b>	<b>SDN</b>		<b>USB</b>			<b>MFA Sudan – Khartoum with emba Yemen – voice traffic</b>
DK2OM	<b>21002,2</b>	<b>---</b>	<b>--</b>	<b>12</b>	<b>SDN</b>	<b>!0000 !9999 !8888</b>	<b>F1B</b>	<b>100</b>	<b>170</b>	<b>21002.15 kHz - Pactor 1 encrypted – MFA Sudan – Khartoum with emba Yemen</b>
DK2OM	21096,0	vt	dly	12	INS	YD00XH	FSK8	125	1750	ALE, “YD00XH3” – daily, various times - just for info!
DK2OM	21096,0	vt	vd	12	G		FSK8	125	1750	ALE, “M1DFO” – just for info!
DK2OM	21145,0	vt	dly	12	MRC	no ITU	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”

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
										“S3” “S4” “S512” “S552” “G2” “G501” - various times, daily
DK2OM	21145,8	ady	dly	12	I	IZ3DVW	A1A			IZ3DVW beacon – 21145,790 kHz – daily, all day - not coordinated with IARU
DK2OM	21190,0	---	--	12	RUS		F1B	100	1000	harmonic from 10595 kHz - Moscow
DK2OM	21400,0	---	--	12	RUS		F1B	50	2000	harmonic from 5350 kHz – area of Moscow
DK2OM	21438,0	0948	15	12	RUS	RCV	A1A			RIP90 de RCV - RUS Navy Sevastopol - daily
DK2OM	21446,0	ady	dly	12	THA	HS0ZEA	A1A			HS0ZEA beacon – every 5 minutes - just for info!
DK2OM	25000,0	---	--	12	FIN		A3E			time signal Helsinki – just for info – carrier on 25000 – dots on 25001 and 24999 – daily, all day
DK2OM	28000,0	vt	vd	12	B		A3E			<b>Brazilian CBers – 28000 – 28325 – daily, all day - no change</b>
DK2OM	28000,0	ady	dly	12	CIS		F3E			<b>28000 – 29700 numerous CIS taxi nets – no change</b>
DK2OM	28025,0	---	--	12	POR		F1B	51	320	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoy
DK2OM	28051,5	---	--	12	POR		F1B	51	320	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoy
DK2OM	28075,0	---	--	12	POR		F1B	51	320	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoy
DK2OM	28085,1	---	--	12	POR		F1B	51	320	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoy
DK2OM	28146,0	---	--	12	ARG B		FSK8	125	1750	ALE, “LU8EX” “PY2TI” “DL1” – just for info!
DK2OM	28212,0	---	--	12	POR		F1B	51	320	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoy
DK2OM	28435,0	----	--	12	E		F1B	81.9	140	<b>Datawell-buoy “Waverider” – 28435.040 kHz – Costa del Sol – Malaga</b>
DK2OM	28459,8	---	--	12	GAB		A3E		1060	carrier and dots in USB and LSB, bursts every 60 sec – carrier – Gabon - daily
DK2OM	28499,8	---	--	12	MEa		F1B	81.9	140	<b>Datawell-buoy “Waverider” – 28499.875 kHz – Persian Gulf</b>
DK2OM	28746,5	---	--	12	GAB		A3E			carrier and dots in USB and LSB, bursts every 60 sec – carrier – Gabon
DK2OM	28751,6	---	--	12	GAB		A3E		1080	carrier and dots in USB and LSB, bursts every 60 sec – carrier – Gabon
DK2OM	28960,0	vt	vd	12	IRN		FMOP		50k	Iranian radar bursts – 150 and 313 sps – long lasting - daily
DK2OM	29114,0	---	--	12	RUS		F1B	100	2000	harmonic from 14557.0 kHz - Moscow
DK2OM	29249,9	---	--	12	E		F1B	81.9	140	<b>Datawell-buoy “Waverider” – 29249.880 kHz – Spain Fuerteventura - daily, all day</b>
DK2OM	29375,0	---	--	12	I		F1B	81.9	140	<b>Datawell-buoy “Waverider” – 29374.898 kHz – Gallipoli, South Italy - daily, all day</b>
DK2OM	29387,5	---	--	12	IND		F1B	81.9	140	<b>Datawell-buoy “Waverider” – 29387.460 kHz – Indian NW coast, close to Pakistan - daily, all day</b>
DK2OM	29400,0	---	--	12	USA		F1B	81.9	140	<b>Datawell-buoy “Waverider” –</b>

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
										<b>29400.070 kHz - USA north-east coast – NY daily, all day</b>
DK2OM	29400,0	---	--	12	IRN		FMOP		50k	Iranian radar bursts – 307 and 870 sps
DK2OM	<b>29450,0</b>	---	--	<b>12</b>	MRC		<b>F1B</b>	<b>81.9</b>	<b>140</b>	<b>Datawell-buoy “Waverider” – 29449.863 kHz - area of El Aaiun – Morocco - daily, all day</b>
DK2OM	<b>29500,0</b>	---	--	<b>12</b>	<b>G</b>		<b>F1B</b>	<b>81.9</b>	<b>140</b>	<b>Datawell-buoy “Waverider” – 29499.974 kHz- area of Gibraltar – daily, all day</b>
DK2OM	<b>29525,0</b>	---	--	<b>12</b>	MRC		<b>F1B</b>	<b>81.9</b>	<b>140</b>	<b>Datawell-buoy “Waverider” – 29524.990 kHz - Agadir - Morocco – daily, all day</b>
DK2OM	<b>29625,0</b>	---	--	<b>12</b>	USA		<b>F1B</b>	<b>81.9</b>	<b>140</b>	<b>Datawell-buoy “Waverider” – 29625.024 kHz - USA north-east coast – daily, all day</b>
DK2OM	29685.0	---	--	12	I		VFT		2300	Italian MIL – Brescia - daily
DK2OM	29699.5	---	--	12	I		VFT		1600	Italian MIL – Brescia - daily
DK2OM	<b>50100,0</b>	vt	dly	<b>12</b>	<b>D</b>		<b>QRM</b>			<b>1.8 - 50 MHz QRM by a neighbouring LED lamp - “many thanks” to German “PTT” Eschborn 🍌</b>

### IRTS – Ireland – EI3GYB (Michael)

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	DETAILS
IRTS	1896.5	1319	10	12	D		PSK8	German navy. All day and night. Frequency unusable form HAMS.
IRTS	1980	2126-2135	13	12	E or MM		USB	2 Spanish fishermen with big signals
IRTS	3507	0714	31	12			USB	2 Japanese male voices chatting happily.
IRTS	3517.5	1705	09	12	MRC or MM		LSB	2 Moroccan fishermen. Loud motor noise in the background of both ships. Lots of “cambio” and “Al Hamdulillah”
IRTS	3550	0738	22	12	F		AM	French HAMS still violating the band plan.
IRTS	3560	1742-1748	14	12	E or MM		USB	2 Spanish fishermen with huge signals.
IRTS	3623	1836	02	12	E or MM		USB	Group of several Spanish fishermen. All stations over-modulated. A few have loud motor noise in the background.
IRTS	3658	1817	07	12	UZB		CW	Beacon “V” from Khiva.
IRTS	3675	0850	07	12	POR or MM		USB	2 Portuguese fishermen. One has loud music in the background.
IRTS	3756	0345	25	12	RUS		CW	The Pip
IRTS	5360	2338	20	12	E or MM		USB	A Spanish fisherman keeps calling “Carnalito, Carnalito- cambio ?”
IRTS	5360	0125-0145	23	12			USB	2 male voices chatting in Japanese.
IRTS	5361.5	1628-1636	30	12			Digital	Huge digital signal making any QSO on the frequencies impossible. Might have been the legal primary user.
IRTS	5390	1755	07	12			FMCW	Radar from 5390-5423 KHz.
IRTS	5397	1115	29	12			FMCW	Radar from 5397- 5410 KHz. On and off during the month. Most times in the evening making any QSO impossible on 2 EI spot frequencies.
IRTS	5398.5	1103-1110	29	12	HOL		USB	A Dutch HAM is using this UK/EI spot frequency in violation to the Dutch band plan. He is being told about this by a UK ham- but both continue their QSO in spite of the illegal nature.
IRTS	7055	1122	25	12	UKR /RUS		LSB	Shouting of propaganda slogans and playing of MX. RUS-UKR radio war. On and off during the month. Not that busy as about a year ago.
IRTS	7060	0930	29	12	UKR /RUS		LSB	Agitprop radio war between RUS and UKR. Most days during the month. Intensity is much



SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	DETAILS
								less than a year ago.
IRTS	7080	1825	11	12	MRC		USB	2 Moroccan fishermen.
IRTS	7120	1332	02	12			Digital	Strong digital signal
IRTS	7120	1700	09	12	SOM		AM	Radio Hargaysa. Strong. Audible every day in the late afternoon and early morning.
IRTS	7181.5	1734	17	12	ERI		AM	Radio Eritrea with a monster signal. Daily in the late afternoon and early evening. Sometimes with white noise as a jammer from ETH.
IRTS	7199	1746	14	12			Digital	Strong digital signal covering everything from 7197 to 7202 KHz.
IRTS	7205	1710	11	12	CHN		AM	Radio China International splattering down to 7199 KHz.
IRTS	10108	0620	15	12			FMCW	Very strong radar from 10108- 10130 KHz.
IRTS	10109.5	1952	31	12			FMCW	Radar from 10109.5- 10118.5 KHz.
IRTS	14173	0910	07	12			FMCW	Radar from 14173- 14223 KHz.
IRTS	14192	1338	03	12	RUS		F1B	RUS navy from Kaliningrad. Every day during hours of daylight.
IRTS	14295	1155	27	12	TJK		AM	Radio Tajikistan 3 <sup>rd</sup> harmonic.
IRTS	18062	1126	28	12			FMCW	Radar from 18062-18086 KHz.
IRTS	18064	0903	07	12			FMCW	Radar from 18064- 18085 KHz
IRTS	18162	1205	13	12			FMCW	18162-18185 KHz very strong radar.

### KARS – Kuwait – 9K2RR (Faisal)

### MRASZ – Hungary - HA7PL (Laci)

SOC	kHz	UTC	DD	MM	ITU	MODE	SH	DETAILS
MRASZ	1841.0	1810	14	12		LSB		two italian HAMs, too low used freq
MRASZ	1854.0	1643	20	12		A1A		"AZQAC TDUCP URXVY FQQPX"
MRASZ	1855.0	1812	14	12		A1A		"KAHKR 6PYXM FC2VH ENFTJ"
MRASZ	3502.0	1749	24	12		A3E		some Serbo-Croatian language
MRASZ	3503.0	2027	24	12		A3E		unidentified
MRASZ	3509.0	1942	17	12		LSB		russian language
MRASZ	3510.0	2028	24	12		A3E		unidentified
MRASZ	3522.0	1459	10	12		F1B	250	
MRASZ	3522.0	1927	24	12		F1B	250	
MRASZ	3524.0	1618	13	12		PSK2		AT3004D
MRASZ	3524.0	1735	19	12		F1B	250	
MRASZ	3531.0	1745	20	12		PSK2		AT3004D
MRASZ	3554.0	1748	24	12		F1B	250	
MRASZ	3561.0	1757	22	12		F1B	250	
MRASZ	3568.0	1747	20	12		F1B	200	
MRASZ	3582.5	1458	10	12		F1B	200	
MRASZ	3582.5	1636	20	12		F1B	200	
MRASZ	3583.0	1825	13	12		USB		unidentified
MRASZ	3586.0	1644	25	12		F1B	250	
MRASZ	3606.0	1956	17	12		F1B	200	
MRASZ	3608.0	1756	22	12		F1B	250	
MRASZ	3640.0	1802	14	12		F1B	250	
MRASZ	3653.0	1803	14	12		F1B	200	
MRASZ	3680.0	1617	13	12		F1B	500	
MRASZ	3680.0	1803	14	12		F1B	500	
MRASZ	3700.0	1638	20	12		A1A		"8MUW de FMAF K"
MRASZ	3700.0	1755	20	12		PSK2		AT3004D
MRASZ	3702.0	1928	24	12		F1B	250	
MRASZ	3714.0	1616	13	12		F1B	250	
MRASZ	3724.0	1804	14	12		F1B	250	
MRASZ	3724.0	1645	25	12		F1B	250	
MRASZ	3738.0	1646	25	12		F1B	200	
MRASZ	3759.0	1501	10	12		PSK2		AT3004D
MRASZ	3794.0	1616	13	12		PSK2		AT3004D
MRASZ	3797.0	1615	13	12		F1B	250	

SOC	kHz	UTC	DD	MM	ITU	MODE	SH	DETAILS
MRASZ	3798,0	1804	14	12		F1B	250	
MRASZ	7017,0	1806	14	12		OTHR		
MRASZ	7025,5	1606	27	12		A1A		quick dotting
MRASZ	7030,0	1802	17	12		PSK2		AT3004D
MRASZ	7030,0	1759	22	12		PSK2		AT3004D
MRASZ	7030,0	1535	25	12		PSK2		AT3004D
MRASZ	7032,0	0957	9	12		PSK2		AT3004D
MRASZ	7089,0	1356	26	12		PSK2		AT3004D
MRASZ	7120,0	1602	13	12	SOM	A3E		R. Hargaysa, hrd: dly
MRASZ	7140,0	1819	30	12	ERI	A3E		R. Eritrea
MRASZ	7181,5	1732	19	12	ERI	A3E		R. Eritrea
MRASZ	7181,5	1801	22	12	ERI	A3E		R. Eritrea
MRASZ	7181,5	1426	25	12	ERI	A3E		R. Eritrea
MRASZ	7181,5	1358	26	12	ERI	A3E		R. Eritrea
MRASZ	7194,0	1052	3	12		N0N		
MRASZ	7200,0	1931	24	12		N0N		
MRASZ	7205,0	1733	19	12		A3E		splattered 5 kHz down
MRASZ	14135,0	0924	25	12		OTHR		14110-14160 kHz
MRASZ	14192,0	1807	14	12		F1B	200	
MRASZ	14192,0	1450	26	12		F1B	200	
MRASZ	14255,0	0926	25	12		OTHR		14230-14280 kHz
MRASZ	18168,0	1003	9	12		OTHR		18150-18190 kHz

### 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. F5MIU										Décember 2017
	7040	0900	25				USB		10kHz	Scrambled voice comms
	7200	0855	4				LSB		4kHz	High speed data S8
	14135	0900	22				fmcw		50kHz	OTH radar S5 pulsed 40ms
	14140	0858	1				fmcw		50kHz	OTH radar S4 pulsed 40ms
	14140	0841	4				fmcw		50kHz	OTH radar S4 pulsed 40ms
	14140	0907	25				fmcw		50kHz	OTH radar S6 pulsed 40ms
	14200	0849	7				fmcw		50kHz	OTH radar S4 pulsed 40ms
	14260	0845	4				fmcw		50kHz	OTH radar S7 pulsed 40ms
	14260	0842	19				fmcw		50kHz	OTH radar S5 pulsed 40ms
	14260	0910	25				fmcw		50kHz	OTH radar S7 pulsed 40ms
	18170	0900	29				fmcw		50kHz	OTH radar S6 pulsed 80ms
	21310	0855	1	12			fmcw		20kHz	OTH radar S8 pulsed 40ms

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

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH	DETAILS
REP	1896	20.00	19	12	D		PSK8	2400	3k	STANAG 4285 600/L – Germany
REP	1911	19.36	20	12			J3E-U			Unid language fishery, engine noise
REP	3500	19.33	15	12	E		J3E-U			Spanish fishery
REP	3517	14.02	02	12	E		J3E-L			Spanish fishery, Galicia Province
REP	3520	23.45	10	12	RUS		H2A	10		Enigma M01B, two tone CW
REP	3545	23.01	09	12	RUS		F1B	50	200	T600 modem, encrypted
REP	3550	19.53	11	12			PSK8	2400	3k	NATO Stanag 4285 600/L
REP	3554	19.54	19	12	TUR		PSK8	2400	3k	STANAG 4285 600/L - Turkey
REP	3579	18.35	01	12	E		J3E-U			Spanish fishery
REP	3582	19.50	19	12	RUS		F1B	50	200	T-600 modem, idling, Russia mil
REP	3647	12.06	05	12	E		J3E-U			Spanish fishery
REP	3664	16.17	02	12	E		J3E-U			Spanish fishery
REP	3675	12.07	05	12	POR		J3E-U			Portuguese fishery

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH	DETAILS
REP	3698	20.09	19	12			PSK4	73	3k	Unid PSK4 mode 75bd x 12 channels
REP	3706	12.44	04	12			PSK8			Weak STANAG 4285, NATO
REP	3740	12.41	05	12	E		J3E-U			Spanish fishery
REP	3756	18.38	27	12	RUS		A3E			"Pip" cahnnel marker, Russia
REP	5352	12.19	11	12	E		FSK8			Spanish Guardia Civil ALE "TYMT2"
REP	5353	20.24	19	12	E		J3E-U			Spanish fishery
REP	7000	22.00	07	12			BPSK	120	3k	CIS12 modem, encrypted
REP	7000	21.12	07	12			PSK8			NATO Stanag 4285 600/L, encrypted
REP	7000	08.00	17	12			J3E-U			Unid ops
REP	7000	20.03	28	12	B		J3E-U			Brazilian mobile net w/ phone patches
REP	7005	19.21	08	12	RUS		F1B	75	250	T206 modem, encrypted
REP	7008	14.09	02	12			F1B	75	165	Unid encrypted, possible Russia mil
REP	7010	19.33	07	12			FSK8			Unid 92xx net "920001" sounding
REP	7013	20.27	27	12			FSK8			Unid ALE net 302005 sounding
REP	7018	08.50	08	12	RUS		BPSK	120	3k	CIS12 modem, encrypted
REP	7030	18.49	17	12	RUS		PSK2	120	3k	CIS12 (AT3004D), mil
REP	7038	23.00	14	12	RUS	P	A1A			MURMANSK
REP	7039	22.10	16	12	RUS	M	A1A			MAGADAN ???
REP	7058	20.05	20	12			FSK8			Unid ALE net "157" clg "196"
REP	7070	19.06	09	12			FSK8			Unid ale, "20001" "2208", distinct nets
REP	7120	17.38	12	12	SOM		8k00 A3EGN			Radio Hargaysa
REP	7120	18.32	06	12	SOM		8k00 A3EGN			Radio Hargaysa, Somaliland, daily
REP	7140	17.49	12	12	ETH		8k00 A3EGN			Radio Eritreia
REP	7180	17.15	06	12	RUS		PSK4	120	3k	AT3004D
REP	7181	18.30	06	12	ETH		8k00 A3EGN			Radio Eritreia, strong signal, in the clear
REP	7185	17.28	06	12			MFSK			Uid Mil-ALE secall
REP	7193	13.12	05	12	RUS		F1B	50	200	T-200 (Russia) modem & dit jammer
REP	10110	08.02	22	12			J3E-U			Unid Arabic lang. fishery
REP	10112	18.18	08	12			J3E-U			North Africa fishery, possible Morocco
REP	10113	18.44	16	12			PSK2			Mil-STANAG 4285 600/Long - NATO
REP	10115	09.05	04	12	TUN	TU1	FSK8			Tunisian MOI "TU1" clg "TUD"
REP	10115	16.30	08	12			FSK8			Venezuela mil net "2008", "2012" sndg
REP	10125	16.00	07	12	MRC		J3E-U			Fishermen
REP	10130	14.02	08	12			FMCW	50	20k	OTH Radar
REP	10130	18.18	09	12	TUR		FSK8			ALE Turkish Civil Def. "106001" sndg
REP	10145	20.13	19	12	MRC		J3E-U			Moroccan fishery, North Africa
REP	14030	07.00	03	12	RUS		PSK2			AT3004D
REP	14130	19.00	20	12	RUS		FMCW			OTH radar
REP	14220	19.40	20	12	RUS		F1B	50	200	CIS-50 modem, mil
REP	14265	19.56	20	12	RUS		F1B	75	250	T206 modem
REP	14280	17.20	11	12	RUS		FMCW	50	17k	OTH radar
REP	14305	17.52	11	12	RUS		FMCW	50	18k	OTH radar
REP	14355	08.49	22	12						OTH (Foghorn)
REP	21145	14.09	06	12	MRC	C3	FSK8			Morocco mil "C3" clg "ER3"
REP	28135	11.35	15	12	RUS		F3E			Taxi YL dispatcher
REP	28145	10.54	15	12	RUS		F3E			Taxis, female dispatchers
REP	28165	12.03	15	12	RUS		F3E			YL taxis dispatcher
REP	29135	10.41	15	12	RUS		F3E			Taxi dispatcher

### RSGB - Great Britain – G0MGX (Mark)

### SRAL – Finland – OH2BLU (Pekka)

Society	kHz	UTC	DD	MM	ITU	IDENT	MODE	BAUD	SHIFT	REMARKS
SRAL	7001,8	0630-1530	12.-14.	12	TUR	UiMUX	PSK8	600	2400	
SRAL	7007,96	0845-1440/	*	12		UiOPTR	F1B		165	Days: 2. 4. 16.
SRAL	7008,0	0705-0735/	*	12		UiPTR	F1B		250	Days: 15. 23.
SRAL	7008,5	1145	18	12		UiMUX	PSK2	120	2600	
SRAL	7014.0	1100-1130	2. - 15.	12		UiPTR	F1B		250	



Society	kHz	UTC	DD	MM	ITU	IDENT	MODE	BAUD	SHIFT	REMARKS
SRAL	7015.0	1000-1015/	4	12	RUS	RIT	A1A			calls RLO
SRAL	7018,63	0640	29	12		UiCarr	NON			
SRAL	7019,8	1220-1245/	1	12		UiCarr	NON			
SRAL	7023.0	1440	23	12		UiMUX	PSK2	120	2600	
SRAL	7030,0	0515-0030	*	12		UiMUX	PSK2	120	2600	Days: 12. 13. 15. 17.-23. 30.
SRAL	7032,0	0700-0730	11	12		UiMUX	PSK2	120	2600	
SRAL	7033,0	0540-1400	17. 18.	12		UiMUX	PSK2	120	2600	
SRAL	7049,0	1100-1345	04 11	12		UiPTR	F1B		200	
SRAL	7055.0	0840-0900/	4	12		UiPTR	F1B		200	
SRAL	7069.0	1045-1100	28	12		UiMUX	PSK	120	2400	
SRAL	7089,0	1200-1400	26	12		UiMUX	PSK	120	2400	
SRAL	7099.0	0750-0755	24	12		UiPTR	F1B			
SRAL	7100.9	0900-1117/	13	12		UiPTR	F1B			
SRAL	7116.6	1230-1325	4	12		UiCarr	NON			
SRAL	7118.0	1530	29	12		UiMUX	PSK	120	2400	
SRAL	7119.0	1315-1320	2	12		UiMUX	PSK	120	2400	
SRAL	7120,0	/0330-0530	dly	12	SOM	R.Hargeisa	A3E			
SRAL	7120,0	/1300-1400/	dly	12	SOM	R.Hargeisa	A3E			
SRAL	7120,0	/1500-2000/	dly	12	SOM	R.Hargeisa	A3E			
SRAL	7140,0	0400-0600	*	12	ERI	VoBME	A3E			Jammed by ETH, days: 1. - 3. 28. - 31.
SRAL	7140,0	1315-1735	*	12	ERI	VoBME	A3E			Jammed by ETH, days: 1. - 3. 28. - 31.
SRAL	7142.0	1120-1222/	9	12	RUS	UiPTR	F1B		250	
SRAL	7144.0	0815-0830	4	12		UiMUX	PSK2	120	2600	
SRAL	7158.0	0955-1010	14	12		UiPTR	F1B		250	
SRAL	7159.0	0915-0920	16	12		UiPTR	F1B		200	
SRAL	7160.0	0750-0940	20	12		RMW32	A1A			MR, 5BL 5F
SRAL	7160.0	0645-0900	*	12		UiPTR	F1B		200/250	days: 4. 5. 7. 14.
SRAL	7162.0	0600-1430	9. - 31.	12		PVO '9'	A1A			time stamp
SRAL	7164.0	0615-0730/	11	12		UiMUX	PSK2	120	2600	
SRAL	7167.0	0745-1240/	14	12		UiPTR	F1B		160	
SRAL	7162,0	0750	30.	12		UiMUX	PSK2	120	2600	
SRAL	7167,0	0630-1630	13.	12		UiPTR	F1B		250	
SRAL	7169.0	0800-0805	18	12		UiPTR	F1B		250	
SRAL	7171.0	0700-1900	*	12		UiMUX	PSK2	120	2600	days: 1. 4. 18. 19. 28.
SRAL	7176.0	0705-1145	*	12	RUS	UiPTR	F1B		250	days: 13. 14. 25.
SRAL	7178.0	1015-	12	12	RUS	UiMUX	PSK2	120	2600	

Society	kHz	UTC	DD	MM	ITU	IDENT	MODE	BAUD	SHIFT	REMARKS
		1100								
SRAL	7178.5	0825-0835	18	12		MACT	A1A			MR 5F
SRAL	7179.0	1450-1510	23	12		UiMUX	PSK2	120	2600	
SRAL	7179.5	0715-0720	11	12		UiMUX	PSK2	120	2600	
SRAL	7181,6	0200-0715	dly	12	ERI	VoBME	A3E			Jammed by ETH to 0500, some days on 7180,0 kHz
SRAL	7181,6	1300-1835/	dly	12	ERI	VoBME	A3E			Jammed by ETH to 1700, some days on 7180,0 kHz
SRAL	7181.7	1130-1145	4	12		UiCarr	N0N			
SRAL	7186.0	1100-1130	2	12		UiPTR	F1B		500	
SRAL	7186.0	1045-1250/	16	12		UiMUX	PSK2	120	2600	
SRAL	7190.0	1130-1135	20	12		UiCarr	N0/A2			1000 Hz tone
SRAL	7192.0	0900-1015	20	12		UiPTR	F1B		250	
SRAL	7193.0	0800-1350	*	12		UiPTR	F1B/N0N		200	days: 3. 4. 5. 7. 14. 15. 16. 18. 19.
SRAL	7198,0	0845-1715	*	12		UiMUX	PSK2	120	2600	days: 4. 14. 16. 17. 19.
SRAL	7199.0	1210-1315/	20 25	12		UiPTR	F1B		250	
SRAL	7200.0	0845-0850	18	12		UiMUX	PSK2	120	2600	
SRAL	10 MHz	0640-1735/	*	12	RUS	29B6	FMCW			25/50Hz ,15 kHz (WebSDR 20d) days: 2. 10. 20. 23.
SRAL	14192,0			12	RUS	UiPTR	F1B		200	(WebSDR 1d)
SRAL	14204.0	0705-0713/	4	12		UiCW	A1A			MR 5F
SRAL	14221,0	0400-0600/	*	12	KGZ	UiPTR	F1B		200	Days: 2. 3. 10. 15. 16. 17. 19. 20.
SRAL	14295,0	0600-1400	dly	12	TJK	R Tojikiston	A3E			3f 4765,00 kHz, Yangiyul TX. Chirpy stand by TX
SRAL	14 MHz	0900-0905/	1	12		UiOTHR	FMCW			25Hz / 50 kHz, (WebSDR 10d), on 14140 & 14260 kHz, strong is New Zealand SDRs
SRAL	18 MHz	0915-1245	*	12	CYP / TUR	UiOTHR	FMCW			25/50Hz / 20 kHz, Days: 2. 10. 20. 23. (WebSDR 24d)
SRAL	18 MHz	0915-0945/	21	12		UiOTHR	FMCW			12.5Hz / 40 kHz (WebSDR 3d)
SRAL	21 MHz	0715-0920	6 11	12	CYP / TUR	UiOTHR	FMCW			25/50Hz / 20 kHz, (WebSDR 8d)
SRAL	21438,0			12	RUS	RCV	A1A			
SRAL	24 MHz			12		UiOTHR	FMCW			(WebSDR 1d)
SRAL	28 MHz			12	IRN	UiOTHR	FMCW			307 & 870 Hz / 60 kHz – 300 kHz
SRAL	28960,0			12	IRN	UiOTHR	FMCW			150 & 313 Hz / 60 kHz
SRAL	28 MHz			12		UiOTHR	FMCW			25/50Hz / 20 kHz (WebSDR 0d)
SRAL	28 MHz			12	RUS	Taxi disp.	F3E			0 reports

## USKA – Switzerland – HB9CET (Peter)

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH (BW)	DETAILS
<b>80m band informational only! - Amateur co-primary, shared with other also primary allocated services!</b>										
USKA	3500.0 VFO USB	2314	14	12			PSK8	2400	2k4	Stanag 4285, 600bps/long
USKA	3500.0	2126	19	12			J3E-U		~2k4	English patois
USKA	3522.0	1602	01	12			F1B	75	250	
USKA	3524.0	0001	01	12			F1B	75	200	
USKA	3524.0	2316	07	12			F1B	75	165	daily
USKA	3524.0	1623	13	12			J7D	12x120	2k7	BPSK; CIS12
USKA	3525.0	2318	03	12			DQPSK	14x75	5k9	LINK 11 CLEW; DSB Mode
USKA	3526.8	2259	19	12			PSK8	2400	~2k7	LINK 11 SLEW
USKA	3527.0	2319	03	12			F1B	50	200	almost daily
USKA	3532.0	2320	03	12			DQPSK	14x75	5k9	LINK 11 CLEW; DSB Mode
USKA	3535.0 VFO USB	2335	12	12			PSK8	2400	~2k7	
USKA	3535.0	1729	17	12			J3E-U		~2k1	Spanish patois (Fishery)
USKA	3548.0	2241	02	12			F1B	50	200	often
USKA	3550.0	2244	02	12			J7D	12x120	2k7	BPSK; CIS12
USKA	3553.8	0059	01	12			PSK8	2400	2k4	Stanag 4285, daily
USKA	3559.0	1104	02	12			J7D	12x120	2k7	BPSK; CIS12
USKA	3560.0	1609 1729	05 10	12			J3E-U		2k4	Fishery; Spanish
USKA	3563.0	1532	08	12			J7D	12x120	2k7	BPSK; CIS12
USKA	3567.5	2243	07	12			F1B	81	500	
USKA	3572.0	2332	06	12			J7D	12x120	2k7	BPSK; CIS12
USKA	3572.0 VFO USB	2259	12	12			PSK8	2400	~2k7	MIL188-110A mod (Hybrid), pre- amble 4 tones
USKA	3582.5	2208	10	12			F1B	50	200	almost daily
USKA	3593.7	2319	07	12		D	A1A			Letter beacon; Sevastopol
USKA	3593.9	2321	07	12		S	A1A			Letter beacon; Severomorsk
USKA	3594.0	2323	07	12	RUS	C	A1A			Letter beacon; Moscow
USKA	3598.0	2156	13	12			F1B	100	250	
USKA	3598.0	1807	15	12			F1B	75	200	very weak; strong via JA remote
USKA	3606.0	1742	10	12			F1B	50	250	
USKA	3612.0	2246	07	12			J7D	12x120	2k7	BPSK; CIS12
USKA	3632.0 VFO USB	2259	13	12			PSK8	2400	~2k7	MIL 188-110A mod (Hybrid), pre-ample 4 tones
USKA	3640.0	2322	11	12		XSS	MFSK8	125	1750	ALE, MIL 188-141A
USKA	3640.0	2159	13	12			F1B	75	250	often
USKA	3640.0	2044	19	12			J7D	12x120	2k7	BPSK; CIS12
USKA	3653.0	2307	07	12			F1B	50	200	
USKA	3658.0	2229	13	12		V	A1A			Letter beacon
USKA	3680.0	2327	11	12			F1B	81	500	daily
USKA	3691.0	0046	01	12			J3E-L			Patriotic music
USKA	3699.0	2247	02	12			J7D	12x120	2k7	BPSK; CIS12
USKA	3702.0	2210	13	12			F1B	100	200	often
USKA	3714.0	1638	13	12			F1B	75	250	
USKA	3718.0	1739	10	12			PSK8	2400	2k4	Stanag 4285
USKA	3727.0	1651	12	12			J7D	12x120	2k7	BPSK; CIS12
USKA	3730.0	2301	07	12			MFSK8	125	1750	ALE, MIL 188-141A; followed by voice
USKA	3730.0	2302	07	12			J3E-U		~2k1	unid language
USKA	3734.0	1520	08	12			J7D	12x120	2k7	BPSK; CIS12
USKA	3743.0 VFO USB	2234	13	12			PSK8	2400	~2k7	MIL 188-110A mod (Hybrid), pre-ample 4 tones,
USKA	3759.0	1738	10	12			J7D	12x120	2k7	often
USKA	3792.0	1733	10	12			F1B	50	200	BPSK; CIS12
USKA	3797.0	1617	05	12			F1B	75	250	often
USKA	3801.0	2348	06	12			J7D	12x120	2k7	BPSK; CIS12; partially in 80m band



SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH (BW)	DETAILS
USKA	7001.8	1643	12	12			PSK8	2400	2k4	STANAG 4285; often
USKA	7008.0	1042	02	12			F1B	75	165	
USKA	7008.0	1037	07	12			F1B	75	250	
USKA	7010.0	1741	12	12		920004	MFSK8	125	1750	ALE, MIL 188-141A; To: 920001
USKA	7010.0	1749	12	12		920018	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7010.0	1804	12	12		920001	MFSK8	125	1750	ALE, MIL 188-141A; To: 920001
USKA	7013.0	1757	06	12		106025	MFSK8	125	1750	ALE, MIL 188-141A often
USKA	7013.0	2119	14	12		302006	MFSK8	125	1750	ALE, MIL 188-141A often
USKA	7013.0	2229	14	12		302005	MFSK8	125	1750	ALE, MIL 188-141A often
USKA	7013.0	2234	14	12		303005	MFSK8	125	1750	ALE, MIL 188-141A often
USKA	7014.0	1032	07	12			F1B	75	250	
USKA	7020.0	1913	14	12			FMCW	41 sps	10k	OTHR; Burst system
USKA	7030.0	1718	17	12			J7D	12x120	2k7	BPSK; CIS12
USKA	7033.0	1247	17	12			J7D	12x120	2k7	BPSK; CIS12
USKA	7039.4	1631	05	12		M	A1A			Letter beacon; Magadan (weak)
USKA	7055.0	1034	07	12			F1B	75	250	
USKA	7083.0	1108	04	12			FMCW	66.66	10k	OTHR; Burst system
USKA	7119.0	2243	11	12			J7D	12x120	2k7	BPSK; CIS12
USKA	7120.0	1510	03	12	SOM		A3E			BC; Radio Hargaysa almost daily
USKA	7134.0	2051	14	12			F1B	50	200	
USKA	7144.0 VFO LSB	2010	14	12			BPSK	30x60Bd	~2k5	Burst system; tone spacing 75 Hz Preamble 4x PSK 60Bd
USKA	7162.0	2323	05	12			A1A			short groups; encrypted
USKA	7176.0	0905	14	12			F1B	75	250	
USKA	7176.0	1803	15	12			J7D	12x120	2k7	BPSK; CIS12 (weak)
USKA	7180.0	1511	03	12			A3E		~ 9k	BC, massively jammed
USKA	7180.0	1511	03	12					~ 10k	Jammer, white noise, heavy
USKA	7181.5	1605	05	12	ERI		A3E		~ 9k	BC
USKA	7180.0	1605	05	12					~ 10k	Jammer, white noise, heavy
USKA	7186.0	1055	02	12			F1B	75	500	
USKA	7193.0	1048	04	12			F1B	50	200	often
USKA	7193.1	1048	04	12			A1A			Jammer; fast dots; stupid and absolutely illegal!
USKA	7197.0	2247	05	12		306023	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7197.0	2259	05	12		8411	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7197.0	2302	05	12		337013	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7197.0	2306	05	12		367013	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7197.0	2313	05	12		340018	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7197.0	2314	05	12		318018	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7197.0	2314	05	12		381013	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7197.0	2318	05	12		332018	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7197.0	2319	05	12		374013	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7197.0	2314	10	12		381013	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7197.0	2315	10	12		332018	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7197.0	1609	14	12		355013	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7197.0	1610	14	12		306013	MFSK8	125	1750	ALE, MIL 188-141A
USKA	7198.0	1725	14	12			J7D	12x120	2k7	BPSK; CIS12 often
USKA	14105.0	0915	05	12			FMOP	50	10k	OTHR; Burst system
USKA	14140.0	0841 0918	19 21	12			FMOP	25 sps	50k	OTHR often
USKA	14192.0	0908	06	12			F1B	50	200	
USKA	14192.0	1240	07	12			F1A		200	
USKA	14200.0	0900	07	12			FMCW	25 sps	20k	OTHR
USKA	14244.0	0851	07	12			FMOP	50 sps	10k	OTHR; Burst system
USKA	14260.0	0820	19	12			FMOP	25 sps	50k	OTHR
USKA	14295.2	0921	07	12			A3E		ca. 9k	3 <sup>rd</sup> of 4765 – Radio Tajikistan
USKA	14297.7	0947	05	12			?	?	ca 3.9k	unid digital signal
USKA	14328.0	0922	21	12			FMOP	50 sps	10k	OTHR
USKA	18065.0	0935	21	12			FMCW	12.5sps	40k	OTHR; partially in 17m band
USKA	18070.0	1240	12	12			FMCW	50 sps	20k	OTHR; partially in 17m band

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH (BW)	DETAILS
USKA	18153.0	0847	19	12			FMOP	42 sps	10k	OTHR;Burst system
USKA	21010.0	1046	07	12			FMCW	50 sps	20k	OTHR

### Veron – Netherlands – PA2GRU (Dick)

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	SHIFT	DETAILS
VERON	3521,0	19.21	25	12		UiCW	A1A		5F-24298 66986 57356 etc
VERON	3522,0	20.14	28	12		UiPTR	F1B		Ptr
VERON	3524,0	20.30	4	12		UiPTR	F1B		Ptr
VERON	3527,0	21.30	21	12	CIS	UiPTR	F1B		Revs/Ptr also at 28/12 20.15 UTC
VERON	3547,0	20.21	28	12	CIS	UiCW	A1A		5BL
VERON	3548,0	20.20	28	12		UiPTR	F1B		Ptr
VERON	3561,0	20.16	28	12		UiPTR	F1B		Ptr
VERON	3568,0	21.28	21	12		UiPTR	F1B		Ptr
VERON	3583,0	19.10	12	12	CIS	UiPTR	F1B		Rev/Ptr
VERON	3593,7	21.35	30	12	RUS	S	A1A		S-beacon
VERON	3795,0	19.13	12	12	CIS	AZP9	A1A		VW9T de AZPG calls
VERON	3795,0	19.14	12	12	CIS	LBC7	A1A		4E81 4A23 de LBC7 calls
VERON	7008,0	10.50	4	12		UiPTR	F1B		Ptr
VERON	7018,0	14.29	12	12	RUS	UiCAR	NON		carrier Russian Airforce
VERON	7050,0	14.25	3	12	UKR/ RUS		J3E-1		Private war; comments
VERON	7050,0	19.21	25	12	UKR/ RUS		J3E-1		Audio war, comments and music
VERON	7060,0	10.26	10	12	UKR/ RUS		J3E-1		Russian music; S4
VERON	7120,0	17.49	9	12	SOM	R.Hargay sa	A3E		E.African speech;S5
VERON	7157,0	14.44	14	12		UiRadar	FMOP	10k	OTHR; 50sps; S2, QSB S0
VERON	7180,0	14.52	14	12		UiRadar	FMOP	10k	OTHR; 50sps; S2
VERON	14192,0	11.08	28	12	CIS	UiPTR	F1B		Revs/Ptr
VERON	14195,0	11.58	31	12	UKR	D!DX	J3E-1		no license Area Donetsk CQ
VERON	29550,0	13.44	6	12		UiRadar	FMOP	25k	Ocean wave radar? 5sps; weak S2

# The monitoring team of IARU Region 1

credits:

**Wavecom Elektronik – Buelach – Switzerland**

**Best wishes and health in the coming year  
to all our friends and their families worldwide!**

**Many thanks for your interest!**

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