



# Monitoring System

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The monthly newsletter for Region 1

## November 2015

### The 29 members of the IARUMS Region 1 Monitoring Team:



### Acknowledgements

ARAT: 3V8CB – Ahmed ++ ARI: DH7SA – Salvatore ++ ARSK: 5Z4NU - Ted ++ ASTRA: DL1BDF – Mustapha ++ DARC: DK2OM – Wolf ++ 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: M0VRR - Vaughan ++ 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) ++ VK3MV – Peter (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 ++ PTTs: BAKOM (Swiss), BNetzA Konstanz (Germany) ++ OFCOM (UK) ++ Dutch AT ++ SK6AW – DX-Cluster ++ YO9RIJ – Petrica

## Part 1: News and Infos

### 1. New national MS-Coordinator of SARL (South Africa)

ZS6NS (James) is the successor of ZS4GJA (Gideon). Welcome to our Monitoring System dear James!

### 2. New national MS-Coordinator of IRTS (Ireland)

The dedicated successor of EI9GSB (Lisa) is EI3GYB (Michael). Unconfirmed at the moment!  
Welcome to our Monitoring System dear Michael!

### 3. New national MS-Coordinator of UBA (Belgium)

ON8IM (Ivan) is the successor of ON4PN (Patrick). Welcome to our Monitoring System dear Ivan!

### 4. Israel Navy on 7050.029 kHz

The Israel Navy (ident 4XZ) was transmitting on 7050.029 kHz on A1A (CW) on several days. After many complaints the system disappeared on Nov. 15<sup>th</sup>.

### 5. BC-problems

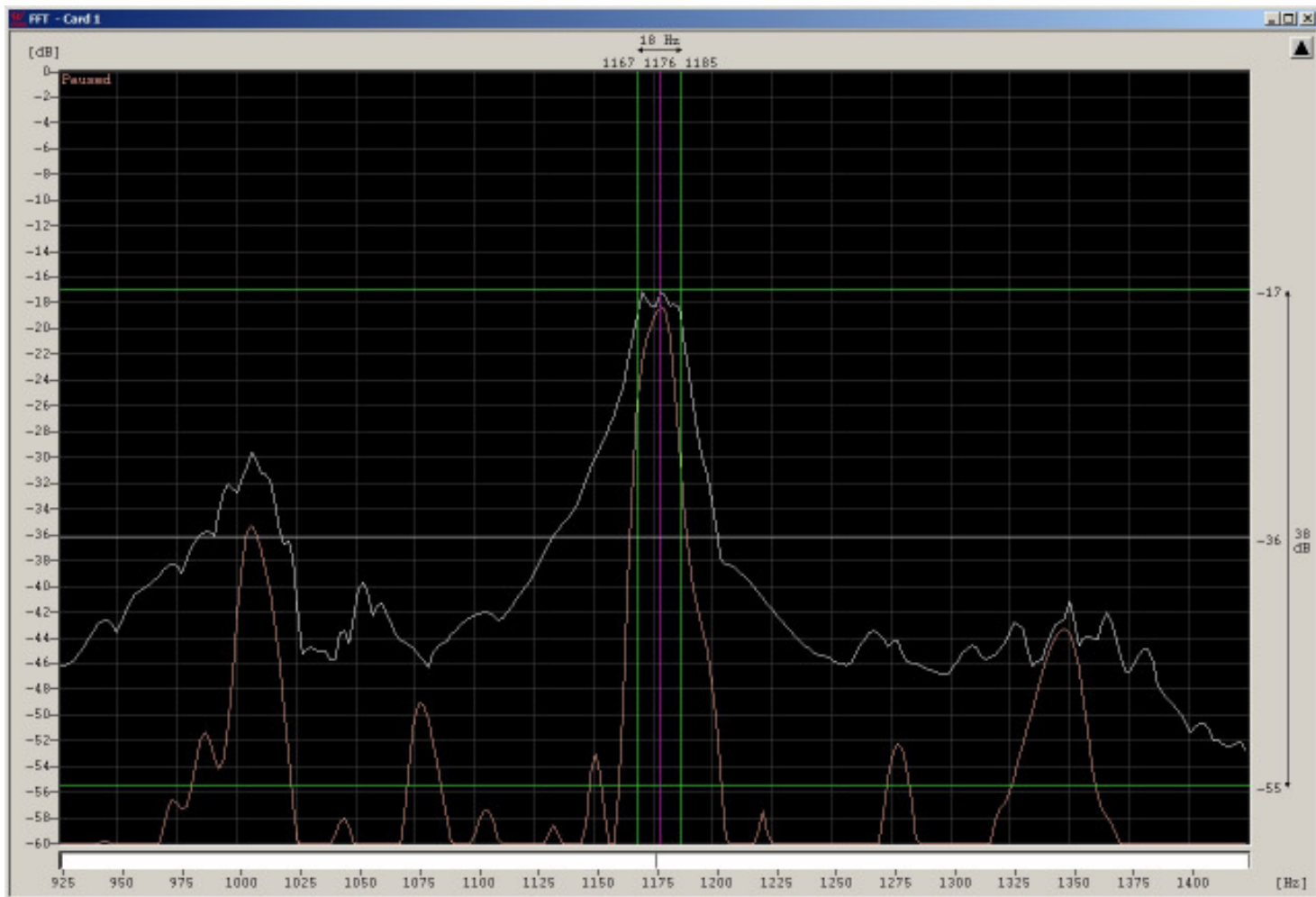
A spurious emission from IRIB Tehran on 7225.0 kHz disturbed 7158 kHz during several nights. The German BNetzA filed an official complaint.

**Good news:** Radio France International (RFI) appeared with a repaired transmitter on 7205. The splatters were no longer audible. Many thanks to the German BNetzA for assistance and of course to RFI, too!

**Bad news:** Radio Hargaysa did not leave 7120 kHz. So the German BNetzA sent another official complaint. The 3<sup>rd</sup> harmonic from Radio Tajikistan on 4765 kHz was still audible on 14295.174 kHz. The German BNetzA filed another complaint.

**Many thanks for assistance in 2015 to BNetzA, BAKOM, BMVIT, Agentschap Telecom and OFCOM.**

The 3<sup>rd</sup> harmonic of Radio Tajikistan on 14295.174 on the W-Code FFT-display. You can see the unstable carrier. Screenshot: DK2OM on Nov. 13<sup>th</sup> at 0946 UTC



### 6. Spanish fishery – the endless story

Spanish fishery was found on 1810.0 kHz on USB. Now they are abusing all our bands not respecting any Amateur traffic! We found them on 21440.0 on USB, too. After having been detected, they went up to 21460.0 kHz.

### 7. Chinese broadband OTH radar on 18 MHz

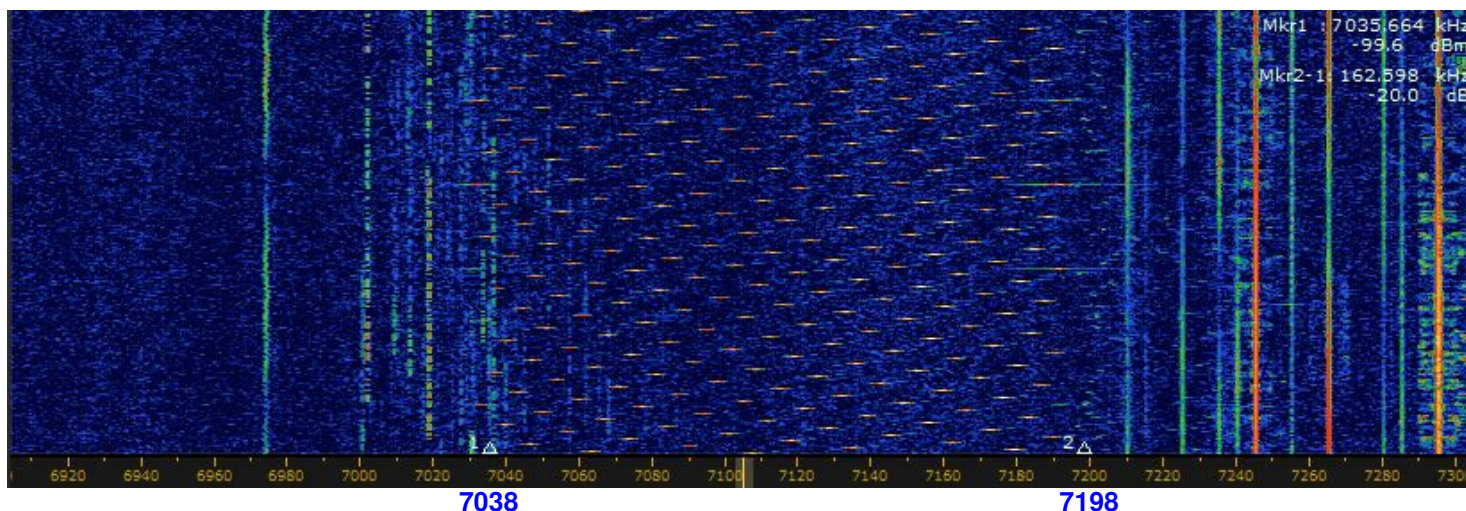
A Chinese broadband OTH radar was active on 18152 – 18252 kHz with 25 sps, location Central China. The transmissions were observed by several European Hams and of course by HB9CET and DK2OM.



### 8. Chinese broadband OTH radar on 7 MHz

Chinese broadband OTH radar on 7038 – 7198 kHz – 10 sps - blocks of 100 sec duration – disturbing the CW-Contest and the phone part of the 40 m-band. Screenshot: DK2OM with Perseus on Nov. 28<sup>th</sup> at 2000 UTC

soundfile: <http://www.iarums-r1.org/iarums/sound/7mhz-chn-broad.wav>

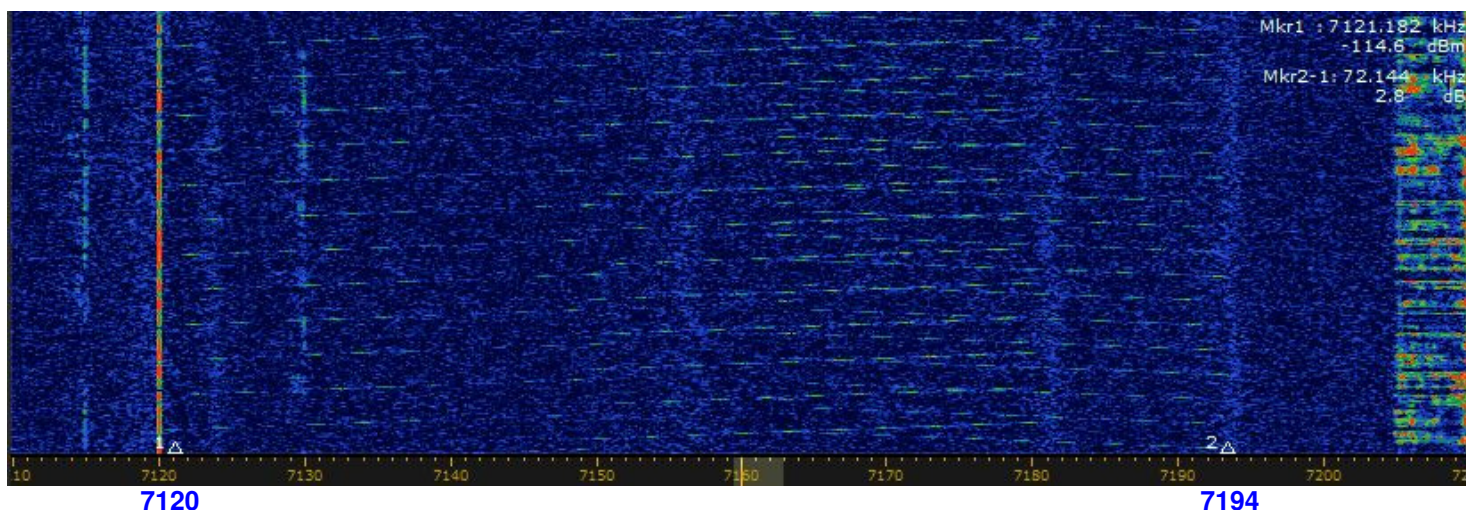


### 9. What about the ocean wave radars on 7 MHz in Region 3 ?

I found 3 such radars at the same time on Nov. 17<sup>th</sup>. (CODAR or CODAR-like systems)

Screenshot: DK2OM via remote Japan.

Is there someone, who can give us more infos about the locations?



### 10. MFA Sudan still on 21 MHz

The MFA Sudan in Khartoum was still connecting its embassy in Yemen on Pactor 1 encrypted.

QRG: 21002.15 kHz – various times and days

Voice traffic was also observed on 21000.0 kHz on USB.

### 11. CIS taxi traffic on our 10 m-band – no change

I found about CIS taxi traffic on F3E (FM) on about 100 frequencies in November 2015, mostly transmitting from Russia. They were angry about the CW-Contest on Nov. 29<sup>th</sup> (observed on 28105 kHz).

Please observe my table!

### 12. OTH radar Iran on 28 MHz

An Iranian OTH radar was often disturbing the upper part of our band. The system was transmitting on 29750 kHz with 925 sps. But the splatters could be received down to 29400 kHz.

Another Iranian radar worked in burst mode and jumped over the band.

### 13. Season's Greetings: Merry Christmas and a peaceful year 2016 from HB9CET and DK2OM!

### 14. Homepage IARU Region 1

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** = sweeps/sec (radar systems) \*\*\* **FMCW** = frequency modulated continuous wave (OTH and coastal Radars)  
**5BL** = cyrillic 5 lettergroups

### ARSK MONITORING OVERVIEW FOR NOVEMBER 2015

Radio Hargeisha remained on 7,120 kHz with broadcasts. As usual there were some local or Central African intruders observed on 7,000, 7,074 and 7,075 kHz.

E.H.M. Alleyne, 5Z4NU - ARSK National IARUMS Co-ordinator

#### ARSK – Kenya – 5Z4NU (Ted)

N.A.

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

DG0JBJ (Mario) observed **38** OTH radars on 20 m, **98** OTH radars on 15 m and **29** OTH radars on 10 m in November 2015. Chinese OTH radars often appeared on the 20, 40 and 80 m-bands in Region 3.

#### 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	2200	11	11	E		USB			Spanish fishery - daily
DK2OM	1810,5	1916	09	11	CIS		A3E			CIS pirates – unstable carrier
DK2OM	1812,0	1540	08	11	RUS		USB LSB			14 tones – hyperbolic radio navigation system – BRAS-3/RS-10 – Kaliningrad – no carrier - daily, all day
DK2OM	1852,0	1735	17	11	I	IPP	USB			Palermo Radio, weather reports
DK2OM	1855,0	1735	17	11	I	IQP	USB			San Benedetto Radio, weather reports
DK2OM	1876,0	1734	17	11	I	IQN	USB			Lampedusa Radio, weather reports
DK2OM	1888,0	1734	17	11	I	IPD	USB			Civitavecchia Radio, weather reports
DK2OM	1896,5	1629	01	11	D		PSK8	2400	2400	Stanag4285 – 600 bps long – German Navy - daily
DK2OM	1915,0	1804	16	11			serial		20k	serial modem – 1915 – 1939 kHz – disturbing Livorno Radio IPL
DK2OM	1925,0	1733	17	11	I	IPL	USB			Livorno Radio, weather reports – daily, vt
DK2OM	1990,0	1715	07	11	E		USB			male persons – Arabic voice – Bay of Biscay
DK2OM	3500,0	vt	dly	11	TUR		FSK8	120	1750	ALE, “201” - Turkish Red Crescent – legal!
DK2OM	3500,0	1706	02	11	E		USB			Spanish fishery – daily, all day
DK2OM	3500,0	1635	10	11	F		FMCW		20k	French burst radar, 6 sps, similar Codar sounding, South



DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
										France
DK2OM	3500,0	1646	27	11	F		USB			French fishery
DK2OM	<b>3500,5</b>	<b>2207</b>	<b>06</b>	<b>11</b>	<b>CIS</b>		<b>A3E</b>			<b>CIS pirates – unstable carrier</b>
DK2OM	<b>3501,2</b>	<b>1800</b>	<b>12</b>	<b>11</b>	<b>CIS</b>		<b>A3E</b>			<b>CIS pirates – unstable carrier</b>
DK2OM	<b>3501,5</b>	<b>1843</b>	<b>30</b>	<b>11</b>	<b>RUS</b>		<b>A3E</b>			<b>CIS pirates – unstable carrier</b>
DK2OM	3503,0	1545	01	11	RUS		PSK2	120	2600	AT3004D – submode idle - Kaliningrad
DK2OM	3503,5	vt	vd	11	G	no ITU	FSK8	125	1750	ALE – “XSS” “XPU” “XJR” – British MIL Tascomm – vt, daily - legal!
DK2OM	<b>3504,0</b>	<b>2124</b>	<b>23</b>	<b>11</b>	<b>HOL</b>		<b>USB</b>			<b>Dutch fishery</b>
DK2OM	3515,0	0954	15	11	CHN		FMCW		60k	Chinese OTH radar – 43 sps 3515 – 3575 kHz
DK2OM	3515,0	2016	23	11	E		USB			Spanish fishery
DK2OM	3523,0	1833	30	11	CHN		FMCW		56k	Chinese OTH radar – 43 sps 3523 – 3579 kHz
DK2OM	<b>3524,0</b>	<b>2025</b>	<b>23</b>	<b>11</b>	<b>G</b>		<b>USB</b>			<b>UK fishery</b>
DK2OM	3531,0	---	--	11	RUS	REA4	N0N			unclean carrier - RUS airforce Moscow, ident: 1940 utc - daily
DK2OM	3532,0	2037	02	11	F		PSK4	75	5800	LINK11-CLEW on both sidebands (5800 Hz wide) – area of Brest – legal!
DK2OM	<b>3540,0</b>	<b>1924</b>	<b>08</b>	<b>11</b>	<b>E</b>		<b>USB</b>			<b>Spanish fishery – sometimes with voice scrambler CRY 2001 – very often</b>
DK2OM	<b>3545,0</b>	<b>2020</b>	<b>26</b>	<b>11</b>	<b>HOL</b>		<b>USB</b>			<b>Dutch fishery</b>
DK2OM	3545,0	1616	23	11	CHN		FMCW		52k	Chinese OTH radar – 43 sps 3545 – 3597 kHz
DK2OM	3548,0	1857	21	11	RUS		PSK2	120	2600	AT3004D – submode idle - Ivanovo
DK2OM	3550,0	vt	vd	11	ALG	no ITU	FSK8	125	1750	ALE, “IU50” “IU52” “FN50”
DK2OM	<b>3550,0</b>	<b>0700</b>	<b>dly</b>	<b>11</b>	<b>F</b>		<b>A3E</b>			<b>French amateurs not respecting bandplans - daily</b>
DK2OM	3553,8	1933	01	11	TUR		PSK8	2400	2400	Stanag4285 – 600 bps long - TUR MIL - Ankara – daily, all day - legal operation
DK2OM	3560,5	1850	21	11	BLR		PSK2A	120	2600	AT3004D – and RUS voice traffic - Minsk
DK2OM	3561,0	2230	02	11	RUS		F1B	75	250	Moscow
DK2OM	3567,0	vt	dly	11	CHN ?	no ITU	FSK8	125	1750	ALE, “103” “106”
DK2OM	3570,5	1837	11	11	RUS		F1B	73	125	idling – unclean - Kaliningrad
DK2OM	3576,4	ady	dly	11	I	IZ3DVW	A1A			uncoordinated beacon
DK2OM	3582,0	1856	19	11	RUS		PSK2	120	2600	AT3004D – submode idle - Moscow
DK2OM	3585,0	vt	dly	11	TWN	HLL	F1C			120 rpm, IOC 576, WX-fax - daily - legal!
DK2OM	3586,0	vt	dly	11	G		PSK2A	40	40	encrypted – every evening Great Britain – purpose unknown
DK2OM	3587,0	vt	vd	11	E	no ITU	FSK8	125	1750	ALE, “TVV” “TXX” - Spanish Guardia Civil
DK2OM	3590,0	vt	dly	11	PAK	no ITU	FSK8	125	1750	ALE, “KW” “KHAIBAR” – Pakistan navy
DK2OM	<b>3590,0</b>	<b>0730</b>	<b>01</b>	<b>11</b>	<b>E</b>		<b>USB</b>			<b>Spanish fishery – also with scrambler CRY 2001 - daily</b>
DK2OM	3593,7	2219	02	11	RUS	D	A1A			Cluster beacon – Sevastopol RUS Navy – “RCV”
DK2OM	3593,8	2219	02	11	RUS	P	A1A			Cluster beacon – Kaliningrad RUS Navy – “RMP”
DK2OM	3593,9	2219	02	11	RUS	S	A1A			Cluster beacon – Severomorsk RUS Navy – „RIT“
DK2OM	3595,0	vt	dly	11	D		FSK8	125	1750	ALE – German customs
DK2OM	3595,0	2040	20	11	RUS		USB			man in Russian voice – spelling figures - St. Petersburg
DK2OM	3596,0	vt	dly	11	D, S, HRV		FSK8	125	1750	ALE, “DK3CW” “SA6CBK” “9A0PZ” – just for info!
DK2OM	3597,0	1800	22	11	CHN		PSK4	60	2400	PRC 30 tone modem – USB

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
										mode – pilottone 450 Hz
DK2OM	3606,0	1930	14	11	RUS		F1B	50	200	Moscow
DK2OM	3617,0	vt	dly	11	HRV	9A5EX	FSK8	125	1750	ALE, “9A5EX” – HAM-ALE - just for info
DK2OM	3622,5	1925	01	11	J	JMH	F1C			Tokyo Meteo – 120 rpm – IOC576 – daily, legal!!!
DK2OM	3630,0	1754	22	11	CHN		FMCW		52k	Chinese OTH radar – 43 sps 3630 – 3682 kHz – also on 28.11.2015 at 1759 utc
DK2OM	3632,0	1730	23	11	CHN		FMCW		84k	Chinese OTH radar – 43 sps - 3632 – 3716 kHz
DK2OM	3637,0	0952	15	11	CHN		FMCW		60k	Chinese OTH radar – 43 sps 3637 – 3697 kHz
DK2OM	3640,0	vt	vd	11	G		FSK8	125	1750	ALE, “XSS” - British MIL Tascomm – just for info!
DK2OM	3642,0	ady	dly	11	CHN		A1A			endless loop – DKG6 de 3A7D Chinese military – daily, all day
DK2OM	3644,0	2004	17	11	CHN		FMCW		103k	2 Chinese OTH radars – 43 sps 3644 – 3747 kHz – alternating sweeps
DK2OM	3644,0	1954	26	11	RUS		PSK2A	120	2600	AT3004D – Far East Russia
DK2OM	3648,0	1827	10	11	ARS		FSK8 LSB	125	1750	ALE, “AAI” “AAN”
DK2OM	3649,0	vt	vd	11	ALG	no ITU	FSK8	125	1750	ALE, “BI20” PA20”
DK2OM	3654,0	0932	11	11	CHN		FMCW		52k	Chinese OTH radar – 43 sps 3654 – 3706 kHz
DK2OM	3664,0	1440	10	11	RUS		PSK2	120	2600	AT3004D – submode idle – Far East Russia
DK2OM	3696,0	1959	26	11	CHN		PSK4	60	2350	PRC 30 tone modem – LSB mode – pilottone 450 Hz
DK2OM	3697,0	0933	28	11	FEa		F1B	200	850	F1B – async.
DK2OM	3710,0	1752	22	11	CHN		PSK4	60	2400	PRC 30 tone modem – LSB mode – pilottone 450 Hz
DK2OM	3715,0	1800	28	11	CHN		FMCW		54k	Chinese OTH radar – 43 sps 3715 – 3769 kHz
DK2OM	3720,0	vt	dly	11	S		FSK8	125	1750	ALE, “YU” “YT” “YV” “DZ” – Swedish MIL
DK2OM	3725,0	2000	29	11	RUS		PSK2A	120	2600	AT3004D – Far East Russia
DK2OM	3727,0	1956	26	11	CHN		PSK4	60	2350	PRC 30 tone modem – LSB mode – pilottone 450 Hz
DK2OM	3729,0	1614	23	11	CHN		PSK4	60	2400	PRC 30 tone modem – LSB mode – pilottone 450 Hz
DK2OM	3751,5	vt	dly	11	POL	no ITU	FSK8	125	1750	ALE, “IZ3” “MI3”
DK2OM	3756,0	vt	dly	11	RUS		A3E			RUS MIL – channel marker – Tuapse – East Black Sea – night QRG
DK2OM	3761,5	vt	vd	11	POL	no ITU	FSK8	125	1750	ALE, “NI9” “PL7” “AB2” – Polish MIL
DK2OM	3771,0	1957	25	11	CHN		PSK4	60	2350	PRC 30 tone modem – LSB mode – pilottone 450 Hz
DK2OM	3772,0	1744	27	11	FEa	A4JC	A1A			“A4JC” - loop
DK2OM	3777,0	1954	25	11	FEa		A1A			“M8JF de RIS9” – endless loop – dly
DK2OM	3779,0	2146	19	11	CHN		PSK4	60	2350	PRC 30 tone modem – LSB mode – pilottone 450 Hz
DK2OM	3791,0	vt	vd	11	D	DK0ESD	FSK8	125	1750	ALE, “DK0ESD” – daily just for info!
DK2OM	3797,0	ady	dly	11	FEa		A1A			“M8JF de RIS9” – endless loop – rcvd via JA
DK2OM	7000,0	vt	dly	11	?	no ITU	FSK8	125	1750	ALE, “210” “20989” “2205” “203”
DK2OM	7000,0	vt	dly	11	INS		USB LSB			Indonesian pirates – daily – all day - audible in Europe in the evenings
DK2OM	7000,0	1519	01	11	RUS		H3E		3.4 k	buzzer – 1 sec bursts - 121 Hz AF rough sinus – carrier on 6998.0 + upper sideband - with splatters 10 kHz wide –

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
										<b>daily, all day - Moscow</b>
DK2OM	7001,5	---	--	11	ALG		PSK4A	62.5	1750	Clover 2000 – 8 x 62.5 Bd – Algeria – daily, vt
DK2OM	6998.5	vt	vd	11	POL		FSK8 PSK8	125 2400	1750 2400	ALE, “ZI3” “OL1” “OD6” “SZ4” and MIL-188-110A - until 7001.000 kHz – Polish MIL
DK2OM	7005,0	vt	dly	11	INS		USB LSB			Indonesian pirates
DK2OM	7010,0	vt	dly	11	INS		USB LSB			Indonesian and Philippine pirates
DK2OM	7014,0	1947	26	11	CHN		PSK4	60	2350	PRC 30 tone modem – LSB mode – pilotone 450 Hz
DK2OM	7015,0	vt	dly	11	INS		USB LSB			Indonesian pirates
DK2OM	7015,5	0250	05	11	AFG		PSK4A FSK	62.5 100	1750 170	Clover 2000 – 8 x 62.5 Bd Codan 8580 selcall
DK2OM	7018,0	2041	05	11	RUS	REA4	F1B	100	1000	mostly idling – Russian airforce Moscow – ident at full hour + 40 min.
DK2OM	7020,0	vt	dly	11	INS		USB LSB			Indonesian pirates
DK2OM	7025,0	vt	dly	11	INS		USB LSB			Indonesian pirates
DK2OM	7027,5	---	--	11	KAZ	„V“	A1A			beacon “V” - Almaty
DK2OM	7030,0	vt	dly	11	INS		LSB			Indonesian pirates
DK2OM	7030,0	2142	06	11	CHN		FMCW		160k	Chinese broadband OTH radar 7030 – 7190 kHz – 10 sps – long lasting
DK2OM	7035,0	vt	dly	11	INS		USB LSB			Indonesian pirates
DK2OM	7038,0	1955	28	11	CHN		FMCW		160	Chinese OTH radar – 10 sps – 7038 – 7198 kHz – 100 sec blocks – long lasting
DK2OM	7039,3	2134	19	11	RUS	K	A1A			Cluster beacon - Petropavlovsk Kamchatskiy - RUS Navy - Pacific fleet - “RCC” - daily
DK2OM	7039,4	2134	19	11	RUS	M	A1A			Cluster beacon – Magadan RUS Navy – „RTS“
DK2OM	7040,0	vt	dly	11	F	F6BAZ	FSK8	125	1750	ALE, “F6BAZ” – just for info
DK2OM	7040,0	ady	dly	11	I		A1A			<b>IZ3DVW – uncoordinated and unwanted beacon</b>
DK2OM	7040,0	vt	dly	11	INS		USB LSB			Indonesian pirates
DK2OM	7040,5	vt	dly	11	HRV		FSK8	125	1750	ALE, “9A5EX” “9A0ALE” – just for info
DK2OM	7047,37	vt	vd	11	D		FSK8	125	1750	ALE, “DL0NOT” – just for info!
DK2OM	7049,5	vt	dly	11	HRV G F	9A0ALE M1DFO F6BAZ	FSK8	1250	1750	Amateur ALE, just for info! daily – various times
DK2OM	7050,0	vt	dly	11	INS		USB			Indonesian pirates
DK2OM	7050,0	1059	11	11	ISR	4XZ	A1A			“v v v de 4XZ” endless slip - Israel Navy Haifa – later encrypted QTCs – QRG 7050.029 kHz
DK2OM	7050,0	1655	21	11	RUS		FMCW		13k	OTH radar Contayner - 50 sps Gorodezh
DK2OM	7054,0	2130	06	11	RUS		F1B	50	200	Moscow
DK2OM	7054,0	1736	12	11	CHN		FMCW		10k	Chinese OTH radar – 63 sps – 4 sec bursts – every 18 <sup>th</sup> sec
DK2OM	7055,5	vt	vd	11	MEa	no ITU	FSK8	125	1750	ALE, “111” “132” “133” - Caucasus
DK2OM	7063,0	1450	02	11	RUS		F1B	75	250	Ulan Ude
DK2OM	7064,0	1829	30	11	CHN		FMCW		10k	Chinese OTH burst radar – 50 sps – 5 sec bursts
DK2OM	7066,0	1327	06	11	FEa		FMCW		32k	Codan like ocean surface radar

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
										2.6 sps – 7066 – 7098 kHz
DK2OM	7068,0	2048	05	11	RUS		FMCW		13k	OTH radar Contayner - 50 sps - Gorodezh
DK2OM	7070,0	vt	vd	11	GEO	no ITU	FSK8	125	1750	ALE, "MV" "244" "686" "334" "204" "571" – daily active
DK2OM	7070,0	1830	07	11	FEa		FMCW		32k	Codan like ocean surface radar 2.6 sps – 7070 – 7102 kHz
DK2OM	7081,0	1400	15	11	RUS		PSK2	120	2600	AT3004D – submode idle - Sevastopol
DK2OM	7088,8	vt	vd	11	S	SL0FRO	A1A			7088.820 - cw-trainee, Sweden – kHz – SL0FRO - just for info!
DK2OM	7089,8	1734	12	11	TUR		PSK8	2400	2400	Link11 - SLEW – aircraft – west of Cyprus - often
DK2OM	7091,5	1900	19	11	KAZ	„V“	A1A			endless loop – ident "V" – Almaty - Kazakhstan
DK2OM	7092,0	vt	vd	11			FSK8	125	1750	ALE, "3014"
DK2OM	7098,0	1830	17	11	CHN		PSK4	60	2350	PRC 30 tone modem – LSB mode – pilottone 450 Hz
DK2OM	7099,5	vt	dly	11	HRV	9A0ZG	FSK8	125	1750	ALE, "9A0ZG" "9A5EX1P" "9A0OS" – daily - just for info!
DK2OM	7102,0	vt	dly	11	HRV SUI D	9A0ALE	FSK8	125	1750	ALE, "9A0ALE" "9A2KS" "HB9MHB" "9A0ZG" "9A4OS" "DK0ESD" – just for info!
DK2OM	7108,0	2027	11	11	FEa		FMCW		32k	Codan like ocean surface radar 2.6 sps – 7108 – 7140 kHz
DK2OM	7110,0	vt	dly	11	HRV	9A0ALE	FSK8	125	1750	ALE, "9A0ALE" – just for info
DK2OM	7110,0	vt	dly	11			FSK8	125	1750	ALE, "1101" "1112"
DK2OM	7114,0	2305	03	11	RUS		F1B	75	500	Moscow
DK2OM	7116,0	2052	13	11	FEa		FMCW		32k	Codan like ocean surface radar 2.6 sps – 7116 – 7148 kHz
DK2OM	7118,0	1935	26	11	CHN		FMCW		10k	Chinese OTH burst radar – 83 sps – jumping 7096 – 7098 – 7105 – 7118 – 7134 – 7156 kHz
DK2OM	<b>7120,0</b>	<b>1700</b>	<b>dly</b>	<b>11</b>	<b>SOM</b>		<b>A3E</b>			<b>Radio Hargaysa – Somalia – daily – even audible in Australia and Japan</b>
DK2OM	7122,0	---	--	11	FEa	V	A1A			endless loop "V"
DK2OM	7134,0	1750	22	11	RUS		F1B	50	200	Far East Russia
DK2OM	7135,0	1757	28	11	RUS		F1B	50	200	Far East Russia
DK2OM	7137,0	vt	dly	11	TWN	no ITU	FSK8	125	1750	LSB – ALE , "BENVY" "BYGCV" "BTIEU" "BWFGG" "BBRDA" – Taiwanese navy – daily – various times - tnx for info: DL8AAM
DK2OM	7138,0	1948	03	11	FEa		FMCW		32k	Codan like ocean surface radar 2.6 sps – 7138 – 7070 kHz
DK2OM	7144,0	1823	30	11	CHN		PSK4	60	2350	PRC 30 tone modem – LSB mode – pilottone 450 Hz
DK2OM	7147,0	1419	15	11	RUS		PSK4B	120	2600	AT3104D - Kaluga
DK2OM	7148,0	2052	13	11	FEA		FMCW		32k	Codan like ocean surface radar 2.6 sps – 7148 – 7180 kHz
DK2OM	7150,0	1923	01	11	CHN		FMCW		30k	Chinese OTH radar – 43 sps 7150 – 7180 kHz - daily
DK2OM	<b>7158,0</b>	<b>0019</b>	<b>03</b>	<b>11</b>	<b>IRN</b>		<b>A3E</b>		<b>15k</b>	<b>spurious from IRIB Tehran on 7225 kHz</b>
DK2OM	7162,0	1959	17	11	FEa	- 9 9	A1A			unid A1A – no HAM traffic – idents "2257" "2259"
DK2OM	<b>7163,0</b>	<b>vt</b>	<b>vd</b>	<b>11</b>	<b>UKR</b>		<b>A3E</b>			<b>encrypted MSGs - SZRU in Rivne</b>
DK2OM	7179,0	1340	28	11	RUS		PSK2A	120	2600	AT3004D - Crimea
DK2OM	7183,0	vt	dly	11	SUI		FSK8	125	1750	ALE, "HB9MHB" – just for info!
DK2OM	7185,5	vt	dly	11	D HRV		FSK8	125	1750	ALE, "9A5EX" "DK0ESD" just for info - daily
DK2OM	7197,0	vt	dly	11	TUR	no ITU	FSK8	125	1750	ALE, "8241" "206102" "8151"



DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
										“3021” “3761” “8021” “8141” “3061” “3241” “8411” – Turkish organisations and Turkish Civil Defense - source: DL8AAM – daily, various times
DK2OM	7197,0	1136	16	11	RUS		PSK4B	120	2600	AT3104D – Kaliningrad - pilot tone disturbed by a HAM
DK2OM	<b>7205,0</b>	<b>2000</b>	<b>dly</b>	<b>11</b>	<b>F</b>	<b>RFI</b>	<b>A3E/BC</b>		<b>38k</b>	<b>Radio France International splattering 7185 – 7225 kHz – now repaired!</b>
DK2OM	10100,8	ady	dly	11	D		F1B	50	450	Baudot - German Weatherservice – legal!
DK2OM	10101,0	1930	05	11	MRC		USB			Moroccan fishery
DK2OM	10110,0	vt	dly	11	SNG	no ITU	FSK8	125	1750	ALE, “CN6” “68” – Singapore Navy - Changi Naval Base
DK2OM	10113,0	vt	vd	11	TUN	no ITU	FSK8	125	1750	ALE, “TUD” “STAT5” “STAT154”
DK2OM	10114,0	vt	dly	11		no ITU	FSK8	125	1750	ALE, “BSF” “ZEN” “CM2OR2”
DK2OM	10114,8	0730	dly	11	RUS		F1B	100	1000	CIS14 – Moscow - daily
DK2OM	10115,0	vt	vd	11		no ITU	FSK8	125	1750	ALE, “2001” “2002”
DK2OM	10116,5	vt	vd	11	AFS		F7D	54.3	2120	MHF50 – 33 tones - South African navy
DK2OM	10120,0	vt	dly	11		no ITU	FSK8	125	1750	ALE, “9066” “9067” “8001” “2001”
DK2OM	10123,0	vt	dly	11	ALG	no ITU	FSK8	125	1750	ALE, “CM3” “COF” “BSF” ”CM2” “ESA”
DK2OM	10129,0	vt	dly	11	ALG	no ITU	FSK8	125	1750	ALE, “CM1” “CTF” “772”
DK2OM	10136,0	vt	dly	11	ALG	no ITU	FSK8	125	1750	ALE, “CM3” “BLD” “CNC” “TF2”
DK2OM	10136,0	ady	dly	11	RUS		F1B	50	200	CIS-50-200 - Chita – daily, all day
DK2OM	10140,0	vt	vd	11	CHN ?		FSK8	125	1750	ALE, “205” “201” “LT”
DK2OM	10144,0	ady	dly	11	D	DK0WCY	A1A			10143.986 kHz - DK0WCY – German aurora beacon – <b>just for info!</b>
DK2OM	10145,5	vt	dly	11	HRV S / D F / G	9A5EX	FSK8	125	1750	ALE, “9A5EX” “SM5VRH” “DK0ESD” “F6BAZ” “MIDFO”- just for info - daily
DK2OM	10148,0	1656	02	11	AUS		FMCW		10k	Australian OTH burst radar JORN – 22 sps – intro tone – 10148 – 10158 kHz
DK2OM	14000,0	1112	03	11	INS		USB			pirates from Java Sea - daily
DK2OM	14026,0	1130	27	11	RUS		PSK2A	120	2600	AT3004D – Moscow
DK2OM	14050,0	1120	26	11	RUS		F1B	50	250	Ulan Ude
DK2OM	14100,0	vt	dly	11	ALG	no ITU	FSK8	125	1750	ALE, “6206” – “6204” - “6202” “6207” “6217” “MTL” “IJI” – Mauritanian border – daily, all day
DK2OM	14105,0	---	--	11	F		FMCW		20k	French burst radar, 6 sps, similar Codar sounding, South France
DK2OM	14109,0	vt	vd	11	POR	HAM	FSK8	125	1750	ALE, “CT2IXQ” “DK0ESD” “HB9MHB” – just for info!
DK2OM	14109,0	vt	dly	11	RUS	RV3APM	FSK8	120	1750	ALE, “RV3APM” – just for info!
DK2OM	14138,0	1006	24	11	RUS		FMCW		13k	OTH radar Contayner - 50 sps Gorodezh
DK2OM	14139,0	vt	dly	11	CHN		FSK8	125	1750	ALE, “809”
DK2OM	14140,0	1347	20	11	RUS		FMCW		13k	OTH radar Contayner - 50 sps Gorodezh
DK2OM	14160,0	vt	dly	11	MRC		FSK8	125	1750	ALE, “9204” “9228” “9236”
DK2OM	14160,0	0810	18	11	CHN		FMCW		10k	Chinese OTH radar – 83 sps
DK2OM	14175,0	vt	vd	11	CHN ?		FSK8	125	1750	ALE, “147”
DK2OM	14178,0	1004	04	11	RUS		FMCW		13k	OTH Contayner - 50 sps -

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
										Gorodezh – also 25.11.2015 at 0920 utc
DK2OM	14192,0	0955	06	11	RUS		F1B	50 75	500 500	RUS navy Kaliningrad - daily
DK2OM	14205,0	vt	dly	11	CHN ?	no ITU	FSK8	125	1750	ALE, “505” “822” – 60 deg. from DL - CHN ?
DK2OM	14208,0	1329	22	11	RUS		FMCW		13k	OTH Contayner - 50 sps - Gorodezh – splatters are covering the whole band
DK2OM	14221,0	2030	dly	11	KGZ		F1B	50	200	CIS-50-50 - Bishkek – daily
DK2OM	14239,0	1330	30	11	CHN		PSK4	60	2350	PRC 30 tone modem – LSB mode – LSB QRG - pilotone 450 Hz
DK2OM	14260,0	vt	dly	11	SRB	YU1BI	FSK8	125	1750	ALE, “YU1BI” – just for info!
DK2OM	14265,0	vt	vd	11	TUR	no ITU	FSK8	125	1750	ALE, “526”
DK2OM	14277,0	0745	23	11	RUS		FMCW		13k	OTH radar Contayner - 50 sps Gorodezh – many splatters
DK2OM	<b>14280,0</b>	<b>1005</b>	<b>Wed.</b>	<b>11</b>	<b>UKR</b>		<b>A3E</b>			<b>female voice with encrypted msgs – figures – “SZRU” = Foreign Intelligence Service of Ukraine in Rivne – every Wednesday at 1005 utc</b>
DK2OM	14295,0	vt	dly	11	SRB	YU1BI	FSK8	125	1750	ALE, “YU1BI” – just for info!
DK2OM	14295,0	vt	dly	11	CHN		FSK8	125	1750	ALE, “320” – “532”
DK2OM	<b>14295,2</b>	<b>1517</b>	<b>01</b>	<b>11</b>	<b>TJK</b>		<b>A3E</b>		<b>9k</b>	<b>3<sup>rd</sup> from Radio Tajik on 4765 kHz – daily, all day – exact (14295.174 kHz on Nov. 13<sup>th</sup>)</b>
DK2OM	14301,8	--	---	11	CHN		PSK2	75	2200	PRC 16 tone modem – USB mode – pilotone 450 Hz - China – Shanghai – daily – all day - audible worldwide
DK2OM	14308,0	0953	05	11	RUS		F1B	75	500	Moscow
DK2OM	14322,0	vt	dly	11	CHN	no ITU	FSK8	125	1750	ALE, “402”
DK2OM	14328,0	vt	dly	11	CHN	no ITU	FSK8	125	1750	ALE, “139” “534” “772” – West China
DK2OM	14330,0	vt	dly	11			FSK8	125	1750	ALE, “BV4”
DK2OM	14334,0	vt	vd	11	CHN	no ITU	FSK8	125	1750	ALE, “249” “255” “763”
DK2OM	14344,7	--	---	11	CHN		PSK8	2400	2400	modified MIL-188-110A - 600 bps short – 14344.650 kHz – daily, all day
DK2OM	14346,0	vt	vd	11	HRV RUS D		FSK8	125	1750	ALE, “9A0ZG” “RX3ARZ” “DK0ESD” – just for info – various times, daily
DK2OM	14346,0	vt	dly	11	THA	HS0ZEA	A1A			HS0ZEA beacon – 14345.950 kHz - every 5 minutes – just for info!
DK2OM	<b>14351,7</b>	<b>0939</b>	<b>13</b>	<b>11</b>	<b>E</b>		<b>OFDM</b>	<b>30</b>	<b>2700</b>	<b>OFDM 73 + intro tone – experimental transmissions – Las Palmas – just for info!</b>
DK2OM	<b>18080,0</b>	<b>--</b>	<b>---</b>	<b>11</b>	<b>TWN CHN</b>		<b>A3E/BC</b>		<b>9k</b>	<b>Sound of Hope / Taiwan and Chinese mainland BC jammer</b>
DK2OM	18100,0	vt	vd	11	MRC	no ITU	FSK8	125	1750	ALE, “CD” “C3” “R3” “G3” “E4” “E5” “Z2” “FORD” – daily, various times
DK2OM	18106,0	vt	vd	11	POR	CT2GOY	FSK8	125	1750	ALE, “CT2GOY” – just for info!
DK2OM	18107,0	vt	vd	11	RUS	RDL	F1B	50	200	CIS-50-200 - Moscow – idle and traffic – Russian navy – various days and times – shared band!
DK2OM	18117,5	vt	vd	11	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	18152,0	0839	05	11	CHN		FMCW		100k	Chinese OTHR - 25 sps - 18152 – 18252 kHz – Central China
DK2OM	<b>21000,0</b>	<b>0954</b>	<b>07</b>	<b>11</b>	<b>SDN</b>		<b>USB</b>			<b>MFA Sudan – Khartoum with emba Yemen – voice traffic</b>

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
DK2OM	21000,0	vt	vd	11	B		USB			Brazilian pirates – Rio de Janeiro with North Brazil – also: 24.09.2015 at 1650 utc
DK2OM	21000,0	1355	14	11	E		USB			Spanish fisherman and his wife – long lasting like telephone
DK2OM	21002,2	0948	07	11	SDN	!0000 !9999 !8888	F1B	100	170	21002.15 kHz - Pactor 1 encrypted – MFA Sudan – Khartoum with emba Yemen – daily, vt
DK2OM	21096,0	vt	dly	11	INS	YD00XH	FSK8	125	1750	ALE, “YD00XH3” – daily, various times - just for info!
DK2OM	21131,0	vt	vd	11	CHN	no ITU	FSK8	125	1750	ALE, “A92” “L02” – Chinese diplo
DK2OM	21141,0	vt	vd	11	GEO		PSK8A	2400	2400	Stanag4538 – GEO MIL with AFG - daily
DK2OM	21145,0	vt	dly	11	MRC	no ITU	FSK8	125	1750	ALE, “B301”, “C3”, “IR4” “T4” “E4” “A2” “CD” “K3” “KB2” “J5” “GS4” “R3” – various times, daily
DK2OM	21145,8	ady	dly	11	I	IZ3DVW	A1A			IZ3DVW beacon – 21145,75 kHz - not coordinated with IARU
DK2OM	21160,0	---	--	11	RUS		F1B	100	2000	4th from 5290 kHz (500 Hz shift) – St. Peterburg
DK2OM	21190,0	0750	23	11	RUS		F1B	100	1000	harmonic from 10595 kHz - Moscow - daily
DK2OM	21225,0	1120	19	11	TUR		FMCW		20k	OTH radar – 50 sps - West Turkey
DK2OM	21227,0	0805	25	11	AUS		FMCW		10k	Australian OTH radar JORN – 1.6 sec bursts - 41 sps – intro tones
DK2OM	21260,0	0910	28	11	CYP		FMCW		20k	OTH radar Cyprus – 25 sps
DK2OM	21272,0	0855	24	11	RUS		PSK2A	120	2600	AT3004D – traffic and submode idle – Central Siberia
DK2OM	21278,3	1012	10	11	AUS		FMCW		14k	Australian OTH radar JORN – 3.0 sec bursts – 41, 50, 45, 48 and 87 sps – intro tones
DK2OM	21346,0	ady	dly	11	THA	HS0ZEA	A1A			beacon “HS0ZEA” – just for info!
DK2OM	21400,0	---	--	11	RUS		F1B	50	2000	harmonic from 5350 kHz – area of Moscow - daily
DK2OM	21409,5	0758	25	11	RUS		F1B	100	2000	F1B 100 / 2000 - CIS14 – harmonic from 10704.75 - Jekaterinburg, RUS - daily
DK2OM	21414,0	0748	23	11	CHN		FMCW		10k	Chinese OTH burst radar – 66 and 83 sps
DK2OM	21435,0	0854	29	11	CYP		FMCW		20k	OTH radar Cyprus – 25 sps
DK2OM	21436,0	---	--	11	RUS		PSK2A	120	5200	AT3004D – harmonic from 10718.0 kHz - Sevastopol
DK2OM	21438,0	vt	vd	11	RUS	RCV	A1A			RIP90 de RCV - RUS Navy Sevastopol - daily
DK2OM	21440,0	1625	10	11	E	names	USB			Spanish pirates – later on 21460
DK2OM	21446,0	ady	dly	11	THA	HS0ZEA	A1A			HS0ZEA beacon – every 5 minutes - just for info!
DK2OM	25000,0	vt	vd	11	FIN		A3E			time signal Helsinki – just for info – carrier on 25000 – dots on 25001 and 24999 – daily, all day
DK2OM	28000,0	0930	dly	11	CIS		F3E			28000 – 29700 crowded of CIS taxi nets
DK2OM	28000,0	vt	vd	11	B		A3E			Brazilian CBers – 28000 – 28315 – daily, all day - no change
DK2OM	28001,5	0951	21	11	RUS		F1B	100	150	voice scrambler Yakhta – inband synchro – Ulan Ude
DK2OM	28005,0	1025	24	11	RUS		F3E			RUS taxi
DK2OM	28025,0	1012	06	11	POR		F1B	51	300	F1B bursts – 28025.050 kHz -



DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
										west of Lisbon – Atlantic Ocean - Enagal GPS buoys - daily
DK2OM	28030,0	vt	vd	11	POR		F1B	51	340	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoys - daily
DK2OM	28040,0	1353	21	11	IRN		FMCW		50k	OTH radar Iran – 307 sps
DK2OM	28045,0	---	--	11	POR		F1B	51	280	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoys - daily
DK2OM	28050,0	---	--	11	POR		F1B	51	300	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoys - daily
DK2OM	28051,5	vt	dly	11	POR		F1B	51	300	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoys - daily
DK2OM	28055,0	1114	20	11	FEa		F3E			Far East pirates
DK2OM	28055,0	1402	03	11	RUS		F3E			RUS taxi - daily
DK2OM	28060,0	vt	vd	11	POR		F1B	51	320	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoys - daily
DK2OM	28065,0	1419	03	11	RUS		F3E			RUS taxi - daily
DK2OM	28065,0	1354	21	11	IRN		FMCW		50k	OTH radar Iran – 307 sps
DK2OM	28065,2	1011	06	11	POR		F1B	51	320	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoys - daily
DK2OM	28065,6	---	--	11	GAB		A3E		980	carrier and dots in USB and LSB, bursts every 60 sec – carrier – Gabon – daily and all day
DK2OM	28075,0	---	--	11	POR		F1B	51	300	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoys - daily
DK2OM	28085,0	vt	vd	11	POR		F1B	51	300	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoys - daily
DK2OM	28085,0	0912	21	11	RUS		F3E			RUS taxi - daily
DK2OM	28085,0	1030	26	11	RUS		F3E			RUS taxi
DK2OM	28100,2	0949	22	11	POR		F1B	51	300	F1B bursts - 28100.780 kHz - west of Lisbon – Atlantic Ocean - Enagal GPS buoys - daily
DK2OM	28102,1	---	--	11	POR		F1B	51	320	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoys - daily
DK2OM	28105,0	1325	01	11	RUS		F3E			RUS taxi - daily
DK2OM	28115,0	1141	22	11	RUS		F3E			RUS taxi - daily
DK2OM	28125,0	---	--	11	POR		F1B	51	320	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoys - daily
DK2OM	28125,0	0836	25	11	RUS		F3E			RUS taxi
DK2OM	28125,0	1021	18	11	RUS		F3E			RUS taxi – disturbing PSK31
DK2OM	28135,0	1052	13	11	RUS		F3E			RUS taxi - daily
DK2OM	28140,0	1102	01	11	RUS		F3E			RUS taxi
DK2OM	28145,0	1027	24	11	RUS		F3E			RUS taxi - daily
DK2OM	28146,0	vt	vd	11	ARG B		FSK8	125	1750	ALE, “LU8EX” “PY2TI” “DL1” – just for info!
DK2OM	28150,0	1010	29	11	RUS		F3E			RUS taxi
DK2OM	28155,0	1442	03	11	RUS		F3E			RUS taxi - daily
DK2OM	28165,0	1050	11	11	RUS		F3E			RUS taxi - daily
DK2OM	28175,0	0948	03	11	RUS		F3E			RUS taxi - daily
DK2OM	28180,0	0822	25	11	RUS		F3E			RUS taxi
DK2OM	28195,0	0915	01	11	RUS		F3E			RUS taxi - daily
DK2OM	28200,0	vt	vd	11	POR		F1B	51	300	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoys - daily
DK2OM	28215,0	1128	22	11	RUS		F3E			RUS taxi
DK2OM	28224,4	---	--	11	GAB		A3E			carrier and dots +/- 770 Hz -

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
										bursts every 60 sec – Gabon – daily and all day
DK2OM	28225,0	1040	13	11	RUS		F3E			RUS taxi - daily
DK2OM	28235,0	0925	21	11	RUS		F3E			RUS taxi - daily
DK2OM	28245,0	1248	06	11	RUS		F3E			RUS taxi - daily
DK2OM	28249,6	---	--	11	GAB		A3E		1060	carrier and dots +/- 530 Hz - bursts every 60 sec – Gabon – daily and all day
DK2OM	28250,5	---	--	11	GAB		A3E		1060	carrier and dots +/- 530 Hz - bursts every 60 sec – Gabon – daily and all day
DK2OM	28255,0	1040	16	11	E		A3E			Spanish CBers
DK2OM	28255,0	1015	22	11	RUS		F3E			RUS taxi - daily
DK2OM	28265,0	0939	29	11	RUS		F3E			RUS taxi
DK2OM	28275,0	1030	01	11	RUS		F3E			RUS taxi - daily
DK2OM	28275,1	---	--	11	AF		F1B	51	300	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoys - daily
DK2OM	28285,0	0944	21	11	RUS		F3E			RUS taxi
DK2OM	28295,0	1014	06	11	RUS		F3E			RUS taxi
DK2OM	28305,0	0949	03	11	RUS		F3E			RUS taxi - daily
DK2OM	28312,5	vt	vd	11	POR	CT2IXQ	FSK8	125	1750	ALE. “CT2IXQ” – just for info
DK2OM	28315,0	vt	dly	11	POR		F1B	51	320	F1B bursts - west of Lisbon – Atlantic Ocean - Enagal GPS buoys - daily
DK2OM	28345,1	---	--	11	GAB		A3E		1060	carrier and dots +/- 530 Hz - bursts every 60 sec – Gabon – daily and all day
DK2OM	28365,0	1132	17	11	RUS		F3E			RUS taxi
DK2OM	28365,0	1229	24	11	RUS		F3E			RUS taxi
DK2OM	28365,0	0900	01	11	RUS		F3E			RUS taxi
DK2OM	28385,0	1220	16	11	RUS		F3E			RUS taxi
DK2OM	28405,0	0937	29	11	FEa		F3E			Far East pirates
DK2OM	28435,0	----	--	11	E		F1B	81.9	140	Datawell-buoy “Waverider” – 28435.040 kHz – Costa del Sol – Malaga
DK2OM	28459,8	----	--	11	GAB		A3E		1060	carrier and dots +/- 530 Hz - bursts every 60 sec – Gabon – daily and all day
DK2OM	28459,9	---	--	11	GAB		A3E		1060	carrier and dots +/- 530 Hz - bursts every 60 sec – Gabon – daily and all day
DK2OM	28499,8	---	--	11	MEa		F1B	81.9	140	Datawell-buoy “Waverider” – 28499.875 kHz – Persian Gulf
DK2OM	28595,0	1208	19	11	IRN		FMCW		50k	OTH radar Iran – 307 and 870 sps
DK2OM	28645,0	0924	24	11	RUS		F3E			RUS taxi - daily
DK2OM	28665,0	1015	23	11	IRN		FMCW		50k	OTH radar Iran – 307 and 870 sps
DK2OM	28675,0	1013	22	11	RUS		F3E			RUS taxi
DK2OM	28701,1	---	--	11	GAB		A3E		1056	carrier and dots +/- 528 Hz - bursts every 60 sec – Gabon – daily and all day
DK2OM	28720,0	0953	24	11	RUS		F3E			RUS taxi
DK2OM	28735,0	1018	22	11	RUS		F3E			RUS taxi
DK2OM	28751,2	---	--	11	GAB		A3E		1080	carrier and dots +/- 540 Hz - bursts every 60 sec – Gabon – daily and all day
DK2OM	28765,0	0952	24	11	RUS		F3E			RUS taxi
DK2OM	28785,0	0926	24	11	RUS		F3E			RUS taxi
DK2OM	28795,0	1016	22	11	RUS		F3E			RUS taxi - daily
DK2OM	28825,0	0847	21	11	RUS		F3E			RUS taxi
DK2OM	28845,5	---	--	11	GAB		A3E		1060	carrier and dots +/- 530 Hz - bursts every 60 sec – Gabon – daily and all day
DK2OM	28850,0	0925	24	11	RUS		F3E			RUS taxi
DK2OM	28865,0	1350	21	11	IRN		FMCW		50k	OTH radar Iran – 307 and 870

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
										sps
DK2OM	28870,0	0856	26	11	RUS		F3E			RUS taxi
DK2OM	28875,0	1017	22	11	RUS		F3E			RUS taxi - daily
DK2OM	28880,0	0815	18	11	IRN		FMCW		50k	OTH radar Iran – 307 sps - jumping
DK2OM	28890,0	1002	22	11	RUS		F3E			RUS taxi
DK2OM	28895,0	0823	14	11	RUS		F3E			RUS taxi
DK2OM	28901,1	---	--	11	GAB		A3E		1056	carrier and dots +/- 528 Hz - bursts every 60 sec – Gabon – daily and all day
DK2OM	28915,0	0927	24	11	RUS		F3E			RUS taxi
DK2OM	28935,0	0809	20	11	RUS		F3E			RUS taxi
DK2OM	28945,0	1000	22	11	RUS		F3E			RUS taxi - daily
DK2OM	28955,0	0845	22	11	RUS		F3E			RUS taxi - daily
DK2OM	28995,0	0856	04	11	RUS		F3E			RUS taxi
DK2OM	29005,0	1019	22	11	RUS		F3E			RUS taxi
DK2OM	29015,0	1110	14	11	RUS		F3E			RUS taxi
DK2OM	29025,0	0840	25	11	RUS		F3E			RUS taxi
DK2OM	29035,0	0857	04	11	RUS		F3E			RUS taxi - daily
DK2OM	29040,0	0935	29	11	RUS		F3E			RUS taxi
DK2OM	29045,0	0928	24	11	RUS		F3E			RUS taxi
DK2OM	29055,0	0857	04	11	RUS		F3E			RUS taxi - daily
DK2OM	29065,0	0853	04	11	RUS		F3E			RUS taxi
DK2OM	29100,0	0905	22	11	FEa		F3E			Far East pirates
DK2OM	29114,0	1113	14	11	RUS		F1B	100	2000	harmonic from 14557.0 kHz - Moscow
DK2OM	29120,0	1110	23	11	RUS		F3E			RUS taxi
DK2OM	29125,0	0917	04	11	RUS		F3E			RUS taxi
DK2OM	29145,0	0853	04	11	RUS		F3E			RUS taxi
DK2OM	29145,0	0916	04	11	RUS		F3E			RUS taxi
DK2OM	29155,0	1322	09	11	RUS		F3E			RUS taxi
DK2OM	29160,0	0932	24	11	RUS		F3E			RUS taxi
DK2OM	29175,0	1004	22	11	RUS		F3E			RUS taxi
DK2OM	29180,0	0931	24	11	RUS		F3E			RUS taxi
DK2OM	29185,0	1024	22	11	RUS		F3E			RUS taxi - daily
DK2OM	29195,0	0931	24	11	RUS		F3E			RUS taxi - daily
DK2OM	29205,0	0956	21	11	RUS		F3E			RUS taxi - daily
DK2OM	29230,0	0912	04	11	RUS		F3E			RUS taxi
DK2OM	29240,0	1022	22	11	RUS		F3E			RUS taxi
DK2OM	<b>29249,9</b>	<b>1631</b>	<b>01</b>	<b>11</b>	<b>E</b>		<b>F1B</b>	<b>81.9</b>	<b>140</b>	<b>Datawell-buoy “Waverider” – 29249.890 kHz – Fuerteventura - daily, all day</b>
DK2OM	29255,0	1008	22	11	RUS		F3E			RUS taxi - daily
DK2OM	29280,0	0858	04	11	RUS		F3E			RUS taxi - daily
DK2OM	29325,0	0946	24	11	RUS		F3E			RUS taxi
DK2OM	29335,0	0919	04	11	RUS		F3E			RUS taxi - daily
DK2OM	29350,0	1021	22	11	RUS		F3E			RUS taxi - daily
DK2OM	29365,0	0918	04	11	RUS		F3E			RUS taxi
DK2OM	<b>29375,0</b>	<b>----</b>	<b>--</b>	<b>11</b>	<b>I</b>		<b>F1B</b>	<b>81.9</b>	<b>140</b>	<b>Datawell-buoy “Waverider” – 29374.898 kHz – Gallipoli, South Italy - daily, all day</b>
DK2OM	29385,0	0919	04	11	RUS		F3E			RUS taxi - daily
DK2OM	<b>29387,5</b>	<b>---</b>	<b>--</b>	<b>11</b>	<b>IND</b>		<b>F1B</b>	<b>81.9</b>	<b>140</b>	<b>Datawell-buoy “Waverider” – 29387.460 kHz – Indian NW coast, close to Pakistan - daily, all day</b>
DK2OM	29395,0	0934	24	11	RUS		F3E			RUS taxi
DK2OM	29395,0	0945	24	11	RUS		F3E			RUS taxi
DK2OM	<b>29400,0</b>	<b>---</b>	<b>--</b>	<b>11</b>	<b>USA</b>		<b>F1B</b>	<b>81.9</b>	<b>140</b>	<b>Datawell-buoy “Waverider” – 29400.070 kHz - USA north-east coast – NY daily, all day</b>
DK2OM	29400,0	1332	03	11	IRN		FMCW		50k	OTH radar Iran – 925 sps splatters from 29750
DK2OM	29420,0	1330	03	11	IRN		FMCW		50k	OTH radar Iran – 925 sps splatters from 29750 – also 22.11.2015 at 0935 utc
DK2OM	29435,0	1009	22	11	RUS		F3E			RUS taxi - daily



DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
DK2OM	29440,0	1023	22	11	RUS		F3E			RUS taxi
DK2OM	29450,0	1631	01	11	MRC		F1B	81.9	140	Datawell-buoy "Waverider" – 29449.880 kHz - area of El Aaiun – Morocco - daily, all day
DK2OM	29455,0	0942	24	11	RUS		F3E			RUS taxi - daily
DK2OM	29485,0	0948	24	11	RUS		F3E			RUS taxi
DK2OM	29500,0	---	--	11	G		F1B	81.9	140	Datawell-buoy "Waverider" – area of Gibraltar – daily, all day
DK2OM	29505,0	1010	22	11	RUS		F3E			RUS taxi
DK2OM	29525,0	---	--	11	MRC		F1B	81.9	140	Datawell-buoy "Waverider" – 29524.990 kHz - Agadir - Morocco – daily, all day
DK2OM	29555,0	1025	22	11	RUS		F3E			RUS taxi
DK2OM	29560,0	0947	24	11	RUS		F3E			RUS taxi
DK2OM	29575,0	0943	24	11	RUS		F3E			RUS taxi
DK2OM	29595,0	0941	24	11	RUS		F3E			RUS taxi
DK2OM	29625,0	---	--	11	USA		F1B	81.9	140	Datawell-buoy "Waverider" – 29625.024 kHz - USA north-east coast – daily, all day
DK2OM	29670,0	1026	22	11	RUS		F3E			RUS taxi

### IRTS – Ireland – EI3GYB (Michael)

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH	DETAILS
EI3GYB	14116-14155	1400	20	11	?		FMCW			Radar 59plus
EI3GYB	21173-21208	1410	18	11	?		FMCW			RADAR
EI3GYB	14163-14195	0935	04	11	?		FMCW			RADAR
EI3GYB	21214-21246	0920	17	11	?		FMCW			RADAR
EI3GYB	14264-14291	1355	02	11	?		FMCW			RADAR
EI3GYB	21210-21237	1105	19	11	?		FMCW			RADAR
EI3GYB	18155-18180	0720	19	11	?		FMCW			RADAR, very strong
EI3GYB	14236-14260	1045	25	11	?		FMCW			RADAR
EI3GYB	18146-18168 and beyond	0910	02	11	?		FMCW			RADAR
EI3GYB	28426-28448	1250	15	11	?		FMCW			RADAR, very strong
EI3GYB	14175-14185	1105	25	11	?		FMCW			RADAR
EI3GYB	3664-3673	1820	07	11	?		FMCW			RADAR
EI3GYB	7088-7097	2220	25	11	?		FMCW			RADAR
EI3GYB	7081-7087	1440	15	11	?		FMCW			RADAR
EI3GYB	14348-14353	1420	20	11	?		Digital			2 stations communicating with each other, simplex. One very strong(RS59plus), the other quite weak(RS52)
EI3GYB	14348-14352	1315	24	11	?		Digital			2 stations communicating , simplex. One very strong, the other weakish.
EI3GYB	14348-14352	1100	25	11	?		Digital			1 station in cont. Digi mode
EI3GYB	14348-14352	1300	26	11	?		Digital			Very strong, cont. digi mode

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH	DETAILS
EI3GYB	14348-14352	1445	29	11	?		Digital			Cont. mode
EI3GYB	1986	1945-2045	23	11	HOL or MM		USB			Dutch fishermen
EI3GYB	3654	1415	23	11	MM		USB			French fishermen
EI3GYB	3664	1340	07	11	MM		USB			Spanish Fishermen
EI3GYB	3664	1120	10	11	MM		USB			Spanish fishermen
EI3GYB	3664	1425	15	11	MM		USB			Spanish fishermen
EI3GYB	3664	1940	23	11	E or MM		USB			Spanish fishermen
EI3GYB	3664	1400	24	11	MM		USB			Japanese fishermen
EI3GYB	3677	1450-1500	23	11	IRL or MM		USB			Irish fishermen
EI3GYB	3745	1925	11	11	E		USB			Group of Spanish fishermen in La Coruna area
EI3GYB	3760	2005	16	11	POR or MM		USB			Portuguese fishermen
EI3GYB	7000	1350	03	11	RUS		H3E			Buzzer from 6998 kHz, RS 57
EI3GYB	7000	1930	06	11	RUS		H3E			Buzzer from 6998 kHz,RS57
EI3GYB	7000	1316	07	11	RUS		H3E			Buzzer from 6998 kHz,RS59plus
EI3GYB	7000	0055	08	11	RUS		H3E			Buzzer from 6998 kHz,very weak
EI3GYB	7000	1930	11	11	RUS		H3E			Buzzer from 6998 kHz- only weakish.
EI3GYB	7000	2345	30	11	RUS		H3E			Buzzer from 6998 kHz,very weak
EI3GYB	7050	0005	13	11	ISR		CW			4XZ
EI3GYB	7100	1800	10	11	CHN		H3E			CRI BC in Russian
EI3GYB	14250 and above	1200	12	11	?		FMCW			RADAR RS 59 plus plus
EI3GYB	21205	0926	02	11	?		FMCW			RADAR
EI3GYB	21334	0900	17	11	W.Africa		Digital			DPRK embassy

### KARS – Kuwait – 9K2RR (Faisal)

### MRASZ – Hungary - HA7PL (Laci)

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH	DETAILS
MRASZ	3500,0	2010	19	11			A3E			ui.
MRASZ	3502,0	1955	18	11			A3E			music
MRASZ	3502,0	1803	22	11			A3E			ui. instable carrier
MRASZ	3504,0	1935	18	11			USB			ui.
MRASZ	3504,0	1811	22	11			A3E			ui.
MRASZ	3507,0	2024	19	11			A3E			ui.
MRASZ	3507,0	1713	23	11			A1A			deliberate disturbance
MRASZ	3509,5	1754	10	11			A1A			quick V string
MRASZ	3512,0	1828	25	11			A3E			ui. hum on the carries
MRASZ	3517,0	2032	19	11			A3E			ui. instable carrier
MRASZ	3518,0	1948	23	11			A1A			"QSA 1 QRS"
MRASZ	3520,0	1930	25	11			USB			russian male, count from 1-till 0
MRASZ	3522,0	1924	23	11			A2E			"5F.... = = 97 1 97 1 31 31 TTT"
MRASZ	3522,0	1912	30	11			A1A			"853 853 853" very slow
MRASZ	3525,0	1711	23	11			A3E			ui.
MRASZ	3535,0	1801	19	11			A3E			ui.
MRASZ	3545,0	1936	19	11			A2E			"97 2 97 1 97 1 31 31"
MRASZ	3550,0	1926	18	11			A3E			ui.
MRASZ	3552,0	2127	11	11			A1A			"UYSPA YEHMD BUÖTS"
MRASZ	3582,0	1840	19	11			PSK2			AT3004D
MRASZ	3593,0	1747	22	11			A3E			ui. weak
MRASZ	3593,6	2126	11	11	RUS	"D"	A1A			Cluster beacon

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH	DETAILS
MRASZ	3593,6	2103	18	11	RUS	"D"	A1A			Cluster beacon
MRASZ	3593,8	vt	ady	11	RUS	"P"	A1A			Cluster beacon
MRASZ	3595,0	2012	20	11			USB			russian female, numbers
MRASZ	3595,0	0636	21	11			USB			russian male, numbers, hrd: 26
MRASZ	3599,4	1749	22	11			LSB			"hallo, hallo"
MRASZ	3658,0	vt	ady	11			A1A			slow V string
MRASZ	3700,0	1834	24	11			LSB			music
MRASZ	3705,0	2123	11	11			A1A			"ZGN ZZT" "VLVMK LVLKK LMKVK"
MRASZ	7000,0	vt	ady	11	RUS		H3E			buzzer
MRASZ	7018,0	vt	ady	11	RUS	REA4	F1B	100	1000	
MRASZ	7035,2	0828	15	11			LSB			ui.
MRASZ	7050,0	1954	11	11	ISR	4XZ	A1A			"VVV de 4XZ(2x)= =" lot of messages
MRASZ	7050,0	1440	13	11	ISR	4XZ	A1A			"VVV de 4XZ(2x)= =" lot of messages
MRASZ	7050,0	1450	13	11			LSB			russian language, hrd:16,23
MRASZ	7055,0	1508	13	11			LSB			russian language, music, chaos, talk politics
MRASZ	7055,0	1620	16	11			LSB			russian/ukrainian, music, chaos, hrd: 23
MRASZ	7075,0	2115	11	11			OTHR			7065-7085 kHz
MRASZ	7120,0	vt	ady	11	SOM		A3E			Rad.Hargaysa
MRASZ	7147,0	0832	15	11			PSK2			AT3004D
MRASZ	7205,0	1746	10	11	CHN		A3E			splatter 5 kHz down
MRASZ	7205,0	1916	23	11			A3E			splatter down 10 kHz
MRASZ	10117,0	1624	16	11			OTHR			10115-10140 kHz
MRASZ	18068,0	0943	15	11			OTHR			18068-08080 kHz
MRASZ	21125,0	0649	21	11			OTHR			21100-21150 kHz
MRASZ	28085,0	0841	15	11			OTHR			28060-28110 kHz

### OEVSV – Austria – OE3GSA (Gerd)

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH	DETAILS
oevsv	7050.0	0755	12	11	unid	4XZ	A1A			QTCs
oevsv	7050.0	0743	13	11	unid	4XZ	A1A			QTCs
oevsv	7050.0	0648	14	11	unid	4XZ	A1A			QTCs
oevsv	7050.0	0638	15	11	unid	4XZ	A1A			QTCs
oevsv	10119.0	0804	21	11	unid	unid	J3E			reading groups

### PZK – Poland – SP9BRP (Jan)

### REF 1 – France – F5MIU (Francis)

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	Baud	Sh /Bw	DETAILS
R.E.F.										<b>November 2015</b>
F5MIU	7050	1830	13	11		4XZ	A1			S9 Coded CW
F4FRO	7120	1815	5	11			fmcw		<b>130kHz</b>	<b>New type of OTHR?</b> 7060-7190kHz
F5MIU	7195	1640	8	11			fmcw		10kHz	Data carrier every 150Hz S8
F5MIU	7205	1715	02	11			AM		15kHz	BCL station in Esperanto 2kHz on 40m band (from Taiwan ?)
F5MIU	7205	1750	04	11			AM		15kHz	BCL station in Chinese ? 2kHz on 40m band (from Taiwan ?)
F5MIU	10130	1648	16	11			fmcw		25kHz	OTHR S9+10, 20pps + splatters
F5MIU	10140	1806	10	11			fmcw		20kHz	OTHR S9, 40pps
F5MIU	14105	0925	16	11			fmcw		10kHz	OTHR S9, 5pps + splatters



SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	Baud	Sh /Bw	DETAILS
F5MIU	14135	0813	6	11			fmcw		25kHz	OTHR S9+10, 20pps + splatters
F5MIU	14180	0842	02	11			fmcw		25kHz	OTHR S9, 20pps + splatters
F5MIU	14180	0851	25	11			fmcw		25kHz	OTHR S9+10, 20pps + splatters
F5MIU	14180	0855	26	11			fmcw		10kHz	OTHR S7, 12pps
F5MIU	18200	0840	5	11			fmcw		<b>120kHz</b>	<b>New type of OTHR? S3, 40pps</b>
F5MIU	21190	0910	16	11			fmcw		25kHz	OTHR S9, 20pps + splatters
F5MIU	21350	0830	5	11			fmcw		20kHz	OTHR S7, 20pps
F5MIU	21410	0845	26	11			fmcw		20kHz	OTHR S6, 20pps

## REF 2 – France – F5JBR (Andre)

## REP – Portugal – CT4AN (Jose Francisco)

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH	DETAILS
REP	3651,5	10.49	27	11	E		J3E-U			Spanish fishery
REP	<b>3700</b>	<b>19.01</b>	<b>06</b>	<b>11</b>	<b>RUS</b>		<b>J3E-U</b>			<b>Navy operations</b>
REP	3739	09.48	28	11	E		J3E-U			Spanish fishery
REP	7020	20.35	06	11			J3E-U			Unid lang YL calling, no answer
REP	<b>7037</b>	<b>08.20</b>	<b>07</b>	<b>11</b>			<b>FMCW</b>	<b>50</b>	<b>17k</b>	<b>OTH radar</b>
REP	<b>7038</b>	<b>23.51</b>	<b>02</b>	<b>11</b>	<b>RUS</b>	<b>S</b>	<b>A1A</b>			<b>KALININGRAD, ADY, DLY</b>
REP	<b>7038</b>	<b>22.05</b>	<b>02</b>	<b>11</b>	<b>UKR</b>	<b>D</b>	<b>A1A</b>			<b>SEVASTOPOL, ADY, DLY</b>
REP	<b>7050</b>	<b>20.37</b>	<b>08</b>	<b>11</b>	<b>RUS</b>		<b>F1B</b>	<b>50</b>	<b>200</b>	<b>CIS36-50 encrypted, Russia</b>
REP	<b>7050</b>	<b>21.33</b>	<b>11</b>	<b>11</b>	<b>ISR</b>	<b>4XZ</b>	<b>A1A</b>			<b>4XZ IDF Navy, Haifa - Israel</b>
REP	<b>7068</b>	<b>21.26</b>	<b>05</b>	<b>11</b>			<b>FMCW</b>	<b>50</b>	<b>15k</b>	<b>OTH radar</b>
REP	10110	10.07	28	11			J3E-U			Arabic+french lang fishery, singing
REP	10121	10.47	12	11			F1B	75	250	Encrypted F1B
REP	10122	12.32	24	11			J3E-U			Arabic language fishery
REP	10125	10.18	11	11			J3E-U			Arabic language fishery
REP	<b>10125</b>	<b>17.21</b>	<b>12</b>	<b>11</b>			<b>FMCW</b>	<b>50</b>	<b>20k</b>	<b>OTH radar</b>
REP	10130	21.11	10	11	MRC		J3E-U			Fishermen on sea
REP	<b>10130</b>	<b>16.48</b>	<b>16</b>	<b>11</b>			<b>FMCW</b>	<b>50</b>	<b>20k</b>	<b>OTH radar</b>
REP	<b>14141</b>	<b>08.12</b>	<b>11</b>	<b>11</b>	<b>RUS</b>		<b>F1B</b>	<b>75</b>	<b>500</b>	<b>CIS 36-50, mil</b>
REP	14142	13.03	09	11			FMCW	50	17k	OTH radar
REP	<b>14160</b>	<b>11.28</b>	<b>18</b>	<b>11</b>		<b>9226</b>	<b>MFSK</b>			<b>MILSTD188 ALE “9226” clg “9204”</b>
REP	14161	10.33	18	11			FMCW	100	20k	OTH radar, “foghorn” like sound
REP	14180	09.19	06	11			FMCW		100k	OTH radar, burst mode
REP	14183	10.03	06	11			FMCW		15k	OTH radar, burst mode
REP	<b>14192</b>	<b>10.55</b>	<b>05</b>	<b>11</b>	<b>RUS</b>		<b>F1B</b>	<b>50</b>	<b>200</b>	<b>CIS50 encrypted, Russia</b>
REP	14207	21.00	16	11			FMCW			OTH radar 50sps/20kHz
REP	<b>14242</b>	<b>10.57</b>	<b>23</b>	<b>11</b>			<b>BPSK</b>	<b>120</b>	<b>3k</b>	<b>AT3004D 12xBPSK channels pilot tone 3k</b>
REP	14265	10.20	11	11			FMCW	50	17	OTH radar
REP	14268	10.07	06	11			FMCW		15k	OTH radar, burst mode, moving
REP	14280	10.20	11	11			FMCW		160k	Very wide OTH radar 160kHz
REP	14308	10.57	05	11			F1B	75	500	Encrypted, unid
REP	<b>14350</b>	<b>17.12</b>	<b>21</b>	<b>11</b>	<b>G</b>	<b>DHFCS</b>	<b>J3E-U</b>	<b>1200</b>		<b>STANAG 4285</b>
REP	14352	11.04	18	11			OFDM			
REP	18080	12.50	20	11			FMCW	50	20k	OTH radar
REP	18144	12.53	20	11			FMCW	50	10k	OTH radar, burst mode
REP	21215	09.00	07	11	E		J3E-U			Fishermen
REP	21270	11.07	17	11			FMCW	50	20k	OTH radar
REP	21320	10.22	03	11			FMCW			OTH radar
REP	21370	09.24	15	11			FMCW	50	20k	OTH radar
REP	28150	11.02	14	11	RUS		F3E			Taxis
REP	29175	11.54	09	11	RUS		F3E			Taxi female dispatcher
REP	29250	12.02	18	11			F1B	82	160	Datawell buoy, idling
REP	29250	12.21	18	11			F1B	82	140	Datawell GPS buoy
REP	<b>29620</b>	<b>11..38</b>	<b>06</b>	<b>11</b>			<b>FMCW</b>			<b>OTH radar</b>
REP	29650	11.49	12	11			F1B	82,2	135	Datawell GPS buoy

## RSGB - Great Britain – M0VRR (Vaughan)

SOC	KHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SHIFT	DETAILS
RSGB	7011	0833	26	11			J2X			12xPSK chnls 3300 Hz pilot
RSGB	7022 - 7050	0825	07	11			FMCW			OTHR 50 Hz PRF
RSGB	7088	0839	26	11			J2X			12xPSK chnls 3300 Hz pilot
RSGB	7145	0834	15	11			J2X			12xPSK chnls 3300 Hz pilot
RSGB	7187	0842	03	11			J2X			12xPSK chnls 3300 Hz pilot
RSGB	7195	0830	16	11			J2X			12xPSK chnls 3300 Hz pilot
RSGB	7196	0845	12	11			J2X			12xPSK chnls 3300 Hz pilot
RSGB	7196	0834	19	11			J2X			12xPSK chnls 3300 Hz pilot
RSGB	14050	0831	04	11			F1B	50	250	sync cipher tfc & revs
RSGB	14050	0835	16	11			F1B	75	250	sync cipher tfc & revs
RSGB	14125 – 14148	1017	24	11			FMCW			OTHR 50 Hz PRF
RSGB	14131 – 14136	1033	23	11			FMCW			OTHR 10 Hz PRF
RSGB	14148.6	0837	15	11			F1B ?			2 tones spaced at 600 Hz...sounds like Pactor
RSGB	14152 – 14169	0837	18	11			FMCW ?			Continual wide band signal PRF 83 Hz – several transmitters involved
RSGB	14154 – 14167	0925	18	11			FMCW			OTHR 83 Hz PRF
RSGB	14160 - 14191	0833	04	11			FMCW			OTHR 50 Hz PRF
RSGB	14170 – 14186	0836	25	11			FMCW			OTHR 50 Hz PRF
RSGB	14175 – 14187	0829	26	11			FMCW			OTHR 85 Hz PRF
RSGB	14192	ady	dly	11			F1B	50	500	sync cipher tfc
RSGB	14236 - 14253	0846	09	11			FMCW			OTHR 10 Hz PRF
RSGB	14261 – 14294	0835	20	11			FMCW			OTHR 50 Hz PRF
RSGB	14289 – 14302	0836	28	11			FMCW			OTHR 10 Hz
RSGB	14300 - 14315	0837	05	11			FMCW			OTHR 10 Hz PRF
RSGB	14348.6	0847	15	11			F1B ?			2 tones spaced at 600 Hz
RSGB	18059 – 18076	0842	11	11			FMCW			OTHR 10 Hz PRF
RSGB	18059 – 18081	0904	18	11			FMCW			OTHR 50 Hz PRF
RSGB	18090 – 18110	1022	19	11			FMCW			OTHR 50 Hz PRF
RSGB	18130	0839	11	11			F1B	100	1000	2nd harmonic of 9065 KHz 100bd/500 hz
RSGB	18130	0839	16	11			F1B	100	1000	2nd harmonic of 9065 KHz 100bd/500 hz
RSGB	18130	0846	17	11			F1B	100	1000	2nd harmonic of 9065 KHz 100bd/500 hz
RSGB	18130	0841	18	11			F1B	100	1000	2nd harmonic of 9065 KHz 100bd/500 hz
RSGB	18130	0835	24	11			F1B	100	1000	2nd harmonic of 9065 KHz 100bd/500 hz
RSGB	18146 - 18175	0835	01	11			FMCW			OTHR 50Hz PRF
RSGB	18146 - 18251	0834	02	11			FMCW			OTHR - very wide PRF 25 Hz
RSGB	18150	0831	19	11			F1B	100	1000	2nd harmonic of 9075 KHz 100bd/500 hz
RSGB	18153 - 18254	0839	05	11			FMCW			very wideband pulse transmission @ 25 Hz PRF
RSGB	18154 – 18189	0925	19	11			FMCW			OTHR 50 Hz PRF
RSGB	21099 – 21122	0838	27	11			FMCW			OTHR 25 Hz PRF
RSGB	21178 – 21202	0841	16	11			FMCW			OTHR 50 Hz PRF

SOC	KHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SHIFT	DETAILS
RSGB	21262 – 21274	0846	22	11			FMCW			Short data bursts at various freqs in band – 50 Hz PRF
RSGB	21338 - 21362	0835	05	11			FMCW			OTHR 50 Hz PRF
RSGB	21345 - 21359	0838	01	11			FMCW			OTHR ? - 50 Hz PRF....4 secs burst every 15 secs
RSGB	21359 – 21381	0842	26	11			FMCW			OTHR 50 Hz PRF
RSGB	21397 – 21422	0845	26	11			FMCW			OTHR 50 Hz PRF
RSGB	21398 – 21422	0836	26	11			FMCW			OTHR 50 Hz PRF
RSGB	21410 – 21511	1212	30	11			FMCW			OTHR 25 Hz PRF
RSGB	28000 - 29700	0846	03	11			FM			many short duration fm transmissions - russian taxis, CB etc
RSGB	28000 - 29700	0846	15	11			FM			many short duration fm transmissions - russian taxis, CB etc
RSGB	28068 – 28112	0845	15	11			FMCW			OTHR 50 Hz PRF
RSGB	28689 - 28771	0845	01	11			FMCW			wideband short bursts of 300 Hz or 800 Hz PRF

### SRAL – Finland – OH2BLU (Pekka)

Society	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH	REMARKS
SRAL	6998,0	h24	dly	11	RUS	UiTone	R3E			125 Hz tones
SRAL	7000,0	1100-1500	*	11		UiCarr	N0N			Days: 3. 7. 9. 20. 25.
SRAL	7000,0	0905	12.	11		UiMUX	PSK2	120	2600	
SRAL	7008,0	1100-1425/	12.	11		UiPTR	F1B		250	
SRAL	7009,0	0700-1400	30.	11		Ui2tone	J3E-u			Tones 1200 & 2300 Hz
SRAL	7012,0	1255-1415/	19.	11		UiPTR	F1B		250	
SRAL	7013,0	0830-1220	6. 26.	11		UiMUX	PSK2	120	2600	
SRAL	7014,0	1100-1200	3.	11	RUS	RMW32	A1A			5F, 5BL
SRAL	7018,0	0615-2000	*	11	RUS	REA4	F1B/A		1000	Days: 1. - 20. 24. 30.
SRAL	7018,0	1320/	1.	11		UiMUX	PSK2	120	2600	
SRAL	7018,62	0800-1603/	13. 18.	11		UiCarr	N0N			
SRAL	7030,0	0725-1250	12. 21.	11		UiPTR	F1B		250	
SRAL	7030,8	1330-1415	5.	11		UiCarr	N0N			unstable
SRAL	7036,5	1145-1400	17.	11		UiMUX	PSK2	120	2600	
SRAL	7050,0	0300-2130	11. - 15.	11	ISR	4XZ	A1A			vvv, 5L
SRAL	7054,0	1830-0800	1. – 11.	11		UiPTR	F1B		200	
SRAL	7073,0	1145	16.	11		UiMUX	PSK2	120	2600	
SRAL	7081,0	0915-1500	15.	11	RUS	UiMUX	PSK2	120	2600	
SRAL	7087,0	0850-0905/	3.	11		UiCarr	N0N			
SRAL	7089,0	0845-1300	3.	11		UiMUX	PSK2	120	2600	
SRAL	7090,0	0725	26.	11		UiMUX	PSK2	120	2600	
SRAL	7098,0	1350-1420/	30.	11		UiPTR	F1B		250	
SRAL	7113,0	1245-	2.	11		UiMUX	PSK2	120	2600	

Society	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH	REMARKS
		1415								
SRAL	7116,62	1250-1410	27.	11		UiCarr	N0N			
SRAL	7120,0	/0330-0500/	dly	11	SOM	R.Hargeisa	A3E			
SRAL	7120,0	/1500-1900/	dly	11	SOM	R.Hargeisa	A3E			
SRAL	7140,0	1630-1812/	16.	11		UiCarr	N0N			
SRAL	7140,0	0640-1120	26.	11		UiMUX	PSK2	120	2600	
SRAL	7147,0	0630-2030	14. 15.	11		UiMUX	PSK2	120	2600	
SRAL	7149,0	0755	18.	11		UiCW	A1A			
SRAL	7168,0	0940-1000	12.	11		UiPTR	F1B		200	
SRAL	7179,0	1300	28.	11		UiMUX	PSK2	120	2600	
SRAL	7181,75	0640-1605/	*	11		UiPTR	F1B/ N0N		250	Days: 1. 2. 9. 15. MR 5BL
SRAL	7184,0	1140-1655	1.	11	RUS	UiMUX	PSK2	120	2600	
SRAL	7193,0	0820-1500	*	11		UiPTR	F1B		200	Days: 3. - 8. 19.
SRAL	7194,0	1230	5.	11		UiMUX	PSK2	120	2600	
SRAL	7197,0	0650-1425/	6.	11	RUS	UiMUX	PSK2	120	2600	
SRAL	7198,0	0800-1030	12. 29.	11		UiMUX	PSK2	120	2600	
SRAL	7200,0	/0950-1300/	dly	11	CHN	CNR1	A3E			Used as jammer on TWN
SRAL	7 MHz	1830-0800	*	11	RUS	29B6	FMCW			50Hz / 15 kHz , days: 5. 6. 7. 21. 22.
SRAL	14000,0	0545-1040	*	11		UiCarr	N0N			Days: 16. 18. 22.
SRAL	14006,0	0910-1030/	2.	11		UiMUX	PSK2	120	2600	
SRAL	14036,0	1250	3.	11	RUS	REA4	F1B		2000	2f
SRAL	14050,0	0650-0810	4.	11		UiPTR	F1B		250	
SRAL	14052,0	0640	19.	11		UiMUX	PSK2	120	2600	
SRAL	14141,0	1135	2.	11		UiPTR	F1B			
SRAL	14181,0	0645-0900	26.	11		UiOTHR	FMCW			100 Hz / 10 kHz
SRAL	14192,0	1250	3.	11	RUS	UiPTR	F1B		200/500	
SRAL	14221,0	0400-0600	*	11	KGZ	UiPTR	F1B		250	Days: 1. - 5. 12. 21. 23.
SRAL	14295,0	0400-1420	dly	11	TJK	R Tojikiston	A3E			3f 4765,00 kHz, Yangiyul TX
SRAL	14 MHz	0600-1430	*	11	RUS	29B6	FMCW			50Hz / 15 kHz, days 3. 4. 6. 13. 14. 18. 20. 23. 30.
SRAL	14 MHz	0630-1340	*	11	RUS	UiOTHR	FMCW			10Hz / 15 kHz, 30 sec bursts, days:1. 2. 9. 13. 15. 20. 21. 22. 23. 30.
SRAL	18 MHz	0600-1000	*	11	CYP / TUR	UiOTHR	FMCW			25/50Hz / 20 kHz , days: 15. 18. 19. 28. 30.
SRAL	21 MHz	0600-1300	*	11	CYP / TUR	UiOTHR	FMCW			25/50Hz / 20 kHz, days: 3. 5. 12. 16. 17. 20. 21. 24. 27. 29. 30.
SRAL	21438,0	0800-1115	*	11	RUS	RCV	A1A			Days: 1. 2. 3. 15. 17. 26. 28. 29. 30.
SRAL	28 MHz	0600-1300	*	11	IRN	UiOTHR	FMCW			(307 &) 870 Hz / 60 kHz – 300 kHz, days: 15. – 30.
SRAL	28 MHz	0645-1215	19. 22.	11		UiOTHR	FMCW			25/50Hz / 20 kHz
SRAL	28 MHz	0725-1010	*	11	RUS	Taxi disp.	F3E			8 reports, days: 15. 16. 21.



## USKA – Switzerland – HB9CET (Peter)

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH (BW)	DETAILS
USKA	3527.0	2344	01	11			F1B	50	200	daily
USKA	3548.0	2309	01	11			F1B	50	200	daily
USKA	3550.0	2251	26	11			J7D	12x120	2k7	PSK-2: CIS12 – AT3004D
USKA	3551.0	2301	01	11			PSK8	2400	~2k6	1800Hz single tone 2400Bd MIL188-110A Hybrid; short intro with 4 unmodulated tones
USKA	3552.0	2240	22	11			DQPSK	14x75	5k9	LINK 11 CLEW DSB; PRM mode
USKA	3554.0	2343	01	11			PSK8	2400	~2k4	Stanag 4285 often
USKA	3563.0	2232	22	11			J7D	12x120	2k7	PSK-2: CIS12 – AT3004D
USKA	3604.0	2229	22	11			J7D	12x120	2k7	CIS12
USKA	3606.0	2246	23	11		PY40	MFSK8	125	1750	MIL 188-141A, LQA; To: FQ4
USKA	3608.0	2253	22	11			F1B	50	200	often
USKA	3714.0	2314	26	11			G1D	2400	2k4	PSK-8: Link 11- SLEW
USKA	3716.5	2306	26	11			J7D	12x120	2k7	PSK-2: CIS12 – AT3004D
USKA	6998.0	1411	01	11			H3E-U Bursts		~3k6	"Buzzer" up to $\geq 7001.5$ kHz daily BD 1.2", BRI 3" Pause ~1.8s
USKA	6999.0	1639	30	11			FMOP	50	~13k	OTHR, up to > 7006 kHz
USKA	7001.8	2122	20	11			PSK8	2400	~2k4	
USKA	7012.0	2213	20	11			F1B	75	250	
USKA	7018.0	2214	20	11		REA4	F1B	100	1000	ID in F1A daily
USKA	7039.3	2221	22	11	RUS	K	A1A			Beacon K Petropavlovsk
USKA	7039.4	2223	22	11	RUS	M	A1A			Beacon M Magadan
USKA	7041.8	2128	12	11			F1B	50	250	
USKA	7041.8	2132	12	11			F1A			
USKA	7049.0	1647	21	11			FMOP	50	~13k	OTHR; affected BW > 30k!
USKA	7050.028	12	2216	11	ISR	4XZ	A1A			encrypted; letters and figures
USKA	7070.0	2315	16	11		244	MFSK8	125	1750	MIL 188-141A; To: 571
USKA	7070.0	2315	20	11		244	MFSK8	125	1750	MIL 188-141A
USKA	7070.0	2159	22	11		288	MFSK8	125	1750	MIL 188-141A; LQA To: 514
USKA	7089.0	0831	03	11			J7D	12x120	2k7	PSK-2: CIS12 = AT3004D
USKA	7115.5	1028	23	11			J7D	12x120	2k7	PSK-2: CIS12 = AT3004D
USKA	7120.0	1742	22	11	SOM		A3E			Radio Hargaysa almost daily
USKA	7134.0	1703	30	11			F1B	50	200	
USKA	7140.0	2313	29	11		1101	MFSK8	125	1750	MIL 188-141A
USKA	7140.0	2333	29	11		1111	MFSK8	125	1750	MIL 188-141A; To: 1101
USKA	7140.0	1825	30	11		1102	MFSK8	125	1750	MIL 188-141A
USKA	7144.0 VFO LSB	1652	30	11			BPSK	30x60	~2k4	Burst system; spacing 75 Hz preamble 4x PSK4 60Bd, spacing 600Hz; Pilottone at 450Hz
USKA	7147.0	1556	30	11			J7D	12x120	2k7	CIS12 idling
USKA	7177.0	0931	06	11			F1B	50	250	CIS50-50 often
USKA	7179.5	1527	21	11			PSK8	2400	~2k4	Stanag 4285
USKA	7185.0	1654	29	11			FMOP	50	~13k	OTHR
USKA	7197.0	1925	22	11		341018	MFSK8	125	1750	MIL 188-141A
USKA	7197.0	1926	22	11		123456	MFSK8	125	1750	MIL 188-141A
USKA	7197.0	1935	22	11		340018	MFSK8	125	1750	MIL 188-141A
USKA	7197.0	1936	22	11		351013	MFSK8	125	1750	MIL 188-141A
USKA	7197.0	1937	22	11		359013	MFSK8	125	1750	MIL 188-141A
USKA	14137.0	1004	24	11			FMCW	50	~13k	OTHR, affected BW > 30k!
USKA	14192.0	1415	01	11			F1B	50	500	CIS 50-50 daily
USKA	14239.0 VFO LSB	1228	30	11			BPSK	30x60	~2k4	Burst system; spacing 75 Hz preamble 4x PSK4 60Bd, spacing 600Hz; Pilottone at 450Hz
USKA	14297.0	1624	04	11			FMCW	10 sps	10k	OTHR; short sequence only
USKA	14344.3	0745	25	11			J7D	12x120	2k7	PSK-2: CIS12 = AT3004D
USKA	18070.0	1654	20	11			FMCW	50	20k	OTHR
USKA	21200.0	0955	24	11			FMCW		10k	OTHR
USKA	21272.0	0917	24	11			J7D	12x120	2k7	PSK-2: CIS12 = AT3004D
USKA	21318.55	1101	22	11			F1B	600	600	ARQ system often
USKA	21390.0	1141	17	11			FMCW	50	20k	OTHR
USKA	28155.0	0949	24	11			F3E			Taxi often

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH (BW)	DETAILS
USKA	28175.0	0952	24	11			F3E			Taxi often
USKA	28665.0	1013	23	11			?	307 sps 870 sps	app 60k	OTHR Burst system often
USKA	29249.9	1429	01	11	E		F1B	81.92	140	Datawell buoy Canary Isl. daily
USKA	29449.9	1443	01	11	MRC		F1B	81.92	140	Datawell buoy El Aajún daily

### Comment

Be aware that 80m is shared with Fixed and Mobile (also as primary services), as well as some maritime communications applications (For details search at CEPT in [www.efis.dk](http://www.efis.dk))

### Veron 1 – Netherlands – PA2GRU (Dick)

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BAUD	SHIFT	DETAILS
VERON	3548.0	20.45	25	11	CIS	UiPTR	F1B			Revs/Ptr
VERON	3561.0	20.00	10	11		UiPTR	F1B			Ptr
VERON	3608.0	21.08	21	11			F1B		200	bad modulated
VERON	3608.0	20.47	25	11		UiPTR	F1B			Revs
VERON	7000.0	vt	vd	11	RUS		H3E		4k	buzzer, 125Hz ; bursts
VERON	7001.0	16.41	30	11		OTHR	FMCW			radar
VERON	7018.0	15.53	19	11	RUS		F1B		1k	idling; bad modulation
VERON	7038,5	15.49	5	11		UiCar	NON			wobbling carrier; S6
VERON	7038,5	15.05	17	11		UiCar	NON			wobbling carrier; S5
VERON	7050,0	16.45	21	11		OTHR	FMCW			radar
VERON	7050,0	15.36	12	11	ISR	4XZ	A1A			5L, followed by roundslip VVV DE 4XZ BT
VERON	7054,0	06.14	4	11	?	?	F1B		200	ptr, revs
VERON	7120,0	18.27	7	11	SOM	R.Hargaysa	A3E			Arab speech; S5
VERON	7160,0	07.30	17	11	RUS	RMW32	A1A			RFH47 DE RMW32 32 02 32 17 1020 BT
VERON	7160,0	07.30	17	11	RUS	RMW32	A1A			999 BT (5F) ends:RPT AL K
VERON	7160,0	07.37	17	11	RUS	RFH47	A1A			(repeats tfc)
VERON	7160,0	07.45	17	11	RUS	RFH49	A1A			(5BL)
VERON	7179,0	14.10	28	11	RUS		PSK2A	120	2k6	
VERON	10110,0	11.18	24	11	CIS	UiPTR	F1B			Revs/Ptr
VERON	10117,0	15:39	5	11		UiRadar	FMCW		20k	OTHR; 50sps
VERON	10119,0	14.45	17	11		UiRadar	FMCW		20k	OTHR; 50sps
VERON	10123,0	11.33	2	11		UiPTR	F1B			Ptr
VERON	14118,0	11.50	26	11	RUS	Buzzer	HE			AM bursts
VERON	14118,0	11.54	26	11		OTHR	FMCW			short period
VERON	14130,0	11.00	2	11		OTHR	FMCW			radar
VERON	14141,0	11.30	2	11		UiPTR	F1B			Ptr
VERON	14178,0	11.07	4	11	RUS	OTHR	FMCW			radar, 50 spc Contayner
VERON	14192,0	10.26	3	11	RUS	UiPtr	F1B		500	Ptr
VERON	14192,0	vt	vd	11	RUS		F1B		500	
VERON	14192,0	11.32	2	11	CIS	UiPTR	F1B			Revs/Ptr (also 6/11 14.08 utc)
VERON	14242,0	10.49	23	11	RUS	UiMUX	PSK2			12 MPSK AT3004D
VERON	14276,0	15.33	19	11	RUS		FMCW		10k	OTHR Contayner; 10sps
VERON	14277,0	15.29	19	11		UiPtr	F1B		200	
VERON	14342,0	10.45	30	11	Italy	IW0RGJ	A1A			beacon: EL=IW0RGJ out of IBP bandplan
VERON	21150,0	14.00	15	11	E	UiILL	J3e-U			male/female voices, Spanish

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BAUD	SHIFT	DETAILS
VERON	21222,0	13.36	14	11	Maroc	UiLL	J3e-U			fishery
VERON	21438,0	14.33	16	11	RUS	RCV	A1A			RKZ DE RCV QTC 756 31 16 1522 BT
VERON	21438,0	14.33	16	11	RUS	RCV	A1A			PROGNOZ (etc)
VERON	21438,0	14.46	16	11	RUS	RCV	A1A			RHM81 DE RCV QYT4 QSX 5083 NO K

# The monitoring team of IARU Region 1

## credits:

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**Many thanks for your interest!**

Season's Greetings and a peaceful year 2016 without PLC,  
Plasma TV and switching power supplies!

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