International Amateur Radio Union

Region 1

Monitoring System

DK2OM – Wolf Hadel
Co-ordinator of IARUMS Region 1
Editor of the Newsletter

HB9CET – Peter Jost
Vice Co-ordinator of IARUMS Region 1

The monthly newsletter for Region 1

December 2012

The 24 members of the IARUMS Region 1 Monitoring Team:

Acknowledgements

++ ARI: DH7SA – Salvatore ++ ARSK: 5Z4NU - Ted ++ ASTRA: DL1BDF – Mustapha ++ DARC: DJ9KR – Uli ++
++ ERASD: SU1SA – Sayed ++ IARC: 4Z1AB – Amos ++ IRTS: EI5DD - Steve ++ KARS: 9K2RR – Faisal ++
++ MARL: 9H1M – Dominic ++ MRASZ: HA7PL - Laci ++ NARS: 5N9AYM – Yusuf ++ NRRL: LA4EU – Hans Arne ++
++ OEVSV: OE3GSA – Gerd ++ PZK: SP3SUZ – Wladyslaw ++ RAL: OD5RI – Riri ++ REP: CT4AN – Jose ++
++ RSGB: G4BOH - Chris ++ SARL: ZS1FCS - Fred ++ SRAL: OH2BLU - Pekka ++ UBA: ON4VJ - Johny ++
++ URE: EA5DY - Salvador ++ 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) ++ PB2T – Hans (IARU R1 President) ++ 9A5W - Nikola (EC-IARU-R1
++ PTTs: German (BNetzA), BAKOM (Switzerland), OFCOM (UK) ++ SK6AW – DX-Cluster ++

Part 1: News and infos
Part 2: Detailed reports of the national co-ordinators

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Part 1: News and Infos

1. **Changes in IARUMS Region 1**
   DJ9KR, Uli, finished his work as Vice-Coordinator of IARUMS Rergion 1 and the leadership of the DARC-Monitoring System. Uli was active since many years. Anyway: Being a specialist for BC intrusions he will give us his further assistance.
   HB9CET, Peter, will be the IARUMS Vice-Coordinator on January 1st . Peter is well equipped and has a lot of experiences with computer technologies and digital modes. He is well known for his great lectures. Peter has been accepted as Vice Coordinator by the members of our Monitoring Team. (Result of the opinion poll in December 2012.)
   DK2OM will take over the DARC-Monitoring System and stay as IARUMS Region 1 Coordinator.
   Read Peter´s introduction below!

2. **CODAR on 14 MHz – no change as usual**
   The CODAR ocean surface radar on 14075 - 14125 kHz is still active from North-East India daily, all day.

3. **Radio Tehran with spurious on 21 MHz – still problems in December**
   Radio Tehran on 21500 kHz produced spurious signals on 21445, 21390, 21335, 21280, 21225, 21170, 21115, 21060 and 21005 kHz. (55 kHz increments) Every morning at about 0800 UTC. The German BNetzA and the Swiss BAKOM filed complaints.

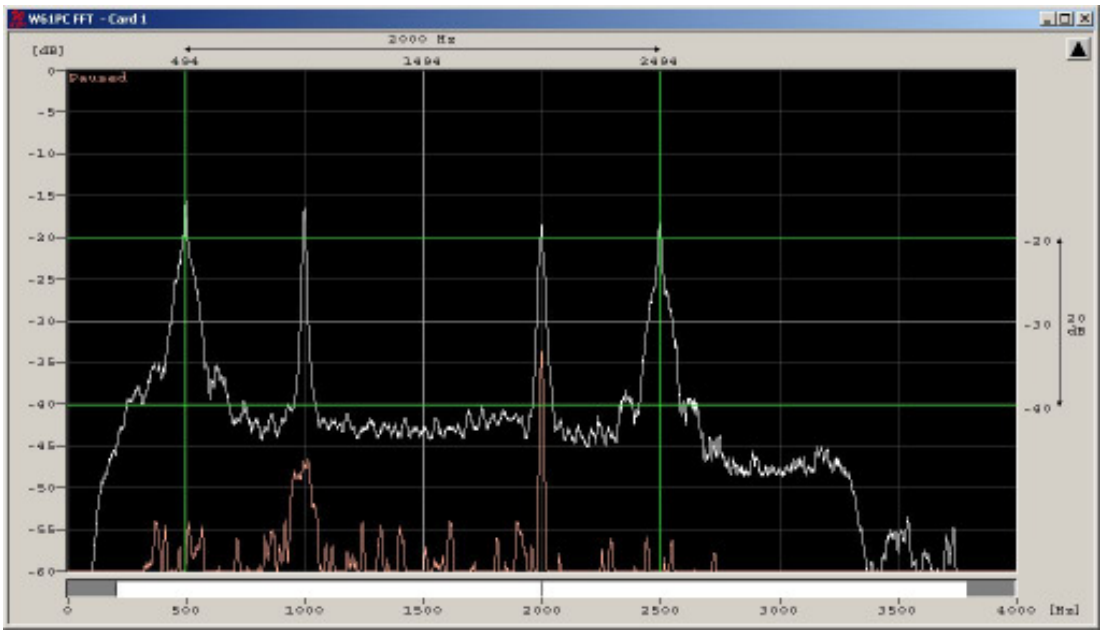
4. **KOL Israel – Fake or Mistake?**
   A BC transmission from KOL Israel was observed on 14000.0 A3E on Dec. 16th and 17th. The bearings showed the area of Israel. The announcements said "KOL Israel". HB9CET noticed that the bandwidth was 6 kHz instead of 9 kHz (usual BC bandwidth). A mistuned transmitter could have been the source. It was also possible that someone tried to give a bad name to KOL Israel by transmitting the BC program using a HAM-transceiver.

5. **Mysterious signals on 7000, 14000 and 21000 kHz from Central China - no change**
   The mysteriuos multitone signals, often as A3E and 6 kHz wide ang the chirpy signals on 21000 were active daily.. The purpose is still unknown. Perhaps a new kind of communication??? The Dutch, Swiss, UK, Austrian and German PTTs were informed.

6. **Russian daily taxi business on 21 MHz**
   Taxi net from Kaluga on 21404.2 kHz in FM. The Austrian, Dutch, German and Swiss PTTs were informed.
   PB2T, Hans, filed a complaint to the Russian Amateur Society. This is another example for excellent cooperation. The daily violations of our 10 m-band by CIS taxis are going on as usual.

7. **Russian harmony**
   We found several harmonic emissions from Russian teleprinters on 21 MHz, sometimes even the 4th of a lower frequency. The Radio-Amateurs do not like such kinds of harmony on their bands. It is easy to detect the harmonics. They often have a shift of 2 kHz. For example: Calculation: 21400 kHz : 4 = 5350 kHz. The shift on 5350 kHz is 500 Hz. HB9CET and me checked the fundamental transmissions. We saw, that our calculations were correct. The Russian military is often using F1B (teleprinters) with 50 and 75 Bd and 200, 250, 500 and sometimes 1000 Hz shift.
   The 1st harmonic from 7018 (F1B - REA4 – Russian Airforce Moscow) is causing strong interference on 14036 kHz. Shift on 7018 = 1000 Hz, shift on 14036 = 2000 Hz. The signal has a very bad quality and is active daily,all day.

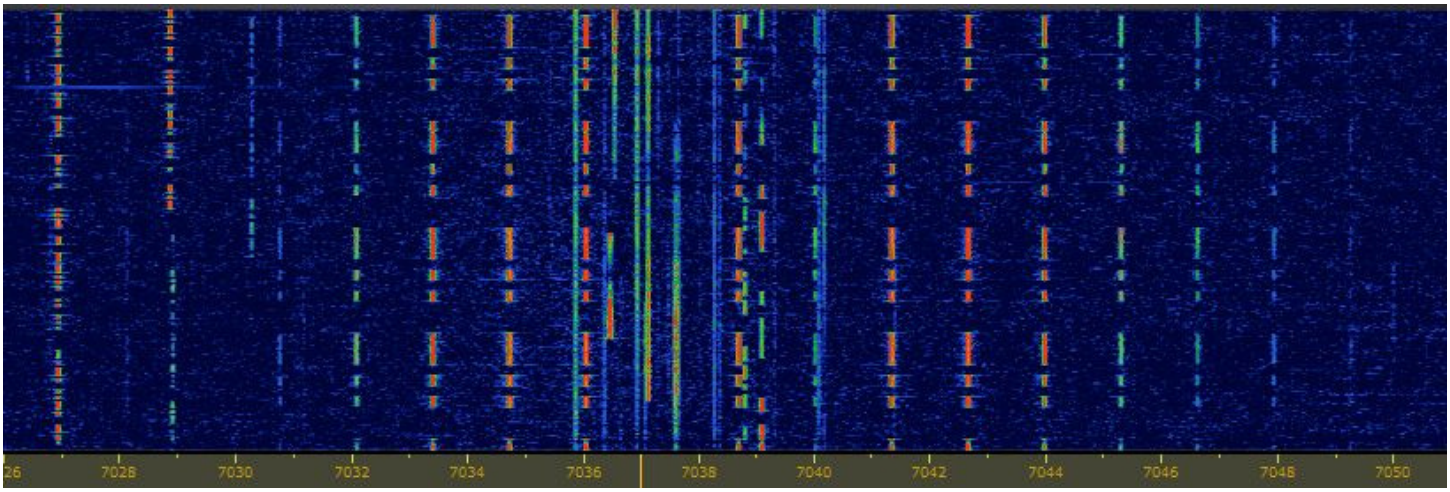
You can see both, the fundamental and the harmonic emission. This is an example screenshot from DK2OM with Wavecom W61PC using the FFT-display and the peak hold function. The 1st harmonic is causing the double shift. The baudrate is not affected!



8. Clusterbeacon "D" with many spurious emissions

The clusterbeacon "D" (location: Russian Naval Base Sevastopol) is producing many spurious emissions, even audible on 7000.0 kHz. The screenshot below shows the beacon "D" on 7038.7 kHz and the spurious emissions below and above.

Screnshot: DK2OM on Dec. 19th at 1900 utc with Perseus



7038

9. 2012 REP Ms Portuguese Report

Last 2012 Year was very busy and grateful on Portuguese Monitoring Team activities.

HF Propagation has been just Fair all over the year, taking into consideration the Solar Cycle and Wx changes emerging all over the World.
Our Ms Team was enriched with a new Member, CT2IWW, Paulo, which is doing a great job taking care on the Northern part of Portugal.
OTH radars still interfere and are like a plague in a meadow. Almost all Bands are interfered and sometimes, inside WARC segments, the BW of signals are occupying a great part of the Band with only one transmission.
It seems some Northern part of Africa operators are doing big 15m SSB QRM on CW segment activities. We shall take it into consideration and monitoring will be made in the future with better propagation conditions.
There are many discussions and pricking on 7070 kHz, Lower Sideband, between Italian and Portuguese Hams because of pretense rights over that frequency. It's an old problem with bad attitudes like music, jamming and offences. We hope it will finish in the near future for the best image of Amateur Radio and the Countries involved.
10m Band is quite calm at moment, but at 1700Z to 1900Z (Trans-Equatorial), we have detected many AM and FM operations from Brazil between 28000kHz and 28500kHz daily. Some portuguese and spanish fishermen are talking sometimes on these frequencies too.
There are (buoys ?) transmitting F1B burst group on 28025.0kHz (+/-) with 51 Bd, 300 Hz shift and 28100kHz, F1B, 51 Bd, 320 Hz shift or 29525.0kHz, transmitting in F1B with 81.9 Bd, 140 Hz shift. ICP-Anacom, the Portuguese Authority for Telecomm is very active and collaborating with us to detect and stop those intrusions on our 10m Band.

It is with great pleasure we may report that a giant operation was executed by our National Telecom Authority – ICP Anacom with our Maritime Police during tree days, where were verified 30 fishing boats in Algarve and arrested several Tx/Rx equipments not authorized for maritime communications and illegally used on Amateur Bands.
Five boats were arrested because they had no valid telecom certification but had equipments working over not permitted frequencies for the maritime traffic.
The big operation has been carried on December 11, 12 and 13 in Portimão, Albufeira, Lagos and Sagres in Algarve, and our Anacom is decided to stop the abuse, interference and infringes over several communications services, namely on Amateur Radiocommunications Bands, by the clearly illegally installed and operated stations inboard of fishing vessels.
After all reports and demerges made, it's a fair very good year-ending for our IARU-R1 Ms in Portugal.

Next 2013, let's do it again !

José Francisco, CT4AN
IARU-R1 Ms Portuguese Coordinator
REP-Ms

10. Worldwide cooperation and results in 2012

One of our highlights in 2012 was disabling Radio Free Asia on 21450 kHz.
DK2OM (Region 1) got an alert from ZL1GWE (John - Region 3) concerning "Radio Free Asia" on 21450 kHz. Wolf informed K1ZZ (Dave – Region 2). Dave could solve the problems in Region 3 by his special connections.
New intruders like the mysterious signals from China or OTH radars appeared and caused strong interference on our exclusive bands. The Russian military preferred our 7 MHz-band for digital traffic daily and often with bad quality. Chinese radars on 7 MHz were even audible in Europe, Japan, Australia and California. Many problems will wait for us in 2013 (as usual…).

K1ZZ and DJ9KR at the Hamradio 2010

DK2OM teaching Ophelia PSK analysis

11. Introduction of HB9CET

First my very best wishes, best of health and prosperity in 2013

Thank you most sincerely for your trust and confidence in me as new Vice-Coordinator IARUMS R1 and successor of Uli, DJ9KR.
I will proudly fulfill this task, being firmly convinced that our monitoring job remains very important and indispensable also in the future.
My specialism are digital emissions and I'm broadly equipped with several modernest analysis tools from Wavecom. Running a remote site with a Perseus SDR and several antennas at a calm location; soon extended by a Winradio G33DDC SDR rx. At home I use KX-3, IC-7600 and IC-8500.
Hope that I may see as many as possible of you in Friedrichshafen 2013 by the next Ham-Radio 2013.
Will be there all 3 days.

vy 73

Peter A. Jost, HB9CET
USKA liaison officer to
Swiss authorities (BAKOM)

USKA monitoring coordinator
www.uska.ch/monitoring

HB9CET operating the RIG of DK2OM

12. 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://www.iaru-r3.org/ms/
Intruderlogger Region 1 http://peditio.net/intruder/bluechat.cgi

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** = othogonal 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 ••• **pps** = pulses per second (earlier radar systems) ••• **sps** = sweeps/sec (radar systems) ••• **FMCW** = frequency modulated continuous wave (OTH and coastal Radars) **5BL** = 5 cyrillic lettergroups

ARSK MONITORING OVERVIEW FOR December 2012

The broadcasts from Khartoum on 7200 kHz, Addis Ababa and Asmara (Eritrea) on other 40 meter frequencies between 7100 and 7200 kHz continued were still active, as was Radio Hargeisha on 7120 kHz.

Happy New Year to all!

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

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ARSK – Kenya – 5Z4NU (Ted)

H'd by	kHz	UTC	dd	mm	ITU	Identity	MODE	Details
ARSK	7000.0	1340	27	12	DRC?	UiPHONE	J3Eu	Vernacular
ARSK	7005.0	1540	15	12	DRC?	UiPHONE	J3E	Vernacular.
ARSK	7075.0	vt	*	12	DRC?	UiPhone	J3Eu	Unidentified, probably DRC.*15.16,
ARSK	7120.0	vt	dly	12	SOM	Hargeisha	A3E	Very weak, thought to be new station Radio Hargeiasha
ARSK	7175.0	vt	dly	12	ERI?	UiBC	A3E	VoBM, Eritrea.
ARSK	7185.0	vt	dly	12	ERI? ETH?	UiBC	A3E	VOBM or Addis Ababa.
ARSK	7200.0	vt	dly	12	SDN	Khartoum	A3E	Broadcast, Khartoum.
ARSK	14000.0	1525	17	12	ISRAEL	Military	A3E	Broadcast, Hebrew speech & music, Israeli Army.

DARC 1 – Germany – DJ9KR (Uli)
Illicit and broadcast intruders

CLUB	kHz	UTC	DD	MM	ITU	Call Sign	MODE	Remarks and Comments
DARC	7000,0	1507	20	12		UiMUX	XXX	roaring wideband noise
DARC	7000,0	2137	28	12	CIS	UiILL	J3E-L	2 male persons in plain Russian language
DARC	7033,6	1507	20	12	UKR	beacon D	A1A	found // 7038,7
DARC	7038,7	1507	20	12	UKR	beacon D	A1A	found // 7033,6
DARC	7038,7	vt	05	12	UKR	beacon D	A1A	beacon D, Sevastopol
DARC	7038,7	2205	22	12	UKR	beacon D	A1A	beacon "D", Sevastopol, with a whole bundle of spurious up and down
DARC	7038,7	2135	17	12	UKR	beacon D	A1A	beacon "D", Sevastopol
DARC	7038,9	vt	vd	12	RUS	beacon S	A1A	beacon "S" - Severomorsk
DARC	7039,0	vt	vd	12	RUS	beacon P	A1A	beacon "P", Kaliningrad
DARC	7039,0	vt	vd	12	RUS	beacon C	A1A	beacon "C" - Moscow heard 0700, 1800, 1900
DARC	7039,1	2135	17	12	KGZ	beacon A	A1A	beacon "A" - Bishkek
DARC	7039,2	vt	vd	12	RUS	beacon L	A1A	beacon "L" - St. Petersburg
DARC	7039,2	vt	vd	12	RUS	beacon F	A1A	beacon "F" - Vladyvostok
DARC	7039,4	vt	vd	12	RUS	beacon K	A1A	beacon "K" - Petropavlovsk
DARC	7039,5	vt	vd	12	RUS	beacon M	A1A	beacon "M" - Magadan
DARC	7077,0	2125	17	12		UiMUX	XXX	multitone, 7077 - 7079

CLUB	kHz	UTC	DD	MM	ITU	Call Sign	MODE	Remarks and Comments
DARC	7104,0	2135	17	12		UiCAR	N0N	3 carriers parallel: 7014, 7015, 7016; s/off all three at the same time later
DARC	7105,0	1922	25	12	TUN	R.Tunisia	A3E	spurious 7225 x 7345 kHz, Ar px knitting pattern: 7225 x 2 - 7345 = 7105
DARC	7105,0	1912	26	12		UiBC	A3E	Russian px
DARC	7105,0	2150	25	12		UiOTH	FMCW	rattling pulses in short strings, long pauses
DARC	7105,0	2227	24	12	CHN	Hainan Firedrake Jammer	JAM	overmodulated music with pipes, drums and gongs
DARC	7105,0	2122	20	12	TWN	Sound of Hope	A3E	Chinese px, spoken news, under Hainan Firedrake jammer
DARC	7105,0	2200	25	12	CHN	Soh Xi Wang Zhi Sheng	A3E	Chinese px in order to wipe out Sound-of-Hope
DARC	7105,0	2200	16	12	TWN	Sound of Hope	A3E	Chinese px
DARC	7105,0	1919	29	12	TUN	R.Tunisia	A3E	Ar music, fundamentals found 7225 and 7345
DARC	7110,0	0007	28	12	BRM	R.Myanmar	A3E	heard with remote receiver by DF5SX
DARC	7120,0	vt	27	12	SOM	R.Hargaysa	A3E	Somali voice and music heard 1525 - 1828
DARC	7120,0	1657	25	12	SOM	R.Hargaysa	A3E	Somali language
DARC	7120,0	1532	22	12	SOM	R.Hargaysa	A3E	Somali and Arabic px
DARC	7120,0	0330	28	12	SOM	R.Hargaysa	A3E	s/on px at 0330 with Holy Qur`an recitals
DARC	7160,0	1535	24	12		UiPTR	F1B	fast reversals
DARC	7165,0	vt	29	12	E.Af	UiBC	A3E	HOA music, heard 1657 - 1917
DARC	7170,0	1912	26	12		UiBC	A3E	weak BC, only carrier detectable
DARC	7170,0	1904	22	12	RUS	V.o.Russia	A3E	En px: "this is the xxx on the Voice of Russia", heard 1904 - 1943-
DARC	7170,0	2057	29	12	RUS	V.o.Russia	A3E	2 px, one is English "this is the Voice of Russia World Service" (2059)
DARC	7175,0	1535	24	12	ETH	ETH Govt Jam	JAM	white noise jammer
DARC	7175,0	1507	20	12	ERI	VoBME	A3E	clear audio, no jam
DARC	7175,0	1433	18	12	ERI	VoBME	A3E	BC under white noise jammer
DARC	7182,0	2142	22	12	MRC	UiILL	J3E-U	2 male persons, Moroccan Arabic, one OP has a shrieky voice - fishermen?
DARC	7185,0	0655	17	12	ETH	ETH Govt Jam	JAM	white noise jammer
DARC	7185,0	0655	17	12	ERI	VoBME	A3E	is active, audible under white noise jammer
DARC	7189,9	0328	28	12	CLN	SLBC Sri Lanka	A3E	typical music, tx-er location is Ekala
DARC	7190,0	1657	29	12	ETH	ETH Govt Jam	JAM	white noise jammer, no BC audible
DARC	7190,0	1520	26	12	ERI	VoBME	A3E	under heavy white noise jammer
DARC	7190,0	1657	25	12	ERI	Sound of Hope	A3E	typical music, under wn-jammer
DARC	7190,0	1743	28	12	ERI	VoBME	A3E	HOA music
DARC	7200,0	1535	24	12	SDN	R.Omdurman	A3E	Arabic px, S9+20dB
DARC	7200,0	0328	28	12	SDN	R.Omdurman	A3E	Arabic px
DARC	14000,0	vt	17	12	ISR	Galei Zahal	A3E	Israely Army Radio station, heard 1732 - 1800 - ident DF5SX
DARC	14060,0	vt	30	12	ROU	RRI Bucharest	A3E	slightly distorted signal, heard by DJ9KR from 1054 - 1058 s/off with jingle, is IM 17780 x 21500 - knitting pattern: 2 x 17780 - 21500 = 14060 - txer sked 0800-1056 - tx-er location Tiganesti - tnx DF5SX for help!
DARC	14295,1	1052	30	12	TJK	R.Tajikistan	A3E	S8-signal, 3f

CLUB	kHz	UTC	DD	MM	ITU	Call Sign	MODE	Remarks and Comments
DARC	28175,0	1047	30	12	CIS	Taxi Cabs	F3E	female in Russian language
DARC	28250,0	1047	30	12	CIS	Taxi Cabs	F3E	female in Russian language
DARC	28305,0	1047	30	12	CIS	Taxi Cabs	F3E	female in Russian language

DARC 2 – Germany - DK2OM (Wolf)

FSK transmissions -> center frequency between mark and space
PSK transmissions -> center frequency
ALE (MIL188-141A) -> USB frequency – exclusive bands: black – shared bands: blue
voice traffic -> green BC -> red
SH = shift --- SP = spread (radar) – SPS = sweeps/sec (radar)

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
DK2OM	1812,0	vt	vd	12	POL		A3E			Polish "PIP" – 10 tones – navigation system - North-Poland – Baltic coast - POL Navy – legal operation (ITU footnote)
DK2OM	1861,8	2300	30	12	F		PSK8	2400	2400	MIL-188-110B – 3200 bps short – area of Nantes
DK2OM	3498,0	2000	12	12	I		USB			Italian pirate playing music, splattering up to 3501 kHz, location Rome
DK2OM	3500,0	0638	06	12	E		USB			Spanish fishery – also 13.12.2012 at 1850 utc
DK2OM	3500,0	0809	18	12						frequency hopper
DK2OM	**3500,2**	**2248**	**05**	**12**	**RUS**		**A3E**			**Russian intruders in AM – unstable carrier**
DK2OM	3500,5	2025	09	12	RUS	RCP	A1A			5 figure groups – RCP, RJ56 – RUS Navy
DK2OM	**3501,6**	**2126**	**26**	**12**	**CIS**		**A3E**			**CIS pirates, unstable carrier**
DK2OM	**3502,2**	**2132**	**30**	**12**	**CIS**		**A3E**			**CIS pirates, unstable carrier**
DK2OM	**3502,3**	**2304**	**27**	**12**	**CIS**		**A3E**			**CIS pirates, unstable carrier**
DK2OM	**3502,5**	**2110**	**21**	**12**	**CIS**		**A3E**			**CIS pirates, unstable carrier**
DK2OM	3503,5	vt	dly	12	G	no ITU	FSK8	125	1750	ALE – "XSS" "XPU" – British MIL Tascomm
DK2OM	**3503,5**	**2113**	**26**	**12**	**CIS**		**A3E**			**CIS pirates, unstable carrier**
DK2OM	**3507,2**	**1926**	**27**	**12**	**CIS**		**A3E**			**CIS pirates, unstable carrier**
DK2OM	**3500.8**	**2248**	**27**	**12**	**CIS**		**A3E**			**CIS pirates, unstable carrier**
DK2OM	**3508,3**	**2020**	**26**	**12**	**CIS**		**A3E**			**CIS pirates, unstable carrier**
DK2OM	**3508,6**	**2017**	**26**	**12**	**CIS**		**A3E**			**CIS pirates, unstable carrier**
DK2OM	**3522,5**	**2013**	**26**	**12**	**CIS**		**A3E**			**CIS pirates, unstable carrier**
DK2OM	3523,6	0706	11	12			FSK8	125	1750	Thales 3000
DK2OM	3526,5	2255	04	12	I		F1B	300	850	system Clansman – daily, various times – area of Ravenna
DK2OM	3527,0	2257	04	12	RUS		F1B	50	200	Severomorsk – daily, often idle
DK2OM	**3529,6**	**2026**	**26**	**12**	**CIS**		**A3E**			**CIS pirates, unstable carrier**
DK2OM	3531,0	2000	26	12	UKR		PSK2A	120	2600	AT3004D – idle and traffic – pilottones on 3529.0 and 3532.3 kHz - Sevastopol
DK2OM	3532,0	2050	01	12	F		PSK4	75	2300	LINK11-CLEW on both sidebands (5800 Hz wide) – area of Brest
DK2OM	**3535,0**	**2240**	**27**	**12**	**CIS**		**A3E**			**CIS pirates, unstable carrier**
DK2OM	3543,0	1002	13	12	CHN		FMCW		37k	Chinese OTH radar – 43.5 sps – 3543.0 – 3580 kHz
DK2OM	3545,0	2018	23	12	E		USB			Spanish fishery – also 27.12. at 2035 utc
DK2OM	3545,0	2042	27	12						frequency hopper
DK2OM	3547,5	1827	22	12	RUS		F1B	50	200	Far East Russia
DK2OM	3548,0	1732	22	12	RUS		F1B	50	200	Severomorsk
DK2OM	**3548,7**	**2117**	**26**	**12**	**CIS**		**A3E**			**CIS pirates, unstable carrier**
DK2OM	3550,0	0600	dly	12	F		A3E			French amateurs not repsecting the bandplans
DK2OM	3550,0	2120	21	12	ALG		FSK8	125	1750	ALE, "IU50" "IU52" "FN50"
DK2OM	3550,8	2034	23	12	ISR		PSK4	75	2400	MIL-188-110A hybrid modem - daily

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
DK2OM	3553,8	ady	dly	12	TUR		PSK8	2400	2400	Stanag4285 – TUR MIL - Ankara
DK2OM	3555,5	2042	11	12	F		USB			French fishery, engine noise
DK2OM	**3556,5**	**2119**	**26**	**12**	**CIS**		**A3E**			**CIS pirates, unstable carrier**
DK2OM	3557,0	2022	28	12	BLR		F1B	75	250	North Belarus
DK2OM	3558,0	1847	03	12			FSK8	125	1750	ALE, “201” “206”
DK2OM	**3558,5**	**2121**	**26**	**12**	**CIS**		**A3E**			**CIS pirates, unstable carrier**
DK2OM	3560,0	1810	03	12	POR		USB			Portuguese fishery
DK2OM	3561,0	2130	30	12	RUS		F1B	75	250	Kaliningrad
DK2OM	3567,5	2110	22	12	RUS		PSK2A	120	2600	AT3004D – traffic and submode idle - Kaliningrad
DK2OM	3569,0	1929	27	12	I		LSB			Italian male persons
DK2OM	3570,0	2044	04	12	RUS		PSK2A	120	2600	AT3004D – Kaliningrad
DK2OM	**3570,8**	**2028**	**26**	**12**	**CIS**		**A3E**			**CIS pirates, unstable carrier**
DK2OM	3571,0	1714	14	12	BLR		PSK4B	120	2600	AT3104D – west of Minsk
DK2OM	3574,5	2058	11	12	UKR		PSK2A	120	2600	AT3004D - Sevastopol
DK2OM	3582,0	1419	12	12	RUS		PSK2A	120	2600	AT3004D – modem, submode idle and traffic – area of St. Peterburg
DK2OM	3585,0	1700	dly	12	TWN	HLL	F1C			120 rpm, IOC 576, Wxfax - legal!
DK2OM	3593,7	2030	11	12	UKR	D	A1A			Cluster beacon – Sevastopol RUS Navy – **“RCV”**
DK2OM	3593,8	2031	11	12	RUS	P	A1A			Cluster beacon – Kaliningrad RUS Navy – **“RMP”**
DK2OM	3593,9	2032	11	12	RUS	S	A1A			Cluster beacon – Severomorsk RUS Navy – **„RIT“**
DK2OM	3594,0	2032	11	12	RUS	C	A1A			Cluster beacon - Moscow RUS Navy - **“RIW”**
DK2OM	3594,2	2034	20	12	RUS	F	A1A			Cluster beacon - Vladivostok RUS Navy - **“RJS”**
DK2OM	3595,0	vt	dly	12	D	no ITU	FSK8	125	1750	ALE, „ZLST“ „ZPRI“ „ZSHO“ „ZBOR“ „ZEMD“ „ ZHEL“ „ZKNI“ „ZBOR“ „BPLEZS“ German customs – North-Germany
DK2OM	3603,0	1839	02	12	CIS		F1B	40.5	200	system Frost1
DK2OM	3606,0	1816	29	12	CIS		F1B	50	250	
DK2OM	3606,5	1617	31	12	BLR		PSK4	120	2600	AT3104D – area of Minsk
DK2OM	3608,0	2028	20	12						frequency hopper
DK2OM	3610,0	vt	dly	12	D		PSK8	200	500	German APRS Net in Robust Packet - just for info!
DK2OM	**3614,0**	**2232**	**29**	**12**	**CIS**		**A3E**			**CIS pirates, unstable carrier**
DK2OM	3617,0	vt	dly	12	HRV	9A5EX	FSK8	125	1750	ALE, “9A5EX1P” – HAM-ALE - just for info
DK2OM	3622,5	1800	dly	12	J	JMH	F1C			Tokyo Meteo – 120 rpm – IOC576 – daily, legal!!!
DK2OM	3710,2	0650	06	12	F		PSK4	75	2300	LINK11-CLEW – French south-coast
DK2OM	3740,0	1838	02	12	RUS		PSK2A	120	2600	AT3004D - Kaliningrad
DK2OM	**3740,0**	**1845**	**04**	**12**	**RUS**		**FMCW**		**60k**	**OTH radar 3520 – 3580 kHz – 43.5 sps – Makhachkala Caspian Sea**
DK2OM	3756,0	ady	dly	12	UKR		A3E			UKR – pip – 10 tones – navigation system
DK2OM	3772,8	ady	dly	12	BEL		PSK8	2400	2400	Stanag4285 – 600 bps long – Antwerpen - daily
DK2OM	3782,0	ady	dly	12	POR	CTP	F1B	75	850	POR Navy headquarter Lisbon
DK2OM	7000,0	ady	dly	12	INS		U/LSB			Indonesian pirates in USB and LSB – every evening audible in Europe – at 1000 utc audible in West Canada
DK2OM	**7000,0**	**1515**	**02**	**12**	**F**		**FMCW**		**20k**	**French burst radar, 6 sps, similar Codar, South France – same as 14000 - every 15 min, daily.**
DK2OM	7000,0	0840	09	12	CHN		FSK PSK		6000	Chinese hybrid modem

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
DK2OM	7000,0	1518	02	12						frequency hopper
DK2OM	7000,0	1806	19	12			USB			unid male persons singing and whistling
DK2OM	**7000,0**	**1843**	**19**	**12**	**UKR**	**D**	**A1A**			**Cluster beacon – Sevastopol RUS Navy – "RCV" - spurious**
DK2OM	7001,5	1810	05	12	ALG		PSK4	62.5	1750	Clover2000 – South Algeria
DK2OM	7002,0	1703	20	12	UKR		PSK2	120	2600	AT3004D – submode idle - area of Donetsk
DK2OM	7010,0	1526	04	12	RUS		PSK2A	120	2600	AT3004D - Moscow
DK2OM	7010,0	2040	23	12	CHN		FMCW		150k	Chinese OTH Radar – 43.5 sps – 6860 – 7010 kHz – audible in Germany and whole Europe
DK2OM	**7018,0**	**vt**	**dly**	**12**	**RUS**	**REA4**	**F1B**	**150**	**500/ 1000**	**most of the time idle – Russian airforce Moscow – daily, all day – even audible in Japan and Australia**
DK2OM	**7018,5**	**1940**	**dly**	**12**	**RUS**	**REA4**	**A1A**			**ident in A1A 1540 and 1940 utc - "REA4" = RUS airforce Moscow - 7018.5 = mark QRG!**
DK2OM	**7020,0**	**1752**	**27**	**12**	**FEa**	**Lima Zero**	**LSB**			**Far East net in Italian and Indonesian language, not audible in Europe – only via remote Japan, Australia and California (USA) and South Africa – daily!**
DK2OM	7025,0	1407	01	12	RUS		F1B	50	200	Severomorsk – daily
DK2OM	**7033,1**	**1837**	**19**	**12**	**UKR**	**D**	**A1A**			**Cluster beacon – Sevastopol RUS Navy – "RCV" - spurious**
DK2OM	**7033,4**	**1838**	**19**	**12**	**UKR**	**D**	**A1A**			**Cluster beacon – Sevastopol RUS Navy – "RCV" – spurious – 1320 Hz increments**
DK2OM	**7034,7**	**1838**	**19**	**12**	**UKR**	**D**	**A1A**			**Cluster beacon – Sevastopol RUS Navy – "RCV" - spurious**
DK2OM	7035,0	1030	23	12	CHN		FMCW		68k	Chinese OTH radar – 43.5 sps – 7035 – 7103 kHz
DK2OM	**7038,7**	**ady**	**dly**	**12**	**UKR**	**D**	**A1A**			**Cluster beacon – Sevastopol RUS Navy – "RCV"**
DK2OM	7038,8	ady	dly	12	RUS	P	A1A			Cluster beacon – Kaliningrad RUS Navy – **"RMP"**
DK2OM	7038,9	ady	dly	12	RUS	S	A1A			Cluster beacon – Severomorsk RUS Navy – **„RIT"**
DK2OM	7039,0	ady	dly	12	RUS	C	A1A			Cluster beacon - Moscow RUS Navy - **"RIW"**
DK2OM	7039,1	ady	dly	12	KGZ	A	A1A			Cluster beacon – Bishkek RUS Navy – **"RJH25"**
DK2OM	7039,2	ady	dly	12	RUS	F	A1A			Cluster beacon - Vladivostok RUS Navy - **"RJS"**
DK2OM	7039,3	ady	dly	12	RUS	K	A1A			Cluster beacon - Petropavlovsk Kamchatskiy - RUS Navy - Pacific fleet - **"RCC"**
DK2OM	7039,4	ady	dly	12	RUS	M	A1A			Cluster beacon – Magadan RUS Navy – **„RTS"**
DK2OM	7040,0	0835	09	12	CHN		FMCW		65k	Chinese OTH radar – 43.5 sps – 7040 – 7105 kHz – also audible in California
DK2OM	7040,0	1857	16	12	F	F6BAZ	FSK8	125	1750	ALE, "F6BAZ" – just for info
DK2OM	**7040,0**	**1844**	**19**	**12**	**UKR**	**D**	**A1A**			**Cluster beacon – Sevastopol RUS Navy – "RCV" - spurious**
DK2OM	7040,5	0716	24	12	HRV		FSK8	125	1750	ALE, "9A5EX" – just for info
DK2OM	**7041,3**	**1845**	**19**	**12**	**UKR**	**D**	**A1A**			**Cluster beacon – Sevastopol RUS Navy – "RCV" - spurious**
DK2OM	7042,0	2022	07	12	CHN		FMCW		140k	Chinese OTH Radar – 43.5 sps – 6900 – 7040 kHz
DK2OM	7042,0	1738	17	12	RUS		PSK2	120	2600	AT3004D – submode idle and traffic – west of Bryansk
DK2OM	**7042,7**	**1846**	**19**	**12**	**UKR**	**D**	**A1A**			**Cluster beacon – Sevastopol RUS Navy – "RCV" - spurious**
DK2OM	7043,0	1014	22	12	CHN		FMCW		28k	Chinese OTH radar – 43.5 sps –

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
										7043 – 7071 kHz – 7080 kHz
DK2OM	**7044,0**	**1848**	**19**	**12**	**UKR**	**D**	**A1A**			**Cluster beacon – Sevastopol RUS Navy – "RCV" - spurious**
DK2OM	**7045,3**	**1849**	**19**	**12**	**UKR**	**D**	**A1A**			**Cluster beacon – Sevastopol RUS Navy – "RCV" - spurious**
DK2OM	**7046,6**	**1850**	**19**	**12**	**UKR**	**D**	**A1A**			**Cluster beacon – Sevastopol RUS Navy – "RCV" - spurious**
DK2OM	**7047,9**	**1852**	**19**	**12**	**UKR**	**D**	**A1A**			**Cluster beacon – Sevastopol RUS Navy – "RCV" - spurious**
DK2OM	7049,5	1422	02	12	F	F4BXW	FSK8	1250	1750	Amateur ALE, just for info!
DK2OM	7051,0	1831	20	12	CHN		FMCW		10k	Chinese OTHR – 47.6 sps - bursts of 10 sec length - 7046 – 7056 kHz, audible in West Canada, Japan and Europe
DK2OM	7055,5	2134	27	12			FSK8	125	1750	ALE, "168" "145"
DK2OM	7070,0	ady	vt	12	GEO	no ITU	FSK8	125	1750	ALE, "MV" "244" "334"
DK2OM	7071,5	2058	24	12						???
DK2OM	7089,8	2020	05	12	TUR		PSK8	2400	2400	Link11 - SLEW – aircraft – Aegean Sea, Turkish NW coast
DK2OM	7095,0	2301	12	12			FSK8	125	1750	ALE, "SFS" "JRB"
DK2OM	7099,5	1422	10	12	HRV	9A0ZG	FSK8	125	1750	ALE, "9A0ZG" – just for info!
DK2OM	7105,0	1940	05	12	TWN CHN		A3E			Sound of Hope – Taiwan and Chinese music jammer - daily
DK2OM	7105,0	2020	24	12	TUN		A3E			RTV Tunisia - intermodulation
DK2OM	7110,0	1448	02	12	BRM		A3E		9k	Radio Myanmar
DK2OM	7110,0	1840	20	12	CHN		FMCW		38k	Chinese OTHR – 43.5 sps - 7110 – 7148 kHz – even audible in West Canada
DK2OM	7113,0	2255	16	12	RUS		PSK2A	120	2600	AT3004D – east of Moscow
DK2OM	7119,0	2236	15	12	RUS		PSK2	120	2600	AT3004D – Far East-Russia
DK2OM	7120,0	1511	02	12	SOM		A3E		9k	Radio Hargaysa Somalia, daily
DK2OM	7127,0	0944	05	12	CHN		FMCW		33k	Chinese OTH Radar – 43.5 sps – 7127 – 7160 kHz
DK2OM	7130,0	1011	04	12	CHN		FMCW		10k	Chinese OTH Radar – 43.5 sps – 7130 – 7160 kHz
DK2OM	7155,0	1350	20	12	UKR		PSK2	120	2600	AT3004D – Sevastopol
DK2OM	7158,0	1639	13	12	CHN		FMCW		10k	47.6 sps – 2.6 sec bursts every 30 sec – even audible in Japan (strong), Ausralia, California and Vancouver
DK2OM	7162,0	1222	10	12	RUS		F1B	75	250	Kaliningrad
DK2OM	7165,0	1640	13	12	ETH ERI		A3E		9k	Radio Ethiopia disturbing Radio Eritrea by white noise
DK2OM	7175,0	1450	09	12	ETH ERI		A3E		9k	Radio Ethiopia disturbing Radio Eritrea by white noise
DK2OM	7185,0	1512	15	12	ERI ETH		A3E			Radio Ethiopia disturbing Radio Eritrea by white noise - daily
DK2OM	7186,0	1008	20	12	RUS		PSK2A	120	2600	AT3004D – Severomorsk
DK2OM	7188,5	1446	21	12			PSK4?	50	1000	OFDM24
DK2OM	7190,0	1513	02	12	ERI ETH		A3E		9k	Radio Ethiopia disturbing Radio Eritrea by white noise
DK2OM	7197,0	0656	06	12	GEO		PSK2	120	2600	AT3004D – area of Georgia
DK2OM	7198,0	1930	14	12	RUS		PSK2	120	2600	AT3004D – submode idle - Smolensk
DK2OM	7201,0	0840	29	12	RUS		PSK2A	120	2600	AT3004D – 7199.7 – 7202.3 kHz – traffic and modem idle - Kaliningrad
DK2OM	10112,0	ady	dly	12	TUR		PSK8	2400	2400	Stanag4285 – 600 bps long – TUR MIL - Izmir
DK2OM	10114,8	0717	21	12	RUS		F1B	100	1000	CIS14 – Penza - daily
DK2OM	10120,0	1630	05	12	CYP		FMCW		20k	OTH Radar Cyprus – 50 sps
DK2OM	10124,0	0828	25	12			FSK8	125	1750	ALE, "CM1" "CTF" "ECM"
DK2OM	10125,0	0812	25	12	GEO		PSK2A	120	2600	AT3004D – area of Georgia
DK2OM	10126,1	1753	28	12	FEa		USB			unid pirates, Far East language
DK2OM	10130,0	vt	dly	12	USA		F1B	50	850	USA - Maine
DK2OM	10130,0	1453	08	12	TUR		FMCW		20k	OTH Radar Ankara – 50 sps
DK2OM	10135,0	1510	05	12	CYP		FMCW		20k	OTH Radar Cyprus – 50 sps
DK2OM	10145,0	1700	31	12	CYP		FMCW		20k	OTH Radar Cyprus – 50 sps

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
DK2OM	13999,0	1630	21	12	CAf		USB			unid male persons – tribal language - CentralAfrica splattering up
DK2OM	**14000,0**	**1145**	**08**	**12**	**F**		**FMCW**		**20k**	**French burst radar, 6 sps, similar Codar, South France – same as 7000 – every 15 min, daily.**
DK2OM	14000,0	0748	05	12	CHN		FSK PSK		6k	Chinese hybrid modem, Central China
DK2OM	14000,0	2229	15	12	FEa		USB			Far East pirates
DK2OM	14000,0	1439	16	12	ISR		A3E			BC - KOL Israel – German PTT informed
DK2OM	14000,0	1008	26	12	INS		USB			Indonesian pirates
DK2OM	14000,3	1224	13	12	RUS		PSK2A	120	2600	AT3004D – overdriven signal from 13997.7 – 14000.3 kHz – NE of Moscow
DK2OM	14036,0	ady	dly	12	RUS	REA4	F1B	150	2000	harmonic from F1B on 7018 Hz, RUS airforce - Moscow - daily
DK2OM	14052,0	0801	12	12	RUS		PSK2A	120	2600	AT3004D - Kirov
DK2OM	14075,0	ady	dly	12	IND		FMCW		50k	Codar ocean surface radar – 14075 – 14125 kHz - 2 sps – North-East India – also audible in Sri Lanka
DK2OM	14080,0	1448	23	12						frequency hopper
DK2OM	14080,0	1530	20	12	MEa		F3E A3E		30k	defective BC partly AM and FM 14080 - 14110
DK2OM	14086,0	1008	13	12	RUS		PSK2A	120	2600	AT3004D – east of Smolensk – also 24.12.2012 at 0922 utc
DK2OM	14090,0	1450	23	12						frequency hopper
DK2OM	14118,0	0803	12	12	RUS		PSK2A	120	2600	AT3004D - Modcow
DK2OM	14141,0	1022	04	12	RUS		F1B	75	500	Moscow
DK2OM	14230,0	0931	27	12	RUS		FMCW		100k	OTH radar RUS – 43.5 sps - area of Ossetia — long lasting – 14180 – 14280 kHz !
DK2OM	14295,1	ady	dly	12	TJK		A3E			3rd from Radio Tajik on 4765 kHz
DK2OM	14308,0	0909	29	12	RUS		F1B	75	500	Tver
DK2OM	14344,6	vt	dly	12	CHN		PSK8	2400	2400	MIL-188-110A variant – daily, 600 bps short - various times
DK2OM	14346,0	0729	06	12	RUS		F1B	75	250	area of Chabarovsk
DK2OM	14348,0	1439	25	12						frequency hopper
DK2OM	18107,0	vt	vd	12	RUS		F1B	50	200	RUS MIL Moscow
DK2OM	21000,0	vt	dly	12	SDN		USB			SDN MFA calling emba Yemen for Pactor 1 traffic , whistling male persons
DK2OM	21000,0	0830	09	12	FEa		USB			Far East pirates
DK2OM	21000,0	0830	30	12	CHN		noise		6k	Chinese signals
DK2OM	21000,0	0820	30	12			LSB			unid pirates, 180 deg. from DL, engine noise
DK2OM	**21000,0**	**1700**	**30**	**12**	**F**		**FMCW**		**20k**	**French burst radar, 6 sps, similar Codar, South France – same as 14000 - every 15 min, daily.**
DK2OM	21002,1	vt	dly	12	SDN		F1B	100	170	Pactor 1 encrypted – MFA Sudan – Khartoum with emba Yemen
DK2OM	21003,5	1506	18	12	CUB		F1B	600	600	DPRK-FSK 600 – North Korean emba. Cuba with diplo traffic
DK2OM	**21005,0**	**0815**	**18**	**12**	**IRN**		**A3E**			**BC, spurious from Radio Tehran on 21500 kHz**
DK2OM	21010,0	0830	05	12	TUR		FMCW		20k	OTH Radar north-west Turkey – 50 sps
DK2OM	21010,0	1037	29	12	CYP		FMCW		20k	OTH Radar Cyprus – 50 sps
DK2OM	21036,0	0907	06	12	RUS		F1B	75	500	2nd from10518 kHz -Samara
DK2OM	21059,1	0755	19	12		N	A1A			unid beacon "N" – 21059.059
DK2OM	**21060,0**	**0814**	**18**	**12**	**IRN**		**A3E**			**BC, spurious from Radio Tehran on 21500 kHz**
DK2OM	21061,1	0755	19	12		N	A1A			unid beacon "N" – 21061.143
DK2OM	21069,0	1123	26	12						frequency hopper

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
DK2OM	21100,0	1015	04	12	FEa		USB			Far East pirates
DK2OM	21100,0	1045	11	12	RUS		F1B	45.5	2000	4th from 5275 kHz – area of Moscow - daily
DK2OM	21103,0	0952	21	12						frequency hopper
DK2OM	21110,0	1200	23	12	CYP		FMCW		20k	OTH Radar Cyprus – 50 sps
DK2OM	**21115,0**	**0814**	**18**	**12**	**IRN**		**A3E**			**BC, spurious from Radio Tehran on 21500 kHz**
DK2OM	21130,0	1217	25	12	TUR		FMCW		20k	OTH Radar NW-Turkey – 50 sps
DK2OM	21145,0	vt	dly	12	MRC		FSK8	125	1750	ALE, "B301", "C3", "IR4" "T4" "E4" "A2" "CD" "K3"
DK2OM	**21170,0**	**0815**	**18**	**12**	**IRN**		**A3E**			**BC, spurious from Radio Tehran on 21500 kHz**
DK2OM	21192,0	0935	30	12	RUS		F1B	50	1000	4th from 5298 kHz – dirty signal
DK2OM	**21225,0**	**0810**	**15**	**12**	**IRN**		**A3E**			**BC, spurious from Radio Tehran on 21500 kHz**
DK2OM	**21280,0**	**0810**	**15**	**12**	**IRN**		**A3E**			**BC, spurious from Radio Tehran on 21500 kHz**
DK2OM	21289,0	0720	17	12	AUS		FMCW		10k	Australian OTH radar "JORN" – various sweeprates as usual
DK2OM	21290,0	0920	30	12	TUR		FMCW		20k	OTH Radar NW-Turkey – 50 sps
DK2OM	21300,0	1041	11	12	RUS		F1B	100	2000	harmonic from 5325 kHz (500 Hz shift) – area of Moscow - daily
DK2OM	21312,0	0723	17	12	CHN		FMCW		10k	Chinese OTH Radar – 66.66 sps
DK2OM	21320,0	1029	19	12	TUR		FMCW		20k	OTH Radar NW-Turkey – 50 sps
DK2OM	**21335,0**	**0810**	**15**	**12**	**IRN**		**A3E**			**BC, spurious from Radio Tehran on 21500 kHz**
DK2OM	21375,0	1436	24	12						frequency hopper
DK2OM	**21390,0**	**0810**	**15**	**12**	**IRN**		**A3E**			**BC, spurious from Radio Tehran on 21500 kHz**
DK2OM	21400,0	0758	06	12	RUS		F1B	50	2000	harmonic from 5350 kHz – area of Moscow - daily
DK2OM	21400,0	0850	18	12	TUR		FMCW		20k	OTH Radar NW-Turkey – 50 sps
DK2OM	**21404,2**	**1010**	**15**	**12**	**RUS**		**F3E**			**taxi net – area of Kaluga, daily, all day**
DK2OM	21430,0	0742	17	12	TUR		FMCW		20k	OTH Radar south-east Turkey – 50 sps
DK2OM	21433,3	0806	23	12	CHN		PSK4	75	2240	PRC4+4 – idle and traffic
DK2OM	21438,0	vt	dly	12	UKR	RCV	A1A			RIP90 de RCV - RUS Navy Sevastopol
DK2OM	21440,8	0830	14	12	AFG		PSK8	2400	2400	MIL-188-141B - daily
DK2OM	**21445,0**	**0810**	**15**	**12**			**A3E**			**BC, spurious from Radio Tehran on 21500 kHz – first time heard on Oct. 1st**
DK2OM	24895,0	0956	28	12						frequency hopper
DK2OM	25000,0	ady	dly	12	FIN		A3E			time signal Helsinki – just for info – carrier on 25000 – dots on 25001 and 24999
DK2OM	**28000,0**	**vt**	**dly**	**12**	**B**		**A3E**			**28000 – 28325 numerous Brazilian CBers**
DK2OM	**28000,0**	**vt**	**dly**	**12**	**CIS**		**F3E**			**28000 – 29700 numerous CIS taxi nets**
DK2OM	28000,0	1009	28	12						frequency hopper
DK2OM	28025,1	ady	dly	12			F1B	51	300	F1B bursts - west of Lisbon
DK2OM	28025,3	ady	dly	12			F1B	51	300	F1B bursts - west of Lisbon
DK2OM	28045,0	ady	dly	12	POR		F1B	51	320	F1B bursts - west of Lisbon
DK2OM	28100,0	ady	dly	12	POR		F1B	51	320	F1B bursts - 28100.010 kHz - west of Lisbon
DK2OM	28100,1	ady	dly	12	POR		F1B	51	320	F1B bursts - 28100.100 kHz - west of Lisbon
DK2OM	28100,2	ady	dly	12	POR		F1B	51	320	F1B bursts - 28100.160 kHz - west of Lisbon
DK2OM	28100,8	ady	dly	12	POR		F1B	51	320	F1B bursts - 28100.800 kHz - west of Lisbon
DK2OM	28102,0	ady	dly	12	POR		F1B	51	320	F1B bursts – 28102.000 kHz - west of Lisbon
DK2OM	28155,0	1454	18	12	RUS		F3E			taxi Moscow
DK2OM	28200,0	ady	dly	12	POR		F1B	51	320	F1B bursts - west of Lisbon

DK2OM	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/SP	DETAILS
DK2OM	28210,0	vt	dly	12	UKR		F3E			taxi - Dnepropetrovsk
DK2OM	28255,0	vt	dly	12	KAZ		F3E			taxi – Almaty
DK2OM	28275,0	1126	20	12	POR		F1B	51	270	F1B bursts – 28275.040 kHz - west of Lisbon
DK2OM	28285,0	vt	dly	12	RUS		F3E			taxi – Rostov na Donu
DK2OM	28305,0	vt	dly	12	RUS		F3E			taxi - Krasnodar
DK2OM	28390,0	vt	dly	12	RUS		F3E			taxi - Vladikavkaz
DK2OM	28825,0	vt	dly	12	UKR		F3E			taxi - Odessa
DK2OM	28895,0	vt	dly	12	RUS		F3E			taxi - Stavropol
DK2OM	28945,0	vt	dly	12	UKR		F3E			taxi - Donetsk
DK2OM	29055,0	vt	dly	12	RUS		F3E			taxi Stavropol
DK2OM	**29500,0**	**ady**	**dly**	**12**	**G**		**F1B**	**81.9**	**140**	**Datawell-buoy "Waverider" – area of Gibraltar**
DK2OM	**29525,0**	**ady**	**dly**	**12**	**MRC**		**F1B**	**81,9**	**140**	**Datawell-buoy "Waverider" – Moroccan Atlantic coast – area of Casablanca**

DG0JBJ, Mario, found 5 OTH radars on 10 m and 8 OTH radars on 20 m.

IRTS – Ireland – EI5DD (Steve)

KARS – Kuwait – 9K2RR (Faisal)

MRASZ – Hungary - HA7PL (Laci)

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH	DETAILS
MRASZ	3508,0	1912	31	12			USB			russian, male "55"
MRASZ	3526,0	1955	30	12			N0N			strong, + 40 dB
MRASZ	3526,0	1911	31	12			N0N			strong, + 40 dB
MRASZ	3553,0	1531	2	12			LSB			russian, female
MRASZ	3560,0	2025	24	12			USB			russian, male/female
MRASZ	3560,0	1938	25	12			USB			russian, male/female
MRASZ	3569,0	1745	20	12			LSB			greek?, male
MRASZ	7000,0	1810	11	12	ITA		LSB			italian male: „hallo 1 2 3 prova"
MRASZ	7000,0	1753	22	12	UKR	D	A1A			beacon "D"
MRASZ	7002,0	1720	20	12	RUS	UiMUX	UiMUX			AT3004D
MRASZ	7005,0	1337	16	12	ITA		LSB			italian male: "prova prova"
MRASZ	7018,0	1609	1	12	RUS	REA4	F1B		1000	
MRASZ	7025,0	1353	2	12		Ui	F1B		200	
MRASZ	7025,0	1207	23	12		Ui	F1B		200	
MRASZ	7025,0	0804	24	12		Ui	F1B		200	
MRASZ	7025,0	0810	26	12		Ui	F1B		200	
MRASZ	7038,7	1850	19	12	UKR	D	A1A			also on more freq's 1,4 kHz step
MRASZ	7038,7	1710	20	12	UKR	D	A1A			beacon "D" + 14 more freq's
MRASZ	7038,7	1837	23	12	UKR	D	A1A			beacon "D", on more freq's
MRASZ	7038,7	0805	24	12	UKR	D	A1A			7030,0-7046,0 by 1,4 kHz step
MRASZ	7038,7	1415	25	12	UKR	D	A1A			beacon "D"
MRASZ	7038,8	1558	1	12	RUS	P	A1A			beacon "P"
MRASZ	7038,9	1548	9	12	RUS	S	A1A			beacon "S"
MRASZ	7039,0	1819	3	12	RUS	C	A1A			beacon "C"
MRASZ	7039,1	1918	3	12	KGZ	A	A1A			beacon „A"
MRASZ	7039,3	1920	18	12	RUS	K	A1A			beacon „K"
MRASZ	7039,3	0809	26	12	RUS	K	A1A			beacon „K"
MRASZ	7046,0	1828	20	12			OTHR			7046-7066 kHz
MRASZ	7088,0	1919	18	12		Ui	A3E			UiBC
MRASZ	7102,0	2042	6	12			A1A			"RJP70"
MRASZ	7105,0	2041	6	12			A3E			UiBC

MRASZ	7105,0	1918	18	12		Ui	A3E			UiBC weak
MRASZ	7105,0	1808	29	12			N0N			
MRASZ	7120,0	1837	3	12	SOM		A3E			BC, Radio Hargeisa
MRASZ	7120,0	1834	4	12	SOM		A3E			BC, Radio Hargeisa
MRASZ	7125,0	2040	6	12			A3E			UiBC
MRASZ	7130,0	1748	17	12		Ui	A3E			UiBC
MRASZ	7165,0	1807	29	12		Ui	A3E			UiBC
MRASZ	7170,0	2039	6	12			A3E			Ui. BC
MRASZ	7170,0	1857	20	12			A3E			Ui. BC
MRASZ	7175,0	1750	17	12		Ui	A3E			Ui language
MRASZ	7175,0	1730	20	12		Ui	A3E			Ui language
MRASZ	7175,0	1811	22	12		Ui	A3E			Ui language
MRASZ	7186,0	1730	20	12	RZS	UiMUX				AT3004D
MRASZ	7186,0	1920	31	12	RUS	UiMUX				AT3004D
MRASZ	7190,0	1813	22	12		Ui	A3E			7190-7200 dist. by 7210 kHz BC
MRASZ	10120,0	1518	2	12			OTHR			1012-10150 kHz
MRASZ	10130,0	1521	1	12			OTHR			10130-10150 kHz
MRASZ	14000,0	1435	25	12			N0N			Strong
MRASZ	18068,0	1445	1	12			OTHR			18068-18168 kHz
MRASZ	18068,0	1205	23	12			OTHR			18068-18090 kHz

OEVSV – Austria – OE3GSA (Gerd)

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	DETAILS
oevsv	7000	0620	24	12		D	A1A	beacon
oevsv	7120	1725	22	12			A3E	Radio Hargeisha
oevsv	7120	1820	18	20			A3E	BC, music
oevsv	7175	1730	22	12		unid	A3E	BC, arabic male speaker
oevsv	14295	0735	24	12		unid	A3E	BC, male & female speaker
oevsv	14296.1	0600	26	12		unid	A3E	BC
oevsv	14295.2	0600	27	12	TJK		A3E	Radio Tadj. , info PTT

PZK – Poland – SP3UZ (Wladyslaw)

REP – Portugal – CT4AN (Jose Francisco)

SOC	KHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH	DETAILS
REP	3500	16.05	5	12	E		J3E-U			Spanish fishermen
REP	3505	19.44	12	12	E		J3E-U			Fishermen on sea
REP	3505	20.15	23	12			J3E-U			Russian voices
REP	3506	19.57	30	12		ni	3K00 H2B			Unid ALE call
REP	3522	07.24	20	12		ni	Pulse			
REP	3535	09.10	31	12	E		J3R-U			Fishermen
REP	3535	06.35	31	12	E		J3E-L			Spanish fishery at sea
REP	3545	19.06	26	12		ni	J3E-L			Unid arabic language ops
REP	3555,5	17.43	12	12	F		J3E-U			French speaking fishermen
REP	3575	19.40	17	12	E		J3E-U			Spanish fishery
REP	3595	22.12	05	12		D	A1A			
REP	3625	07.33	25	12	E POR		J3E-U			Spanish and Portuguese fishermen
REP	3630	11.09	7	12	E		J3E-U			Spanish fishermen, galician dialect
REP	3635	22.38	16	12		ni	J3E-U			Arabic language
REP	7000	19.00	11	12		V	A1A			Marker
REP	7000	21.07	31	12	E		J3E-U			“outbander” spanish ops
REP	7002,5	23.11	19	12		ni	J3E-L			Magreb talkings
REP	7015	22.44	04	12		ni	J3E-L			Arabic language
REP	7015	22.15	04	12	E		J3E-U			Spanish fishermen
REP	7023	12.59	20	12		ni	F1B	50	200	Idling unid sig
REP	7030	18.33	04	12	E		J3E-L			Spanish fishers
REP	7030	20.38	09	12	E		J3E-U			Fishermen

SOC	KHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH	DETAILS
REP	7038,6	07.26	22	12	RUS	S	A1A			MURMANSK, ADY, DLY
REP	7038,7	07.28	22	12	UKR	D	A1A			SEVASTOPOL, ADY, DLY
REP	7039,0	07.36	17	12	RUS	C	A1A			MOSCOW, ADY, DLY
REP	7039,1	19.11	20	12	RUS	A	A1A			VOLGOGRAD, ADY, DLY
REP	7070	14.35	06	12	POR I		J3E-L			**Music** and discuss btw Portuguese and Italian Hams because of freq. use rights
REP	7070	13.24	16	12	I		J3E-L			**Jammer**, rebroadcast italian FM station
REP	7070	19.18	18	12	I		J3E-L			**Jammer**, rebroadcast italian FM station
REP	7105	22.22	10	12	CHN		8k00 A3EGN			Chinese lang Broadcasting
REP	7105	22.09	30	12		ni	A3EGN			BC station asian language
REP	7120	17.50	16	12		ni	A3EGN			BC station arabic language
REP	10110	19.15	31	12		ni	A3E			Number (5 fig) Station
REP	10115	22.00	02	12	MLA		J3E-U			Malaysian fishers
REP	10130	18.20	30	12			FMCW			OTH radar
REP	10135	14.01	08	12		?	F1B	200	170	Not standard
REP	10144	10.35	1	12		ni	J3E-U			Unid fishermen arabic
REP	10150	16.47	15	12			FMCW		20k	OTH radar between .140 and .160
REP	14000	15.31	5	12			FMCW		30k	OTH radar 30kHz wide
REP	14015	08.33	09	12	E		J3E-U			Spanish fishermen
REP	14026	20.38	31	12		ni	J3EU			Unid language OM chat
REP	14100	07.04	09	12	E		J3E-U			Fishermen
REP	18070	12.51	20	12			FMCW		20k	OTHradar
REP	18070	12.40	31	12			FMCW			OTH radar
REP	18100	12.49	7	12			FMCW		20k	OTH radar from 18090,0 to 18110,0
REP	18160	10.43	29	12			FMCW		20k	OTH radar from .160 to .180
REP	21000	12.52	20	12		ni	J3E-U			Unid language ops
REP	21002	17.23	13	12		ni	J3E-U			Unid language OM ops
REP	21010	11.08	27	12		ni	J3E-L			Unid language oops, poss fishermen
REP	21020	11.30	29	12		ni	J3E-U			Unid language OM's
REP	21270	10.10	17	12			FMCW			OTH radar
REP	21290	10.45	29	12			FMCW			OTH radar
REP	21365	13.14	1	12			FMCW	`		OTH radar
REP	24930	13.11	16	12			FMCW		30k	OTH radar
REP	28000	15.05	8	12			J3E-U			South american spanish ops
REP	28015	09.01	12	12	RUS		F3E			Taxis in Moscow
REP	28015	16.59	17	12	B		A3E			Brazilian ops
REP	28025	16.58	17	12	B		A3E			Brazilian ops
REP	28035	17.30	13	12	B		A3E			Brazilian ops
REP	28055	09.05	12	12	RUS		F3E			Taxis
REP	28060	22.38	08	12	F		A3E			CB's
REP	28065	17.30	13	12	B		A3E			Brazilian ops
REP	28105	17.31	13	12	B		A3E			Brazilian ops, truckers
REP	28115	17.29	13	12	B		A3E			Brazilian ops
REP	28125	15.30	21	12	RUS		F3E			Taxis
REP	28135	10.12	28	12			F3E			Russian YL taxi dispatcher
REP	28145	15.35	21	12	RUS		F3E			Taxis
REP	28145	17.29	13	12	B		A3E			Brazilian ops
REP	28160	14.29	21	12	HRV		F3E			Radio-Taxis
REP	28305	17.31	13	12	B		A3E			Brazilian ops, mny stations
REP	28315	17.34	13	12	B		A3E			Brazilian ops, mny stations
REP	28378	15.22	20	12	RUS		F3E			Russian
REP	28460	17.07	12	12	B		F3E			Brazilian ops FM mode on SSB segmnt
REP	28500	10.12	17	12			FMCW			OTH radar
REP	28940	12.44	19	12	POR		A3E			Portuguese fishermen

SRAL – Finland – OH2BLU (Pekka)

Society	kHz	UTC	DD	MM	ITU	IDENT	MODE	BAUD	SHIFT	REMARKS
SRAL	7000,0	01155	28.	12	UKR	D	A1A			Sevastopol, spur.
SRAL	7001,0	0550	10.	12		UiMUX	J7D	12x120	12x200	
SRAL	7008,0	0630-1330	*	12	RUS	UiPTR	F1B		250	Days: 11. 12. 25.
SRAL	7012,0	0915-0940	5.	12		UiPTR	F1B		200/250	
SRAL	7014,0	0750	20.	12		UiMUX	J7D	12x120	12x200	
SRAL	7018,0	1000-1515	*	12	RUS	REA4	F1B		1000	Days: 1. 2. 3. 8. 11.-18. 21.-26. 31. Moscow
SRAL	7025,0	0330-2030	*	12	RUS	UiPTR	F1B		200	Days: 1. 2. 11. 12. 20.-29. - Severomorsk
SRAL	7038,7	h24	dly	12	UKR	D	A1A			Sevastopol
SRAL	7038,8	0400-2030	dly	12	RUS	P	A1A			Kaliningrad
SRAL	7038,9	0645-1700	dly	12	RUS	S	A1A			Severomorsk
SRAL	7039,0	0600-1400	*	12	RUS	C	A1A			Days: 5. 9. 12. 18. 19. 20. 26. Moscow
SRAL	7039,1	1415-1830	*	12	KGZ	A	A1A			Days: 8.-10. 19. 28. 30. Bishkek
SRAL	7042,0	1210-1510	17.	12		UiMUX	J7D	12x120	12x200	
SRAL	7047,0	1430-1500	1.	12		UiMUX	J7D	12x120	12x200	
SRAL	7054,0	1115-1145	9.	12		UiMUX	J7D	12x120	12x200	
SRAL	7098,0	0600-1430	*	12		UiPTR	F1B		200/250	Days: 1. 6. 9. 10.
SRAL	7110,0	1230-1500	1.-24.	12	MYA	R. Myanmar	A3E			
SRAL	7110,0	0045-0115	28. 29.	12		UiBC	A3E			
SRAL	7113,0	0630-1445	16. 17.	12		UiMUX	J7D	12x120	12x200	
SRAL	7116,75	1015-1320	14. 30.	12		UiPTR	F1A/N0N		250	MR 5BL
SRAL	7120,0	0330-0515	dly	12	SOM	R. Hargeisa	A3E			
SRAL	7120,0	1245-1400	dly	12	SOM	R. Hargeisa	A3E			
SRAL	7120,0	1450-1900	dly	12	SOM	R. Hargeisa	A3E			
SRAL	7122,0	0700-0800	25.	12		UiPTR	F1B		250	
SRAL	7142,0	0740	17.	12		UiPTR	F1B			
SRAL	7150,0	0700-0705	7.	12		196	R3E-u			Synth. voice
SRAL	7155,0	0510-1115	20.	12		UiMUX	J7D	12x120	12x200	
SRAL	7161,0	1155	12.	12		UiMUX	J7D	12x120	12x200	
SRAL	7162,0	1230-1300	10. 11,	12	RUS	UiPTR	F1B		250	Kaliningrad
SRAL	7162,0	1345	22.	12		UiMUX	J7D	12x120	12x200	Days: 5. 26.-28.
SRAL	7166,0	0755	12.	12		UiCW	A1A			MR 5F
SRAL	7175,0	0300-0600	dly	12	ERI	VoBME 2	A3E			jammed by ETH, QSY 7160 – 7190 kHz
SRAL	7175,0	1430-1800	dly	12	ERI	VoBME 2	A3E			QSY 7160 –7190 kHz, jammed by ETH until 1700,
SRAL	7175,0	1800-1930	29. 30.	12	ERI	VoBME 2	A3E			QSY 7160 –7190 kHz
SRAL	7176,0	0645-1300	10. 11.	12		UiPTR	F1B		200/250	
SRAL	7178,0	1100-1345	5.	12	RUS	UiMUX	J7D	12x120	12x200	

Society	kHz	UTC	DD	MM	ITU	IDENT	MODE	BAUD	SHIFT	REMARKS
SRAL	7186,0	0740-1415	*	12		UiMUX	J7D	12x120	12x200	Days: 21. 25. 30. 31. Ship
SRAL	7190,0	1300-1730	26.-29.	12		UiBC	A3E			
SRAL	7190,5	1330-1413/	26.	12		UiPTR	F1B		200	
SRAL	7193,0	0650-1330	*	12		UiPTR	F1B		200	Days: 9. 11. 15. 18.-20. 23.
SRAL	7198,0	1200-1300	14.	12		UiMUX	J7D	12x120	12x200	Smolensk
SRAL	7199,0	1030-1100	29.	12		UiPTR	F1B			
SRAL	7200,0	0230-0410	dly	12	SDN	R Sudan	A3E			
SRAL	7200,0	1300-1600	dly	12	SDN	R Sudan	A3E			
SRAL	7200,0	1900-2100	dly	12	SDN	R Sudan	A3E			
SRAL	14000,0	0700-1645	17.	12	ISR	Kol Israel	A3E			
SRAL	14000,0	0845-0945/	30	12		Ui Carriers	N0N x 8			Within – 46 to +27 Hz
SRAL	14198,0	1025	11.	12		UiPRT	F1B		250	
SRAL	14200,0	0915	11.	12		UiMUX	J7D	12x120	12x200	
SRAL	14295,2	0440-1330	dly	12	TJK	R Tojikiston	A3E			3f 4765,07 kHz, Yangiyul TX
SRAL	21 MHz	0720-1230	*	12		UiOTHR	FMCW			Days: 1. 3. 9. 18. 20. 27. 29. 30. 20kHz/50Hz

USKA – Switzerland – HB9CET (Peter)

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH (BW)	DETAILS
USKA	7000.0	1921	06	12		D	A1A			Beacon D (malfunction?)
USKA	7000.0	1008	10	12			A7x		~ 9k	unidentified curious AM signal°
USKA	7006.5	1053	31	12			F1B	50	200	
USKA	7008.0	0519	19	12			F1B	50	250	
USKA	7010.0	1539	04	12			J7D	12x120	2k6	PSK-2: CIS12 = AT3004D often
USKA	7018.0	1059	03	12	RUS	REA4	F1B	150	1k0	also F1A daily
USKA	7018.0	1937	31	12	RUS	REA4	F1B	100	1k0	daily
USKA	7025.0	2333	21	12		RDL	F1B	50	200	also F1A often
USKA	7030.0	0514	19	12			F1B	75	250	(later changing to 50Bd)
USKA	7030.0	0521	19	12			F1A		250	
USKA	7030.0	0529	19	12			F1B	50	250	
USKA	~7032.0 to ~7046.0	1658	23	12		D	A1A			Beacon D on many frequencies (malfunction)
USKA	7038.7	2138	26	12	RUS	D	A1A			Beacon D Sevastopol daily
USKA	7038.3	1918	06	12	RUS	K	A1A			Beacon K Petropavlovsk daily
USKA	7038.8	0953	03	12	RUS	P	A1A			Beacon P Kaliningrad daily
USKA	7038.9	0954	03	12	RUS	S	A1A			Beacon S Murmansk daily
USKA	7039.1	1917	06	12	RUS	A	A1A			Beacon A daily
USKA	7039.2	0957	03	12	RUS	F	A1A			Beacon F Vladivostok daily
USKA	7039.4	0958	03	12	RUS	M	A1A			Beacon M Magadan daily
USKA	7042.0	1556	17	12			J7D	12x120	2k6	PSK-2: CIS12 = AT3004D
USKA	7070.0	2205	04	12		820	MFSK8	125	1750	MIL 188-141A
USKA	7070.0	1534	12	12		571	MFSK8	125	1750	MIL 188-141A daily
USKA	7070.0	1758	12	12		244	MFSK8	125	1750	MIL 188-141A daily
USKA	7070.0	1950	12	12		MV	MFSK8	125	1750	MIL 188-141A daily
USKA	7070.0	1943	22	12		810202	MFSK8	125	1750	MIL 188-141A
USKA	7070.0	0036	23	12		820203	MFSK8	125	1750	MIL 188-141A
USKA	7101.0	1653	23	12			J7D	12x	2k6	CIS12 idling (13 carriers)
USKA	7113.0	2229	16	12			J7D	12x120	2k6	PSK-2: CIS12 = AT3004D
USKA	7119.0	2149	17	12			J7D	12x120	2k6	PSK-2: CIS12 = AT3004D
USKA	7120.0	1614	03	12	SOM		A3E			Radio Hargeisa daily
USKA	7122.0	2336	21	12			J7D	12x	2k6	CIS12 idling (13 carriers)

SOC	kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH (BW)	DETAILS
USKA	7158.0	1643	13	12			FMCW	47 sps	10k	OTHR BD 2.5s; BRI 30s
USKA	7170.0	1538	04	12			A3E			BC, jammed often
USKA	7170.0	1538	04	12			Noise		10 kHz	Jammer
USKA	7171.0	2051	14	12			OFDM52	75		
USKA	7175.0	1507	09	12			A3E			BC almost daily
USKA	7175.0	1507	09	12			Noise		10 kHz	Jammer often
USKA	7176.0	2328	28	12			J7D	12x	2k6	PSK-4: CIS12 = AT3104D
USKA	7180.0	1623	12	12			A3E			BC, jammed often
USKA	7180.0	1623	12	12			Noise		10 kHz	Jammer often
USKA	7185.0	1543	04	12			A3E			BC, jammed often
USKA	7185.0	1543	04	12			Noise		10 kHz	Jammer often
USKA	7186.0	1033	31	12			J7D	12x	2k6	CIS12 idling
USKA	7190.0	1635	27	12			A3E			BC, jammed often
USKA	7190.0	1635	27	12			Noise		10 kHz	Jammer often
USKA	7197.0	1505	09	12			J7D	12x	2k6	CIS12 idling (13 carriers)
USKA	7197.0	1442	23	12			J7D	12x	2k6	PSK-2: CIS12 = AT3004D
USKA	7198.0	2030	14	12			J7D	12x	2k6	CIS12 idling (13 carriers)
USKA	7200.0	1511	09	12			A3E			BC splattering down ~5 kHz daily
USKA	14000.0	0858	03	12			?		~ 25k	unidentified curious signal
USKA	14000.0	0921	04	12			AM?		~ 9k	unidentified curious AM signal; bearing approx 59° daily
USKA	14100.0	1612	12	12			FMCW	2 sps	50k	CODAR coastal radar often
USKA	14141.0	1535	04	12			F1B	75	500	often
USKA	14240.0	1216	22	12			F1B	50	250	
USKA	14295.2	0934	28	12			A3E			BC, Radio Tajikistan (3rd of 4765 kHz) daily
USKA	14344.65	2231	26	12			PSK-8	2400	2k4	MIL 188-110A Hybrid mod. often
USKA	18070.0	0921	12	12			FMCW	50 sps	20k	OTHR often
USKA	18165.0	1113	22	12			FMCW	50 sps	20k	OTHR
USKA	21000.0	0914	03	12			?		~ 30k	unidentified curious chirping signal ~20995-21025 kHz
USKA	21300.0	1048	03	12			F1B	100	2k0	4th from 5325 almost daily
USKA	21312.0	1059	12	12			F1B	75	500	
USKA	21316.0	0834	13	12			FMCW	47 sps	10k	OTHR BD 5.5s; BRI 28s
USKA	21410.0	1319	08	12			FMCW	50 sps	20k	OTHR often
USKA	21414.5	1123	12	12			OFDM16	75	~1k7	QPSK
USKA	28575.0	0942	28	12			F3E			Taxi almost daily
USKA	28645.0	0941	28	12			F3E			Taxi almost daily
USKA	28655.0	0940	28	12			F3E			Taxi almost daily
BD = Burst duration; BRI 0 Burst repetition intervall										

Veron 1 – Netherlands – PA2GRU (Dick)

SOC	kHz	UTC	DD	MM	ITU	IDENT	MO)DE	SHIFT	DETAILS
VERON	3557,0	16.33	28	12		UiPTR	F1B		Ptr
VERON	3577,0	14.58	16	12		UiPTR	F1B		Ptr
VERON	3606,0	18.16	5	12		UiPTR	F1B		Revs
VERON	7018,0	20.05	27	12	E	UiILL	J3e-u		Spanish, male voices
VERON	7018,5	20.41	3	12	RUS	REA4	A1A		REA4 = 03200 5F
VERON	7025,0	vt	vd	12		UiPTR	F1B		Revs/Ptr
VERON	7025,0	13.49	3	12	RUS	RDL	A1A		XXX RDL 69043 23460 LETONKA 3598
VERON	7038,7	18.03	29	12		C	A1A		Beacon Moscow
VERON	7038,7	vt	vd	12	UKR	D	A1A		D-beacon
VERON	7038,8	17.38	8	12	RUS	S	A1A		Beacon Severomorsk
VERON	7038,8	13.41	7	12	RUS	P	A1A		P-beacon (also at 14/12)
VERON	7038,9	vt	vd	12	RUS	S	A1A		S-beacon
VERON	7039,0	17.38	8	12	UKR	D	A1A		Beacon Sevastopol
VERON	7039,1	vt	vd	12	KGZ	A	A1A		A-beacon
VERON	7043,0	19.36	17	12	RUS	UiMUX	PSK2		AT3004D 12 MPSK
VERON	7098,0	08.56	6	12		UiPTR	F1B		Idling/Ptr
VERON	7105,0	22.29	29	12	CHN		A3A		Cninese px & music; s7
VERON	7105,0	15.19	6	12		UiCW	A1A		5F (words twice)
VERON	7120,0	18.48	13	12	SOM	Radio H	A3E		music and speech
VERON	7120,0	18.23	23	12	SOM	Radio H	A3E		music and speech

SOC	kHz	UTC	DD	MM	ITU	IDENT	MO)DE	SHIFT	DETAILS
VERON	7165,0	20.22	29	12					Frequency hopper
VERON	7169,0	09.07	11	12		UiPTR	F1B		Ptr
VERON	7175,0	17.55	8	12	ERI	VOBME	A3E		s6
VERON	10112,0	14.17	26	12	TUR		PSK8	2k4	Stanag system
VERON	14000,0	vt	vd	12	Israel	UiBC	A3E		Language Hebrew
VERON	14024,0	08.58	5	12		UiPTR	F1B		Ptr
VERON	14115,0	10.41	9	12	E	UiILL	J3e-u		Spanish, male voices
VERON	14141,0	13.36	4	12		UiPTR	F1B		Fast Ptr
VERON	14141,0	11.15	4	12		UiPTR	F1B	500	Ptr
VERON	14159,0	10.49	17	12		UiCAR	NON		carrier
VERON	14192,0	09.35	29	12		UiPTR	F1B		Revs
VERON	14280,0	10.17	12	12	RUS	UiILL	A3E		synth. Voice female-figures
VERON	14285,0	18.42	2	12	E	UiILL	J3e-u		Spanish, male voices
VERON	18095,0	13.04	7	12		OTHR	FMCW		radar, 18090-18110 KHz
VERON	18172,0	11.22	29	12		UiOTHR	FMCW		50pps; 40k spread; harmful in 17M band
VERON	20998,0	13.48	23	12		UiOTHR	FMCW		50pps; 24k spread; harmful in 15M band
VERON	21008,0	10.41	29	12		UiOTHR	FMCW		50pps; 25k spread
VERON	21288,0	11.27	29	12		UiOTHR	FMCW		50pps; 25k spread
VERON	21340,0	10.52	17	12		OTHR	FMCW		radar
VERON	21430,0	11.45	29	12		UiOTHR	FMCW		50pps; 26k spread

The monitoring team of IARU Region 1

Happy New Year to
all contributors and friends.

Many thanks for your interest!

credits:

Wavecom Elektronik – Buelach – Switzerland

SSB-Electronic – Iserlohn – Germany

BAZ – Special Antennas – Bad Bergzabern - Germany

FTS – Funktechnik Seipelt – Hoppegarten - Germany

German PTT (BNetzA = Federal Network Agency)

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