



### Monitoring System

Observe the screenshots and comments below!

Intruders from: **11 November 2019** - persistent or earlier: black – recent: blue

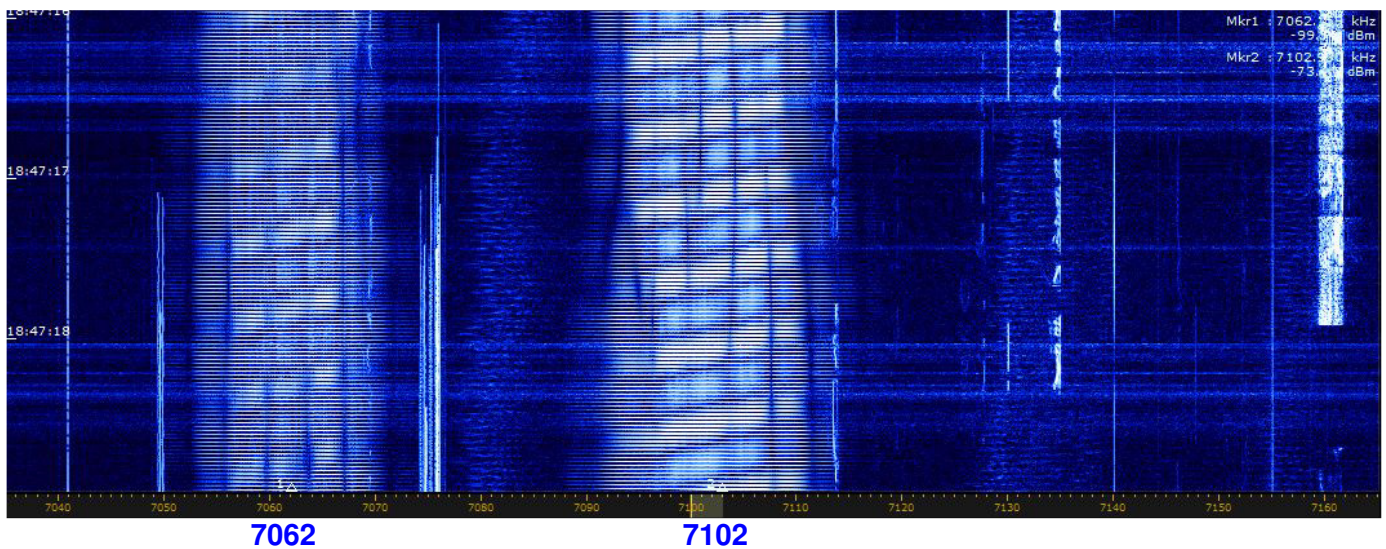
kHz	UTC	DATE	ITU	IDENT	MODE	BD	SH	DETAILS
3510.000	1600	dly	RUS		unid		3000	chirps – nw of Smolensk
3581.800	1800	dly	TUR		PSK8A	2400	2400	Stanag-4285 – Ankara – shared band!
5361.800	1930	01.10.19	DNK	OUA15	PSK8A	2400	2400	Danish navy – primary user!
7001.800	1050	07.11.19	F		PSK8A	2400	2400	Stanag-4285 – area of Marseille
7008.000	0919	06.11.19	RUS		F1B	75	250	Moscow
7039.200	ady	04.11.19	RUS	“F”	A1A			beacon „F“ - „RJS“ - Vladivostok
7039.300	ady	vd	RUS	“K”	A1A			beacon “K” – “RCC” – Petropav. Kam.
7039.400	ady	04.11.19	RUS	“M”	A1A			beacon “M” – “RTS” - Magadan
7051.000	1530	30.10.19	RUS	RDL	F1B	50	200	Kaliningrad, RUS navy
7087.000	1406	07.11.19	RUS		PSK2A	120	2600	AT3004D - Kaliningrad
7140.021	1630	dly	ERI		A3E/BC		9k	Radio Eritrea - daily
7146.000	1030	04.11.19	RUS		PSK2A	120	2600	AT3004D - Sevastopol
7159.000	1425	04.11.19	G		PSK4	75	5800	LINK11-CLEW-DSB – ship n. of Scotland
7180.021	1730	01.10.19	ERI		A3E/BC		9k	Radio Eritrea - daily
7190.000	1848	05.11.19	CHN		A3E		40k	China Radio Int. – on 7210 +/- 20 kHz
<b>7193.000</b>	<b>0855</b>	<b>11.11.19</b>	<b>RUS</b>	<b>RDL</b>	<b>F1B</b>	<b>50</b>	<b>200</b>	<b>Kaliningrad - RUS navy</b>
7196.000	1450	05.11.19	RUS	RIW	A1A			encrypted CW – RUS navy Moscow
14017.000	0853	08.11.19	CHN		FMOP		10k	CHN OTH radar – 67 sps – 14012 - 14022
14171.500	0855	08.11.19	CHN		FMOP		10k	CHN OTH radar – 67 sps – 14166 - 14176
14192.000	0955	07.08.19	RUS		F1B	50	200	RUS navy Kaliningrad
14201.700	0906	20.10.19	CHN		PSK2A	75	2290	PRC 16 tone modem
14212.000	1206	10.10.19	UKR		A3E			UKR female voice - “SZRU” – Rivne
14221.000	1945	11.09.19	KAZ		F1B	50	200	mostly idling – west of Almaty - daily
14259.000	0850	08.11.19	MNG		FMOP		40k	Mongolian OTHR - 10 sps – 14239 - 14279
14294.000	0747	06.11.19	RUS		PSK2A	120	2600	area of Novosibirsk
14295.128	ady	dly	TJK		A3E		9k	3 <sup>rd</sup> from Radio Tajik on 4765 kHz
14301.900	0907	23.10.19	RUS		OFDM	29.63	2750	OFDM 60 – PSK4B - Moscow
14308.000	0912	06.10.19	RUS		F1B	75		Moscow
<b>18080.000</b>	<b>0730</b>	<b>11.11.19</b>	<b>TWN</b>		<b>A3E</b>		<b>9k</b>	<b>Sound of Hope Taiwan + CHN jammer</b>
18107.000	0840	31.10.19	RUS	RDL	F1B	50	200	Moscow – RUS navy
21438.000	0926	06.11.19	RUS	RCV	A1A			RUS navy Sevastopol – RCV with QTCs
28000.000	0925	19.10.19	IRN		AMOP		45k	Iranian radar – 307 and 870 sps
28860.000	0840	31.10.19	IRN		AMOP		45k	Iranian radar – 150 and 313 sps

UTC = universal time coordinated (= GMT) /// **ady** = all day /// **vt** = various times /// **dly** = daily /// **vd** = various days  
**date** (dd.mm.yy) /// **IDENT** = call, selcall /// **MODE** -> USB, LSB, A3E = AM, F3E = FM, F1B = FSK / RTTY, PSK  
**ALE** = MIL-188-141A /// **NWAF** = North West Africa /// **con** = continuous /// **ITU** = ITU-abbreviation /// **BD** = Baud  
/// **SH** = shift (Hz) or signal spread /// **DETAILS** = observed details /// **unid (ui)** = unidentified /// **AF** = Airforce /// **MOI** = Ministry of Interior /// **MOD** = Ministry of Defense /// **MFA** = Ministry of Foreign Affairs /// **MEa** = Middle East /// **FEa** = Far East /// **EAF** = East Africa /// **CAf** = Central Africa /// **CIS** = Commonwealth of Independent States (earlier UDSSR) /// **NAf** = North Africa /// **NEu** = Northern Europe /// **PRC** = People’s Republic of China /// **emba** = embassy /// **DPRK** = Democratic People Republic of North Korea /// **NGO** = Non Governmental Organization /// **MOPO** = Ministry of Public Order /// **FSK** = frequency shift keying /// **PSK** = phase shift keying /// **EU** = Europe /// **SPS** = sweeps/sec = PRF -> OTH radar ///  
**OTHR** = OTH radar -> **FMCW** = frequency modulated continuous wave -> **FMOP** = freq. mod. on pulse

### Notice board:

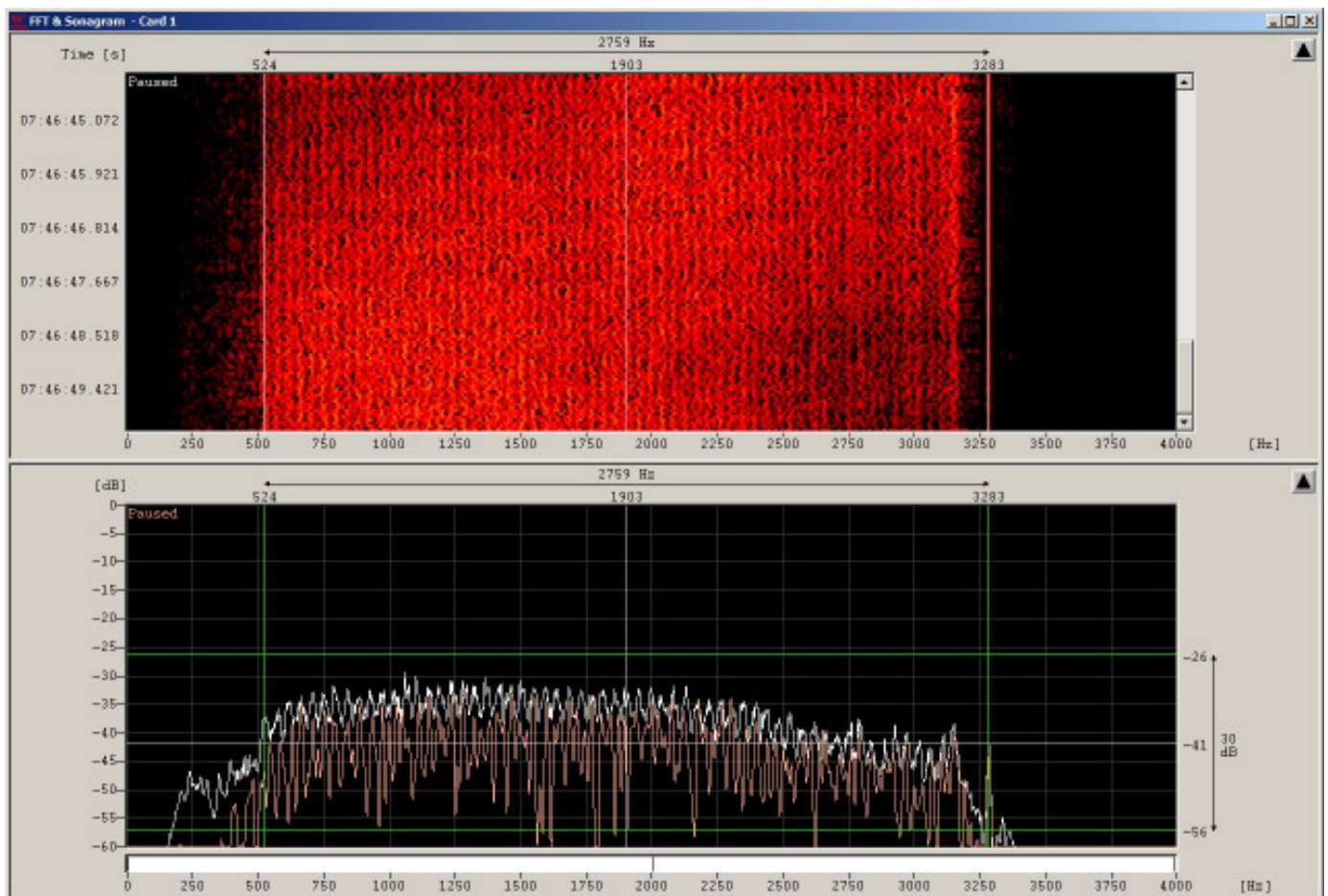
Please note: All digital mode frequencies are center frequencies. Exceptions are mentioned!  
**USB: 3500 - 3516 – 7000 – 7035 - 7070 - 10125 - Spanish fishery – FMOP: 5351.5 RUS radar “Sunflower”**  
**Illegal BCs: 7140 and 7180 -> Radio Eritrea ++ 18080 -> Sound of Hope (Taiwan) + CHN jammer**  
**Many fishnet buoys between 28000 and 28500 kHz (carrier + CW-ident) or GPS Enagal buoys**  
**28000 – 29700 – CIS taxi services on F3E (FM) – many Chinese and Russian OTH radars on 14 MHz**

**Russian OTH radar Contayner on 7062 and 7102 kHz at the same time  
FMOP - 40 sps – 12 kHz wide - location: west of Saransk – 21 October at 1848 utc**



**Russian OFDM 60 on 14300.0 kHz (RF / USB) – date: 03 October – time: 0824 utc  
parameters: OFDM60 – 60 x 29.63 Bd or 35.55 Bd – PSK4B or PSK8B – pilot tone -  
location: Moscow screenshot with Wavcom W-Code**

**soundfile: <http://www.iarums-r1.org/iarums/sound/ofdm60.wav>**



**Measurements and screenshots: DK2OM with W-Code (Wavcom), TDoA or Perseus**

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