




Monthly Newsletter - March 2025

- **Video feature:** click on the “play” red icons in the text or in the images of the Newsletter to watch the videos 

- **IARUMS Wiki:** find more information, screenshots, videos and recordings of the transmission modes most used by non-amateur stations on the amateur radio bands: <https://www.iaru-r1.org/spectrum/monitoring-system/iarums-wiki/>

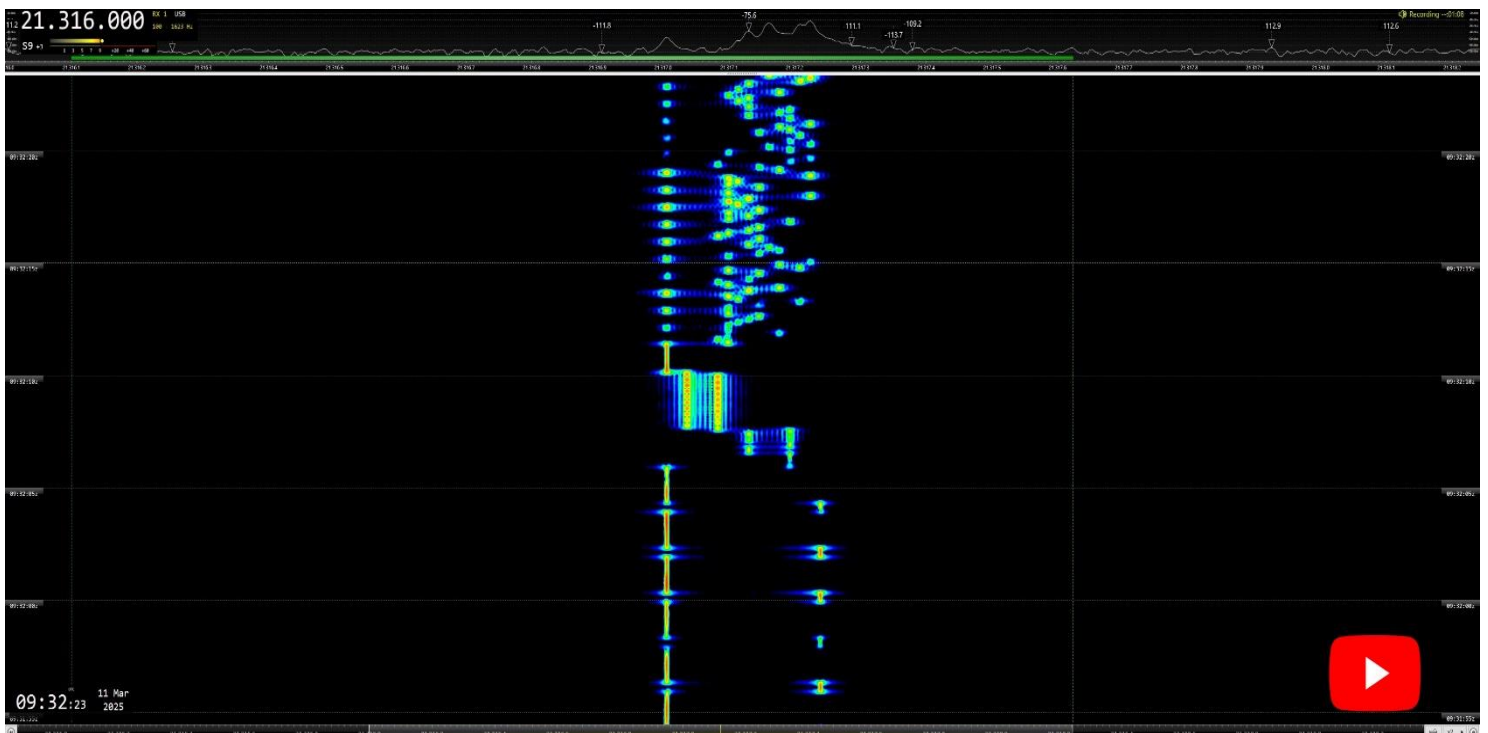
New REP (Portugal) National Coordinator

Paulo, CT2IWW has been appointed as the new REP (Rede dos Emissores Portugueses; Portugal) National Coordinator. We thank the now former REP National Coordinator, Francisco, CT4AN for his work and commitment, and wish Paulo CT2IWW all the best in his new role.

News and Info

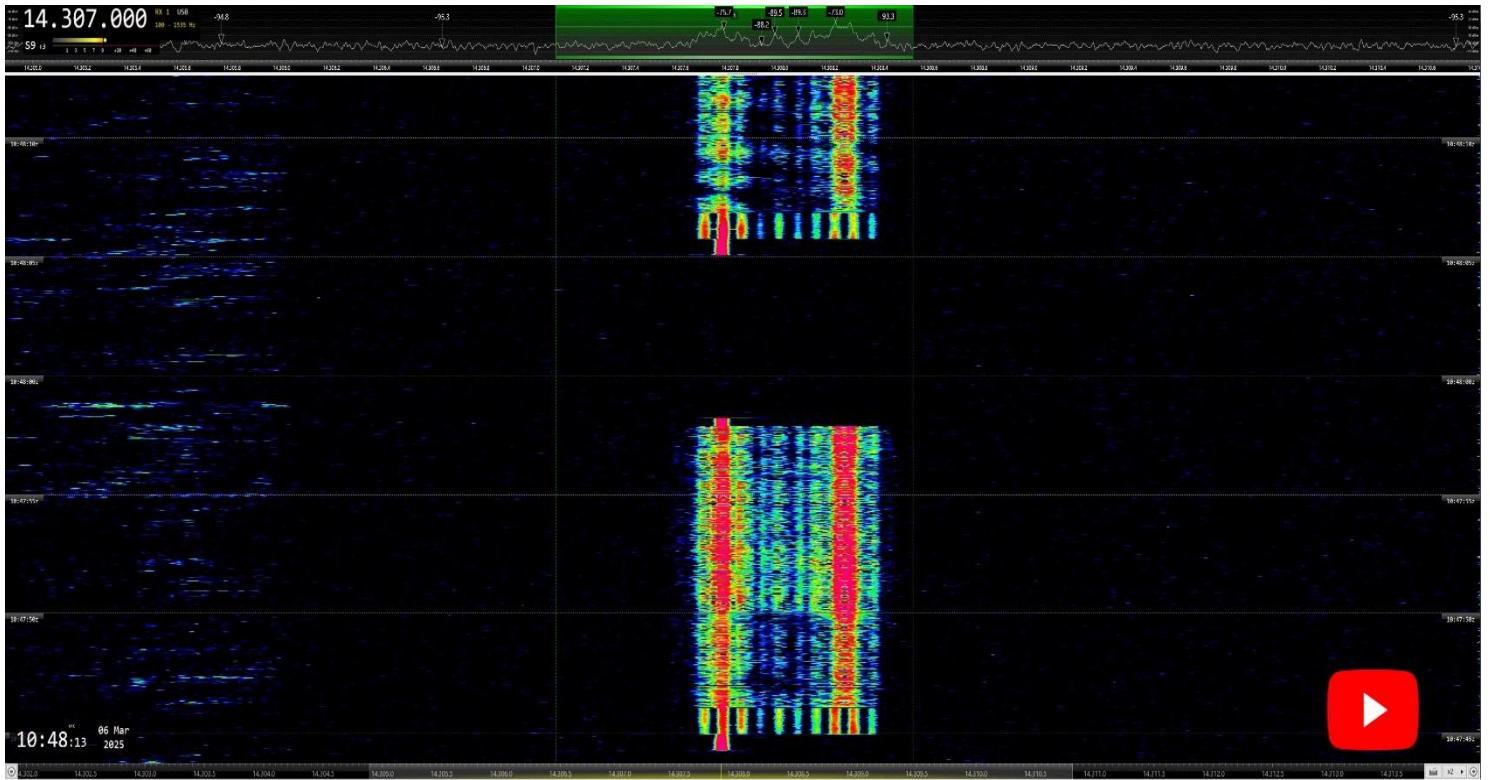
Among all non-amateur transmissions received during the month of March 2025, we highlight the reception of the following transmissions due to their uncommon nature.

We received an unscheduled transmission from the Russian station XPA2 using its usual mode, MFSK-16, with a bandwidth of approximately 300 Hz and a symbol rate of 7.81 Bd. This station is reportedly operated by the Russian intelligence services.



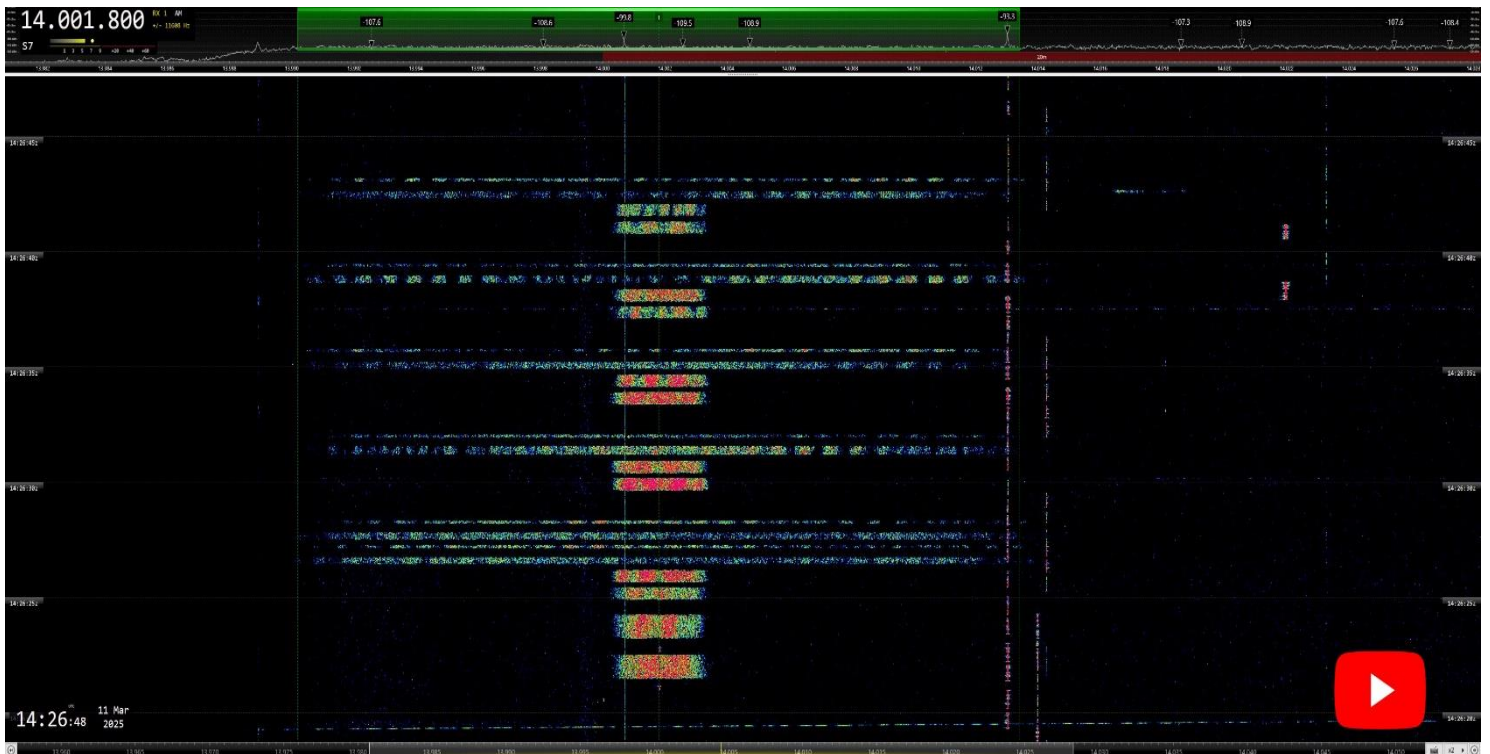
21317 kHz CF: XPA2. MFSK-16, BW ca 300 Hz, 7.81 Bd

On the 20-meter band, at 14308 kHz CF, we received a lengthy transmission consisting of bursts sent using the Russian mode known as "Chayka" (Seagull), which uses FSK (F1B) with a 500 Hz shift and a rate of 150 Bd.



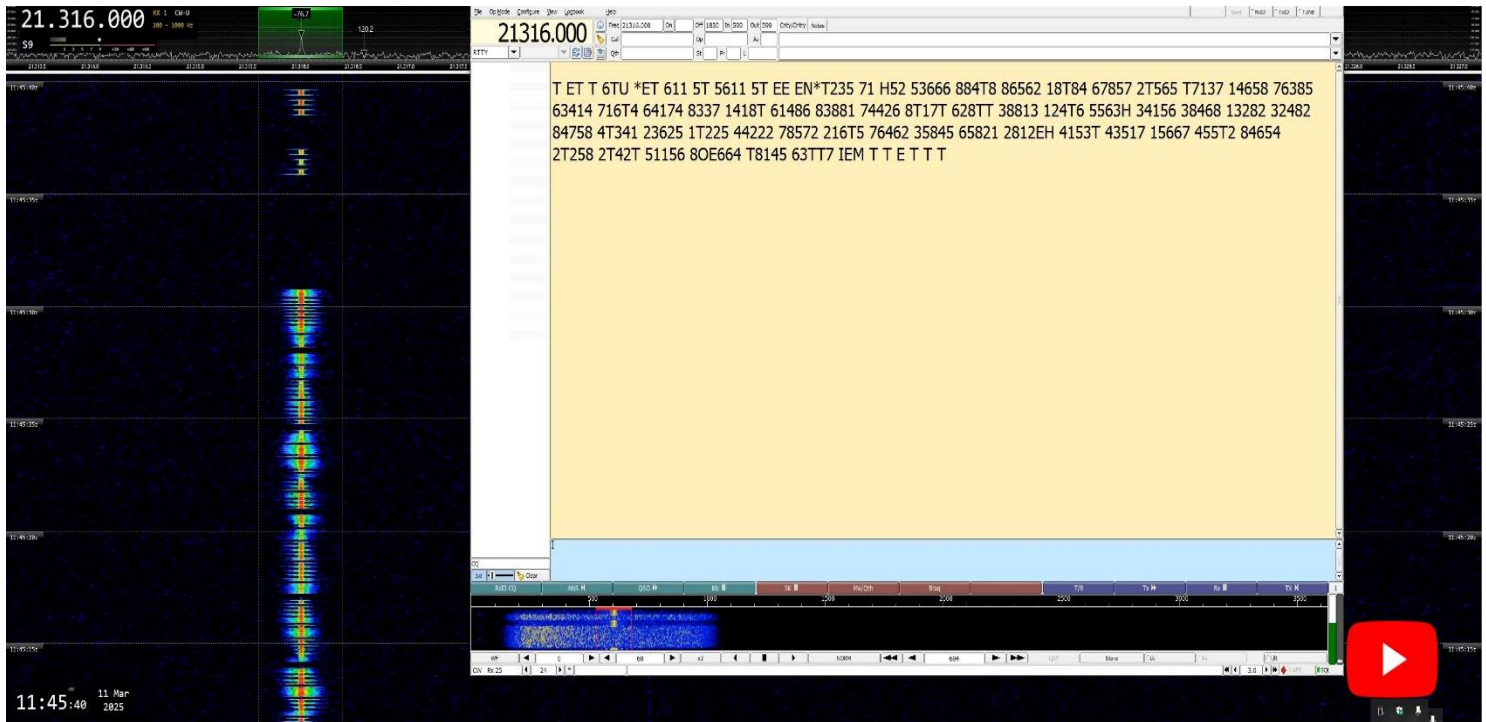
14308 kHz CF: „Chayka“. RUS. FSK (F1B) bursts. Shift = 500 Hz. 150 Bd

Although the WHARQ transmission mode (Wideband HF Hybrid Automatic Repeat Request) is commonly observed on the 40-meter band, it is quite rare to receive it on the 20-meter band. Below is a video showcasing a transmission using this proprietary L3Harris mode, which features multiple bandwidth options (eight different bandwidths ranging from 3 kHz to 24 kHz), various modulation schemes, and intelligent frequency hopping.



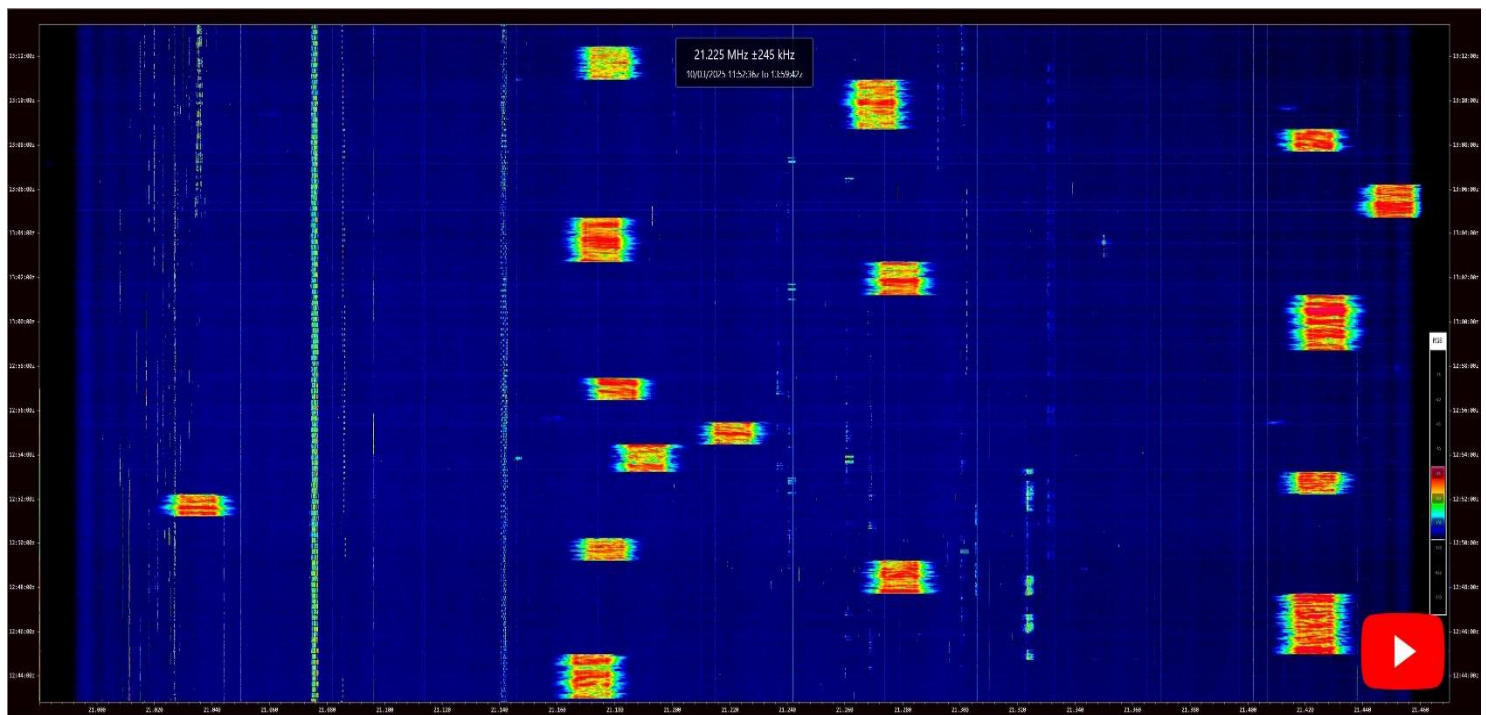
14000 kHz USB. WHARQ. BW = 18 kHz. 14400 Bd.

In contrast to the increasing sophistication of digital military transmission modes, some non-amateur stations continue to employ much more traditional methods for transmitting encrypted information. One such example is shown below, received on the 15-meter band using CW (A1A) mode.



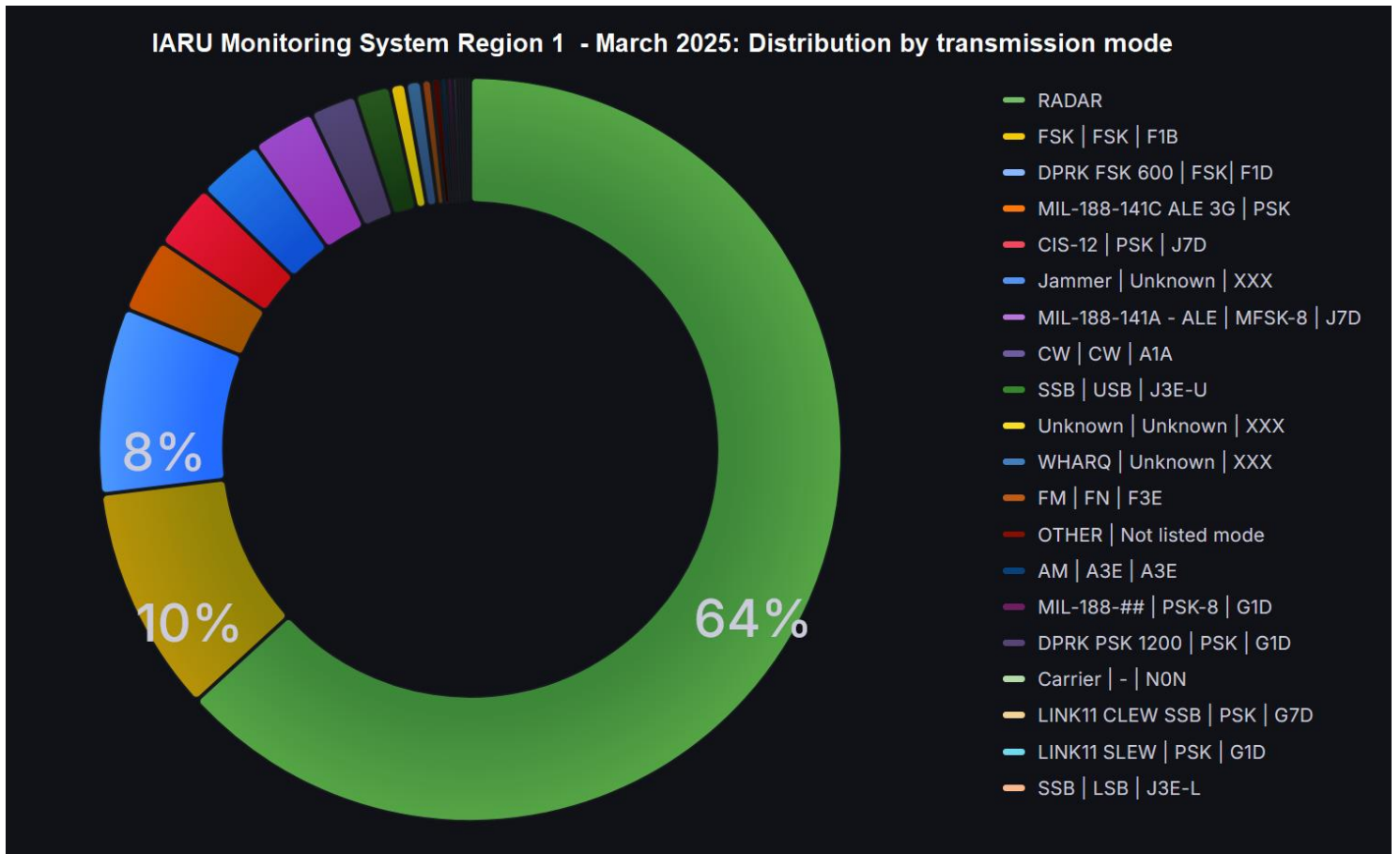
21316 kHz: encrypted Morse QTC. CW (A1A)

Although the Russian Over-The-Horizon radar system "Contayner" (FMOP has unfortunately been known for many years to frequently transmit within the amateur radio bands from 40 to 12 meters, it remains highly unusual to receive it performing frequency hops approximately every two minutes, as in the following transmission received on the 15-meter band.

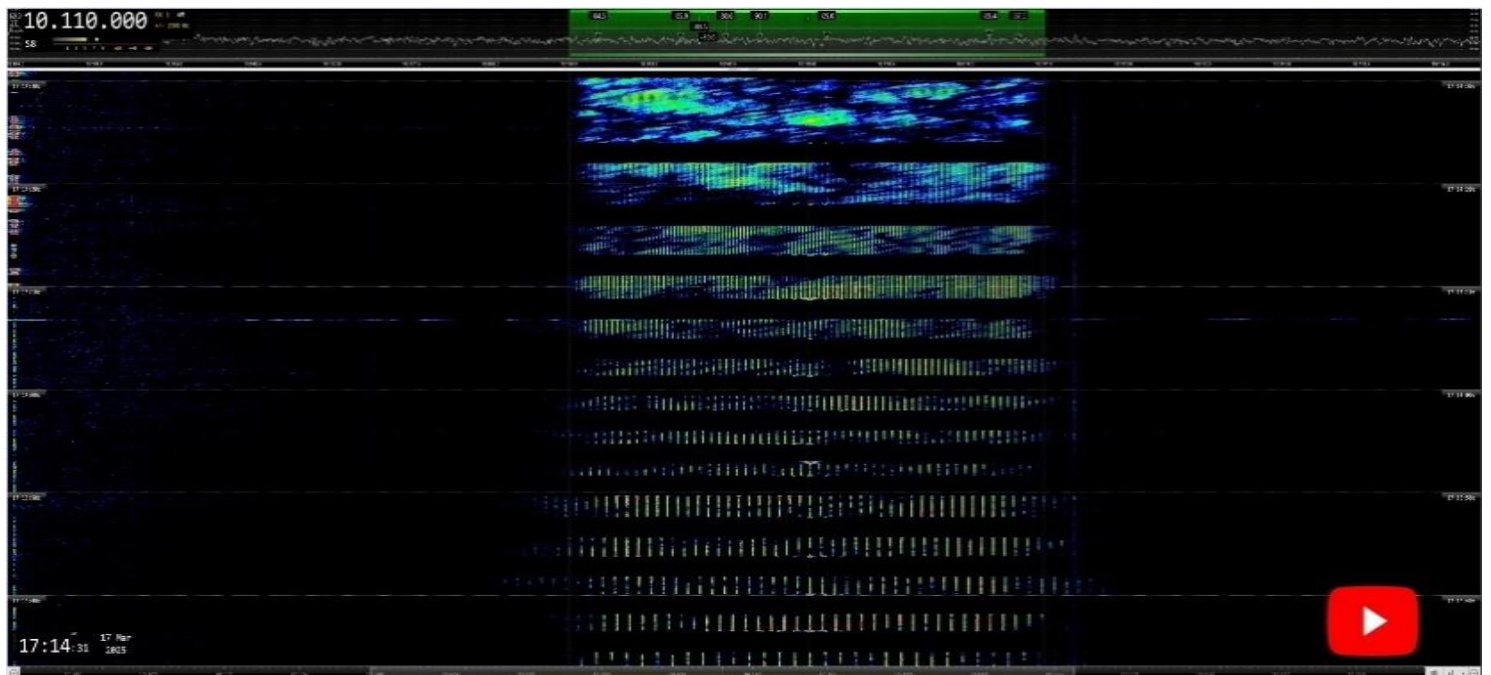


OTHR Contayner. RUS. BW = 12 kHz. Pulse Repetition Frequency (PRF) = 40 pps (pulses per second). Hopping

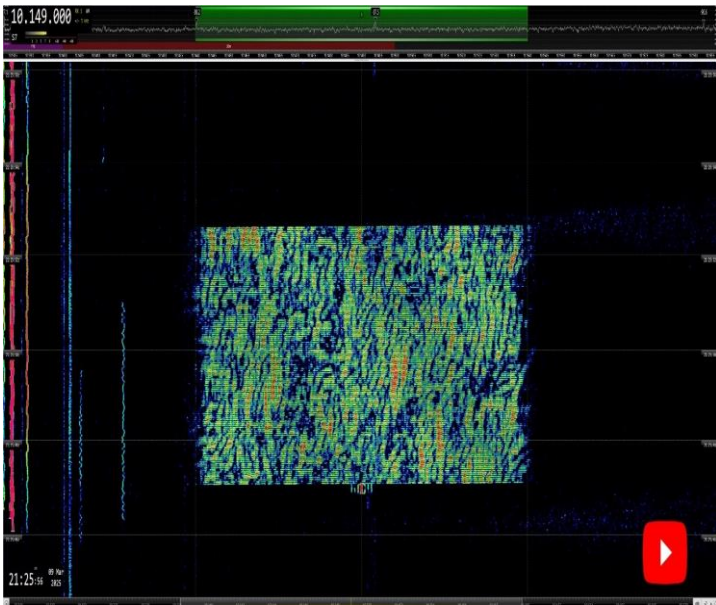
Radars—especially Over-The-Horizon types—have long constituted the majority of non-amateur transmissions received on our bands, as illustrated in the following chart, which displays the transmission modes used in non-amateur transmissions during the month of March 2025.



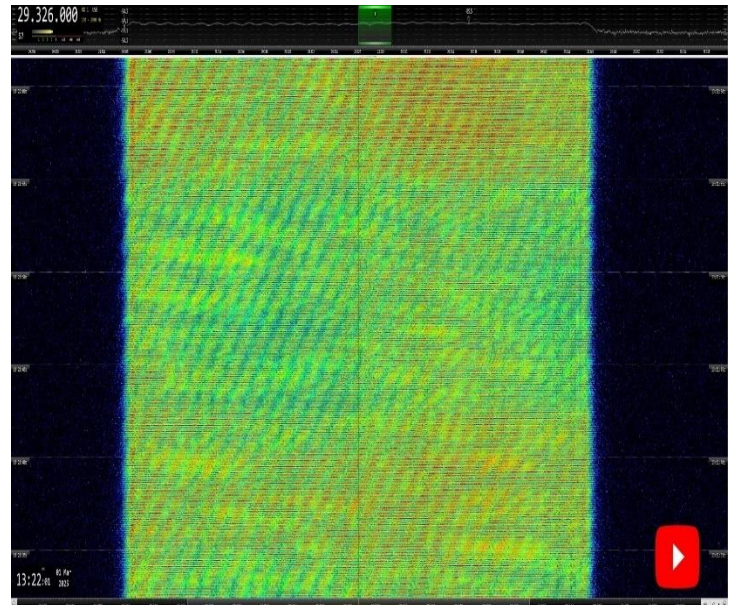
Below, we present several examples of radar transmissions received during March:



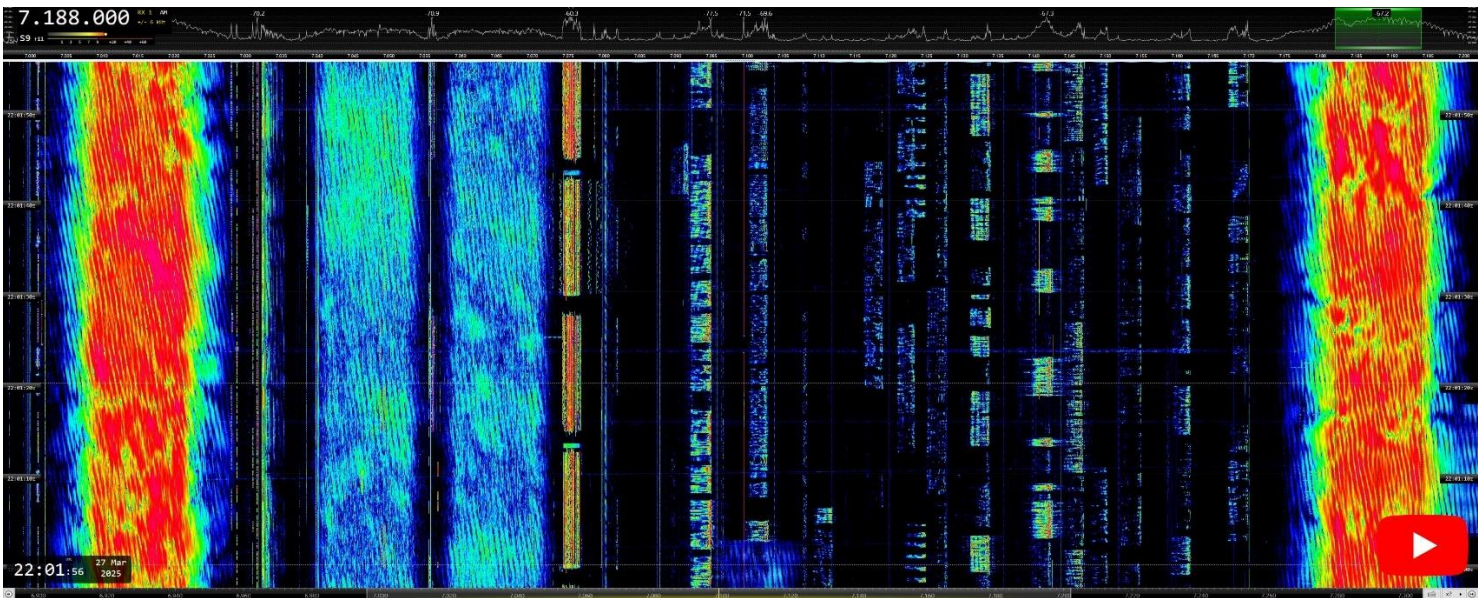
OTHR JORN (Jindalee Operational Radar Network) bursts. AUS. 14 bursts sequence. PRF decreasing from 96 to 10 pps. Short intro tone at CF (example)



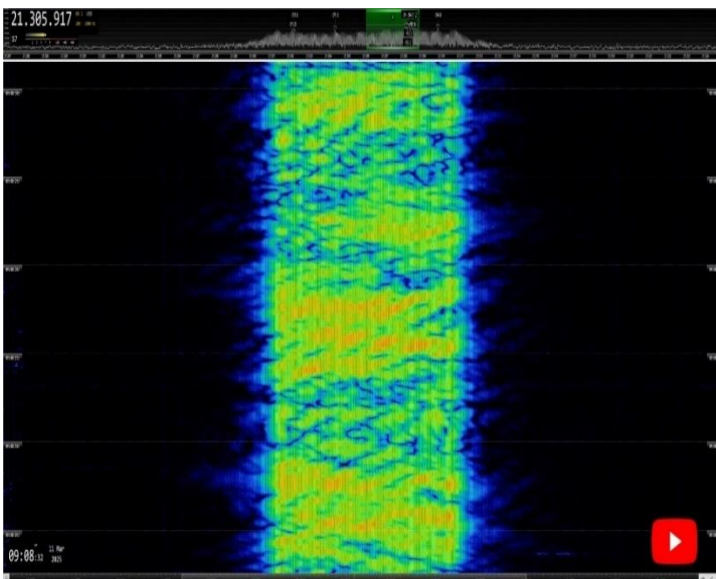
10148 kHz CF: OTHR JORN bursts. AUS. BW = 10 kHz. PRF: 19 to 23 pps



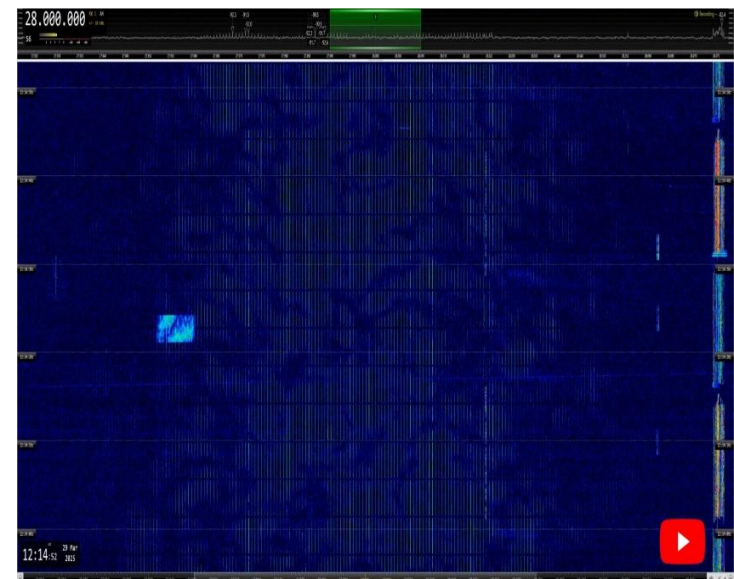
29326 kHz CF: British OTHR (UK SBA, Cyprus). BW = 40 kHz. 12.5 pps



40 meters band: 4 X RUS OTHR Contayner simultaneous TX. BW = 12 kHz (spectral occupation can be larger due to high TX power). PRF = 40 pps

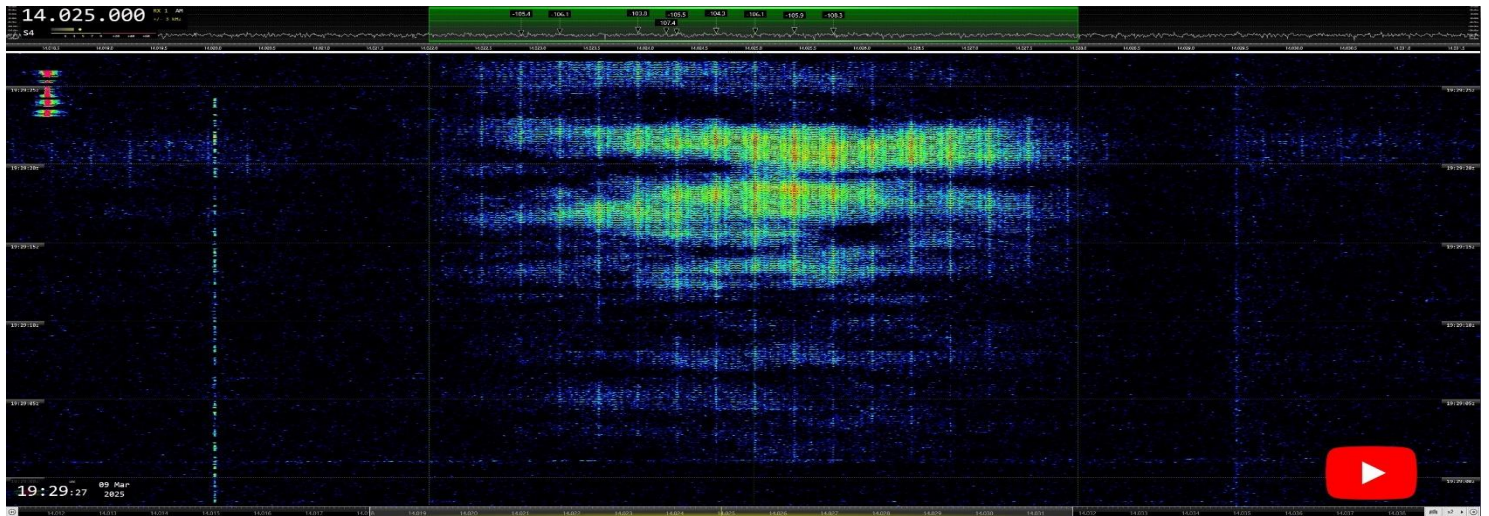


21306 kHz CF: CHN OTHR. BW = 10 kHz. PRF = 50 pps



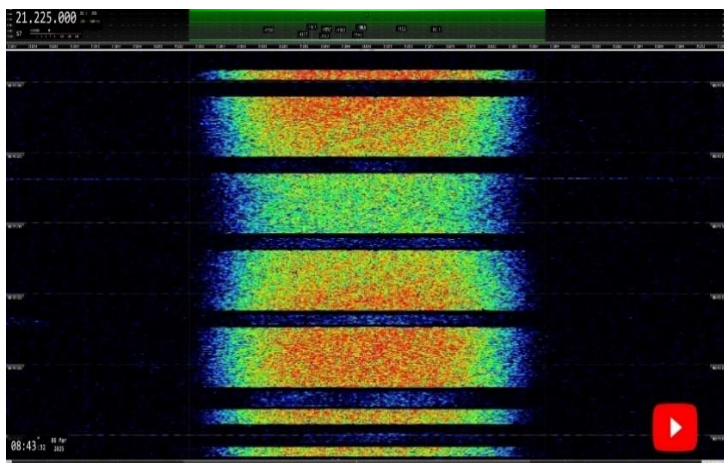
28000 kHz CF: Iranian OTHR. BW ca 45 kHz. Bursts. PRF = 313 pps

Not all the radar transmissions received during March 2025 were sent by Over The Horizon radars. We also received other types of radars, as CODAR (Coastal Ocean Dynamics Applications Radar) or SuperDARN (Super Dual Auroral Radar Network) -like, used for scientific studies

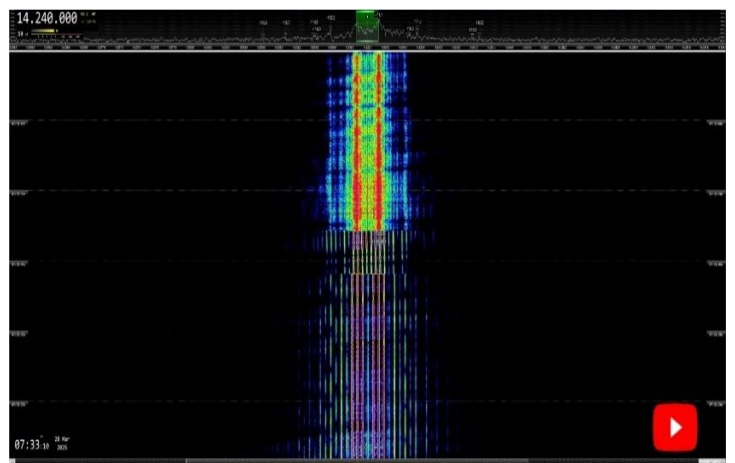


14025 kHz CF: SuperDARN-like radar bursts (Super Dual Auroral Radar Network). BW ca 6 kHz. Hopping from 14000 kHz to 14025 kHz CF. Very often

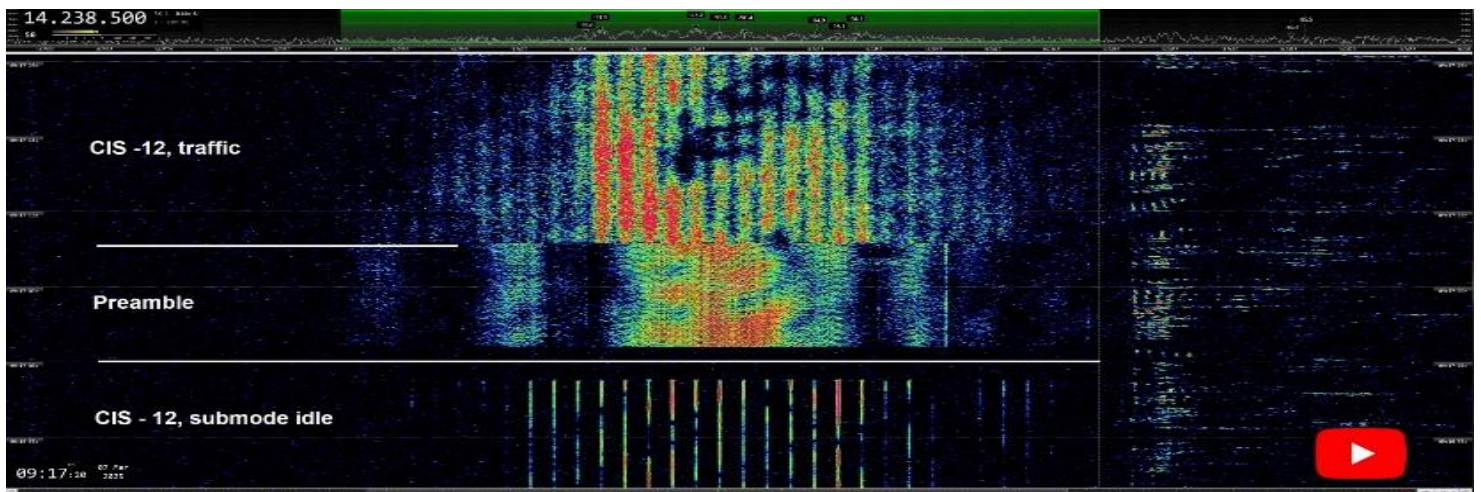
Following radars, military transmissions using various modes represent a significant portion of the remaining non-amateur transmissions received on our bands. The following examples illustrate such transmissions observed during the month of March.



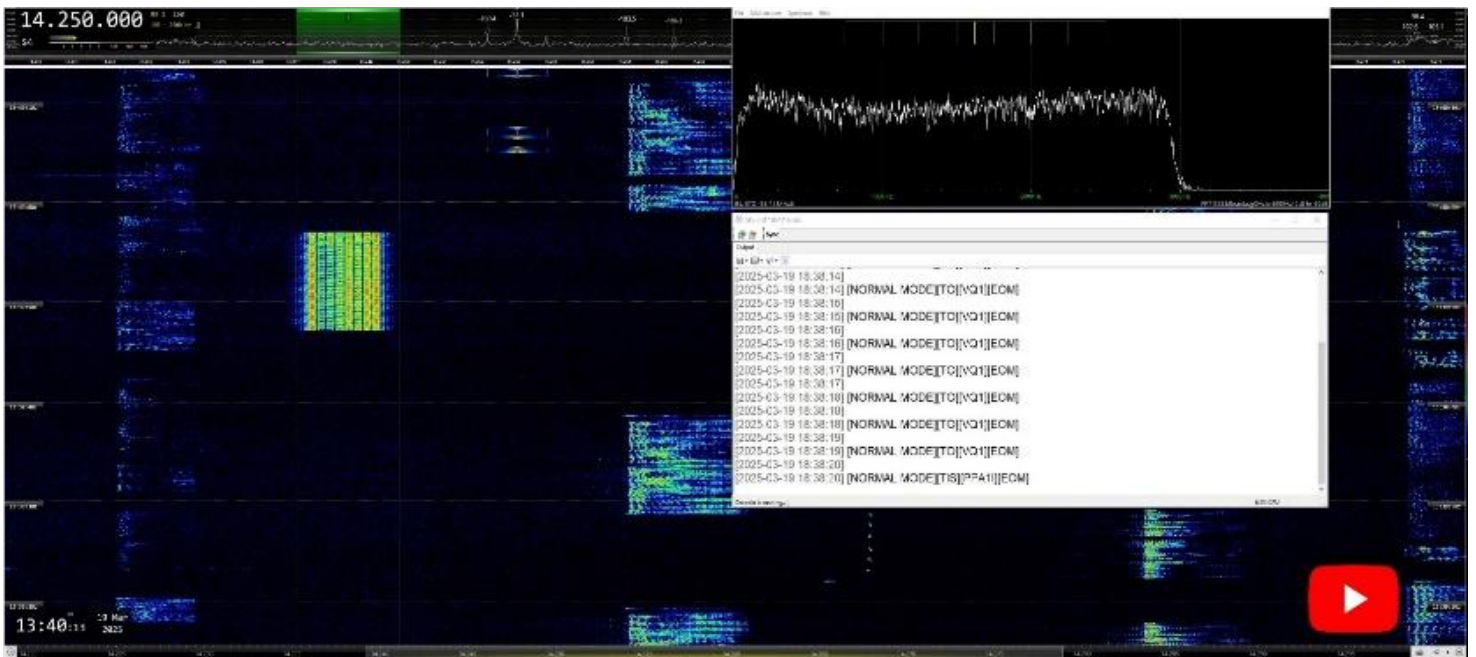
21225 kHz USB: MIL-188-141C ALE 3G. BW = 2.4 kHz. 2400 Bd



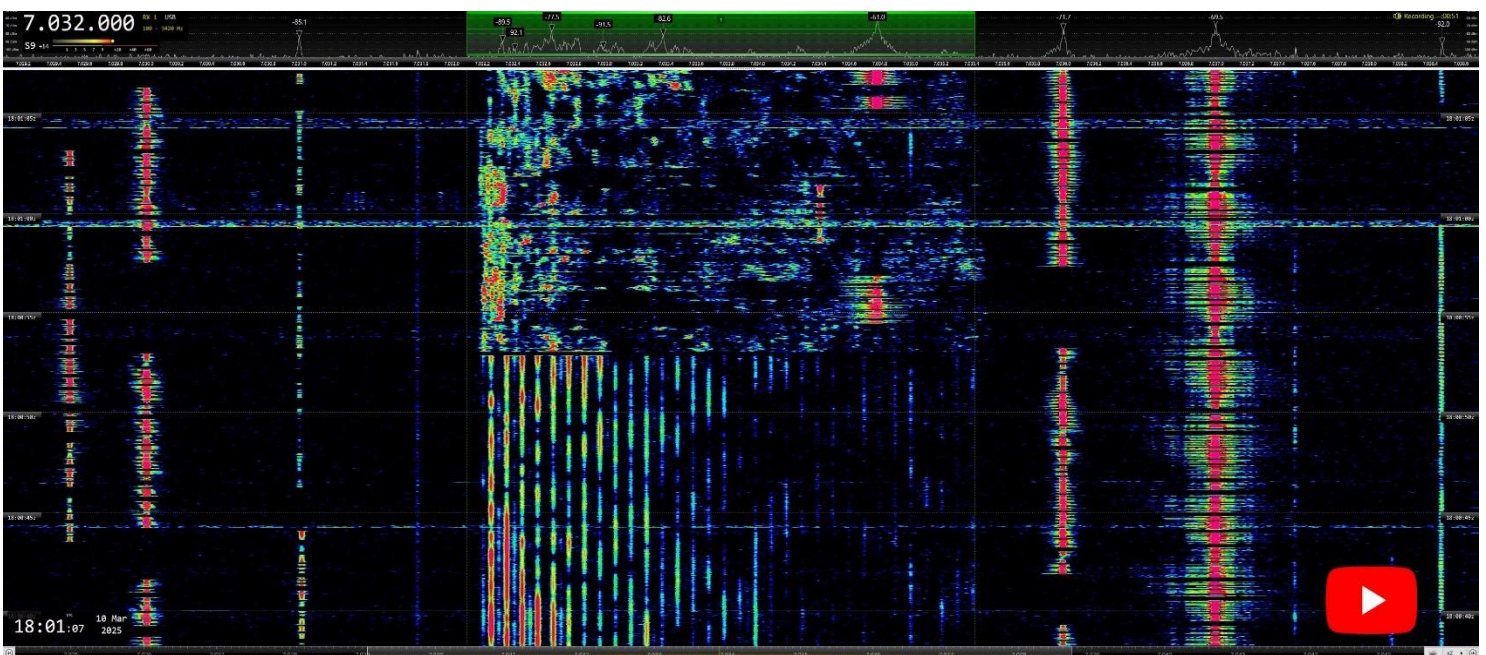
14240 kHz CF: FSK (F1B). Shift = 250 Hz. 75 Bd



14242 kHz CF: CIS-12. J7D. BW = 2.7 kHz. 12 X 120 Bd + pilot tone. Submode idle, followed by short preamble before the traffic transmission



14250 kHz LSB: MIL-188-141A ALE 2G. Inverted spectrum TX. MFSK-8. J7D. BW = 1.8 kHz. 125 Bd. Ids: PPA1 – VQ1



7032 kHz USB: Jammer / QRG occupation (channel marker). Noise and music loop when no noise transmitted (RUS anthem pop version of military march)

Most of the remaining non-amateur transmissions received on our bands—although not limited to this band—appear to be concentrated on the 10-meter band. Among these were transmissions from Brazilian truck drivers and pirates using AM and SSB modes; Russian taxi dispatch communications using FM; signals from fishery buoy radiolocation systems (CW, FSK); transmissions sent by scientific-use buoys such as Waverider Datawell; and various transmissions from pirates, fishermen, and “village radio”-type stations, mostly using SSB. Additionally, interference was received on other bands caused by the poor transmission quality of certain broadcasting stations.

- Find other videos and screenshots about the transmissions received during March 2025 at the end of this Newsletter -

Detailed reports of national coordinators

Abbreviations used (as per IARUMS definitions)

aka = also known as | **BC** = Broadcast | **Bd** = Baud | **BD** = Burst duration) | **BRI** = Burst repetition interval. **BW** = Bandwidth | **ca** = approximate | **CHN** = **PRC** = People’s Republic of China | **CF** = Center frequency **DF** = Direction finding (radio location; see also TDoA) | **FMCW** = frequency modulated continuous wave **FMOP** = frequency modulated on pulse | **OTHR** = over the horizon radar | **PRF** = Pulse Repetition Frequency | **pps** = pulses per second (same as “sps”) | **SH** = Shift (Hz) | **sps** = sweeps per second | **TDoA** = Time difference of arrival | **ui** = **unid** = unidentified.

DARC. Harald, DL9NDW and the DARC IW team									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7022.0	20:55	28	03	RUS		J7D	120	2K60E	CIS-12 submode idle
7008.0	06:31	25	03	RUS		J7D	120	2K60E	CIS-12
7012.0	16:01	31	03	F		J3E-L		3K0E	No callsigns, French - pirates
7021.0	20:53 vt*	16 vd*	03	RUS		RADAR	40	12K0E	OTHR Container * 4 reports
7023.0	00:20	09	03			J7D	125	1K75	MIL-188-141A,report by DARC IW
7034.0	17:38 vt*	17 vd*	03			XXX		3K0E	Jammer, Carrier with 100hz spaced subcarriers 3Khz USB orientation. *daily.
7036.0	19:38	18	03	RUS		F1B	50	500H	often
7036.0	19:50	26	03	RUS		F1B	50	500H	
7041.0	19:23	12	03			J7D	125	1K75	MIL-188-141A
7050.0	20:16 vt*	24 vd*	03			J3E-U		2K70E	Radiowar, Music, NON Ham Voice : UKR vs RUS , USB ! . * often
7050.0	17:46	27	03			J7D	125	1K75	MIL-188-141A
7060.0	21:24	10	03	CHN		RADAR	66.7	10K0E	OTHR Bursts, * also on 7117,7166, in 42,50 and 66.6 Hz modes , 4 reports.
7095.0	15:55	22	03			J7D	125	1K75	MIL-188-141A
7100.0	17:30	30	03			G7D	75	2300	Link11-CLEW - CF 7101.80
7106.0	20:23	08	03			J7D	125	1K75	MIL-188-141A
7124.0	17:40	17	03	RUS		J7D	120	2K60E	CIS-12
7155.5	12:48	01	03			XXX		2K0E	Unknown Signal
14000.0	16:00 vd*	27 vt*	03	INS		RADAR	2	80K0E	Ocean surface radar 14000 14080 kHz *daily
14008.0	08:52	30	03	RUS		F1B	50	250H	RIW
14030.0	20:15	20	03	CHN		RADAR	42	10K0E	OTHR Bursts, *also on 14105,14217, 14286 , 14300, 14305 in 42,50 and 66.6 Hz modes , 17 reports.
14120.0	16:32 vt*	26 vd*	03	RUS		RADAR	40	12K0E	OTHR Container also on 14132 , 3 reports
14242.0	09:37	06	03	RUS		J7D	120	2K60E	CIS-12
14252.0	15:38	28	03	RUS		F1B	75	250H	
18074.0	16:54	20	03	G		RADAR	24	20K0E	OTHR Cyprus UK SBA
18107.0	16:12	28	03	RUS		F1B	50	200H	RDL CIS-36-50 - Russian navy
21105.0	14:48 vt*	07 vd*	03	RUS		RADAR	40	12K0E	OTHR Container , also on 21126 , 11 reports
21260.0	11:48 vt*	03 vd*	03	CHN		RADAR	42	10K0E	OTHR Bursts, * also on 21308,21313,21326 and 21393 in 42, 50 and 66.6 Hz modes , 15 reports.
21270.0	11:45	06	03	G		RADAR	50	20K0E	OTHR Cyprus UK SBA

DARC. Harald, DL9NDW and the DARC IW team

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
21300.0	12:55	20	03			A3E		9K0E	also 21490.0 - Sound of Hope - TWN
21412.0	06:20	17	03	G		RADAR	50	20K0E	OTHR Cyprus UK SBA
24940.0	12:13	14	03			XXX			Slow Sweeping Signals
28002.0	11:08	06	03	RUS		N0N		CA4K0E	humming signal, seems DSB without center carrier, jammer , qte 60
28100.1	17:16 vt*	08 vd*	03			F1B	51	300	4 x Enagal GPS fishing buoy - QTE 230, * often, 4 reports
28130.0	09:11	16	03	IRN		RADAR		46K0E	Iranian radar - 150 sps and 313 sps alternating
28329.0	13:30	04	03	RUS		F1B	50	600H	
28465.0	11:26	20	03	IRN		RADAR	313	46K0E	Iranian radar - 313 sps bursts
28604.0	14:36	26	03	G		RADAR	24	20K0E	OTHR Cyprus UK SBA
28802.0	10:59	20	03	G		RADAR	12.5	40K0E	OTHR Cyprus UK SBA
29445.0	16:16	16	03	IRN		RADAR		46K0E	Iranian radar - 313 Bursts, rpt by DL3KS
29460.0	14:50	07	03	IRN		RADAR		46K0E	Iranian radar - 313 sps bursts, unusual sequence
29460.0	12:36	12	03	IRN		RADAR	313	46K0E	Iranian radar - 313 sps , also on 29465

IRTS. Michael, EI3GYB

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7000	2020	11	3			USB			Male voices chatting in an UNID language. Medium to low signals.
7032	1500	1	3			USB			Jammer. Daily most hours with a strong signal. Non-stop playing of the Russian national anthem heard on the 22nd at 0230z.
7050	0700	1	3	UKR/ RUS		LSB			Russian-Ukrainian radio war. Strong signals. Heard a few times during the month.
7050	2050	21	3			RADAR			Radar from 7050 to 7070 kHz. Strong and persistent.
7089.5	1205	21	3			F1B			Very weak signal. Still on at 2100z.
7100	1050	13	3	F		LSB			Music being played. Shouting of profanities in French. Very strong signal. Still on an hour later.
7115	2055	21	3			RADAR			Radar from 7115 to 7145 kHz. Strong and persistent.
7120	0320	24	3			RADAR			Radar from 7120 to 7135 kHz. Very strong and persistent.
7125	2220	1	3			RADAR			Radar from 7125 to 7145 kHz. Huge and persistent signals.
7138.5	2100	31	3			F1B			Strong and persistent.
7157	315	24	3			USB			Jammer. Strong and persistent.
7172	2225	1	3			RADAR			Radar from 7172 to 7192 kHz. Huge and persistent signals.
14000	1230	25	3	B		USB			Pirates chatting in Portuguese. Low signals.
14192	0835	1	3	RUS		F1B			Russian navy, Kaliningrad. Heard daily all day and night with a medium to strong signal.
14202	1210	25	3			RADAR			Radar from 14202 to 14212 kHz. Medium signals. Still on at 1500z.
14251.5	1435	28	3			F1B			Very strong and persistent signal. Still on at 1600z.

IRTS. Michael, EI3GYB									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14293	1040	31	3			FSK			North Korean Embassy traffic. Strong. On and off.
18150	1305	10	3	G		RADAR			Radar from 18150 to 18180 kHz. Huge and persistent signals. UK base in Cyprus.
18163	1340	11	3	G		RADAR			Radar from 18163 to 18193 kHz. Huge and persistent signals. UK base in Cyprus.
18164	1040	13	3	G		RADAR			Radar from 18164 to 18184 kHz. Huge and persistent signals. UK base in Cyprus.
21000.5	1815	27	3			USB			Jammer. Medium signal.
21110	1255	21	3			RADAR			Radar from 21110 to 21132 kHz. Huge and persistent signals.
21112	1335	11	3			RADAR			Radar from 21112 to 21144 kHz. Huge and persistent signals.
21120	0735	16	3			RADAR			Radar from 21120 to 21132 kHz. Medium signals, persistent.
21168	1315	10	3			RADAR			Radar from 21168 to 21188 kHz. Huge and persistent signals.
21262	1310	10	3			RADAR			Radar from 21262 to 21282 kHz. Huge and persistent signals.
21355	0940	9	3			RADAR			Radar from 21355 to 21370 kHz. Medium signals, persistent.
21340	1105	12	3			RADAR			Radar from 21340 to 21352 kHz. Strong and persistent. Still on at 1300z.
21390	1435	17	3			RADAR			Radar from 21390 to 21420 kHz. Big signals. Persistent.
21395	1310	3	3			RADAR			Radar from 21395 to 21410 kHz. Huge and persistent signals.
21438	0735	1	3	UKR		CW			Russian navy, Sevastopol. Heard daily all day with medium to strong signals.
28328	1305	3	3			F1B			Strong and persistent signal.
28980	1205	10	3			AM			Harmonic from a BC station. Weak- drifting in and out. Also heard on the 31st at 945z.
28900	1445	14	3			RADAR			Radar from 28900 to 29000 kHz. Medium signal, persistent.
29100	1305	12	3			FM			Carrier with a big signal.
29430	0740	5	3	IRN		RADAR			Radar from 29430 to 29530 kHz. Medium to strong, persistent. Heard very often during the month during morning and early afternoon hours.

PZK. Mirek, SP5GNI									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14008.0	vt	vd	03			F1B		250	S9+
14013.0	0740	25	03			CIS-12		2K7	S9
14026.0	1000	13	03	RUS		CIS-12		2K7	S6
14091.0	1540	22	03			RADAR		14K0E	S7 foghorn
14107.0	1615	20	03			RADAR		12K0E	S9
14153.0	1630	31	03			RADAR		8K0E	5 sec. burst
14190.0	1510	14	03			RADAR		8K0E	5 sec. Burst
14198.5	1330	25	03			UI		2K5E	
14253.0	1510	14	03			F1B		250	S9+
14258.0	1510	14	03			RADAR		10K0E	3 sec bursts

PZK. Mirek, SP5GNI

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14285.0	1635	14	03			RADAR		10K0E	3 sec bursts
14305.0	1920	17	03			RADAR		10K0E	3 sec bursts
14316.0	1515	16	03			RADAR		10K0E	3 sec bursts also 14338.0
14330.0	1545	20	03			RADAR		10K0E	3 sec bursts
18107.0	0847	05	03			F1B		200	S7
21121.0	1255	07	03			UI		18K0E	S5 not sure if OTHR
21127.0	1400	16	03			RADAR		12K0E	Very strong! S9+20dB
21132.0	vt	vd	03			RADAR		12K0E	S9+
21132.0	1630	22	03			UI		3K0E	CIS?
21135.0	0930	05	03			RADAR		10K0E	3 sec bursts
21155.0	0930	05	03			RADAR		8K0E	5 sec. burst
21157.0	0715	01	03			RADAR		14K0E	S7
21157.0	1205	06	03			RADAR		12K0E	S9+
21160.0	1250	13	03			RADAR		14K0E	S7 foghorn
21160.0	vt	vd	03			RADAR		12K0E	S7 foghorn
21160.0	1230	20	03			RADAR		20K0E	S7 foghorn
21161.0	0925	07	03			RADAR		12K0E	Very strong! S9+20dB
21164.0	1255	07	03			RADAR		8K0E	5 sec. burst
21174.0	1135	21	03			RADAR		12K0E	Very strong! S9+20dB also 21124.0
21275.0	0805	25	03			RADAR		10K0E	3 sec bursts and 21135.0
21300.0	1233	20	03			A3E		6K0E	broadcast in unknown language
21307.0	1230	11	03			RADAR		12K0E	Very strong S9+20dB, and at 21186.0
21308.0	1205	06	03			RADAR		10K0E	3 sec bursts
21335.0	1120	15	03			RADAR		10K0E	3 sec bursts also 21116.0
21336.0	0925	07	03			RADAR		10K0E	3 sec bursts
21349.0	1325	12	03			RADAR		12K0E	Very strong! S9+20dB
21375.0	1630	31	03			RADAR		20K0E	S9++
21380.0	0930	26	03			RADAR		10K0E	3 sec bursts and 21306.0
21410.0	1435	06	03			RADAR		12K0E	Very strong! S9+30dB
21415.0	1030	04	03			RADAR		8K0E	5 sec. Burst
21422.0	0940	14	03			RADAR		12K0E	Very strong! S9+20dB
24905.0	1000	13	03			RADAR		10K0E	3 sec bursts
28329.0	1245	04	03			F1B		600	S9+
28950.0	1315	19	03			RADAR		20K0E	S7 foghorn
29465.0	vt	vd	03	IRN		RADAR		50K0E	S6
29515.0	1245	04	03			RADAR		20K0E	S7 foghorn

REP. Paulo, CT2IWW

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3525.0	21:23	27	03			J3E			Arabic language ops, non-ham
7015.0	21:03	27	03	RUS		RADAR	40	12K0E	OTHR Contayner
7047	21:28	27	03	RUS		RADAR	40	12K0E	OTHR Contayner
7050.0	08:06	20	03			J3E -U			Unid male ops, unknown language
14000.0	19:44	28	03			RADAR		Ca6K0E	SuperDARN bursts
14008.0	11:17	18	03	RUS		F1B	50	250	Russian FSK mil
14027.0	16:49	19	03	CHN		RADAR	66	10KE0	Chinese Foghorn OTH

REP. Paulo, CT2IWW

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14140.0	16:30	19	03	CHN		RADAR	10	10K0E	OTHR radar
14192.0	11:57	18	03	RUS		F1B	50	250	Russian FSK mil
14330.0	13:49	20	03	CHN		RADAR	66	10K0E	Chinese Foghorn OTH
21095.0	11:20	21	03	RUS		RADAR	40	12K0E	OTHR Contayner
21102.0	11:20	26	03	RUS		RADAR	40	12K0E	OTHR Contayner
21145.0	10:24	19	03	MRC	Q42	MFSK-8	125	1K80E	MIL ALE 2G USB QRG
21155.0	12:59	20	03	RUS		RADAR	40	12K0E	OTH Contayner
21158.0	14:28	19	03	CHN		RADAR	10	10K0E	OTHR radar
21165.0	10:32	21	03	RUS		RADAR	40	12K0E	OTHR Contayner
21168.0	10:47	21	03	RUS		RADAR	40	12K0E	OTHR Contayner
21175.0	11:26	26	03	RUS		RADAR	40	12K0E	OTHR Contayner
21220.0	14.48	19	03	RUS		J3E-U			Russian lang comms, engine noise
21242.0	10:25	21	03	CHN		RADAR	66	10KE0	Chinese Foghorn OTHR
21365.0	09:05	19	03	CHN		RADAR	66	10KE0	Chinese Foghorn OTHR
21415.0	10:12	19	03	CHN		RADAR	66	10K0E	Chinese Foghorn OTHR
28005.0	vt	vd	03	B		A3E			Brazilian outbanders
28025.0	vt	vd	03			F1B	51	300	Enagal GPS buoy, vt vd
28035.0	vt	vd	03	B		A3E			Brazilian outbanders,
28145.0	vt	vd	03	B		A3E			Brazilian outbanders, daily
28155.0	09:58	19	03	RUS		F3E			Russian taxi dispatch
28215.0	vt	vd	03	B		A3E			Brazilian outbanders, daily
28215.0	09:59	19	03	RUS		F3E			Russian taxi dispatcher
28825.0	16:40	18	03	CHN		F3E			Chinese fishery, South Atlantic
29000.0	12:07	20	03	B		A3E			Brazilian truckers
29000.0	11:56	25	03			J3E-U			Arabic ops, engine noise
29233.0	12:25	20	03	G		RADAR	12.5	40K0E	OTHR. UK SBA, Cyprus
29465.0	12:54	20	03	IRN		RADAR	313	45K0E	Iranian OTHR single 313 sps

SRAL. Pekka, OH2BLU

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7 MHz	1900-0500	12 19	3	RUS		RADAR	40 sps	13k0E	(WebSDR 29d)
7000.0	1330-1800	01 - 31	3	CHN		A3A		4k0E	
7000.0	1640	05	3	RUS		W7D		2k60E	
7000.0	1520	25	3			jam		8k0E	
7006.5	0805-1220/	*	3	RUS		F1B		200H/ 500H	*) Days: 18. 25. 30.
7008.5	0720-1515/	25 27	3	RUS		J7D	120	2k60E	
7019.0	0445-1930	*	3	RUS		F1B/ NON		200H	*) Days: 6. 7. 16.
7020.0	1025-1310	19	3	RUS		F1B		250H	
7021.0	0600-1200	*	3	RUS		J7D	120	2k60E	*) Days: 4. 5. 6.
7026.0	1100-1200	12 14	3	RUS		J7D	120	2k60E	

SRAL. Pekka, OH2BLU									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7032.0	0550-1830	01-31	3	RUS		J3E-u		3k30E	Loop Russian anthem / mx,
7032.0	0000-2400	*01-31	3	RUS		J3E-u		3k30E	Brum when no music.
7035.1	0700-1600	*	3	RUS		J3E-l		3k60E	ticking 240 Hz tone
7036.0	1555-1900	12-26	3	RUS		F1B		500H	
7048.0	0630-1300	*	3	RUS		A1A		60H	*) Days: 3. - 7. 10. - 14. 17. - 21. 24. - 28. 31. key failure
7051.0	1855	27	3			jam		7k50E	
7052.0	1630-1905	*	3	RUS		Jam		6k0E	*) Days: 4. 5. 6. 10. 11. 13. 14. 19.
7057.5	0805-1600	*	3	RUS	KNNF etc	A1A	18wpm	40H	*) Days: 4. 8. 9. 12. 29. 5BL
7062.0	1020-1740	*	3	RUS		J7D	120	2k60E	*) Days: 9. 13. 26. 29.
7088.0	0635-1330	*	3	RUS		F1B		200H	*) Days: 1. 19. 21.
7101.5	0530-1830	*	3			xxx		3k0E	*) Days: 3. - 7. 10. - 12. 16. 17. 20. 21. 24. - 29. 31.
7114.0	0515-0600	*	3	RUS		F1B/ N0N		200H	*) Days: 6. 7. 9. 18.
7118.0	0710-1345	18	3	RUS		J7D	120	3k30	Carrier on 7117 kHz
7124.0	1620-1930	17	3	RUS		J7D	120	2k60E	
7137.0	1610-1910	*	3	RUS		F1B/ N0N		200H	*) Days: 3. 4. 7. 9. 10. 11. 14. - 17. 23. 24. 27.
7156.0	1630-1930	*	3			jam		7k0E	*) Days: 2. 4. 5.
7157.0	0530-1400	01-31	3	RUS	VB	A1A		20H	id 2 / 73 sec (2f 3578.5 kHz)
7160.0	0630-0715	18-19	3	RUS	RBL88	A1A		40H	5BL
7171.0	0645-1500	13-20	3	RUS		J7D	120	2k60E	
7176.0	0850-1430	18-21	3	RUS		F1B	120	250H	
7182.0	1530-1540/	09	3	RUS		A1A		40H	xxx vvv, S9+20 dB
7186.0	0615-1615	27	3	RUS		J7D	120	3k30	Carrier on 7184 kHz
7193.0	0840-1515	*	3	RUS		F1B/ N0N		200H	*) Days: 4. 5. 8. 11. 14. 18. 19. 20.
7195.0	0800-1330	*	3	RUS		J7D	120	2k60E	*) Days: 4. 5. 14.16. 25. 29.
7200.0	1400-1430/	14	3	TWN	National unity r.	A3E		9k0	Korean px
10 MHz	1750-1830	27	3	G		RADAR	25/50sp s	20k0	(WebSDR 5d)
10 MHz			3	RUS		RADAR	40sps	13k0E	(WebSDR 11d)
10120.0	1430-1510	09	3			RADAR	40sps	100k0E	
10125A	1500-	*	3	GUM	KTWR	spurious		5k0E	*) Days: 4. 6. 9. 12. 13. 14. 16. 17. 19. 23.

SRAL. Pekka, OH2BLU									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
	1557/								25. 26. 27. from 9900 kHz
10132A	1130-1257/	*	3	GUM	KTWR	spurious		5k0E	*) Days: 2. 5. 6. 7. 9. 13. 16. 17. 18. 20. from 9910 kHz
14 MHz	0545-1830	*	3	RUS		RADAR	40sps	13k0E	*) Days: 4. 5. 8. 10. 17. 19. 20. 24. - 29. 31. (WebSDR 24d)
14 MHz	1130-1900	*	3	CHN		RADAR	50/67sp s	10k0E	*) Days: 1. 3. - 6. 8. - 10. 12. 13. 14. 16. - 19. 23. 27. 29. 'foghorn'
14000.0	0530-1930	*	3			RADAR		6k0E	*) Days: 2. - 8. 20. 21. 23. - 26. 29. SuperDARN, jumps after 60 sec per on fq 5 kHz raster
14000.0	0605	18	3	RUS		J7D	120	2k60E	
14008.0	0520-1150	*	3	RUS		F1B/ NON		250H	*) Days: 2. 13. 19. 20. 21. 25. 30. 31.
14011.0	0830-1005/	25	3	RUS		F1B		200H	
14013.0	0720-0820	25	3	RUS		J7D	120	2k60E	
14026.0	0830-1200	*	3	RUS		J7D	120	2k60E	*) Days: 17. 19. 25.
14050.0	0950-1000/	06	3	RUS		J7D	120	6k60	DSB
14168.0	0715-0745/	26	3	RUS		F1B		200H	
14192.0	0530-1900	01 - 31	3	RUS		F1B		200H	
14221.0	0530-0600/	*	3	KAZ		F1B		200H	*) Days: 3. - 7. 9. 10. 11. 14.
14253.0	0550-1600	*	3	RUS		F1B		250H	*) Days: 3. 10. 14. 17. 24. 27. 31.
18 MHz	0500-0600	16 24	3	G		RADAR	50/25 sps	20k0	(WebSDR 3d)
18 MHz	0530-1845	09 15	3	RUS		RADAR	40 sps	13k0E	(WebSDR 7d)
18152.0	0705-0710	13	3	RUS	RJH25 etc	A1A		40H	
21 MHz	0630-1745	*	3	G		RADAR	50/25 sps	20k0	*) Days: 1. 6. 17. 24. 27. (WebSDR 8d)
21 MHz	0600-1730	*	3	RUS		RADAR	40 sps	13k0E	*) Days: 2. - 18. 20. 21. 24. 25. 28. 31. (WebSDR 22d)
21 MHz	0600-0800	12 24	3	CHN		RADAR	50 sps	10k0E	(WebSDR 17d)
21 MHz	0600-1300	*	3	CHN		RADAR	50/67sp s	10k0E	*) Days: 1. - 12. 14. - 21. 25. 26. 28. 31. 'foghorn'
21 MHz	1805-1845	04 09	3	CHN		DRM		9k0E	4 to 5 txs same time
21001.5	1400-1750	*	3			jam		5k0E	*) Days: 9. 27. 28.
21021.5	0710	04	3			jam		5k0E	
21122.0	1250	07	3			jam		16k0E	
21300.0	0655-0700	09	3	CHN	CNR	A3E		9k0	// 21440 kHz
21438.0	/0830-1630	01 - 31	3	RUS	RCV	A1A	16 - 25 wpm	40H	Navip etc.
24 MHz	0545-1215	*	3	G		RADAR	50sps	20k0	*) Days: 3. 8. 16. (WebSDR 3d)

SRAL. Pekka, OH2BLU

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
24 MHz	0845-1100	*	3	RUS		RADAR	40sps	13k0E	*) Days: 11. 12. 17. (WebSDR 5d)
28 MHz	0545-1700	*	3	G		RADAR	12.5/25/50sp s	20k0	*) Days: 1. - 7. 9. - 11. 14. 16. 19. 20. 26. (WebSDR 22d)
28 MHz	0640-1600	14 - 17	3	IRN		RADAR	150/313	60k0E	
28 MHz	1425-1530	29	3	IRN		RADAR	700	100k0E	
28860A			3	IRN		RADAR	150/313	60k0E	(WebSDR 18d)
29460A	0830-1645	*	3	IRN		RADAR	313	60k0E	*) Days: 1. 6. 7. 8. 11. - 21. 24. - 31.
28135.0	1345	11	3	RUS	Taxi disp.	F3E		3k0E	2 tx

URE. Gaspar, EA6AMM. Team members: EA4021SWL

(Radars activity: summarized per band)

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
6991.0	18:32	26	03	RUS		RADAR	40	12K0E	OTHR Contayner. Splatter to 7004 kHz
6992.0	20:40	23	03	RUS		RADAR	40	12K0E	OTHR Contayner. Splatter to 7003 kHz
6997.0	19:15	12	03	RUS		RADAR	40	12K0E	OTHR Contayner
7000.0*	vt**	vd**	03	RUS		RADAR	40	12K0E	OTHR Contayner TX *on 40m **Very often. 72 reports 2 simultaneous TX on 40m: 17 3 simultaneous TX on 40m: 2 4 simultaneous TX on 4m: 2
7000.0	vt**	vd**	03	CHN		RADAR	42 50 66.7		OTHR "Foghorn" bursts *on 40m Often. 5 reports
7000.0 USB	18:04	19	03		PM20 - PM10	J7D	125	1K80E	MIL-188-141A ALE 2G
7000.0 USB	16:28 vt*	24 vd*	03			OTHER	2400	2400	LINK-22 NILE (NATO Improved Link Eleven). *Also on 25/03 and on 26/03; vt
7000.0	15:37	25	03			XXX		8K0E	XXX. unidentified continuous signal
7000.0	21:37	08	03	CHN		RADAR	50	10K0E	OTHR short bursts
7003.0 USB	18:08 vt	19 vd*	03				2400	CA3K0E	ALE 3G bursts *Also on 27/03 and on 29/03; vt
7004.0 USB	18:25	22	03			MIL-188-141CALE3 G	2400	CA3K0E	ALE 3G bursts *Also on 24/03, 1825Z
7005.0	17:59 vt*	06 vd*	03			XXX	12000	15K0E	WHARQ: Wideband HF Hybrid Automatic Repeat Request (ARQ). Burst system. Several BW and modulation types and QRG. *Often. 6 reports
7005.0 USB	19:08	22	03		QYA	J7D	125	1K80E	MIL-188-141A ALE 2G
7006.5	11:51 vt*	14 vd*	03			F1B	50	250H	*Also on 25/03, 1211Z
7008.5	11:52	06	03			J7D	120	2K70E	CIS-12
7009.0	15:20	08	03				30		7009 kHz USB. ALE 3G bursts
7010.0 USB	19:09	29	03		6122	J7D	125	1K80E	MIL-188-141A ALE 2G
7011.0	16:05	25	03			XXX	9000	12K0E	WHARQ
7013.0	19:57	27	03			XXX		CA3K20E	XXX. Unknown digital signal

URE. Gaspar, EA6AMM. Team members: EA4021SWL									
(Radars activity: summarized per band)									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
USB									
7016.0	11:07	22	03	RUS		F1B	75	250H	
7018.0	18:13 vt*	24 vd*	03			J7D	120	2K70E	CIS-12 *Also on 28/03, 2027Z
7019.0	16:00	10	03			F1B	50	200H	
7020.0	12:05	19	03	RUS		F1B	75	250H	
7021.0	11:24	05	03			J7D		2K70E	CIS-12, idle
7022.0	12:09 vt*	22 vd*	03			J7D	120	2K70E	CIS-12 *Also on 28/03, 2029Z
7024.0 USB	12:16	12	03			XXX		3K30E	Unidentified continuous digital signal
7024.0	11:57	14	03			J7D		CA7K0E	CIS-12 DSB, submode idle
7026.0	11:29 vt*	12 vd*	03			J7D	120	2K70E	CIS-12 *Also on 14/03, 1149Z
7026.0 USB	17:12	14	03			J7D	125	1K80E	MIL-188-141A ALE 2G
7028.0	10:47	06	03			XXX	19200	24K0E	WHARQ
7029.5	08:55	13	03			J7D	120	2K70E	CIS-12
7032.0 USB	17:55 vt*	01 vd*	03	RUS		XXX		3K0E	Jammer / frequency occupation. Noise. RUS anthem or RUS MIL march loop when no noise. Long-lasting (most of the time, 24/24H). *Daily
7035.0 USB	18:07	28	03			OTHER	2000	CA2K80E	THALES Selcall. MSK 2000 Bd and short MFSK-8 125 Bd non-standard MIL-188-141A ALE
7036.0	19:37 vt*	02 vd*	03			F1B	50	500H	*Very often. 17 reports
7048.0 - 7051.0	16:45 vt*	04 vd*	03			A1A			Looped message (beacon). MSG = 'CQ CQ CQ, RUSSIA MORDOR. PUTIN HUILO'. Drifting up and down. Long-lasting. *Often
7051.7	17:03 vt*	02 vd*	03			XXX		CA8K0E	Jammer. 85 Hz *Often. 8 reports
7060.0	11:36	26	03			F1B		200H	
7062.0	09:57 vt*	09 vd*	03			J7D	120	2K70E	CIS-12 *Also on 13/03, 1718Z
7065.0	12:18	04	03			F1B	75	250H	
7070.0 USB	19:10 vt*	22 vd*	03		571 - 514 - 288	J7D	125	1K80E	MIL-188-141A ALE 2G *Also on 23/03, 1914Z
7088.0 USB	17:56	01	03			G1D	2400	2K40E	LINK-11 SLEW
7103.0	14:34	26	03			J7D		2K70E	CIS-12
7113.0	19:21	03	03			J7D		2K70E	CIS-12, submode idle
7114.0	20:59 vt*	06 vd*	03	RUS	RDL	F1B F1A	50	200H	CIS 36-50 *Also on 08/03, 2128Z
7124.0	09:56 vt*	09 vd*	03			J7D	120	2K70E	CIS-12 *Also on 17/03, 1633Z
7137.0	18:41 vt*	03 vd*	03	RUS	RDL	F1B	50	200H	CIS 36-50 *Almost daily. 22 reports
7153.2	17:25	28	03			XXX		CA6K0E	Jammer. 85 Hz
7155.0 USB	12:45	20	03			XXX	2400	2K80E	Unidentified digital bursts. PSK8
7156.2	19:04 vt*	04 vd*	03			XXX		CA8K0E	Jammer. 85 Hz *Very often. 17 reports

URE. Gaspar, EA6AMM. Team members: EA4021SWL (Radars activity: summarized per band)									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7159.0 USB	18:00 vt*	01 vd*	03			MIL-188-141CALE3G	2400	CA2K80E	MIL-188-141C ALE 3G *Also on 05/03 and on 26/03; vt
7172.0	13:10	13	03			J7D	120	2K70E	CIS-12
7176.0	12:03	19	03			F1B	75	250H	
7178.0	19:16	17	03			J7D	120	2K70E	CIS-12
7186.0	14:06	28	03			J7D	120	2K70E	CIS-12
7193.0	11:39	04	03	RUS	RDL	F1B	50	200H	CIS 36-50 *Also on 14/03 and 19/03; vt
7195.0	11:16 vt*	22 vd*	03			J7D	120	2K70E	CIS-12 *Also on 25/03, 1217Z
7196.0	13:00	20	03			F1B	75	200H	
10106.0*	vt*	vd**	03	AUS		RADAR	96 7.2 19-23	3K0E 12K0E	OTHR JORN TX *on 30m: - Bursts, with short intro tone at the CF. 14 bursts sequence. PRF decreasing by the burst from 96 pps to 10 pps **Almost daily. 42 reports - Bursts, with short intro tone at the CF: **Very often. 34 reports - Bursts, with short intro tone at the CF. Using various PRF, all of them around 20 pps (from 18 to 23 pps). ** 2 report
10115.0	19:56	02	03	CHN		RADAR	40	10K0E	OTHR short bursts
10125.0	20:00	10	03	RUS		RADAR	40	12K0E	OTHR Contayner. Hopping. 38 TX (1 min long or longer) from 2000Z to 2315Z
10151.0	18:23	07	03	CHN		RADAR	50	10K0E	OTHR short bursts
10155.0	21:40	06	03	RUS		RADAR	40	12K0E	OTHR Contayner
10158.0	20:05	02	03	RUS		RADAR	40	12K0E	OTHR Contayner. Splatter down to 10146 kHz
13998.0 USB	18:59	14	03		810 - 236	J7D	125	1K80E	MIL-188-141A ALE 2G. Partially inside the 14m band
14000.0*	vt**	vd**	03	RUS		RADAR	40	12K0E	OTHR Contayner TX *on 14m: **Very often. 72 reports 2 simultaneous TX on 20m: 7 3 simultaneous TX on 20m: 1
14000.0*	vt**	vd**	03	CHN		RADAR	40 42 50 66.7 83.3	10K0E	OTHR "Foghorn" TX *on 20m (short bursts): **Almost daily. 139 reports
14000.0*	vt**	vd**	03			RADAR		Ca6K0E	SuperDARN-like radar TX *on 14m (Bursts. Hopping. From 14000 kHz CF to 14025 kHz CF): **Very often. 18 reports
14000.0 USB	08:29 vt*	01 vd*	03				2400	CA3K0E	ALE 3G bursts *Almost daily. 27 reports
14000.0 USB	11:55	03	03				2400	CA3K0E	14000 kHz USB. ALE 3G complete link *Often. 7 reports
14000.0	14:24 vt*	11 vd*	03			XXX	16800	21K0E	WHARQ: Wideband HF Hybrid Automatic Repeat Request (ARQ). Burst system. Several BW and modulation types and QRG. *Also on 23/03, 0814Z
14000.0 USB	18:20	23	03		1	J7D	125	1K80E	MIL-188-141A ALE 2G
14000.0	19:00 vt*	02 vd*	03			RADAR		CA6K0E	SuperDARN bursts. Hopping. From 14000 kHz CF to 14025 kHz CF. * Very often. 15

URE. Gaspar, EA6AMM. Team members: EA4021SWL (Radars activity: summarized per band)									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
									reports
14001.0	07:03	26	03			J3E-U		2K40E	Non-amateur comms. Male voices. Spanish language
14001.0	08:33	27	03			J3E-U		2K80E	South American fishers
14001.5	09:22	17	03			XXX		2K50E	Jammer bursts. 85 Hz
14005.5	08:03 vt*	10 vd*	03			F1D	600	600H	DPRK-FSK 600 ARQ *Also on 14/03 and on 19/03; vt
14007.5	08:03 vt*	10 vd*	03			F1D	600	600H	DPRK-FSK 600 ARQ *Also on 14/03 and on 19/03; vt
14008.0	07:54 vt*	02 vd*	03	RUS		F1B	50	250H	*Very often. 11 reports
14009.8	07:23	26	03			XXX		2K80E	Non-amateur comms. Male voices. Unidentified language (seems African language)
14011.0	08:11	25	03			F1B	75	250H	
14013.0	07:06	25	03			J7D	120	2K70E	CIS-12
14014.0	06:38	20	03			J3E-U		2K40E	Unid sts talikng. Male voices. Unid lang (seems Arabic). Engine sound heard on one of the two sts. Probably fishers
14018.0	07:07	19	03			J7D	120	2K70E	CIS-12
14018.5	07:13	10	03			F1D	600	600H	DPRK-FSK 600 ARQ
14024.0	13:55	19	03			J7D	120	2K70E	CIS-12
14024.0	12:19	19	03			J7D	120	2K70E	CIS-12 bursts transmitted partially over the CIS-12 TX on 14026 kHz CF
14026.0	08:06 vt*	05 vd*	03	RUS		J7D		2K70E	CIS-12, submode idle *Often. 4 reports
14060.0 USB	09:15	17	03		B55	J7D	125	1K80E	MIL-188-141A ALE 2G
14081.5	11:17	27	03			XXX		CA3K0E	Unidentified continuous digital signal. Jammer? QRT: 1132Z
14098.5	08:36	17	03			F1D	600	600H	DPRK-FSK 600 ARQ *Also on 27/03, 0704Z
14100.0 USB	14:15	19	03			G1D	2400	2400	MIL-188-110# bursts
14113.0	14:38	31	03			J3E-U		2K80E	Slavic music. Long-lasting. QRT: 1724Z
14113.5	06:50	18	03			F1D	600	600H	DPRK-FSK 600 ARQ
14115	0639	31	03			J3E-U		2K80E	Slavic music. Long-lasting. QRT: 0811Z
14127.0	15:24	16	03			J3E-U		3K0E	Broadcast relaying. Slavic music and speech (religious content. Male speaker). QRT: 1627Z
14132.0	08:38	29	03			J7D	120	2K70E	CIS-12
14136.0	13:46	07	03			J3E-U		3K20E	Broadcast relaying. Speech (male speakers, Slavic language) and Slavic music. Long-lasting. QRT 1639Z
14138.0	15:21	27	03			J3E-U		3K0E	Broadcast relaying. Slavic music and speech. Male speaker. Long-lasting
14140.0	14:04	02	03			J3E-U		3K0E	Slavic music, continuously. Long-lasting. QRT 1600Z
14141.0	10:06	05	03			F1B	75	500H	
14141.0	12:11	10	03			J3E-U		2K80E	UKR/RUS radiowar. Long-lasting
14148.5	06:37 vt*	19 vd*	03			F1D	600	600H	DPRK-FSK 600 ARQ *Also on 28/03, 1207Z
14156.0	19:01	20	03			G1D	2400	2K40E	MIL-188-110 bursts

URE. Gaspar, EA6AMM. Team members: EA4021SWL									
(Radars activity: summarized per band)									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
USB									
14158.5	09:58	19	03			XXX		CA3K0E	Unidentified digital TX, with pilot tone, just after CIS-12 on 14162 kHz CF TX ends
14160.0	07:04	27	03			F1B		250H	F1B broken system
14162.0	06:58 vt*	16 vd*	03			J7D	120	2K70E	CIS-12 *Also on 19/03, 0936Z
14169.0	07:09 vt*	13 vd*	03			F1B	50	200H	*Often. 7 reports
14171.0	07:18	08	03			J7D	120	2K70E	CIS-12 *Also on 19/03 and 26/03; vt
14192.0	07:29	01	03	RUS		F1B	50	200H	Daily
14198.5	07:31 vt*	01 vd*	03			F1D	600	600H	DPRK-FSK 600 ARQ *Almost daily. 27 reports
14220.5	08:05 vt*	02 vd*	03			F1D	600	600H	DPRK-FSK 600 ARQ *Almost daily. 24 reports
14226.0	09:04	19	03			F1B	75	250H	Idle
14228.0	08:36	19	03			J7D	120	2K70E	CIS-12
14228.5	09:20	18	03			F1D	600	600H	DPRK-FSK 600 ARQ
14231.5	07:06	05	03			F1D	600	600H	DPRK-FSK 600 ARQ
14240.0	07:32	28	03			F1B	75	250H	
14242.0	09:19	06	03			J7D	120	2K70E	CIS-12 *Also on 07/03, 0912Z
14248.5	07:08	25	03			F1D	600	600H	DPRK-FSK 600 ARQ
14250.0 LSB	13:39 vt*	19 vd*	03		PPA1 LSS2 PPA4	J7D	125	1K80E	MIL-188-141A ALE 2G. Inverted spectrum *Also on 25/03, 1725Z
14253.0	08:17 vt*	03 vd*	03	RUS		F1B	75	250H	*Often. 8 reports
14292.0	06:35	14	03	RUS		F1B	50	200H	
14294.0	12:44 vt*	13 vd*	03			J7D	120	2K70E	CIS-12 *Also on 19/03, 0732Z
14298.5	07:31 vt*	01 vd*	03			F1D	600	600H	DPRK-FSK 600 ARQ *Almost daily. 27 reports
14306.0	08:34	25	03			J7D	120	2K70E	CIS-12
14308.0	08:23	06	03			F1B	150	500H	"Chayka" bursts
14308.0	13:13	18	03			F1B	75	200H	
14318.5	06:33	12	03			F1D	600	600H	DPRK-FSK 600 ARQ
14320.0	11:45	17	03			A1A			Non-stop transmission of numbers and letters. Unclean. Long-lasting. QRT: 1344Z
18107.0	07:44 vt*	02 vd*	03	RUS	RDL	F1B	50	200H	CIS 36-50 *Daily
18148.0	07:59	14	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
18178.0	17:02	18	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus. Splatter down to 18162 kHz
20991.0	16:51	01	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus. Partially inside the 15m band
21000.0*	vt**	vd**	03	RUS		RADAR	40	12K0E	OTHR Contayner TX *on 15m **Very often. 132 reports 2 simultaneous TX on 15m: 19
21000.0*	vt**	vd**	03	G		RADAR	50 25	20K0E	OTHR G (UK SBA, Cyprus) TX *on 15m: **Often. 27 reports 2 simultaneous TX on 15m: 2
21000.*0	vt**	vd**	03	CHN		RADAR	50	10K0E	OTHR TX *on 15m: 4

URE. Gaspar, EA6AMM. Team members: EA4021SWL									(Radars activity: summarized per band)
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
21000.0*	vt**	vd**	03	CHN		RADAR	42 48 50 66.7	10K0E	OTHR "Foghorn" TX *on 15m (short bursts) **Daily. 275 reports
21000.0	13:00	13	03			XXX		2K0E	Jammer. 85 Hz
21008.5	14:25 vt*	19 vd*	03			F1D	600	600H	DPRK-FSK 600 ARQ *Almost daily. 22 reports
21083.5	16:19	18	03			F1D	600	600H	DPRK-FSK 600 ARQ
21099.7	10:02	06	03			J3E-U		2K80E	Broadcast relaying (Broadcast = Spanish language; news)
21103.5	15:07	12	03			F1D	600	600H	DPRK-FSK 600 ARQ
21118.5	14:15 vt*	17 vd*	03			F1D	600	600H	DPRK-FSK 600 ARQ *Also on 18/03 and on 26/03; vt
21128.5	14:15 vt*	17 vd*	03			F1D	600	600H	DPRK-FSK 600 ARQ *Also on 18/03, 1205Z
21143.5	07:42	15	03			F1D	600	600H	DPRK-FSK 600 ARQ
21145.0 USB	08:48	01	03	MRC		J7D	125	1K80E	MIL-188-141A ALE 2G. *Daily
21198.5	14:29	17	03			F1D	600	600H	DPRK-FSK 600 ARQ
21208.5	07:00 vt*	13 vd*	03			F1D	600	600H	DPRK-FSK 600 ARQ *also on 17/03, 1432Z
21220.5	12:04	01	03			F1D	600	600H	DPRK-FSK 600 ARQ
21225.0 USB	16:19	03	03			G1D	2400	CA2K80E	MIL-188-110## bursts
21225.0 USB	08:41 vt*	06 vd*	03				2400	CA3K0E	MIL-188-141C ALE 3G *Often. 4 reports
21258.5	14:27	18	03			F1D	600	600H	DPRK-FSK 600 ARQ
21268.5	14:21 vt*	19 vd*	03			F1D	600	600H	DPRK-FSK 600 ARQ *Often. 4 reports
21284.0	07:59	25	03			F1B	75	500H	
21316.0	11:40	11	03			A1A	25		CW encrypted QTC
21317.0	09:30	11	03				7.81	CA300HZ	RUS XPA 2. MFSK 16, 7.81 Bd. Unscheduled TX
21360.5	07:32	18	03			XXX	14.3	16K0E	Unidentified bursts. Already received on 15m during the last months
21427.0	08:18	15	03			F1B	75	200H	
21438.0	08:30 vt*	01 vd*	03	RUS	RCV	A1A			RUS navy QTC *Almost daily. 26 reports
24889.0	10:11	12	03	RUS		RADAR	40	12K0E	OTHR Contayner
24896.0	09:41	03	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus
24973.0	10:12	12	03	CHN		RADAR	50	10K0E	OTHR short bursts
24985.0	09:36	15	03	CHN		RADAR	41.8	10K0E	OTHR short bursts
27990.0	08:34	11	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus. Splatter to 28004 kHz
28000.0*	vt*	vd**	03	IRN		RADAR	313 695 150/313	Ca45K0E	OTHR IRN TX *on 10m: - 313 pps bursts only. **Very often. 19 reports - 313 pps bursts. Hopping:** 4 reports - 695 pps bursts only. ** 3 report - Alternating 150 and 313 pps bursts: ** 1 report 2 simultaneous TX on 10m: 4

URE. Gaspar, EA6AMM. Team members: EA4021SWL (Radars activity: summarized per band)

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
28000.0*	vt*	vd**	03	G		RADAR	25 50 12.5	20K0E 20K0E 40K0E	OTHR G (UK SBA, Cyprus) TX *on 10m **Very often. 48 reports 2 simultaneous TX on 10m: 3
28025.0	09:13	30	03			F1B	51	300H	Fishing buoy
28051.5	09:10	30	03			F1B	51	300H	Fishing buoy
28062.5	09:11	30	03			F1B	51	300H	Fishing buoy
28100.0	09:22	30	03			F1B	51	300H	Fishing buoy
28135.0	09:29	30	03			F3E		6K0E	Non-amateur traffic. Female voice. Slavic language. Most probably RUS taxi
28145.0	09:14	30	03			F3E		6K0E	Non-amateur traffic. Female voice. Slavic language. Most probably RUS taxi
28175.0	09:16	30	03			F3E		6K0E	Non-amateur traffic. Female voice. Slavic language. Most probably RUS taxi
28190.0	09:12	30	03			F3E		6K0E	Non-amateur traffic. Female voice. Slavic language. Most probably RUS taxi
28195.0	09:11	30	03			F3E		6K0E	Non-amateur traffic. Female voice. Slavic language. Most probably RUS taxi
28275.0	09:23	30	03			F3E		6K0E	Non-amateur traffic. Female voice. Slavic language. Most probably RUS taxi

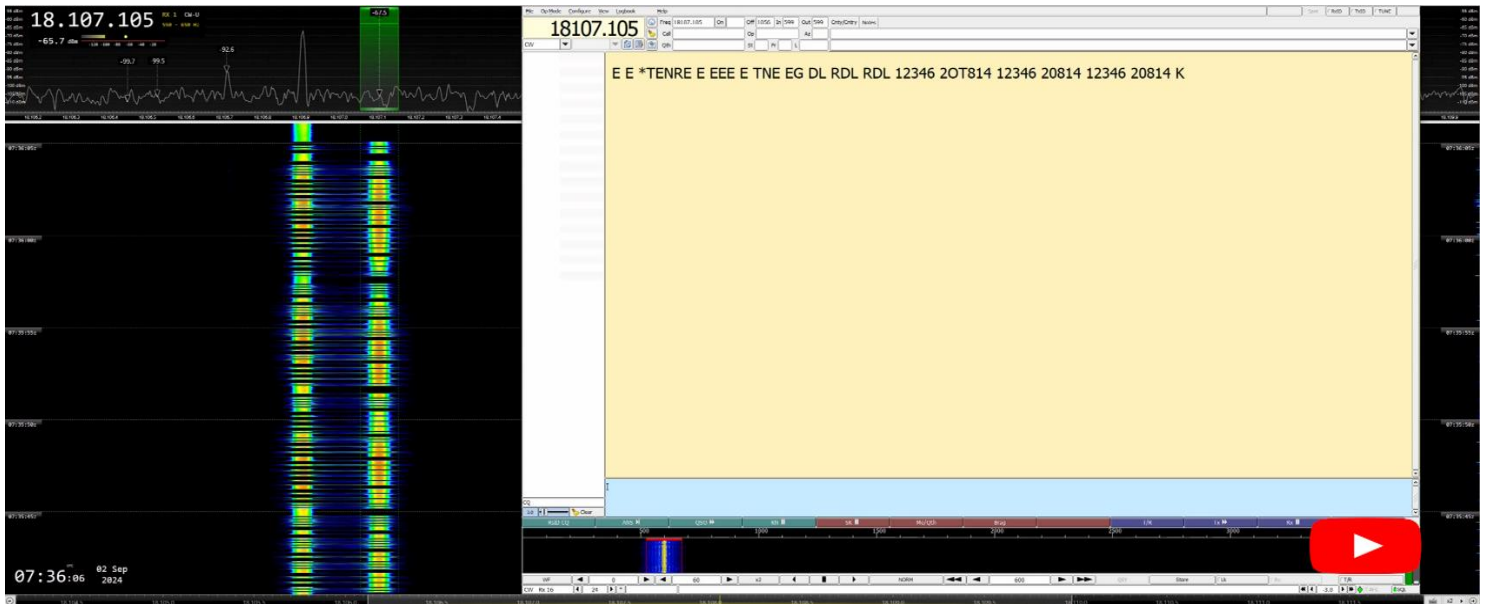
VERON. Ruud, PG1R. Credits to observer Rene PA3EQO

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7032.0	vt	vd	03	RUS		J3E-U	100	3K20E	Persistent 100Hz hum; loc most likely Kaliningrad; daily, 24 hrs; S9+
7052.5	2001	06	03			XXX		4K50E	CF; Unknown signal; probably jammer
7055,0	vt	vd	03	UKR /RU S		J3E-L		2K80E	Russian/Ukrain war rhetoric
14053.0	1945	25	03	RUS		RADAR	40	12K0E	CF; OTHR Contayner
14192.0	1104	09	03	RUS		F1B		200H	Printer; idle

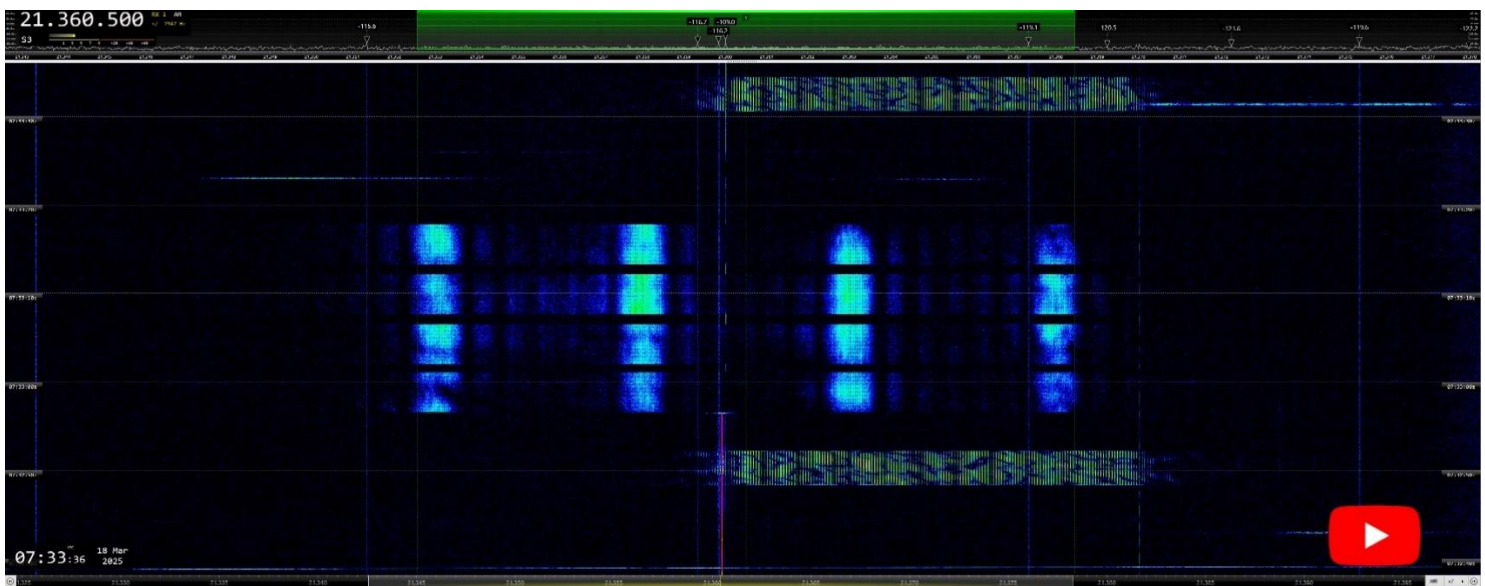
Contact: Gaspar, EA6AMM. IARUMS Region 1 coordinator: iarums@iaru-r1.org

IARUMS R1 Coordinators: <https://www.iaru-r1.org/spectrum/monitoring-system/iarums-region-1-coordinators/>

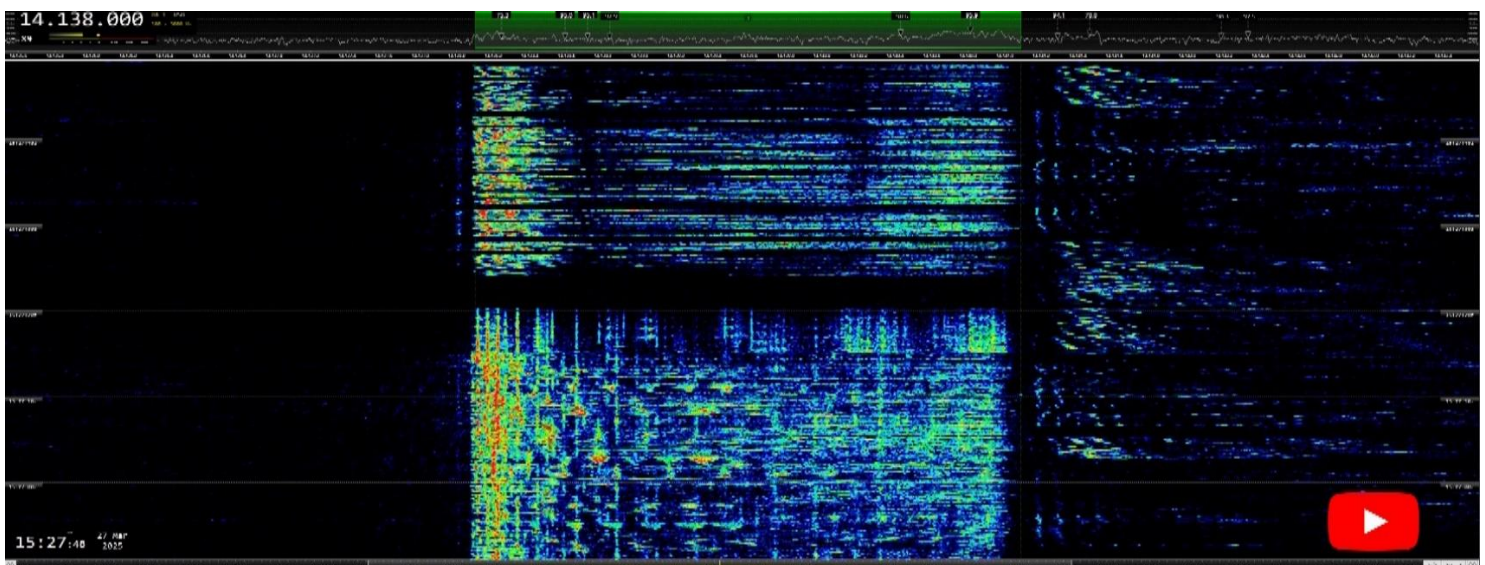
Visit our website: <https://www.iaru-r1.org/about-us/committees-and-working-groups/iarums/>



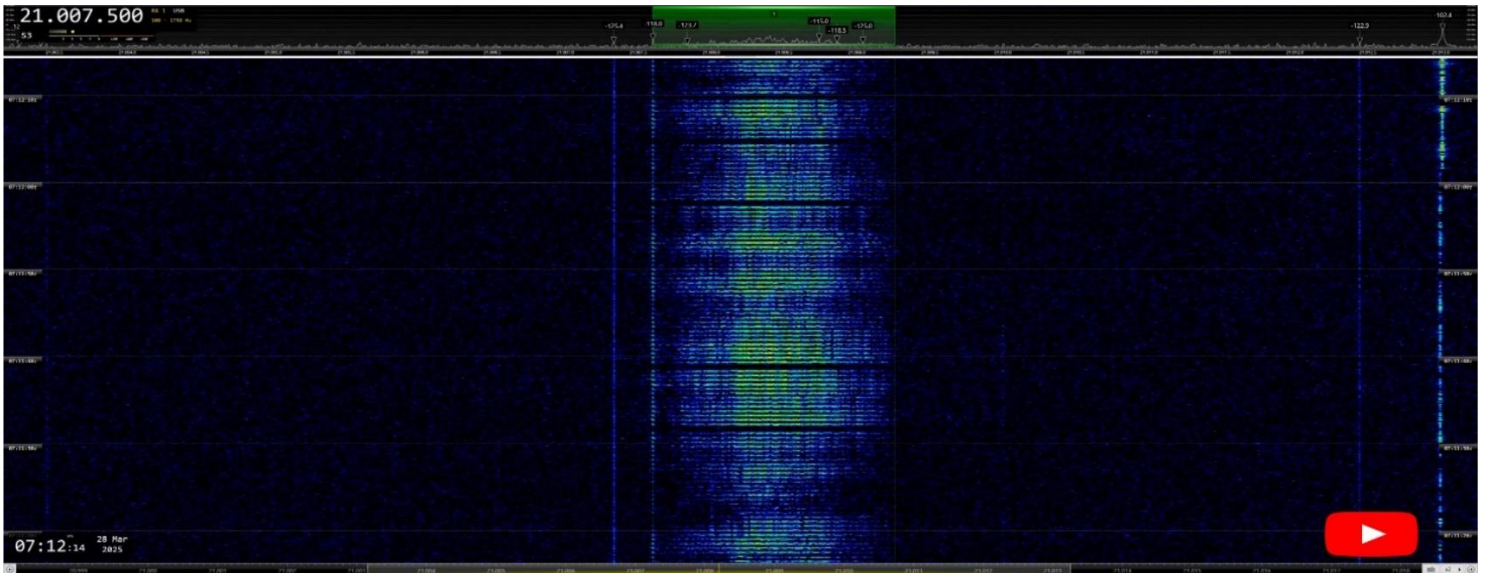
18107 kHz CF: CIS 36-50. Daily on March 2025. RUS. FSK: F1B and F1A (FSK telegraphy for aural RX). Shift = 200 Hz. 50 bd. (Example video)



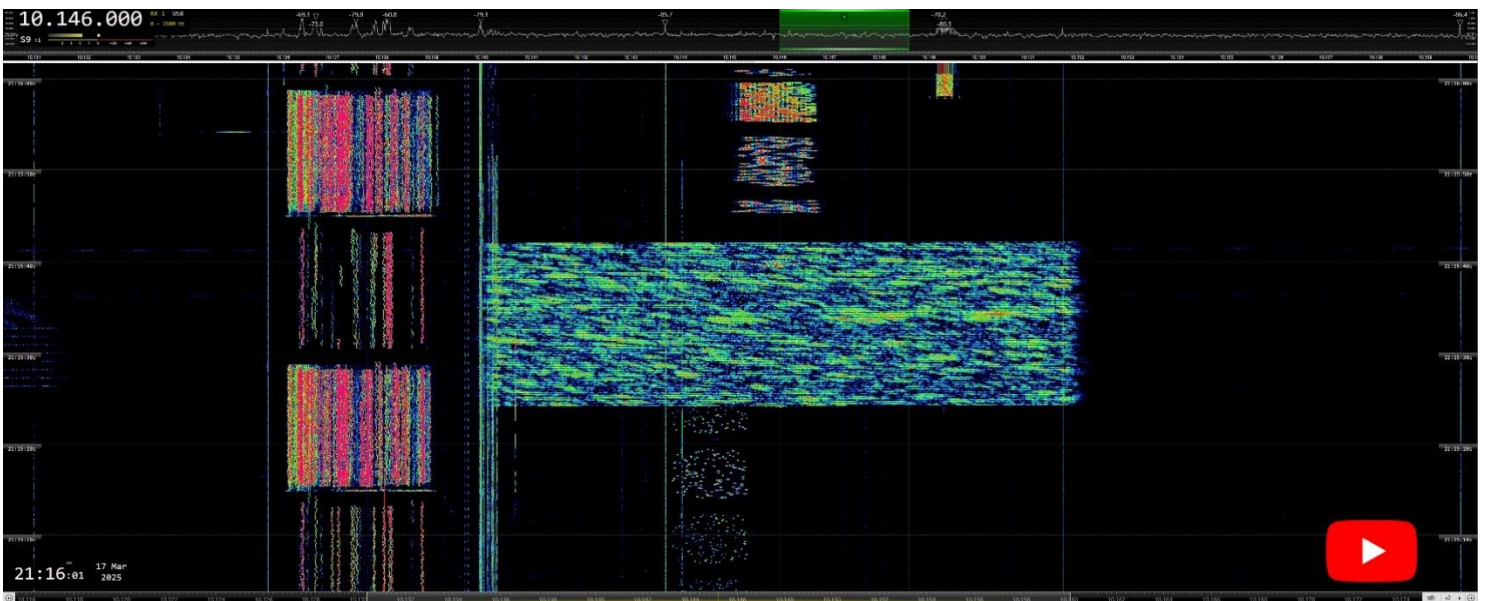
14360.5 kHz CF: XXX. Unidentified bursts. BW = 16 kHz. PRF = 14.6 pps. This signal has also been received often during the past months



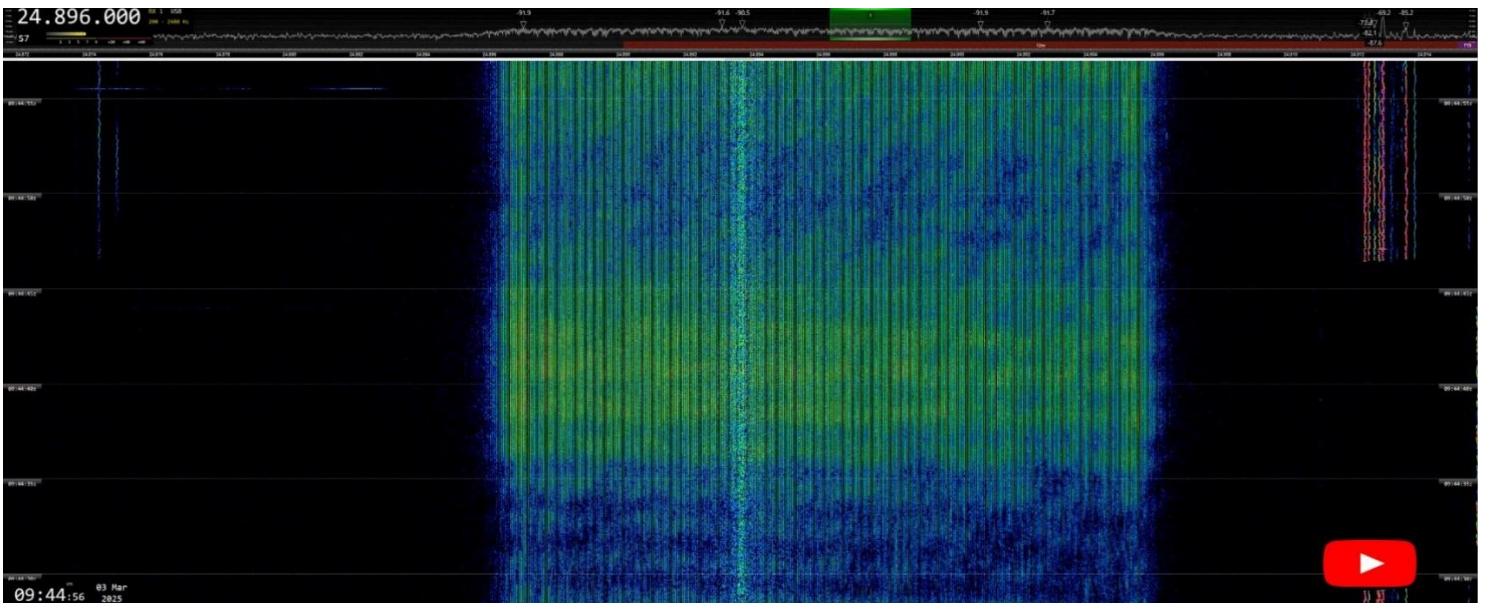
14138 kHz USB: broadcast being transmitted or relayed. Slavic speech and music. BW = 3 kHz..Longl-lasting. Often between 14110 and 14140 kHz



21008.5 kHz CF: DPRK-PSK 1200. Diplomatic mode used by the North Korean Embassies. BW = 1.2 kHz. 1200 Bd



10146 kHz CF: OTHR JORN bursts. AUS. BW = 12 kHz. PRF = 7.2 pps



24896 kHz CF: British OTHR (located at the UK Sovereign Base Area in Cyprus). BW = 20 kHz. PRF = 50 pps