ENIGMA 2000 NEWSLETTER

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Front of Chinese Embassy, Portland Place, London

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Rear of Chinese Embassy, Portland Place, London

These images show the once highly antenna populated roof of the Chinese Embassy, London as it now is. The imagery taken a few days after receiving an image of a mast purporting to be atop the embassy.

The image was of the mast above BBC House, also situated on Portland Place but on the opposite side.
See Page 2

ISSUE 150
September 2025

http://www.enigma2000.org

<u>REMINDER:</u> IN KEEPING WITH OUR ANNOUNCEMENT IN OUR RECENT NEWSLETTERS ENIGMA2000 WILL NOT DISCUSS THE RUSSIAN/UKRAINE or ISRAEL/GAZA MATTERS BEYOND TECHNICAL MATTERS

WE WILL NOT BE ANSWERING E MAILS SENT FROM THE PARTICIPATING COUNTRIES CONCERNING OUR SUBJECT MATTER

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This is the mast above the Portland Place location BBC House.

Some interesting stuff on there and probably not to do with news gathering, however, an entire bank of satellite dishes just around the corner that might be.

What looks like a colinear atop the mast and a couple of SUHF[!] yagi underneath with some cellular antennas under that.

Then there's stuff on rotators and who knows what that's about.

I sneaked around the rear of the Chinese Embassy but expected shots not available; housing development occludes the view.

Having fasted the night before for phlebotomy [all results good] and hydrated well I discovered no Public Conveniences in Portland Place. Looking for a pub I discovered the 'Kuwait Medical Centre.'

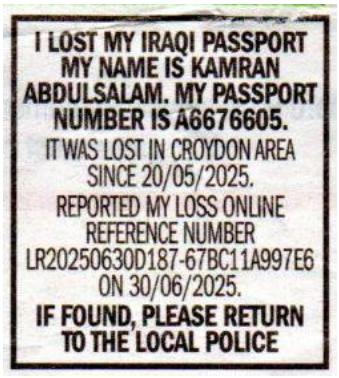
I asked bloke on the steps if they would kindly oblige this old *shayber* and was shown into the loo. Many thank for that 'Shukran Sayedi!'

©P Beaumont 13/09/2006

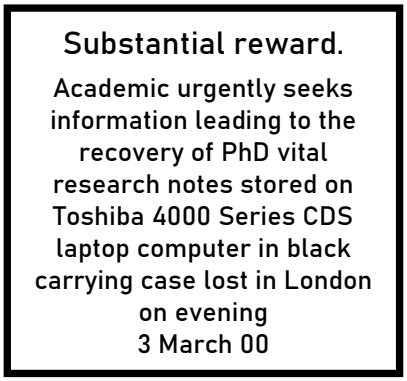
Rear view of Chinese Embassy Portland Place London 13th Sept 2006 at 0453z. Note antennas!

Whlie we're on matter 'diplomatic' here's a cracker sent in by our helpful contributor 'E' [*All the best for the future*].

When this came out of the envelope my mind immediately went to the lost laptop adverts, in particular the one left in a Mexican[?] Tapas eatery near MI6, left there by an 'officer' out on a bender one night; and another left on a train. So what is the story behind this? Is it an unusual event to see and add like this when all the bloke has to do is turn up in Queen's Gate SW7 for a renewal, or is there something a little grey here:



Thanks 'E'! A true ENIGMA



Previously……..lol!

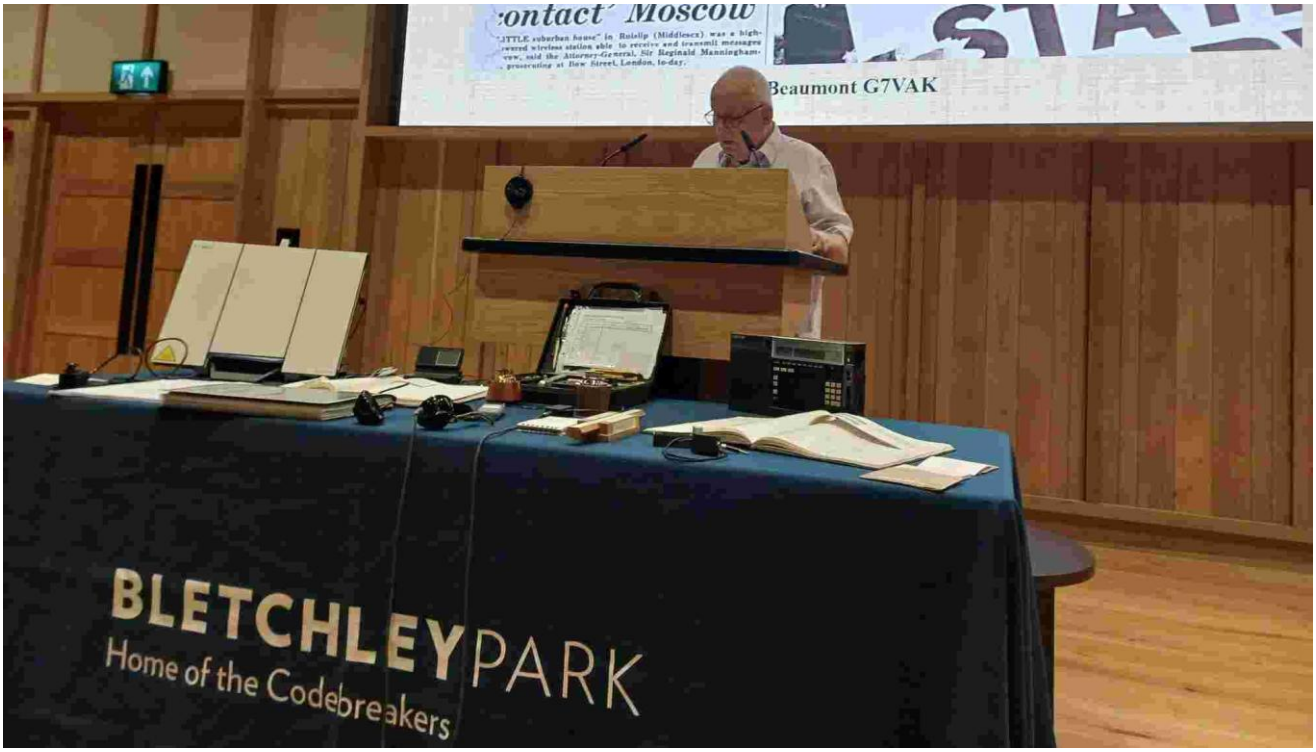
Read [BBC News | UK | Laptop safety - a guide for spies]

Editorial

That's the excitement of the Chinese Embassy antenna farm dealt with; I also looked atop the Polish Embassy to also discover there inverted V had also been removed, What will transpire at the Royal Mint Site when the Deputy Prime Minister approves it will be seen once its actually finished.

Returning from Wimbledon after a tram trip from B&Q Valley Park to Vauxhall Cross on a 390 bus we passed the US Embassy. Nice building and it will be interesting to see what's now on their roof – remembering there were a number of dishes and a T2FD atop the Grosvenor Square location of the old embassy.

Readers will recall that PLdn was asked to give a talk on Number Stations at Bletchley Park; this was delivered in good form and was a success. Two E2k members present. A massive thanks to the member who gave me a lift to Watford Junction; which, with my heavy suitcase was of immense help.



Here we see yours truly kicking off at BP for an hour tour [+5m] of Number Stations: 1950 to the Present.

We've suffered the usual poor conditions yet again; my own location is definitely the wrong side of the hill for Family 3 stations and E07 stuff. There's been lightning forecasts [and storms here] along with two power cuts. One of my making and one to do with our fatcat overcharging utility supplier.

Lost and Found Department [H-FD]

New July frequencies for the following skeds:

* E07 thu/sat 1000z (ex 1410z): 19235/18368/17421 kHz ID 234
* M12 mon/fri 0800z (ex 0210z): 13931/12153/11536 kHz ID 915
* M12 fri/sat 2100z : 17453/16312/15836 kHz ID 478
* XPA2 thu/sat 0900z (ex 0910z): 18371/17457/16279 kHz
* XPA2 mon/wed 0910z : 19345/18495/16279 kHz
* XPA2 tue/thu 1700z (ex 1600z): 18235/17437/16179 kHz
* XPB1 mon/tue 0500z : 18687/18287/16287/15887/14487/13387 kHz

All E11/S11a skeds mentioned in the Chart Section of Newsletter #149
have been heard in July. [Tnx H-FD]

New August frequencies for the following skeds:

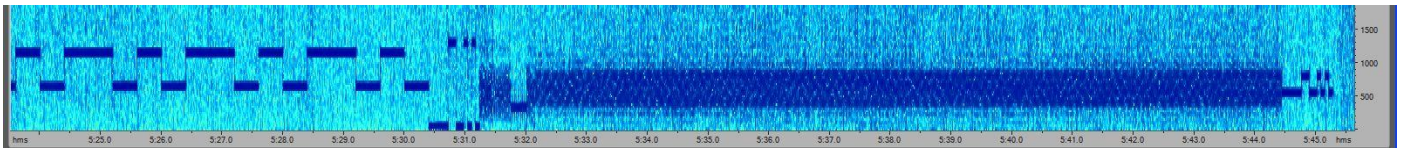
* E07 thu/sat ex 1410z 13519/14819/15919 kHz ID 589
now 1000z 18241/17456/15937 kHz ID 249
* M12 mon/fri ex 0210z 12163/11163/10463 kHz ID 114
now 0800z 13457/12161/10928 kHz ID 419
* M12 fri/sat ex 2100z 10314/ 9114/ 8014 kHz ID 310
now 2100z 12189/13475/14643 kHz ID 146 now upward!
* XPA2 mon/wed ex 0910z 18059/16093/14874 kHz
now 0910z 19597/18173/17472 kHz
* XPA2 tue/thu ex 1600z 18235/17437/16179 kHz
now 1700z 19164/18237/17451 kHz
* XPA2 thu/sat ex 0910z 14372/13372/12172 kHz
now 0900z 18376/17431/16184 kHz
* XPB1 wed/sat ex 1100z 13567/13367/12167/11567/11067/10567 kHz

now n o t f o u n d

All E11/S11a skeds mentioned in the Chart Section of Newsletter #149
have been heard in Augus [Tnx H-FD]

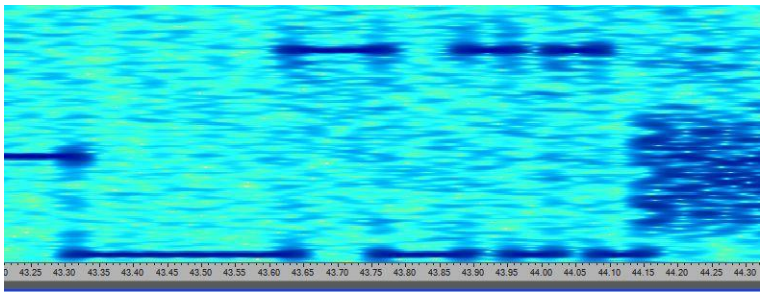
New Polytone?

Whilst tuning the 12MHz band after the 1815z E11 [12229kHz 22/08] I saw a polytone like signals appear on my SDR screen.Tuning to 12142kHz [poss error here] I recorded the signal noting its 900Hz bandwidth [Filters set at 450 to 1350Hz]; here is the resulting sonogram:



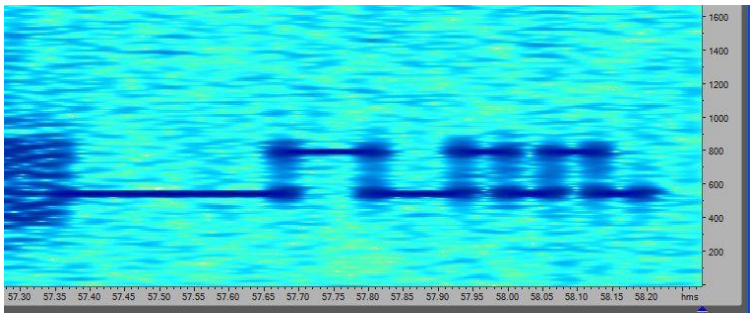
The 2m lead in being very similar to the XPA1/XPA2 with the upper 'Mark' alternation in short or long duration, the space staying one length.

The change from the lead in to message [data form] is somewhat memorable of the XPA1 or 2 separator tones 626262:



Unk Start separator

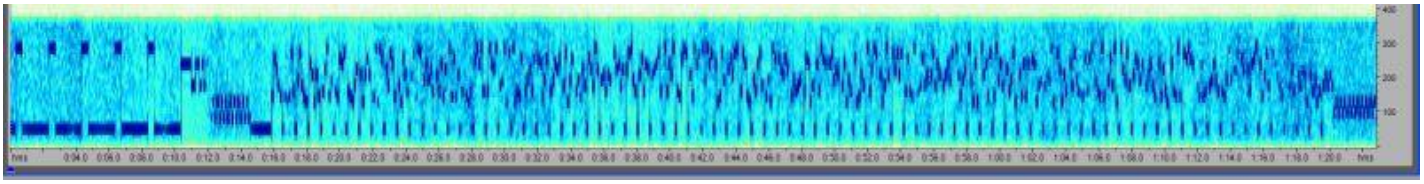
With end probably providing the shut down of the program/laptop, whatever.



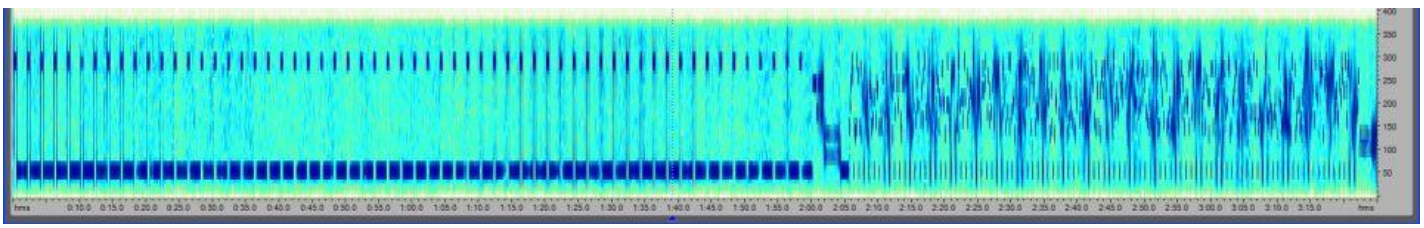
Unk Finish

The question is, "Are we looking at XPA3."
ENIGMA2000 would be grateful to receive sensible answers as to what this waveform actually represents,

However, monitoring of the 12142kHz frequency produced a peculiarity. Apart from the freq being slightly out the nect transmission received was on Tuesday 26/08. Not this expected data type offering but XPA2:



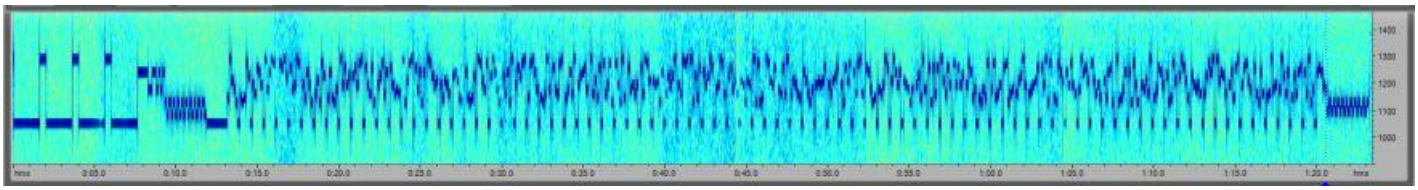
26/08 07520 00081 38200 … 24242 Fair and of 3m14s duration
then:



27/08 03697 00097 08853 … 15237 Fair and 3m25s duration.

I thought this was the 1800z schedule Ary had posted in July, so no mystery there except the low freq. Until, that is this occurrence on the corrected 12141kHz at 1520z 28/08:

12141kHz **1520z** 28/08 [Freq corrected -1kHz] Strong sigs, message as shewn

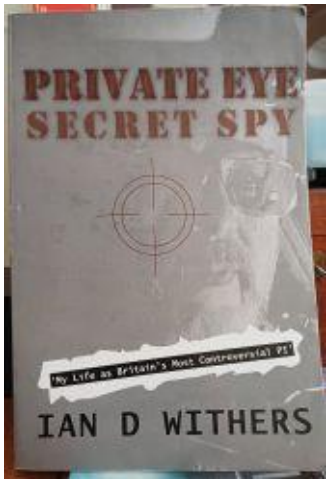


09422 00085 31763 92698 28795 72398 30633 14485 06002 93735
57389 73177 35816 73121 99489 72666 98534 30431 56400 60005
98428 59622 51669 37589 08962 00192 72189 02619 35672 91407
81388 83390 72313 71984 43446 15359 31989 99507 63597 23981
57241 43343 99880 98437 21719 14310 64112 34347 31457 33748
61891 76220 21397 49636 43222 35092 77717 94173 83735 38602
00208 28013 78812 14593 12347 73998 00864 63831 29674 84130
40677 99026 66833 32419 02763 55084 59740 53231 15869 94651
36079 37842 71161 01923 29516 05167 61992 67632

This frequency used in other schedules

The data type signal something else, it seems.

Recommended Reading



‘Private Eye, Secret Spy’ Ian D Withers

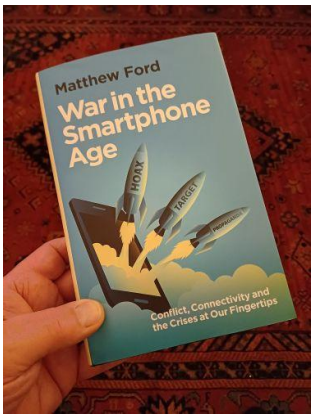
Following Manchester Ringway’s video of a certain intercept of a bug by a certain amateur, G3EFS, a Bill Boreland, in Bromley I spoke with Lewis, having has some input on this story. The hotel mentioned no longer exists, a block of flats now. The story, however, as related by Ian Withers, and which caused a change in the law concerning non-licenced transmitting devices, is a compulsive read.

Apart from a lot of standard Private Investigator work, Withers built his reputation on this, of Court Orders being served, Divorce photography he was also involved in the Seychelles matter; culminating with the assassination of Gerard Houreau on an Edgeware, London Doorstep. This was covered in the Ch4 ‘First Tuesday: The Buggist’ luckily still available here:
https://www.youtube.com/watch?v=n_0IHK9Uvmg

This book is a cracker [another book by Withers is almost word perfect copy. *Thanks to the member who sent this book to me.*

Also mentioned in the txt is Gary Murray, actor and PI, His book ‘Enemies of the State’ well recommended [also seen in ‘The Buggist’].

No apologies for posting an abbreviated appreciation of this volume, from En149, given the drone content this time:



Throughout the book Matthew Ford explains and demonstrates the smartphone, its supporting technology and peripherals as a major component of the eventual 'use' of the kill chain.

The content is not over technical; the title adequately describes the content but does not give a hint of the wide knowledge that will be imparted. An in-depth read will ensure the reader will never look at their Smartphone in the same fashion, the use of the 'internet of things' may well make them tremble more than the Tumble drier being programmed for the latest wash. An excellent book, expertly written. PB 30062025-28072025

Newsround

Russia [Technology]

Fully Chinese-made drone found in Ukraine for first time
Discovery shows latest sign of cooperation between Beijing and Moscow

Allegra Mendelson
Asia Correspondent, Taiwan
Related Topics
Russia, China, Russia-Ukraine invasion live, Drones (aircraft)
23 July 2025 2:54pm BST

https://www.telegraph.co.uk/world-news/2025/07/23/fully-chinese-made-drone-found-in-ukraine-for-first-time/

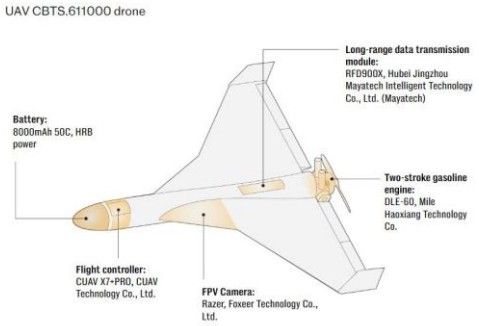
A new Russian decoy drone used to spoof Ukrainian air defences is made up entirely of Chinese parts, it has been revealed.

The discovery, by Ukrainian intelligence, marks the first time that Russia has deployed weapons made only with Chinese components.

It shows the latest sign of cooperation between Beijing and Moscow, despite Xi Jinping insisting that China does not supply lethal aid to either side of the war in Ukraine.

While Chinese technology has been found in other Russian weapons, it had always been combined with components from other countries.

Ukrainian intelligence said it was able to recover two of the new unmanned aerial vehicles (UAVs) and take them apart.



The UAV CBTS.611000 drone is primarily used for reconnaissance and as a decoy, but it can also carry a warhead weighing up to 15kg.

Nearly half the components of one of the drones were manufactured by CUAV Technology, a company based in Guangdong province that advertises itself as an "open source drone solution supplier."

These parts included a flight controller with autopilot, navigation modules and antennas, airspeed sensor and a pitot tube.

In 2022, the company announced that it would implement restrictions on the export of its products to Russia and Ukraine to prevent military use.

However, the recently discovered drones are not the first time that products from CUAV Technology have been found in Russia.

In 2023, Moscow used a vertical take-off UAV, which it alleged was its own design, that included a CUAV Technology product available on AliExpress, a popular online Chinese retailer.

In addition to CUAV Technology, Ukrainian intelligence also said the Chinese drones contained an engine and electronic ignition module from Mile Haoxiang

Technology, a first person view camera from Foxeer Technology and a Chinese-made copy of the Australian RFD900X data transmission module from RFDesign, which can transmit data up to 40km (25 miles).

"This system enables the creation of a data transmission channel from the UAV to its ground station or between UAVs, thereby enhancing its reconnaissance capabilities," said Ukraine's intelligence service.

The agency had previously estimated that 80 per cent of the electronics used in Russian drones originated in China, which was backed up by the US state department.

China has repeatedly denied that it is supplying any lethal weapons "to any party in the conflict" and claimed that it "strictly controls dual-use items".

In a post on its Telegram, Ukraine's intelligence agency said the drones have a delta-wing fuselage, which is similar to the Shahed-136 drones, but is smaller in size.

Shahed drones, known in Russia as Geran-2, are a type of exploding kamikaze UAV, which Moscow has used extensively in its war against Ukraine.

Earlier this month, images of a damaged Geran-2 revealed that parts of the drone had also been manufactured by a machining company in Suzhou province in China.

https://www.telegraph.co.uk/world-news/2025/07/23/fully-chinese-made-drone-found-in-ukraine-for-first-time/

Ukraine [Technology].

Dispatch: Ukraine turns to machines to spare troops from drone-infested ‘grey zone’
A new Russian threat is looming over swathes of territory behind the frontlines

Memphis Barker
Senior Foreign Correspondent, near Pokrovsk.
Julian Simmonds

https://www.telegraph.co.uk/gift/8a793a1cf78ca32e

Ukraine, Russia-Ukraine war, Russia
05 July 2025 10:00am BST

The crack of a Ukrainian howitzer splits the air, mingling with the rumble of thunder. Then there is another sharp blast, followed by a sound like shredding paper as a Himars missile roars overhead.

Unfazed by the orchestra of war, a Ukrainian electrician continues repairing a power cable severed during Russian shelling.

But as he works, a less familiar sound signals a new threat: the insistent beep of a drone monitor. Even here – in a village on the outskirts of the front line in the eastern city of Pokrovsk – Russian surveillance and strike drones now maintain a constant presence.

“Keep your eyes on the sky and listen,” says Vitaliy Asinenko, the Pokrovsk region chief at DTEK Donetsk Grids, looking up at the lead-grey clouds.

Artillery his men are used to: you hope it is aimed elsewhere and take your chances. But if one of the drones circling overhead decides to target the crew, they will have little chance of survival.

In his hand, Vitaliy clutches the drone monitor, a £200 device first handed to employees last autumn. Its beeps - now sporadic - will become a single, high-pitched scream if a drone approaches, providing seconds of warning to take cover.

Unmanned aerial vehicles (UAVs) have become ever-present more than 10km behind the trenches in both directions, making the front line perilously difficult to reach, or leave. In response, Kyiv’s military planners are attempting to reduce the amount of men sent through this lethal “grey zone” and replace them, where possible, with machines.

But DTEK power company’s work regularly takes it into the zone.

To reach the damaged cables, Vitaliy drives grimly in his armoured Land Cruiser and instructs The Telegraph to be ready to jump out of the door. “There is a surveillance drone 400m from the car,” he says, as the beeps from the monitor get louder. “It’s following us.”

The car turns into a corridor of anti-drone netting that has been recently erected over the “road of death” into Poksrovsk, the city at the crux of Russia’s summer offensive. The webbing is flimsy, albeit strong enough to entangle a light drone before it explodes.

By the side of the road, soldiers fix a gap made by a recent artillery strike as one watches the sky with an anti-drone gun.

UAVs – be it suicide, bomber or fibre-optic – cause around 70 per cent of all casualties in the war in Ukraine. Troops can no longer be safely transported to their positions inside armoured vehicles, a point one soldier illustrates with images of wrecked MaxxPro MRAPs on his phone.

In one of the pictures, a charred torso lies face down in the blackened dust, arms flung into the air either side of its helmet. Evacuation is equally perilous and infantry now spend longer in their dugouts, unwilling to risk any journey unless it is absolutely necessary.

In Dobropillia, one of the last towns en route to Pokrovsk, soldiers in uniform relax in cafes beyond the reach of the drones. A recruitment billboard shows the pilot of a first-person-view (FPV) drone standing back-to-back with an Iron Man-like robot, shielded by armour on all sides. “We will give you the innovations to stop the enemy,” promises the 1st brigade.

While soldiers who used to fire stingers or mortars retrain as drone pilots, Kyiv is also pioneering the use of robots that can travel across the ground, delivering supplies, retrieving the dead and, on occasion, carrying out attacks.

“We need to replace soldiers with robots,” Col Pavlo Khazan told his superiors in a 2023 presentation. Ukraine, he argued, could not match Russia’s recruitment level, which is now around 30,000 soldiers per month. Nor does it treat its men like “cans of meat” to be frittered away in suicidal assaults.

One general told him he had ideas above his station, but the principle was endorsed by Gen Valery Zaluzhny, the former commander-in-chief of the Ukrainian army.

Today, drones mean that fewer men are needed to hold the line on parts of the front, says Col Khazan, a former unmanned systems commander now serving in the field of electronic warfare. “My grandfather used to be an artilleryman in the Second World War,” he adds. “I have deep respect for the artillery and infantry.”

But drones are cheaper than artillery and require fewer operators. “We are well on the way” to an army of machines, he says, speculating on a future where drone swarms – not men – bear the brunt of assaults.

On his last deployment, Ivan walked 8km (4.9 miles) to his position. The unit travelled at dawn, hoping to avoid the Russian drone pilots, who he says “work mostly at night”. The team crept through the flat, tree-lined landscape, around 10 metres apart. Any closer would have made them an easy target; any further apart risks the lives of the wounded. The march was heart-pounding.

Not far from his dugout, the 21-year-old machine gunner with the Da Vinci Wolves set up an automatic MK19 grenade launcher. “We killed two a few days ago,” he says in between drags of a cigarette. The commander spotted a Russian advance and told the unit to raise their drone. Watching on his monitor, Ivan clicked on the soldiers’ heads and the gun fired two 40mm grenades. “Pof,” he says, slapping his skull emphatically. At the beginning of the war, the MK19 had a margin of error of 20 metres but with the drone it is more precise.

“If I tell you [why I’m in this unit], they’ll definitely say video games cause violence,” Ivan says with a smile before listing his favourites: Minecraft, Stalker, World of Tanks. His friends have joined the same unit, which specialises in robotic platforms. “We drank. We signed up. I’m standing here,” he says, gesturing to a dark hangar full of unmanned ground vehicles (UGVSs). He will return to the front next week.

Ukraine has stabilised the lines around Pokrovsk since the turn of the year. The Russian army, blocked at the entrance to the city, is attempting a pincer movement. Magyar’s Birds, one of Ukraine’s elite drone units, has helped to slow their advances by picking off troops and supply lines up to 20km (12.4 miles) behind the front.

Earlier this month, Robert “Magyar” Brovdi, the newly promoted commander of Ukraine’s unmanned systems forces, reorganised the reward system for confirmed kills to prioritise Russian drone operators. But Vladimir Putin is expected to throw more resources at the city, which would give Moscow a crucial foothold in its attempt to seize the entire Donetsk region.

As the DTEK electricians work in the village near Pokrovsk, a group of residents gather by the roadside. Only 300 remain from a pre-war population 10 times the size. Most lack the funds to flee. Without electricity, the villagers are unable to draw clean water from their well. Food is scarce.

On the other side of the road, a graveyard stretches through un-mown grass that rustles in the wind. Ambulance services and undertakers will not come here, so residents are forced to bury the dead themselves. Makeshift wooden crosses mark the more recent graves.

“It’s nerve-wracking,” says a tall, thin man in a gilet and black tracksuit. “There was a time when there weren’t any drones, but now they’re here every single day.” Only last week, a team of five Russian saboteurs was killed in the village.

One of the DTEK employees is up a ladder resting against a pylon when – around 10 minutes after Ukrainian fire – the Russians launch a return volley. Four whoomphs can be heard in succession. “Guided bombs,” mutters Vitaliy, “closer and closer”.

“Can you see the mushroom clouds?” he asks the worker up the ladder, who pokes his head up to take a look. “No,” he replies. Unlike last Thursday, they will not have to abandon the job and take cover. At a nearby substation, the power to the village is turned on again. “On to the next one,” says Vitaliy, opening the car door to listen as another Himars flies overhead.
In Pokrovsk itself, electricity is a distant memory. The city stinks of death and just entering has become a form of Russian roulette, says Vitaliy, who left not long after an Iskander missile landed on his neighbour’s home. In a temporary office in the city of Dnipro, Serhiy Dobryak, the mayor of Pokrovsk, admits that the pendulum has started to swing in Moscow’s favour, at least when it comes to drones.

“The Russians are mass producing drones now,” he says, his tired eyes behind a pair of rimless spectacles. “Before let’s say October 2024, we had an advantage in drone warfare, but then they caught up with us.”

Most concerning is the arrival of the fibre-optic drone, which uses a system that trails a cable back to the operator like a child’s toy telephone. Parked outside, the mayor’s orange pick-up truck hosts a four-pronged drone jammer, but electronic warfare systems such as this are useless against the new weapon harnessing old-fashioned methods. Specialist Russian units are using them to devastating effect around Pokrovsk. Shiny spool covers the fields across no-man’s land, glinting with dew in the morning light.

“We all laughed at them” when they first appeared, Ivan recalls. But he can remember the exact moment he came face to face with a fibre-optic drone: 9.54am on April 30. Unlike radio drones that need a pathway to the sky, fibre-optics can nose around enclosed spaces, like a snake tipped with explosives. That morning, the Russian drone exploded in Ivan’s dugout while he was still sleeping. But it released no shrapnel. “I woke up with stars in my eyes and my ears ringing,” he says, picking up a hand grenade in wonder. “I was wearing one of these on my vest too. I can’t believe it didn’t explode.”

Ukraine’s catch-up operation leads to a nondescript house in the Donetsk region, where “Lug” works at a desk surrounded by shelves that are loaded with cartons of spool. Each is marked by length: 5km, 10k, 20km. It is Lug’s job to engineer the fibre-optics used by the Dovbush Hornets, a drone battalion with the 68th brigade, so they can rival their Russian counterparts. He lifts a captured Russian system with the appreciation of an artisan. “It is a good drone,” he says.

Different statistics on drone capabilities fly around. Russia is said to be able to trail at a maximum around 50km of spool behind its drones. For Ukraine, the figure is closer to 30km. Initially, Kyiv bought spool from China but now it manufactures its own, says Lug. With his soldering iron, electronic scales and magnifying glasses, he has spent the past few days trying to improve the detonation mechanism so there is not too much delay as the signal travels down the wire.

Training pilots also takes time. Fibre-optic drones have to fly at lower altitudes, slower speeds and in an “S” shape, so they trail enough spool behind the craft. Sharp turns are not advisable either. The drone’s rotors can sever the cable, which is thin enough that it can hardly be felt even on your fingertip. Around 5 per cent of the drones used by the Hornets are currently fibre-optic, Lug says, but he proffers a video of proof for why the figure will rise.

“Good morning motherf----r!” one of the battalion’s new fibre-optic pilots shouts, angling his drone towards a Russian soldier in a sleeping bag under a bridge. The Russian desperately kicks the drone away, but it loops back towards him. The camera cuts out and it’s good night.

If Ukraine is lagging behind in fibre-optics, it has edged ahead with its use of robot systems to retrieve its own casualties, so many of which are now caused by the homespun devices. In spring, Kyiv announced plans to deploy 15,000 UGVs to the front. As things stand, they are relatively rare – a reflection of the cost, novelty and troubles of poor weather. But supporters believe they will have an impact as transformational as the airborne drones before them.

In April, the Da Vinci Wolves’ robot platforms platoon began using the “termite” to deliver weapons to the front and then bring back fallen comrades. Ivan gamely hops on the loading bay of the tracked buggy, which can carry up to 300kg. Two colleagues were brought to safety in the past week. “It doesn’t matter too much if you lose the system,” Ivan says. “And you don’t need to waste men as drivers.” Improvements in the communication systems mean that operators can now sit far away from the front line, fiddling with their joysticks in safety.

Ara, one operator, says the unit’s UGVs have killed around 100 Russians in Kamikaze attacks. In a gloomy corner of the hangar, he gives the nicknames of around a dozen vehicles parked side-by-side: Bandera, Shark, F--- Beaver. When Russian troops stormed a dugout in Pokrovsk, the Da Vinci Wolves sent in a Ratel S, driving the large-wheeled buggy equipped with an anti-tank mine over the rough ground and tipping it head-first through the opening. “The whole dugout, together with the soldier, goes up in the air,” Ara says. “God help us, it flew twice as high as the trees.”

Before Vitaliy heads back to the DTEK headquarters in Dobropillia, he checks in at the Church of the Intercession of the Virgin Mary. Two small dogs bark manically in the courtyard. The windows of the golden-domed church have been replaced with plywood after they were shattered by drone strikes, the latest only a week ago. In one corner of the garden, a fully-intact quadrocopter lies among the flowers, almost like a miracle.

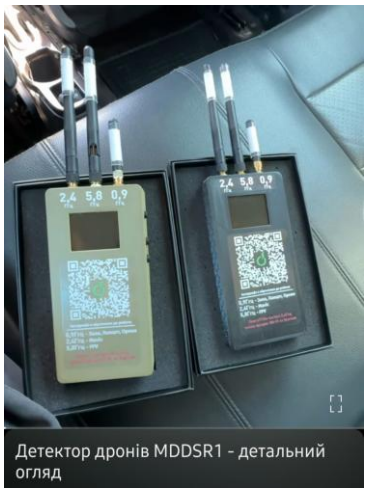
“We only have God to protect us from the drones,” says the gray-haired wife of the priest, throwing her arms open wide and gazing up at an icon on the front of the steeple.

On the “road of death”, a high-pitched whine announces a lone personnel carrier before it can be seen. The vehicle is narrow and boxy. Inside are more men on their way to the front, their hearts, lungs and limbs still so frail in this war of the machines.

https://www.telegraph.co.uk/gift/8a793a1cf78ca32e
Then there is interesting Drone detector coverage via YouTube: https://youtu.be/DOVIoPhvus0?si=qZ1-7RAvdmCGadyb

From ENIGMA2000 Technical dept

The detectors shown are the MDDSR1 and variants:



The Drone detectors shown have an interesting coverage...in MHz:

860-880
880-900
900-930
2400- 2525
5645- 5945

The manufacturer is Kseonic Technology.

The signal strengths seen on the detector range between ~S8 for -79dBm and ~S4 for -96dBm.
Looking at the antennas used I'd think the warning is a bit limiting. Increase gain against known output would mean greater detection capabilities. The complexity of the display would perhaps slow the time between detection and indication.

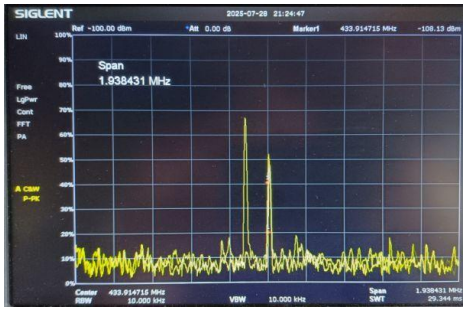
A calibrated colinear on a tripod a possibility; read HJH’s piece at the end of this newsletter and you’ll discover Russian favoured drones have moved frequency to 400-500MHz to counter detection/jamming. The Radio Modem shown to be used in the all-Chinese drone, see ‘**Fully Chinese-made drone found in Ukraine for first time’**; the RFD900x utilised frequency hopping on 50 channels with interference immunity accorded by FHSS, Frequency Hopping Spread Spectrum in the 902 to 928MHz band. The transmit power is stated as 0 to 30dBm in 1dBm steps; that’s a maximum of 1 watt of RF. You can work it out yourself if you want to:

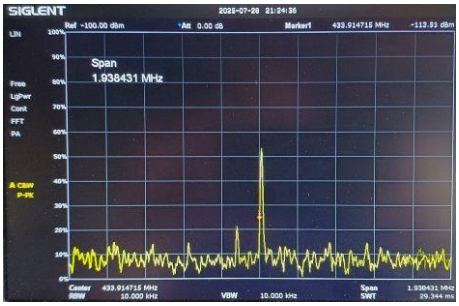
$$P\,(\text{watt}) = \frac{10^{\frac{P(dBm)}{10}}}{1000}\ \text{watt}$$

The controlling centre with a clear line of sight expect a maximum range of 40km or more depending on antenna configuration! There is the possibility of a mounted FPV camera using 3300MHz, so perhaps some output there too,

I’ve no idea of the strength of emissions from other drones but I have tested an interesting theory using my SIGLENT Spectrum Analyser. I’ve usually shied away from using helical antennas [rubber ducks to the Philistines] and in this test case I have used a simple 303mm of wire [1 foot] for the input antenna. It’s a well-known fact that car plip keys also use 433.92MHz. Other freqs are also used, 870MHz being a near shot and 315MHz used in other countries.
Setting my Spectrum Analyser to a near mid frequency I found it easy to detect and display everytime someone opened or locked their vehicle. It’s worth station the antenna is around 9 metres above ground level [I have three floors] although surrounded by brick and all sorts of electronic rubbish in the shack.

These are just two detections of plip keys:





Detection of car plip keys to illustrate range detection of tiny emissions

Perhaps the use of helical antennas in the drone detection application is better than I imagine?

This time around we feature ‘E’s Newsround
[*E is a regular contributor; this time we feature his news take*].

BBC/Chinese Media

A former engineer at a Chinese research institute has been sentenced to death for selling classified material to foreign spy agencies, Chinese authorities said.

After he resigned from the institute, the researcher, identified by his surname Liu, came up with a "carefully designed" plan to sell intelligence to foreign agencies, according to an article published on Wednesday by China's Ministry of State Security.
The ministry did not name Liu's former employer or the foreign groups that allegedly bought his material.
The announcement comes amid increasing warnings from China that its citizens are being co-opted by foreign entities to serve as spies.
"Desperadoes who want to take shortcuts to heaven will all suffer consequences," the ministry said in Wednesday's article.
Believing that he had been treated unfairly at the institute, Liu saved a large amount of classified material before he left, intending to use it for revenge and blackmail, the ministry stated.

He then joined an investment firm and, after failed investments drove him into debt, approached a foreign spy agency which got the material from him at a "very low price", according to the ministry.
This agency subsequently cut off contact with Liu, the ministry added, and he tried to sell the information abroad.
"In half a year, he secretly travelled to many countries and seriously leaked our country's secrets," the article said.
Liu, who confessed after being arrested, has been stripped of political rights for life.

Beijing has been increasingly wary of espionage, and warned that its citizens are being recruited by foreign spy agencies trying to secure Chinese state secrets.
Last November, a former employee at a Chinese state agency was handed the death sentence after his USB work flash drive was allegedly seized by foreign spies and he became their "puppet", according to Chinese authorities.

The Mail

Chinese intelligence agents are spying on British political figures by planting surveillance devices in central London, including in park benches and Whitehall buildings, according to security sources.
Amid
growing concern over the scale of Beijing's espionage activity in the UK, senior officials in Westminster have been warned to avoid known “hotspots” in the SW1 area — including pubs, luxury hotels, and even public parks.

One source told the Mail on Sunday: “We have been told the Chinese literally have the park bugged, with devices in the bushes and under park benches.
“St James's Park, which borders key government departments such as the Foreign Office, Treasury and Downing Street, is said to be a key focus due to its popularity among civil servants and researchers taking lunch breaks.

The historic Red Lion pub, a popular haunt for MPs, is also considered high risk. “It's full of Chinese agents,” one source said.

Five-star hotels near Westminster, including the Corinthia by Trafalgar Square and the new Raffles on Whitehall, have also been identified as surveillance hotspots. Beijing is reportedly targeting not only high-profile figures but also the junior staff working in and around Parliament.“Commons researchers are regarded by the Chinese, and other spies including the Russians and Iranians, as the soft underbelly of Whitehall,” said one source.

Parliament remains a daily target for cyber attacks by hostile states, with MPs critical of China reporting frequent hacking attempts. Security briefings are routinely issued to parliamentarians to help manage the threat. Beyond Westminster, there are growing fears about Chinese cyber-espionage targeting the UK's military health sector. Doctors treating British service personnel have been advised to avoid bringing mobile phones into consultations and to rely on paper records, amid attempts by Chinese hackers to access sensitive patient data.

Hungarian Media Reports

Ukrainian authorities claim to have busted a Hungarian spy ring operating on its territory, alleging that Budapest was collecting sensitive military data with one eye on a possible future incursion into the west of the country. Hungary's foreign minister dismissed the accusations as “propaganda” and announced the expulsion of two Ukrainians described as “spies working under diplomatic cover” at the Ukrainian
embassy in Budapest.

The allegations will further test already fraught relations between the two neighbouring countries. While Hungary is a member of Nato and the EU, its prime minister, Viktor Orban, has been an outlier among European leaders, strongly critical of Kyiv and neutral towards Russia. The Security Service of Ukraine (SBU) said it had detained two Ukrainian military veterans as part of the operation, and claimed the network had engaged in the collection of information on military defences in the western part of Ukraine as well as sentiment among the local population.

It published a video interrogation of one of the detainees in handcuffs, with his face blurred.

The SBU said the spy ring was run by a “staff officer of Hungarian military intelligence” and that the operation was designed to uncover information about vulnerabilities in Ukraine's defence of western regions. It claimed that one of the detainees, a 40-year-old veteran from the western Ukrainian town of Berehove, which has a majority ethnic Hungarian population, had been recruited in 2021 as a sleeper agent. It said he was “activated” by a handler in 2024 and asked to collect information.

It alleged that at a meeting in Hungary the man received cash payment for providing information, as well as to help recruit more people to the network of informants. The agent reportedly received a phone equipped with specialized software for covert communications. His tasks included identifying official vehicles belonging to Ukraine's army, gathering data on military losses, and reporting front line developments through an identified contact in the Armed Forces.
“By forming an agent network, foreign intelligence hoped to expand the range of information collection, including obtaining data from frontline and frontline regions,” the SBU said The two detained suspects face charges of high treason, which could result in life imprisonment.

Speaking at a press conference in Budapest, the foreign minister, Péter Szijjarto, said Hungary had not been presented with any evidence to back up the claims: “If we receive any details or official information, then we will be able to deal with this.
“Until then, I must classify this as propaganda that must be handled with caution.”

In a Facebook video released later on Friday, he said: “Today we have expelled two spies from Hungary working under diplomatic cover at Ukraine's embassy in Budapest.”

An estimated 80,000 ethnic Hungarians live in Ukraine's western Zakarpattia region. The language rights of the region's people have long been a bone of contention: Orban's nationalist government says Kyiv does not make proper provisions for them to speak Hungarian in schools, while Ukraine has accused Orban of instrumentalising the community as an excuse to follow Russian talking points about Ukraine and the war. Orban has spoken out against continued sanctions on Russia and promised to block Ukraine's EU accession route.
Last summer, he infuriated other EU leaders when he visited Moscow to meet Vladimir Putin, shortly after
Hungary took over the rotating EU presidency.
Although no Hungarian government official has spoken openly about trying to seize territory from Ukraine, it is sometimes a topic of far-right discussion in the country. Russian state television has also frequently suggested Ukraine could fall apart, with Russia taking over the east of the country and Poland and Hungary dividing the western part
Thanks 'E'

Before we look at our Morse Report: E reports hearing CW on 5855 and 6767kHz; he asks if anyone has an idea about their origins

Morse - Number Stations

All frequencies listed in kHz. Freqs are generally +- 1k

This is a representative sample of the logs received, giving an indication of station behaviour and the range of times/freqs heard. These need to be read in conjunction with any other articles/charts/comments appended to this issue.

UNID CW

Yet More Cyrillic Morse Transmissions

This odd Cyrillic Wideband SSB transmission returned again in July, having previously been reported first in April this year, followed by reports in May & June & now again in July – So not missed a month without at least one transmission.

This one caught by PLdn, on the receivers at Bletchley Park, however, is the first that has intruded into the amateur radio bands.

As with previous transmissions, the signal is very strong into the UK with a wideband signal consisting of five bands of CW in Single Sideband mode, sending continuous, fast automated 5-figure Cyrillic groups.

14250.725kHz 1520z Wed 30 July Cyrillic Morse Transmission in Progress Courtesy PLDn

14250.725 1540z (IP) 30 Jul Endless Cyrillic 5-Letter groups in USB PLdn WED

Previous logs of this station:

8250kHz	1650z	21 Apr
8250kHz	0458z	22 Apr
11250kHz	0527z	22 Apr
17250kHz	0600z	22 Apr
11420kHz	1135z	29 Apr
16650kHz	1500z	31 May
10560kHz	0757z	03 Jun

(For full details see P14-15 of NL148 & P22 of NL149)

Morse - Number Stations

M01/ 3 XIV MCW, hand (025 sched for May - Aug). Will change to M01/2 sched ID 463 for Sept - Oct.

From the beginning of October 2022, all M01 transmissions sent have used a single carrier vs usual 'Two-Tone' transmission mode.

Conditions for receiving M01 transmissions continue to be poor, frequently resulting in no useful copy at all. This is not helped by an intermittent digital station operating USB on the 1800z frequency The 2000z transmission on 4903kHz is proving to be the exception, with a fair, readable signal.

July 2025:

4903	2000z	01 Jul	'025' 554 30 = = 64364 64736 … 74857 75847 = =	Fair, fast. Only partial copy due to power issues	BR	TUE
	2000z	03 Jul	'025' 693 30 = = 38290 75849 … 84585 85940 = =	Fair, fast. Hesitant & irregular in places 29 grps sent	BR	THU
	2000z	17 Jul	'025 381 30 = = 44875 69870 … 22768 38769 = =	Fair, fast. Excellent Morse. Error Grp22 26547 265477	BR	THU
	2000z	22 Jul	'025' 901 30 = = 17251 22091 … 50937 12354 = =	Fair, fast. Corrected error grp19 79057 790000000000	BR	TUE
	2000z	24 Jul	'025' 681 30 = = 31625 18726 … 46739 29718 = =	Weak with static. Error grp17 98166 90166	BR	THU
	2000z	29 Jul	'025' 055 30 = = 12645 54635 … 95847 75847 = =	Fair, fast. Rapid sending. Two errors noted. 28 grps?	BR	THU
	2000z	31 Jul	'025' 452 30 = = 75847 75485 … 85960 06958 = =	Fair, fast. Many consecutive using same 5-fig grps	BR	THU
5280	1800z	01 Jul	'025' Very weak with QSB. Mostly unreadable		BR	TUE
	1800z	03 Jul	'025' 367 30 = = 47 .. 2 7432 . … 73843 75149 = =	V.Weak with QSB. Fast Hesitant & irregular sending	BR	THU
	1800z	10 Jul	'025' Very weak with QSB. Mostly unreadable			
	1800z	17 Jul	'025' 215 30 = = 99876 35649….	V.weak, fast. Very poor copy	BR	THU
	1800z	22 Jul	'025' Very weak. No useful copy		BR	TUE
	1800z	24 Jul	'025' Very weak. No useful copy		BR	THU
6435	**1506z**	05 Jul	288 30 = = 60978 26654 … 6819 . 33987 = =	Weak with QSB, fast. Late call-up. Poor copy	BR	SAT
	1500z	12 Jul	'025' 679 30 = = 53789 32780 … 187 .. 18844 = =	Weak, Fast. Difficult copy in places. Errors noted	BR	SAT
	1500z	26 Jul	'025' Very weak. No useful copy		BR	SAT
6780	0700z	06 Jul	'025' 310 30 = = 98509 47658 … 38759 10978 = =	Weak with QSB. Hesitant. Difficult copy in places	BR	SUN
	0700z	20 Jul	NRH – Strong wideband digital signal on freq.		BR	SUN
	0700z	27 Jul	'025' Very weak. No useful copy		BR	SUN

August 2025:

4903	2000z	05 Aug	'025' 721 30 = = 43517 76154 … 76152 11527 = =	Fair, fast. Excellent Morse. Error grp19 31554 31524	BR	TUE
	2000z	12 Aug	'025' 537 30 = = 47803 58038 … 46399 36274 = =	Fair, med-fast. Irregular with many pauses	BR	TUE
4905	2000z	14 Aug	'025' 538 30 = = 64738 27493 … 24386 13246 = =	Weak, fast. Grp19 000186 0186 No GC sent at end	BR	THU
4905	2000z	19 Aug	'025' 798 30 = = 64788 14323 … 77891 48790 = =	Fair. Fast. Hesitant in places. Errors noted. 29 grps sent	BR	TUE
4903	2000z	26 Aug	'025' 535 30 = = 56540 71895 … 05133 06050 = =	Fair, Fast. Numerous errors.	BR	TUE
4905	2000z	28 Aug	'025' 939 30 = = 57489 99509 … 29100 85942 = =	Fair, Fast. Noisy. Hesitant & irregular at start	BR	THU
5280	1800z	05 Aug	'025' Very weak – No useful copy		BR	TUE
	1800z	12 Aug	'025' Very weak – No useful copy. A few groups logged mid-msg. but fades at vital times – of course!		BR	TUE
	1800z	14 Aug	'025' Very weak – No useful copy		BR	THU
	1800z	26 Aug	'025' 710 30 = = …. ….. Very weak. Some groups readable but mostly unusable		BR	TUE
6435	1500z	02 Aug	'025' 489 30 = = 78930 12567 … 95013 75832 = =	Weak, med-fast. Poor copy. Irregular. Two noted errors	BR	SAT
	1500z	16 Aug	'025' Very weak – No useful copy Faded to nothing		BR	SAT
	1500z	22 Aug	'025' 224 30 = = 99806 24321 … 47658 49 .00 = =	Weak, fast. Mostly copied – Poor in places	BR	SAT
6780	0700z	03 Aug	'025' Very weak. No useful copy		BR	SUN
	0700z	17 Aug	'025' Very weak. No useful copy		BR	SUN
	0700z	31 Aug	'025' Very weak.. No useful copy			

Note that on 14, 19 & 28 August M01 used 4905 kHz for the 2000z schedule, which was the original frequency used by this station. This changed to 4903kHz from May 2022. Whether this was in error or for some reason not evident is unknown, as is the reason for the change to 2903 kHz in 2022.

M01/3 4903kHz 2000z 17 July 2025

025 (R4m) 381 381 30 30 = =

44875 69870 24315 67658 39387 08765 38769 36527 60098 58876
22765 69877 26514 50598 47622 14465 38790 58766 30098 68321
34566 26547 89907 47621 37658 39980 58790 03453 22768 38769

= = 381 381 30 30 000

One error – Grp 22 26547 265477

Courtesy BR

M01/3 4905z 2000z 19 August 2025

025 (R4m) 798 798 30 30 = =

64788 14323 59800 29807 45345 14265 66780 49877 57623 10989
38755 44678 24376 98798 47876 38909 11423 47765 29890 37655
44765 22677 48766 28756 38890 47658 25433 77891 48790

= = 798 798 30 30 000

Errors - Grp 03 598000 59800 Grp15 407876 47876
Only 29 groups sent

Courtesy BR

M12 IB ICW, some MCW / CW, short 0. Reuses many freqs year on year.

New ID's may be only for the month/sched shown, but not necessarily unknown. The reason for their reuse, some after long periods of time is unknown.

Changes & observations Some notes from HFD:-

July

Mon/Fri	0800z	13931/12153/11536 kHz	ID 915	(Ex 0210z):
Fri/Sat	2100z	17453/16312/15836 kHz	ID 478	

August

Mon/Fri	0800z	13457/12161/10928 kHz	ID 419	(Ex 0210z)
Fri/Sat	2100z	12189/13475/14643 kHz	ID 146	(Now upward!)

Asiatic M12 Logs

13931/12153/11536	**0800/20/40z**	**04 Jul**	**915 1 (8602 95) 11028 92803….**	(Via SDR Japan)	BR/HFD	FRI
	0800/20/40z	**07 Jul**	**915 1 (2098 174) 06719 50548….**	(Via SDR Japan)	BR	MON
	0800/20/40z	11 Jul	915 1 (2098 174) 06719 50548….	(Via SDR Japan)	BR	FRI
	0800/20/40z	14 Jul	915 1 (2805 152) 94679 43820….	(Via SDR Japan)	BR	MON
	0800/20/40z	18 Jul	915 1 (2805 152) 94679 43820….	(Via SDR Japan)	BR	FRI
	0800/20/40z	21 Jul	915 1 (7917 141) 33585 02730….	(Via SDR Japan)	BR	MON
	0800/20/40z	28 Jul	915 000	(Via SDR Japan)	BR	MON
16272/14972/13972	0300/20/40z	01 Jul	299 1	(Via SDR Japan)	HFD	TUE
13457/12161/10928	**0800/20/40z**	**01 Aug**	**419 000**	(Via SDR Japan)	BR/HFD	FRI
	0800/20/40z	**04 Aug**	**419 000**	(Via SDR Japan)	BR	MON
	0800/20/40z	08 Aug	419 000	(Via SDR Japan)	BR	FRI
	0800/20/40z	11 Aug	419 1 (9476 198) 96272 78534….	(Via SDR Japan)	BR/HFD	MON
	0800/20/40z	15 Aug	419 1 (9476 198) 96272 78534…. 22621 83374 000 000		Gert	FRI
	0800/20/40z	18 Aug	419 1 (6527 165) 83106 94026….	(Via SDR Japan)	BR	MON
	0800/20/40z	22 Aug	419 1 (6527 165) 83106 94026….	(Via SDR Japan)	BR	FRI
	0800/20/40z	29 Aug	419 1 (5491 118) 98239 14253….	(Via SDR Japan)	BR	FRI
14975/13875/13475	*0300*/20/40z	07 Aug	984 1	(Via SDR Japan)	HFD	THU

European M12 Logs

July 2025: New scheds in bold type

11435/10598/9327	1800/20/40z	03 Jul	938 1 (1768 84) 16407 75064….		BR	THU
	1800/20/40z	10 Jul	938 1 (8373 78) 278 . . …. 5 ….		BR	THU
	1800/20/40z	17 Jul	938 1 (5267 75) 86385 05805….		BR	THU
	1800/20/40z	24 Jul	938 1 (6410 79) 23508 64629….		BR	THU
11519/12194/13407	1100/20/40z	01 Jul	289 1 (5082 59) 00310 14777….		BR	TUE
	1100/20/40z	08 Jul	289 1 (5530 55) 48875 32670….		BR	TUE
	1100/20/40z	15 Jul	289 1 (1645 55) 37989 88434….		BR	TUE
	1100/20/40z	22 Jul	289 1 (8552 56) 52107 35499….		BR	TUE
	1100/20/40z	29 Jul	289 1 (7442 56) 63692 85152…		BR	TUE
12162/11566/10711	1900/20/40z	02 Jul	546 1 (3320 56) 89812 34880….		BR	WED
	1900/20/40z	05 Jul	546 1 (8044 56) 53219 53351….		BR	SAT
	1900/20/40z	09 Jul	546 1 (4814 56) 53335 49341….		BR	WED
	1900/20/40z	12 Jul	546 1 (7300 57) 52585 22921….		BR	SAT
	1900/20/40z	16 Jul	546 1 (1521 54) 03329 22551….		BR	WED
	1900/20/40z	19 Jul	546 1 (7158 50) 33449 42443….		BR	SAT
	1900/20/40z	23 Jul	546 1 (8486 63) 53801 91026….		BR	WED
	1900/20/40z	26 Jul	546 1 (3296 57) 53690 94308….		BR	SAT
12217/10817/9317	2000/20/40z	03 Jul	617 000		HFD	THU
	2000/20/40z	07 Jul	617 000		BR	MON
	2000/20/40z	10 Jul	617 000		BR	THU
	2000/20/40z	14 Jul	617 1 (6138 187) 14936 58205….		BR	MON
	2000/20/40z	17 Jul	617 1 (6138 187) 14936 58205….		BR	THU
	2000/20/40z	21 Jul	617 1 (6138 187) 14936 58205….		BR	MON
	2000/20/40z	24 Jul	617 1 (6138 187) 14936 58205….		BR	THU
	2000/20/40z	28 Jul	617 000		BR	MON
13386/12189/11491	1230/1250/1310z	14 Jul	725 1 (6187 137) 82212 70217….		BR	MON
	1230/1250/1310z	21 Jul	725 1 (3795 129) 24808 86179….		BR	MON
	1230/1250/1310z	28 Jul	725 1 (8271 127) 81403 59750….		BR	MON
14968/14468/13368	1900/20/40z	02 Jul	943 1 (2525 95) 52490 96554….		BR/HFD	WED
	1900/20/40z	04 Jul	943 1 (2525 95) 52490 96554….		BR	FRI
	1900/20/40z	09 Jul	943 000		BR	WED
	1900/20/40z	11 Jul	943 000		BR	FRI
	1900/20/40z	16 Jul	943 000		BR	WED
	1900/20/40z	18 Jul	943 000		BR	FRI
	1900/20/40z	23 Jul	943 1 (3651 126) 92527 24378….		BR	WED
	1900/20/40z	25 Jul	943 1 (3651 126) 92527 24378….		BR	FRI

16158/14858/14358	2310/30/50z	02 Jul	183 1	HFD	WED
	2310/30/50z	06 Jul	183 1 (5579 276) 06910 72620….	BR	SUN
	2310/30/50z	23 Jul	183 1 (742 154) 44629 72987….	BR	WED
17453/16312/15836	**2100/20/40z**	**04 Jul**	**438 1**	HFD	FRI
	2100/20/40z	**05 Jul**	**438 1 (5584 21) 45762 09914….**	BR	SAT
	2100/20/40z	11 Jul	438 1 (5584 21) 45762 09914….	BR	FRI
	2100/20/40z	12 Jul	438 1 (5584 21) 45762 09914….	BR	SAT
	2100/20/40z	18 Jul	438 1 (1299 164) 66203 93638….	BR	FRI
	2100/20/40z	19 Jul	438 1 (1299 164) 66203 93638….	BR	SAT
	2100/20/40z	25 Jul	438 1 (1299 164) 66203 93638….	BR	FRI
	2100/20/40z	26 Jul	438 1 (1299 164) 66203 93638….	BR	SAT

August 2025:

11435/10598/9327	1800/20/40z	07 Aug	938 1 (7969 77) 15658 87048….	BR	THU
	1800/20/40z	14 Aug	938 1 (9909 76) 05220 14018….	BR	THU
	1800/20/40z	21 Aug	938 1 (9259 81) 67590 24 .4 …..	BR	THU
	1800/20/40z	28 Aug	938 1 (3767 83) 13954 02526….	BR	THU
11519/12194/13407	1100/20/40z	05 Aug	289 1 (4578 59) 57152 36513….	BR	TUE
	1100/20/40z	19 Aug	289 1 (4236 61) 84543 46044….	BR	TUE
12148/10648/9148	2000/20/40z	04 Aug	374 1 (9987 209) 30653 76821….	BR/HFD	MON
	2000/20/40z	07 Aug	374 1 (9987 209) 30653 76821….	BR	THU
	2000/20/40z	11 Aug	374 1 (2989 139) 63392 41495….	BR	MON
	2000/20/40z	14 Aug	374 1 (2989 139) 63392 41495 …. 46459 26065 000 000	Gert	THU
	2000/20/40z	14 Aug	374 1 (2989 139) 63392 41495 …	BR	THU
	2000/20/40z	18 Aug	374 1 (2989 139) 63392 41495 …	BR	MON
	2000/20/40z	21 Aug	374 1 (2989 139) 63392 41495 …	BR	THU
	2000/20/40z	25 Aug	374 000	BR	MON
	2000/20/40z	28 Aug	374 000	BR	THU
12162/11566/10711	1900/20/40z	02 Aug	546 1 (7534 58) 97521 83397….	BR	SAT
	1900/20/40z	06 Aug	546 1 (2584 56) 74338 83020….	BR	WED
	1900/20/40z	13 Aug	546 1 (3639 56) 99887 82065….	BR	WED
	1900/20/40z	16 Aug	546 1 (8550 56) 95736 74587….	BR	SAT
	1900/20/40z	20 Aug	546 1 (9060 59) 74919 20359….	BR	WED
	1900/20/40z	23 Aug	546 1 (5335 58) 30520 01358…	BR	SAT
	1900/20/40z	27 Aug	546 1 (9826 58) 77654 29474….	BR	WED
	1900/20/40z	30 Aug	546 1 (4320 59) 92393 55103….	BR	SAT
12189/13475/14643	**2100/20/40z**	**01 Aug**	**146 1**	HFD	FRI
	2100/20/40z	**02 Aug**	**146 1 (6343 83) 81851 80645….**	BR/HFD	SAT
	2100/20/40z	08 Aug	146 1 (6343 83) 81851 80645….	BR	FRI
	2100/20/40z	09 Aug	146 1 (6343 83) 81851 80645….	BR	SAT
	2100/20/40z	15 Aug	146 1 (2506 216) 94011 89746….	BR	FRI
	2100/20/40z	22 Aug	146 1 (2506 216) 94011 89746….	BR	FRI
	2100/20/40z	23 Aug	146 1 (2506 216) 94011 89746….	BR	SAT
	2100/20/40z	29 Aug	146 1 (8847 101) 67319 01579….	BR	FRI
	2100/20/40z	30 Aug	146 1 (8847 101) 67319 01579….	BR	SAT
13386/12189/11491	1230/1250/1310z	11 Aug	725 1 (2452 138) 03035 15401….	BR	MON
	1230/1250/1310z	18 Aug	725 1 (7775 142) 38941 40425….	BR	MON
	1230/1250/1310z	25 Aug	725 1 (6752 149) 90899 64903….	BR	MON
14408/13408/12208	2310/30/50z	06 Aug	442 1	HFD	WED
15931/14831/ 13531	1900/20/40z	01 Aug	985 000	HFD	FRI
	1900/20/40z	06 Aug	985 1 (2701 118) 92933 35132….	BR	WED
	1900/20/40z	08 Aug	985 1 (2701 118) 92933 35132….	BR	FRI
	1900/20/40z	13 Aug	985 000	BR	WED
	1900/20/40z	15 Aug	985 000	BR	FRI
	1900/20/40z	20 Aug	985 1 (8906 124) 16653 11309….	BR	WED
	1900/20/40z	22 Aug	985 1 (8906 124) 16653 11309….	BR	FRI
	1900/20/40z	27 Aug	985 000	BR	WED
	1900/20/40z	29 Aug	985 000	BR	FRI

M12 12148/10648/9148kHz 2000/2020/2040z 14 Aug 2025

374 374 374 1 (R2m) 2989 139 2989 139

63392 41495 48090 82251 69177 11630 83546 46404 07263 18614
84578 10088 98851 74405 26204 64747 55597 65582 18080 84512
36987 51794 69343 92899 58922 47489 75620 81795 44360 97838
54967 09939 22998 06804 06123 36757 02509 24045 43073 30862
63895 77615 01798 48742 40668 75562 38899 16629 03105 65863
70727 58954 15736 09215 15346 51679 74699 98564 86797 43269
68389 10281 44901 97278 59559 30708 83145 25806 91084 82882
16963 65831 35342 17646 25168 56105 46770 83996 21200 87388
33417 88896 12034 91078 80360 83400 47618 23175 35857 51354
26256 80056 23081 89459 66557 82802 51054 61294 17495 25453
74108 64003 16627 69441 72334 88295 68090 89854 15523 98836
24371 55233 48055 09081 40212 98477 17454 46281 61201 29649
58626 17304 36314 17634 73739 16927 90853 59039 78815 59719
40322 51436 36682 64430 55118 80985 10556 46459 26065
000 000

Courtesy Gert

M12 13457/12161/10928kHz 0800/20/40z 15 Aug 2025

419 419 419 1 (R2m) 9476 198 9476 198

96272 78534 38675 14395 38917 54690 01506 84855 93711 93230
04053 55163 19357 79476 20397 78306 83285 56952 36721 64780
21981 26830 56152 11209 54410 43423 85888 15475 60851 27068
35500 97681 33829 31968 31711 49121 37116 04729 14964 01355
93309 23923 41711 09361 13593 61423 39937 89994 82752 06251
97032 16245 73699 45549 45001 65754 78349 17468 00417 01954
24855 57130 57660 10545 80934 62419 53329 59622 71767 98323
23665 03775 43095 50221 22259 18341 95215 48480 67116 69564
93081 13698 75060 75588 62458 28021 56208 93755 92716 48595
75174 52818 17949 62031 96172 86674 62411 69411 37604 40985
22623 23185 81760 55324 10025 82574 55093 93491 88862 17442
95989 47324 90044 90457 55999 98392 29362 51611 26379 39838
36216 81121 48987 61971 82027 37334 90189 12253 94236 96587
21026 37399 67031 85647 73368 17374 63929 24857 41567 52178
91109 23877 88880 56252 22429 41899 08691 86761 73666 52846
45535 81732 06866 28206 99513 58348 31002 34364 41739 83784
76969 29254 90394 29410 15481 16772 94963 23928 68899 01168
82786 00769 45216 40686 12434 49723 94391 27972 59126 02209
77766 12035 04665 13228 34755 21829 02385 27783 78197 84778
71386 39510 68161 96877 46865 55555 22621 83374 000 000

Courtesy Gert

M14 IA MCW / ICW Short 0

July 2025:

16347	0930z	25 Jul	617 000	HFD	FRI

August 2025:

12211	0500z	25 Aug	952 (810 57) = 64432 19175…. (Msg not completed – See notes below)	AB	MON
10243	0520z	25 Aug	952 (810 57) = 64432 19175…. 7845 50673 = 810 57 00000	AB	MON
12211	0500z	26 Aug	952 (810 57) = 64432 19175….47845 50673 = 810 57 00000	AB	TUE
10243	0520z	26 Aug	952 (810 57) = 64432 19175….47845 50673 = 810 57 00000	AB	TUE

Mon 25 August - S06 Message sent in Error – Attempt to Send Correct Message Followed

Ary, (AB), logged this mix-up on Monday, 25 August. Ary's notes & logs follow;_

M14 accidentally transmitted the S06 message. After completion, it started the correct message but terminated it at 0519z. Probably because the 0520z transmission was about to start.

M14 12211 kHz, 25-08, 0500 UTC.

952 251 251 59 59 = =
77317 70697 75547 84699 55687 65274 54174 66977 15025 12948
03620 50370 16615 63087 60462 41374 85987 83544 40007 71777
33317 56422 83894 80410 80957 09488 85917 86020 46546 25420
07008 05939 55097 96077 15319 00244 78557 13971 12341 46092
26221 18129 30994 71918 34474 36553 16622 06183 29287 92430
26846 20360 59901 66317 11192 70849 27142 31455 56450
= = 251 251 59 59

952 810 810 57 57 = =
64432 19175 69164 42528 61491 17466 30190 18446 09795 76285
79471 84040 49999 19995 19169 26832 78364 98225 14102 29304
74886 16799 1 (restart)

952 952 952 952 952 5952 952 52 off

Ary was unable to log the first part of the repeat, at 0520z on 10243kHz due to an equipment malfunction, but managed to catch the complete, correct, message on the following day.

M14 12211/10243 kHz, 26-08, 0500/0520 UTC

952 810 810 57 57 = =
64432 19175 69164 42528 61491 17466 30190 18446 09795 76285
79471 84040 49999 19995 19169 26832 78364 98225 14102 29304
74186 16799 15142 29572 21857 41804 48311 10654 76003 18997
80551 73053 43115 75725 98084 70320 78121 97555 58314 12291
19351 96800 01192 65697 10296 15123 31001 06819 81642 27410
04487 05875 91984 39112 86267 47845 50673
= = 810 810 57 57 00000

Thanks to AB for this report.

M23 O ICW

After the previous two months of intense activity, there followed a few appearances of M23 activity. Peter, (PoSW), managed to catch these transmissions in early July. Peter reports:-

> Some M23 CW observed in early July with three different frequencies active at various times sending the group of nineteen characters reported in the last newsletter:- "LO48636017LA1511114".
>
> 05-July-25, Saturday:- 1507 UTC, 7437 kHz, stopped before 1515z followed by a single blip
> 1712 UTC, 6961 kHz, same group as earlier, stopped at 1714:17s followed by a blip.
>
> 06-July-25, Sunday:- 0811 UTC, 6937 kHz, stopped at 0814:45s.
> 1104 UTC, 7437 kHz, stopped at 1114:45s.
> 1259 UTC, 7434 kHz, managed to catch the start, stopped at 1314:45s UTC.
> 1459 UTC, 7437 kHz, starting up, a single blip had been heard about three minutes earlier
>
> 07-July-25, Monday:- 0805 UTC, 6937 kHz, transmission in progress.
> 1459 UTC, 7437 kHz, starting up.
> 1706 UTC, 6961 kHz, in progress.
>
> Appears to have ended sometime after this, nothing heard on these frequencies when monitored on following days.
>
> *Good catch! Thanks PoSW*

Ary, (AB) & PILLE of the UDXF group logged these brief appearances at the end of July, following which no further reports were received.

10222	0829 – 0854z	23 Jul	LA1511114 LO48636017 (R25m)		AB	WED
7668	1459 – 1524z	24 Jul	LA1511114 LO48636017 (R25m)	Very Weak	AB	THU
8030	1800z (IP)	25 Jul	LO48636017 LA1511114 In continuous loop transmission		PILLE (UDXF)	FRI
7668	1600z	26 Jul	LO48636017 LA1511114 (R25m)		AB	SAT

Thanks to Ary & PILLE

M32 Russian / CIS Ukrainian Military Nets FAPSI (Federal Agency for Government Communications & Information)

Plato 1959, our friend in Japan was featured in our May 2025 newsletter with a video of some interesting Morse intercepts heard in the amateur bands. Well, Plato has sent us another short video he has made with some unidentified stations in QSO. The video is just over 9 minutes long.

https://www.youtube.com/watch?v=90rlzH5_iOI

We can confirm that these stations are M32 – Russian or Ukrainian military. The video predominately features an exchange between two stations, with a 10 group message, in Cyrillic text, sent between them.

The exchange along with some explanation notes, in brackets, are shown below. The Cyrillic text is shown in the Latin alphabet, with the extra Cyrillic characters represented using 'barred' characters – shown in red. **H** = - - - - **A** = . - .- **U** = . . - - The Cyrillic characters are displayed in Plato's video.

M32	7118kHz	1603z	07 Jul	L37B in QSO with IK2J	Plato 1959	MON

L37B DE IK2J QTC K [L37B from IK2J - I have a message for you – Over]
L37B QRV K [Are you ready - Over]

IK2J 619 10 7 10 00 [IK2J - Message number - Group Count - Date - Time] Using short zero (T==0)

619 = HDENC HRPFT AV KECAF OKTRR DLETO HGHAO WHFSW PUPPO RPTAL K

[L37B repeats message – Note the differences in the message!]

L37B 619 10 7 10 00 [L37B - Message number - Group Count - Date - Time]

619 = **H**DENC HRPFW Q ……. HUKAV OA**U**AV KECAF OKTRR DLETO HGHAO WHFSW PUPPO K

IK2J C K [IK2J - confirmed (?) - over]

L37B QRU K [L37b - Do you have a message for me - over]

IK2J QRU K [I have nothing for you - over]

Plato1959 offers these comments along with his logs:-

> Propagation on the 40-meter band has not been good recently, but I was surprised by the strength of the signal. The signal contains a light key click sound with a unique tone. I was unaware that this signal originated from Russia.
>
> Signals are frequently received during China-related military exercises, but this time, Taiwan began its annual military exercises on July 9 to prepare for a potential attack by the Chinese military, which are scheduled to last for 10 days.
>
> *Many thanks for the logs & comment, Plato195*

Morse Stations - Not Number Related

M51 XIX

3881//6825 100 grp 5-ltr messages with headers

No reports – M51b format in use

M51a (FAV22) Daily schedules Mon – Fri also Sat & Sun. See NL 72 for details

3881//6825

1130 - 1219z	21 Jul	Lundi-Leçon	11-2/1 Codé	11-2/2 Clair,	11-2/3 Codé,	11-2/4 Clair (420 grps/hr)	BR	MON
1130 - 1203z	22 Jul	Mardi-Leçon	12-2/1 Codé	12-2/2 Clair,	12-2/3 Codé,	12-2/4 Clair (600 grps/hr)	BR	TUE
1130 - 1200z	14 Aug	Jeudi- Leçon	14-2/1 Codé,	14-2/2 Clair,	14-2/3 Codé,	14-2/4 Clair (840 grps/hr)	BR	THU
1130 - 1207z	25 Jul	Vendredi- Leçon	15-2/1 Codé,	15-2/2 Clair,	15-2/3 Codé,	15-2/4 Clair (960 grps/hr)	BR	FRI
0700 - 0725z	02 Aug	Samedi 6/ Leçon	1/2 Codé	2/2 Clair		(600 grps/hr)	BR	SAT
0700 – 0734z	03 Aug	Dimanche 6/ Leçon	1/1 Codé	2/1 Clair		(420 grps/hr)	BR	SUN

M51b Non-stop 5-character groups composed of M51a messages on 3881//6825kHz

6825	0921z	11 Aug	KJSGR XVWBS YBAJH WNYJU… etc.	Strong	PLdn	MON

M89 O

This is a summary of activity from the M89 stations.

Traffic & Operator Chat from M89

Traffic & Op. chat reported on the following freqs. (All in kHz).

4393 4450 4516 4542	5201 5484 5502 5656 5716//5555	6502 6540 6941	7102	8105 8425	10557

New Scheds for Jul/ Aug 2025: From logs submitted from JPL

4720//**5151**	Change of Frequency Note: Normally 4720//5150	First heard 25 July	VVV WNF (x3) DE FXM (X2)
5201	New Frequency & Round Slip	First heard 28 Aug	BMY (x3) DE 7LG (x2) (R5)
6840//**8290**	New frequency & // for this Round Slip	First heard 31 July	V Q2M (x3) DE NYZ (x2)

Chart of M89 Freq & Call signs heard in Jul / Aug 2025 **New Scheds shown in Bold Type** **From logs submitted from JPL**

Freq in KHz	Call Slip
4357	V 3JWV (x3) DE QSV9 (x2)
4357//5742	V 3JWV (x3) DE QSV9 (x2)
4357/5742/8375/12124	V 3JWV (x3) DE QSVP (x2)
4720	VVV WNF (x3) DE FXM (x2)
4720//**5151**	VVV WNF (x3) DE FXM (x2) Note: Normally on 5150
4860// 6840	V Q2M (x3) DE NYZ (x2)

Freq in kHz	Call Slip
5201	**BMY (x3) DE 7LG (x2) (R5)**
5742	V 3JWV (x3) DE QSV9 (x2)
5742//8375	V 3JWV (x3) DE QSVP (x2)
5742//8375//12124	V 3JWV (x3) DE QSVP (x2)
6840//**8290**	V Q2M (x3) DE NYZ (x2)
7620//8350	VVV WNF (x3) DE FXM (x2)

Courtesy JPL

Logs:

Note: The EEE before Msg NR actually the barred letter E in morse /../. I believe this denotes a high priority message, ie Flash msg.

4357		1205z	13 Jul	V 3JWV (x3) DE QSVP (x2) NR 0162/MZ 2104 RMKS 2344 TO 2193 BT	(Remote tuner Japan)	JPL	SUN
		1040z	31 Jul	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	THU
		1519z	10 Aug	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	SUN
4357//5742		1638z	18 Jul	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	FRI
		1746z	25 Jul	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	FRI
		1618z	01 Aug	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	FRI
		1459z	05 Aug	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	TUE
		1457z	21 Aug	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	THU
		1203z	22 Aug	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Hong Kong)	JPL	FRI
		1401z	23 Aug	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	SAT
		1539z	28 Aug	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Hong Kong)	JPL	THU
4357//5742//8375		1205z	14 Aug	V 3JWV (x3) DE QSVP (x2) NR 0571/MZ 2006 RMKS 7444 TO 7714 BT	(Remote tuner Japan)	JPL	THU
4357//8375		1158z	10 Aug	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	SUN
4357/8375/12124							
		1618z	01 Aug	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	FRI
4357/5742/8375/12124							
		1115z	24 Aug	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Hong Kong)	JPL	SUN
4393	WF7U	1135z	15 Jul	F NR 65/EX 1940 RMKS CQ BT L0N8/X1Y8 AR Working outstations **- 2JNB, 3BFF, 2E3D, VNV7,** and others. WF7U changed the call to **H5TR DE PS3E** to send message.	(Remote tuner Taiwan)	JPL	TUE
4516	KMD	1157z	22 Aug	7IZY DE KMD	(Remote tuner Hong Kong)	JPL	FRI
4522		1153z	22 Aug	In tfc - cut numbers - 4 groups RMKS 7820 TO 8868 BT	(Remote tuner Hong Kong)	JPL	FRI
4450		1800z	28 Aug	In tfc - cut numbers - 4 groups)	(Remote tuner Japan)	JPL	THU
4720		1507z	21 Aug	In tfc - cut numbers - 4 groups) NR 5759 CK 51 74 0821 2250 RMKS 2531 TO 2579 BT	(Remote tuner Japan)	JPL	THU
4720		1530z	21Aug	VVV WNF (x3) DE FXM (x2) (R5)	(Remote tuner Hong Kong)	JPL	THU
4720//5150		1530z	28 Aug	VVV WNF (x3) DE FXM (x2) (R5)	(Remote tuner Hong Kong)	JPL	THU
4720/**5151**		1730z	25 Jul	VVV WNF (x3) DE FXM (x2) **Note: Normally on 5150**	(Remote tuner Thailand)	JPL	FRI
		1530z	05 Aug	VVV WNF (x3) DE FXM (X2) (R5)	(Remote tuner Hong Kong)	JPL	TUE
4850//5450		1540z	28 Jun	VVV UIS (x3) DE FXH (X2) (R5) Note: 4850/5450 call could be wrong.	(Remote tuner Hong Kong)	JPL	THU
4860//6840		1720z	16 Jul	V Q2M (x3) DE NYZ (x2)	(Remote tuner Thailand)	JPL	WED
		1220z	18 Jul	V Q2M (x3) DE NYZ (x2)	(Remote tuner Japan)	JPL	FRI
		1935z	20 Jul	V Q2M (x3) DE NYZ (x2)	(Remote tuner Japan)	JPL	SUN
				Note: Monitored NYZ on 19 Jul at 20 past the hour at 1120z and 1520z, but N/H.			
		1120z	28 Jul	V Q2M (x3) DE NYZ (x2)	(Remote tuner Thailand)	JPL	MON
		1120z	31 Jul	V Q2M (x3) DE NYZ (x2)	(Remote tuner Manila)	JPL	THU
		1620z	01 Aug	V Q2M (x3) DE NYZ (x2) (R5)	(Remote tuner Manila)	JPL	FRI
		1120z	03 Aug	V Q2M (x3) DE NYZ (x2) (R5)	(Remote tuner Hong Kong)	JPL	SUN
		1120z	05 Aug	V Q2M (x3) DE NYZ (x2) (R5)	(Remote tuner Hong Kong)	JPL	TUE
		1520z	05 Aug	V Q2M (x3) DE NYZ (x2) (R5)	(Remote tuner Hong Kong)	JPL	TUE
		1120z	10Aug	V Q2M (x3) DE NYZ (x2) (R5)	(Remote tuner Hong Kong)	JPL	SUN
		1520z	10Aug	V Q2M (x3) DE NYZ (x2) (R5)	(Remote tuner Hong Kong)	JPL	SUN
		1520z	21 Aug	V Q2M (x3) DE NYZ (x2) (R5)	(Remote tuner Hong Kong)	JPL	THU
		1120z	24 Aug	V Q2M (x3) DE NYZ (x2) (R5)	(Remote tuner Hong Kong)	JPL	SUN
		1120z	28 Aug	V Q2M (x3) DE NYZ (x2) (R5)	(Remote tuner Hong Kong)	JPL	THU
		1820z	28 Aug	V Q2M (x3) DE NYZ (x2) (R5)	(Remote tuner Thailand)	JPL	THU
		1520z	29 Aug	V Q2M (x3) DE NYZ (x2) (R5)	(Remote tuner Thailand)	JPL	FRI
5201	**7LG**	**1800z**	**28 Aug**	**BMY (x3) DE 7LG (x2) (R5)**	(Remote tuner Thailand)	JPL	THU
	7LG	1500z	29 Aug	BMY (x3) DE 7LG (x2) (R5)	(Remote tuner Thailand)	JPL	FRI
5484	X15G	1523z	10 Aug 25	X15G (Working outstations - NBXI, F9EA, C5L5)	(Remote tuner Japan)	JPL	SUN
5502		1514z	21 Aug	In tfc - cut numbers - 4 groups	(Remote tuner Japan)	JPL	THU
5716//5555		1524z	10 Aug	In tfc - cut nrs - 4 groups RMKS 9650 TO 9961 TO 9578 TO 9518 TO 9588 TO 9547 BT	(Remote tuner Japan)	JPL	SUN
5742		1954z	12 Jul	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	SAT
		1835z	15 Jul	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	TUE

	1702z	16 Jul	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	WED
	1453z	17 Jul	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	THU
	1233z	18 Jul	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	FRI
	1514z	19 Jul	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	SAT
	1954z	20 Jul	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	SUN
	1156z	03 Aug	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	SUN
5742//8375	1040z	31 Jul	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	THU
	1401z	24 Aug	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	SUN
5742//8375//12124	1200z	12 Jul	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	SAT
6502	1520z	22 Aug	In tfc - cut numbers - 4 groups	(Remote tuner Japan)	JPL	FRI
6540	1458z	22 Aug	In tfc - cut numbers - 4 groups SVC Q2G/2251/204 QSL K	(Remote tuner Japan)	JPL	FRI
6840	1020z	05 Aug	V Q2M (x3) DE NYZ (x2) (R5)	(Remote tuner Thailand)	JPL	TUE
6840//**8290**	1020z	31 Jul	V Q2M (x3) DE NYZ (x2)	(Remote tuner Hong Kong)	JPL	THU
6941 N74L	1415z	23 Aug	EJTC DE N74L NR 5858 CK 89 57 0823 2200 RMKS 1908 TO 1538 BT	(Remote tuner Japan)	JPL	SAT
7620//8350	1130z	19 Jul	VVV WNF (x3) DE FXM (x2)	(Remote tuner Hong Kong)	JPL	SAT
	1130z	03 Aug	VVV WNF (x3) DE FXM (x2)	(Remote tuner Hong Kong)	JPL	SUN
	1130z	05 Aug	VVV WNF (x3) DE FXM (x2) (R5)	(Remote tuner Hong Kong)	JPL	TUE
	1130z	10 Aug	VVV WNF (x3) DE FXM (x2) (R5)	(Remote tuner Hong Kong)	JPL	SUN
	1130z	24Aug	VVV WNF (x3) DE FXM (x2) (R5)	(Remote tuner Hong Kong)	JPL	SUN
	1130z	28 Aug	VVV WNF (x3) DE FXM (x2) (R5)	(Remote tuner Hong Kong)	JPL	THU
8105	1214z	22 Aug	In tfc - cut numbers - 4 groups) NR 816 CK 95 39 0822 2012 RMK 8335 TO 4033 BT	(Remote tuner Hong Kong)	JPL	FRI
8350	1130z	28 Jul	VVV WNF (x3) DE FXM (x2)	(Remote tuner Thailand)	JPL	MON
8375//12124	1127z	28 Aug	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Hong Kong)	JPL	THU
8425 K8NI	1200z	18 Jul	V K8N1 FFF NR 1011/EX 2200 BT A2FG8/HQ22N AR QSY TO NR 01	(Remote Hong Kong)	JPL	FRI
10557 N8VL	1048z	24 Aug	B9PN DE N8VL	(Remote tuner Japan)	JPL	SUN
12124	1040z	31 Jul	V 3JWV (x3) DE QSVP (x2)	(Remote tuner Japan)	JPL	THU

<u>M95</u> O

M95 Morse Logs **(Bold type indicates new logging)**

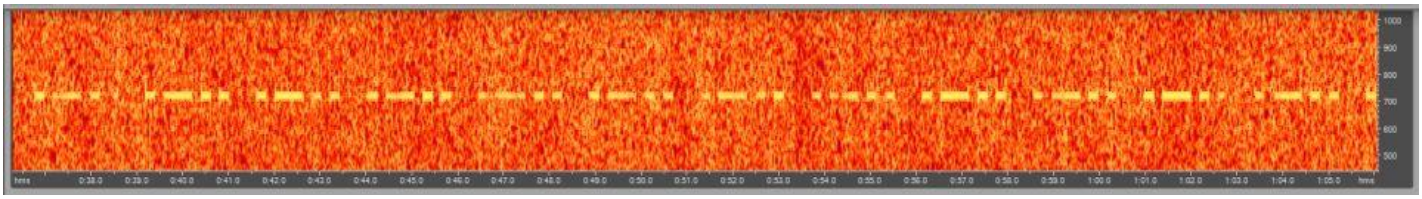
3903	**Call Sign V WCJJ (x3) DE HBDD (x2) Replaced YHXD DE SAQC on 3968, 6936, 5479 & 10722kHz**					
	1414z	23 Aug	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Japan)	JPL	SAT
3903//6886	Call Sign V WCJJ (x3) DE HBDD (x2) Replaced YHXD DE SAQC on 3968, 6936, 5479 & 10722kHz					
	1950z	12 Jul	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Japan)	JPL	SAT
	1840z	15 Jul	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Japan)	JPL	TUE
	1659z	16 Jul	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Japan)	JPL	WED
	1450z	17 Jul	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Japan)	JPL	THU
	1635z	18 Jul	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Japan)	JPL	FRI
	1517z	19 Jul	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Japan)	JPL	SAT
	1934z	20 Jul	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Japan)	JPL	SUN
	1743z	25 Jul	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Japan)	JPL	FRI
	1612z	01 Aug	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Japan)	JPL	FRI
	1454z	05 Aug	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Japan)	JPL	TUE
	1507z	10 Aug	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Japan)	JPL	SUN
	1454z	21 Aug	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Japan)	JPL	THU
	1528z	28 Aug	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Hong Kong)	JPL	THU
4156//9042	1141z	12 Jul	Into V26 - Into M95 1154z NR 24 CK 193 35 0712 1520 BT	(Remote tuner Japan)	JPL	SAT
	1144z	13 Jul	Into V26 - Into M95 1154z NR 069 CK 32 35 0713 1454 BT NR 26 CK 174 35 0713 1518 BT	(Remote tuner Japan)	JPL	SUN
	1155z	15 Jul	Into M95 1154z NR 30 CK 199 35 0715 1509 BT	(Remote tuner Taiwan)	JPL	TUE
	1202z	19 Jul	Into M95 1202z (Too weak to copy)	(Remote tuner Japan)	JPL	SAT
	1144z	31 Jul	Into V26 - Into M95 1152z NR 62 CK 184 35 0731 1545 BT	(Remote tuner Japan)	JPL	THU
	1145z	03 Aug	Into Q26 - Into M95 1152z	(Remote tuner Japan)	JPL	SUN

				Note: Missed message number.			
		1153z	05 Aug	Into M95 1153z NR 10 CK 191 35 0805 1530 BT	(Remote tuner Japan)	JPL	TUE
		1144z	10 Aug	Into Q26 - Into M95 1149z NR 026 CK 32 35 0810 1529 BT	(Remote tuner Japan)	JPL	SUN
		1150z	14 Aug 25	Into M95 1150z NR 034 CK 40 35 0814 1508 BT NR 28 CK 293 35 0814 15.. BT	(Remote tuner Taiwan)	JPL	THU
		1150z	23 Aug	Into M95 1150z NR 46 CK 176 35 0823 1518 BT	(Remote tuner Japan)	JPL	SAT
		1154z	24 Aug	Into M95 - Unable to copy msg	(Remote tuner Japan)	JPL	SUN
		1150z	29 Aug	Into M95	(Remote tuner Japan)	JPL	FRI
4542		Call Sign XS30		Believe this is new frequency and call for XSV85 the sked previously on 8073 & 4364kHz.			
		1139z	18 Jul	In Q26 1139z - Into M95 1150z V BNGC DE XS30 NR 0604 CK 672 35 0718 1614 BT	(Remote tuner Hong Kong)	JPL	FRI
		1131z 1150 - 1154z 1154 - 1158z	19 Jul	Into V26 1131z - Into Q26 – 1133z - Into M95 1150z V BNGC DE XS30 NR 0609 CK 061 35 0719 1700 BT (4 Ltr Groups) NR 0610 CK 0549 35 0719 1701 BT (Usual 3 Ltr group)	(Remote tuner Hong Kong)	JPL	SAT
		1133z	05 Aug	Into Q26 - Into M95 1143z V BNGC DE XS30 - NR 0688 CK 047 35 0805 1609 BT	(Remote tuner Hong Kong)	JPL	TUE
4542//**6876**		Call Sign XS30		**(Note: New Frequency)**			
		1143z	02 Aug	In M95 1143z V BNGC DE XS30 NR 0675 CK 349 35 0802 1552 BT NR 0676 CK 045 35 0802 1555 BT	(Remote tuner Thailand)	JPL	SAT
		1123z	03 Aug	Into Q26 - Into M95 1143z V BNGC DE XS30 NR 0679 CK 328 35 0803 1604 BT	(Remote tuner Hong Kong)	JPL	SUN
		1133z	10 Aug	Into Q26 - Into M95 1143z V BNGC DE XS30 - NR 0704 CK 216 35 0810 1547 BT	(Remote tuner Hong Kong)	JPL	SUN
		1132z	14 Aug	Into Q26 - Into M95 1142z V BNGC DE XS30 - NR 0721 CK 458 35 0814 1613 BT	(Remote tuner Hong Kong)	JPL	THU
		1131z	22 Aug	Into Q26 - Into M95 1149z V BNGC DE XS30 - NR 0750 CK 688 35 0822 1642 BT - 2 MSGS sent	(Remote tuner Hong Kong)	JPL	FRI
		1131z	24 Aug	Into Q26 - Into M95 1149z V BNGC DE XS30 - NR 0761 CK 051 35 0824 1607 BT NR 0762 CK 522 35 0824 1609 BT	(Remote tuner Hong Kong)	JPL	SUN
		1131z	28 Aug	Into Q26 - Into M95 1149z V BNGC DE XS30 - Note: Did not go into M95 after Q26 – 1204z	(Remote tuner Hong Kong)	JPL	THU
		1141z	29 Aug	In Q26 - Into M95 1143z V BNGC DE XS30 - NR 0787	(Remote tuner Hong Kong)	JPL	FRI
5656	(In tfc)	1540z	19 Jul	NR 5001/CCK CK 91 89 0719 2355 RMKS 1784 TO 3847 TO 3849 TO 1..8 K	(Remote tuner Taiwan)	JPL	SAT
6557//11475		Call Sign HBDD		Replaced YHXD DE SAQC on 3968, 6936, 5479 & 10722kHz			
		1212z	13 Jul	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Japan)	JPL	SUN
6886		**Call Sign HBDD**		**Replaced YHXD DE SAQC on 3968, 6936, 5479 & 10722kHz**			
		2111z	14 Jul	V WCJJ (x3) DE HBDD (x2) Fair	(Remote tuner Twente)	BR	MON
		1028z	31 Jul	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Hong Kong)	JPL	THU
		1735z	16 Aug	V WCJJ (x3) DE HBDD (x2) Weak	(Remote tuner Twente)	BR	SAT
		1414z	23 Aug	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Japan)	JPL	SAT
7525	(In tfc)	1224z	23 Aug	NR …/CCK CK ..1 75 0823 2009 RMKS 0607 TO 0526 K	(Remote tuner Japan)	JPL	SAT
7800	(In tfc)	1205z	23 Aug	NR 361/CCK CK 80 24 0823 2000 RMKS HPGQ TO DGDX K **Note: First time I see RMKS contain letters.**	(Remote tuner Japan)	JPL	SAT
8452.5		1523z	29 Aug	In Q26	(Remote tuner Thailand)	JPL	FRI
9042		1208z	28 Aug	In M95 - Unable to copy msg (// 4156 N/H)	(Remote tuner Manila)	JPL	THU
11475		**Call Sign HBDD**		**Replaced YHXD DE SAQC on 3968, 6936, 5479 & 10722kHz**			
		1028z	05 Aug	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Thailand)	JPL	TUE
		1128z	10 Aug	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Hong Kong)	JPL	SUN
		1041z	24 Aug	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Japan)	JPL	SUN
		1028z	28 Aug	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Hong Kong)	JPL	THU

	1157z	29 Aug	V WCJJ (x3) DE HBDD (x2)	(Remote tuner Hong Kong)	JPL	FRI	

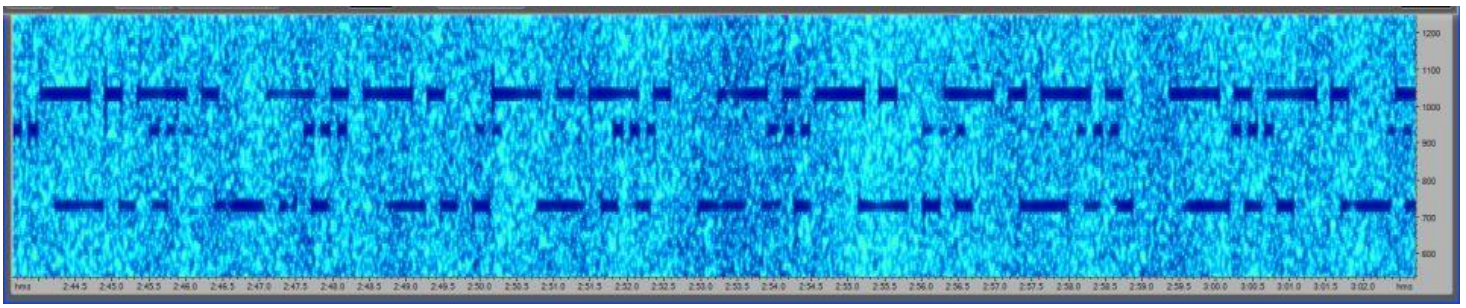
Marker Beacons (MX MXI)

5153.7	2101z	14 Jul	MXI CW Beacon "D" Sevastopol	Weak	BR	MON
	2015z	18 Aug	MXI CW Beacon "D" Sevastopol	Fair	BR	MON
5153.9	2017z	18 Aug	MXI CW Beacon "S" Severomorsk	Weak	BR	MON
5154.1	18 Aug	18 Aug	MXI CW Beacon "A" Astrakhan	Weak	BR	MON
5156.7	2134z	12 Jul	MX CW Beacon "L" St Petersburg	Weak	PLdn	FRI
	2102z	14 Jul	MX CW Beacon "L" St Petersburg	Good	BR	MON
	2133z	05 Aug	MX CW Beacon "L" St Petersburg	Fair	PLdn	TUE
	12014z	18 Aug	MX CW Beacon "L" St Petersburg	Fair	BR	MON



5156.7kHz 2134z Friday 12 July 'L' Beacon – St. Petersburg *Courtesy PLdn*

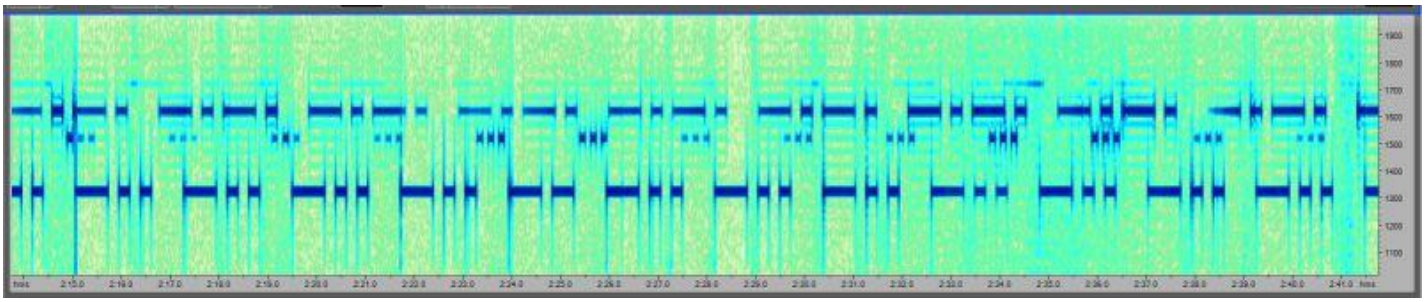
7508.7	2054z	14 Jul	MXI CW Beacon "D" Sevastopol	Good	BR	MON
	2305z	01 Aug	MXI CW Beacon "D" Sevastopol	Weak	PLdn	FRI
	1945z	14 Aug	MXI CW Beacon "D" Sevastopol	Weak	PLdn	THU
	2012z	18 Aug	MXI CW Beacon "D" Sevastopol	Good	BR	MON
7508.9	2055z	14 Jul	MXI CW Beacon "S" Severomorsk	Weak	BR	MON
	2305z	01 Aug	MXI CW Beacon "S" Severomorsk	Weak	PLdn	FRI
	1945z	14 Aug	MXI CW Beacon "S" Severomorsk	Weak	PLdn	THU
	2013z	14 Aug	MXI CW Beacon "S" Severomorsk	Fair	BR	MON
7509	2305z	01 Aug	MXI CW Beacon "C" Moscow	Weak	PLdn	FRI
	1945z	14 Aug	MXI CW Beacon "C" Moscow	Weak	PLdn	THU
	2010z	18Aug	MXI CW Beacon "C" Moscow	Fair	BR	MON



7508/9kHz 1945z Thu 14 August 'C' 'S' & 'D' Beacons Clearly Displayed Courtesy PLdn

8494.7	0831z	14 Jul	MXI CW Beacon "D" Sevastopol	Fair	BR	MON
	2009z	18 Aug	MXI CW Beacon "D" Sevastopol	Fair	BR	MON
8494.9	2009z	18 Aug	MXI CW Beacon "S" Severomorsk	Weak	BR	MON
8495.1	0832z	14 Jul	MXI CW Beacon "A" Astrakhan	Fair	BR	MON
8497.8	2053z	14 Jul	MX CW Beacon "L" St Petersburg	V.Weak	BR	MON
	2010z	18 Aug	MX CW Beacon "L" St Petersburg	Strong	BR	MON
10871.7	0826z	14 Jul	MXI CW Beacon "D" Sevastopol	Fair	BR	MON
	0830z	04 Aug	MXI CW Beacon "D" Sevastopol	Weak	BR	MON
10871.8	0828z	14 Jul	MXI CW Beacon "P" Kaliningrad	Weak, QSB	BR	MON
10871.9	0827z	14 Jul	MXI CW Beacon "S" Severomorsk	Fair	BR	MON
	0830z	04 Aug	MXI CW Beacon "S" Severomorsk	Weak QSB	BR	MON
13527.7	0826z	14 Jul	MXI CW Beacon "D" Sevastopol	Weak	BR	MON
	2050z	14 Jul	MXI CW Beacon "D" Sevastopol	Fair	BR	MON
	0828z	04 Aug	MXI CW Beacon "D" Sevastopol	Weak	BR	MON
	2007z	18 Aug	MXI CW Beacon "D" Sevastopol	Weak	BR	MON
13527.8	2007z	18 Aug	MXI CW Beacon "P" Kaliningrad	Good	BR	MON
13527.9	0827z	04 Aug	MXI CW Beacon "S" Severomorsk	Weak	BR	MON
16331.7	0823z	14 Jul	MXI CW Beacon "D" Sevastopol	Good	BR	MON
	2048z	14 Jul	MXI CW Beacon "D" Sevastopol	Weak	BR	MON
	0824z	04 Aug	MXI CW Beacon "D" Sevastopol	Good	BR	MON
	2003z	18 Aug	MXI CW Beacon "D" Sevastopol	Good	BR	MON
	1005z	23 Aug	MXI CW Beacon "D" Sevastopol	Strong	PLdn	SAT
16331.8	0824z	04 Aug	MXI CW Beacon "P" Kaliningrad	Fair QSB	BR	MON
16331.9	0824z	14 Jul	MXI CW Beacon "S" Severomorsk	Fair	BR	MON
	0825z	04 Aug	MXI CW Beacon "S" Severomorsk	Fair	BR	MON
	2005z	18 Aug	MXI CW Beacon "S" Severomorsk	Fair	BR	MON

	1005z	23 Aug	MXI	CW	Beacon	"S"	Severomorsk		Strong	PLdn	SAT
16332.0	0824z	14 Jul	MXI	CW	Beacon	"C"	Moscow		Weak with QSB	BR	MON
	0505z	30 Jul	MXI	CW	Beacon	"C"	Moscow		Fair	PLdn	WED
	0826z	04 Aug	MXI	CW	Beacon	"C"	Moscow		Fair	BR	MON
	2004z	18 Aug	MXI	CW	Beacon	"C"	Moscow		Good	BR	MON
	1005z	23 Aug	MXI	CW	Beacon	"C"	Moscow		Strong	PLdn	SAT
16332.1	2006z	18 Aug	MXI	CW	Beacon	"A"	Astrakhan		Fair	BR	MON



16331kHz 1005z 23 August 'C' 'S' & 'D' Beacons Courtesy PLdn

Oddities

'The Alarm'

4770	2008z	28 Jul	Marker Signal (The Alarm)	USB	Weak	BR	MON

S28 'The Buzzer'

4625	2105z	14 Jul	S28	'The Buzzer' Marker	USB	Weak	BR	MON
	2018z	18 Aug	S28	'The Buzzer' Marker	USB	Weak	BR	MON

S30 'The Pip'

3756	2106z	14 Jul	S30	'Pip' marker (Night freq)	USB	Fair	BR	MON
	2020z	18 Aug	S30	'Pip' marker (Night freq)	USB	Weak	BR	MON

New Additional 'Pip' Markers

None found

4326.1//4327.1 'T' Marker (New Frequencies – previously on 4183.7//4184)

	2012z	28 Jul	T Marker (Under heavy digital signal)			BR	MON

6911 'Stalingrad Clock'

	2110z	14 Jul	'Stalingrad Clock'	USB	Fair	BR	MON

Contributors: AB, BR, Gert, HFD, JPL, PILLE (UDXF), Plato 1959, PLdn, PoSW *Thank you all for your logs.*

Voice stations, Polytones and Hybrids

E06

July/Aug log:

No reports!

E07

E07 July/Aug log:

Tuesday/Friday

July 2025

1500z 16232kHz 1520z 18332kHz 1540z 19132kHz

01/07 231 000 H-FD TUE

04/07 231 000 Fair (Twente SDR)

08/07 231 1 1540z Weak, QSB to nil. Rest NRH

11/07 231 1 777 190 06086 … 83879 000 000 1540z NRH, rest Weak

231 231 231 1 777 190 777 190
06086 69594 02050 64501 38796 86240 56637 56937 77798 52132
48945 78739 39799 28060 99785 94861 62767 88961 17111 50985
61109 76513 43326 99222 96895 37318 26968 41345 67591 10882
55016 96692 26292 49306 85643 68351 14944 52703 18939 06372
64531 79149 45500 51095 86286 82235 81420 41090 08380 03039
86322 26995 08127 70829 95073 34078 22311 15410 53198 16221
35259 12741 71899 63937 98578 03281 59576 74179 99223 15740
12589 61578 24306 60744 95848 20868 99870 44126 80635 94106
61257 84045 83237 33151 67946 84223 53910 24301 88277 62213
99185 23457 36122 71903 72465 81458 08585 31998 06091 29084
39203 94735 42339 22958 65879 83529 59489 04583 15489 81836
68740 31124 85198 00190 43133 19810 46084 61478 85828 16061
80377 36476 12411 69925 76423 90435 64894 54584 88739 31524
43158 40176 71678 61849 75280 54099 36443 05431 03856 03589
44537 13453 96913 46333 93437 78180 72323 93934 38919 01466
06724 23318 42021 68541 14286 68264 70162 00113 84426 90038
26002 50248 41007 26882 34144 75542 92062 54817 35809 80917
21082 44125 08166 87940 87784 17774 32148 42579 58542 87051
29105 17108 25933 02729 16209 00637 61322 80370 53059 83879
000 000 *Courtesy Ary [all 3 freqs]*

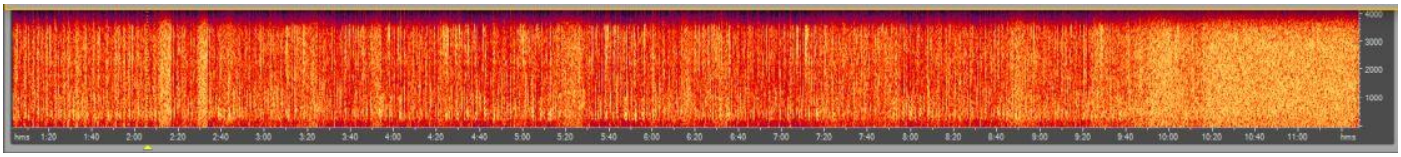
15/07 MISSED

18/07 231 000 1500z Weak, 1520z NRH

22/07 231 1 264 156 04754 ... 84244 000 000 dMHz TUE

231 1 264 156
04754 15525 53720 00665 46523 98151 05399 95856 64865 58039
75479 12950 65993 60672 30925 43186 48042 60266 22873 80918
08532 55649 77352 36396 59230 17444 05161 36707 89468 40563
95841 66171 29577 20680 86550 99158 30092 43036 52646 35143
95961 16003 57471 54273 35437 27935 60098 93426 05181 13480
24950 68645 31330 26651 05681 62382 49365 34299 18713 98405
35213 71216 01342 01770 23300 23007 51072 60147 49252 93437
36208 12963 96353 65639 30780 24905 49826 70322 73226 82811
59406 80769 53615 45745 96373 74372 91219 40956 87435 24208
84786 19566 90959 40951 77298 56356 83968 15096 64847 48865
62534 13918 16074 55765 83421 70936 84946 93937 26105 93339
91178 58170 02228 96451 34699 30788 59153 48260 98429 84848
81025 21863 83151 49546 75141 83216 49880 84004 31060 89202
42672 52889 37716 20107 62247 63553 08471 59219 78180 69811
83081 46148 19253 95754 23679 14445 97011 68645 18028 69718
77670 40703 94362 04491 40347 84244 000 000 *Courtesy dMHz*

PLdn's results were 1500z Weak, 1520z NRH with 1540z starting Fair but QSB to nil by 12th minute of transmission [see below]:



19132kHz 1540z 22/07/2025 Fair, QSB to nill

25/07	231 1	1500z Very weak, very poor copy, rest NRH		
29/07	231 000	Fair (SDRTwente)		

August 2025

1500z	**17453kHz**	**1520z**	**18353kHz**	**1540z**	**19253kHz**		
01/08	432 000	Weak	BR	FRI			
05/08	Poor condx; NRH						
08/08	432 1 791 191 73065 ... 82413 000 000	1540z Fair, rest Weak					
12/08	432 000	Weak					
15/08	432 000	Weak QRM3					
19/08	432 1 837 94 94304 ... nnnnn 000 000	1540z NRH, resr Weak, QSB to nil					
22/08	432 1 837 94 94304 ... 60682 '2' 000 000	1500z Weak, QSB4 rest NRH					
22/08	432 000	Weak					
29/08	432 000	Weak					

Thursday/Saturday

July 2025

1000z	**19235kHz**	**1020z**	**18368kHz**	**1040z**	**17421kHz**		
03/07	234 1	H-FD	THU				
05/07	234 1 (516 108) 22302 19111 17519 87852….	Fair/Weak/Weak	BR	SAT			
10/07	234 000	1000z Very weak, 1020z Weak	BR	THU			
12/07	234 000	Fair, 1020z SIGQRM2 (Twente SDR)					
17/07	234 1 (9290 121) 97368 71391….	Fair/Weak/Weak	BR	THU			
19/07	234 1 (9290 121) 97368 71391 81087 63146….	Weak/Fair/Fair	BR	SAT			
24/07	234 000	Fair under heavy OTHR/Fair	BR	THU			
26/07	234 000	Very weak					

August 2025

1000z	**18241kHz**	**1020z**	**17456kHz**	**1040z**	**15937kHz**		
02/08	249 1 648 137 55651 … 78035 000 000	Ary	SAT				

249 249 249 1 648 137 648 137
55651 58782 00998 20137 99972 49355 90334 90789 00526 36174
61316 21390 57108 67862 20954 49764 68344 17139 16675 72342
76934 49235 94547 14479 02318 03319 21420 03436 97432 82277
33355 01557 17548 23478 41357 98907 59737 88301 64691 29099
10285 05117 39452 02090 75907 38009 57904 01567 68106 80190
88868 43551 88013 72854 19178 16040 19651 66678 21708 09490
40105 18600 16433 54851 47918 95106 02422 70274 29462 96671
21762 38691 46553 98481 12676 56875 47208 40633 16273 15359
43692 26845 12434 86418 11548 89542 62590 95970 63442 49548
12366 79059 07902 92124 26229 87792 97939 64633 59661 65422
55314 21986 96936 31021 14520 84718 90860 87403 27044 82568
11524 77363 64393 90210 01297 14300 57946 59534 85060 48929
72967 07327 92967 75435 18570 06038 58083 36345 68263 66106
14920 64605 61063 04031 94554 86514 78035 000 000

Courtesy Ary

07/08	249 000	1000z Weak 1020z Far	BR	THU
09/08	249 000	Weak	BR	SAT
14/08	249 1 (346 122) 09615 93368 60974	Fair/Weak/Fair	BR	THU
16/08	249 1 (346 122) 09615 93368 60974….	Good/Fair/Fair	BR	SAT
23/08	249 000	Weak/Fair	BR	SAT

21/08	249 000	Weak/Fair	BR	THU
28/08	249 1 5255 149 20010 ... 11156 000 000	1000z Weak, rest NRH [TwenteSDR Fair, QSB2 at 1000z}		
30/08	249 1 5255 149 20010 ... 11156 000 000	1040z Weak, rest Fair, 1020z OTHR QRM	BR	SAT

PoSW's take on E07 schedules:

Tuesday + Friday Schedule, 1500 UTC Start:-

A wide variation in signal strengths noted with this schedule in July and August.
8-July-25, Tuesday:- 1500 UTC, 16232 kHz, very weak signal, unreadable at first, became audible at approx 1506z, ended shortly after 1518.
1520 UTC, 18332 kHz, very weak, unreadable.
1540 UTC, 19132 kHz, third sending weak but reasonably clear, "231 231 231 1", DK/GC "777 190" x 2.

11-July-25, Friday:- 1500 UTC, 16232 kHz, "231" and "777 190" again, good signal with some fading.
1520 UTC, 18332 kHz, weak.
1540 UTC, 19132 kHz, very weak.

15-July-25, Tuesday:- 1500 UTC, 16232 kHz, "231 231 231 000", weak, clear signal.
Nothing readable at 1520z on 18332.

18-July-25, Friday:- 1500 UTC, 16232 kHz, "231 231 231 000", good signal, weak FSK signal underneath.
Nothing readable at 1520z.

22-July-25, Tuesday:- 1500 UTC, 16232 kHz, "231 231 231 1", sank into noise just before the end of the call/preamble routine, became clearer after a few minutes, ended at 1515:20s UTC.
1520 UTC, 18332 kHz, stronger, DK/GC "264 156" x 2.
1540 UTC, 19132 kHz, unusually this was the strongest of the three sendings.

25-July-25, Friday:- 1500 UTC, 16232 kHz, "231" and "264 156" again, good signal.
Nothing readable from either of the other two transmissions.

29-July-25, Tuesday:- 1500 UTC, 16232 kHz, "231 231 231 000", good signal.
1520 UTC, 18332 kHz:- very weak, unreadable.

1-Aug-25, Friday:- 1500 UTC, 17453 kHz, very weak signal, sounded like "000", no message. Nothing readable of second sending on predicted frequency 18353.

5-Aug-25, Tuesday:- Nothing readable on any of the three frequencies.

8-Aug-25, Friday:- 1500 UTC, 17453 kHz, "432 432 432 1", message, DK/GC "791 191" x 2, good signal for a change, ended shortly after 1518 UTC.
1520 UTC, 18353 kHz, weak, became weaker then stronger after 1526z.
1540 UTC, 19253 kHz, started off very weak then became much stronger a few minutes into the transmission.

12-Aug-25, Tuesday:- 1500 UTC, 17453 kHz, "432 432 432 000", good signal.
1520 UTC, 18353 kHz, very weak.

15-Aug-25, Friday:- 1500 UTC, 17453 kHz, "432 432 432 000".
1520 UTC, 18353 kHz, weaker but not by much.

19-Aug-25, Tuesday:- 1500 UTC, 17453 kHz, "432 432 432 1", message, DK/GC "837 94" x 2, good signal, ended at 1510:15s UTC.
1520 UTC, 18353 kHz, slightly weaker.
Nothing readable at 1540 on 19253.

22-Aug-25, Friday:- 1500 UTC, 17453 kHz, "432" and "837 94" again, started off weak then became stronger.
1520 UTC, 18353 kHz, very weak, way down in the noise, nothing heard at 1540 on 19253.

Thursday + Saturday Schedule, 1000 UTC Start:-

This schedule replaced the long-standing Thursday + Saturday 1410z start schedule a few months back, some searching required to find the new frequencies without much success -
so thanks to the Priyom site for the following:-
14-Aug-25, Thursday:- 1000 UTC, 18241 kHz, "249 249 249 1", message, DK/GC "346 122" x 2, fair signal, ended at 1012:35s UTC.
1020 UTC, 17456 kHz, slightly weaker.
1040 UTC, 15937 kHz, weakest signal of the three.

21-Aug-25, Thursday:- Nothing readable at 1000 UTC on 18241.
1020 UTC, 17356 kHz, "249 249 249 000", weak, clear signal.

23-Aug-25, Saturday:- 1000 UTC, 18241 kHz, "249 249 249 000", good signal.
1020 UTC, 17456 kHz, slightly stronger.

28-Aug-25, Thursday:- 1000 UTC, 18241 kHz, "249 249 249 1", message, DK/GC "5255 149" x 2, weak at first then became stronger, ended a bit before 1015 UTC.
1020 UTC, 17456 kHz, weak at first then became stronger.
1040 UTC, 15937 kHz, weak.

E11 & E11a log July/August

5231kHz	1605z	22/07 [232/37 16007 23907 04852 85472 50262 20319 62565 22483……55536 55511] Good	dMHz	TUE
5409khz	2000z	03/07 [521/00] Out 2003z Fair	PLdn	THU
	2000z	06/07 [528/00]	PoSW	SUN
	2000z	10/07 [520/00] Out 2003z Weak	PLdn, PoSW	THU
	2000z	13/07 [520/00]	PoSW	SUN
	2000z	17/07 [520/00] Out 2003z Fair	PLdn, PoSW	THU
	2000z	24/07 [525/33 15037……87624] Out 2010z Fair	PLdn, PoSW	THU
	2000z	31/07 [521/00]	PoSW	THU
	2000z	03/08 [521/00]	PoSW	SUN
	2000z	07/08 [522/00] Out 2003z Weak	PLdn	THU
	2000z	10/08 [525/00]	PoSW	SUN
	2000z	14/08 [527/36 4702…….16284] Out 2011z Fair	PLdn, PoSW	THU
	2000z	21/08 [525/00] Out 2003z Fair	PLdn, PoSW	THU
	2000z	28/08 [528/00] Out 2003z Strong	PLdn	THU
6923kHz	0930z	02/07 [271/00] Weak	Brian	WED
	0930z	03/07 [276/00] Very weak	Brian	THU
	0930z	09/07 [276/32 ……..] Very weak – no copy	Brian	WED
	0939z	16/07 [273/00] Weak	Brian	WED
	0930z	17/07 [271/00] Very weak	Brian	THU
	0930z	23/07 [278/00] Very weak	Brian	WED
	0930z	24/07 [275/00] Fair	RNGB, Brian	THU
	0930z	30/07 [279/00] Weak	Brian	WED
	0930z	06/08 [270/34 34530 34222 99497 01217 38688 27117 32778 55607……64798 27563]	Brian	WED
	0930z	14/08 [275/00] Weak	Brian	FRI
	0930z	20/08 [271/00] Weak	Brian	WED
	0930z	27/08 [278/00] Weak	Brian	WED
	0930z	28/08 [273/00] Weak	Brian	THU
7377khz	0700z	05/07 [497/00] Good	RNGB	SAT
	0700z	06/07 [492/00] Weak	Brixmis, PLdn	SUN
	0700z	12/07 [490/00] Good	RNGB	SAT
	0700z	20/07 [495/38 65913 95336 05892 13068 37223 69755 17794 86447……44560 30629] Weak	Brian	SUN
	0700z	26/07 [498/00] Good	RNGB, Brian	SAT
	0700z	27/07 [495/00] Good	RNGB, PLdn	SUN
	0700z	02/08 [491/00] Good	RNGB, Brian, PLdn	SAT
	0700z	09/08 [496/31 02273 09008 09848 38100 30779 08147 31388 21882……90617 47682] Strong	RNGB	SAT
	0700z	16/08 [497/00] Good	RNGB, Brian	SAT
	0700z	17/08 [498/00] Out 0703z Fair	PLdn	SUN
	0700z	23/08 [491/00] Out 0703z Fair	PLdn	SAT
	0700z	24/08 [498/00] Good	RNGB, PLdn	SUN
	0700z	30/08 [495/00] Good	RNGB, Brian	SAT
7600kHz	1900z	03/07 [649/00] Out 1903z Fair	PLdn	THU
	1900z	07/07 [649/00] Out 1903z Fair	PLdn, PoSW	MON
	1900z	10/07 [646/00] Out 1903z Fair	PLdn	THU
	1900z	14/07 [641/00] Out 1903z Fair	PLdn, PoSW,E	MON
	1900z	17/07 [648/00] Out 1903z Strong	PLdn, PoSW	THU
	1900z	24/07 [647/30 87589…….63609] Out 1909z Strong	PLdn	THU
	1900z	28/07 [648/00] Out 1903z Strong	PLdn, PoSW	MON
	1900z	07/08 [640/00] Out 1903z Strong	PLdn, PoSW	THU
	1900z	11/08 [647/00] Out 1903z Fair	PLdn	MON
	1900z	14/08 [644/00] Out 1903z Strong	PLdn, PoSW	THU
	1900z	18/08 [649/33 23493……...54627] Out 1909z	PLdn, PoSW	MON
	1900z	25/08 [641/00] Out 1903z Strong	PLdn	MON
	1900z	28/08 [648/00] Out 1903z Strong	PLdn	THU
7863kHz	1715z	02/07 [978/40 51509…….....51920] Out 1727z Fair	PLdn	WED
	1715z	09/07 [974/00] Out 1718z Fair	PLdn, PoSW	WED
	1715z	11/07 [975/00]	PoSW	FRI
	1715z	16/07 [976/00] Out 1718z Fair	PLdn, PoSW	WED
	1715z	18/07 [976/00] Out 1718z Fair	PLdn	FRI
	1715z	23/07 [977/00] Out 1718z Weak	PLdn, PoSW	WED
	1715z	25/07 [976/00] Out 1718z Fair	PLdn	FRI
	1715z	30/07 [970/00] Out 1718z Strong	PLdn, PoSW	WED
	1715z	01/08 [972/00]	PoSW	FRI
	1715z	06/08 [970/00] Out 1718z Weak	PLdn, PoSW	WED
	1715z	08/08 [972/00] Out 1718z Fair	PLdn, PoSW	FRI

	1715z	13/08 [970/00]	PoSW	WED
	1715z	15/08 [972/00] Out 1718z Strong	PLdn	FRI
	1715z	20/08 [975/39 11783 10993 31704 61348 42295 70072 88129…… 26863 75292] Out 1726z Fair	PLdn, PoSW	THU
	1715z	27/08 [976/00] Strong	Brixmis, PLdn, PoSW	WED
	1715z	29/08 [977/00] Out 1718z Fair	PLdn	FRI
7984kHz	0720z	03/07 [435/00] Good	RNGB, Brian, PLdn	THU
	0720z	04/07 [431/00] Good	RNGB	FRI
	0720z	10/07 [439/00] Good	RNGB, PLdn, Brian	THU
	0720z	11/07 [434/00] Good	Brian	FRI
	0720z	18/07 [432/00] Fair	Brian	FRI
	0720z	24/07 [435/00] Good	RNGB, Brian, PLdn	THU
	0720z	25/07 [438/00] Good	RNGB, Brian	FRI
	0720z	07/08 [436/00] Good	RNGB, Brian, PLdn	THU
	0720z	14/08 [436/00] Good	RNGB, Brian	THU
	0720z	15/08 [435/00] Good	RNGB, Brian	FRI
	0720z	21/08 [430/33 82741 98512 64371 53811 50081 93744 90490 23274……25986 13045] Weak	Brian, PLdn	THU
	0720z	28/08 [432/00] Out 0723z Weak	PLdn, Brian	THU
	0720z	29/08 [431/00] Fair	Brian	FRI
8274kHz	1205z	01/07 [464/00] Weak	Brian	TUE
	1205z	08/07 [461/00] Out 1208z Weak	PLdn	TUE
	1205z	29/07 [464/00] Out 1208z Fair	PLdn	TUE
	1205z	19/08 [465/31 47902……..... ?1548] Out 1214z Weak, poor copy	PLdn	TUE
8680kHz	0700z	01/07 [576/00] Strong	RNGB, Brian	TUE
	0700z	04/07 [573/00] Good	RNGB, Brian	FRI
	0700z	08/07 [575/37 46715 57326 63653 56648 41997 73242 08317…….81865 15508 52748] Good	RNGB, Brian	TUE
	0700z	15/07 [575/00] Good	RNGB, Brian	TUE
	0700z	18/07 [576/00] Weak	Brian, PLdn	FRI
	0700z	22/07 [571/00] Out 0703z Weak	PLdn	TUE
	0700z	25/07 [573/00] Good	RNGB, Brian	FRI
	0700z	29/07 [571/00] Fair	Brian	TUE
	0700z	01/08 [574/00] Good	RNGB	FRI
	0700z	05/08 NRH	RNGB, Ary	TUE
	0700z	08/08 [579/40 70332 59436 13604 14452 50007 78504 63075 53836……54529 32087] Good	RNGB, PLdn	FRI
	0700z	12/08 [573/00] Good	RNGB, Brian	TUE
	0700z	15/08 [571/00] Good	RNGB, Brian	FRI
	0700z	19/08 [573/00] Good	RNGB, Brian, PLdn	TUE
	0700z	22/08 [579/00] Good	RNGB, Brian, PLdn	FRI
	0700z	26/08 [570/00] Good	RNGB, Brixmis	TUE
	0700z	29/08 [570/00] Fair	Brian, PLdn	FRI
9150kHz	0600z	04/07 [353/00] Good	RNGB, PLdn	FRI
	0600z	06/07 [358/00] S6	Brixmis, PLdn	SUN
	0600z	25/07 [354/00] Fair	PLdn	FRI
	0600z	27/07 [358/00] Weak	PLdn	SUN
	0600z	01/08 [358/00] Strong	RNGB	FRI
	0600z	08/08 [354/00] Good	RNGB, PLdn	FRI
	0600z	10/08 [353/00] Out 0603z Weak	PLdn	SUN
	0600z	15/08 [35?/36 77936 58180 73503 08298 06960 60771 54710 65240……20509 88306]	RNGB	FRI
	0600z	22/08 [351/00] Good	RNGB, PLdn	FRI
	0600z	24/08 [352/00] Out 0603z Fair	PLdn	SUN
	0600z	29/08 [350/00] Good	RNGB, PLdn	FRI
9610kHz	1910z	04/07 [616/00] Out 1913z Fair QRN3	PLdn	FRI
	1910z	06/07 [614/00] Out 1913z Weak	PLdn	SUN
	0745z	07/07 [262/00] Strong	RNGB, Brian	MON
	0745z	14/07 [260/00] Good	Brian	MON
	1910z	18/07 [618/00] Out 1913z Strong	PLdn	FRI
	1910z	20/07 [611/00] Out 1913z Strong	PLdn	SUN
	0745z	21/07 [261/00] Good	Brian	MON
	1910z	25/07 [611/00] Out 1913z Strong	PLdn	FRI
	0745z	28/07 [261/33 24206 52822 22558 56106 09440 80690 27124 38133…….15716 12705] Strong	RNGB, Brian	MON
	1910z	03/08 [618/00] Out 1913z Strong	PLdn	SUN
	0745z	04/08 [262/40 60079 66775 65586 75779 14631 59721 95988 76627…… 80246 18037] Good	Brian	MON
	1910z	08/08 [611/00] Out 1913z Strong	PLdn	FRI
	1910z	10/08 [613/00] Weak	Brixmis, PLdn	SUN
	0745z	11/08 [268/00] Fair	Brian	MON
	1910z	15/08 [613/00] Out 1913z Strong	PLdn	FRI
	1910z	17/08 [612/00] Out 1913z Fair	PLdn	SUN
	0745z	18/08 [261/00] Good	RNGB. Brian	MON

	1910z	22/08 [610/00] Out 1913z Strong	PLdn	FRI
	0745z	25/08 [268/00] Good	Brian	MON
	1910z	29/08 [612/39 28788…….74710] out 1921z Strong	PLdn	FRI
10210kHz	1045z	02/07 [690/00] Good	Brian	WED
	1045z	07/07 [693/00] Fair	Brian	MON
	1045z	09/07 [698/00] Fair	Brian	WED
	1045z	14/07 [694/00] Fair	Brian	MON
	1045z	16/07 [690/00] Weak	Brian	WED
	1045z	21/07 [694/00] Fair	Brian	MON
	1045z	28/07 [694/00] Fair	Brian	MON
	1045z	30/07 [698/00] Good	Brian	WED
	1045z	04/08 [691/00] Weak	Brian	MON
	1045z	06/08 [693/00] Fair	Brian	WED
	1045z	11/08 [694/00] Very weak	Brian	MON
	1045z	18/08 [694/00] Fair	Brian	MON
	1045z	20/08 [691/00] Fair	Brian	WED
	1045z	25/08 [691/37 32666 42157 28258 31239 11487 33228 80816 48343……24878 88290] Weak	Brian	MON
10508kHz	0645z	07/07 [410/00] Out 0648z Weak	PLdn	MON
	0645z	09/07 [418/00] Good	RNGB	WED
	0645z	14/07 [410/00] Out 0648z	PLdn	MON
	0645z	21/07 [418/40 68733 14155 07889 84153 78542 83040 33982 75314……74768 14930] Good	RNGB, Brian	MON
	0645z	28/07 [418/00] Good	RNGB, PLdn	MON
	0645z	06/08 [418/00] Good	RNGB	WED
	0645z	11/08 [413/00] Good	RNGB	MON
	0645z	18/08 [418/00] Good	RNGB, PLdn, Brian	MON
	0645z	20/08 [410/00] Good	RNGB	WED
	0645z	25/08 [416/40 81567 02875 03807 43650 40018 64760 39639 45784……40222 37743] Fair	Brian	MON
11092kHz	0645z	03/07 [515/00] Strong	RNGB	THU
	0645z	08/07 [510/34 25805 99080 21261 03668 81883 26589 17863 52709…..57216 84111] Fair	Brian	TUE
	0645z	15/07 [514/00] Fair	RNGB, Brian	TUE
	0645z	24/07 [510/00] Good	RNGB	THU
	0645z	29/07 [510/00] Out 0648z Strong	dMHz	TUE
	0645z	31/07 [518/00] Strong	RNGB	THU
	0645z	05/08 [515/39 10581 81129 44594 68071 51482 79733 84847 96731……92415 90005] Good	RNGB, Ary	TUE
	0645z	19/08 [518/00] Good	RNGB	TUE
	0645z	26/08 [511/00] Good	RNGB	TUE
	0645z	28/08 [512/00] Good	Brian	THU
11116kHz	0900z	02/07 [538/00] Fair	RNGB	WED
	0900z	14/07 [535/00] Fair	Brian, PLdn,E	MON
	0900z	16/07 [532/00] Fair	Brian, PLdn	WED
	0900z	21/07 [533/00] Fair	Brian	MON
	0900z	23/07 [533/00] Out 0903z Strong	dMHz, Brian, PLdn	WED
	0900z	28/07 [532/00] Fair	Brian	MON
	0900z	30/07 [533/00] Fair	Brian	WED
	0900z	04/08 [537/33 90771 47042 36164 50159 26307 41864 71884 31607…….46704 84384] Weak	Brian	MON
	0900z	11/08 [538/00] Weak	Brian, PLdn	MON
	0900z	13/08 [533/00] Fair	Brian	WED
	0900z	18/08 [530/00] Fair	RNGB, PLdn, Brian	MON
	0900z	20/08 [538/00] Fair	RNGB, PLdn	WED
	0900z	25/08 [532/00] Fair	RNGB, PLdn	MON
	0900z	27/08 [536/00] Good	RNGB, Brian	WED
12153kHz	1000z	01/07 [300/35 31502 29605 31843 05866 55411 36231 70765……33182 07441] Fair	Brian, PLdn	TUE
	1000z	08/07 [306/00] Fair	Brian, PLdn	TUE
	1000z	11/07 [305/00] Good	Brian	FRI
	1000z	15/07 [305/00] Fair	Brian	TUE
	1000z	18/07 [309/00] Fair	Brian	FRI
	1000z	22/07 [308/00] Out 1003z Fair	PLdn, Brian	TUE
	1000z	25/07 [306/00] Out 1003z Weak	PLdn	FRI
	1000z	29/07 [300/00] Out 1003z Fair	PLdn	TUE
	1000z	05/08 [307/00] Weak	Brian	TUE
	1000z	08/08 [300/00] Out 1003z Fair	PLdn	FRI
	1000z	12/08 [307/00] Weak	Brian	TUE
	1000z	15/08 [302/00] Out 1003z Weak	PLdn	FRI
	1000z	19/08 [309/00] Good	Brian, PLdn	TUE
	1000z	22/08 [309/00] Weak	Brian	FRI
	1000z	26/08 [302/25 23528 26502 84687 37089 72797 00456 35526 87774……67892 55746] Out 1008z	PLdn	TUE

12229khz	1815z	04/07 [927/00] Out 1818z Fair	PLdn	FRI
	1815z	06/07 [927/00]	PoSW	SUN
	1815z	11/08 [925/39…….]	PoSW	FRI
	1815z	18/07 [929/00] Out 1818z Weak	PLdn	FRI
	1815z	20/07 [926/00] Out 1818z Fair	PLdn	SUN
	1815z	25/07 [929/00] Out 1818z Fair	PLdn	FRI
	1815z	27/07 [929/00] Out 1818z Strong	PLdn, PoSW	SUN
	1815z	01/08 [921/00] Good	RNGB, PoSW	FRI
	1815z	03/08 [922/00] Out 1818zm Fair	PLdn, PoSW	SUN
	1815z	08/08 [926/32 38145…….05321] Out 1825z Fair	PLdn	FRI
	1815z	15/08 [921/00] Out 1818z Strong	PLdn, PoSW	FRI
	1815z	17/08 [927/00] Out 1818z Strong	PLdn, PoSW	SUN
	1815z	22/08 [929/00] Out 1818z Fair	PLdn, PoSW	FRI
	1815Z	27/07 [929/00]	E	SUN
12530kHz	0715z	01/07 [635/32 90488 51496 72684 99294 82325 21455 10786……36522 41003] Good	RNGB, Brian	TUE
	0715z	08/07 [631/00] Good	RNGB, PLdn	TUE
	0715z	11/07 [636/00] Fair	Brian	FRI
	0715z	15/07 [631/00] Good	RNGB, Brian	TUE
	0715z	18/07 [636/00] Fair	RNGB, Brian	FRI
	0715z	22/07 [631/00] Fair	RNGB, PLdn	TUE
	0715z	25/07 [635/00] Good	Brian, PLdn	FRI
	0715z	29/07 [631/00] Out 0718z Fair	PLdn, Brian	TUE
	0715z	01/08 [635/00] Good	RNGB	FRI
	0715z	05/08 [630/37 86911 10748 73948 74702 31938 49279 11370 19803……24333 11261]	RNGB, Ary	TUE
	0715z	12/08 [631/00] Good	RNGB, Brian	TUE
	0715z	15/08 [637/00] Good	RNGB, PLdn, Brian	FRI
	0715z	19/08 [639/00] Fair	RNGB, PLdn	TUE
	0715z	22/08 [633/00] Fair	Brian	FRI
	0715z	26/08 [637/00] Good	RNGB, Brixmis, PLdn, Brian	TUE
	0715z	29/08 [631/00] Good	RNGB, Brian, PLdn	FRI
12815kHz	0845z	02/07 [711/00] Good	RNGB, Brian	WED
	0845z	07/07 [719/32 05257 70464 98565 62068 67069 01687 39194 05904……59861 77411]	Brian, PoSW	MON
	0845z	14/07 [719/00] Good	RNGB, Brian, PoSW	MON
	0845z	16/07 [714/00] Fair	Brian, PoSW	WED
	0845z	21/07 [710/00]	PoSW	MON
	0845z	28/07 [718/00] Good	Brian, Pldn, PoSW	MON
	0845z	30/07 [715/00] Good	Brian, PLdn	WED
	0845z	04/08 [716/32 37067 98648 72901 52419 55239 21350 42524 76444……06295 75019] Good	RNGB, Brian	MON
	0845z	11/08 [715/00] Weak	Brian	MON
	0845z	13/08 [715/00] Weak	Brian, PoSW	WED
	0845z	18/08 [713/00] Fair	Brian	MON
	0845z	20/08 [710/00] Weak	RNGB, PLdn	WED
	0845z	25/08 [719/00] Fair	Brian, PLdn	MON
	0845z	27/08 [716/00] Good	RNGB, Brixmis, Brian	WED
12984kHz	1430z	08/07 [914/00]	PoSW	TUE
	1430z	12/07 [917/00]	PoSW	SAT
	1430z	15/07 [911/32……..etc]	PoSW	TUE
	1430z	22/07 [911/00]	PoSW	TUE
	1430Z	26/07 [917/00]	E	SAT
	1430z	29/07 [910/00]	PoSW	TUE
	1430z	05/08 [910/00]	PoSW	TUE
	1430z	12/08 [918/00]	PoSW	TUE
	1430z	16/08 [910/00]	PoSW	SAT
	1430z	19/08 [918/35……etc]	PoSW	TUE
14410kHz	1745z	14/07 [248/00] Out 1748z Very weak	PLdn	MON
	1745z	28/07 [242/00] Out 1748z Strong	PLdn	MON
	1745z	03/08 [245/00] Out 1748z Weak	PLdn	SUN
	1745z	04/08 [242/00]	Ary	MON
	1745z	10/08 [248/00] Out 1748z Strong	PLdn	SUN
	1745z	11/08 [245/00] Out 1748z Fair	PLdn	MON
	1745z	18/08 [249/35 19931……...10655] Out 1755z Weak	PLdn	MON
	1745z	25/08 [244/00] Out 1748z Fair	RGNB	MON
14575kHz	1645z	28/08 [334/00] Out 1648z Fair	PLdn	THU
15720khz	0745z	04/07 [348/35 80298 92146 25271 87991 96987 12735 52583 72259……62691 39245] Weak	RNGB	FRI
	0745z	09/07 [349/00] Fair	Brian	WED
	0745z	11/07 [343/00] Weak	Brian, PoSW	FRI

	0745z	16/07 [342/00] Weak	Brian, PoSW	WED
	0745z	18/07 [346/00]	PoSW	FRI
	0745z	23/07 [349/00] Fair	Brian, PoSW	WED
	0745z	25/07 [346/00] Good	RNGB, Brian	FRI
	0745z	13/08 [342/00] Weak + QRM	RNGB, PoSW	WED
	0745z	15/08 [348/00] Very weak	RNGB	FRI
	0745z	20/08 [342/00] Fair with QRM (Polish SDR)	RNGB, Brian	WED
	0745z	22/08 [344/00] Weak	Brian, PoSW	FRI
	0745z	27/08 [342/00] Fair	Brian, PoSW	WED
	0745z	29/08 [348/00] Fair with QRM	RNGB, Brian	FRI
15915kHz	0715z	07/07 [751/00] Good	RNGB, Brian	MON
	0715z	09/07 [754/00] Good	RNGB, Brian	WED
	0715z	14/07 [757/00] Fair	Brian	MON
	0715z	16/07 [759/00] Fair	RNGB	WED
	0715z	21/07 [753/00] Good	RNGB, Brian	MON
	0715z	23/07 [750/00] Fair	Brian	WED
	0715z	28/07 [755/38 30246 29723 45789 02286 22527 20083 84457 88090…….41001 92756] Fair	RNGB	MON
	0715z	04/08 [757/36 39613 23569 88953 90300 03991 47775 14600 28429…….03478 30773] Weak	Brian	MON
	0715z	11/08 [753/00] Weak	Brian	MON
	0715z	13/08 [755/00] Weak	RNGB, Brian	WED
	0715z	18/08 [755/00] Fair	RNGB. Brian	MON
	0715z	20/08 [757/00] Fair	RNGB, Brian	WED
	0715z	25/08 [759/00] Weak	RNGB, Brian	MON
	0715z	27/08 [750/00] Weak	RNGB, Brian	WED
16335khz	0830z	07/07 [185/00] Good	RNGB, Brian	MON
	0830z	11/07 [185/00] Fair	Brian, PoSW	FRI
	0830z	14/07 [185/00] Fair	RNGB, Brian, PoSW	MON
	0830z	18/07 [181/00] Weak	RNGB, PoSW	FRI
	0830z	21/07 [183/20 00899 57642 51585 02022 52048 23707 91974 96308……63733 90677] Fair	Brian	MON
	0830z	28/07 [189/00] Fair	Brian, Pldn, PoSW	MON
	0830z	01/08 [180/00]	PoSW	FRI
	0830z	04/08 [184/30 25902 06967 26146 70564 44217 43101 25504 99817…….16769 63555] Good	RNGB, Brian, PoSW	MON
	0830z	11/08 [182/00] Fair	Brian, PLdn, PoSW	MON
	0830z	15/08 [182/00] Weak	Brian, PoSW	FRI
	0830z	18/08 [189/00] Good	RNGB, PLdn, Brian	MON
	0830z	22/08 [188/00] Fair	RNGB, Brian, PoSW	FRI
	0830z	25/08 [183/00] Very weak	Brian, PLdn	MON
	0830z	29/08 [182/00] Weak	Brian	FRI
17378khz	0820z	01/07 [135/00] Weak	RNGB	TUE
	0820z	02/07 [138/00] Good	RNGB, Brian	WED
	0820z	08/07 [136/00] Fair	Brian	TUE
	0820z	09/07 [134/00] Good	RNGB, Brian	WED
	0820z	15/07 [132/39 79789 05691 70753 99698……..] Weak with QSB	Brian	TUE
	0820z	16/07 [132/39 79789 05691 70753 99698 48986 78688 88474……28867 37478] Fair	RNGB, Brian	WED
	0820z	22/07 [138/00] Out 0823z Weak	RNGB, Brian, PoSW	TUE
	0820z	23/07 [130/00] Weak	Brian	WED
	0820z	29/07 [131/00] Very weak	Brian	TUE
	0820z	30/07 [131/00] Weak	Brian, PoSW	WED
	0820z	05/08 [132/00] Weak	RNGB, Brian, PoSW	TUE
	0820z	06/08 [133/00] Weak	Brian, PoSW	WED
	0820z	12/08 [138/00] Weak	RNGB, Brian	TUE
	0820z	13/08 [130/00] Very weak	Brian, PoSW	WED
	0820z	19/08 [134/35 27725 86058 43557 87421 46272 40876 87926…….05869 87308] Fair	RNGB, Brian, PoSW	TUE
	0820z	26/08 [134/00] Weak	RNGB, Brian	TUE
	0820z	27/08 [133/00] Weak	Brian, PoSW	WED
19184kHz	0845z	10/07 [151/00] Fair	Brian, PLdn	THU
	0845z	17/07 [156/36 70862 00025 09576 71789 07692…] V.Weak (Polish SDR)	Brian	THU
	0845z	22/07 [150/00] Good	RNGB, PLdn, Brian	TUE
	0845z	24/07 [150/00] Out 0848z Weak	PLdn	THU
	0845z	29/07 [151/00] Very weak	Brian	TUE
	0845z	31/07 [156/00] Fair	Brian	THU
	0845z	05/08 [157/00] (Polish SDR)	Brian	TUE
	0845z	07/08 [152/00] Weak	Brian, PLdn	THU
	0845z	12/08 [159/33 10051 37400 50782 40962……05569] Out 0855z Weak	PLdn, Brian	TUE
	0845z	19/08 [157/00] Fair	RNGB, Brian, Pldn	TUE
	0845z	26/08 [157/00] Out 0848z Weak	PLdn, Brian	TUE
	0845z	28/08 [156/00] Out 0848z Weak	PLdn, Brian	THU

20640khz	0745z	03/07 [229/00] Strong (Polish SDR)	RNGB	THU
	0745z	10/07 [225/37 77913 24955 06351 74804 44386 81157 02082…….01185 77274]	RNGB, Brian	THU
	0745z	15/07 [221/00] Weak	RNGB, Brian	TUE
	0745z	17/07 [229/00] Weak	RNGB, Brian	THU
	0745z	22/07 [225/00] Good (Polish SDR)	RNGB, Brian	TUE
	0745z	24/07 [221/00] Very weak	Brian	THU
	0745z	29/07 [229/00] Fair (Polish SDR)	RNGB	TUE
	0745z	31/07 [227/00] Fair	Brian	THU
	0745z	05/08 [228/00] Very weak	Brian	TUE
	0745z	07/08 [228/00] Good	Brian	THU
	0745z	14/08 [225/00] Good	RNGB, Brian	THU
	0745z	19/08 [221/00] Fair	RNGB, Brian	TUE
	0745z	21/08 [227/00] Very weak	Brian	THU
	0745z	26/08 [223/40 76522 28991 58322 02279 16326 84373 29631…… 95847 09289] (Polish SDR)	RNGB, Brixmis, Brian	TUE
21906kHz	0600z	09/07 [942/00] Fair	RNGB	WED
	0600z	14/07 [946/32 43949 71351 75716 97377 93411 21340 36018……98597 21866] Fair	RNGB	MON
	0600z	28/07 [949/00] Weak	RNGB	MON
	0600z	04/08 [941/30 16922 71698 64914 00352 99067 41498 64576 29881……42479 75219]	Ary	MON
	0600z	18/08 [941/00] Weak (Polish SDR)	RNGB	MON
	0600z	20/08 [949/00] Very weak	RNGB	WED
	0600z	27/08 [940/00] Good (Polish SDR)	RNGB, Brixmis	WED

Peter's analysis of Fam 3 included in above logs.

S06

S06 log July/August

Friday		**2000z**	**11149khz**	**2100z**	**9205kHz**
04/07	'842' 00000				
Friday		**1900z**	**11149khz**	**2000z**	**9205kHz**
01/08	'842' 00000				
Monday		**0400z**	**11616z**	**0420z**	**9322kHz**
25/08	'480' 251 59 77317 70697 75547 84699 55687 65274 54174 66977 15025 12948 03620 50370 16615 63087 60462 41374 85987 83544 40007 71777 33317 56422 83894 80410 80957 09488 85917 86020 86546 25420 07008 05939 55097 96077 15319 00244 78557 13971 12341 46092 26221 18129 30994 71918 34474 36553 16622 06183 29287 92430 26846 20360 59901 63617 11192 70849 27142 31455 56450 251 59 00000 (Thanks Ary)				

PoSW's analysis:

First + Third Fridays in the Month Schedule:-

18-July-25:- 2000 UTC, 11149 kHz, "842 842 842 00000", good signal although with deep fading.
2100 UTC, 2100 UTC, 9205 kHz, weaker.

Moved back by one hour in August:-
1-Aug-25:- 1900 UTC, 11149 kHz, "842 842 842 00000", strong signal with rapid fading up and down. Tuned in at approx 1849 UTC just in time to hear a single spoken "842" of the pre-transmission warm-up routine.
2000 UTC, 9205 kHz, slightly weaker signal.

15-Aug-25:- 1900 UTC, 11149 kHz, "842 842 842 00000", rapid fading up and down.
2000 UTC, 9205 kHz, weak, clear signal.

S11a log July/August

5149khz	0830z	05/07 [372/00] Fair	RNGB	SAT
	0830z	06/07 [370/00] Good (Twente SDR)	RNGB	SUN
	0830z	19/07 [378/36 64802 02645 08297 60816 11650 50948 43792 30758……50640 74794] Fair, QSB	RNGB	SAT
	0830z	26/07 [370/00] Good	RNGB	SAT
	0830z	02/08 [378/00] Fair	RNGB	SAT
	0830z	03/08 [379/00] Fair	RNGB	SUN
	0830z	16/08 [370/33 86635 85225 70435 60824 75351 25147 24527……44571 97767] Good	RNGB	SAT
	0830z	23/08 [373/00] Fair	RNGB	SAT
	0830z	31/08 [371/00] Weak	RNGB	SUN
6814khz	0915z	07/07 [486/34 42493 45795 37533 47103 33425 45180…….93116 74619 81428] Weak	RNGB	MON
	0915z	04/08 [487/40 58867 46909 21778 57644 68628 85212…….48883 10548 61808] Good	RNGB	MON
	0915z	18/08 [480/00] Good	RNGB	MON

	0915z	22/08 [482/00] Good	RNGB	FRI
	0915z	25/08 [482/00] Konyets 0918z (Twente SDR)	PLdn	MON
	0915z	29/08 [487/00] Fair	RNGB	FRI
9339khz	0700z	03/07 [477/00] Strong	RNGB, PLdn	THU
	0700z	10/07 [477/00] Strong	RNGB, PLdn	THU
	0700z	17/07 [472/00] Good	RNGB	THU
	0700z	21/07 [471/00] Good	RNGB	MON
	0700z	24/07 [477/00] Good	RNGB. PLdn	THU
	0700z	28/07 [479/36 10284 79466 80994 72224 77498 76026 68323 29160……74756 96634] Good	RNGB	MON
	0700z	11/08 [472/00] Good	RNGB	MON
	0700z	21/08 [479/00] Good	RNGB	THU
	0700z	25/08 [476/32 40291 44745 54836 62510 42367 69760 47280 74236……83045 44328] Good	RNGB	MON
9968khz	0445z	03/07 [798/40 23314……02752] Weak	PLdn	THU
	0445z	08/07 [797/00] Konyets 0448z Fair	PLdn	TUE
	0445z	10/07 [796/00] Konyets 0448z Fair	PLdn	THU
	0445z	24/07 [796/00] Weak, poor copy	PLdn	THU
	0445z	29/07 [798/00] Konyets 0448z Weak	PLdn	TUE
	0445z	05/08 [793/40 08819 24754 19805 55585 33810 44037 09612 97972……27306 18892]	Ary	TUE
	0445z	21/08 [796/00] Konyets 0448z	PLdn	THU
	0445z	28/08 [797/00] Konyets 0448z Weak	PLdn	THU
12457kHz	1850z	02/07 [284/40 94298……..29236] Strong	PLdn	WED
	1850z	09/08 [280/00] Konyets 1853z Fair	PLdn	SAT
16357kHz	0510z	30/07 [659/00] Fair (Polish SDR)	RNGB	WED
18773kHz	0725z	02/07 [383/33 84524 19474 22109 42394 79934 35072 80185…….67244 40761] Fair	RNGB	WED
	0725z	09/07 [380/00] Strong	RNGB	WED
	0725z	18/07 [382/00] Good (Polish SDR)	RNGB	FRI
	0725z	25/07 [387/00] Strong	RNGB	FRI
	0725z	30/07 [384/00] Strong	RNGB	WED
	0725z	01/08 [385/00] Fair	RNGB	FRI
	0725z	20/08 [382/00] Good	RNGB	WED
	0725z	27/08 [387/00] Weak	RNGB	WED
	0725z	29/08 [382/00] Fair	RNGB	FRI

V07

Sunday

July 2025

0700z 13978kHz 0720z 13378kHz 0740z 12178kHz

Courtesy DanAr

13978kHz 0700z 06/07 931 1 4310 103 16103 ... 89009 000 000 DanAr SUN

931 931 931 1
4310 103
16103 61050 36949 29763 97691
49434 00300 91318 59507 29???
88776 42717 91625 00312 74395
27032 00986 37596 82067 09716
20790 16412 14162 61601 79268
82444 68863 36495 08429 77731
84719 95050 74316 72167 75375
81827 05945 06557 61737 15510
72072 07815 20870 94946 03923
49500 07299 90392 64483 30374
02527 38271 86631 88570 38944
62388 98216 13380 28778 05823
66799 04389 38537 43607 75827
66635 08514 67255 71980 21059
37228 18057 62527 20349 02348
81420 00818 73952 09317 35299
02628 70088 41176 54433 27371
90851 15912 54781 44465 81636
54746 16004 54535 75992 87826
51692 84087 67879 84677 71418
68663 14250 89009
000 000 *Courtesy DanAr*

13978kHz 0700z 13/07 931 1 8777 110 98351 ... 25294 000 000 DanAr SUN

931 931 931 1
8777 110
98351 29198 01434 43528 14135
05096 24028 27038 47781 17348
39973 83096 28495 38882 84106
20931 79407 52190 94236 55066
16424 16273 53206 70637 79043
21529 94107 33886 29252 34808
69471 90199 19827 56293 99898
83636 21207 62032 70687 05106
36316 97035 07037 52855 34479
99964 24604 49120 22766 76784
58469 48785 87800 61533 53191
73822 52116 48022 14418 31873
99259 97476 72137 82805 15351
21057 09054 23083 54779 61859
10819 53808 26987 98032 61656
15019 29572 01715 57298 56308
82188 58114 78245 73157 99508
44315 42147 77576 66626 48464
53542 89323 60931 65146 17582
30413 88643 48736 09047 04852
50204 00380 52360 54167 89818
41772 72671 77867 70200 25294
000 000 *Courtesy DanAr*

13978kHz 0700z 20/07 931 1 3589 125 69856 ... 06264 000 000) QSA 3 DanAr SUN

931 931 931 1
3589 125
69856 62589 64993 82059 85363
21435 94247 74648 66760 19336
25607 80838 51001 48775 65617
36484 53829 72100 65514 73695
06793 93498 50836 75080 95166
31520 51220 68473 17844 70094
97714 34713 99330 72855 19410
79280 31527 26464 69996 89613
97961 37553 51413 01915 48824
40332 27766 78186 20498 14168
27692 18672 24078 52840 60230
18412 37166 51144 07891 42412
10958 02995 44734 48652 41632
75775 78919 33707 67486 28108
56027 79487 24767 99567 39980
93996 56626 65764 17648 90849
31860 45846 06185 70658 77963
96452 97485 84449 70982 74967
41610 76772 40452 75138 99624
08846 25045 99330 83284 95761
13451 03116 97428 52129 80111
46298 67533 18837 84350 08364
63799 77001 18926 07483 88456
01774 31720 47179 97680 62852
27593 84200 14942 65583 06264
000 000 *Courtesy DanAr*

13978kHz 0700z 27/07 931 1 3242 104 79392 ... 38971 000 000 QSA 2* DanAr SUN
*After intro with the message number and group count with a good signal the transmission started again with lower power.

931 931 931 1
3242 104
79392 63873 10119 99302 27161
84618 64584 40645 51253 12996
22517 23402 14315 59406 94651
98553 03238 68228 33094 16786
97661 46989 02913 84854 66779
55826 91197 44156 04039 00845
67452 48774 57235 30995 64777
62297 72070 85411 96203 03318
82045 89668 53536 42961 64342
49047 99095 28584 45620 93064
27156 34087 51655 93212 78523
97403 80747 75287 00688 78914
87746 63269 67261 47805 68615
78535 27369 44037 23463 70915
66113 77978 93842 87617 08161
02668 93931 91281 04244 64094
79541 49649 88277 76217 10693
87924 77047 55192 72409 10404
88783 80018 79861 56743 64882
13863 41732 89410 60153 68421

97781 73468 47389 38971
000 000 *Courtesy DanAr*

August 2025

0700z 13408kHz 0720z 12208kHz 0740z 11508kHz

13408kHz 0700z 03/08 (425 425 425 000 000) QSA3 DanAR SUN

13408kHz 0700z 10/08 Weak signal Only Test tones heard DanAR SUN
Ary sent in the following, having had a bit of better luck than Daniel:

13408/12208 /11508 kHz, 10-08, 0700/0720/0740 UTC
425 425 425 1 9705 84 9705 84
63540 34954 55475 98228 87184 24734 34234 92877 35305 15186
63484 67883 83299 93648 71496 05327 99411 66582 22209 87220
25910 68443 39684 57147 13429 83540 50859 94337 04100 74397
85918 58630 84448 54016 47248 55682 27093 32763 83267 01330
36492 55935 36402 54063 17537 68749 96885 31212 68450 23033
78191 83240 69179 76389 43942 84515 99199 52845 54068 82869
31947 80257 68507 19740 43209 08180 78138 26127 08775 73170
60820 19037 54080 68192 13752 91659 35062 26074 39518 10082
11713 76188 24396 37867 000 000 *Courtesy Ary*

V13 [New star/ Star Start Radio]

Refer P9 ENIGMA2000 Active Stations List

8300kHz 1200z 10/07 Mandarin Numerals/YL Ends 1400z Weak DarylCAN THU

11430kHz 1300z 25/07 Music call sign female voice numbers in mandarin ends with a statement (always the same). End 1313z DarylCAN FRI

V15

Nil Reports

North Korea Spy Numbers Broadcasting via Pyongyang BS

V24

Nil Reports

South Korean Intelligence.

V26

Nil Reports

Polytones

XPA1 Wed/Fri

Wed/Fri

July 2025

1210z 13368kHz 1230z 12168kHz 1250z 11168kHz

02/07 311 1 00367 00325 92547 … 53430 1230z Weak QRM3, 1210z Unworkable, 1250z Obviated QRM5

04/07 MISSED, Power cut

09/07 311 1 00367 00325 92547 ... 53430 1250z NRH, rest Weak

11/07	311 1 00367 00325 92547 ... 53430	1250z NRH, rest Weak, 1210z QRM2
16/07	Msg 4m50s lg	1250z NRH, rest Unworkable
18/07	311 1 Msg detail unclear.	1210z Weak QSB3, rest Unworkable [4m45s lg]
23/07	311 1 09293 00228 52538 ... 46064	Weak, 1250z MISSED [4m45s lg]
25/07	311 1 0 9293 00228 52538 ... 46064	1210z Weak, rest Unworkable

August 2025

1210z 13491kHz 1230z 12191kHz 1250z 10691kHz

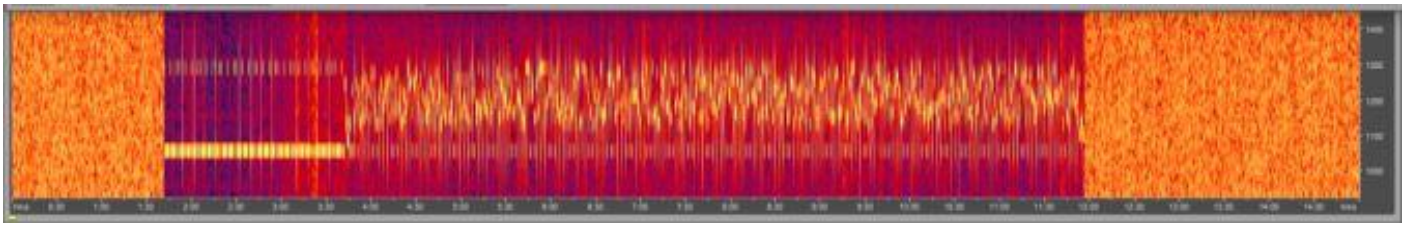
01/08	416 1 03037 00416 90962 ... 00715	1210z Fair, 1230z Werak. 1250z Unworkable
06/08	416 1 03037 00416 90962 ... 00715	1250z Unworkable, rest Weak
08/08	416 1 03037 00416 90962 ... 00715	1210z Fair, 1230 Weak, 1250z Unworkable
13/08	416 1 00300 00662 76484 ... 00321	1250z Unworkable, rest Weak QSB3-4
15/08	416 1 00300 00662 76874 ... 00321	1250z Unworkable, rest Weak, 1230z QRM3
20/08	416 1 00300 00662 31130 ... 66244	1250z Very weak, rest Weak
22/08	416 1 00300 00662 76874 ... 00321	1250z Weak, rest Very weak, QSB4
27/08	416 1 02401 00787 nnnnn ... 04755	Very weak, QSB2, 1250z NRH [10m33s lg]
29/08	416 1 02401 00787 83183 ... 04755	1230z Weak, 1210z Unworkable, 1250z NRH

XPA2 MW[p]

Monday/Wednesday

July 2025

0700z 12148kHz 0720z 13448kHz 0740z 13948kHz



10m14s long

02/07	01512 00630 72188 … 70111	Very strong, repeats msg of 30/06/25 [*Image as above*]
07/07	01512 00630 72188 ... 70111	0700z Very strong, rest Strong

01512 00630 72188 20643 12529 22335 78305 55084 11026 51802
30075 79053 43818 86576 52244 99508 16401 87478 62325 24845
20985 50400 87724 84014 15096 88248 44750 25662 16748 65749
64492 32176 96461 06760 45626 37622 12348 29152 93845 31937
76712 64309 15599 07411 65547 40537 47621 52125 86836 95346
06962 74741 12135 51056 51678 07683 64138 41201 25549 05707
94008 74079 01189 30236 91309 07824 65527 17798 61357 43806
06454 33713 88466 92869 62093 78204 54453 66707 11295 32915
53242 03150 31038 97986 05982 30900 03287 33766 06785 01117
70448 40887 04909 84310 60541 02113 87506 32154 55219 40239
79654 47504 80018 84357 20090 72404 76290 34020 25226 72689
13779 62102 91575 34248 20844 02363 23868 90015 98066 46382
47301 13257 50912 77479 74330 85260 36478 41803 20413 78596
55153 21921 41126 38239 03786 11089 35377 47293 24763 33767
62198 01647 89738 79261 24902 35913 80526 66207 17990 46442
74007 90714 39994 46987 49751 75878 36485 56309 13000 57018
96090 85171 72935 68391 96459 64297 00654 91752 66791 50203
38576 50858 01574 91855 37653 89851 60823 65713 85831 31252
93890 01608 42345 43382 72335 93861 18599 66036 98865 29397
61430 82129 82222 57106 83382 79595 50528 02799 88290 02966
92397 27891 99501 79080 87603 46441 67991 19196 78849 38566
28889 94798 12156 16021 14776 20781 63597 28835 05890 06915
71249 40150 63676 31786 82511 86629 13753 45321 61260 19175

12133 85328 18785 02791 39211 34106 06992 36172 46162 25599
23671 97611 05453 17207 42684 32713 74539 72824 58623 92307
02399 02474 49340 61028 75740 58284 94679 76340 03048 86732
72301 75953 10634 02991 99116 08873 17744 21004 67949 32984
36863 18372 90748 38028 49208 31477 51808 52055 78798 08387
27970 02582 32043 00871 33843 22433 17036 60715 98076 58050
54148 35893 96123 64493 19323 67062 52887 12577 16145 26477
08115 99440 34467 89154 09967 33060 58166 71006 95016 85528
47477 44595 41508 72621 37752 09624 78064 71341 99435 27090
48545 02594 00302 70973 16852 95974 97156 13856 35486 93848
57947 51990 37548 29361 91814 57168 67960 80140 23967 63275
54910 34472 80556 48284 96390 47240 12189 69847 04318 93074
52149 13004 64056 90201 18086 64354 71512 88905 96252 78681
72119 73403 30665 06987 63610 65910 68193 85420 70665 48060
92255 63823 68432 22410 01143 41732 74559 57260 65101 28092
72345 94316 79868 36629 50677 64195 71198 56104 90558 30423
50627 83713 94638 04672 04999 09466 82636 39058 95521 75109
61028 45923 07976 39961 67337 55301 17806 60762 73387 64504
68191 44745 32147 37236 75865 21380 64630 09293 90455 46390
37872 48151 86891 70615 20316 10083 39255 36775 94704 23660
81054 99151 27206 13710 89661 55659 17793 03241 10751 22113
90426 35124 84715 53777 78712 50581 63012 93594 80446 05621
33313 40396 96409 34610 87072 31231 42851 96119 83275 69661
35801 17748 13646 92704 39546 56577 51669 62267 29105 45543
20191 33753 25120 88317 07176 13490 53210 23102 53345 03436
03486 87267 15956 51547 45437 73196 77939 38755 26384 37127
14035 19119 26390 30399 68221 40602 63822 28002 26614 20816
67178 88156 23571 88362 62142 02756 96792 42378 29380 86449
68136 32081 41042 92497 62475 82554 90386 79325 68703 90266
55612 57417 44744 90835 43391 81360 14277 06029 24748 29243
95449 03647 61662 36688 30060 15429 71657 90381 40929 44560
36888 77677 01158 54262 11724 76779 61188 23778 00886 32884
85517 22070 85413 12789 95471 98849 59316 92001 77869 32410
71500 09651 84984 30098 91273 13830 85324 97911 40608 21531
41067 00198 89854 36369 50282 62741 69593 89230 81277 86031
79991 17892 29278 53763 58701 25580 79886 95414 26765 86079
38056 41304 66530 13095 05720 60824 98423 81330 77752 26825
48572 58996 87241 53174 97695 35299 74999 65123 33608 12210
94038 30846 14875 49261 30531 64541 66352 98145 23366 34285
20487 94146 20834 27522 81646 68514 39908 03931 25986 25621
56746 16003 70111 *Courtesy Pldn*

09/07	01512 00630 72188 ... 70111	Very strong
14/07	07253 00227 72385 ... 21430	0720z MISSED, rest Very strong

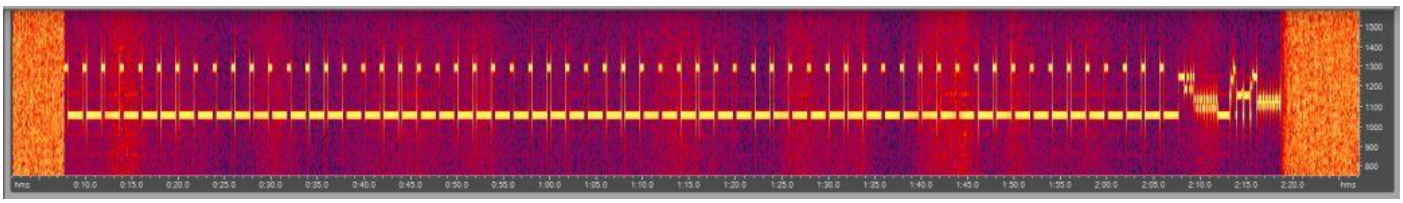
07253 00227 72385 37434 90346 12875 08190 09713 59956 93636
94460 83409 26813 85394 47140 05675 69570 87328 25989 65190
83218 40645 52963 54210 94178 88472 75598 85991 16724 42087
02970 43531 30972 92688 68976 62549 49558 99988 29910 60605
68292 55385 66211 27859 81590 27846 67191 61113 50343 91081
67256 47726 37980 77117 97999 13780 59597 41600 49534 17182
65347 44957 59176 89369 50092 89710 33887 51279 62758 65656
68057 99433 65075 44900 10655 14940 96851 69318 84172 00479
71843 47517 03923 59608 80082 68627 71792 52719 50133 19223
55420 04234 11787 97243 10678 46091 77118 90646 95127 72155
50846 69254 79860 62244 29023 49217 42144 59701 79814 35774
90426 58722 83247 00821 24496 85527 74508 28860 98312 30025
23556 07168 50463 39861 98840 37558 93213 50257 53074 89121
09119 63261 80558 34059 63486 22043 49466 53840 96220 53532
66912 03386 39305 21414 86448 62857 22632 14426 96995 41596
89913 87499 15841 38135 89341 97827 07618 91711 11568 64589
31799 40182 75756 30628 08745 94023 43325 20827 33572 06225
19222 69430 79966 56416 69765 74867 75517 26828 60494 95668
99022 30777 22314 74767 38153 16617 93063 50924 44976 98081
40308 75488 45040 10325 62821 25718 95100 64786 85431 34614
86257 36487 37614 49276 36934 94231 76667 83028 87113 10425
40908 92189 71714 87761 92725 31631 33875 23349 71857 53360
22955 82433 43643 83601 30615 35836 72171 18133 88681 21430 .
Courtesy Pldn

16/07	07253 00227 72385 ... 21430	Very strong
21/07	MISSED	
23/07	07253 00227 72385 ... 21430	0740z Very strong, rest Strong
28/07	07481 00001 00000 ... 33667	0740z Strong, rest Very strong

August 2025

0700z	12152kHz	0720z	13552kHz	0740z	13952kHz

04/08 04152 00001 00000 ... 32661 Strong



06/08 05598 00001 00000 ... 37666 0700z Strong, rest Very strong [See above]

11/08 09653 00238 31130 ... 66244 0700z Very strong, rest Strong, 0720z PulseQRM2

13/08 09653 00238 31130 ... 66244 Very strong

09653 00238 31130 16652 45379 45377 57359 50370 88093 70914
36439 87713 92968 57412 89300 08989 12046 40997 86495 01799
09090 64251 75579 82370 02355 21524 67430 47474 38085 61101
15487 67986 08785 95724 10227 99381 02885 79375 70092 51750
03401 45733 52097 80639 23686 84401 19272 72376 90257 24069
00621 76837 87925 73299 59226 03587 68244 98612 85671 47553
90016 63652 53601 42121 06182 47471 41152 88398 69729 53817
72584 25210 34244 26122 30457 39870 90145 92517 22982 75475
27027 93112 02646 30265 62267 52706 36822 70032 13843 70772
53923 62851 09688 24549 73349 01360 95985 82687 34134 66529
95531 39439 00433 39881 13945 05598 10063 65129 18618 53098
31893 26238 16915 76637 09000 57900 15784 57441 31241 61428
13716 06168 28236 33980 46219 88288 23461 66353 07132 39795
80479 20545 36076 83805 25601 62358 44922 23494 07062 59565
59095 28737 34740 33822 49851 97048 89024 06867 31102 63596
99330 36953 82811 80161 06345 15596 96715 84187 32777 69001
90996 50558 79155 66506 69188 00072 21056 13178 62015 95935
17537 75065 26362 62119 50082 24520 77510 48168 77923 41277
10051 91971 85449 48295 53386 09371 29433 59041 73924 80930
04764 81791 17811 93707 64411 00091 94119 52707 00472 55636
00080 87818 22181 20303 32144 87198 45864 95624 45953 30079
06856 02172 14297 90750 82099 07221 80343 18265 82522 76430
52375 08612 91511 02259 98115 42462 08097 31828 58647 99447
68565 88683 48058 42231 64137 86204 38378 28829 85230 67297
66244 *Courtesy PLdn*

18/08 09623 00238 31130 ... 66244 0740z Strong, rest Very strong

20/08 09653 00238 31130 ... 66244 Strong, 0740z QRM2

27/08 MISSED

XPA2 MSa

Monday/Saturday

July 2025

1500z	13954kHz	1520z	12154kHz	1540z	11454kHz

05/07 09870 00164 56981 ... 54631 Weak, 1540z QRM3. Rpts msg 30/06/2025

07/07 07964 00001 00000 ... 37665 Weak

12/07 01119 00001 00000 ... 36252 1520z Weak, rest Unworkable

14/07 01061 00123 32531 ... 34113 1500z Weak QSB3, rest Fair, 1540z QRM3

19/07 01061 00123 32531 ... 34113 1540z Very weak, rest Unworkable

21/07 NOT MONITORED, LIGHTNING

26/07 05709 00001 00000 ... 41255 Weak

28/07 04634 00177 78598 ... 12522 1500z Very weak, rest Weak

August 2025

1500z	**13825kHz**	**1520z**	**12125kHz**	**1540z**	**11025kHz**	
02/08	04634 00177 78598 ... 12522				Weak	
04/08	03250 00001 00000 ... 32227				1540z Weak, rest Fair. 1500z QSB3	
09/08	01898 00001 00000 ... 41262				1520z Weak, rest Unworkable, 1500z QRM3	
11/08	00155 00105 88386 ... 01666				1500z Unworkable, rest Weak 1520z QSB4	
16/08	00155 00105 88386 ... 01666				1500z Unworkable, rest Weak	KW SAT
18/08	08352 00001 00000 ... 33665				1520z Fair, rest Weak, 1500z QRM4	
23/08	08302 00001 00000 ... 3n660				1520z Weak, 1500z Unworkable, 1540z NRH	
25/08	09913 00164 09607 ... 05523				1520z Fair, 1500z Unworkable, 1540z Weak	

09913 00164 09607 25306 51073 54977 58746 69204 17153 72885
76021 93333 92575 27266 56019 65507 21275 13699 04455 36037
30335 97946 39588 49397 80820 45769 07703 28786 58399 34140
67506 30106 03625 08940 11573 96600 22836 25224 74551 76849
01917 24394 45142 58519 50748 10964 17723 16701 64029 73185
57832 98185 08069 03096 19192 66531 40436 31440 26186 36195
41879 06094 79146 86526 19161 09483 73723 09181 73565 75674
93282 73430 34123 93802 67564 49892 86976 73755 24664 87682
69221 97423 16228 57491 29647 91560 17484 80129 82595 45550
69879 59695 92203 47607 86405 19946 86487 86591 83593 92294
31711 53850 72490 06566 84566 91379 84914 17917 52222 04413
75924 29399 93156 13531 20072 48431 19339 38064 61492 32533
54153 49002 94176 91283 96280 19336 46304 79810 70098 84244
75591 67589 11208 17390 14677 46674 32006 63674 47571 92000
90088 60759 40766 36911 82430 50498 42194 52934 10085 49059
92521 60502 25323 03727 38316 22722 87470 86086 00329 04041
18394 81189 87922 31853 93777 63168 05523 *Courtesy PLdn*

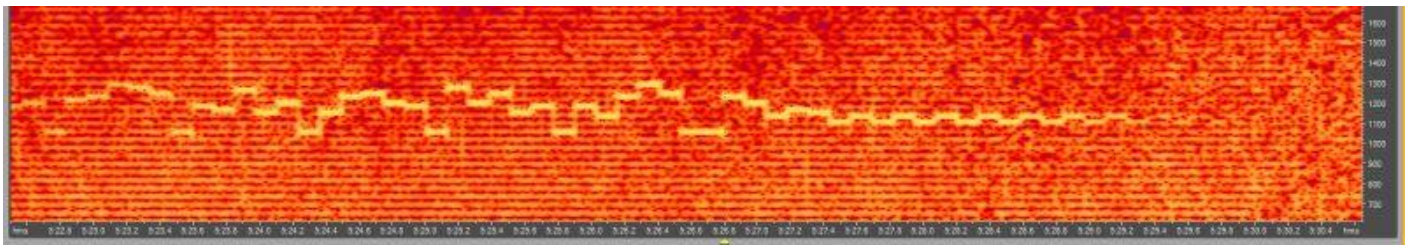
30/08	09913 00164 09607 ... 05523				Weak	

XPA2 TuF

Tuesday/Friday

July 2025

1100z	**14958kHz**	**1120z**	**13958kHz**	**1140z**	**12158kHz**	
01/07	06338 00400 97524 ... 04455				Weak, QSB to Nil [Last space x2]	
04/07	06338 00400 97524 ... 04455				Weak QSB3, 1100z only. Rest MISSED (Power cut)	
08/07	05482 00001 00000 ... 10140				1100z Unworkable, rest Weak	
11/07	05392 00001 00000 ... 10140				1140z Weak, rest QSB to nil	

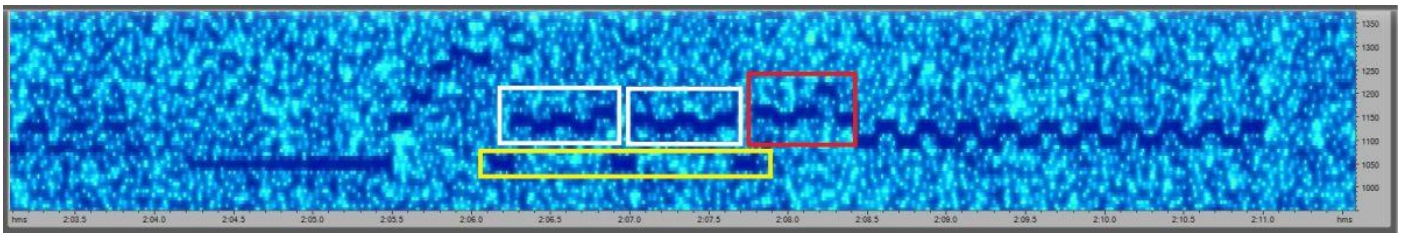


15/07	1100z NRH, rest Unworkable, QSB to nil.. Poo condx prevail.	Last space x2 lg [see image above].

06262 00260 76279 29153 19069 93649 86327 82535 13755 88519
49513 17870 77684 95258 75264 44918 80531 34233 26216 21147
81672 69913 27168 92871 41624 88590 92799 58180 02270 02141
80052 90694 77296 00322 64931 45856 42679 26361 24732 63257
43278 64250 28179 04968 94567 72356 01467 61348 46691 53248
14067 81938 54099 89025 33122 39862 05920 93238 95737 87522
53052 03026 44177 26168 45776 13891 44118 63576 56209 19506
26618 84473 21865 31999 98267 87264 89148 29937 03016 15218
96127 87232 67325 64258 56902 14325 82453 81956 39959 45331
83424 93185 29899 99939 82913 85811 75431 26006 24385 70552

36951 36666 26387 44655 51837 13886 54082 47045 41442 86551
91460 96137 81794 92146 92049 04406 25012 33729 42962 81448
54601 88015 16708 55575 26999 64741 47493 79132 18445 51330
29619 22393 06897 28390 62799 47176 94287 36964 31913 06239
34077 03554 94910 45613 49007 10613 58677 04651 55711 60251
44566 61287 12255 40975 10269 61586 51083 33583 21219 78644
57403 11303 04931 95952 17643 84861 26007 12640 13393 14164
13942 13370 00933 61512 20667 98110 99793 95843 73658 25718
51256 70354 05700 61274 41466 22939 53287 89245 80249 86366
09838 63849 64876 13364 81388 26868 46117 42925 79701 53952
88491 09208 30873 04447 15562 50370 24673 97445 42470 36708
76744 81416 33607 65750 71620 00318 73409 23570 22351 09426
39370 49824 43778 21243 53928 37177 44717 61338 58273 94578
27647 53124 74232 29904 74969 56650 52102 63712 62561 23660
67047 93210 54878 03425 54458 15176 15763 42951 88628 03384
57055 94096 04067 77308 53779 25879 23023 45986 21703 05632
83602 22596 53310 *Courtesy Ary*

1807 06262 00260 76279 ... 53310 1120z Weak, rest Unworkable [see image below]



Note [White box] Repeat tone use, [Red box] 10140 last group, [Yellow box] Equal length space tone duration (last tone length often x2)

22/07 03798 00001 00000 ... 10140 1140z Weak, rest Unworkable

25/07 09572 00001 00000 ... 10140 1100z Fair, rest Unworkable, Rpt tone; space tones equal, 10140 to end

29/07 01028 00389 91151 ... 43424 1100z Fair, rest Unworkable [7m09s lg]

01028 00389 91151 27005 35572 87902 45406 55796 85233 02357
48498 37377 80384 15732 49510 77785 53793 75493 17182 14386
20635 96271 92819 72414 16267 99272 23165 45707 69185 39181
59129 98113 10831 69461 15272 33607 37841 31561 07515 18477
49826 30795 29065 17822 14224 45920 02779 96914 85861 15464
74551 52880 44152 16960 01829 69377 04886 47737 85965 02455
20572 00131 75044 06645 71270 25054 01985 60720 54850 62160
81735 85000 92172 76638 16409 26139 43246 93372 69971 11764
96870 76721 05856 80087 55159 37289 00617 10450 04417 90929
71545 67114 22290 85616 90599 77276 67652 12341 15590 17428
74557 58919 86323 63760 41675 85923 36115 91533 42831 79565
72966 44712 52763 81019 91969 78374 58703 69795 88586 56978
17181 15645 59790 78321 99986 35512 76641 01170 87164 73676
75409 80160 01274 03723 52672 19268 55799 77280 12458 91456
38645 73709 17608 67645 08211 44232 41138 14466 19650 45362
15676 72298 66826 20077 87956 56279 78783 61673 33158 65243
81054 23777 48840 78026 15151 60726 42396 81332 87811 49362
14641 84541 14172 02975 95917 27320 12873 82154 91856 41650
59862 80200 44109 05294 36580 81278 85385 37645 87668 08909
18885 24503 51638 97980 78611 78865 72028 40131 90402 76529
56045 95464 56512 59251 86352 03130 77199 79952 78174 66692
07506 77605 90429 17006 17808 70841 82816 40578 56921 93143
78659 52385 26346 41410 49621 15972 98910 40971 55315 72636
13809 87629 74988 13954 61609 40140 33747 41452 16928 40455
24198 57257 68020 17645 73736 00230 12135 28054 11900 94962
88223 15451 57353 82668 14191 61722 64789 00693 40701 70923
43095 12423 57677 29309 18658 80242 52806 80180 64107 43811
50319 13576 26916 65107 91158 88916 80033 30387 97376 00918
48686 44577 58127 35868 58402 97988 86808 88571 78116 87403
55496 76924 83811 29787 36789 03846 57714 65143 42598 28258
37033 86939 74007 22854 81425 87915 26185 72902 50462 34064
41301 90799 97718 13460 91959 85303 46440 31863 05256 28114
67153 74091 01450 32344 38908 47737 34901 28082 69772 70967
74480 08956 17065 53742 13550 82093 53268 05403 29514 40905
51293 70865 33710 19177 25601 32551 94551 25167 05001 01668
44059 64680 36574 38325 28161 64429 55743 39616 31665 04870
89754 49495 61207 01653 65352 70577 20642 61588 18293 82601
04222 48880 31353 66793 29371 84657 39088 61236 53523 62439
48409 65500 64801 42278 62833 00895 86419 83223 53519 86244
33609 43424 *Courtesy PLdn*

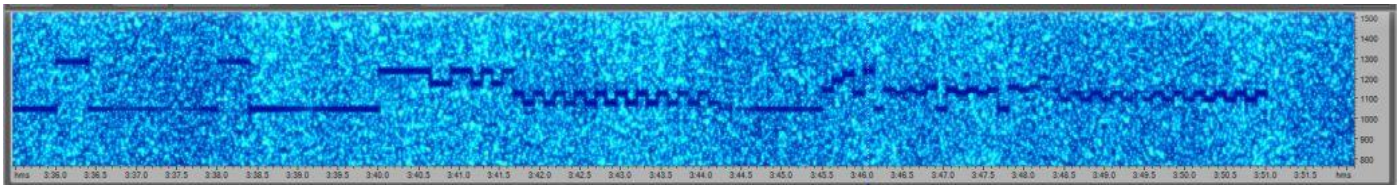
.

August 2025

1100z 13887kHz 1120z 12187kHz 1140z 10387kHz

01/08 01028 00389 91159 ... 43424 1100z Weak, QSB 4 in places, rest Unworkable

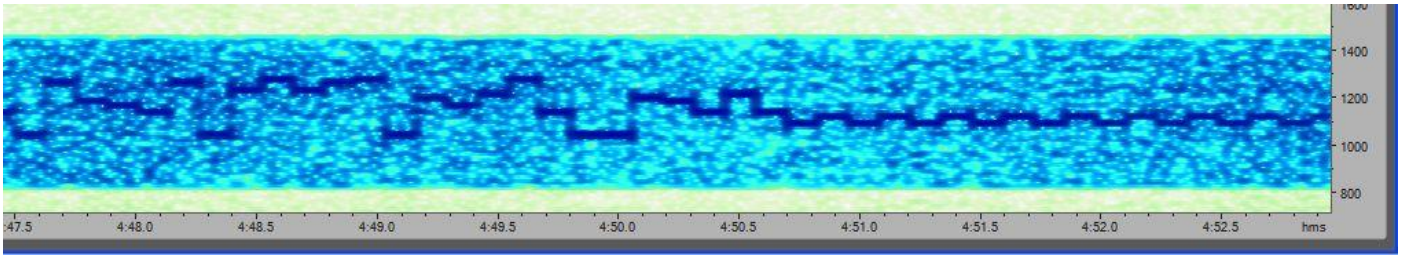
05/08 A Null msg 2m11s lg 1140z NRH, rest Unworkable



08/08 03556 00001 00000 ... 10140 1100z Unworkable, 1120z Weak, 1140z NRH [See above, note repeat tone/last grp]

12/08 Msg 11m13s lg 1100z Unworkable, QRM3 QSB4, rest NRH*
*Reception particularly hard; its duration of 11m13s memorable of the Anschlag's final message 10m26s long. Whether two message, rpt plus new, or single message unknown.

15/08 04121 00706 01165 ... 63514 1120z Weak, rest NRH [Note last space x2 lg] NOTE: 11m13s lg



19/08 08389 00360 11445 ... 43050 1140z NRH, rest Weak, 1100z QSB3 [Last space x2; see above]

22/08 ----- ----- ----- ... 43050 1120z Very weak, QSB4. 1100z Unworkable, 1140z NRH, Noise S4].

29/08 03217 00001 00000 ... 10140 1100z Unworkable, rest Weak

Other XPA2

18235 01-07-2025 1700 XPA2
17437 01-07-2025 1720 XPA2
16179 01-07-2025 1740 XPA2
09049 00190 39352 32142 54446 05186 18390 95459 87135 44413
58648 24090 14296 70599 97243 88921 09718 28641 98188 21531
11449 13579 08665 60610 45459 43783 58489 39385 93062 89102
17243 10106 68804 18271 73053 27234 84615 40730 28425 80160
89277 55502 76044 76571 14525 89911 78921 96591 70585 11300
70663 44766 73896 29390 44353 18656 49849 35183 91134 20066
21273 28633 87170 73670 27110 89685 64164 94456 93662 94717
61146 31075 12383 90324 51680 46006 48964 45202 13769 33355
31374 85390 93364 56761 38455 48776 26151 20129 73785 11803
53724 25143 23007 08452 17622 27345 13372 23612 09136 02004
01433 29493 87848 77779 84622 19710 23349 16802 01151 54618
06814 30748 78848 45686 82078 28905 34111 42546 48466 15323
38155 48808 68048 24321 98625 70412 10027 49408 69022 92439
38255 65009 53044 83530 44535 69127 43899 43872 11764 39271
47376 35957 47905 01039 19130 79595 01050 92752 74645 40835
21457 83107 71467 34675 40823 72081 98758 90582 73352 07649
36227 83910 23248 43339 57874 90058 37216 36929 13180 44038
97141 37394 11890 92956 84007 41728 11925 70474 11656 12656
17580 91162 27095 48424 21158 76715 98284 79889 81370 57000
83936 28144 53677 *Courtesy Ary*

18371 03-07-2025 0900 XPA2
17457 03-07-2025 0920 XPA2
16279 03-07-2025 0940 XPA2
01323 00448 46382 24784 92174 64126 70088 12833 59789 48998
86136 84528 03964 00208 97484 49662 19245 38560 66078 11620
63805 20470 39324 38254 34598 20671 44562 98840 75774 77554
73215 72037 71929 22427 59059 56805 19637 29147 55058 03214
82464 04016 76597 52103 49042 31726 92063 40257 18115 84465
73767 29933 26409 28459 31700 67036 46644 58169 86462 25428
56157 88497 24784 99527 34678 15386 50543 31305 21854 24344
31466 08044 11006 42228 37416 69315 98408 18401 66111 78844
83115 64424 57028 69691 56425 90757 82851 36348 23289 52827
57418 43409 88697 31782 68057 46833 75458 79227 20701 85114

1B XPA2 fm H-FD

Fri 01.08.2025 1100Z 13887 msg
Fri 01.08.2025 1120Z 12187 msg
Fri 01.08.2025 1140Z 10387 msg

Sat 02.08.2025 0900Z 18376 msg x0910z 14372
Sat 02.08.2025 0920Z 17431 msg x0930z 13372
Sat 02.08.2025 0940Z 16184 msg x0950 12172

Sat 02.08.2025 1500Z 13825 msg QRM
Sat 02.08.2025 1520Z 12125 msg
Sat 02.08.2025 1540Z 11025 msg

Wed 06.08.2025 0910Z 19597 msg x18059
Wed 06.08.2025 0930Z 18173 msg x16093
Wed 06.08.2025 0950Z 17472 msg x14874

Wed 06.08.2025 1800Z 15884 msg
Wed 06.08.2025 1820Z 14684 msg
Wed 06.08.2025 1840Z 13484 msg

Thu 07.08.2025 1100Z 16264 msg
Thu 07.08.2025 1120Z 15864 msg
Thu 07.08.2025 1140Z 14864 msg

67594 83242 38019 10173 71757 64414 27232 50096 47665 85492
92234 39539 79520 74615 83139 76448 33928 19470 73148 09450
01060 09553 52316 62428 05617 79135 19185 68481 46115 65016
43184 40897 15027 24109 00953 66147 03380 87553 28710 44799
57840 60474 34889 96753 14956 74002 11023 31424 07191 87792
83107 86459 30421 10760 82238 81130 43890 79060 18931 84521
16961 23433 84885 64075 97187 85805 05625 09281 01478 42084
78335 12138 56774 48437 28598 68245 50767 39201 46949 81111
98870 73571 06992 80910 53879 40257 60741 22757 45038 49144
73483 87175 37887 03245 97142 54773 36046 34699 83450 63864
83633 55513 33245 94390 06899 45397 32318 41673 55674 39444
06510 82620 66404 79894 20225 66281 12727 28292 01290 14527
87657 45393 04797 80302 53597 07688 21152 73467 01313 38058
56537 46415 47674 40889 57683 48092 93228 26262 35200 03275
65659 74397 22357 72571 35901 98594 98891 41430 41884 88772
26407 98248 46196 79455 37371 60747 44269 27683 39284 15740
80106 97101 86806 23061 22033 21167 10667 26106 48270 92415
87880 08432 13032 07936 79706 81107 90931 83838 93465 86690
60447 23469 20856 79692 94463 65287 51671 45054 65372 17082
07693 63208 69118 14597 18419 74195 11802 41063 18193 13643
37117 32284 28217 58965 02203 88465 76143 88938 48045 10435
82001 96083 39849 50944 11063 20790 22096 70396 18277 40622
31297 63322 94747 94099 73506 60606 54880 37953 54220 14161
42784 67502 46688 40879 93417 65192 34183 28309 39869 19675
80349 31635 08480 03274 20798 48670 62402 04305 35775 31599
40257 57968 94165 48359 34199 61444 65795 36347 03613 70224
10722 55033 61569 13228 77132 14148 74942 75147 36182 56462
37410 35937 96869 76611 89650 93410 37679 77063 22968 32749
98094 23337 60099 62838 02824 17181 93475 05270 98870 55947
40047 61314 32020 03544 19500 63373 91314 67899 83229 35711
33024 42356 35359 34023 29940 37796 12339 37145 73271 99453
06701 58246 11740 98829 77723 07286 56935 09715 60531 83782
99579 03738 26831 59166 17498 93100 54209 16041 20999 05122
53408 11145 66563 15046 62459 26764 56291 78724 98132 22870
10630 46844 17159 89642 46073 60746 13611 89492 37292 51302
20457 *Courtesy Ary*

18235/17437/16179 kHz, 15-07, 1700/1720/1740 UTC
00410 00188 06271 34119 45948 90910 90565 89117 79342 86020
74953 73534 56020 65887 17924 75472 36091 91465 46740 84965
00669 80737 71145 96219 22293 89173 85391 92173 79504 37541
67244 15971 86832 26022 15117 55862 71740 17260 62616 76611
21341 22216 04470 72079 07305 63590 86903 31393 30045 25731
75656 60647 04190 65866 91389 63302 35358 03868 67137 83289
71311 08239 62822 79369 65966 66416 57087 29209 61334 99197
34047 41356 83294 21066 11820 47330 52715 45858 38464 52885
78033 32542 22562 11436 46433 57665 46808 16516 13365 27946
55044 88992 89247 94303 20008 78530 28644 80068 19794 76410
98235 21224 02187 46278 44482 56008 04564 57906 70966 53787
95705 45114 15342 58513 09011 15102 74151 08358 96170 21251
83899 73485 69601 67689 82847 83787 90885 48493 57899 35847
38659 88808 75684 85614 77254 47664 88533 30684 65286 59377
96224 83923 73494 32781 00574 17301 19377 47709 20508 90048
22142 14106 47312 62282 97429 19700 98778 88961 23551 72174
86665 82483 78023 21647 74518 87014 33366 76414 46572 00113
35310 23016 13025 84190 78445 72584 97861 63728 84861 17579
05822 72213 09137 27031 19432 53663 14761 19341 75794 65225
03660 *Courtesy Ary*

Other July fm H-FD:

Wed 02.07.2025 0910Z 19345 msg x16296
Wed 02.07.2025 0930Z 18495 msg x14981
Wed 02.07.2025 0950Z 16279 msg x13953

Wed 02.07.2025 1100Z 17435 msg
Wed 02.07.2025 1120Z 16235 msg
Wed 02.07.2025 1140Z 14935 msg

Wed 02.07.2025 1800Z 17474 msg
Wed 02.07.2025 1820Z 16274 msg
Wed 02.07.2025 1840Z 14574 msg

Thu 03.07.2025 0900Z 18371 msg x0910z 1345
Thu 03.07.2025 0920Z 17457 msg x0930z 12145
Thu 03.07.2025 0940Z 16279 msg x0950z 11545

Thu 03.07.2025 1700Z 18235 msg x1600z 13538
Thu 03.07.2025 1720Z 17437 msg x1620z 14438
Thu 03.07.2025 1740Z 16179 msg x1640z 14938

Any mentions:

XPA2 runs the following extra schedules since 5 Aug.

9193/10559/11504/12141/13526/14396 kHz, 0700/0710/0720/0730/0740/0750 UTC

9193/10559/11504/12141/13526/14396 kHz, 0900/0910/0920/0930/0940/0950 UTC

9193/10559/11504/12141/13526/14396 kHz, 1200/1210/1220/1230/1240/1250 UTC

XPB1

Wednesday/Saturday

July 2025

13884kHz 1100z	02/07	Weak	4m28s	PLdn	WED
13384kHz 1110z	02/07	Weak	4m28s	PLdn	WED
12184kHz 1120z	02/07	Weak	4m28s	PLdn	WED
11584kHz 1130z	02/07	Weak	4m28s	PLdn	WED
11084kHz 1140z	02/07	Weak	4m28s	PLdn	WED
10584kHz 1150z	02/07	MISSED		PLdn	WED
13384kHz 1100z	05/07	Weak	4m29s	PLdn	SAT
12184kHz 1110z	05/07	Weak	4m29s	PLdn	SAT
11584kHz 1120z	05/07	Weak	4m29s	PLdn	SAT
11084kHz 1130z	05/07	Weak	4m29s	PLdn	SAT
10584kHz 1140z	05/07	Weak	4m29s	PLdn	SAT
13884kHz 1150z	05/07	VyWeak	4m29s	PLdn	SAT
13884kHz 1100z	09/07	Weak	4m29s	PLdn	WED
13384kHz 1110z	09/07	Weak	4m29s	PLdn	WED
12184kHz 1120z	09/07	Weak	4m29s	PLdn	WED
11584kHz 1130z	09/07	Weak	4m29s	PLdn	WED
11084kHz 1140z	09/07	NRH		PLdn	WED
10584kHz 1150z	09/07	NRH		PLdn	WED
13884kHz 1100z	12/07	Weak	4m29s	PLdn	SAT
13384kHz 1110z	12/07	Weak	4m29s	PLdn	SAT
12184kHz 1120z	12/07	Weak	4m29s	PLdn	SAT
11584kHz 1130z	12/07	Weak	4m29s	PLdn	SAT
11084kHz 1140z	12/07	Weak	4m29s	PLdn	SAT
10584kHz 1150z	12/07	Weak	4m29s	PLdn	SAT
13984kHz 1100z	16/07	Weak	4m28s	PLdn	WED
13384kHz 1110z	16/07	Weak	4m28s	PLdn	WED
12184kHz 1120z	16/07	Weak	4m28s	PLdn	WED
11584kHz 1130z	16/07	Weak	4m28s	PLdn	WED
11084kHz 1140z	16/07	FAXQRM5		PLdn	WED
10584kHz 1150z	16/07	V.weak	4m28s	PLdn	WED
13884kHz 1100z	19/07	MISSED		PLdn	SAT
13384kHz 1110z	19/07	MISSED		PLdn	SAT
12184kHz 1120z	19/07	MISSED		PLdn	SAT
11584kHz 1130z	19/07	MISSED		PLdn	SAT
11084kHz 1140z	19/07	MISSED		PLdn	SAT
10584kHz 1150z	19/07	MISSED		PLdn	SAT
13984kHz 1100z	23/07	NRH		PLdn	WED
13384kHz 1110z	23/07	NRH		PLdn	WED
12184kHz 1120z	23/07	NRH		PLdn	WED
11584kHz 1130z	23/07	NRH		PLdn	WED
11084kHz 1140z	23/07	NRH		PLdn	WED
10584kHz 1150z	23/07	NRH		PLdn	WED
13884kHz 1100z	26/07	NRH		PLdn	SAT
13384kHz 1110z	26/07	NRH		PLdn	SAT
12184kHz 1120z	26/07	NRH		PLdn	SAT
11584kHz 1130z	26/07	NRH		PLdn	SAT
11084kHz 1140z	26/07	NRH		PLdn	SAT
10584kHz 1150z	26/07	NRH		PLdn	SAT

Wednesday/Saturday

August 2025

13567kHz 1100z	02/08	NRH	PLdn	SAT
13367kHz 1110z	02/08	NRH	PLdn	SAT
12167kHz 1120z	02/08	NRH	PLdn	SAT
11567kHz 1130z	02/08	NRH	PLdn	SAT
11067kHz 1140z	02/08	NRH	PLdn	SAT
10567kHz 1150z	02/08	NRH	PLdn	SAT
13567kHz 1100z	06/08	NRH	PLdn	WED
13367kHz 1110z	06/08	NRH	PLdn	WED
12167kHz 1120z	06/08	NRH	PLdn	WED
11567kHz 1130z	06/08	NRH	PLdn	WED
11067kHz 1140z	06/08	NRH	PLdn	WED
10567kHz 1150z	06/08	NRH	PLdn	WED
13567kHz 1100z	09/08	NRH	PLdn	SAT
13367kHz 1110z	09/08	NRH	PLdn	SAT
12167kHz 1120z	09/08	NRH	PLdn	SAT
11567kHz 1130z	09/08	NRH	PLdn	SAT
11067kHz 1140z	09/08	NRH	PLdn	SAT
10567kHz 1150z	09/08	NRH	PLdn	SAT
13567kHz 1100z	13/08	NRH	PLdn	WED
13367kHz 1110z	13/08	NRH	PLdn	WED
12167kHz 1120z	13/08	NRH	PLdn	WED
11567kHz 1130z	13/08	NRH	PLdn	WED
11067kHz 1140z	13/08	NRH	PLdn	WED
10567kHz 1150z	13/08	NRH	PLdn	WED
13567kHz 1100z	16/08	NRH	KW	SAT
13367kHz 1110z	16/08	NRH	KW	SAT
12167kHz 1120z	16/08	NRH	KW	SAT
11567kHz 1130z	16/08	NRH	KW	SAT
11067kHz 1140z	16/08	NRH	KW	SAT
10567kHz 1150z	16/08	NRH	KW	SAT
13567kHz 1100z	20/08	NRH	PLdn	WED
13367kHz 1110z	20/08	NRH	PLdn	WED
12167kHz 1120z	20/08	NRH	PLdn	WED
11567kHz 1130z	20/08	NRH	PLdn	WED
11067kHz 1140z	20/08	NRH	PLdn	WED
10567kHz 1150z	20/08	NRH	PLdn	WED
13567kHz 1100z	23/08	NRH	PLdn	SAT
13367kHz 1110z	23/08	NRH	PLdn	SAT
12167kHz 1120z	23/08	NRH	PLdn	SAT
11567kHz 1130z	23/08	NRH	PLdn	SAT
11067kHz 1140z	23/08	NRH	PLdn	SAT
10567kHz 1150z	23/08	NRH	PLdn	SAT
13567kHz 1100z	27/08	NRH	PLdn	WED
13367kHz 1110z	27/08	NRH	PLdn	WED
12167kHz 1120z	27/08	NRH	PLdn	WED
11567kHz 1130z	27/08	NRH	PLdn	WED
11067kHz 1140z	27/08	NRH	PLdn	WED
10567kHz 1150z	27/08	NRH	PLdn	WED
13567kHz 1100z	30/08	NRH	PLdn	SAT
13367kHz 1110z	30/08	NRH	PLdn	SAT
12167kHz 1120z	30/08	NRH	PLdn	SAT
11567kHz 1130z	30/08	NRH	PLdn	SAT
11067kHz 1140z	30/08	NRH	PLdn	SAT
10567kHz 1150z	30/08	NRH	PLdn	SAT

Other XPB1

Via H-FD

Tue 08.07.2025 1300Z 20024 MFSK-16 1:40
Tue 08.07.2025 1310Z 19224 MFSK-16
Tue 08.07.2025 1320Z 18324 MFSK-16
Tue 08.07.2025 1330Z 17424 MFSK-16
Tue 08.07.2025 1340Z 16324 MFSK-16
Tue 08.07.2025 1350Z 15824 MFSK-16

1B XPB1 fm H-FD

Tue 05.08.2025 0500Z 18451 MFSK-16 4:28 via KiwiSDR RUS
Tue 05.08.2025 0510Z 18051 MFSK-16
Tue 05.08.2025 0520Z 17451 MFSK-16
Tue 05.08.2025 0530Z 16251 MFSK-16
Tue 05.08.2025 0540Z 15851 MFSK-16
Tue 05.08.2025 0550Z 14451 MFSK-16

Tue 05.08.2025 1300Z 20064 MFSK-16 2:51
Tue 05.08.2025 1310Z 19364 MFSK-16
Tue 05.08.2025 1320Z 18464 MFSK-16
Tue 05.08.2025 1330Z 17464 MFSK-16
Tue 05.08.2025 1340Z 16264 MFSK-16
Tue 05.08.2025 1350Z 15864 MFSK-16

F01 [FSK]

Per H-FD

1A F01 Tue

01.07.2025 1015Z 11141 FSK 200/500 7:35 via KiwiSDR RUS
Tue 01.07.2025 1035Z 9192 FSK 200/500
Tue 01.07.2025 1035Z 7363 FSK 200/500

Fri 01.08.2025 1015Z 11076 FSK 200/500 6:56 via KiwiSDR RUS txm break
Fri 01.08.2025 1025Z 9164 FSK 200/500 via KiwiSDR POL
Fri 01.08.2025 1035Z 7316 FSK 200/500 via KiwiSDR RUS

X06 Mazeilka

Report: Dutch TV and X06

Hello all friends of the German scene and X06,

In the last E2K issue I reported about the interview with the Dutch journalist about XPA1 and the active Russian numbers stations in general. The transmission was on Niewsuur, a public Dutch TV channel, on Friday, Jul 18. Also it was uploaded on Youtube. It's a part of a series about Putins spies and secret service. The title of the part : « De paraadepartjes van Poetins geheime dienst », and the Youtube link :
https://www.youtube.com/watch?v=9c0La4niQKs

Although the program is in Dutch, most parts are original interviews in English, German AND Dutch. You can see and hear me searching and finding an XPA1 («the signal is very weak, but it's there» - my German words during this). Also I say something about the Russian stations and the process of sending and receiving them. – Enjoy !

X06 Mazielka (1c) logs section

Date	Day	UTC	Freq	Scale	Monitor	Comments
20250703	Thu	0730-0733	19511	314265	Dave/AU	TX to Antananarivo, G380
20250704	Fri	1018-1021	14824	625413	Dave	TX to Tel Aviv, G56
20250711	Fri	0650-0658	11155	341265	Ary/NL, Dave	G442(1)
20250711	Fri	0824	11156	615243	Ary	TX to Geneva, G127
20250711	Fri	0829	12177	356412	Ary	TX to Berlin, G126
20250714	Mon	0939-0947	19235	463125	Dave	TX to Rabat, G77
20250716	Wed	0647-0654	15819	256341	Ary, Dave	Alert3 (TX to Beirut, G169) 1
20250716	Wed	0654-0701	14405	256341	Ary	3.2: Full AM
20250716	Wed	0701-0703	12150	256341	Ary, RadiotehnikaT	3.3
20250716	Wed	1111-1112	16115	215346	Dave	TX to Mumbai, G167
20250717	Thu	0914-0916	18197	645321	Dave	TX to Ho Chi Minh City, G417
20250721	Mon	0723-0727	10453	432516	Andrew	TX to Bern, G341
20250721	Mon	0809-0811	13395	532614	Andrew	TX to Paris, G147
20250722	Tue	0806-0809	13420	534216	Ary, Dave	TX to Bagdad, G232
20250722	Tue	0810-0811	17523	542136	Ary, Andrew	TX to Beijing, G88
20250722	Tue	1029-1031	17470	216354	Ary, Andrew	TX to Chennai, G228
20250723	Wed	0732-0736	10814	412356	Andrew	TX to Budapest, G243
20250723	Wed	0810-0817	13419	465132	Ary, Andrew	TX to Sofia, G246
20250723	Wed	0827-0829	20334	164253	Ary, Anon36989	Alert2 (Addis Ababa, G402) 1
20250723	Wed	0829-0838	18177	164253	Andrew	2.2
20250725	Fri	0511	19610	216435	Andrew	Alert2 (TX to Dhaka, G336) 1
20250725	Fri	0512	15920	216435	Andrew	2.2
20250725	Fri	0644-0647	13427	341265	Andrew	G444
20250725	Fri	0821-0824	10653	356412	Ary, Andrew	TX to Berlin, G271
20250727	Sun	0910-0912	16060	261453	Dave	TX to Cairo, G285
20250727	Sun	1034-1036	15810	145632	Dave	TX to Algiers, G284
20250728	Mon	1007	19235	463125	Anon36989	TX to Rabat, G222
20250804	Mon	0731	12152	432516	Anon63086	TX to Bern, G6

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20250804 Mon 0806      14392 532614 Anon63086      TX to Paris, G4
20250804 Mon 1125      12100 654321 RadiotehnikaT  X06c test
20250804 Mon 1541      12178 641523 RadiotehnikaT  Alert2 (TX to Lusaka, G5) 1
20250804 Mon 1552      20675 641523 Anon36989      2.2
20250805 Tue 0835-0841 14358 154263 Dave           TX to Rome, G7
20250805 Tue 0841-0842 17454 325614 Dave           TX to Nairobi, G392
20250806 Wed 0637-0639 13838 256341 Andrew         TX to Beirut, G311
20250806 Wed 1114-1116 14650 215346 Andrew         Alert2 (TX to Mumbai, G25) 1
20250806 Wed 1116-1133 16115 215346 Andrew         2.2
20250806 Wed 1226-1227 16103 231654 Anon           TX to Abuja, G422
20250807 Thu 0655-0659 19511 314265 Andrew         TX to Antananarivo, G380
20250807 Thu 0803-0805 17534 351264 Ary, Dave      TX to Abu Dhabi, G440
20250807 Thu 0940-0943 20837 645321 Andrew         TX to Ho Chi Minh City, G410
20250807 Thu 1004      16264 3-2-5- Andrew         X06b test
20250807 Thu 1011      16264 1--6-- Andrew         X06b test
20250810 Sun 0841-0848 16060 261453 Ary, Anon36989 TX to Cairo, G138
20250811 Mon 0932      19235 463125 Ary            TX to Rabat, G77
20250812 Tue 0804-0806 13420 534216 Ary, Dave      TX to Bagdad, G87
20250812 Tue 0819-0821 14861 542136 Dave           TX to Beijing, G88
20250812 Tue 0819-0821 16320 241563 RadiotehnikaT  Alert2 (TX to Karachi, G187) 1
20250812 Tue 0825-0827 18400 241563 RadiotehnikaT  2.2
20250817 Sun 1712-2156  5800 123456 Anon,Linkz/FR,
                                    RadiotehnikaT  Very strong and long X06c(2)
20250818 Mon 0754      11438 532614 Ary            TX to Paris, G147
20250818 Mon 0755-1055  7730 123456 Linkz,
                                    RadiotehnikaT  X06c
20250818 Mon 1518      14845 641523 Ary            TX to Lusaka, G337
20250819 Tue 0847-0855 18523 325614 Ary, Dave      TX to Nairobi, G400
20250820 Wed 1113      16115 215346 Ary            TX to Mumbai, G167
20250821 Thu 1528-1532 17468 436512 Ary, Linkz,
                                    Rycat,
                                    RadiotehnikaT  TX to Harare, G180
20250824 Sun 1035-1038 15810 145632 Dave           TX to Algiers, G284
20250825 Mon 0946-0948 19235 463125 Dave           TX to Rabat, G222
20250825 Mon 1609      14450 654321 Ary            X06c
20250826 Tue 0810-0812 17523 542136 Dave           TX to Beijing, G88
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1) With associated serdo on 11159 kHz
2) Start time unknown

Thanks to all contributors as usual. Till the next issue I say: Good-bye, and please stay healthy and safe!

Jochen Schäfer, Numbers-, X06 Database and Teamkopf

Hybrids

HM01

Last reported 2024 [1 yr]

Gizza Job

SECRET INTELLIGENCE SERVICE MI6

LOGIN OR REGISTER

ADMINISTRATIVE ROLES - REGISTRATION OF INTEREST REF. 3277

Stonewall TOP GLOBAL EMPLOYERS 2020

TANKS FOR THE MEMORIES

Disclaimer: In accordance with our policy of not reporting or pontificating on the war in Ukraine, (pontification always makes such a mess!) I am merely reporting on how this conflict, together with almost ALL other wars or conflicts,have caused a surge forward in technology, especially,in this case,radio, electronics, and, interestingly, robotics. My use of the term “enemy” does not apply specifically to either side, but as a way of describing how these two opposing sides view each other.
All information here is from open source intelligence, conversations with like minded contributors, or internet sources. Any opinions expressed, or conclusions drawn, are those of the author, and have no connection to any military, civil, or government organization with which I am now, have in the past been, or may in the future be, associated. Armoured Fighting Vehicles, or be they tanks, APC (armoured personnel carriers) or MIFVs (Mechanized Infantry Fighting Vehicles), which is the latest name given to what we old squaddies called APCs, will all be refereed to as AFVs..

Much easier! Okay, so what has struck this old cold warrior, is how this conflict is being fought in what seems to be two modes of warfare, each from different time periods.

On the one hand,we have robots fighting robots AND killing each other, or AFVs, together with enemy soldiers, be that UAV autonomous or human controlled. Both sides are using these UAVs, (Unmanned Aerial Vehicles) for surveillance, attack, or as kill drones, the aptly named “Kamikaze Drones”, which dive into their targets and are destroyed with them.

As in most wars of late, SIGINT is vitally important. Not just monitoring enemy radio traffic, but now the added monitoring of mobile telephone traffic, which has become crucial. By this, it is not only possible to learn the casualties sustained by an enemy and his material damage, but, just as crucial, the state of enemy morale, and even intentions. An added mode of electronic warfare is now the jamming of radio signals controlling the aforementioned UAVs, if they are controlled, as opposed to autonomous.

Communications are as vital in this conflict as they ever were. SIGINT started, so it would seem, in the second Boer war (1899-1902) in 1900, when the Royal Navy used wireless,as did the army, with shore based sets. The Boers captured some wireless sets and used them for important communications, which were obviously easily intercepted by the British. Also, the Russian Navy used SIGINT in its 1900 war against Japan.

Okay, so what does an old “Scaley” know about tanks, you, a sharp E2K dude, will be asking. Well, we in BAOR land, circa 1960s, 70s, and 80s, knew what they looked like, especially those “dort drüben”, or “over there!” Here, supply own nod of head to the east, and imagine that the “Mauer” is still standing. (Many Germans do so wish, and not all on the eastern side,it must be said!) Well, I knew how they worked, and it was in the interests of self preservation to know what they looked like, given the number of Soviet tanks in East Germany, and the fact that most, if not all, of East Germany’s armoured vehicles were Soviet made and supplied, as were the bulk of AFVs in the Warsaw Pact Forces.

Many signallers used AFVs, be they Armoured Humbers, (as seen in Northern Ireland and rejoicing in the nickname of “armoured pigs, ” or Saracens, the 6 wheeled APC which preceded the APC later used, the 432. In signal use,the 432 became a 439, and all were fitted with radio and allied signals kit, or acted as command posts. Come on guys, try to keep up!

This war in Ukraine is a mixture of ancient and modern, insofar as men are digging and living in trenches , as in 1914-1918,and using drones to kill other drones, or enemy troops or AFVs, sometimes even ships, not to mention civilians. All AFVs, of whatever type, are equipped with radio. Enter the Gummiohr, or Rubber ear, which is what my colleagues of the East German Army forum call SIGINT operators.

To intercept radio traffic,one must know the frequency. It is a big help to know what type of radio the target station is using. This is where the publications about AFVs, and other military topics, come in.

Many will tell the type of radio fitted to a particular AFV, ship, or aircraft. A quick visit to the site of the manufacturer of said radio kit, will divulge type, frequency range, and other useful intel. Why do you think those busy little military attaches in the Eastern Block Embassies used to buy up all those military magazines about AFVs,ships, and aircraft, which contained so much useful information. Today, the task is so much easier, given the amount of intel which can be gathered via search engines.

An example is given here: (Search Engine used: Duck Duck Go)

R123 Radio Transceiver

R-123 (Common Russian Tx/Rx. In common AFV use 😊

- FM superheterodyne HF/VHF two-way voice tank radio transceiver operating in the 20 MHz to 51.5 MHz range. Circuitry consists of 32 valves (Vacum tubes) and various semiconductor devices.
- Tuning system: In addition to manual tuning, up to 4 preset channels can be selected using a motorized servo system.
- Frequency range:
- Band 1 = 20.00 – 35.75 MHz
- Band 2 = 35.75 – 51.50 MHz
- Channel spacing: 25 kHz
- 1,260 total available channels
- Transmitter power: 20 W
- Range: 20 km (12 miles)
- Antennas:
- Tank rod whip antenna for operations on the move: 4 m (13.1 ft)
- Telescopic antenna for operations while stationary: 6 m
- Operating temperature range: -40 to +50 °C
- Dimensions: 428 × 225 × 178 mm
- Weight: 25 kg
  BP-26 power supply unit
- Transistorized inverter
- Input voltage: 26 V
- Output voltages: + 1.2 V, + 6.3 V, + 150 V, - 150 V, + 250 V and + 600 V [1]
- Dimensions: 210 × 164 × 218 mm
- Weight: 7 kg

See also

R 173:Modern Russian tank radio family, 30 MHz – 80 MHz coverage, with secure voice (encryption) capability, data transmission capability and offset tuning (25 kHz channel spacing for regular FM voice, 1 kHz and 5 kHz offset tuning available, 30.000 MHz – 79.999 MHz coverage, 30 watt RF output power). Modernized versions are still in use today.

- Type 889: Chinese variant, used for export purposes, 20.000 MHz – 49.975 MHz, FM voice.
- SCR 508: American tank radio first fielded in WWII with similar specifications and performance, 20.000 MHz – 27.900 MHz frequency coverage, FM voice.
- SCR 608American WWII era artillery radio, identical to SCR-508 except operated in the 27 MHz – 38.9 MHz frequency range instead of 20-27.9 MHz.
- SCR 300: (BC-1000) FM low band backpack radio 40.0 MHz – 48.0 MHz and vehicle mounted variant VRC-3 or AN/VRC-3.
- AN/VCR 12: Family of American VHF/FM tactical radio sets using the combinations of the RT-524 and RT-246 transceivers along with R-442 auxiliary receiver(s). Operation within in the 30.000 MHz – 75.950 MHz band (low band: 30.00 MHz – 52.95 MHz, high band: 53.00 MHz – 75.95 MHz using FM voice with tone operated squelch or carrier operated squelch (noise squelch) and 50 kHz channel spacing for 920 available channels with 35 to 40 watt RF output power. Communications range highly variable depending on antenna used, elevation and local terrain and environment. Used with the PRC-25 and PRC-77 manpack radios and PRC-68 handheld radio, among others.

The above was obtained simply by tapping into the search engine“Russian Tank Radios”. The wealth of intel gained is apparent. Given that both sides in this conflict are largely using Russian kit, it can be seen how easy it is to get the necessary intel. Same applies to Western supplied kit. One no longer has to walk to the local magazine shop. Just hit your laptop/desk top, and hey presto, intel appears. Gone are the days when one had to pose as a potential buyer of the radio which one was researching. Just use a search engine. It really is that easy!

Above is the result of a query on the same radio, R 123. Do not be surprised at the English language labels. I recall the same on wartime issue No. 19 sets which were bilingually labelled in Russian and English, and supplied to Russia. I was told they were made like that irrespective of the end user, to make life easier for the manufacturer.

So much for AFVs, how about the poor old grunt? What does he have to hump around Ukraine to talk to his buddies? If reports are to be believed, and the author has seen photos of Russian troops with the radio kit mentioned, pretty much anything. Would you believe many Russian troops are using nothing more sophisticated than a Baofeng analog walkie talkie, UV5R. Regular Russian troops are reported to be using radios which do not have digital signal mode, which can therefore be monitored worldwide by anyone with basic receivers.

The author has seen a posting, recording the reception, by a radio user monitoring 479.33Mhz, using the SDR at Twente, Netherlands, and who logged Russian military radio traffic. This Twente site really is good. This use of such basic radio kit makes even the British BOWMAN system (You remember, Better Off With Map And Nokia!) look sophisticated!

So what are the Ukrainians using? One new piece of kit, emerging in 2023, seen by this author is the Himera G1 radio, seen here with a nearby drone of the type mentioned earlier. This radio has, it says on the tin, 256 bit Advanced Encryption Standard (AES) encryption and frequency hopping spread spectrum (FHSS) technology.

Obviously, frequency hopping is an advanced technology, rendering this radio more resistant to ECM measures and monitoring. How many of them are in use, and by whom, is not known. A report dated 2022 has stated that USA would supply Ukraine with, quote," Thousands of advanced radios." Whether or not this has been fulfilled is not known. On the debit side,Motorola 256-bit encrypted tactical communications systems, widely used by Ukrainian forces, has been intercepted and traffic decrypted by Russian EW units. Again supplied by a USA/Ukrainian organization., is the relatively new technology of Software Defined Radio or SDR; which you, being an advanced E2K dude, have been using for yonks! (Old army phrase for a long time!)

Using off the shelf technology, they are supplying SDR radios capable of being reprogrammed in the field. In a traditional radio set, the signal from an antenna is processed by dedicated hardware – amplifiers, filters, modulator/demodulators and other circuitry . This limits each radio set to one particular type of radio signal, be it a 5G cellphone, AM radio, digital television or WiFi. In Software Defined Radio, the only dedicated hardware is the antenna. All signal processing is carried out digitally by computer. By changing the programming, SDR extracts the signal whatever receiving device is connected to that SDR. One device does everything. This sounds great, but requires much processing power, and much research has been done by DARPA: (Defence Advanced Research Agency) They are being field tested and used in Ukraine by the Ukrainians., not simply for communications, but also for Direction Finding,(DF,) another vital EW skill.

Mobiles and Cell Phones

So, we are clued up on the current monitoring of radio traffic in the ongoing Russia/Ukraine war, how about the mobile phone and UAV counter measures. I must stress that this is NOT an in depth look at mobile phone technology, but only a general view of that technology. As is to be expected, the frequency range of the mobile phone, (Europe/UK) cell phone (USA/Canada) or Handie (Germany/Austria/Switzerland) depends on the country in which it to be used. The following list of frequencies may help, but is a general list only:900/1,800/1,900 MHz or 850/1,800/1,900 MHz or four bands (850/900/1,800/1,900 MHz), So, as is so often the case, "You pay your money, you take your chance" (or frequency!) Obviously one needs receivers capable of intercepting the target frequency. It may also require software capable of decrypting any message which is encrypted. The following is a list of frequencies assigned in Ukraine, but is NOT exhaustive:

UMTS	
Name	Interface
B1 (2100 MHz)	LTE
B3 (1800 MHz +)	LTE
B7 (2600 MHz)	LTE
B8 (900 MHz)	LTE
B20 (800 MHz DD)	LTE
B38 (TD 2600 MHz)	LTE
B40 (TD 2300 MHz)	LTE

CDMA	
Name	Interface
BC1 (1900 MHz PCS)	CDMA
BC6 (2 GHz)	

Russian Cellular Service frequencies

Russian mobile network operators, including MegaFon, MTS, Beeline, and Tele2, utilize a range of frequency bands for their 2G, 3G, and 4G/LTE services, primarily in the 800 MHz, 900 MHz, 1800 MHz, and 2100 MHz bands, with 5G deployment ongoing.

Specific Frequency Bands in Use:

2G (GSM): Primarily uses 900 MHz (E-GSM) and 1800 MHz (DCS).
3G (UMTS): Utilizes bands around 880-915 MHz, 925-960 MHz, 1920-1980 MHz, 2010-2025 MHz, and 2110-2170 MHz.
4G (LTE): Commonly found on 800 MHz, 1800 MHz, and 2600 MHz bands.
5G: Deployment is in progress, with considerations for bands like 3.5 GHz and 4.8 GHz, although 700 MHz is also being explored.

CELL PHONES:THE RISKS

The Ukrainians, according to Ukrainian sources,have killed 12 Russian officers of general rank,since the conflict began. This is, it is said, because the Russians have resorted to using cell phones when their communications systems break down. A retired US Army general has said it is fairly easy to locate a cell phone user,once that phone is in use.

The reasons for these devices being dangerous to use for Russian are these. Once Russian troops enter Ukraine, these phones emit a roaming signal, which then connects to Ukraine's cellular network. This means that the Ukrainians can triangulate the position of the Russians by using the closest three cell towers. Another "own goal" by our comrades is the use of stolen Ukrainian phones fitted with a "Find My Phone" app, which is active even when that phone is switched off. D'ooooh! (Come back Homer Simpson all is forgiven!)

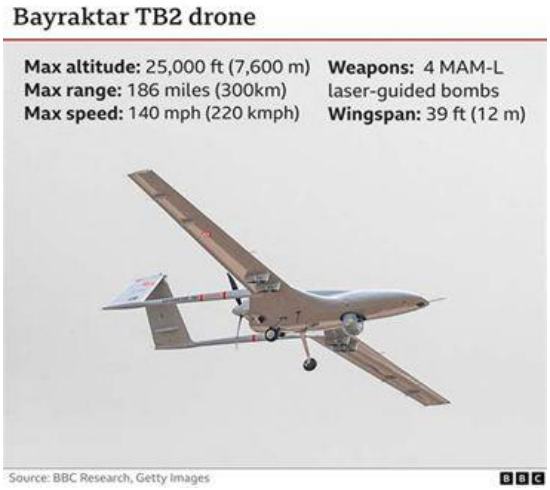
One might ask why the Russian have not destroyed the towers needed for that network to function. A US cell phone expert, familiar with the Russian communications systems, has said that the invading Russians did not set up an independent comms network, and thus needed the current Ukrainian system for their system to work. The comrades appear to have become aware of the problem of smart phone use by making it punishable for troops in Ukraine to use such devices.

UAVs.

Ukraine

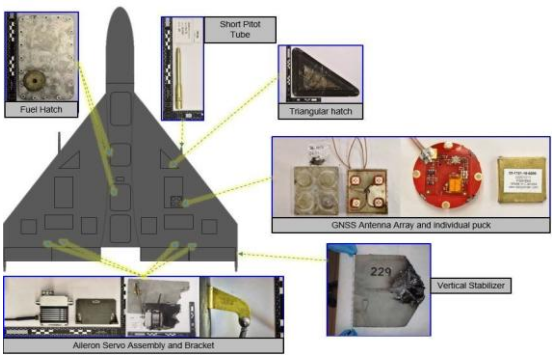
A drone in common use in Ukraine, particularly by the Ukrainian side, would seem to be the commonly available 4 propeller drone so popular with drone enthusiasts worldwide. This is explained by asking the question "How expensive does something need to be, which is intended to drop bombs on people or fly into a target and be destroyed with that target?" Answer "Not very!"

However, they have more sophisticated equipment. Below is an example of the drones being used by Ukraine. Country of origin is Turkey. This drone would not be used as a kamikaze drone, but as attack and/or reconnaissance, suitably fitted with the appropriate camera or weapons equip



RUSSIA:

Shaheed Drone (Geran 2) Country of origin: Iran



Block Schematic of Shaheed Drone:

Shaheed is Farsi for “Witness”. In Russian service, this is the Geran 2. The Russians aquired this drone, which was first made in Iran, in 2022. Vladimir Putin signed a contract with that nation to aquire this technology, shortly after the war began. Initial delivery is said to have been 600 units. Obviously, not wishing to be dependent on Iran, the Russians have built a factory in the Alabuga plant in the Tatarstan region of Russia. Production numbers of this UAV are said to be in the thousands.

This UAV can be autonomous or controlled by a human pilot, depending on the kit fitted. Recovered UAVs have confirmed this. The Geran 2 is capable of being controlled by an operator based in Russia, according to Ukrainian reports. As an attempt at ECM, the UAV has been fitted with 8 aerials to counter jamming,and aid control from Russia.

Frequency Change

Russian drones switched frequencies, from standard 700-1,000 megahertz to 400-500 megahertz. This countered the Ukrainian systems, which were operating on different frequencies.

TANKS A LOT TOVARISCH! (Spasibo Tovarisch!)

T72 Russian Tank [one of several variants]

Above is an example of the T72, which is, according to reports,,the most common Russian tank in use,and thus the most common one to be targeted by Ukraine. Vast numbers of T72s were in the former East Germany, both Russian and East German, waiting to rumble through the Fulda gap, as any old BAOR dude will know.
The Russians have not been slow to counter the drone menace of Ukraine, and have devised anti drone ECM kit, and fitted it to tanks. Ukraine captured one such T72, equipped with nothing more sophisticated than a stack of boxes atop the turret and with an aerial to radiate its ECM pulses. Despite its age, T72 is a capable tank, and the sloping turret and frontal armour show that Russia is capable of producing potent tanks and AFVs. However, 1200 are estimated destroyed during the first year of this war, which is now 4 years old.

Anti Tank Weapons

Amongst the weapons used by Ukraine are Javelin, seen below, and other advanced man held anti tank weapons.

Javelin anti tank weapon

Javelin is infra red guided and is a fire and forget missile. This means that the operator can take cover immediately after firing the weapon (A big plus when facing a tank!) It is highly successful in taking out Russian AFVs. It is launched, its main rocket does not fire until a safe distance from the launcher, and climbs to height prior to going through the softer top armour of the AFV being attacked.

It employs a double charge to counter any ERA (Explosive Reactive Armour) which has the effect of blowing the blast of the AT missile away from the AFV.

The heavy losses of tanks and other AFVs will reignite the old argument as to whether or not tanks and AFVs have a place on today's battle field.

ECM

Infozahyst, is a Ukrainian organization responsible for communications and ECM, which has launched development of an innovative ELINT technology that would offer whole new capabilities to soldiers on the ground. Here we are talking about the conduct of battlefield reconnaissance from the air by deploying appropriate sensor packages on board UAV platforms. This allows a small drone so fitted with the necessary circuitry, to carry out the same SIGINT tasks normally allocated to the 4 engined AWACS aircraft, with its normal flight crew and SIGINT specialists.. Obviously, the Russians have the same capability should they have the necessary SIGINT packages to fit to their drones. Here, they may not have the ability to build small enough units, given that much of Russian kit is thermionic valve/vacuum tube based. However, this technology is resistant to any EMP (Electro Magnetic Pulse) generated by nuclear blasts, or artificially created EMP. Such EMP is obviously fatal to solid state technology, and is said to be within the capability of US technology. The firm responsible for much of Ukraine's communications technology is Infozahyst. Find them here for more intel: infozahyst.com. Obviously USA has supplied much of the technology used by Ukraine. Be a shame to waste a good war and not try out ones latest comms kit, would it not?

RUSSIAN JAMMING

Always capable of jamming any target frequencies, Russia has not lost any skills developed so well dung the cold war. (Remember the "Woodpecker?) A Ukrainian member of a UAV unit said the Russians were jamming everything they could. He said that the Russian effort did not dominate the ECM war, but was very strong competition against the Ukrainian communications operations.

The Russian threat was described as"pretty severe" when it comes to disrupting reconnaissance efforts and commanders' communications with troops. Russian jamming of GPS receivers on drones that Ukraine uses to locate the enemy and direct artillery fire is particularly intense.
Ukraine has scored some successes in countering Russia's electronic warfare efforts. It has captured important pieces of hardware — a significant intelligence coup — and destroyed at least two multi-vehicle mobile electronic warfare units.

So, there you have it guys. As usual, various nations are trying out various pieces of kit, in war conditions. Nothing like real bullets and bombs going off to see if said kit does what it says on the tin. And, wars being like buses, if we miss this one, no worries, there will soon be another one coming along!

HJH JULY, 2025.

[*Readers might care to read Dr Matthew Ford's 'War in the Smartphone Age'***]**

COLONEL OLEG PENKOVSKY - HIS NUMBERS WERE UP!

By Cory Lichtenburg

The name Colonel Oleg Penkovsky is synonymous with Cold War espionage and the drama of the Cuban missile crisis. The recent British film, The Courier, raised his profile with a new generation as had a BBC drama series Wynne and Penkovskyin the 1980s.

He is portrayed as a crucial provider of strategic and nuclear intelligence about Soviet military capabilities at a key point during the Cold War. A less publicised feature of his case was that a shortwave numbers station was used to pass him instructions.

Material from declassified CIA files allows ENIGMA 2000 to provide an insight into this for the first time. Penkovsky had a meteoric rise in the Red Army during the Second World War and was a well connected and very young Colonel who knew senior officers who could act as his patrons. However, his stellar career stalled during his time with the GRU in the 1950s due to the fact that his father's death could not be proven and the KGB had suspicions that he might be alive, living abroad and was anti-Soviet.

Penkovsky senior was thought to have fought against the Bolsheviks in the Civil War so this cast doubt on his son. The suspicion was unproven and lingered, ensuring that Oleg could not be promoted to general rank which is what he thought he deserved, along with all its status and privileges. He was also moved into the army reserves which he took as another slight and was likely a major irritant. His many talents had not been 'effectively used in the service of the Motherland despite being young and having attended prestigious institutions and possessing a good war record.

Resentment started to develop and would fester as he was let down by this service and he felt had been unfairly treated. Dangerous for the USSR but good for the west.
Penkovsky felt that he had been shunted into a dead end working with a scientific committee and dealing with foreign liaison. This was important work for the nation's defense but not prestigious in his mind. This post did however entail some foreign travel, contact with westerners and access to military archives containing a wide range of classified information on missiles and nuclear weapons. He also maintained a wide range of GRU and senior army contacts as well as access to classified internal journals on Soviet tactics and strategy. His family connections (his father in law was a senior army officer) also gave him access to political gossip on senior officials in the Soviet government and the military.

To be in this position as a disgruntled individual, passed over, with a large ego and under suspicion and seeking recognition and fulfilment was extremely dangerous. In 1961, he finally decided to act and betray his country, family, friends and everything he had been brought up to believe in. He would serve as a traitor, spying for the west.

If the USSR had no use for him, he would find someone who did and could provide an outlet for his many talents and boost his bruised ego. A footnote in history awaited a man who wanted to be the greatest spy of all time and
do enormous, significant things.

He had betrayed before. In a previous posting to Ankara, Turkey whilst serving in the military attache's office, Penkovsky had tried to betray the GRU by compromising an intelligence operation to Turkish security to undermine a colleague. He had also informed on a colleague to the KGB which was a cardinal sin in the GRU. He was seen by colleagues as a rat and ended up being sent home which undoubtedly further added to his sense of grievance.

One betrayal would likely lead to another on a steady path of betrayal which would ultimately destroy him.

Left to stew in Moscow, he was desperate to act. During 1961, he approached several westerners in Moscow in order to make contact with western intelligence. These approaches were made to a Canadian, a British engineer and two American students. One of the American students informed the US government about the approach and delivered a package to them.

The British government was also aware of Penkovsky's approach and spoke to the CIA about it, thinking he was an out of touch CIA asset. It was decided that his

recruitment should be pursued as a joint operation. It was known that Penkovsky was coming to London with a Soviet delegation in 1961 and this would be a good opportunity to meet him. During this visit, Penkovsky was recruited as an agent and measures were put in place to receive information from him in Moscow and on trips abroad until his arrest in October 1962.

These measures included using British businessman Greville Wynne as a courier to Moscow and meetings with the wife of the SIS station chief in Moscow to receive information and to pass instructions. Penkovsky made two visits to London and one to Paris where training could be given and microfilms/notes delivered and several extended briefing sessions being held. Some of the transcripts of these sessions have been declassified here
in the US in redacted form.

One transcript shows that in May 1961 Penkovsky was trained in London on how to receive number station broadcasts.

During Meeting 15 with the CIA/SIS on 04 May 1961 in Room 360 at the Mount Royal Hotel, London, instruction was given by SIS on how to receive coded transmissions via short wave radio. He was played tapes of a broadcast and shown how to use a one time cipher pad to break out Morse code messages. At the appropriate time, midnight on Saturday and Sunday, he would listen for callsign 163 which would broadcast in CW for 5 minutes.

This would be broadcast for a whole calendar month, giving him several opportunities to hear the transmission. He had to listen for the first number after his callsign. If it was 5 or below then it was genuine traffic. Any first number which was over 5 was dummy traffic or was a broadcast for someone else. After the five minute callsign there would be a long dash for 5 seconds before the start of the message. The last 3 numbers of the first group revealed the group count and there would be no more than 100 groups in the message.
The message would be repeated after a short break and end with his callsign and the number 31, indicating the end of the broadcast. There were also two special two digit signals for occasions such as ceasing operations.

The broadcast was in CW dots and dashes using a “cut Morse” system. He was provided with a control chart with A = 1, U=2,V=3,4=4E=56=6,B=7,D=8 N=9 T=0.
These would then be decoded using a one time pad with one code group in the message indicating which pad to use. In the message there would also be an indicator of which line to use in the pad with subtraction being used to turn numbers to letters.

Separate pads were used for incoming and outgoing messages with radio frequencies changing according to summer and winter. Photos from the time of

Penkovsky’s trial showed the pads to be like small notebooks with each page having five columns of five digit number groups in blocks of thirty. One five digit group was on the front cover of the pad. Penkovsky practiced receiving and sending messages in the hotel room with tapes of broadcasts being played to him. He was told by his instructors that the beeps would sound different in Moscow and would be played at slower speed. He apparently wrote down the Morse code characters with a vertical line representing a dot and a horizontal one for a dash. He would convert them to numbers once the broadcast was over.

Presumably he had a grid to turn the numbers into plain text with a key word or phrase. The paper instructions he received and the broadcast messages were all in Russian.

Penkovsky was told that he would receive an RR-22 receiver in Moscow with Russian instructions and he would practice tuning it and get used to the sound. He was also to be supplied with a battery charger and would receive broadcasts whether they contained genuine traffic or not.

At his trial a small short wave radio receiver, which seems to be a Japanese Sanyo 8S-P8, was produced for the press along with his Minox cameras, films, code books and other spy kit. I wonder if the radio is in the KGB museum or if it still works?
It was probably later stolen and sold on the Soviet black market!

These declassified CIA documents provide a small, rare and fascinating glimpse into a western number station and an agent being trained in its use. I don't think this has appeared elsewhere in any other case involving the Brits?

It is unclear how many broadcasts were made and what was contained in the transmissions; possibly meeting schedules in Moscow or words of encouragement? It is unknown where the transmitter was; Frankfurt perhaps?

Was this the first time they broadcast to Moscow because assets at the heart of the enemy were likely few at that time? Penkovsky apparently also used an earpiece when receiving the broadcasts in his apartment to defeat bugging, nosey neighbors and his family.

All his spy kit was retrieved in a KGB search resulting in his confession and eventual execution in 1963.

Much mystery remains about this case. If the KGB thought his background was suspect, why was he allowed classified access to military secrets and to remain in the GRU? Why was he allowed to travel abroad and meet westerners if he was a potential traitor? How did the KGB detect him and when did they know he was a traitor?

Did they arrange for him to pass bogus material and how much of his output was genuine? Did his family connections help to keep him at large? Did a western mole betray him or were his meetings with Wynne seen as suspicious? Did the KGB know about Wynne through British traitor George Blake?

The CIA concluded that Penkovsky did considerable damage to the USSR and his material was genuine. He provided unique insights into the Soviet leadership, GRU staff identities, nuclear weapons and Soviet equipment capabilities at a time when the West was desperate for data on these topics.

Topicality is suspicious though; you have a need and someone appears who can meet it.... He provided insights into the type of missiles sent to Cuba in 1962 but he was not aware that they were being deployed there.
Moscow could not know what had been passed, particularly political gossip, and their bluster during the Cuban missile crisis was undermined by Penkovsky’s revelations about how few long-range bombers and missiles the USSR possessed and the problems they had with defence projects.

He also exposed corruption in their government and problems in Soviet society which could be revealed in the book ‘The Penkovsky Papers,’ later published in the west.
His material resulted in dozens of intelligence reports being issued which informed western thinking for many years. However, sometimes he had intelligence but could not pass it on due to a lack of a rapid communication channel.

Despite the heroic status given to him by authors, he was likely driven by low motives; ego, grievance, revenge and a desire for recognition. He wanted to be the greatest spy who ever lived, which is difficult if nobody knows anything about you! He was self-destructive and zealous but his case showed what was possible in espionage.

A high-level agent could be recruited and run in the USSR with number stations providing support. The west-could learn from its errors in this unique case

and show Moscow that for every Philby there could be a Penkovsky. It should be remembered though that if it is this easy to recruit and run a damaging agent in an authoritarian security state, how much easier it will be to do it to us in a liberal, open, democratic one.

How much damage is caused by each number transmission? Bear in mind this is just what radio listeners hear. How much traffic goes in the post, phone, internet, special communications devices, face-to-face meetings and by means nobody knows about? These are likely not intercepted and will be wrapped in impenetrable codes to hide their contents.

Could Germany's Enigma have been broken with no interception of radio traffic? Penkovsky showed the damage incurred by one breakdown in personnel security.

How many more angry deciders, mercenaries, thrill seeking wannabe 007s are out there on both sides of the new Cold War? Moscow's staggering losses in Ukraine in a fruitless war could generate more disgruntled Russian personnel to switch sides and get back at the system. Thosands of their comrades have been killed and maimed for nothing.

If the wartime Penkovsky generation saw what Russia and its army had become, would they feel proud and think their sacrifices had been worth it? Similarly, Russia will be desperate for intelligence on a variety of subjects so how many westerners will respond to their recruitment efforts?

How many agents are listening to number stations and how much damage are they causing in this most dangerous of times? It is an ENIGMA.

73! Cory L.

Thank for yet another insight to CIA Files, Cory.

Finally, a short concerning Radio China International

PoSW writes, The Chinese music station I mentioned last time changed frequency in July; it had been on 13810 in May and June starting at 1800 UTC and playing the same line-up of music every day going off air with an announcement in German shortly before 2000.
I was away for a few days in early July and the next occasion I was able to listen was on the 5th and was surprised to find no sign when tuning in at 1800. However, a quick tune around found that it had moved to 11650 in the 25 metre band. Still the same play list every day, the same "tape" - not that anything as crude as magnetic tape would be used for sound recording these days, but whatever is used in the broadcasting world it is always the same music, my favourite shows up at 1826 UTC and since the whole performance is repeated it airs again at 1926. Just in the past few days I noted the very same music is broadcast earlier in the day, found by chance on 17615 kHz, a strong signal noted at 0515 UTC, 6.15 AM, presumably starts at 0500 but so far I have not been awake early enough to confirm. It goes off air with the same German language ending just before 0700 UTC.

With Peter's head up last month, had been keeping an eye on the 7260kHz slot where RCI was known to be heard,. This played the same music but with the announcement, such as they are, in Portuguese. Seems to have shifted so a search needs to be undertaken.

Perhaps RCI might care to get in touch and let us know what this music is about. The Mx is decent; I'm even whistling one of the tunes.

If RCI want to send a Honeytrap, I'm up for that too. Female, long hair in bun, decorative pins please, Red Cheongsam, medium heels and must be able to converse on China's Economic activity in the CARICOM regions.

Chart Section Index

Predictions

M01 Schedule

Family III

Polytones, XPA1, XPA2

En150

September 2025

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Sep kHz, ID, ...	Oct kHz, ID, ...
x		x					0315		E11	03	12630 25#	12630 25#
x	x	x	x	x	x	x	0400		V13	0	11430	15388
x	x	x	x	x			0400/0420		S06	01A	11616/ 9322 480	11616/ 9322 480
	x		x				0445		S11A	03	10728 79#	10728 79#
x	x	x	x	x	x	x	0455		HM01	18	10860	10860
x	x	x	x	x	x	x	0500		V13	0	15388/18040	8169/11430/15388
x	x						0500/0510/0520 0530/0540/0550		XPB1	01B	19668/19268/18268 17468/16268/15868	19544/19044/18444 17444/16244/15844
x	x	x	x	x			0500/0520		M14	01A	12211/10243 952	12211/10243 952
x		x					0510		S11A	03	23004 65#	23004 65#
	x			x			0530		M01A	14	9441 751	9441 751
		x	x				0530		M01A	14	9129 or 9192 498	9129 or 9192 498
		x	x				0540		M01A	14	7692 536	7692 536
x	x	x	x	x	x	x	0555		HM01	18	10345	10345
x		x					0600		E11	03	25839 94#	25839 94#
				x		x	0600		E11	03	8680 35#	8680 35#
x	x	x	x	x	x	x	0600		V13	0	16134/11430	11430/15388
		x			x		0600/0620/0640		M12	01B	10831/11531/13431 854	10518/12218/13518 525
	x			x			0620		M01A	14	10233 or 10235 354/458	10233 or 10235 354/458
		x	x				0620		M01A	14	9421 135	9421 135
	x			x			0630		M01A	14	9447 143/796	9447 143/796
		x	x				0630		M01A	14	8111 902/536	8111 902/536
x		x					0645		E11	03	10800 41#	10800 41#
	x		x				0645		E11	03	13470 51#	13470 51#
x	x	x	x	x	x	x	0655		HM01	18	13435	13435
x			x				0700		S11A	03	8597 47#	8597 47#
	x			x			0700		E11	03	8180 57#	8180 57#
					x	x	0700		E11	03	9079 49#	9079 49#
x	x	x	x	x	x	x	0700		V13	0	8169	8169
						x	0700		M01	01B	6510 463	6510 463
x		x					0700/0720/0740		XPA2	01B	12152/13552/13952	13372/14672/15872
	x			x			0710		M01A	14	10651 297/358	10651 297/358

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Sep kHz, ID, ...	Oct kHz, ID, ...
		x	x				0710		M01A	14	9175 146/208	9175 146/208
x		x					0715		E11	03	19515 75#	19515 75#
	x			x			0715		E11	03	14666 63#	14666 63#
					x	x	0715		M01	14	7115 475	7115 475
			x	x			0720		E11	03	9446 43#	9446 43#
	x			x			0720		M01A	14	9151 728	9151 728
		x		x			0725		S11A	03	23353 38#	23353 38#
x							0745		E11	03	10213 26#	10213 26#
	x		x				0745		E11	03	14865 22# **check**	14865 22#
		x		x			0745		E11	03	17410 34#	17410 34#
x	x	x	x	x	x	x	0800		V13	0	8169	8169
x				x			0800/0820/0840		M12	01B	**search** x 0010z 14942/ 13942/12142 991	**search** x 0010z 17429/ 16229/15929 429
	x	x					0820		E11	03	19184 13#	19184 13#
x				x			0830		E11	03	20170 18#	20170 18#
					x	x	0830		S11A	03	6433 37#, check	6433 37#
x		x					0845		E11	03	12202 71#	12202 71#
	x		x				0845		E11	03	18168 15#	18168 15#
x		x					0900		E11	03	13117 53#	13117 53#
			x		x		0900/0920/0940		XPA2	01B	x15859/14659/ 13459 **search**	x17438/16338/ 15938 **search**
x		x					0910/0930/0950		XPA2	01B	x18206/16329/ 15824 **search**	x17471/16149/ 14406 **search**
x				x			0915		S11A	03	6480 48#	6480 48#
		x	x				0930		E11	03	6940 27#	6940 27#
x	x	x	x	x	x	x	0930		M14	01A	16347 10.&25. 14878 11.&26. when msg	17458 10.&25. 15994 11.&26. when msg
	x			x			1000		E11	03	9951 30#	9951 30#
x	x	x	x	x	x	x	1000		V13	0	19052/20025/20095	19052/20025/20095
x	x	x	x	x			1015/1025/1035		F01	01A	9128/ 7546/ 5113	11129/ 9082/ 7344
			x		x		1000/1020/1040		E07	01B	**search** x 1410z 16228/ 15928/14928 594	**search** x 1410z 15849/ 14849/13449 746

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Sep kHz, ID, ...	Oct kHz, ID, ...
x		x					1045		E11	03	12385 69#	12385 69#
x	x	x	x	x	x	x	1100		V13	0	19052/20025/20095	13974/15388/19052 20025/20095
		x			x		1100/1110/1110 1130/1140/1150		XPB1	01B	13521/13421/12221 11521/11021/10521	16245/15825/14925 13525/12125/11425
	x						1100/1120/1140		M12	01B	11519/12194/13407 289	11519/12194/13407 289
	x			x			1100/1120/1140		XPA2	01B	13431/12131/11431	14537/13437/10737
		x	x				1100/1120/1140		XPA2	01B	16117/14917/13517	14672/13472/12172
x	x	x	x	x	x	x	1200		V13	0	13974/14944/15388	13974/14944/15388
	x	x					1205		E11	03	9399 46#	9399 46#
		x		x			1210/1230/1250		XPA1	01B	12137/11137/10237 112	14564/13564/11464 554
	x		x				1230		E11	03	12530 33#	12530 33#
x							1230/1250/1310		M12	01B	13386/12189/11491 725	13386/12189/11491 725
x			x				1300		E11	03	5371 31#	5371 31#
x	x	x	x	x	x	x	1300		V13	0	11430/14944/15388 19052	11430/14944/15388 20095
	x			x			1300/1310/1310 1330/1340/1350		XPB1	01B	20017/19317/180**3**7 17417/16217/15817	20075/19575/18175 17475/16275/14975
x	x	x	x	x	x	x	1400		V13	0	8300/20095	20095
	x			x			1400		S11A	03	11420 42#	11420 42#
	x				x		1430		E11	03	14972 91#	14972 91#
					x		1500		M01	14	6260 463	6260 463
x	x	x	x	x	x	x	1500		V13	0	20095	20095
	x	x	x				1500/1600 sporadic	spo- radic	S06	01A	13896/10381 387	
	x			x			1500/1520/1540		E07	01B	17452/16272/14875 428	17461/16161/14361 413
					x		1500/1520/1540		XPA2	01B	14373/13373/11573	13906/12106/10906
			x				1530		E11	03	10330 26#	10330 26#
	x		x				1600/1620/1640		XPA2	01B	13887/13387/11587 **check, 1700z?**	13542/12142/11442 **check, 1700z?**
	x					x	1605		E11	03	5176 23#	5176 23#
		x			x		1610		E11	03	4181 39#	4181 39#
					x	x	1645		E11	03	4505 36#	4505 36#
	x		x				1700/1720/1740		XPA2	01B	**search**	**search**
		x		x			1715		E11	03	6923 97#	6923 97#
x						x	1745		E11	03	13470 24#	13470 24#

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Sep kHz, ID, ...	Oct kHz, ID, ...
	x		x				1800		M01	14	5475 463	5475 463
		x		x			1800/1820/1840		XPA2	01B	16351/14851/13951	14518/13418/12218
			x				1800/1820/1840		M12	01B	11435/10598/ 9327 938	11435/10598/ 9327 938
				x		x	1815		E11	03	11116 92#	11116 92#
		x			x		1850		S11A	03	10213 28#	10213 28#
x			x				1900		E11	03	7317 64#	7317 64#
		x					1900/1920/1940		M12	01B	12162/11566/10711 546	12162/11566/10711 546
		x		x			1900/1920/1940		M12	01B	13367/12167/10567 315	11135/10235/ 9235 122
				x			1900/2000	1/3	S06	01A	9925/ 7505 842	
				x		x	1910		E11	03	8530 61#	8530 61#
			x			x	2000		E11	03	5737 52#	5737 52#

M01 FREQUENCY LIST

Frequencies may vary by a few kHz

JAN FEB NOV DEC M01/1 197

DAY	TIME UTC	FREQ kHz
TUE / THU	1800	5320
TUE / THU	2000	4490
SAT	1500	5810
SUN	0700	5465

MAR APRIL SEPT OCT M01/2 463

DAY	TIME UTC	FREQ kHz
TUE / THU	1800	5475
TUE / THU	2000	5020
SAT	1500	6260
SUN	0700	6510

MAY JUNE JULY AUG M01/3 025

DAY	TIME UTC	FREQ kHz
TUE / THU	1800	5280
TUE / THU	2000	4905
SAT	1500	6435
SUN	0700	6780

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Jul kHz, ID, ...	Aug kHz, ID, ...	Sep kHz, ID, ...	Oct kHz, ID, ...	Remarks
x		x					0315		E11	03	18511 25#	18511 25#	12630 25#	12630 25#	since 01/14, last log 08/25
	x		x				0445		S11A	03	9968 79#	9968 79#	10728 79#	10728 79#	since 05/22, last log 08/25
	x		x				0505		E11	03					since 10/11, last log 02/25 Mar/Apr/Sep/Oct at 1230z, Mai-Aug at 1645z
x		x					0510		S11A	03	16357 65#	16357 65#	23004 65#	23004 65#	since 08/19, last log 08/25
x		x					0600		E11	03	21906 94#	21906 94#	25839 94#	25839 94#	since 07/17, last log 08/25
				x		x	0600		E11	03	9150 35#	9150 35#	8680 35#	8680 35#	since 04/15, last log 08/25
x		x					0645		E11	03	10508 41#	10508 41#	10800 41#	10800 41#	since 02/10, last log 08/25
	x		x				0645		E11	03	11092 51#	11092 51#	13470 51#	13470 51#	since 07/09, last log 08/25
x			x				0700		S11A	03	9339 47#	9339 47#	8597 47#	8597 47#	since 04/10, last log 08/25
	x			x			0700		E11	03	8680 57#	8680 57#	8180 57#	8180 57#	since 01/12, last log 08/25
					x	x	0700		E11	03	7377 49#	7377 49#	9079 49#	9079 49#	since 07/15, last log 08/25
x		x					0715		E11	03	15915 75#	15915 75#	19515 75#	19515 75#	since 06/21, last log 08/25
	x			x			0715		E11	03	12530 63#	12530 63#	14666 63#	14666 63#	since 02/11, last log 08/25
			x	x			0720		E11	03	7984 43#	7984 43#	9446 43#	9446 43#	since 10/09, last log 08/25
		x		x			0725		S11A	03	18773 38#	18773 38#	23353 38#	23353 38#	since 05/14, last log 08/25
x							0745		E11	03	9610 26#	9610 26#	10213 26#	10213 26#	since 03/14, last log 08/25 2nd transmission Thu 1530z
	x		x				0745		E11	03	20640 22#	20640 22#	14865 22# **check**	14865 22#	since 01/20, last log 08/25
		x		x			0745		E11	03	15720 34#	15720 34#	17410 34#	17410 34#	since 06/17, last log 08/25
	x	x					0820		E11	03	17378 13#	17378 13#	19184 13#	19184 13#	since 12/18, last log 08/25
x				x			0830		E11	03	16335 18#	16335 18#	20170 18#	20170 18#	since 07/15, last log 08/25
					x	x	0830		S11A	03	5149 37#	5149 37#	6433 37#, check	6433 37#	since 02/14, last log 08/25
x		x					0845		E11	03	12815 71#	12815 71#	12202 71#	12202 71#	since 09/10, last log 08/25
	x		x				0845		E11	03	19184 15#	19184 15#	18168 15#	18168 15#	since 07/17, last log 08/25
x		x					0900		E11	03	11116 53#	11116 53#	13117 53#	13117 53#	since 10/05, last log 08/25
x				x			0915		S11A	03	6814 48#	6814 48#	6480 48#	6480 48#	since 04/19, last log 08/25
		x	x				0930		E11	03	6923 27#	6923 27#	6940 27#	6940 27#	since 02/14, last log 08/25
	x			x			1000		E11	03	12153 30#	12153 30#	9951 30#	9951 30#	since 11/16, last log 08/25
x		x					1045		E11	03	10210 69#	10210 69#	12385 69#	12385 69#	since 03/18, last log 08/25
	x	x					1205		E11	03	8274 46#	8274 46#	9399 46#	9399 46#	since 03/10, last log 08/25
	x		x				1230		E11	03			12530 33#	12530 33#	since 10/11, last log 10/24 May-Aug at 1645z, Nov-Feb at 0505z
x			x				1300		E11	03	5737 31#	5737 31#	5371 31#	5371 31#	since 07/14, last log 08/25
	x			x			1400		S11A	03	9448 42#	9448 42#	11420 42#	11420 42#	since 02/10, last log 08/25
	x				x		1430		E11	03	12984 91#	12984 91#	14972 91#	14972 91#	since 10/15, last log 08/25
			x				1530		E11	03	10356 26#	10356 26#	10330 26#	10330 26#	since 06/14, last log 08/25 2nd transmission Mon 0745z
	x					x	1605		E11	03	5231 23#	5231 23#	5176 23#	5176 23#	since 11/15, last log 08/25
		x			x		1610		E11	03	4783 39#	4783 39#	4181 39#	4181 39#	since 02/14, last log 08/25
	x		x				1645		E11	03	14575 33#	14575 33#			since 10/11, last log 08/25 Mar/Apr/Sep/Oct at 1230z, Nov-Feb at 0505z
					x	x	1645		E11	03	5082 36#	5082 36#	4505 36#	4505 36#	since 03/14, last log 08/25
		x		x			1715		E11	03	7863 97#	7863 97#	6923 97#	6923 97#	since 02/15, last log 08/25
x						x	1745		E11	03	14410 24#	14410 24#	13470 24#	13470 24#	since 04/18, last log 08/25
				x		x	1815		E11	03	12229 92#	12229 92#	11116 92#	11116 92#	since 05/16, last log 08/25
		x			x		1850		S11A	03	12457 28#	12457 28#	10213 28#	10213 28#	since 06/17, last log 08/25
x			x				1900		E11	03	7600 64#	7600 64#	7317 64#	7317 64#	since 05/16, last log 08/25
				x		x	1910		E11	03	9610 61#	9610 61#	8530 61#	8530 61#	since 04/17, last log 08/25
			x			x	2000		E11	03	5409 52#	5409 52#	5737 52#	5737 52#	since 05/15, last log 08/25

XPA1 Wednesday/Friday schedule

Zulu > / Month v	XPA1 Wed/Fri Schedule H+10 (1210 / 1310z)	H+30	H+50
Jan	14852	13952	11552
Feb	14374	13374	11474
Mar	14451	13451	12151
Apr	13368	12168	11168
May	13419	12219	11419
June	13545	12145	11145
July	13368	12168	11168
Aug	13491	12191	10691
Sept	12137	11137	10237
Oct	14564	13564	11464
Nov	13875	13375	10875
Dec	13465	12165	10265

XPA2 p Schedule [Mon/Wed]

Zulu > / Month v	XPA2 Sched p Monday/Wednesday H 00 (0700 / 0800z)	H+20	H+40
Jan	11493	13393	13993
Feb	13387	13887	14787
Mar	13931	14831	16131
Apr	11409	12209	13409
May	12148	13448	13948
June	12148	13448	13948
July	12148	13448	13948
Aug	12152	13552	13952
Sept	12152	13552	13952
Oct	13372	14672	15872
Nov	11529	13429	13929
Dec	11493	13393	13993

SPECIAL MATTERS

Thanks to all our contributors:

Ary, BR, BRIXMIS, DanAR, Daryl, Gert, H-FD, HJH, JPL, KW PLdn, PoSW, RNGB

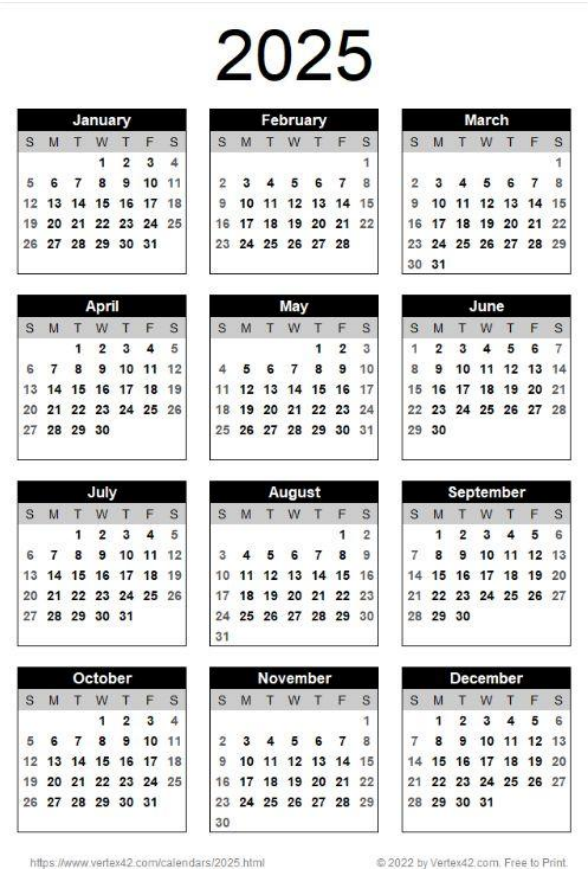
Apologies to anyone missed.

MESSAGES:

E: .Many tnx yr contribution. Hope all well for you.

RELEVANT WEBSITES

ENIGMA 2000 Website:	http://www.enigma2000.org.uk
Time zone information:	http://www.timeanddate.com/library/abbreviations/timezones/
Encyclopedia of Espionage, Intelligence, and Security	http://www.espionageinfo.com/



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