

ENIGMA 2000 NEWSLETTER



www.enigma2000.org



A new view of MI6 Building Taken from the Oval Cricket Ground

Special: PART 2: NUMBERS STATIONS FROM THE POLISH ARCHIVES by TOMASZ CHOPIN **Page: 49**

ISSUE 146
January 2025

<http://www.enigma2000.org>

Editorial

Members will have noticed the sudden increase in Fam 3 reporting from certain members; many thanks to those who took up the task. There is a sad connection to this and ably stated by RNGB:

Malcolm, or m8ack/Malcolm Atack, M8, sadly passed away unexpectedly on 10th December.

Now retired, Malcolm had worked at Luton Airport as an Air Traffic Controller Officer and subsequently at the London Air Traffic Control Centre, West Drayton.

Before he retired he worked on Airspace procedures and design. I have known and worked with him for over 25 years.

He was a quietly spoken and down to earth Yorkshireman, having interests in aviation, radio communication and politics. He listened in to military comms from the nearby US bases at Mildenhall and Lakenheath from his Duxford home and kept abreast of military exercises, deployments etc.

Although he never obtained an amateur radio licence he spent many hours listening on HF and acquired a keen interest on clandestine stations.

He also experimented with many different radio and antenna set ups.

Malcolm was a prolific contributor to ENIGMA2000, especially with his Family 3 logs.

His last log was posted at 1928z Monday 9th December 2024 [*This log is shown below and illustrates the level of interest Malc had*]

Malcolm will be sorely missed.
[RNGB]

Log 09/12/2024
m8ack
Dec 09 7:28 pm

Hi All
Log for Monday 9th December 2024

S11a

9050kHz0700z 09/12 [47?/37 VNIMANIE 71341 to 96619 VNIMANIE single repeat]KONYETZ 0712z S7 M8 MON
6252kHz0915z 09/12 [481/34 VNIMANIE 71360 to 76177 VNIMANIE single repeat]KONYETZ 0926z S3 M8 MON

E11

20167kHz0715z 09/12 [759/32 ATTENTION 06145 to 27905 ATTENTION single repeat]OUT 0725z S4 (Dutch SDR) M8 MON
10213kHz0745z 09/12 [262/00]OUT 0748z S9 M8 MON
23353kHz0830z 09/12 [18?/37 ATTENTION 07801 to 32671 ATTENTION single repeat]OUT 0841z S2 (Dutch SDR) M8 MON
12067kHz0845z 09/12 [713/39 ATTENTION 84826 to 56932 ATTENTION single repeat]OUT 0956z S9 M8 MON
15915kHz0900z 09/12 [532/00]OUT 0903z S8 QSB3 M8 MON
14410kHz1045z 09/12 [696/28 ATTENTION 37052 to 01612 ATTENTION single repeat]OUT 1054z S8 M8 MON
4909kHz1300z 09/12 [319/00]OUT 1303z S3 (Dutch SDR) M8 MON
12924kHz1745z 09/12 [248/00]OUT 1748z S2 (Finnish SDR) M8 MON
6849kHz1900z 09/12 [644/00]OUT 1903z S5 M8 MON

73s Malc



Visiting a relative in Melbourn, a village near the Duxford Imperial War Museum site 1145 Sunday 22nd December PLdn took the opportunity to photograph the entrance as we drove past.

An interesting place with plenty events and airshows.

I had the pleasure of meeting Malc on the ENIGMA2000 trip to the GCHQ: Top Secret Exhibition at the London Science Museum. I found Malc to be a splendid chap, quiet, knowledgeable and instantly likeable. His passing a very sad loss to the interest [PLdn]

Thanks for the Obituary Richard

We find ourselves in the thick of winter; in Great Britain we have experienced storms, the last as I write this be Storm Bert [Very common, Bertrand might have been better]. That was replaced by Storm Connall, which fizzled out. I'm pleased to say that mine and those of a close friend and monitor antennas stayed up, Not so my main roof which had to be replaced.

The Number Stations continue with signal strength varying as we enjoy the expected lift due to sunspot activities. Even low frequencies seem to be playing ball as night descends.

The more Eagle eyed members will note the membership list has almost halved. Those members who have never offered anything since the move to this site, and also whilst on the previous site, have been removed.

They were all emailed to tell them what was coming their way; two members removed themselves and another posted. To maintain a decent service we actually pay for this group mailer, so we will not carry dead wood.

Useful observations from H-FD:

Missing Stations

Absent for 3 months, so - for me - dead:

E06 1st&3rd week thu/fri 0600/0700z Oct 18425/20230kHz ID 186
Nov 18285/20140kHz 507
Dec 14575/17420kHz 923
First heard on Thursday February 20th, 2003 at 0600z on 12930 with
107-#6/127=65893.

F01 1st week wed/fri 1840/1850/1900z Oct 11136/ 9074/ 7723kHz
1940/1950/2000z Nov 8172/ 6791/ 4546kHz
Dec 7684/ 5326/ 4029kHz
First heard in March 2015.

XPA2 tue/thu 0500/0520/0540z Oct 10238/11138/12138kHz
0600/0620/0640z Nov 11162/12162/13962kHz
Dec 9281/10481/11481kHz
First heard in April 2022.

Other missing skeds:

E11 thu 1730z Nov/Dec 5779 ID 41#
E06/S06 sporadically sat 1600/1700z Dec 6832/ 7732kHz ID 480

Tnx H-FD

Funally, PoSW offers his immediate thoughts on the Number Station scene:

The long-standing first plus third Thursdays in the month E06 schedule, 0600 + 0700 UTC seems to have gone. Nothing heard in November or December or on the Friday's "next day repeat" on the frequencies used in these months in past years, was also not heard in October, the last appearance being on Friday 20-September.

Also the HM01 mixed-mode station from Cuba on 13435 kHz with a start time of around 0700 UTC has not been heard since its last appearance in the third week of August.

Local RF noise interference radiating from the overhead phone lines continues to be a problem but there was an item on the local TV news which said that British Telecom wants to get rid of the copper cables and replace them with some kind of magic box – presumably a variant of the router or modem - which makes the connection over the cellular / mobile phone network - if I have understood things correctly - into which the house phone and internet cable is plugged. If that is the case it will solve that particular problem but perhaps it will come with its own interference issues

[Thanks Peter].

To reinforce Peter's mention about RF noise interference I [PLdn] too suffer this problem. I had problems with next door using a PLT adapter. The bloke was a problem himself and at one stage I had to deal with him for registering his clapped out banger at my address and not paying his parking fines. I was immediately threatened by bailiffs acting on the behalf of the aggrieved council.

A check with the DVLC revealed he had, indeed, registered his banger at my address and I gave him a grade one bollocking for misrepresenting myself.

The bailiffs were iffy; 'If you don't pay the sum of £2000 immediately we will enter your house and take goods to the value.' I replied, 'I am not the registered keeper of that car; it belongs to my neighbour who has misrepresented himself.'

'That's OK mate, we only want the outstanding amount. You can claim it back off your neighbour; if the story is true.'

My reply changed the tone somewhat, 'Can you tell me why I would need a car; I am a registered epileptic with the DVLC, hold no licence and certainly don't drive.'

'We can still enter to take goods to the value of the outstanding amount.'

'I have just given you good cause not to pursue the outstanding amount with me. Phone the DVLC up and ask them.'

'I can't do that.'

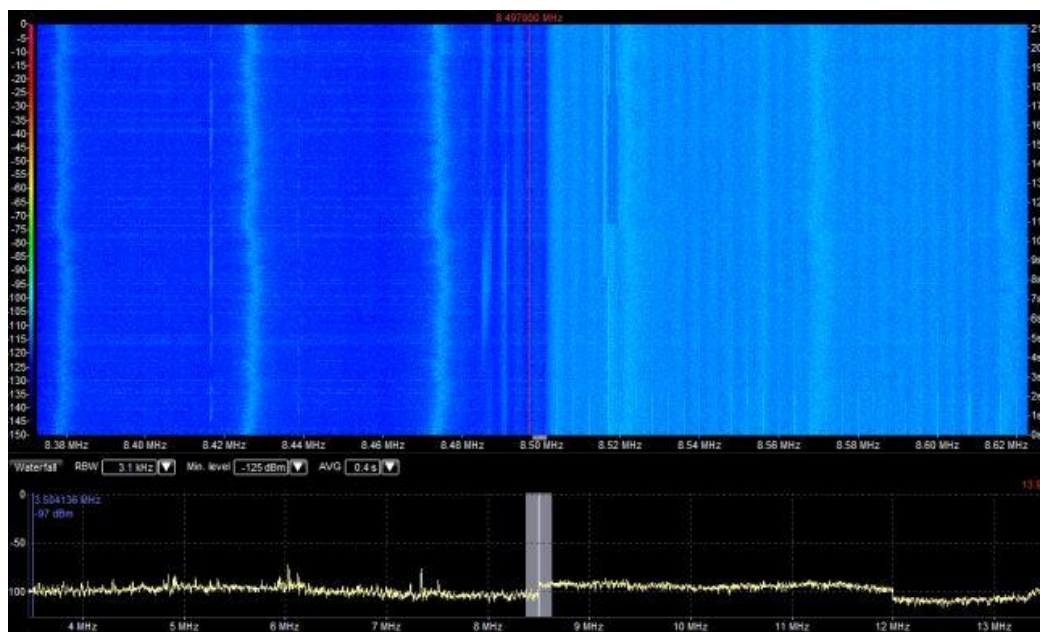
'Consider this; if you enter my property and seize goods you will enter as a trespasser. You have no legal recourse to enter due to my explanation. If you do enter I will report you directly to the police as a Burglar – Section 9a. Theft Act 1968.'

'I've heard it all before mate.'

He then left the house. Never to be heard from again. I took pleasure in writing to his company. A phone call to the aggrieved council sorted it out; the same bailiffs knocking next door some ten day later.

The PLT problem was so bad after asking my neighbour if he could find some other way of distributing his WiFi over the house and being told to FO [go away] I contacted OFCOM. A very nice engineer called, inspected my radio room and took some readings. What I did not know was that he had visited a few days before and taken readings using a very small, calibrated radio. He was seen doing this by my neighbour. When my neighbour saw the same chap taking equipment in the house he turned off the PLT stuff; never connecting it up again. [The happy bit is he was unable to pay his mortgage and was repossessed. Not missed!]

Here we see the current RF noise interference caused by ADSL distribution. This is the lower end of the problem which ends around 12MHz.



RF Noise Interference at PLdn's QTH

News Round

Great Britain

Labour Government putting national security at risk, suggests former MI6 chief Sir Richard Dearlove 'deeply worried' over defence spending and response to Netanyahu arrest warrant

Danielle Sheridan
Defence Editor

24 November 2024 4:07pm GMT

<https://www.telegraph.co.uk/politics/2024/11/24/starmer-government-national-security-at-risk-mi6-chief/>

There is 'no urgency' to the Government's approach on defence as Rachel Reeves, the Chancellor, and John Healey, the Defence Secretary, tackle growing international crises, Sir Richard Dearlove has said

There is 'no urgency' to the Government's approach on defence as Rachel Reeves, the Chancellor, and John Healey, the Defence Secretary, tackle growing international crises, Sir Richard Dearlove has said Credit: Getty Images/Leon Neal

The Government is putting the UK's national security at risk, a former MI6 chief has said, accusing Yvette Cooper, the Home Secretary, of being "clueless" over Benjamin Netanyahu's arrest warrant.

Sir Richard Dearlove, who was head of Britain's foreign intelligence agency between 1999 and 2004, said the Government showed no urgency in the face of international crises.

He told the Camilla Tominey show on GB News: "I'm deeply worried about aspects of this new Government, particularly when it comes to national security – and these are ultimately issues of national security."

Asked to expand on his concerns, Sir Richard said he was most worried about the defence budget, saying: "We're in a state of international crisis. We have a defence review, but there's no urgency at all on the Government's part.

"We've just seen them cut various military equipment to make a saving. OK, they're saying it's outdated, but you don't do that when you are threatened by probably the worst security situation in Europe."

The comments mark Sir Richard's strongest criticism of the Government to date. The last time he made such an intervention was in 2019 when he said that Jeremy Corbyn, the then Labour leader, was a danger to national security and unfit to lead the country.

He accused Ms Cooper of not “having a clue” on whether she would rule out arresting Mr Netanyahu, the Israeli prime minister, after the International Criminal Court (ICC) issued an arrest warrant.

“She certainly should. But having heard her interviewed earlier in the week, she clearly hadn’t a clue what to say. She ducked and weaved,” Sir Richard said.

“She just ‘blahed’ her way through the interview without really saying anything. I mean, it shows that they’re in a very tough position, but they need to take a clear stand on this.”

Earlier this week, the ICC, based in The Hague, issued an arrest warrant for the Israeli prime minister over the Israel-Hamas conflict. Britain, along with the other 123 members of the ICC, is responsible for enforcing arrest warrants it issues.

The Prime Minister’s official spokesman said the Government respected the court.

Last week, John Healey, the Defence Secretary, announced that the British Armed Forces will be hit by £500 million worth of cuts, hours after British Storm Shadow missiles were fired into Russia for the first time.

The cuts, to six major defence programmes, came despite Vladimir Putin warning that the conflict in Ukraine could escalate to nuclear war.

Sir Richard said: “This [defence] is as important, perhaps more important, than the National Health Service. It should be absolutely at the top of the Government’s priority list and it isn’t.”

The defence budget was awarded a £3 billion boost in Rachel Reeves’s Budget, but military chiefs dismissed that as not being enough to “touch the sides” of what the Armed Forces needed.

But Sir Richard said he did not believe Vladimir Putin would go to war with Nato nations, despite his recent nuclear sabre-rattling.

“Putin’s got a problem,” he said. “He can escalate the war verbally, which he does – to escalate it in terms of conflict is a more complicated issue.

“I don’t think Russia is going to risk, personally, a shooting war with the West. If they can’t cope with the Ukrainian military, if they can’t win in Ukraine, they are not going to take on Nato.”

Asked about the Government’s relationship with the US under the next Trump administration, Sir Richard said: “I’m not sure [Foreign Secretary David] Lammy is going to be best friends with him. There’ll be other people who’ll be interlocutors with Trump.

“JD Vance was pretty rude about Trump in his previous political life, but Lammy has got a lot of baggage. He’s not the ideal person...he’ll be part of the special relationship, but in my guess he won’t be a particularly important part of it.”

<https://www.telegraph.co.uk/politics/2024/11/24/starmer-government-national-security-at-risk-mi6-chief/>

GCHQ worker accused of taking top secret data home

18 December 2024

<https://www.bbc.co.uk/news/articles/cy9q893pww2o>

A former GCHQ employee accused of damaging national security by taking top secret data home is to go on trial partly in secret, a senior judge has ruled.

Hasaan Arshad, 25, is charged with an offence under the Computer Misuse Act after an investigation led by the Metropolitan Police Counter Terrorism Command.

Mrs Justice McGowan confirmed his trial would take place on 31 March at the Old Bailey with some of the proceedings to be heard behind closed doors.

Mr Arshad, from Rochdale, Greater Manchester, who is currently on bail, has denied wrongdoing and was not required to attend the hearing.

Mrs Justice McGowan also ruled some witnesses would give evidence anonymously and parts of the trial would be heard behind closed doors.

GCHQ is the UK’s intelligence agency focusing on communications data and areas such as cyber crime and infiltrating hidden messaging networks.

The charge relates to the defendant’s alleged activities before going home on 24 August 2022.

It is claimed he took his work mobile phone into a top secret area and connected the device to a top secret work station.

He is accused of transferring sensitive data from a secure, top secret computer to the phone before taking it home.

Mr Arshad allegedly then transferred the data from the phone to a hard drive connected to his personal home computer.

‘Top secret’

He was arrested and his home was searched on 22 September 2022, before he was charged under Section 3ZA of the Computer Misuse Act 1990, relating to “unauthorised acts causing, or creating risk of, serious damage”.

The charges states: “Between August 23 2022 and September 23 2022 (he) did an unauthorised act in relation to a computer and at the time of doing the act knew that it was unauthorised.

“And the act caused, or created a significant risk of a material kind, this being damage to the national security of a country; and he intended by doing the act to cause serious damage of a material kind or was reckless as to whether such damage was caused.”

“Top secret” is the classification for the government’s most sensitive information, according to Ministry of Justice security guidance.

This includes material where compromise might cause widespread loss of life or threaten the security or economic wellbeing of the country or friendly nations.

GCHQ's headquarters is in Cheltenham, Gloucestershire, but the intelligence agency also runs a smaller office in Manchester, as well as bases in Cornwall and North Yorkshire.

<https://www.bbc.co.uk/news/articles/cy9q893pwg2o>

I always find a stowable wire basket for phone safe keeping – Stupid Boy!

Wire cutters: how the world's vital undersea data cables are being targeted **Carrying 99% of the world's international telecommunications, the vulnerable lines are drawing nefarious interest**

Dan Milmo Global technology editor
Fri 22 Nov 2024 15:58 GMT

<https://amp.theguardian.com/world/2024/nov/22/wire-cutters-how-the-worlds-vital-undersea-data-cables-are-being-targeted>

The lead-clad telegraphic cable seemed to weigh tons, according to Lt Cameron Winslow of the US navy, and the weather wasn't helping their attempts to lift it up from the seabed and sever it. "The rough water knocked the heavy boats together, breaking and almost crushing in their planking," he wrote.

Eventually, Winslow's men managed to cut the cable with hacksaws and disrupt the enemy's communications by slicing off a 46-metre (150ft) section.

This was in 1898 off the coast of Cuba during the Spanish-American war. More than a century later, subsea communications cables remain a target during times of geopolitical tension.

On 17 and 18 November this year, two undersea fibreoptic cables in the Baltic Sea were damaged in an act that the German defence minister, Boris Pistorius, said was probably sabotage. Swedish police have said a Chinese cargo carrier, Yi Peng 3, which was in the area of the cables when they were severed, is "of interest".

The geopolitical backdrop to the current threat against undersea cables is the Russian invasion of Ukraine, China's behaviour towards Taiwan, and the Israel-Gaza war, but they have long been an obvious target.

The cables – thick as a garden hose when laid in deep water – carry 99% of international telecommunications traffic for personal, business and government use, with 530 submarine cable systems in service around the world, spanning more than 850,000 miles.

A typical global submarine cable map is a stark visual representation of the connectivity of the world and its vulnerability to disruption. These cables facilitate trillions of dollars' worth of financial transactions a day, carry sensitive government communications, deliver voice calls and transmit data around the internet.

Dr Sidharth Kaushal, a senior research fellow at the Royal United Services Institute, a defence and security thinktank, says undersea cables are vital to the global economy and are therefore of clear interest to any state wanting to cause trouble.

"If you look at the amount of global data that goes through these cables, the ramifications of sustained damage are quite significant," he says.

However, given the sheer amount of cables around the world's seabeds, a truly damaging attack would require sustained and very public action. One advantage of one-off attacks such as the Baltic Sea incident is their plausible deniability, says Kaushal. Nonetheless, he says, the economic threat behind an attack means they can still send a "potent diplomatic signal".

Yi Peng 3, which passed the two severed Baltic Sea cables when they were cut this month, has since been shadowed by a Danish navy vessel. Photograph: Mikkel Berg Pedersen/EPA

The west was implicated in the tapping of cables for surveillance purposes after documents leaked by the whistleblower Edward Snowden showed leading telecoms firms had given Britain's GCHQ spy agency access to undersea cables.

Recorded Future, a US cybersecurity firm, said in a report last year that Russia was monitoring undersea cable systems closely. "Russia, eager to inflict pain on the west for its support of Ukraine, has demonstrated an increased intent to map the submarine cable system, very likely for potential sabotage or disruption," it said.

In 2015, the New York Times reported that Russian submarines and spy ships were operating "aggressively" near undersea cables from the North Sea to north-east Asia.

It is not just Russia under suspicion. A report by Taiwan's national audit office this year said foreign ships had damaged cables linking the country with its outer islands 36 times since 2019, with 12 incidents registered last year. The damage was caused by a variety of vessels including fishing boats, cargo boats and sand dredgers.

In February last year, two cables linking Taiwan to its outlying Matsu Islands were damaged within days of each other by a Chinese fishing boat and a Chinese cargo vessel, causing slower internet connections and dropped phone calls, in what one analyst described as a dry run for an "invisible blockade" of Taiwan.

This year, Houthi rebels in Yemen denied targeting cables in the Red Sea after lines belonging to four big telecom networks were damaged.

There are more than 100 submarine cable faults each year, according to Recorded Future, which are defined as incidents where the cables are damaged or severed entirely, disrupting their ability to transmit data. The majority of damage is accidental, often caused by trawler nets or ships dragging their anchors or, in one case in 2022, a volcanic eruption off the coast of Tonga.

Howard Kidorf, a managing partner at Pioneer Consulting, which advises companies on submarine cable networks, says the steel-wrapped lines can be cut "somewhat easily" if rogue actors want to cause disruption. "To sever a cable deliberately, most malign agents would use the same means as an accidental break: an anchor or other grapple at the end of a rope of chain," he says.

Until the late 1950s, shark bites were also a problem for telegraphic cables, although no such attacks have occurred in recent decades, according to the International Cable Protection Committee, which says the majority of cable faults since 1959 have been caused by fishing and anchors.

Repairs can be expensive and time-consuming. A submarine cable costs about \$40,000 a mile and a new transatlantic cable would cost between \$200m and \$250m, according to the research group Dgtl Infra. At their deepest point, transatlantic cables reach about 4,000 metres.

Recorded Future has also noted that Chinese state-owned or affiliated entities have sought a greater stake in the global submarine cable network, which it claims is “almost certainly increasing China’s ability to manipulate, surveil and interfere with worldwide data flows”.

Now it is a question of how much disruption state actors can, or wish to, cause.

<https://amp.theguardian.com/world/2024/nov/22/wire-cutters-how-the-worlds-vital-undersea-data-cables-are-being-targeted>

UK war tech sent to Russia by Insta model's firm, documents seen by BBC show A selfie of Valeria Baigascina taken in a rooftop pool in Kuala Lumpur, with the striking skyline with tall towers behind her. Her long dark hair is

Angus Crawford and Tony Smith
BBC News Investigations

20 November 2024

<https://www.bbc.co.uk/news/articles/cn4vzlx1350o>

High-tech equipment made by a UK firm worth \$2.1m (£1.6m) has been sold to companies in Russia connected to the military, customs documents seen by BBC News suggest.

The documents indicate the British-made camera lenses were shipped by a company registered in Kyrgyzstan, apparently run by a swimwear model.

The UK manufacturer, Beck Optronic Solutions, which has worked on British Challenger 2 tanks and F35 fighter jets, told us it had not breached sanctions, had no dealings with Russia or Kyrgyzstan, and was unaware of the shipments.

Our investigation raises questions about the effectiveness of sanctions imposed on Russia since the war in Ukraine began.

The trail led us to Valeria Baigascina, a 25-year-old, originally from the Central Asian state of Kazakhstan but now living in Belarus. A part-time model, she posts regularly about her jet-set lifestyle on social media. In the past two years she has visited Dubai, Sri Lanka and Malaysia.

Her social media gave no indication she was also the director of a firm which had channelled millions of dollars’ worth of equipment to sanctioned companies in Russia, as our search of customs documents revealed.

According to Belarusian registration details, Ms Baigascina was the founder and director of a company called Rama Group LLC. Set up in February 2023, it is registered to an address in Bishkek, the capital of Kyrgyzstan - 2,300 miles (3,713 km) from her home in Belarus.

Both countries are former Soviet states with strong trading links to Russia. Belarus remains Moscow’s strongest ally in Europe.

A map showing the locations of Beck Optronic Solutions in Hemel Hempstead, UK, and of Rama Group LLC and Shisan LLC in Bishkek, Kyrgyzstan, as well as Belarus, where Valeria lives, Russia, and Ukraine.

The map also shows Crimea, which was annexed by Russia in 2014.

Trade data shows that since sanctions on Russia were introduced in February 2022, UK exports to Kyrgyzstan have increased by more than 300%. Experts suspect some goods are actually destined for Moscow.

The customs documents obtained by the BBC suggest that Rama Group made two shipments to Moscow of high-end optics that can be used in missiles, tanks and aircraft.

The equipment is listed on the customs form as being made by Beck Optronic Solutions in Hemel Hempstead, Hertfordshire. The company manufactures high-precision lenses used in targeting and surveillance systems.

Though some of its lenses are used in healthcare and engineering, Beck’s website details extensive military and defence applications.

The lenses and optical technology sold by Beck Optronics are specifically listed as goods that either cannot be legally exported to Russia, or that need permission from UK authorities before any sale can take place.

An extract from customs documents in cyrillic script, detailing “Beck Optronic Ltd” as manufacturer, “Rama Group LLC” in Bishkek as supplier and Russia as a destination country.

The BBC has identified, through customs documents, a total of six shipments of products said to have been made by Beck with a total value of \$2.1m (£1.6m) and transferred to Moscow through Rama and another intermediary company, Shisan LLC.

In December 2023 and January 2024, Rama Group made its two shipments to Moscow listing them as “rotating part of camera”. These shipments went to Sol Group, a company based in Smolensk, 200 miles (320km) south-west of Moscow, which has been sanctioned by the US.

It is not clear what international route the goods took - the documents indicate some of the shipments may actually have originated in Thailand.

Shisan LLC, another Kyrgyz company, was responsible for four further shipments of Beck Optronics’ products worth \$1.5m (£1.1m).

Two of those shipments involved “short-wave infrared camera lens” and went to the Ural Optical & Mechanical Plant, which makes bomb-aiming equipment and is also sanctioned because of its links to the Russian military.

Rama Group and Shisan share the same address in Bishkek - a modern five-storey block in a prosperous part of the city. However, when we visited we were told Valeria Baigascina was out of the country on a business trip.

We found her number through her social media posts and put our allegations to her.

A young woman with long brown hair poses with an automatic rifle in what could be a shooting range. She is looking through the telescopic lens, with the muzzle of the gun facing the camera. She has bright yellow nail varnish and wears a leather jacket.

Ms Baigascina said she was the founder of the company but had sold it in May. She denied the allegations, saying that when she had owned it, “nothing like that was supplied”. She then hung up.

Later, by email, she told us the accusations were “ridiculous” and based on “false information”.

Our research shows that in May this year she sold Rama Group to her best friend, Angelina Zhurenko, who runs a lingerie business in Kazakhstan.

Ms Zhurenko told us: “Trading activities are carried out exclusively within the framework of the current legislation of Kyrgyzstan. The company does not violate any prohibitions. Any other information is false.”

In a selfie taken at sunset, a young woman with brown hair tied back is sitting outside a wooden gite. She wears a low-cut grey top, earrings and sunglasses, and is smiling at the camera.

Angelina Zhurenko runs a lingerie business in Kazakhstan and also travels a lot.

The director of the other intermediary company, Shisan, is listed as Evgeniy Anatolyevich Matveev. We put our allegations to him by email.

He told us that our information was “false” and that he ran “a business supplying exclusively civilian goods manufactured in Asian countries”.

He continued: “This does not contradict the laws of the state in which I work, and has nothing to do with US sanctions, because it is impossible to prohibit free trade in Asian goods available for sale and delivery.”

There’s no evidence that Beck Optronics knew about these shipments or that the final destination of the lenses was Russia.

The company told us it had nothing to do with the shipments: “Beck has not shipped anything contrary to UK export controls or any sanctions applying in the UK. It has had no dealings with any party or company in Russia, Kyrgyzstan or Thailand, was not aware that any shipments might ultimately be destined for any of these destinations and has not shipped anything to these destinations.”

It believes some of the equipment listed wasn’t even made by the company and that customs documents may have been falsified.

But these alleged exports are part of a much bigger picture involving shipments from a number of sources.

Analysis of customs documents by the Washington-based security think tank C4ADS suggest that Shisan completed 373 shipments via Kyrgyzstan to Russia between July and December 2023.

Of these, 288 contained goods that fall under customs codes for “high-priority battlefield items”.

Over the same six-month period, Rama Group completed a total of 1,756 shipments to Russia. Of these, 1,355 were for items on the “high-priority battlefield items” list.

Its most recent shipments, including electronics by US and UK companies, went to a Russian company named Titan-Mikro, which has been subject to US sanctions since May 2023 for operating within Russia’s military sector.

“When they sell this technology to a client who is potentially a Russian end-user, they fully should understand that this is to kill people,” says Olena Tregub from NAKO, Ukraine’s independent anti-corruption organisation.

She warns that the holes in the sanctions regime are costing lives.

“Without those technologies, those weapons would not fly. The brain of those ballistic missiles, the brain of those kamikaze drones, are made of Western technology,” she says.

David Cameron - then British Foreign Secretary - met the Kyrgyz Foreign Minister Jeenbek Kulubaev in April and urged him to tighten the country's sanctions compliance.

International authorities are aware of Kyrgyzstan’s role in sanctions evasion.

In April, UK’s foreign secretary at the time, David Cameron, travelled to Bishkek and urged the Kyrgyz authorities to do more to tighten their sanctions' compliance.

The Kyrgyz president expressed confidence that Lord Cameron’s official visit to his country would “give new impetus to multifaceted co-operation between Kyrgyzstan and the UK”.

David O’Sullivan, the EU’s Special Envoy for the Implementation of Sanctions told us that efforts continue to shut down “illicit procurement networks”, and that “companies are required to undertake due diligence checks to understand who is the final end-user and where ‘battlefield items’ end up ultimately”.

<https://www.bbc.co.uk/news/articles/cn4vzlx1350o>

Russian spy ship escorted away from area with critical cables in Irish Sea

Yantar intelligence ship was seen operating drones in an area containing subsea energy and internet infrastructure

Lisa O'Carroll in Dublin
Sat 16 Nov 2024 11.03 GMT

<https://www.theguardian.com/world/2024/nov/16/russian-spy-ship-escorted-away-from-internet-cables-in-irish-sea>

A Russian spy ship has been escorted out of the Irish Sea after it entered Irish-controlled waters and patrolled an area containing critical energy and internet submarine pipelines and cables.

It was spotted on Thursday east of Dublin and south-west of the Isle of Man but Norwegian, US, French and British navy and air defence services initially observed it accompanying a Russian warship, the Admiral Golovko, through the English channel last weekend.

A British submarine hunter tracking a Russian submarine in the North Sea north-west of Bergen, Norway, in July 2022
Russian spy network operating in North Sea, investigation claims

Read more

The Irish navy ship the LÉ James Joyce escorted it out of the Irish exclusive economic zone (EEZ) at about 3am on Friday with the air corps continuing to monitor its movements as it headed south.

Its presence has raised fresh concerns about the security of the interconnector cables that run between Ireland and the UK carrying global internet traffic from huge datacentres operated by tech companies including Google and Microsoft, which have their EU headquarters sited in Ireland.

The sighting of the Russian intelligence ship came as British defence forces monitored other Russian vessels near its eastern coastal waters. On Thursday, British jets were also scrambled to monitor a Russian reconnaissance aircraft flying close to UK airspace, the Ministry of Defence said.

The ship was also spotted on Monday and Tuesday west of Cork, where there are another set of connectors between Ireland and France, some offering transatlantic interconnection.

At one point it was positioned just inside the Irish EEZ, 5-7km (3.1 to 4.3 miles) north of the cables connecting Ireland and the UK.

Edward Burke, an assistant professor in the history of war at University College Dublin, told the Examiner the situation was alarming.

“Once again we see the Russian navy probing the defences of western Europe. It’s yet another wake-up call – one that we shouldn’t need – that Ireland needs to bolster its naval capabilities and deepen its maritime security partnerships in Europe,” he said.

It is understood defence forces in Ireland observed the ship operating three drones over Irish waters, raising fears it was conducting surveillance.

Concerns over critical infrastructure around Europe have been raised on multiple occasions this year after the alleged sabotage of the Baltic gas pipeline and undersea internet cables between Finland and Estonia. In August, China admitted that a Hong Kong-flagged ship damaged the pipeline but said it was accidental.

The Yantar is officially classed as an auxiliary general oceanographic research vessel with underwater rescue capabilities. It is tasked by an arm of the Russian defence ministry and is separate from its navy.

It can deploy deep-diving submersibles and has been seen operating close to seabed infrastructure on a number of occasions by open source intelligence analysts, according to Navy Lookout intelligence analysts. The analysts said the ship’s mission was “probably more about strategic signalling and intelligence gathering” than sabotage.

Irish and British defence forces have worked together since the vessels entered waters off the coast of the UK with a significant multinational operation put in place.

The Yantar was travelling with Golovko and a tanker, Vyazma, and both vessels were monitored throughout their journey in the English channel by RFA Tideforce and HMS Iron Duke.

They then handed over surveillance to the French as it headed out of the English channel with the British navy also shadowing another Russian vessel heading north towards the Baltics.

When the Yantar broke away from the Golovko and headed north into the Irish sea, it was shadowed by HMS Cattistock, with the operation becoming public when the ship activated its automatic identification for about four minutes on Thursday when it was south of the Isle of Man.

According to reports, it switched off its transponders transmitting its position after entering the Irish EEZ but the Irish vessel continued to shadow it.

They tried to make contact with the ship but Russian personnel did not respond and at about 3am on Friday it left the waters and headed south.

<https://www.theguardian.com/world/2024/nov/16/russian-spy-ship-escorted-away-from-internet-cables-in-irish-sea>

Sweden

Critical undersea internet cables severed amid fears of Russian sabotage Incidents happened in vicinity of the Swedish island of Gotland, in the Baltic Sea, on Monday

Jörg Luyken
in Berlin

18 November 2024 9:34pm GMT

<https://www.telegraph.co.uk/world-news/2024/11/18/critical-undersea-internet-cable-severed-amid-fears-of-russ/>

The incident happened in the vicinity of the Swedish island of Gotland, in the Baltic Sea, early on Monday morning.

A further cable was also found to be impacted later, according to Cinia, the state-controlled Finnish company that manages the link. The second line runs almost 730 miles next to gas pipelines and power cables.

Cinia said a repair ship had been sent to investigate the cause of the outage, which has hit the only cable connecting the country to central Europe.

Finland's communications agency said most internet users would not notice Monday's outage, with the country able to fall back on cables running through other parts of the continent.

The company said that, while there was no indication that the damage was sabotage, it was likely to have been the result of human activity.

"At the moment, there is no way to assess the cause of the cable break, but such breaks without external impact do not happen in these waters," said Ari-Jussi Knaapila, the chief executive of Cinia.

However, he cautioned that the damage could have been caused by a trawler or a ship that had put down an emergency anchor. The company pointed out that the fibre optic cables are sheathed in a double-armoured steel casing.

Finland is on high alert about possible espionage from Russia after it joined Nato, ending decades of neutrality.

Nato intelligence officials warned in September that Russia was building up a secretive submarine unit tasked with sabotaging undersea infrastructure, while Dmitry Medvedev, a former Russian president, said such cables were fair game because of Western "complicity" in the sabotage of the Nord Stream gas pipeline.

On Monday, the transport and communications ministry in Helsinki issued new crisis guidelines to the country's population, which include information on what to do in the event of disruptions to telecommunications infrastructure.

With Russia now surrounded by Nato states in the Baltic, its waters are seen as most vulnerable to attempts to disrupt key energy and communications lines.

Most dramatically, the Nord Stream pipeline, which brought Russian natural gas to Germany, was blown up half a year after Russia invaded Ukraine. While investigations into that incident continue, the saboteurs are believed to have been sent from Kyiv.

In October last year, a Chinese cargo vessel damaged a gas line between Finland and Estonia with its anchor. The Chinese authorities' explanation that the incident was an accident has been viewed with suspicion in the West.

<https://www.telegraph.co.uk/world-news/2024/11/18/critical-undersea-internet-cable-severed-amid-fears-of-russ/>

Guyana

Venezuela-orchestrated cyber operations targeting Guyana – Dr Levis By Staff Editor November 16, 2024

<https://www.stabroeknews.com/2024/11/16/news/guyana/venezuela-orchestrated-cyber-operations-targeting-guyana-dr-levis/>

Assistant Director of the National Defence Institute (NDI), Dr Seon Levis has highlighted cyber operations orchestrated by Venezuela which are targeting Guyana.

According to a release from the NDI he was speaking at a CEO Cybersecurity Workshop.

A release today from the NDI said that Dr Levis delivered a hard-hitting exposé "on Venezuela's orchestrated cyber operations targeting Guyana. He unveiled the faces, names, and organizations behind the malicious campaign to undermine Guyana's sovereignty over the Essequibo Region". Using high-definition visuals and intelligence, the release said that Dr. Levis detailed the tactics employed, from disinformation campaigns and ransomware attacks to phishing schemes aimed at destabilizing institutions.

"Let there be no doubt—Guyana knows exactly what is happening, and we are not defenceless," Dr. Levis declared, "underscoring the nation's superior countermeasures".

The release did not provide any information on those carrying out the cyber operations.

The release said that a key highlight of the conference was the presentation by Colonel Sheldon Howell, Chairman of the Advisory Board of the NDI and Director of the National Intelligence and Security Agency (NISA).

“Colonel Howell provided practical insights into the policy, implementation, and governance of national cybersecurity. Drawing on his extensive experience, he emphasized the need for a cohesive national strategy to combat cyber threats and highlighted the critical role of public-private partnerships in building a resilient digital infrastructure. His pragmatic approach offered participants a clear roadmap for translating policy into action”, the release said.

Opening the workshop, the release said that NDI Director Dr. Randolph Persaud stated “The National Defence Institute is more than an entity; it is the cornerstone of our nation’s resilience against emerging threats”.

<https://www.stabroeknews.com/2024/11/16/news/guyana/venezuela-orchestrated-cyber-operations-targeting-guyana-dr-levius/>

Ed: It's worth remembering here that the CARICOM, HQ building in Guyana, accepted IT from China, followed by Chinese 'sourced' software. In addition, since becoming an oil rich nation Guyana has contracts for road, telecommunications and bridges being met by China. The CARICOM building is a very nice piece of architecture.

Israel

Iran managing to recruit surprising number Jewish Israelis for spying ops Recruits are initially tasked with carrying out innocuous tasks for money; later missions to assassinate high-profile figures have so far been foiled by security services

By Reuters and ToI Staff
11 December 2024, 11:15 pm

<https://www.timesofisrael.com/iran-managing-to-recruit-surprising-number-jewish-israelis-for-spying-ops/>

Moti Maman, accused of being recruited by Iran to advance an assassination plot of Israel's prime minister, defense minister, or the head of the Shin Bet, is seen in a court in Beersheba on September 19, 2024. (Dudu Greenspan/Flash90)

Moti Maman, accused of being recruited by Iran to advance an assassination plot of Israel's prime minister, defense minister, or the head of the Shin Bet, is seen in a court in Beersheba on September 19, 2024. (Dudu Greenspan/Flash90)

Israel’s recent arrests of almost 30 mostly Jewish citizens who allegedly spied for Iran in nine covert cells has caused alarm in the country and points to Tehran’s biggest effort in decades to infiltrate its arch-foe, four Israeli security sources said.

Among the unfulfilled goals of the alleged cells was the assassination of an Israeli nuclear scientist and former military officials, while one group gathered information on military bases and air defenses, the Shin Bet security service has said. Last week, the agency and Israel’s police said a father and son team from a northern Druze village had passed on details of Israeli force movements including in the Golan Heights where they lived.

The arrests follow repeated efforts by Iranian intelligence operatives over the past two years to recruit ordinary Israelis to gather intelligence and carry out attacks in exchange for money, the four serving and former military and security officials said.

The sources asked not to be named due to the sensitivity of the matter.

“There is a large phenomenon here,” said Shalom Ben Hanan, a former top Shin Bet official, referring to what he called the surprising number of Jewish citizens who knowingly agreed to work for Iran against the state with intelligence gathering or planning sabotage and attacks.

Security forces arrest two residents of the northern Druze village of Mas’ade on suspicion spying for Iran’s IRGC Quds Force, in a photo cleared for publication on December 6, 2024. (Israel Police)

In a statement sent to media after the wave of arrests, Iran’s UN mission did not confirm or deny seeking to recruit Israelis and said that “from a logical standpoint” any such efforts by Iranian intelligence services would focus on non-Iranian and non-Muslim individuals to lessen suspicion.

At least two suspects were from the ultra-Orthodox community, police and the Shin Bet have said.

Unlike Iranian espionage operations in previous decades that recruited a high-profile businessman and a former cabinet minister, the new alleged spies were largely people on the fringes of Israeli society, including recent immigrants, an army deserter, and a convicted sex offender, conversations with the sources, court records, and official statements show.

Much of their activity was limited to spraying anti-Netanyahu or anti-government graffiti on walls and damaging cars, Shin Bet has said.

Nonetheless, the scale of the arrests and involvement of so many Jewish Israelis, in addition to Arab citizens, has caused concern in Israel at a time when it remains at war with Iran-backed Hamas in Gaza and when a ceasefire deal with Hezbollah remains fragile.

The Shin Bet on October 21 said the espionage activities were “among the most severe the state of Israel has known.”

The arrests also follow a wave of attempted hits and kidnappings linked to Tehran in Europe and the United States.

The unusual decision to provide detailed public accounts of the alleged plots was a move by Israel’s security services to signal both to Iran and potential saboteurs inside Israel that they would be caught, Ben Hanan said.

“You want to alert the public. And you also want to make an example of people that may also have intentions or plans to cooperate with the enemy,” he said.

Military personnel stand near the flag-draped coffin of Mohsen Fakhrizadeh, a top nuclear scientist allegedly killed in an Israeli intelligence operation, during a funeral ceremony in Tehran, Iran, November 30, 2020. (Iranian Defense Ministry via AP)

Israel has achieved major intelligence successes over the past few years in a shadow war with its regional foe, including allegedly killing a top nuclear scientist. With the recent arrests Israel has “so far” thwarted Tehran’s efforts to respond, one active military official said.

Israel has been in direct conflict with Iran’s proxies since war erupted last year when Hamas-led terrorists rampaged across southern communities on October 7, 2023, slaughtering some 1,200 people, mostly civilians, and taking 251 hostages to Gaza.

Iran has been weakened after Hezbollah initiated a conflict with Israel following Hamas’s October 7 massacre, leading to the elimination of most of the terror group’s leadership and military infrastructure, and after the related fall of Tehran’s ally, former president Bashar al-Assad in Syria.

Iran has launched two ballistic missile attacks against the Jewish state since last April, after the second of which Israel carried out a wave of airstrikes that crippled the Islamic Republic’s air defense systems.

Iranian intelligence agencies often find potential recruits on social media platforms, Israel Police said in a video released in November warning of ongoing infiltration attempts.

The recruiting efforts are at times direct. One message sent to an Israeli civilian and seen by Reuters promised \$15,000 in exchange for information, with an email and number to call.

Iran has also approached expatriate networks of Jews from Caucasus countries living in Canada and the United States, said one of the sources, a former senior official who worked on Israel's counter-espionage efforts until 2007.

Israeli authorities have said publicly some of the Jewish suspects were originally from Caucasus countries.

These screenshots released by the Shin Bet on August 8, 2024, show fake social media profiles run by Iranian operatives. (Shin Bet)
Recruited individuals are first assigned innocuous-seeming tasks in return for money, before handlers gradually demand specific intelligence on targets, including about individuals and sensitive military infrastructure, backed by the threat of blackmail, said the former official.

One suspect, Vladislav Viktorson, 30, was arrested on October 14 along with his 18-year-old girlfriend in the city of Ramat Gan near Tel Aviv. He had been jailed in 2015 for sex with minors as young as 14, according to a court indictment from that time.

An acquaintance of Viktorson told Reuters he had told her he had spoken to Iranians using the Telegram messaging app. She said that Viktorson had lied to his handlers about his military experience. The acquaintance declined to be named, citing safety fears.

Igal Dotan, Viktorson's lawyer, told Reuters he was representing the suspect, adding that the legal process would take time and that his client was being held in tough conditions. Dotan said he could only respond to the current case and had not defended Viktorson in earlier trials.

Shin Bet and police said Viktorson knew he was working for Iranian intelligence, carrying out tasks including spraying graffiti, hiding money, posting flyers, and burning cars in the Hayarkon Park in Tel Aviv for which he received over \$5,000.

According to the investigation made public by the security services, he was found to have subsequently agreed to carry out an assassination of an Israeli personality, throw a grenade into a house, and also look to obtain a sniper rifle, pistols, and fragmentation grenades.

He recruited his girlfriend, who was tasked with recruiting homeless people to photograph demonstrations, the security services said.

<https://www.timesofisrael.com/iran-managing-to-recruit-surprising-number-jewish-israelis-for-spying-ops/>

Lithuania

Lithuanian Politician Arrested, Suspected of Spying for Russia

Dec. 9, 2024

<https://www.themoscowtimes.com/2024/12/09/lithuanian-politician-arrested-suspected-of-spying-for-russia-a87276>

Lithuanian prosecutors said Monday the Baltic state had arrested a member of the opposition Conservative party this year on charges of spying for Russia.

The EU and NATO member state of 2.8 million people is one of Ukraine's staunchest supporters, and fears it could be in Russia's crosshairs next if Moscow were to win its war against Kyiv.

The suspect, a dual Lithuanian and Russian citizen, was deported as a toddler to Russia with his parents in the 1940s during Lithuania's Soviet occupation.

"He has dual citizenship of Lithuania and Russia, belongs to Lithuanian Christian Democrats and the Union of Lithuanian exiles and political prisoners," Arturas Urbelis, from the prosecutor general's office, told reporters.

Urbelis said the man was suspected of gathering information for Russia's GRU intelligence agency beginning in 2018. He collected information about Lithuanian political parties and defense capabilities, as well as the people deported to Russia under Soviet occupation.

"The information collected was not classified but it was significant and in the interest of Russia," Lithuanian deputy chief of intelligence Remigijus Bridikis told journalists.

Urbelis said the suspect and Russian intelligence operatives had used specialized radios to transmit information via encrypted radio waves.

Authorities refused to reveal the suspect's identity but two sources speaking on condition of anonymity told AFP it was 82-year-old Eduardas Manovas.

They said he returned to Lithuania in 1997 — a few years after it regained independence — and lived in the northern city of Siauliai.

The chairman of the conservative party told reporters they had asked officials to confirm that Manovas was under criminal investigation, in which case the party would expel him.

<https://www.themoscowtimes.com/2024/12/09/lithuanian-politician-arrested-suspected-of-spying-for-russia-a87276>

United States of America

John Kinsel, US Marine who used his native Navajo tongue as code to outfox the Japanese He landed in Guadalcanal then saw action at Bougainville, lost his hearing under shelling on Guam, and was finally invalided at Iwo Jima

20 November 2024 10:12am GMT

<https://www.telegraph.co.uk/obituaries/2024/11/20/john-kinsel-navajo-code-talker-us-marine-japanese-guam/>

John Kinsel: devised by a cohort of Navajo, the code substituted a Navajo word for each English alphabet letter and for common military terms
John Kinsel, who has died aged 103 (or possibly 107), was one of the last surviving Navajo Code Talkers, recruited by the US Marines in the Second World War to baffle Japanese cryptologists by sending messages in their native language.

The Americans had pioneered the use of Native American speakers to send secure messages in the First World War, and the practice was resurrected ad hoc in the Second World War, if a unit had enough speakers from the same tribe to make it viable. The Marines' programme, however, differed in being far more extensive and systematic.

It was born out of necessity, after the Japanese proved adept at breaking the codes that the Americans had time-consumingly devised. The idea came from Philip Johnston, a civil engineer in the Los Angeles shipyards who had been raised by his missionary parents on a Navajo reservation, and had read that Comanches were using their own language in training manoeuvres. In mid-1942 he was made director of a Navajo Code Talker training school at Camp Elliott.

The Code itself was devised by a cohort of 29 Navajo, who substituted a Navajo word for each English alphabet letter, and for common military words. John Kinsel was in the second cohort to be trained at Camp Elliott by the original 29, memorising over 400 terms, and helping them to devise extra words such as "route", using the Navajo for "rabbit trail". His own Navajo name, Hash-keh Nah-adah, meant "leader who does a lot of talking".

Fresh out of high school, he breezed through the tests for complicated words like "amphibious" and "infiltrators". He was tough and self-sufficient, the product of an early life that had been far from easy.

Born on January 22 (accounts vary as to whether the year was 1921 or 1917) on the Navajo reservation near Lukachukai, Arizona, he was a baby when he lost his father, and grew up herding his grandfather's 1,000 sheep. His stepfather was indifferent to him, and he was parked in a disciplinarian government boarding school at Fort Defiance, where he was bullied, underfed and failed to learn English. "I probably just knew 'yes' and 'no'," he recalled. The language only came to him in 1929, when his grandfather moved him to St Michael Indian School, run by nuns.

In 1942 he joined the 9th Marine Regiment. After Camp Elliott, he spent eight months training in New Zealand before in 1943 landing in Guadalcanal, scene of the ferocious battle the year before and still subject to Japanese bombing. They nicknamed the noisy enemy aircraft "Washing Machine Charlie".

He first saw action in late 1943, at the Battle of Bougainville, where the jungle was so thick he lost any sense of where the front line was. When a coded message was needed, someone would say "New Mexico" or "Arizona", cue for the Navajo signallers.

In July 1944 he landed on Guam, struggling through rice paddies under heavy fire from three Japanese positions. "It was just like lightning," he recalled. His hearing never recovered. He could see the Japanese picking out high-value Marine targets with their binoculars. Later, he encountered decapitated Guamanian citizens, their hands tied behind their backs, but he did not disturb the bodies as they were often booby-trapped.

In February 1945 he joined the Battle of Iwo Jima five days after the initial landing, sprinting across the airfield to avoid the bullets which "you could see ricocheting off the floor". He spent that night in a hole under heavy mortar and machine-gun fire. The next day, the transmission station he had set up in a nearby cave was blown up by the Japanese, and a boulder hit him in the leg. He was evacuated to the USA by ship and a fellow Navajo aboard brought him cake and ice-cream.

To reach his family on the reservation he had to walk the last seven miles with a suitcase. "It was the best day of my life, when I saw my mom," he later said. The medicine man performed a ceremony to rid him of the war.

Postwar he found work at a school, walking 20 miles each way, and built a log cabin where he lived until his final years.

His war work was classified until 1968. In 1989 Kinsel received a Silver Heart and in 2001 a Congressional Silver Medal for his role as a Navajo Code Talker, of whom only two others are thought now to survive.

His survivors include a son, who found Catholic records that suggest his father may have been born in 1917, rather than 1921 as John Kinsel had believed, which would make him 107 at the time of his death.

John Kinsel, born January 22 1917 or 1921, died October 19 2024

<https://www.telegraph.co.uk/obituaries/2024/11/20/john-kinsel-navajo-code-talker-us-marine-japanese-guam/>

Morse - Number Stations

Morse 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

UM05 CW on 7542.8 kHz:- From PoSW

The cessation of this station on 5345.8 - a frequency used off and on since October of 2023 - had been noted in the third week of October of 2024.

Some of us were not aware that it had relocated to 7542.8 until we were made aware of the fact with the publication of newsletter 145. A search had been made for activity on another frequency but without success, although when tuning around on a conventional radio receiver it would be easy to miss this one because there was a strong, and at times very strong, FSK/RTTY station on the HF side although this vanished after a while and at certain times of the day side-band splash from a broadcast station on the lower. Also, the signal was somewhat weaker than was the case on 5345.8.

Update:- Must have ceased activity on this frequency sometime after 29-November, was active on this day but nothing heard when the frequency was monitored again in early December and has not been heard during the remainder of the month. The original frequency has been monitored from time to time in case there had been a return but nothing heard there either.

A few observations from the month of November 2024:-

10-Nov-24 Sunday:- 0748 UTC, sending "M". 0803 UTC, "H"
11-Nov-24 Monday:- 0734 UTC, "MONTAGNE". 1531 UTC, "PONT".
13-Nov-24 Wednesday:- 0718 UTC, "PROBLEME".
15-Nov-24 Friday:- 0858 UTC, "RADIO", a few minutes later changed to "COLLEGE".
17-Nov-24 Sunday:- 1544 UTC, "REPOSE".
20-Nov-24 Wednesday:- 0905 UTC, "CACTUS".
24-Nov-24 Sunday:- 0916 UTC, "FEUILLE".
25-Nov-24 Monday:- 1545 UTC, "ROUGE", changed to "N" at approx 1547z.
27-Nov-24 Wednesday:- 0912 UTC, "ORDINATEUR".
29-Nov-24 Friday:- 0824 UTC, "RACINE".
1453 UTC, "TAKAHE" - the only meaning I can find for this word - if I read it correctly - is the name of a flightless bird native to New Zealand.

[Thank you Peter, as always, for your detailed & interesting reports]

Morse - Number Stations

M01/1 XIV MCW, hand (197 sched for Nov - Feb). Will change to M01/2 sched ID 463 for Mar - Apr.

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

Nov 2024:

4490	2000z	05 Nov	'197' 215 30 == 15367 92635 ... 34278 59067 ==	Fair with QSB, noisy. Fast delivery. Errors noted	BR	TUE
	2000z	07 Nov	'197' 876 30 == 57395 47194 ... 48357 18394 ==	Fair, noisy, fast. Several errors noted	BR/HFD	THU
	2000z	12 Nov	'197' 616 30 == 24189 35247 ... 64573 91827 ==	Good, fast. Good Morse with some hesitation. No errors	BR	TUE
	2000z	19 Nov	'197' 753 30 == 84758 76896 ... 58394 85746 ==	Fair/Good. Good Morse. No errors	BR	TUE
	2000z	21 Nov	'197' 993 30 == 55376 29093 ... 55376 22765 ==	Fair/Good. Rushed delivery with pauses & errors	BR	THU
	2000z	28 Nov	'197' 099 30 == 30985 38723 ==	Started strong & faded to nothing by end of message	BR	THU
5320	1800z	05 Nov	M01 present but owing to a strong blank carrier on freq., no useful copy was possible		BR	TUE
	1800z	07 Nov	'197' 123 30 == 64536 75648 ... 75648 75860 ==	Fair. Some grps repeated later in msg. 38 Grps sent	BR/HFD/Jan	THU
	1758z	12 Nov	'197'	Weak, Poor copy	PLdn	TUE
	1800z	19 Nov	'197' 412 30 == 64537 65748 ... 7...9 02938 ==	Weak/Fair Slow QSB. Good Morse. Poor copy in places	BR	TUE
	1800z	26 Nov	'197' 123 30 == 48104 57184 ... 68957 16483 ==	Fair. Fast. Many errors inc. false start & format errors	BR	TUE
	1800z	28 Nov	'197' 898 30 38746 23983 ... 456 .5 4582	Fair, fast. Last grp cut off followed by long pause	BR	THU
5465	0700z	03 Nov	'197' 445 30 == 73482....		HFD	SUN
5810	1500z	02 Nov	'197' 383 30 == 91243 99342 ... 88453 77231 ==	Fair, fast. Excellent Morse. No errors. Many paired figs	BR/HFD	SAT
	1500z	09 Nov	'197' 212 30 == 14356 04527 ... 24378 46137 ==	Fair, fast. Good Morse. No noted errors	BR	SAT
	1500z	16 Nov	'197' 465 30 == 75643 86759 ... 78465 76538 ==	Good, fast. Hesitant with pauses. Grp09 sent three times	BR	SAT
	1500z	23 Nov	'197' 713 30 == 91734 581049477 ==	Fair/Good. Fast delivery. Last 2 grps wiped by BC stn.	BR	SAT

Dec 2024:

4490	2000z	03 Dec	'197' 369 30 == 53676 19366 ==	Weak, fast. Many errors in call-up. Very poor copy	BR	TUE
	2000z	05 Dec	'197' 231 30 == 91827 47581 ... 19283 74658 ==	Good, fast. Perfect sending except correction in grp10	BR	THU
	2000z	10 Dec	NRH Band conditions?		BR	TUE
	2000z	16 Dec	'197' 719 30 == 84759 16273 ... 48576 19203 ==	Good, Med-fast. Ending 000 with 6 x 'dits' between each	BR	TUE
	2000z	19 Dec	'197' 345 30 == 4058 . 123 ... 45934 39201 ==	Weak/Fair. Poor copy in places. Chaotic errors in call-up	BR	THU
	2000z	24 Dec	'197' 898 30 == 76847 17362 ... 12367 67867 ==	Fair, fast. Error grp04 63712 63172 - Otherwise perfect	BR	TUE
	2000z	26 Dec	'197' Extremely weak. No useful copy		BR	THU

	2000z	31 Dec	'197'	232 30 == 36575 00537 ... 65343 75343 ==	Fair, fast. Hesitant & confusing at start. Errors noted	BR	TUE
5320	1800z	19 Dec	'197'	404 30 == 45393 23093 ... 23096 00954 ==	Fair/Good. Hesitant at start. Errors noted. 26 grps sent	BR	THU
	1800z	24 Dec	'197'	234 30 == 56715 34271 ... 68371 78901 ==	Fair with QSB, fast. Odd pause in grp05 both sendings	BR	TUE
	1800z	26 Dec	'197'	230 30 14726 36901 ... 49583 90483	Fair with QSB. Excellent Morse. == missing. No errors	BR	THU
	1800z	31 Dec	'197'	456 30 == 64733 57463 ... 45676 37645 ==	Fair, fast. Chaotic errors in call-up. Several msg errors	BR	TUE
5810	1500z	07 Dec	'197'	798 30 == 47394 53204 ... 93076 36435 ==	Strong, fast. Hesitant in places with errors. End DK 789	BR	SAT
	1500z	14 Dec	'197'	839 30 82736 47586 ... 94857 23647	Good, fast. No == at start & end of msg. 29 grps sent	BR	SAT
	1500z	21 Dec	'197'	345 30 == 57493 59174 ... 48264 78953 ==	Fair/Good, fast. Ending 000 with 6 x 'dits' between each	BR	SAT

M01/1 5810kHz 1500z 02 November 2024

197 (R4m) 383 383 30 30 ==

91243 99342 00453 38342 77453 88342 77453 77213 88342 99453
91233 74533 92355 00123 88453 88231 99453 88334 99342 88453
01254 77346 88265 77234 04500 83422 99453 88123 88453 77231

== 383 383 30 30 000

(No errors – Note the number of paired figures in groups)

Courtesy BR

M01/1 4490kHz 2000z 05 December 2024

197 (R4m) 231 231 30 30 ==

91827 47581 94857 02938 74657 91827 75648 75648 93847 10293
75648 95867 27384 64546 92837 46574 28394 17283 84756 92837
84756 29384 47589 74658 19283 04958 18273 47589 19283 74658

== 231 231 30 30 0.....0.....0

(Corrected error in Grp10 omitted – Note 6 x 'dits' in ending)

Courtesy BR

M01- Weekly Transmissions (Sat / Sun 0715z)

Ary, (AB), sends logs of this odd weekly M01 – usually too weak a signal to be useable. This transmission uses CW sent in a 5-channel USB signal. Many thanks, Ary, for catching this rarely heard station & for sharing it with us.

M01	9566	0715z	21 Dec	'475'	195 30 == 62203 14061....64482 72560 ==	195 30 000	AB	SAT
	9566	0715z	22 Dec	'475'	195 30 == 62203 14061....64482 72560 ==	195 30 000	AB	SUN

M01 9566kHz 0715z 21/22 December 2024

475 (R) 195 195 50 50 ==

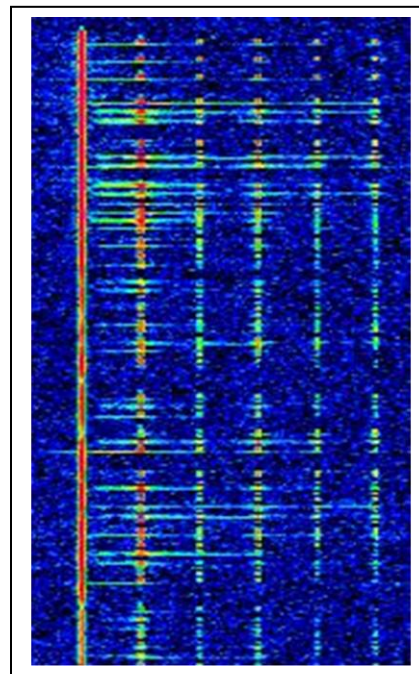
62203 14061 40545 08965 72438 89446 68986 55235 21659 30682
12703 63430 71598 34917 83570 71598 78845 53468 56331 79659
82391 93120 14775 76300 77589 38089 55706 40646 69887 78978
49349 41363 17328 02470 15926 20468 63273 78044 42868 81330
47887 84206 43681 73771 18855 79492 16946 27782 64482 72560

== 195 195 50 50 000

Note: on Sat 21 December Grp 17 consisted of 4 digits sent as 8845
With the correct grp sent on Sun 22 December.

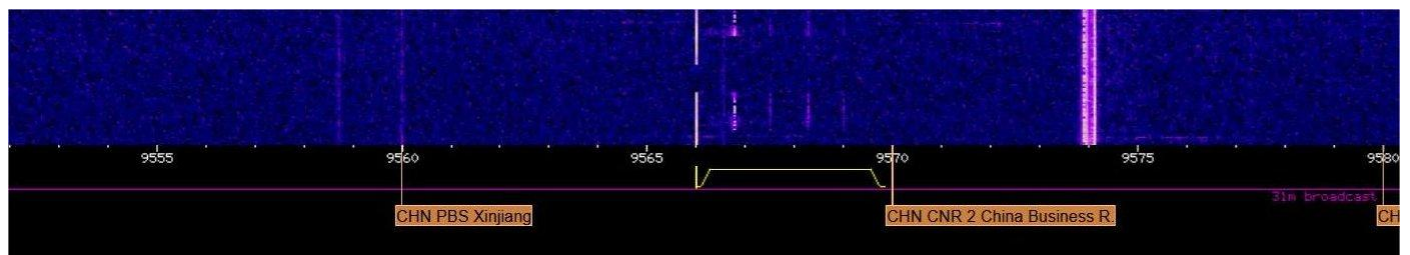
To Right is a waterfall screenshot of the signal in progress on Saturday, 21 December showing the odd transmission modulation method used consisting of 5- Channel CW within an SSB signal.

Courtesy AB



Hans-Friedrich, (HFD), also managed a copy on the station on the following Sunday:- Good catch HFD!

M01	9566	0715z	29 Dec	'475'	231 50 = [first] 6.1277 [.-.-.] [then] 61277		HFD	SUN
-----	------	-------	--------	-------	--	--	-----	-----



M01 9566kHz 0715z 29 Dec Image Showing Unusual Modulation Use of CW in SSB Signal *Courtesy HFD*

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

M12 Yearly repeat schedules available in 'Chart Section'

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.

Asiatic M12 Logs

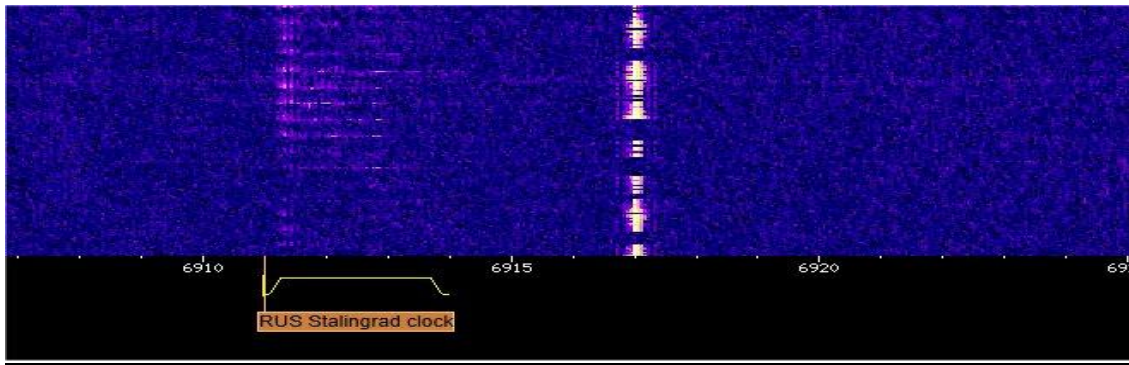
16275/15975/14675	0010/30/50z	04 Nov	296 1		(Via SDR Japan)	HFD	MON
16184/14784/13484	0300/20/40z	05 Nov	174 1		(Via SDR Japan)	HFD	TUE
14947/13447/12147	0010/30/50z	02 Dec	941 1		(Via SDR Japan)	HFD	MON
14354/12154/11154	0300/20/40z	03 Dec	311 1		(Via SDR Japan)	HFD	TUE

European M12 Logs

November 2024: New scheds in bold type

6859/7459/7959	2200/20/40z	01 Nov	849 1 (6095 103)	52300 58219....		BR/HFD	FRI
	2200/20/40z	02 Nov	849 1 (6095 103)	52300 58219....11878 50394 000 000		Gert	SAT
	2200/20/40z	08 Nov	849 1 (6095 103)	52300 58219....		BR	FRI
	2200/20/40z	09 Nov	849 1 (6095 103)	52300 58219....		BR	SAT
	2200/20/40z	15 Nov	849 000			BR	FRI
	2200/20/40z	16 Nov	849 000			BR	SAT
	2200/20/40z	22 Nov	849 1 (4298 77)	18055 19222....		BR	FRI
	2200/20/40z	23 Nov	849 1 (4298 77)	18055 19222....		BR	SAT
	2200/20/40z	29 Nov	849 000			BR	FRI
	2200/20/40z	30 Nov	849 000			BR	SAT
6917/5817/5117	2000/20/40z	01 Nov	981 1 (2672 85)	07877 35482.....		BR/HFD	FRI
	2000/20/40z	06 Nov	981 000			BR	WED
	2000/20/40z	08 Nov	981 000			BR	FRI
	2000/20/40z	13 Nov	981 1 (684 43)	03334 58472....		BR	WED
	2000/20/40z	15 Nov	981 1 (684 43)	03334 58472....		BR	FRI
	2000/20/40z	20 Nov	891 1 (684 43)	03334 58472....		BR	WED
	2000/20/40z	22 Nov	981 1 (684 43)	03334 58472....		BR	FRI
	2000/20/40z	27 Nov	981 000			BR	WED
2000/20/40z	29 Nov	981 000			BR	FRI	
10446/9046/7946	2300/20/40z	04 Nov	392 1 (3474 304)	49353 49503....		BR/HFD	MON
	2300/20/40z	11 Nov	392 000			BR	MON
	2300/20/40z	14 Nov	392 000			BR	THU
	2300/20/40z	18 Nov	392 1 (3579 59)	61968 93292....		BR	MON
	2300/20/40z	21 Nov	392 1 (3579 59)	61968 93292....		BR	THU
	2300/20/40z	25 Nov	392 000			BR	MON
	2300/20/40z	28 Nov	392 000			BR	THU
11435/10598/9327	1800/20/40z	07 Nov	938 1 (7657 57)	40354 56316....		BR/HFD	THU
	1800/20/40z	21 Nov	938 1 (8012 84)	73268 34064....		BR	THU
	1800/20/40z	28 Nov	938 1 (1367 75)	90232 76325....		BR	THU
11519/12194/13407	1100/20/40z	05 Nov	289 1 (8086 54)	12717 47198....		BR/HFD	TUE
	1100/20/40z	19 Nov	289 1 (5219 59)	47896 64780....		BR	TUE
	1100/20/40z	26 Nov	289 1 (7118 61)	99404 14780....		BR	TUE
13373/12173/10273	2310/30/50z	03 Nov	312 1 (354 127)	77404 39864....		BR/HFD	SUN
	2310/30/50z	06 Nov	312 1 (218 119)	54155 13761....		BR	WED
	2310/30/50z	10 Nov	312 1 (218 119)	54155 13761....		BR	SUN
	2310z	13 Nov	312 1 (8371 438)	30198 97431....	[Note 1]	BR	WED
	2310z	17 Nov	NRH			BR	SUN
	2310/30/50z	20 Nov	312 1 (3934 63)	37643 539		BR	WED
	2310z	27 Nov	NRH			BR	WED

[Note 1] Unusually long message of 438 groups. Took 27 mins to send. 2nd & 3rd would be deferred & not monitored due to time BR



M12 6917kHz 2000z 27 Nov ID 981 with a Null Message with the 'Stalingrad Clock' ticking away on 6911kHz - Note the Strength Difference BR

December 2024:

5832/6832/7732	2200/20/40z	06 Dec	887 1 (1283 98)	14990 53118....		BR/HFD	FRI
	2200/20/40z	07 Dec	887 1 (1283 98)	14990 53118....		BR	SAT
	2200/20/40z	13 Dec	887 1 (1283 98)	14990 53118....		BR	FRI
	2200/20/40z	20 Dec	887 000			BR	FRI
	2200/20/40z	21 Dec	887 000			BR	SAT
	2200/20/40z	27 Dec	887 1 (646 83)	34108 49336....		BR	FRI
	2200/20/40z	28 Dec	887 1 (646 83)	34108 49336....		BR	SAT
6792/5892/5092	2000/20/40z	04 Dec	780 1 (107 135)	14568 71833....		BR/HFD	WED
	2000/20/40z	06 Dec	780 1 (107 135)	14568 71833....		BR	FRI
	2000/20/40z	11 Dec	780 1 (107 135)	14568 71833....		BR	WED
	2000/20/40z	13 Dec	780 1 (107 135)	14568 71833....		BR	FRI
	2000/20/40z	18 Dec	780 000			BR	WED
	2000/20/40z	25 Dec	780 1 (353 98)	33975 06974....		BR	WED
	2000/20/40z	27 Dec	780 1 (353 98)	33975 06974....		BR	FRI
9134/8134/7534	2300/20/40z	02 Dec	457 1 (474 79)	79782 69250....		BR/HFD	MON
	2300/20/40z	05 Dec	457 1 (474 79)	79782 69250....		BR	THU
	2300/20/40z	09 Dec	457 000			BR	MON
	2300/20/40z	12 Dec	457 000			BR	THU
	2300/20/40z	16 Dec	457 1 (5192 116)	21997 64604....		BR	MON
	2300/20/40z	19 Dec	457 1 (5192 116)	21997 64604....		BR	THU
	2300/20/40z	23 Dec	457 1 (5192 116)	21997 64604....		BR	MON
	2300/20/40z	30 Dec	457 000			BR	MON
	11129/10329/9329	2310/30/50z	01 Dec	133 1 (3101 131)	68.84 57410....		BR
2310/36/02z		04 Dec	133 1 (1649 339)	57666 67859....		[Note 2] BR/HFD	WED
2310z		08 Dec	133 1 (1649 339)	57666 67859....		[Note 2] BR	SUN
2310/30/50z		15 Dec	133 1 (5582 52)	61921 28886.... (?)	Poor copy	BR	SUN
2310/20/40z		18 Dec	133 1 (221 98)	68403 59668....		BR	WED
2310/30/50z		22 Dec	133 1 (221 98)	68403 59668....		BR	SUN
11435/10598/9327	1800/20/40z	05 Dec	938 1 (4654 75)	12270 38674....		BR	THU
	1800/20/40z	19 Dec	Very weak – No useful copy			BR	THU
	1800/20/40z	26 Dec	938 1 (7725 82)	11230 80287....		BR	THU
11519/12194/13407	1100/20/40z	03 Dec	289 1 (9464 59)	23260 65341....		BR	TUE
	1100/20/40z	10 Dec	289 1 (9580 55)	76365 48354....		BR	TUE
	1100/20/40z	17 Dec	289 1 (7643 62)	46440 73422....		BR	TUE
	1100/20/40z	24 Dec	289 1 (6678 61)	65937 44930....		BR	TUE
	1100/20/40z	31 Dec	289 1 (1977 64)	55738 32760....		BR	TUE

[Note 2] Unusually long message of 339 groups. 2nd & 3rd transmissions adjusted as length of message overruns scheduled times.

M12 6859/7459/7959kHz 2200/2220/2240z 02 November 2024

849 849 849 1 (R2m) 6095 103 6095 103

52300 58219 52770 77945 96524 43017 76826 74943 48328 23126
 49265 35798 34608 40377 59748 52169 11192 92790 92958 26989
 35646 95493 58706 86945 22807 93745 14841 73987 51460 93839
 99223 08044 16344 67442 29037 06117 93733 79387 82568 65805
 81960 06939 60425 65219 62326 01272 39730 40664 73852 71391
 00771 79799 61506 88183 80196 44575 16650 77500 93361 56865
 47727 03026 79472 34132 41574 02942 05028 39204 77323 39516
 87296 46692 61132 09255 09361 23850 88041 17690 49260 06864
 61232 41354 91266 01182 40807 62338 45794 55801 16222 75412
 02581 85567 10885 31351 22855 01171 28822 64707 94906 75160
 27978 11878 50394 000 000

Courtesy Gert

M14 IA MCW / ICW Short 0

12211	0500z	01 Nov	952 00000	(Via SDR Japan)	HFD	FRI
10243	0520z	01 Nov	952 00000	(Via SDR Japan)	HFD	FRI

M23 O ICW

The M23 transmissions, reported in our last newsletter, that had been logged throughout most of October continued daily into the first week of November. For reference, here is a log of the daily schedule from Tuesday, 22 October:-

6937	0359z	22 Oct	15081769 (R15m49s)		AB	TUE
10916	0859z	22 Oct	50505 55550 05550 05500 55005 (R18m22s)		AB/BR	TUE
14930	1159z	22 Oct	15081769 (R15m48s)		AB	TUE
4822	2259z	22 Oct	50505 55550 05550 05500 55005 (R17m)			

Then on the 05 November, Ary, (AB), reported the 0359z transmission as usual, but no further transmissions & noted that the hourly markers were missing on all four frequencies from 0430z.

6937 05-11-2024 0359 M23 15081769 (R15m44s)

The station made a brief reappearance on the following two days:-

14930	1159z	06 Nov	15081769 (R15m49s)		AB/BR	WED
4822	2259z	06 Nov	50505 55550 05550 05500 55005 (R17m)		AB	WED
6937	0359z	07 Nov	15081769 (R15m45s)		AB	THU

Following this transmission nothing further was heard.

Morse Stations - Not Number Related

M21 Russian Air Defence Plotting Station

5397	1404z	02 Dec	= 991704??8?????	(1704 is Moscow time)	BR	MON
	1405z	02 Dec	= 991705??8?????	(Note updated time)	BR	MON

Signal is sent once per minute at M+35 Secs with time stamp updating. Question marks are replaced by figures when plotting is active.

M32 Russian or Ukrainian Military Net

We have several reports on this station, which has been active for many years, but is not usually featured in our newsletters. The M23 designation was withdrawn by the original ENIGMA Group once it was confirmed not be a number Station, however, these withdrawn designations continue to be useful in identifying & sharing reports of otherwise unusual transmissions, so remain in use.

This one caught after logging the M01 Saturday schedule. The net was in progress & only the last couple of minutes was monitored. The net control call was FQFS calling various outstations with confirmation & reports of signal strength, (QSA). Both control station & outstations were audible on the same frequency.

5814.5	1511z (IP)	16 Nov	FQFS net control calling various outstations	BR	SAT
--------	------------	--------	--	----	-----

L3QS K QSA3 QSA? K
 QSA3 K RK
 KLQS DE FQFS
 FQFS DE KLQS K
 QSA2 QSA K RK
 I5VC DE FQFS K
 QSA RK
 .AZD DE FQFS K
 SK QSA N0QR K

(Nothing further heard)

PLdn reported on this transmission, coincidentally on the same day! One of many popping up at a variety of days & times with short messages

12151	1143z (IP)	16 Nov	VX9U in CW, sending alpha groups, then SGR K. (Today seemed random groups)	PLdn	SAT
-------	------------	--------	--	------	-----

From this Ary, (AB), was able to retrieve the recordings of some of these transmissions from 16 November & reports the following:

12151	1140z	16 Nov	CUKT DE VP9W QTC K	AB	SAT
	1141z		VP9W		
	1144z		UT222 16 1435 302 = 703 = PPPPP (5fig message) K		
			RTW K		

(This is a standard Russian military message. These messages begin with a procedure group (PPPPP or 11111 etc.)

More activity caught by BR on 26 November;

6435	1342z (IP)	26 Nov	SDYB with messages		BR	TUE
	1342z		SDYB 466 22 26 16 38 466 = ZUV . . 8 = [Msg in Cyrillic 5-ltr grps follow]			
	1353z		SDYB 670 29 26 16 42 670 = ZBU 428 = WMOVY UNVWB... [etc.]			

M51 XIX

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

No reports – M51b format in use

M51a (FAV22) Daily Mon - Fri, Sun & some Sats. See NL 72 for details

3881//6825	1230 - 1314z	09 Dec	Lundi-Leçon	11-2/1 Codé	11-2/2 Clair,	11-2/3 Codé,	11-2/4 Clair (420 grps/hr)	BR	MON
	1230z	10 Dec	NRH	Band conditions?				BR	TUE
	1230 - 1307z	11 Dec	Mercredi- Leçon	13-2/1 Codé,	13-2/2 Clair,	13-2/3 Codé,	13-2/4 Clair (720 grps/hr)	BR	WED

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

No reports

M89 O

No reports

M95 O XSV, XSV70, XSV85

M95 Morse Logs (Bold type indicates new logging)

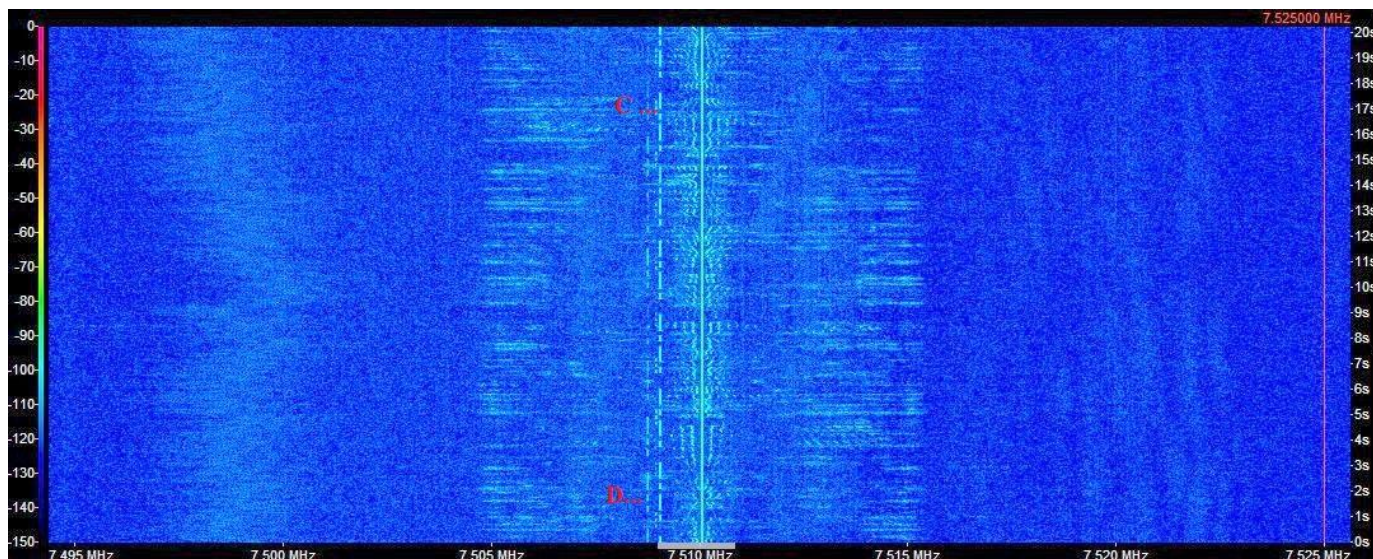
3968//6936	Call Sign SAQC (Previously 3A7D)	Suspect change in frequency and Round Slip for DKG6 DE 3A7D				
	2206z	29 Nov	V YHXD (x3) DE SAQC (x2)	Fair//Good	(Remote tuner Twente)	BR FRI
	2007z	11 Dec	V YHXD (x3) DE SAQC (x2)	Weak//Fair	(Remote Tuner Twente)	BR WED

Marker Beacons (MX MXI)

Paul, (PLdn), was listening to China Radio International while catching up on logs & frequencies for the newsletter when he noticed a couple of the Russian Beacons breaking through. The strong 'C' beacon with some interference was evident & the odd tonal interference being the 'D' beacon nearby.

7510kHz 2323z 30 November China Radio International Mx 5/9+20dB with C and D Beacons heard.

Measuring on SDR waterfall showed 'C' on 7509kHz, 'D' on 7508kHz.



MX - Russian Marker Beacons C & D Breaking Through Over China Radio International Broadcast on 7510kHz

Courtesy PLdn

Beacon Logs:

4557.7	2120z	16 Nov	MXI CW Beacon "D"	Sevastopol	Weak	BR	SAT
5153.7	2028z	11 Dec	MXI CW Beacon "D"	Sevastopol		BR	WED

5156.7	2029z	11 Dec	MX	CW	Beacon	"L"	St Petersburg			BR	WED
7508.7	2119z	16 Nov	MXI	CW	Beacon	"D"	Sevastopol	Strong, but with a background stutter		BR	SAT
	1340z	17 Nov	MXI	CW	Beacon	"D"	Sevastopol	Strong		BR	SUN
	2323z	30 Nov	MXI	CW	Beacon	"D"	Sevastopol	Strong under China Radio Int. BC		PLdn	SAT
	2030z	11 Dec	MXI	CW	Beacon	"D"	Sevastopol	Strong		BR	WED
	1056z	16 Dec	MXI	CW	Beacon	"D"	Sevastopol		V.Weak	BR	MON
7508.9	1340z	17 Nov	MXI	CW	Beacon	"S"	Severomorsk			BR	SUN
7509	1341z	17 Nov	MXI	CW	Beacon	"C"	Moscow			BR	SUN
	2323z	30 Nov	MXI	CW	Beacon	"C"	Moscow	Fair under China Radio Int. BC		PLdn	SAT
	1055z	16 Dec	MXI	CW	Beacon	"C"	Moscow		V.Weak	BR	MON
8494.7	1338z	17 Nov	MXI	CW	Beacon	"D"	Sevastopol			BR	SUN
	2031z	11 Dec	MXI	CW	Beacon	"D"	Sevastopol	Over Wide-band digital sig.		BR	WED
8494.9	1338z	17 Nov	MXI	CW	Beacon	"S"	Severomorsk			BR	SUN
8497.8	1339z	17 Nov	MX	CW	Beacon	"L"	St Petersburg			BR	SUN
	2032z	11 Dec	MX	CW	Beacon	"L"	St Petersburg		Weak	BR	WED
	1053z	16 Dec	MX	CW	Beacon	"L"	St Petersburg			BR	MON
10871.8	1336z	17 Nov	MXI	CW	Beacon	"P"	Kaliningrad		Fast	BR	SUN
	1051z	16 Dec	MXI	CW	Beacon	"P"	Kaliningrad			BR	MON
10871.9	1336z	17 Nov	MXI	CW	Beacon	"S"	Severomorsk			BR	SUN
10872	1335z	17 Nov	MXI	CW	Beacon	"C"	Moscow			BR	SUN
	1050z	16 Dec	MXI	CW	Beacon	"C"	Moscow			BR	MON
13527.7	1332z	17 Nov	MXI	CW	Beacon	"D"	Sevastopol			BR	SUN
13527.8	1048z	16 Dec	MXI	CW	Beacon	"P"	Kaliningrad		Fast	BR	MON
13527.9	1334z	17 Nov	MXI	CW	Beacon	"S"	Severomorsk			BR	SUN
	1049z	16 Dec	MXI	CW	Beacon	"S"	Severomorsk			BR	MON
13528.1	1333z	17 Nov	MXI	CW	Beacon	"A"	Astrakhan			BR	SUN
16331.7	1328z	17 Nov	MXI	CW	Beacon	"D"	Sevastopol			BR	SUN
	1040z	16 Dec	MXI	CW	Beacon	"D"	Sevastopol		Strong	BR	MON
16331.8	1329z	17 Nov	MXI	CW	Beacon	"P"	Kaliningrad			BR	SUN
16331.9	1041z	16 Dec	MXI	CW	Beacon	"S"	Severomorsk			BR	MON
16332.1	1330z	17 Nov	MXI	CW	Beacon	"A"	Astrakhan			BR	SUN
	1041z	16 Dec	MXI	CW	Beacon	"A"	Astrakhan			BR	MON
20047.7	1327z	17 Nov	MXI	CW	Beacon	"D"	Sevastopol			BR	SUN
	1038z	16 Dec	MXI	CW	Beacon	"D"	Sevastopol			BR	MON
20047.9	1328z	17 Nov	MXI	CW	Beacon	"S"	Severomorsk			BR	SUN
	1039z	16 Dec	MXI	CW	Beacon	"S"	Severomorsk			BR	MON

Oddities

'The Alarm'

4770	2122z	16 Nov			Marker Signal (The Alarm)			USB	Fair	BR	SAT
	2025z	11 Dec			Marker Signal (The Alarm)			USB	Weak	BR	WED

S28 'The Buzzer'

4625	1932z	24 Nov	S28		'The Buzzer' Marker	Present but very weak		USB		BR	SUN
	2015z	11 Dec	S28		'The Buzzer' Marker	Fair		USB		BR	WED

S30 'The Pip'

3756	2124z	16 Nov	S30		'Pip' marker (Night freq)			USB		BR	SAT
	2024z	11 Dec	S30		'Pip' marker (Night freq)			USB		BR	WED

New Additional 'Pip' Markers

5782	2127z	16 Nov			Buzzer / Pip Marker ?			USB		BR	SAT
	2016z	11 Dec			Buzzer / Pip Marker ?			USB		BR	WED
6930	2131z	16 Nov			Buzzer / Pip Marker ? (Out of sync with 5782kHz)			USB		BR	SAT
	2017z	11 Dec			Buzzer / Pip Marker ? (Out of sync with 5782kHz)			USB		BR	WED

6911 'Stalingrad Clock'

6911	2005z	27 Nov			'Stalingrad Clock' Marker	Fair		USB		BR	WED
	2018z	11 Dec			'Stalingrad Clock' Marker	Fair		USB		BR	WED

Contributors: AB, BR, Gert, HFD, Jan O, PLdn, PoSW *Thank you all for your logs.*

Voice and other modes:

E06 Nov/Dec

Saturday	1600z	9075kHz	1630z	6792kHz
28/12	'480' 139 47 02358 59012 15276 62083 34073 76913 51828 57142 98264 05971 26569 17191 03258 85409 93792 21298 50275 94917 63185 68050 38719 94706 62123 32828 60517 25183 69894 07124 63869 49634 03414 45805 68612 59573 36572 84129 05454 91505 93861 65741 23434 21914 12425 38234 31819 63623 85240 139 47 00000			

Repeats Sunday 0730z 11487khz 0800z 9371khz

Test

16/12 0941z 9463kHz CW Repeating 801 continuously 16/12/24
16/12 1100z 10755kHz '975' 483 60 groups. Extremely weak 0 unable to copy message

E07 Nov/Dec

From PoSW some analysis:

Tuesday + Friday Schedule, 1500 UTC Start:-

1-Nov-24, Friday:- 1500 UTC, 14737 kHz, "751 751 751 1", message, DK/GC "3654 104"
x 2, weak but clear signal, ended 1511:10s UTC approx.
1520 UTC, 13537 kHz, second sending stronger but interference from weaker swept carrier-
CODAR radar?
1540 UTC, 12137 kHz, strongest of the three transmissions.

5-Nov-23, Tuesday:- 1500 UTC, 14737 kHz, "751 751 751 000", good signal.
1520 UTC, 13537 kHz, also good, interference as above.

8-Nov-24, Friday:- 1500 UTC, 14737 kHz, very weak, unreadable.
1520 UTC, 13537 kHz, "751 751 751 000", weak, clear apart from the sweeper.

12-Nov-24, Tuesday:- 1500 UTC, 14737 kHz, weak signal, could just hear "751...1" of a message transmission.
1520 UTC, 13537 kHz, much stronger, DK/GC "368 95" x 2, ended around 1530:25s UTC.
Usual swept interference and also a very strong carrier apparently modulated with AC ripple slowly swept across the frequency several times making for
difficult copy.
1540 UTC, 12137 kHz, strong signal with some fading.

15-Nov-24, Friday:- 1500 UTC, 14737 kHz, weak, difficult copy.
1520 UTC, 13537 kHz, stronger, "751" and "368 95" again.
1540 UTC, 12137 kHz, good signal.

19-Nov-24, Tuesday:- 1500 UTC, 14737 kHz:- "751 751 751 000", weak.
1520 UTC, 13537 kHz, weak with the usual interference.

22-Nov-24, Friday:- 1500 UTC, 14737 kHz and 1520 UTC, 13537 kHz, "751 751 751 000".

26-Nov-24, Tuesday:- 1500 UTC, 14737 kHz, "751 751 751 1", message, DK/GC "2284 176" x 2, long message, ended around 1517 UTC.
1520 UTC, 13537 kHz, weak at first then became stronger with the usual interference.
1540 UTC, 12137 kHz, strongest sending of the three.

29-Nov-24, Friday:- 1500 UTC, 14737 kHz, "751" and "2284 176" again, weak signal.
1520 UTC, 13537 kHz, stronger, usual interference.
1540 UTC, 12137, strongest.

6-Dec-24, Friday:- 1520 UTC, 12139 kHz, arrived home just in time to catch the second sending, "512 512 512 000", inside what is generally regarded
as the 25 metre broadcast
band and there is a strong broadcaster on 12140.

10-Dec-24, Tuesday:- 1500 UTC, 13539 kHz, "512 512 512 1", message, DK/GC "1333 121" x 2, interference from the same sweeper that plagued the
second sending in November. Ended at approx 1512:30s UTC.
12139 kHz, good signal, broadcaster on 12140 also strong. Nothing readable from the third sending on 10239, local RF interference from overhead phone
lined very fierce here.

13-Dec-24, Friday:- 1500 UTC, 13539 kHz, "512" and "1333 21" again, weak signal with the usual interference.
1520 UTC, 12139 kHz, stronger, broadcast station on 12140 strong.
Nothing heard at 1540z on 10239.

17-Dec-24, Tuesday:- 1500 UTC, 13539 kHz, "512 512 512 000", weak with interference.
1520 UTC, 12139 kHz, heterodyne and side-band audio from 12140.

Thursday + Saturday Schedule, 1410 UTC Start:-

All three frequencies for November lie within that part of the short-wave spectrum which suffer from strong local interference - wipes out all but the
strongest signals in the region of roughly 8600 to 11600 kHz and also the HF end of the medium wave broadcast band to around 3000 kHz.

2-Nov-24, Saturday:- 1410 UTC, 11574 kHz, "327 327 327 000", strong enough to be heard over the interference.
1430 UTC, 10274 kHz, just about audible.

9-Nov-24, Saturday:- Nothing readable on any frequency.

14-Nov-24, Thursday:- Nothing readable.

16-Nov-24, Saturday:- Nothing readable.

23-Nov-24, Saturday:- 1410 UTC, 11574 kHz, voice detectable for a few seconds only, unreadable, sounded like message format, nothing readable on repeat frequencies 10274 and 9274.

28-Nov-24, Thursday:- 1410 UTC, 11574 kHz, voice just about detectable for a few seconds, sounded like "no message".

1430 UTC, 10274 kHz, "327...000" just audible.

5-Dec-24, Thursday:- Predicted frequencies in December 10226 + 9226 + 8126 kHz; the first two lie within my local RF interference zone so not much heard.

1410 UTC, 10226 kHz, voice heard for a few seconds around 1420 UTC so message format.

Nothing audible at 1430 on 9226.

1450 UTC, 8126 kHz, good signal clear of local interference, "674 674 674 1", DK/GC "1597 144" x 2. Ended around 1504:25s UTC.

7-Dec-24, Saturday:- Nothing readable at 1410 and 1430 UTC.

1450 UTC, 8126 kHz, "674" and "1597 144" again, good signal.

19-Dec-24, Thursday:- 1450 UTC, 8126 kHz, "674 674 674 1", DK/GC "372 92" x 2, third sending, the only one readable, ended just after 1500 UTC.

M8 logs to 10/12, after BR, HJH, MHz PLdn

Tue/Fri

November 2024

1500z	14737kHz	1520z	13537kHz	1540z	12137kHz
01/11	751 1 3654 104 55344 ... 50516 000 000				1540z Strong, rest fair 1520z PulseQRM2
05/11	751 000				Fair
08/11	751 000				Weak
12/11	751 1 368 95 02110 ... 42126 000 000				Fair
15/11	751 1 368 95 02110 ... 43126 000 000				1520z Fair, rest Weak
19/11	751 000				Weak
22/11	751 000				Weak
26/11	751 1 2284 176 69547 ... 16838 000 000				1520z Strong, rest Fair
29/11	751 1 2284 176 69547 ... 26838 000 000				1500z Fair, rest Strong

December 2024

1500z	13539kHz	1520z	12139kHz	1540z	10239kHz
03/12	512 000				1500z Weak. 1520z Fair Both QRM2
05/12	512 000				1500z NRH 1520z Fair QRM2
10/12	512 1 1333 121 56068 ... 76199 000 000				Good sigs in Holland [HJH/Brixmis poor sigs]

515 515 512 1 1333 121 1333 121
56068 99619 88118 47641 20350 44567 82763 58986 58482 83352
63221 60530 14674 52292 45307 84820 05353 54050 99027 96177
60167 64588 07807 39517 01365 89380 28848 58001 39213 17168
39850 04179 57995 84058 79601 23065 58242 10827 15594 56639
05188 94013 30889 42738 71539 23599 87878 73050 77800 94329
68175 59920 49532 71677 57198 76419 58638 12208 34477 41959
16844 80858 05395 07544 04690 22920 46590 56516 03939 23618
05139 99554 65509 15419 22883 48644 31200 92472 90852 04639
22752 47390 64427 22189 49934 96195 28329 76204 75188 71535
93339 95023 50099 84137 55663 94530 32996 13207 09652 36187
53274 34517 06206 45969 91519 12924 98938 95851 37606 39134
89808 42370 62738 75801 41493 40272 54612 79904 68227 05318
76199 000 000

Courtesy AB

13/12	512 1				Weak, poor copy
17/12	512 000				Weak, TTYQRM BRIXMIS TUE
20/12	512 000				1500z NRH, 1520z Fair, QRM2
24/12	512 1 1552 83 89658 44099 etc				Fair, 1500/1520z QRM BR TUE
27/12	512 1 1552 83 89658 44099 63568 90762 56405 ...				1500z RTTYQRM, 1520z BCHETQRM MG FRI

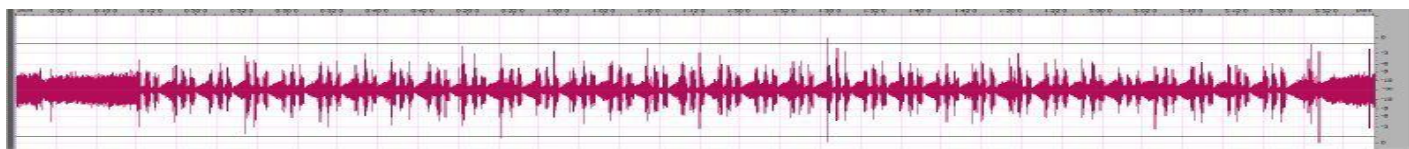
Thu/Sat

November 2024

1410z	11574kHz	1430z	10274kHz	1450z	9274kHz
02/11	327 000				Fair
07/11	MISSED				
09/11	327 1 681 118 98895 ... 13274 000 000				Weak, 1450z BCQRM5
14/11	327 000				Fair
16/11	327 000				Fair
21/11	327 1 626 70 19818 ... 88396 000 000				Weak, 1450z BCQRM5
28/11	327 000				Weak
30/11	327 000				Weak

December 2024

1410z	10226kHz	1430z	9226kHz	1450z	8126kHz
05/12	674 1 1597 144 01667 ... 11786 000 000				Weak
07/12	674 1 1597 144 01667 ... 11786 000 000				1410z Fair, rest Weak



10226kHz 1410z transmission of 14/12 [Much stronger than PLdn usually has. QTH must be wrong side of Crystal Palace hill]

14/12	674 000				Via Twente SDR, image above [Vy weak with PLdn]
19/12	674 1 372 92 52892 ... 06678 000 000				Weak
21/12	674 1 372 92 52892 ... 06678 000 000				1450z Weak, rest NRH
26/12	674 000				Good BR THU
28/12	674 000				1410z Good, 1430z Fair BR THU

E11 & E11a log Nov/Dec 2024

4505kHz	1610z	02/11 [395/00] Out 1613z S9		Malc, HfD	SAT
	1610z	06/11 [394/00] Out 1613z S5		Malc	WED
	1610z	13/11 [395/00]		Gary H	WED
	1610z	16/11 [394/00]		Gary H	SAT
	1610z	20/11 [391/33 79666.....71008] Out 1620z S7		Malc	WED
	1610z	23/11 [391/33 79666 84057 ?9656 943?7 34839 ...] Weak, heavy QRM		MG	SAT
	1610z	27/11 [396/00] Out 1608z S6		Malc, MG	WED
	1610z	30/11 [391/00] Out 1613z S8		Malc, MG	SAT
	1610z	04/12 [390/00] Out 1613z S7		Malc, MG	WED
	1610z	07/12 [394/00] Out 1613z S9		Malc	SAT
	1610z	11/12 [395/00] Out 1613z S5		Brixmis	WED
	1610z	18/12 [391/00] Twente SDR		MG	WED
	1610z	21/12 [394/00]		Gary H	SAT
1610z	28/12 [396/40 08300 72359 80004 51005 37655 70531 33571 19759.....71996 57883] Strong		RNGB, Brian	SAT	
4909kHz	1645z	02/11 [363/00] Out 1648z S6		Malc, Gary H, HfD	SAT
	1645z	09/11 [364/31 60764 00032 71573 01123 63247 99372 91224 08085.....40981 97088] Out 1654z		Gary H, Malc	SAT
	1300z	11/11 [315/00]		HfD	MON
	1300z	18/11 [314/39 63427.....66491] Out 1311z S5 (Finnish SDR)		Malc	MON
	1645z	23/11 [364/00] Weak Out 1648z		MG	SAT
	1300z	25/11 [312/00] Out 1303z S3 (Dutch SDR)		Malc	MON
	1300z	28/11 [313/00] Out 1303z S3 (Dutch SDR)		Malc	THU
	1645z	30/11 [363/00] Out 1648z S8		Malc, Gary H	SAT
	1645z	01/12 [363/00] Out 1648z S4		Malc	SUN
	1300z	02/12 [313/36 87739.....74878] Out 1311z S3 (Dutch SDR)		Malc	MON
	1645z	07/12 [367/32 62075.....19288] Out 1655z S9		Malc	SAT
	1300z	09/12 [319/00] Out 1303z S3 (Dutch SDR)		Malc	MON
	1300z	12/12 [315/00] Weak		Brian	TUE

	1645z	21/12 [364/00]		Brian	SAT
	1300z	26/12 [314/00] Weak		Brian	THU
	1645z	28/12 [364/00] Fair		Brian, MG	SAT
5082kHz	1715z	01/11 [976/00] Strong		dMHz, HfD	FRI
	2000z	03/11 [528/00] Out 2003z S5		Malc, HfD	SUN
	1715z	06/11 [976/00] Out 1718z S5		Malc	WED
	2000z	07/11 [520/00] Out 2003z S6		Malc, Gary H	THU
	1530z	08/11 [975/00] Out 1533z S6		Malc	FRI
	2000z	10/11 [528/00] Out 2003z Strong		dMHz, Malc	SAT
	1610z	13/11 [975/40 87794 77110 52024 64771 84052 20584 38431 78302.....96217 63760] Out 1726z		Gary H, Malc	WED
	2000z	14/11 [524/40 64569 12766 83516 93070 93800 05373 59450 08583 36446.....05630 52734]		Gary H	THU
	1715z	20/11 [975/00] Out 1718z S6		Malc	WED
	2000z	21/11 [525/00] Out 2003z S4		Malc	THU
	1715z	22/11 [974/00] Out 1718z S5		Malc, MG	FRI
	2000z	24/11 [525/00] Weak		MG	SUN
	1715z	27/11 [974/00] Out 1718z S7		Malc, MG	WED
	2000z	28/11 [520/00] Out 2003z S6		Malc, Gary H	THU
	1715z	29/11 [972/00] Out 1718z S8		Malc, Gary H, MG	FRI
	2000z	01/12 [520/00] Out 2003z S7		Malc	SUN
	1715z	04/12 [974/00] Out 1718z S7		Malc, MG	WED
	1715z	06/12 [976/00] Out 1718z S5		Malc	FRI
	2000z	08/12 [520/37 98925.....72811] Out 2011z S4		Malc	SUN
	1715z	13/12 [976/00] Out 1718z Strong		PLdn, MG	FRI
	1715z	18/12 [972/35 85266.....34176] Out 1725z Strong		PLdn	WED
	2000z	22/12 [520/00] Strong		Brian	SUN
	1715z	27/12 [970/00] Out 1718z S2		Brixmis, MG	FRI
	2000z	29/12 [525/00] Out 2003z S4		Brixmis, MG	
5371kHz	0700z	02/11 [490/33 48898.....34409] Out 0710z S5		Malc, HfD	SAT
	0700z	17/11 [492/00] Out 0703z S3		Malc	SUN
	0700z	23/11 [495/00] Out 0703z STANAG QRM Twente SDR		MG	SAT
	0700z	24/11 [490/00] Twente SDR		MG	SUN
	0700z	01/12 [491/00] Out 0703z S4		Malc, MG	SUN
	0700z	07/12 [498/00] Out 0703z S5		Malc	SAT
	0700z	14/12 [491/00] Fair		PLnd	SAT
	0700z	22/12 [496/33 98715.....47028] Out 0710z		PLnd	MON
5409kHz	1530z	07/11 [267/35 37120..... 46687] Out 1540z S3		Malc, HfD	THU
	1530z	14/11 [261/00] Out 1533z S8		Malc, Gary H	THU
	1530z	21/11 [261/00] Out 1533z S4		Malc, Gary H	THU
	1530z	28/11 [269/00] Out 1533z		Brixmis, Gary H, MG	THU
	1530z	05/12 [260/38 11293.....44748] Out 1541z S6		Malc	THU
	1530z	12/12 [264/00]		Gary H	THU
	1530z	26/12 [264/00]		Gary H	THU
5432kHz	1605z	03/11 [236/00] Out 1608z		dMHz, HfD	SUN
	1605z	05/11 [237/40 88953 87994 88312 26444 58509 80991 25619.....22002]		Brixmis, Malc	TUE
	1605z	12/11 [237/00] Out 1608z S5		Malc	TUE
	1605z	19/11 [236/00] Out 1608z S6		Malc, MG	TUE
	1605z	24/11 [238/00]		Gary H	SUN
	1605z	26/11 [237/00]		Gary H, Malc	TUE
	1605z	01/12 [236/00] Out 1608z S7		Malc	SUN
	1605z	03/12 [236/00] Out 1608z S9		Malc, MG	TUE
	1605z	08/12 [238/00] Out 1608z S9		Malc	SUN
	1605z	10/12 [233/35 45784 39291 82680 01517 68445 92782 11418 98260 31758.....75453 46107]		Gary H	TUE
	1605z	15/12 [233/35 45784.....46107] Out 1615z Strong (Repeat of Tuesday)		PLdn	SUN
	1605z	17/12 [231/00] Out 1608z S8		Brixmis, Gary H, PLdn	TUE
	1605z	22/12 [235/00] Out 1608z Fair		PLdn	SUN
	1605z	24/12 [238/00] Strong		Brian	TUE
	1605z	31/12 [231/00] Out 1608z S5		Brixmis	TUE
6804kHz	0700z	01/11 [576/00]		HfD	FRI
	0700z	08/11 [571/35 08001.....02303] Out 0710z S3		Malc	FRI
	0700z	12/11 [573/00] Out 0703z S4		Malc	TUE
	0700z	15/11 [579/00] Out 0703z S4		Malc	SAT
	0700z	19/11 [575/00] Out 0703z S4		Malc, MG	TUE
	0700z	22/11 [575/00] Out 0703z S6		Malc	FRI
	0700z	26/11 [571/00] Out 0703z S5		Malc	TUE
	0700z	29/11 [577/00] Out 0703z S9		Malc	FRI
	0700z	03/12 [570/00] Out 0703z S5		Malc	TUE
	0700z	24/12 [573/00] Out 0703z		MG	TUE
	0700z	31/12 [573/00] Weak Out 0303z		MG	TUE
6849kHz	1815z	01/11 [925/00] Out 1818z S8		Malc, dMHz, HfD	FRI
	1900z	04/11 [649/00] Out 1903z S7		Malc, HfD	MON
	1900z	07/11 [644/00] Out 1903z S7		Malc, Gary H	THU
	1815z	10/11 [922/00] Out 1818z S4		Malc	SUN
	1900z	11/11 [648/40 77578.....86695] Out 1911z S9		Malc	MON
	1815z	15/11 [927/00] Out 1818z S7		Malc	FRI
	1815z	17/11 [926/00] Out 1818z S6		Malc	SUN
	1900z	18/11 [646/00] Out 1903z S3		Brixmis	MON
	1900z	21/11 [646/00] Out 1903z S5		Malc	THU

	1815z	22/11 [929/37 51720 22002 49424 13973 50749 ...] Strong QRT 1825z	MG	FRI
	1900z	25/11 [644/00] Out 1903z S3	Malc, MG	MON
	1900z	28/11 [643/00] Out 1903z S9	Malc	THU
	1815z	29/11 [924/00] Out 1818z S9	Malc, MG	FRI
	1815z	01/12 [929/00] Out 1818z S8	Malc	SUN
	1900z	02/12 [649/36 76104 8730 40209 20736 90222.....12250] Out 1911z S9 QSB6	MG, Malc	MON
	1815z	06/12 [922/39 62120.....24933] Out 1826z S5	Malc	FRI
	1900z	09/12 [644/00] Out 1903z S5	Malc, MG	MON
	1815z	13/12 [922/00] Strong	PLdn, MG	FRI
	1815z	20/12 [921/00] Out 1818z Strong	PLdn	FRI
	1815z	22/12 [924/00] Fair	PLdn	SUN
	1815z	27/12 [921/00] Good Out 1818z	MG	FRI
	1815z	29/12 [922/00] Weak/fair Out 1818z	MG	SUN
	1900z	30/12 [643/00] Very weak	MG	MON
7469kHz	0930z	06/11 [275/00] Out 0933z S2	Malc, Brixmis, HfD	WED
	0930z	07/11 [278/00] Out 0933z S3	Malc	THU
	0930z	13/11 [275/00] Out 0933z S5 (Dutch SDR)	Malc	WED
	0930z	14/11 [271/00] Out 0933z S3	Malc	THU
	0930z	20/11 [277/33 18667.....52885] Out 0940z S4 (Dutch SDR)	Malc, MG	WED
	0930z	27/11 [278/00] Out 0933z S2	Malc	WED
	0930z	28/11 [273/00] Out 0833z S2	Malc	THU
	0930z	04/12 [277/00] Out 0933z S2	Malc	WED
	0930z	05/12 [270/00] Out 0933z S3	Malc	THU
	0930z	25/12 [276/00] Twente SDR	MG	WED
	0930z	26/12 [271/00] Twente SDR	MG	THU
7840kHz	0645z	05/11 [511/00]	HfD	TUE
	0645z	24/12 [510/00] Strong Out 0648z	MG	TUE
	0645z	31/12 [510/00] Strong Out 0648z	MG	TUE
7850kHz	0600z	01/11 [359/00]	HfD	FRI
	0600z	22/11 [351/00] Strong CHU Canada QRM Out 0603z	MG	FRI
	0600z	29/11 [350/00] Strong, Canada CHU QRM, Out 0603z	MG	FRI
	0600z	01/12 [352/00] Good Canada CHU QRM Out 0603z	MG	SUN
	0600z	22/12 [352/00] Out 0603z	PLdn	SUN
9079kHz	1000z	01/11 [302/00] Out 1003z S4	RNGB, Malc	FRI
	1000z	05/11 [304/00] Out 1003z	dMHz	TUE
	1000z	08/11 [307/00] Out 1003z S4	Malc	FRI
	1000z	12/11 [302/36 30419.....17710] Out 1010z S3	Malc	TUE
	1000z	22/11 [302/00] Out 1003z S3	Malc	FRI
	1000z	26/11 [304/00] Out 1003z S4	Malc	TUE
	1000z	29/11 [306/00] Out 1003z S5	Malc	FRI
	1000z	03/12 [304/00] Out 1003z S7	Malc	TUE
	1000z	06/12 [309/00] Out 1003z S5	Malc	FRI
	1000z	13/12 [308/00] Good	Brian	FRI
	1000z	20/12 [300/38 31263 88077 67760 06210 35527 64506 07862 30924.....16356 92879] Good	RNGB, PLdn	FRI
	1000z	31/12 [304/00] Strong	RNGB	TUE
10213kHz	0745z	04/11 [267/35 37120 32826 22852 88075 85605 56250 74016 50135.....79822 46687] Strong	RNGB, Malc	MON
	0745z	11/11 [266/00] Out 0748z S9	Malc, HfD	MON
	0745z	18/11 [268/00] Out 0748z S9	Malc	MON
	0745z	25/11 [261/00] Out 0748z S9 M	Malc	MON
	0745z	02/12 [260/38 11293.....44748] Out 0756z S9	Malc	MON
	0745z	09/12 [262/00] Out 0748z S9	Malc	MON
	0745z	30/12 [264/00] Strong	RNGB, MG	MON
10487kHz	1910z	01/11 [617/00] Out 1913z S4	Malc, HfD	FRI
	1910z	03/11 [611/00] Out 1913z S4	Malc	SUN
	1910z	08/11 [618/34 67572 59310 90338 59123 13368 54743 37511.....13064 10019] Out 1920z S7	dMHz, Malc	FRI
	1910z	15/11 [613/00] Out 1913z S2	Malc	FRI
	1910z	17/11 [616/00] Out 1913z S3 (Dutch SDR)	Malc	SUN
	1910z	22/11 [613/00] Out 1913z S2	Malc, MG	FRI
	1910z	24/11 [612/00] Very weak	MG	SUN
	1910z	29/11 [611/00]	MG	FRI
	1910z	01/12 [611/00] Out 1913z S2 (Dutch SDR)	Malc	SUN
11104kHz	0820z	01/11 [46?/00] Out 0823z Missed TX	Malc, RNGB	FRI
	0820z	07/11 [439/33 68744.....73381] Out 0830z S5	Malc	THU
	0820z	14/11 [435/00] Out 0823z S6	Malc	THU
	0820z	15/11 [432/00] Good	RNGB	FRI
	0820z	21/11 [435/00] Out 0823z S4	Malc, MG	THU
	0820z	22/11 [435/00] Good	RNGB	FRI
	0820z	28/11 [436/00] Out 0823z S3	Malc	THU
	0820z	29/11 [438/00] Out 0823z S6	Malc	FRI
	0820z	05/12 [439/31 73973 93568 91879 30127 33850 79526 66916.....09876 77081] Good	RNGB, Malc	TUE
	0820z	12/12 [432/00] Good	RNGB, Brian	FRI
	0820z	20/12 [434/00] Out 0823z Weak	PLdn	FRI
	0820z	26/12 [430/00] Out 0823z Twente SDR	MG	THU

11559kHz	1205z	05/11 [463/00] Out 1208z S4	Brixmis, HfD	TUE
	1205z	12/11 [469/00] Out 1208z S4	Malc	TUE
	1205z	13/11 [465/00] Out 1208z Strong	dMHz	WED
	1205z	19/11 [465/00] Out 1208z S5	Malc	TUE
	1205z	20/11 [460/00] Out 1208z S4	Malc	WED
	0445z	26/11 [798/00] Weak then good	MG	TUE
	1205z	26/11 [463/31 62385 96529 80744.....71909]	Brixmis, Malc	TUE
	1205z	03/12 [469/40 59732.....29337] Out 1216z S5	Malc	TUE
	1205z	10/12 [462/00] Out 1208z S3	Brixmis	TUE
	1205z	17/12 [465/00] Out 1208z S3	Brixmis	TUE
	1205z	25/12 [460/00] Good	Brian	WED
12067kHz	0845z	04/11 [719/00] Good	RNGB	MON
	0845z	06/11 [714/00] Good	RNGB	WED
	0845z	11/11 [714/00] Out 0848z S6	Malc	MON
	0845z	13/11 [715/00] Out 0848z S4	Malc	WED
	0845z	18/11 [713/31 32114 68748 29226 44621 31374 99331 80361.....24873 73939] Out 0854z	RNGB, Malc	MON
	0845z	25/11 [713/00] Out 0848z S6	Malc	MON
	0845z	27/11 [715/00] Out 0848z S5	Malc	WED
	0845z	02/12 [714/00] Out 0848z S5	Malc	WED
	0845z	09/12 [713/39 84826.....56932] Out 0956z S9	Malc	MON
	0845z	16/12 [719/00] Good	RNGB, Brian	MON
	0845z	23/12 [716/00] Good	Brian, MG	MON
0845z	25/12 [719/00] Out 0848z	MG	WED	
0845z	30/12 [718/00] Good	RNGB, MG	MON	
12089kHz	0315z	04/11 [255/00]	HfD	MON
12153kHz	0505z	05/11 [335/00]	HfD	TUE
	0505z	26/11 [332/38 17253 38150 26961 20759 01271 ...] Weak Out 0515z	MG	TUE
	0505z	03/12 [338/35 08319 96882 17189 89399 61510 ...] Weak	MG	TUE
12385kHz	0645z	26/11 [519/40 46964 85013 72631 70530 36196 ...] Good	MG	TUE
12924kHz	1745z	03/11 [249/00] Out 1748z S7	Malc, HfD	SUN
	1745z	04/11 [246/00] Out 1748z S5	Malc	MON
	1745z	10/11 [247/00] Out 1748z S2 (Finnish SDR)	Malc	SUN
	1745z	11/11 [245/37 96812.....49816] Out 1756z S5	Malc	MON
	1745z	18/11 [245/00] Out 1748z S2 (Finnish SDR)	Malc	MON
	1745z	24/11 [245/00] Very weak	MG	SUN
	1745z	25/11 [240/00] Out 1748z S6	Malc	MON
	1745z	01/12 [240/00] Out 1748z S8	Malc	SUN
	1745z	02/12 [242/00] Out 1748z S2 (Dutch SDR)	Malc, MG	MON
	1745z	09/12 [248/00] Out 1748z S2 (Finnish SDR)	Malc, MG	MON
	1745z	16/12 [246/00] Weak with QSB	Brian	MON
	1745z	29/12 [247/35 01310 78412 25965 08719 78525 ...] Fair/good	MG	SUN
	1745z	30/12 [247/00] Weak OTHR QRM Twente SDR	MG	MON
13363kHz	1430z	02/11 [915/00] Out 1433z S8	Malc, HfD	SAT
	1430z	05/11 [911/00] Out 1433z S9	Malc	TUE
	1430z	09/11 [915/00] Out 1433z S7	Malc, Gary H	SAT
	1430z	12/11 [919/40 99772 21125 44564 01401 78991 51389 35271.....91438 00382 22353]	Ary, Gary H	TUE
	1430z	19/11 [910/00] Out 1433z S6	Malc	TUE
	1430z	26/11 [917/00]	Gary H, Malc	TUE
	1430z	30/11 [919/00] Out 1433z S7	Malc, MG	SAT
	1430z	03/12 [915/34 20089.....12564] Out 1440z S6	Malc	TUE
	1430z	10/12 [917/00] Out 1433z S2	Brixmis	TUE
	1430z	14/12 [912/00]	Gary H	SAT
	1430z	17/12 [915/00]	Gary H	TUE
	1430z	21/12 [912/00]	Gary H	SAT
	1430z	28/12 [919/00] Strong	Brian	SAT
	1430z	31/12 [912/00]	Gary H	TUE
13908kHz	0745z	05/11 [225/00] Good	RNGB, Malc, HfD	TUE
	0745z	07/11 [221/00] Out 0748z S9	Malc	THU
	0745z	12/11 [225/00] Out 0748z S9	Malc	TUE
	0745z	14/11 [220/00] Out 0748z S9	Malc	THU
	0745z	19/11 [220/00] Out 0748z S9	Malc	TUE
	0745z	21/11 [229/00] Out 0748z S9+10	Malc, MG	THU
	0745z	26/11 [221/38 99701.....56492] Out 0756z S5	Malc	TUE
	0745z	03/12 [228/31 74688.....02315] Out 0755z S6	Malc	TUE
	0745z	05/12 [228/00] Out 0748z S4	Malc	THU
	0745z	24/12 [229/00]	MG	TUE
	0745z	26/12 [229/00] Out 0748z S5	Brixmis, MG	THU
	0745z	31/12 [221/00] Strong Out 0748z	MG	TUE
14410kHz	1045z	04/11 [694/00] Very Strong	dMHz, HfD	MON
	1045z	06/11 [690/00] Out 1048z S9	Malc, dMHz	WED
	1045z	11/11 [691/00] Out 1048z S9	Malc	MON
	1045z	13/11 [690/00] Out 1048z Strong	dMHz	WED
	1045z	18/11 [694/00] Out 1048z S9	Malc	MON
	1045z	20/11 [692/00] Out 1048z S9	Malc	WED
	1045z	25/11 [694/26 33210.....16342] Out 1053z S7	Malc	MON

1045z	02/12	[696/00]	Out 1048z S7		Malc	MON
1045z	04/12	[698/00]	Out 1048z S7		Malc	WED
1045z	09/12	[696/28 37052	01612] Out 1054z S8		Malc	MON
1045z	16/12	[697/00]	Good		Brian	MON
1045z	25/12	[696/00]	Good		Brian	WED
1045z	30/12	[693/00]	RTTY QRM at end Out 1048z		MG	MON
14575kHz	0715z	08/11	[637/00] Out 0718z S7		Malc	FRI
	0715z	24/12	[636/00] Strong		MG	TUE
14611kHz	0820z	05/11	[134/00] Good		RNGB, HfD	TUE
	0820z	06/11	[135/00] Good		RNGB	WED
	0820z	12/11	[130/00] Good		RNGB	TUE
	0820z	13/11	[130/00] Out 0823z S5		Malc	WED
	0820z	19/11	[131/31 63820.....23790] Out 0829z S6		Malc	TUE
	0820z	26/11	[136/00] Out 0823z S4		Malc	TUE
	0820z	27/11	[138/00] Out 0823z S4		Malc	WED
	0820z	03/12	[134/00] Out 0823z S6		Malc	TUE
	0820z	04/12	[131/00] Out 0823z S4		Malc	WED
	0820z	18/12	[134/00] Out 0823z S3		Brixmis	WED
	0820z	25/12	[133/31 37027 55867 5??91 24155 94241 ...] QSB maybe copy errors		MG	WED
	0820z	31/12	[131/00] Good		MG	TUE
14753kHz	0450z	04/11	[414/00]		HfD	MON
14865kHz	0715z	01/11	[631/00] Out 0718z S6		Malc	FRI
14975kHz	0715z	01/11	[631/00]		HfD	FRI
	0715z	05/11	[636/00] OUT 0718z S7		Malc	TUE
	0715z	12/11	[635/00] Out 0718z S6		Malc	TUE
	0715z	15/11	[635/00] Out 0718z S4 (Dutch SDR)		Malc	FRI
	0715z	19/11	[636/00] Out 0718z S7		Malc	TUE
	0715z	22/11	[639/00] Out 0718z S9		Malc	FRI
	0715z	26/11	[639/36 24355.....14156] Out 0726z S4		Malc	TUE
	0715z	03/12	[639/00] Out 0718z S7		Malc	TUE
	0715z	31/12	[633/00] Strong Out 0718z		MG	TUE
15915kHz	0900z	04/11	[533/00] Good		RNGB, HfD	MON
	0900z	06/11	[536/00] Good		RNGB, Malc, Brixmis	WED
	0900z	11/11	[532/00] Out 0903z S7		Malc	MON
	0900z	13/11	[536/00] Out 0903z S5		Malc	WED
	0900z	18/11	[530/00] Out 0903z S5		Malc	MON
	0900z	20/11	[533/00] Out 0903z S5		Brixmis	WED
	0900z	25/11	[534/34 12702.....90479] Out 0910z S9 QSB6		Malc	MON
	0900z	02/12	[537/00] Out 0903z S7		Malc	MON
	0900z	04/12	[537/00] Out 0903z S7		Malc	WED
	0900z	09/12	[532/00] Out 0903z S8 QSB3		Malc	MON
	0900z	16/12	[536/00] Good		RNGB, Brian	MON
	0900z	23/12	[533/38 72856 76166 71120 10118 23987 60981 99824 66333.....96721 71010]		Brian, MG	MON
	0900z	30/12	[534/00] Strong Out 0903z		MG	MON
17378kHz	0745z	01/11	[347/00] Out 0748z S3		Malc, HfD	FRI
	0845z	05/11	[154/00] Out 0848z S9		Malc, HfD	TUE
	0745z	06/11	[348/00] Fair		RNGB	WED
	0845z	07/11	[154/00] Out 0848z S7		Malc	THU
	0745z	08/11	[342/00] Out 0748z S5		Malc	FRI
	0845z	12/11	[152/00] Strong		RNGB	TUE
	0745z	13/11	[342/00] Out 0748z S5		Malc	WED
	0845z	14/11	[157/00] Out 0848z S7		Malc	THU
	0845z	19/11	[151/00] Out 0848z S9		Malc	TUE
	0745z	20/11	[344/37 90093 78796 97808 26832 75809 69291 57581 54073.....11963 12297]		Ary, Brixmis, Malc	WED
	0845z	21/11	[154/00] Out 0848z S9		Malc, MG	THU
	0845z	26/11	[154/37 46852.....49224] Out 0856z S9		Malc	TUE
	0745z	27/11	[348/00] Out 0748z S6		Malc	WED
	0745z	29/11	[346/00] Out 0748z S8		Malc	FRI
	0745z	04/12	[346/39 05989.....08799] Out 0756z S8		Malc	WED
	0845z	05/12	[156/32 88162.....87407] Out 0855z S3		Malc	THU
	0845z	12/12	[157/00] Good		RNGB	THU
	0845z	24/12	[154/00] Good		RNGB	TUE
	0745z	25/12	[349/00] Good Out 0748z		MG	WED
	0845z	31/12	[151/00] Good HF Trading (?) QRM		MG	TUE
20167kHz	0715z	04/11	[750/38 99285.....etc]		HfD	MON
	0715z	06/11	[750/38 99285..... 55836] Out 0726z S4 (Dutch SDR)		Malc	WED
	0715z	11/11	[753/00] Out 0718z S2		Malc	MON
	0715z	13/11	[754/00] Out 0718z S2		Malc	WED
	0715z	18/11	[754/00] Out 0718z S2 (Dutch SDR)		Malc	MON
	0715z	20/11	[759/00] Out 0718z S4 (Dutch SDR)		Malc	WED
	0715z	25/11	[750/00] Out 0718z S3 (Dutch SDR)		Malc	MON
	0715z	27/11	[754/00] Out 0718z S2 (Dutch SDR)		Malc	WED
	0715z	02/12	[753/00] Out 0718z S2		Malc	MON

0715z	04/12 [750/00] Out 0718z S3	(Dutch SDR)	Malc	WED
0715z	09/12 [759/32 06145..... 27905]	Out 0725z S4	Malc	MON
0715z	25/12 [759/00] Strong	Out 0718z	MG	WED
23004kHz	0600z	04/11 [945/00]	HfD	MON
	0600z	20/11 [944/33 32397 34600 83545 12395 23071.....]	MG	WED
	0600z	25/11 [941/00] Very weak	MG	MON
	0600z	27/11 [945/00] Weak	MG	WED
	0600z	02/12 [945/00] Very weak OTHR QRM	MG	MON
	0600z	04/12 [941/00] Weak	MG	WED
	0600z	18/12 [946/00] Weak	MG	WED
23353kHz	0830z	01/11 [180/00] Out 0833z S9	RNGB, Malc, HfD	FRI
	0830z	04/11 [184/00] Fair	RNGB	MON
	0830z	08/11 [181/00] Out 0833z S9	Malc	FRI
	0830z	11/11 [189/35 17927 92794 24065 93403 02752 22552 30104 93709.....40212 93499]	RNGB	MON
	0830z	18/11 [182/00] Out 0833z S3	Malc	MON
	0830z	22/11 [189/00] Fair	RNGB	FRI
	0830z	25/11 [185/00] Weak	RNGB	MON
	0830z	29/11 [188/00] Out 0833z S3	Malc	FRI
	0830z	02/12 [188/00] Weak with heavy QRM	RNGB	MON
	0830z	06/12 [181/00] Out 0833z S3	Malc	FRI
	0830z	09/12 [182/37 07801 72094 83984 58984 17669 72551.....83959 32571]	RNGB, Malc	MON
	0830z	16/12 [183/00] Fair	RNGB	MON
	0830z	20/12 [188/00] Strong with QRM	PLdn	FRI
	0830z	23/12 [185/00] Weak	Brian	MON

PoSW's analysis of E11

A few of the stronger appearances of this station, most with reference to logs from the same months of last year with a couple of additions courtesy of the prediction list in the newsletter. As always mostly three minutes of "oblique zero zero", messages always have thirty-something 5F groups or at the most forty.

5371 kHz 0700 UTC

9-Nov-24, Sat:- "495/00"
 10-Nov-24, Sun:- "498/00"
 16-Nov-24, Sat:- "496/00"
 17-Nov-24, Sun:- "492/00"
 23-Nov-24, Sat:- "495/00"
 30-Nov-24, Sat:- "491/00"
 7-Dec-24, Sat:- "498/00"
 8-Dec-24, Sun:- "492/00"
 14-Dec-24, Sat:- "491/00"
 21-Dec-24, Sat:- "496/33", message, "Out" at 0709:56s UTC.
 22-Dec-24, Sun:- "496/33" again.

5409 kHz 1530 UTC

14-Nov-24, Thu:- "261/00"
 28-Nov-24, Thu:- "269/00"
 5-Dec-24, Thu:- "260/38", message, "Out" at 1540:50s UTC.
 12-Dec-24, Thu:- "264/00"
 19-Dec-24, Thu:- "264/00"

5432 kHz 1605 UTC

3-Nov-24, Sun:- "236/00"
 5-Nov-24, Tue:- "237/40, message, "Out" at 1616:18s UTC.
 17-Nov-24, Sun:- "237/00"
 26-Nov-24, Tue:- "237/00"
 8-Dec-24, Sun:- "238/00"
 17-Dec-24, Tue:- ""231/00"
 22-Dec-24, Sun:- "235/00"

6804 kHz 0700 UTC

1-Nov-24, Fri:- "576/99"
 5-Nov-24, Tue:- "571/35", message, "Out" at 0710:6s UTC.
 8-Nov-24, Fri:- "571/35" again.
 12-Nov-24, Tue:- "573/00"
 15-Nov-24, Fri:- "579/00"
 19-Nov-24, Tue:- "575/00"
 22-Nov-24, Fri:- "575/00"
 26-Nov-24, Tue:- "571/00"
 29-Nov-24, Fri:- "577/00"
 3-Dec-24, Tue:- "570/00"
 6-Dec-24, Fri:- "577/00"
 10-Dec-24, Tue:- "570/33", message, "Out" at 0709:50s UTC.
 13-Dec-24, Fri:- "570/33" again.
 17-Dec-24, Tue:- "577/00"
 20-Dec-24, Fri:- "573/002"

6849 kHz 1815 UTC

3-Nov-24, Sun:- "924/00"
8-Nov-24, Fri:- "926/00"
15-Nov-24, Fri:- "927/00"
17-Nov-24, Sun:- "926/00"
22-Nov-24, Fri:- "929/37", message, "Out" at 1825:40s UTC.
24-Nov-24, Sun:- "929/37" again.
8-Dec-24, Sun:- "922/38", message, "Out" at 1825:47s UTC.
13-Dec-24, Fri:- "922/00"
20-Dec-24, Fri:- "921/00"
22-Dec-24, Sun:- "924/00"

6849 kHz 1900 UTC

4-Nov-24, Mon:- "649/00"
7-Nov-24, Thu:- "644/00"
11-Nov-24, Mon:- "648/40", message, "Out" at 1911:23s UTC.
14-Nov-24, Thu:- "648/40" again.
18-Nov-24, Mon:- "646/00"
21-Nov-24, Thu:- "646/00"
25-Nov-24, Mon:- "644/00"
28-Nov-24, Thu:- "643/00".
5-Dec-24, Thu:- "649/36", message, "Out" at 1910:26s UTC.
9-Dec-24, Mon:- "644/00"
19-Dec-24, Thu:- "648/00"

12067 kHz 0845 UTC

4-Nov-24, Mon:- "719/00"
6-Nov-24, Wed:- "714/00"
11-Nov-24, Mon:- "714/00"
13-Nov-24, Wed:- "715/00"
18-Nov-24, Mon:- "713/31", message, "Out" at 0854:26s UTC.
20-Nov-24, Wed:- "713/31" again.
25-Nov-24, Mon:- "713/00"
27-Nov-24, Wed:- "715/00"
4-Dec-24, Wed:- "711/00"
9-Dec-24, Mon:- "713/39", message, "Out" 0856:6s UTC.
11-Dec-24, Wed:- "713/39" again.
18-Dec-24, Wed:- "714/00"

13363 kHz 1430 UTC

2-Nov-24, Sat:- "915/00"
5-Nov-24, Tue:- "911/00"
9-Nov-24, Sat:- "915/00"
12-Nov-24, Tue:- "919/40", message, "Out" at 1441:9s UTC.
16-Nov-24, Sat:- "919/40" again.
19-Nov-24, Tue:- "910/00"
23-Nov-24, Sat:- "919/00"
26-Nov-24, Tue:- "917/00"
7-Dec-24, Sat:- "915/34", message, weak signal, sank into noise.
10-Dec-24, Tue:- "917/00"
17-Dec-24, Tue:- "915/00"

13908 kHz 0745 UTC

5-Nov-24, Tue:- "225/00"
12-Nov-24, Tue:- "225/00"
19-Nov-24, Tue:- "220/00"
26-Nov-24, Tue:- "221/38", message, "Out" at 0755:54s UTC.
3-Dec-24, Tue:- "228/31", message, "Out" at 0754:25s UTC.
10-Dec-24, Tue:- "223/00"
12-Dec-24, Thu:- "229/00"
17-Dec-24, Tue:- "224/00"
19-Dec-24, Thu:- "228/00"

15915 kHz 0900 UTC

11-Nov-24, Mon:- "532/00"
18-Nov-24, Mon:- "530/00"
20-Nov-24, Wed:- "533/00"
25-Nov-24, Mon:- "534/34", message, "Out" at 0910:7s UTC.
4-Dec-24, Wed:- "537/00"
9-Dec-24, Mon:- "532/00"
11-Dec-24, Wed:- "536/00"
18-Dec-24, Wed:- "532/00"

17378 kHz 0745 UTC

8-Nov-24, Fri:- "342/00"
13-Nov-24, Wed:- "342/00"
15-Nov-24, Fri:- Nothing readable, presumably due to propagation issues.
20-Nov-24, Wed:- "344/37", message, "Out" at 0755:38s UTC.
22-Nov-24, Fri:- "344/37" again.
27-Nov-24, Wed:- "348/00"
29-Nov-24, Fri:- "346/00"
4-Dec-24, Wed:- "346/39", message, "Out" at 0755:5s UTC.
6-Dec-24, Fri:- "346/39" again.

6252kHz	0915z	01/11 [480/00] Fair		RNGB, HfD	FRI
	0915z	04/11 [486/00] Good		RNGB, Malc	MON
	0915z	08/11 [485/00] Konyetz 0918z S2		Malc	FRI
	0915z	11/11 [482/00] Konyetz 0918z S2		Malc	MON
	0915z	15/11 [487/00] Konyetz 0918z S2		Malc	FRI
	0915z	18/11 [480/00] Konyetz 0918z S2		Malc	MON
	0915z	25/11 [483/32 44741.....16342] Konyetz 0926z S2		Malc	MON
	0915z	02/12 [485/00] Konyetz 0918z S3		Malc	MON
	0915z	06/12 [481/00] Konyetz 0918z S3		Malc	FRI
	0915z	09/12 [481/34 71360.....76177] Konyetz 0926z S3		Malc	MON
	0915z	16/12 [480/00] Good (Polish SDR)		RNGB	MON
	0915z	23/12 [485/00] Twente SDR		MG	MON
	0915z	30/12 [483/00] Weak		RNGB, MG	MON
9050kHz	0700z	04/11 [471/00] Konyetz 0703z S5		Malc, HfD	MON
	0700z	07/11 [478/00] Fair		RNGB	THU
	0700z	11/11 [471/00] Konyetz 0703z S4		Malc	MON
	0700z	18/11 [477/34 37538.....50941] Konyetz 0711z S5		Malc	MON
	0700z	25/11 [475/00] Konyetz 0703z S5		Malc	MON
	0700z	28/11 [472/00] Konyetz 0703z S4		Malc	THU
	0700z	02/12 [476/00] Konywtz 0703z S4		Malc	MON
	0700z	05/12 [477/00] Konyetz 0703z S5		Malc	THU
	0700z	19/12 [478/00] Konyetz 0703z Very weak		PLdn	THU
	0700z	26/12 [479/00] Konyetz 0703z Twente SDR		MG	THU
	0700z	30/12 [470/00] Good		RNGB	MON
10448kHz	1400z	01/11 [427/00] Konyetz 1403z S5		Malc, HfD	FRI
	1400z	05/11 [420/00] Konyetz 1403z S6		Malc	TUE
	1400z	08/11 [429/00] Konyetz 1403z S7		Malc	FRI
	1400z	12/11 [420/00] Konyetz 1403z S4		Malc	TUE
	1400z	15/11 [427/00] Konyetz 1403z S4		Malc	FRI
	1400z	19/11 [420/35 12295..... 66337] Konyetz 1411z S5		Malc	TUE
	1400z	26/11 [427/00]		Malc, Gary H	TUE
	1400z	29/11 [427/00] Konyetz 1403z S9		Malc, MG	FRI
11486kHz	1850z	02/11 [288/00] Konyetz 1853z S9		Malc, HfD	SAT
	1850z	06/11 [281/37 35350..... 37525] Konyetz 1902z S9		Malc	WED
	1850z	13/11 [286/00] Konyetz 1853z S9+10		Malc	WED
	1850z	20/11 [284/00] Konyetz 1853z S3		Malc	WED
	1850z	23/11 [282/00] Konyetz 1853z Twente SDR		MG	SAT
	1850z	27/11 [285/00] Konyetz 1853z S2		Malc	WED
	1850z	30/11 [281/00] Konyetz 1853z S2		Malc, MG	SAT
	1850z	04/12 [285/00] Konyetz 1853z S3 (Dutch SDR)		Malc, MG	WED
	1850z	07/12 [285/00] Konyetz 1853z S2 (Dutch SDR)		Malc	SAT
11559kHz	0445z	05/11 [796/00]		HfD	TUE
21906kHz	0510z	04/11 [659/37 96938.....etc]		HfD	MON
23486kHz	0725z	01/11 [385/00]		HfD	FRI
	0725z	06/11 [383/00] Konyetz 0728z S2		Malc	WED
	0725z	08/11 [380/00] Konyetz 0728z S3 (Finnish SDR)		Malc	FRI
	0725z	13/11 [385/00] Konyetz 0728z S3 (Dutch SDR)		Malc	WED
	0725z	15/11 [381/00] Konyetz 0728z S3 (Dutch SDR)		Malc	FRI
	0725z	20/11 [380/39 80591.....66212] Konyetz 0736z S3 (Dutch SDR)		Malc	WED
	0725z	27/11 [383/00] Konyetz 0728z S3 (Dutch SDR)		Malc	WED
	0725z	29/11 [381/00] Konyetz 0728z S4 (Dutch SDR)		Malc	FRI
	0725z	04/12 [382/35 98974.....66796] Konyetz 0736z S4 (Dutch SDR)		Malc	WED
	0725z	25/12 [380/00] Strong then lost to QSB		MG	WED

V07

Sunday

November 2024

0200z 17431kHz 0220z 16131kHz 0240z 14431kHz

17431kHz 0200z 03/11 414 1 1757 89 09071 ... 90533 000 000) QSA 3 DanAR SUN

414 414 414 1
1757 89
09071 25689 89564 21011 11026
38873 02549 13281 02054 05476
13022 91715 89808 63576 10079
05432 33952 78483 91930 32046
84302 16901 14944 27985 65654
00597 22898 30284 39444 99516
76477 11917 85347 55449 91232
38905 59617 30978 38216 98271
66243 89405 84987 31614 95281

95203 62029 38345 50956 92195
70996 42143 78855 48841 79835
91657 00109 04313 34201 35147
24071 71797 49314 42283 30797
40450 47885 84907 49668 84002
19526 88423 72734 90447 24410
05744 87545 75232 53347 48749
10514 72737 59222 03626 90609
88649 81006 94685 90533
000 000 *Courtesy DanAR*

17431kHz 0200z 10/11 414 1 1658 79 63744 ... 46805 000 000 QSA3 DanAR SUN

414 414 414 1
1658 79
63744 25807 89154 08660 64318
37201 67407 63611 61539 59246
30389 32059 53588 13057 97878
45568 25130 72852 25259 46528
99442 99334 95199 76949 42440
11639 31182 03083 08190 48558
51607 32308 24309 58574 97477
40199 70439 72587 03719 78823
15908 94728 79453 36519 44895
16111 46629 59523 76292 81973
32662 75732 26586 32619 10951
01734 38363 77499 94676 66268
97471 84184 04782 27603 71771
73276 17226 18838 53560 85544
38134 81698 82542 34020 97588
70322 10620 34390 46805
000 000 *Courtesy DanAR*

17431kHz 0200z 17/11 414 1 1517 69 78809 ... 33339 000 000 QSA3 DanAR SUN

414 414 414 1
1517 69
78809 78809 24043 95351 61818
76957 24662 68369 48830 93254
23764 03569 88595 51658 36282
48908 15673 17630 11417 86088
56920 11394 28752 97464 19991
72941 90525 10559 54602 57336
26893 65713 26450 10962 54763
99840 77530 04979 80662 94661
88043 72297 98296 60451 17658
30874 20684 84182 03942 39517
78383 48213 82522 53195 34736
72728 06978 43788 51023 11761
50976 46512 89012 12562 68448
18642 49219 76011 00644 33339
000 000 *Courtesy DanAR*

17431kHz 0200z 24/11 414 414 414 1 5194 119 26407 Weak signal DanAR SUN

December 2024

0200z 18249kHz 0220z 15949kHz 0240z 14549kHz

18249kHz 0200z 01/12 (295 1 7644 89 95836 ... 10046 000 000 QSA3 DanAR SUN

295 295 295 1
7644 89
95836 10957 47669 60035 00189
36825 29487 00640 58937 49164
00368 56718 65165 59420 07030
42237 59871 07170 32744 39690
90939 87570 35509 24603 35104
21538 79223 96446 77496 36971
77213 20187 85675 35211 65013
77079 02691 50067 07154 56897
14147 12562 38207 47666 14961
62118 15386 54972 60759 91567
30066 19977 80204 23235 51727
83464 57811 45367 29197 69068
41860 28195 17004 74975 03741
27764 03849 66371 28858 68421
70717 11147 19689 63810 94141
94184 89210 26337 25011 05333
48044 76230 61571 49963 19082
75848 46718 14191 10046
000 000 *Courtesy DanAR*

18249kHz 0200z 08/12 295 1 4360 116 35209 ... 91400 000 000 QSA2 DanAR SUN

295 295 295 1
4360 116
35209 42347 63020 01816 69770
20130 60507 11746 91875 93506
29387 10425 32909 44972 61353
28455 60276 59150 59290 59860
99206 40614 56980 74500 28055
79281 30381 37640 20933 82499
26204 78317 01038 23395 87602
53941 82807 82818 45723 40028
98978 61238 62169 24520 23593
17146 88629 75577 24887 68655
44121 47806 90799 02412 86016
45762 35431 41402 55852 75306
18772 34258 66835 23400 66433
64218 10841 80349 17069 93479
20869 66125 70283 28422 50436
65338 45223 52899 53090 88416
53992 65839 72168 72588 90766
98457 48475 26540 79810 35656
33073 87337 40238 09144 90492
46726 51339 78279 05529 03916
82561 24603 51480 15630 10609
81147 02892 55416 05253 31314
61688 89927 46552 23768 94530
91400 000 000 Courtesy DanAR

18294kHz 0200z 15/12 295 1 8455 74 20987 ... 23358 000 000 QSA2 DanAR SUN

295 295 295 1
8455 74
20987 99124 74545 68391 03743
54824 40886 17507 16304 36196
69030 46087 06666 99308 38154
82450 78995 71843 65655 93257
77124 97183 79705 30185 03801
75725 04024 88142 67999 60984
64715 68391 29908 36840 70208
69649 77534 26535 18233 55869
20346 72772 30868 70075 98567
38377 97218 42499 02209 12834
43101 27092 81846 08762 15131
81306 70015 62988 86139 37007
77203 63249 77110 73294 16549
48950 05613 82658 22804 80335
14468 86761 57389 23358
000 000 Courtesy DanAR

18249kHz 0200z 22/12 295 1 5693 61 36725 ... 96786 000 000QSA3 DanAR SUN

295 295 295 1
5693 61
36725 85040 01126 97749 44585
02736 92909 39633 91264 97552
86005 05930 13573 60634 27336
27187 80367 40472 14538 74790
93056 78723 12963 10896 25183
63620 87643 60343 07498 41967
29319 25100 21858 29640 62068
44445 76795 41469 88531 80226
79526 88159 15790 80031 46105
61927 54666 60376 44655 35480
14304 73360 42929 44423 10105
36232 09484 46692 38354 98847
96786 000 000 Courtesy DanAR

18249kHz 0200z 29/12 295 1 4114 112 98574 ... 13503 000 000 QSA3 DanAR SUN

295 295 295 1
4114 112
98574 83302 19976 32874 53400
37345 60237 65663 85012 08578
15201 45469 52894 38683 36524
77092 18847 71098 29799 66141
34452 34200 85417 18161 69542
91419 37973 04990 29033 45939
31983 74978 81497 32891 47093
81006 62906 89858 96828 79153

25251 80821 94292 71936 31825
 96889 57075 42119 00117 95273
 12566 76199 30550 10669 58459
 76988 68993 28068 29722 03313
 64130 08436 72339 39980 15921
 33536 13880 78920 50539 58268
 64015 50072 59024 62736 33028
 10449 14826 79778 91598 32287
 40090 16229 85084 28952 57546
 12587 71923 20549 80096 57795
 76249 28286 42006 27932 31636
 54405 17731 04929 04325 59490
 70052 74527 47650 50215 16250
 31853 10433 29330 42109 24096
 89733 13503 000 000

Courtesy DanAR

V13

20095kHz	1008z	17/11 Carrier detected on longwire antenna RTTY QRM	MG	SUN
20025kHz	1009z	17/11 Carrier detected on longwire antenna	MG	SUN

V15 North Korean Intelligence via Radio Pyongyang

Nil Reports

V24 South Korean Intelligence

Nil Reports

V26

Nil Reports

Polytones

XPA1 Wed/Fri

November 2024

Wednesday/Friday

1310z	13875kHz	1330z	13375kHz	1350z	10875kHz
01/11	838 000 05691 00001 00000 ... 34666				1350z Weak, rest Strong
06/11	838 1 00631 00141 83857 ... 20572				Strong, 1350z MISSED

838 838 838 1 838 838 838 1 838 838 838 1

00631 00141 83857 08058 25345 50600 89337 12423 58996 18913
 77972 37188 13496 11277 17091 66612 04313 61682 84145 40378
 87565 13619 52858 23584 89976 84520 07034 23560 47004 21883
 64018 12460 52499 57733 65296 35188 77444 37000 45388 29960
 83713 43124 21467 17510 16296 39386 48538 06423 70305 42331
 59906 97430 76462 36423 11892 75414 83347 74703 85347 17387
 45838 45974 82641 89875

58595 54705 39954 20392 37404 92091 86299 85985 57466 63348
 18447 87189 13174 29220 99855 10584 85361 52336 44166 48952
 50951 68443 47314 03665 84678 50503 72433 19992 65453 91641
 83729 06363 25986 40928 74624 34333 08303 89485 51903 07773
 43073 87213 69688 38450 32663 79086 22460 21580 67499 44531
 97154 17943 78413 90797 56008 88679 42155 87680 03649 67798
 40062 57229 28246 40506

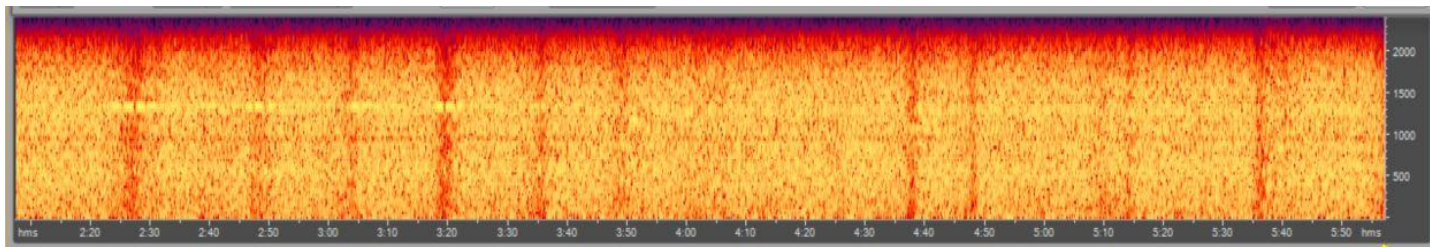
36777 38880 33644 38159 37826 46006 48111 36079 22889 72238
 15399 38487 34879 38359 81566 20572 *Courtesy PLdn*

08/11	838 1 00631 00141 83857 ... 20572	Fair, 1350z started late
-------	-----------------------------------	--------------------------

13/11	838 1 00631 00141 83857 ... 20572	Weak, 1350z started late
15/11	838 1 00631 00141 83857 ... 20572	Weak, 1350z started late
20/11	838 000 07782 00001 00000 ... 35667	1350z Fair, rest Weak
22/11	838 000 01296 000001 00000 ... nnnnn	1310z Weak, rest unworkable
27/11	838 000 05183 00001 00000 ... 33265	1310z Very strong, rest Fair
29/11	838 000 03921 00001 00000 ... 36255	1310z Weak, 1330z Unworkable, 1350z MISSED

December 2024

1310z 13465kHz 1330z 12165kHz 1350z 10265kHz



XPA1 Wed/Fri 10265kHz 1350z 04/12/2024 QRM5

04/12	412 1 00688 00117 57168 ... 60453	Fair, 1350z QRM5 [See above]
412 412 412 1 412 412 412 1 412 412 412 1		
00688 00117 57168 57942 33947 57003 66985 55784 72661 64859 71068 11516 98723 55355 58227 80035 71860 85396 84613 21553 63131 42160 77057 08582 69841 00944 39812 91913 22452 94142 49583 76564 25568 21568 19821 74170 69194 66452 90647 56053 54703 34622 31472 10545 79564 74654 93776 03901 28108 90289 02232 16142 96147 35982 34602 44384 65462 28298 60892 67555 20691 56701 38795 61816		
98166 67418 68724 17824 96675 66526 89660 57440 52772 33580 70377 16893 24648 72930 75849 86364 45768 04823 02084 18657 82858 26803 04350 68025 01401 75010 15897 20400 57144 17993 08979 56165 21401 55345 78954 89745 95522 32285 72263 27628 67210 51695 19041 95732 80173 45115 41290 50553 54223 82542 64599 35776 52928 78964		
70194 60453 <i>Courtesy PLdn</i>		
06/12	412 1 00688 00117 57168 ... 60453	Fair, 1350z QRM5
11/12	412 1 00688 00117 57168 ... 60453	Strong, 1350z QRM5
13/12	412 1 00688 00117 57168 ... 60453	Strong, 1350z QRM5
18/12	412 000 03489 00001 00000 ... 37663	1310z Strong, 1330z Very strong 1350z MISSED
20/12	412 000 02194 00001 00000 ... 33663	Strong, 1350z MISSED
25/12	NOT MONITORED	
27/12	421 1 04472 00130 67082 ... 07052	1330z Weak, 1350z QRM5 1310z MISSED

XPA2 Mon/Wed [p]

Monday/Wednesday

November 2024

0800z 11529kHz 0820z 13429kHz 0840z 13929kHz

04/11	08800 00128 14848 ... 43741	0800z Fair, rest Strong	[Repeat of 30/10/2024]
-------	-----------------------------	-------------------------	------------------------

08800 00128 14848 54960 27774 71028 09348 30700 17356 52651
85043 16248 12405 72290 64156 97029 73388 22224 46445 69623
99268 27682 04939 88524 75198 34960 31610 68948 70951 89575
38436 08099 46520 98237 33248 27553 33089 62036 73126 27187
22500 51057 97739 15459 72942 71010 10125 29578 09535 73746
35152 51150 45031 50337 23979 40632 43434 78252 61475 14956
13128 00707 96656 60887 63342 05513 54156 30370 60330 42411
26323 33816 06037 45450 64721 83593 40253 85283 05430 59792
49087 86886 79995 55575 64411 79975 91260 62601 77130 93172
29545 50052 97542 31329 60811 37437 88047 98557 44849 04845
48872 74254 20197 62840 80733 50454 66811 98603 25307 65548
17116 86026 61128 65188 30350 75507 68925 39309 58861 92775
92377 57202 60077 69393 27099 55759 99215 17589 28975 04582
43741 *Courtesy PLdn*

06/11	08800 00128 14848 ... 43741	0800z Strong, rest Very strong
11/11	04973 00001 00000 ... 37263	Strong
13/11	05996 00001 00000 ... 40666	0800z Weak, rest Strong
18/11	04255 00115 80170 ... 54037	Strong

04255 00115 80170 57414 50994 03381 16377 89216 75922 65152
78344 53473 92673 89794 40504 53876 88724 09683 54188 55820
37911 00399 14974 72692 98081 85943 19329 41467 64052 91074
49593 50422 07310 39122 08651 99414 15427 09953 76726 09841
90142 27616 65724 69379 45370 33517 98457 46046 55733 66099
28754 51570 53992 69407 84722 80035 52369 62113 20140 72614
87234 83388 84032 07740 31967 23881 60191 63552 89765 01174
26774 45224 32078 78164 38941 13919 78007 10495 15831 56920
09044 32275 38664 43844 97676 98629 84134 88377 91761 48910
99276 64365 06807 63456 28967 04280 01318 67813 88513 30765
33115 68681 56226 71970 59436 78394 04703 27332 09673 52441
86011 29281 89661 78417 61114 71840 84073 54037

Courtesy PLdn

18/11	04255 00115 80170 ... 54037	Fair
25/11	04255 00115 80170 ... 54037	0800z Weak QRM3, rest Strong, QRMe 0820z
27/11	04255 00115 80170 ... 54037	0800z Fair, rest Strong

December 2024

0800z	11493kHz	0820z	13393kHz	0840z	13993kHz
02/12		00253 00101 69825 ... 50342			0800z Strong, rest Very strong
00253 00101 69825 87056 68066 06462 87954 24864 67496 33810 78666 91719 37397 14696 43888 34025 97377 43035 92070 70474 66507 26837 92529 65101 04083 34947 30829 12450 55575 85858 11630 05782 76045 76536 26334 31491 05327 61194 06938 72075 95248 59579 28348 03772 40418 58781 68005 17614 61394 42430 01221 43877 38687 25402 27070 41298 80104 99698 36889 36243 54215 39987 11327 97844 07282 89131 62090 88692 35199 59282 84915 39967 77769 18171 83107 10021 07506 77875 06739 93861 48271 75727 83560 13800 10593 20094 10664 79779 77236 14388 28285 99151 62642 77598 24030 61129 14542 24411 20813 22892 92876 85570 91788 50342					
<i>Courtesy PLdn</i>					

04/12	00253 00101 69825 ... 50342	0840z Very strong, rest Strong
09/12	00253 00101 69825 ... 50342	Very strong
11/12	00253 00101 69825 ... 50342	Very strong
16/12	04804 00001 00000 ... 37254	Very strong
18/12	05899 00001 00000 ... 41666	0800z Strong, rest Very strong
23/12	04252 00075 28361 ... 74207	0840z Strong, rest Fair
04252 00075 28361 73630 87097 83205 66524 43551 09504 84648 26403 05038 18949 16839 91790 39127 77663 13064 45446 33285 03770 42004 96284 17311 40845 23795 11460 35687 91214 72761 03672 13652 60351 94712 71766 67413 30421 18100 99401 12902 39723 91437 93787 80221 76932 52655 96912 23622 66410 60938 07015 93621 54512 13241 55945 98543 84742 85439 68305 84796 61978 55998 18396 42342 60330 82175 04066 60336 79056 52818 38657 26016 25627 54994 58076 48830 61990 74207		
<i>Courtesy PLdn</i>		
25/12	Strong	MG MON
30/12	00517 00156 14499 ... 64326	0840z Fair, rest weak

XPA2 Mon/Sat

Monday/Saturday

November 2024

1600z	8126kHz	1620z	6826kHz	1640z	5326kHz
02/11	Unworkable across schedule. Null msg				
04/11	00409 00228 00062 ... 67535				Weak

09/11 00409 00228 00062 ..., 67535

Weak

00409 00228 00062 83861 35437 02036 49619 50780 60966 85952
 85980 11380 50815 71780 41791 38249 59478 11483 71096 33267
 51881 01564 60260 06087 77442 08463 22583 84683 58904 73295
 22771 05634 50845 83718 98953 85465 79163 70178 18155 10695
 15612 65147 20905 62466 69634 97127 59536 35934 28604 08609
 46237 56647 46486 62744 43415 92455 41149 81310 38179 43015
 53886 30269 82690 21826 25401 11007 40768 43380 56181 20913
 15268 81701 56795 39471 89728 83997 52406 97581 97135 37046
 26406 75866 62309 53089 36030 58985 70245 78900 68559 58808
 41560 39873 68938 57768 93192 23410 90162 81121 31495 64797
 89808 72192 43327 09176 30337 76470 44115 15243 67973 85349
 78068 22398 41522 87440 21449 54821 40477 09459 56961 88142
 74479 19583 19631 93370 41000 03891 53467 51734 92381 86640
 16284 03972 76699 09173 16950 48048 10296 47070 20680 14244
 69912 29618 98369 01383 20139 90477 78873 41500 27971 15697
 29477 78453 29401 52425 27263 97408 60078 72800 06044 04669
 75553 39677 95703 68228 42535 04543 26539 25057 66484 99931
 49451 90274 52006 69793 28858 22088 00458 85000 46989 67917
 57717 07085 10830 75269 45999 23393 55552 58254 56018 68594
 59270 62020 13060 02558 77480 73124 45413 70741 77002 78599
 24634 63069 27472 97114 38284 03366 43927 02477 16124 10982
 67681 29134 63400 79379 28246 69816 22070 37054 56823 06628
 48342 06675 72359 22251 40062 93322 65293 66486 04091 81474
 67535

Courtesy PLdn

11/11 05937 00001 00000 ... 41260

Weak

16/11 04368 00001 00000 ... 36662

!600z Fair, rest Weak

18/11 06257 00157 87834 ... 37217

Weak, 1600z QSB3

23/11 06257 00157 87834 ... 37217

Fair

06257 00157 87834 23785 64772 36023 84816 19891 27113 45528
 95038 58057 21388 27722 44115 49624 31910 91266 23005 25112
 02806 97208 43652 06490 82933 08578 87567 98921 04116 75929
 49123 46297 64922 62640 78744 18789 45727 53612 19275 90225
 31719 55378 79803 73768 82052 06288 36586 40092 31561 11923
 53808 15223 94184 48155 16727 85311 43168 49826 87886 31585
 59055 39322 54748 35581 62204 12377 50773 05508 97606 94392
 40217 46694 90560 91874 86823 75108 63040 04706 40861 33904
 89963 59729 50554 71747 39624 30539 82007 05387 62823 44407
 11774 50175 26951 19343 94658 09504 34745 53530 10342 94156
 09405 97245 76085 24496 71885 67997 52129 72712 45107 98703
 35185 77807 91262 83788 09359 56515 29944 76748 94833 58902
 43981 82960 35131 69949 36678 55865 20103 87806 45689 73421
 21936 22022 90802 85468 96407 66818 93207 12270 47115 46212
 69418 42290 66510 14987 62921 11737 53289 95814 47501 62537
 80615 58059 65029 59177 11327 19269 66976 63797 22216 37217

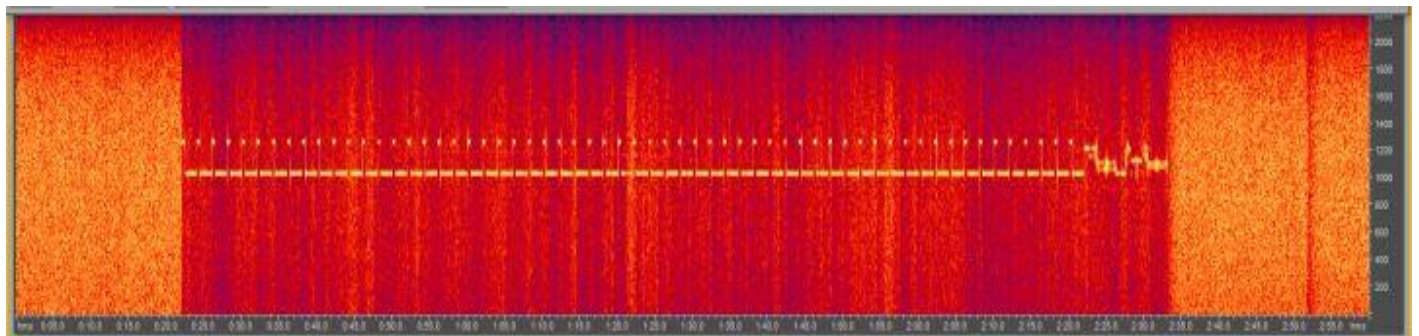
Courtesy PLdn

25/11 05054 00001 00000 ... 33262

Weak

30/11 04765 00001 00000 ... 37262

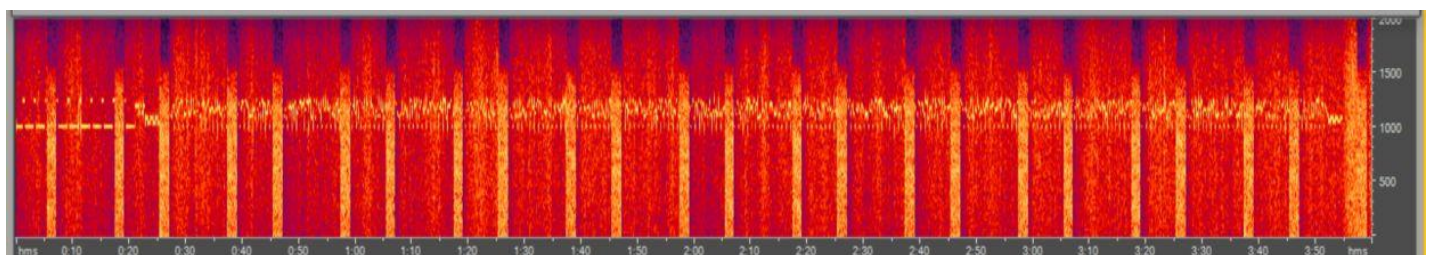
1620z Fair, rest Weak [See below]



XPA2 Mon/Sat 6826kHz 1620z 30/11/2024

December 2024

1600z 6984kHz 1620z 5884kHz 1640z 4784kHz



XPA2 Burst QRM 4784kHz 1640z 02/12/2024

02/12 00201 00265 19036 ... 56451

Fair, 1640z Pulse QRM4 [See above]

07/12 00201 00265 19036 ... 56451

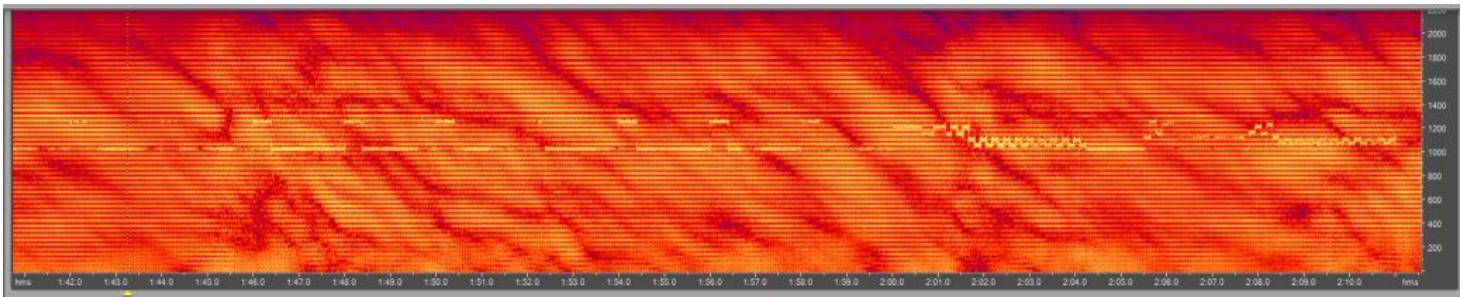
1600z Fair, rest Weak

00201 00265 19036 78988 12182 32149 59263 93760 07597 45879
34154 23847 53515 41056 70148 74206 26197 15848 39786 30310
34999 41170 97174 26285 22535 57043 86811 10466 85615 36638
32458 86279 48987 96112 90088 65338 79469 86445 81260 47883
39284 43411 16472 65927 84097 78583 93721 97632 33300 90683
66568 97325 39948 72100 12614 50305 90952 59619 90568 04285
93237 58765 34060 54439 94884 67699 14736 19143 07300 53764
07414 78827 44858 36619 91225 25011 39819 31011 54530 64022
76880 70280 24322 16389 19859 27695 83663 34230 27086 00572
86473 56938 95216 83405 06566 84355 94542 52641 51060 68191
81552 11366 19989 91594 67797 36793 60538 20392 72452 89723
44052 25852 67723 33659 59913 96718 96200 34291 06038 57556
95035 06900 57429 08067 41640 48011 30931 19512 13456 60770
53130 14198 52275 27335 79285 52894 77990 09342 70662 64764
23124 90106 46628 41667 62879 52714 56225 79359 62054 16991
48311 77637 67439 54113 83294 62608 22732 96592 68311 46363
31634 20111 64328 36999 58949 74051 20855 65584 46351 54487
63431 32076 87435 81887 27461 98877 45609 09260 97827 29955
53563 55830 53805 39724 94370 22790 33643 95713 29635 79594
52675 41458 79669 31689 69836 03050 08888 74333 55375 44382
80914 15532 55505 03041 25446 72417 57031 10045 44940 99058
63885 18909 38808 15054 19059 95437 65531 68247 18388 60283
29241 16578 09852 47170 45127 94684 67488 92040 66394 21634
36990 37776 81857 75531 55129 30380 22813 39601 86918 24241
40648 63982 09011 70120 80619 13239 87540 01046 37201 31123
51453 05258 57247 75991 12076 00450 88568 56799 52753 19097
81494 11099 31844 31663 71063 84929 13706 56451

Courtesy PLdn

09/12 07076 00001 00000 ... 34266

Fair, 1650z Pulse QRM4



OTHR QRM 1600z 14/12/2024 6984kHz

14/12 09278 00001 00000 ... 36270

Strong, 1600z OHTRQRM4, 1640z PulseQRM4 [see above]

16/12 00426 00234 41989 ... 21125

Fair, 1640z PulseQRM5

00426 00234 41989 58948 04855 02851 63225 85726 10817 38105
92912 40753 83860 41557 62838 41500 09732 43194 40502 22129
50108 42342 41002 26583 22580 27208 41330 03599 33804 94596
00785 09569 96693 11079 17195 19896 58787 69194 44447 71656
07014 51361 05730 64243 30589 69547 73070 48378 98382 92674
62667 72441 93072 32488 34751 03385 49873 29078 20947 17268
82648 92570 14380 45754 21382 95355 19844 86997 19466 33556
48627 30675 11846 57089 76474 92168 00472 40520 52436 45638
43195 28521 84455 12009 70813 79259 95664 14308 93642 54273
91917 21352 89483 70908 37410 90496 43509 69190 86044 78751
01827 78602 23468 65038 07986 48496 53506 99649 54925 59444
74614 15002 77105 89109 67706 37707 00344 01921 09063 33331
08560 23398 22390 25946 73851 46073 87052 38549 87317 49399
93745 47450 50840 01816 19321 20775 84467 06992 17942 51939
79078 31498 84789 44399 33158 12921 76354 15067 50722 95317
76870 81157 96145 83117 91368 96627 30874 55400 02079 04071
05209 03173 59978 78309 47341 14667 10442 42309 08983 49463
01359 27377 17630 88763 28369 92880 72394 57657 29550 90924
81733 85548 30728 50178 82678 02010 17691 13172 44416 34721
32501 58512 84974 41592 20692 41535 88389 18688 33707 31318
69314 13808 20557 86021 17989 37981 28752 53371 46787 79323
86351 68940 82770 93807 71757 59527 62712 67123 70715 66986
76685 70472 12373 63522 82030 08137 56774 85248 52552 14143
89043 39555 84600 27008 87512 01918 21125

Courtesy PLdn

21/12 00426 00234 41989 ... 21125

1600z Strong, rest Fair

23/12 09077 00001 00000 ... 34670

Fair

28/12 1620z Weak QRT 1620z, 1640z Weak/fair QRT 1642z

MG

SAT

30/12 NOT MONITORED

XPA2 Tue/Fri

Tuesday/Friday

November 2024

1100z 10653kHz 1120z 9353kHz 1140z 8153kHz

01/11 04164 00001 00000 ... 33662

1100z Weak, 1120z NRH, 1140z Unworkable

05/11 1100z Unworkable, rest NRH
 08/11 1100z Unworkable, rest NRH
 12/11 1100z Unworkable, rest NRH
 15/11 1100z Unworkable, rest NRH
 19/11 Not Monitored
 22/11 1100z Unworkable, rest NRH
 26/11 1100z Unworkable, rest NRH
 29/11 1100z Unworkable, rest NRH

December 2024

1100z	9265kHz	1120z	8165kHz	1140z	7665kHz		
03/12	00538 00144 53740 ... 76000					1140z Weak, rest unworkable QSB4 [4m01s long]	
06/12	Unworkable; duration matches that of 03/12: 4m01s long						
10/12	Msg ... H-FD						
13/12	Null Msg, Unworkable						
17/12	Msg 5m06s in duration				1100z NRH, rest Unworkable		
20/12	NOT MONITORED						
24/12	NOT MONITORED						
27/12	1100z Weak Twente SDR, 1120z QRM digi QRT 1123z Twente SDR, 1140z Weak QRT 1143z Twente SDR MG						FRI
31/12	NOT MONITORED						

Other XPA2 scheds

XPA2 4-Nov-2024 0930z 15852kHz

15852kHz 0930z 04/11 08210 00114 04174 ... 25400 dMHz MON

08210 00114 04174 31319 87316 36374 38684 56862 79876 23491
 76337 92164 70698 73515 70683 68479 45659 72950 00504 96500
 30847 04003 03495 75020 25181 07917 19035 32022 89675 17057
 07916 77058 81342 62195 71756 95662 62637 94088 55576 83140
 53474 73900 08411 55912 26379 35059 54433 96397 94569 53929
 18753 68979 87639 55363 58342 50078 83439 60774 29451 55762
 62777 81508 76234 59524 89564 21922 29733 90357 69491 38599
 97799 34363 96076 42553 31104 31730 57342 28003 93321 99453
 73149 25304 21516 83268 03744 69941 70879 01665 77782 55305
 66831 60571 58200 79619 95680 85658 94104 70393 15568 86856
 29072 50012 74846 40438 67257 43577 17551 30588 50399 90576
 13438 22017 07717 95941 14227 94254 25400

Courtesy dMHz

1B XPA2 from H-FD

Fri 01.11.2024 1100Z 10653 msg
 Fri 01.11.2024 1120Z 9353 msg
 Fri 01.11.2024 1140Z 8153 msg

Fri 01.11.2024 1200Z 13968 msg
 Fri 01.11.2024 1220Z 15968 msg
 Fri 01.11.2024 1240Z 17468 msg

Sat 02.11.2024 0910Z 15985 msg
 Sat 02.11.2024 0930Z 14885 msg
 Sat 02.11.2024 0950Z 13885 msg

Mon 04.11.2024 0910Z 17413 msg
 Mon 04.11.2024 0930Z 15852 msg
 Mon 04.11.2024 0950Z 13363 msg

Tue 05.11.2024 1600Z 10223 msg
 Tue 05.11.2024 1620Z 9223 msg
 Tue 05.11.2024 1640Z 8123 msg

Wed 20.11.2024 1100Z 13393 msg
 Wed 20.11.2024 1120Z 12193 msg
 Wed 20.11.2024 1140Z 11093 msg

1B XPA2 from H-FD

Wed 04.12.2024 0910Z 13562 msg
 Wed 04.12.2024 0930Z 11583 msg
 Wed 04.12.2024 0950Z 10281 msg

Wed 04.12.2024 1100Z 11579 msg
 Wed 04.12.2024 1120Z 10979 msg
 Wed 04.12.2024 1140Z 10279 msg

Wed 04.12.2024 1200Z 14841 msg
 Wed 04.12.2024 1220Z 16241 msg
 Wed 04.12.2024 1240Z 18241 msg

Thu 05.12.2024 0910Z 13919 msg
 Thu 05.12.2024 0930Z 11519 msg
 Thu 05.12.2024 0950Z 10719 msg

Additional XPA2 from Manolis:

XPA2	4784kHz	1640z	02/12 Weak QRT	1645z		MG	MON
XPA2	8184kHz	1600z	03/12 Strong QRT	1604z		MG	TUE
XPA2	7684kHz	1620z	03/12 Strong QRT	1624z		MG	TUE
XPA2	6784kHz	1640z	03/12 Strong QRT	1644z		MG	TU
XPA2	11519kHz	0930z	26/12 QRM BC station	11520kHz QRT	0933z Twente SDR	MG	THU
XPA2	10719kHz	0950z	26/12 QRM wideband	digi Twente SDR		MG	THU
XPA2	14841kHz	1200z	27/12 Strong QRT	1204z Twente SDR		MG	FRI
XPA2	16241kHz	1220z	27/12 Strong QRT	1224z		MG	FRI
XPA2	18241kHz	1240z	27/12 Strong QRT	1244z		MG	FRI
XPA2	13919kHz	0910z	28/12 Good QRT	0913z Twente SDR		MG	SAT
XPA2	11519kHz	0930z	28/12 Good QRT	0933z Twente SDR		MG	SAT
XPA2	10719kHz	0950z	28/12 Good QRT	0953z Twente SDR		MG	SAT
XPA2	13563kHz	0910z	30/12 Good/fair QRT	0912z		MG	MON
XPA2	11583kHz	0930z	30/12 Weak QRT	0932z		MG	MON

XPB1

Wednesday/Saturday

November 2024

16353kHz	1200z	02/11	Fair	1m40s		PLdn	SAT
15953kHz	1210z	02/11	Fair	1m40s		PLdn	SAT
14953kHz	1220z	02/11	Fair	1m40s		PLdn	SAT
13453kHz	1230z	02/11	Weak	1m40s		PLdn	SAT
12153kHz	1240z	02/11	Weak	1m40s		PLdn	SAT
11453kHz	1250z	02/11	Weak	1m40s		PLdn	SAT
16353kHz	1200z	06/11	Fair	1m40s		PLdn	WED
15953kHz	1210z	06/11	Fair	1m40s		PLdn	WED
14953kHz	1220z	06/11	Fair	1m40s		PLdn	WED
13453kHz	1230z	06/11	Fair	1m40s		PLdn	WED
12153kHz	1240z	06/11	MISSED			PLdn	WED
11453kHz	1250z	06/11	Weak	1m40s		PLdn	WED
16353kHz	1200z	09/11	Weak	4m28s		PLdn	SAT
15953kHz	1210z	09/11	Weak	4m28s		PLdn	SAT
14953kHz	1220z	09/11	Weak	4m28s		PLdn	SAT
13453kHz	1230z	09/11	Weak	4m28s		PLdn	SAT
12153kHz	1240z	09/11	MISSED			PLdn	SAT
11453kHz	1250z	09/11	Weak	4m28s		PLdn	SAT
16353kHz	1200z	13/11	Weak	4m28s		PLdn	WED
15953kHz	1210z	13/11	Weak	4m28s		PLdn	WED
14953kHz	1220z	13/11	Weak	4m28s		PLdn	WED
13453kHz	1230z	13/11	Weak	4m28s		PLdn	WED
12153kHz	1240z	13/11	Weak	4m28s		PLdn	WED
11453kHz	1250z	13/11	NRH			PLdn	WED
16353kHz	1200z	16/11	Weak	4m28s		PLdn	SAT
15953kHz	1210z	16/11	Weak	4m28s QRM2		PLdn	SAT
14953kHz	1220z	16/11	Weak	4m28s		PLdn	SAT
13453kHz	1230z	16/11	Fair	4m28s		PLdn	SAT
12153kHz	1240z	16/11	Fair	4m28s		PLdn	SAT
11453kHz	1250z	16/11	NRH			PLdn	SAT
16353kHz	1200z	20/11	Weak	4m28s		PLdn	WED
15953kHz	1210z	20/11	Weak	4m28s		PLdn	WED
14953kHz	1220z	20/11	Weak	4m28s		PLdn	WED
13453kHz	1230z	20/11	Weak	4m28s		PLdn	WED
12153kHz	1240z	20/11	Weak	4m28s		PLdn	WED
11453kHz	1250z	20/11	Weak	4m28s		PLdn	WED
16353kHz	1200z	23/11	Fair	4m28s		PLdn	SAT
15953kHz	1210z	23/11	Fair	4m28s		PLdn	SAT
14953kHz	1220z	23/11	Fair	4m28s		PLdn	SAT
13453kHz	1230z	23/11	Fair	4m28s		PLdn	SAT
12153kHz	1240z	23/11	Fair	4m28s QRM2		PLdn	SAT
11453kHz	1250z	23/11	Weak	4m28s		PLdn	SAT

16353kHz 1200z	27/11	Fair	4m28s	PLdn	WED
15953kHz 1210z	27/11	Fair	4m28s	PLdn	WED
14953kHz 1220z	27/11	Weak	4m28s	PLdn	WED
13453kHz 1230z	27/11	Weak	4m28s	PLdn	WED
12153kHz 1240z	27/11	Weak	4m28s	PLdn	WED
11453kHz 1250z	27/11	Weak	4m28s	PLdn	WED

16353kHz 1200z	30/11	Fair	4m28s	PLdn	SAT
15953kHz 1210z	30/11	Fair	4m28s	PLdn	SAT
14953kHz 1220z	30/11	Fair	4m28s	PLdn	SAT
13453kHz 1230z	30/11	Fair	4m28s	PLdn	SAT
12153kHz 1240z	30/11	Fair	4m28s	PLdn	SAT
11453kHz 1250z	30/11	Weak	4m28s	PLdn	SAT

December 2024

14978kHz 1200z	04/12	Fair	4m28s	PLdn	WED
13978kHz 1210z	04/12	Fair	4m28s	PLdn	WED
13378kHz 1220z	04/12	Fair	4m28s	PLdn	WED
12178kHz 1230z	04/12	Fair	4m28s	PLdn	WED
11078kHz 1240z	04/12	Fair	4m28s	PLdn	WED
10278kHz 1250z	04/12	Weak	4m28s	PLdn	WED

14978kHz 1200z	07/12	Weak	2m26s	PLdn	SAT
13978kHz 1210z	07/12	Fair	2m26s	PLdn	SAT
13378kHz 1220z	07/12	Fair	2m26s	PLdn	SAT
12178kHz 1230z	07/12	Fair	2m26s	PLdn	SAT
11078kHz 1240z	07/12	Weak	2m26s	PLdn	SAT
10278kHz 1250z	07/12	Weak	2m26s	PLdn	SAT

14978kHz 1200z	11/12	Fair	2m26s	PLdn	WED
13978kHz 1210z	11/12	Fair	2m26s	PLdn	WED
13378kHz 1220z	11/12	Fair	2m26s	PLdn	WED
12178kHz 1230z	11/12	Fair	2m26s	PLdn	WED
11078kHz 1240z	11/12	Weak	2m26s	PLdn	WED
10278kHz 1250z	11/12	Weak	2m26s	PLdn	WED

14978kHz 1200z	14/12	Fair	4m28s	PLdn	SAT
13978kHz 1210z	14/12	Fair	4m28s	PLdn	SAT
13378kHz 1220z	14/12	Fair	4m28s	PLdn	SAT
12178kHz 1230z	14/12	Fair	4m28s	PLdn	SAT
11078kHz 1240z	14/12	Fair	4m28s	PLdn	SAT
10278kHz 1250z	14/12	Fair	4m28s	PLdn	SAT

14978kHz 1200z	18/12	Strong	4m28s	PLdn	WED
13978kHz 1210z	18/12	Strong	4m28s	PLdn	WED
13378kHz 1220z	18/12	Weak	4m28s	PLdn	WED
12178kHz 1230z	18/12	Fair	4m28s	PLdn	WED
11078kHz 1240z	18/12	Weak	4m28s	PLdn	WED
10278kHz 1250z	18/12	Weak	4m28s	PLdn	WED

14978kHz 1200z	21/12	Weak	4m28s	PLdn	SAT
13978kHz 1210z	21/12	Weak	4m28s	PLdn	SAT
13378kHz 1220z	21/12	Weak	4m28s	PLdn	SAT
12178kHz 1230z	21/12	Weak	4m28s	PLdn	SAT
11078kHz 1240z	21/12	Weak	4m28s	PLdn	SAT
10278kHz 1250z	21/12	Weak	4m28s	PLdn	SAT

Additional XPB1 schedules not copied by E2k [From H-FD]:

Fri 01.11.2024 1300Z 20021 MFSK-16 1:42
 Fri 01.11.2024 1310Z 19521 MFSK-16
 Fri 01.11.2024 1320Z 18421 MFSK-16
 Fri 01.11.2024 1330Z 17421 MFSK-16
 Fri 01.11.2024 1340Z 16321 MFSK-16
 Fri 01.11.2024 1350Z 15921 MFSK-16

Mon 04.11.2024 0600Z 19339 MFSK-16 1:41 x13446
 Mon 04.11.2024 0610Z 18239 MFSK-16 x14446
 Mon 04.11.2024 0620Z 17439 MFSK-16 x14946
 Mon 04.11.2024 0630Z 16339 MFSK-16 x15846
 Mon 04.11.2024 0640Z 15839 MFSK-16 x16146
 Mon 04.11.2024 0653Z 14439 MFSK-16 x17446

Sun 10.11.2024 1500Z 20144 MFSK-16 7:22
 Sun 10.11.2024 1510Z 19044 MFSK-16
 Sun 10.11.2024 1520Z 18644 MFSK-16
 Sun 10.11.2024 1530Z 17444 MFSK-16
 Sun 10.11.2024 1540Z 16144 MFSK-16
 Sun 10.11.2024 1550Z 14944 MFSK-16

Mon 02.12.2024 0600Z 19461 MFSK-16 4:30 x12119
 Mon 02.12.2024 0610Z 19261 MFSK-16 x13419
 Mon 02.12.2024 0620Z 18261 MFSK-16 x13919
 Mon 02.12.2024 0630Z 16261 MFSK-16 x14419
 Mon 02.12.2024 0640Z 15861 MFSK-16 x14919
 Mon 02.12.2024 0650Z 14961 MFSK-16 x15919

Tue 03.12.2024 1300Z 14362 MFSK-16 7:19
 Tue 03.12.2024 1300Z 20044 MFSK-16 1:40
 Tue 03.12.2024 1310Z 14962 MFSK-16
 Tue 03.12.2024 1310Z 19344 MFSK-16
 Tue 03.12.2024 1320Z 16062 MFSK-16
 Tue 03.12.2024 1320Z 18544 MFSK-16
 Tue 03.12.2024 1330Z 18262 MFSK-16
 Tue 03.12.2024 1330Z 17444 MFSK-16
 Tue 03.12.2024 1340Z 19362 MFSK-16
 Tue 03.12.2024 1340Z 16244 MFSK-16
 Tue 03.12.2024 1350Z 20362 MFSK-16
 Tue 03.12.2024 1350Z 14944 MFSK-16

Wed 04.12.2024 0700Z 6941 MFSK-16 7:20
 Wed 04.12.2024 0710Z 7541 MFSK-16
 Wed 04.12.2024 0720Z 7941 MFSK-16
 Wed 04.12.2024 0730Z 8141 MFSK-16
 Wed 04.12.2024 0740Z 9241 MFSK-16
 Wed 04.12.2024 0750Z 10241 MFSK-16

From MG

XPB1	19340kHz	0604z	11/11 QRT	MG	MON
XPB1	18239kHz	0610z	11/11 Good	MG	MON
XPB1	17439kHz	0620z	11/11 QRT 0624z Strong	MG	MON
XPB1	16339kHz	0630z	11/11 QRT 0634z Strong	MG	MON
XPB1	15839kHz	0640z	11/11 Strong	MG	MON
XPB1	14439kHz	0650z	11/11 Strong	MG	MON
XPB1	18239kHz	0610z	12/11 QRT 0614z Strong	MG	TUE
XPB1	16339kHz	0630z	12/11 Strong	MG	TUE
XPB1	15839kHz	0640z	12/11 QRT 0644z Strong	MG	TUE
XPB1	14439kHz	0650z	12/11 Strong	MG	TUE

XPB1 additional files from Ary

XPB1 additional files from MG

12157	21-11-2024	1100	XPB1	XPB	6854kHz	0450z	03/12 Strong QRT 0457z	MG	MON
13557	21-11-2024	1110	XPB1						
13957	21-11-2024	1120	XPB1	XPB	19461kHz	0600z	03/12 Weak QRT 0604z	MG	TUE
14757	21-11-2024	1130	XPB1	XPB	19261kHz	0610z	03/12 Fair QRT 0614z	MG	TUE
15857	21-11-2024	1140	XPB1	XPB	18261kHz	0620z	03/12 Good QRT 0624z	MG	TUE
17467	21-11-2024	1150	XPB1	XPB	16261kHz	0630z	03/12 Weak	MG	TUE
14362	21-11-2024	1300	XPB1	XPB	19044kHz	1510z	03/12 Strong QRT 1517z	MG	TUE
14962	21-11-2024	1310	XPB1	XPB	18644kHz	1520z	03/12 Good QRT 1527z	MG	TUE
16062	21-11-2024	1320	XPB1	XPB	17444kHz	1530z	03/12 Fair	MG	TUE
18262	21-11-2024	1330	XPB1	XPB	16144kHz	1540z	03/12 Fair	MG	TUE
19362	21-11-2024	1340	XPB1	XPB	14944kHz	1550z	03/12 Fair QRT 1557z	MG	TUE
20362	21-11-2024	1350	XPB1						
20144	21-11-2024	1500	XPB1	XPB	9084kHz	0510z	04/12 QRT 0517z	MG	WED
19044	21-11-2024	1510	XPB1	XPB	8084kHz	0520z	04/12 Weak QRT 0527z	MG	WED
18644	21-11-2024	1520	XPB1	XPB	7584kHz	0530z	04/12 Weak	MG	WED
17444	21-11-2024	1530	XPB1	XPB	6884kHz	0540z	04/12 Weak	MG	WED
16144	21-11-2024	1540	XPB1	XPB	5784kHz	0550z	04/12 Weak	MG	WED
14944	21-11-2024	1550	XPB1						
10241	22-11-2024	0750	XPB1	XPB	19261kHz	0610z	16/12	MG	MON
				XPB	18261kHz	0620z	16/12	MG	MON
				XPB	16261kHz	0630z	16/12	MG	MON
				XPB	15861kHz	0640z	16/12	MG	MON
				XPB	14961kHz	0650z	16/12	MG	MON
12198	22-11-2024	1200	XPB1						
13498	22-11-2024	1210	XPB1						
14798	22-11-2024	1220	XPB1	XPB	19261kHz	0610z	17/12 QRT 0612z Weak Twente SDR	MG	TUE
15898	22-11-2024	1230	XPB1						
18298	22-11-2024	1240	XPB1	XPB	15861kHz	0640z	24/12 QRT 0644z	MG	TUE
19198	22-11-2024	1250	XPB1	XPB	14961kHz	0650z	24/12 QRT 0654z	MG	TUE
20021	22-11-2024	1300	XPB1	XPB	20044kHz	1300z	27/12 Strong QRT 1302z	MG	FRI
19521	22-11-2024	1310	XPB1	XPB	19344kHz	1303z	27/12 i.p. digi interrupted by tones	MG	FRI
18421	22-11-2024	1320	XPB1	XPB	19344kHz	1310z	27/12 Twente SDR	MG	FRI
17421	22-11-2024	1330	XPB1						
16321	22-11-2024	1340	XPB1	XPB	14978kHz	1200z	28/12 Strong QRT 1204z	MG	SAT
15921	22-11-2024	1350	XPB1	XPB	13978kHz	1210z	28/12 Good QRT 1214z	MG	SAT
				XPB	13378kHz	1220z	28/12 Fair QRT 1224z	MG	SAT
				XPB	12178kHz	1230z	28/12 Fair	MG	SAT
				XPB	11078kHz	1240z	28/12 Weak QRT 1244z	MG	SAT
20373	22-11-2024	1400	XPB1						
19373	22-11-2024	1410	XPB1						
18373	22-11-2024	1420	XPB1						
17473	22-11-2024	1430	XPB1	XPB	18261kHz	0620z	31/12 Strong QRT 0621z	MG	TUE
15873	22-11-2024	1440	XPB1	XPB	16261kHz	0630z	31/12 Strong	MG	TUE
14873	22-11-2024	1450	XPB1	XPB	15861kHz	0640z	31/12 Strong QRT 0641z	MG	TUE
				XPB	14961kHz	0650z	31/12 Strong QRT 0651z	MG	TUE

Additional XPB1 files due to Ary's hard work can be seen on group.

F0n Series

F01

Tue 12.11.2024 1015Z 12177 FSK 200/500 7:17 via KiwiSDR RUS	H-FD
Tue 12.11.2024 1025Z 10671 FSK 200/500 via KiwiSDR RUS	H-FD
Tue 12.11.2024 1035Z 8024 FSK 200/500 via KiwiSDR POL	H-FD

F03j	21854kHz	0610z	13/11 QRT 0615z Strong	MG	WED
F06a	18675kHz	0616z	13/11 i.p. QRT 0626z Strong	MG	WED
F06	14475kHz	1530z	17/11 QRT 1536z Strong	MG	SUN

F06	13521kHz	1540z	17/11 QRT 1546z QRM OTHR	MG	SUN
F06	10196kHz	1550z	17/11 digi QRM Weak	MG	SUN
F06	5463kHz	0520z	02/12 Weak QRT 0526z	MG	MON
F06	11046kHz	0700z	24/12 QRT 0707z Twente SDR	MG	TUE
F06	9064kHz	0710z	26/12 Strong 0715z Second station @ 9066kHz QRT 0717z	MG	THU
F06	9066kHz	0720z	26/12 QRT 0727z	MG	THU
F06	7477kHz	0720z	26/12 i.p. Twente SDR	MG	THU
F06	9064kHz	0710z	26/12 Strong 0715z Second station @ 9066kHz QRT 0717z	MG	THU
F06	9066kHz	0720z	26/12 QRT 0727z	MG	THU
F06	7477kHz	0720z	26/12 i.p. Twente SDR	MG	THU
F06	9064kHz	0710z	31/12 Twente SDR	MG	TUE
F06a	14367kHz	0600z	18/12 QRT 0613z	MG	WED

P0n Series

P03	5823kHz	1020z	17/11 NRH QRM	MG	SUN
P03	6977kHz	1100z	17/11 NRH QRM	MG	SUN
P03	21906kHz	1220z	17/11 msg < 1min Repeat 1225z Good	MG	SUN
P03	7391kHz	1245z	17/11 NRH	MG	SUN
P03	7391kHz	1245z	17/11 Twente SDR	MG	SUN
P03	10728kHz	1705z	17/11 QRT 1726z QRM Fair/Weak	MG	SUN
P03	5844kHz	1950z	17/11 QRT 1951z Fair	MG	SUN
P03	18265kHz	1515z	17/11 QRT 1516z Strong	MG	SUN
P03k	8180kHz	1730z	16/11 QRT 1732z Repeat 1735z QRT 1737z Strong	MG	SAT
P03k	6480kHz	0630z	17/11 0635z Msg repeat 0637z QRT Weak	MG	SUN
P07	6821kHz	1530z	17/11 Weak	MG	SUN
P07	5848kHz	1540z	17/11 Msg	MG	SUN
P07	5112kHz	1550z	17/11 Weak	MG	SUN
P07	8136kHz	1500z	17/11 msg < 1min	MG	SUN
P07	8074kHz	1510z	17/11 msg < 1min Strong	MG	SUN
P07	7504kHz	1520z	17/11 Just above noise	MG	SUN
P03g	25060kHz	0635z	24/12 QRT 0637z	MG	TUE
P03i	9052kHz	0725z	26/12 QRT 0729z	MG	THU
P03i	9052kHz	0725z	26/12 QRT 0729z	MG	THU
F03l	8800kHz	0735z	26/12 Weak QRT 0737z	MG	THU
F03l	13363kHz	0800z	26/12 QRT within the minute	MG	THU
F03l	8800kHz	0735z	26/12 Weak QRT 0737z	MG	THU
F03l	13363kHz	0800z	26/12 QRT within the minute	MG	THU
P03i	9052kHz	0725z	24/12 Weak/Fair	MG	TUE
P03i	7469kHz	1245z	28/12 Twente SDR	MG	SAT
P03i	9052kHz	0725z	31/12 Weak QRT 0728z	MG	TUE
P03j	8800kHz	1500z	03/12 QRM QRT 1502z	MG	TUE
F03l	20994kHz	0530z	02/12 Very weak QRT 0532z	MG	MON
F03l	13424kHz	0630z	02/12 Fair QRT 0631z	MG	MON
F03l	20994kHz	0530z	04/12 Weak QRT 0532z	MG	WED
P07	5853kHz	1520z	04/12 Weak	MG	WED
P07	5336kHz	1530z	04/12 Weak	MG	WED
P07	5082kHz	1540z	04/12 Weak	MG	WED
P07	4609kHz	1550z	04/12 Very weak	MG	WED

Hybrids and Tones

HM01

No Files submitted, read Editorial

X06 Mazielka

<u>Date</u>	<u>Day</u>	<u>UTC</u>	<u>Freq</u>	<u>Scale</u>	<u>Monitor</u>	<u>Comments</u>
20241101	Fri	0919-0922	14570	324615	Andrew/SE	TX to Madrid, G52
20241101	Fri	1015-1021	14824	625413	Dave/AU	Alert2 (TX to Tel Aviv, G56) 1
20241101	Fri	1026-1035	13547	625413	Jager	2.2
20241105	Tue	0903-0904	17454	325614	Andrew	TX to Nairobi, G392
20241105	Tue	0949-0959	12149	154263	Ary/NL, Dave	TX to Rome, G7
20241106	Wed	1244-1247	18194	231654	Ary, Scarach	Alert2 (Abuja, G422)1 w/ carrier
20241106	Wed	1246-1247	19878	231654	Dave	2.2: Parallel to 2.1
20241107	Thu	0738	18575	352416	Ary	TX to Dar es Salaam, G43
20241107	Thu	0808-0817	19858	351264	Dave	Alert2 (TX to Abu Dhabi, G440) 1
20241107	Thu	0817-0831	17534	351264	Dave	2.2
20241107	Thu	0915-0920	18197	645321	Dave	Alert2 (Ho Chi Minh City, G410)1
20241107	Thu	0922-0927	20837	645321	Dave	2.2
20241108	Fri	0702	12349	6-----	Schorschi	X06d
20241113	Wed	1005	12193	1--6--	Schorschi	X06b before XPA2
20241113	Fri	1020	11093	1--6--	Schorschi	X06b before XPA2
20241115	Fri	0838	14828	213546	Ary	TX to Islamabad, G390(1)
20241115	Fri	1326	16320	241563	Ary	TX to Karachi, G187
20241110	Sun	1040-1042	14414	145632	Dave	TX to Algiers, G135
20241118	Mon	0831-0833	12152	432516	Ary, Dave	TX to Bern, G341
20241118	Mon	0908-0912	14392	532614	Ary, Andrew	TX to Paris, G147
20241119	Tue	0749-0753	14615	125643	Ary, Dave	TX to Ulanbatar, G383
20241119	Tue	0839-0843	17454	325614	Ary, Dave	TX to Nairobi, G400
20241119	Tue	0921-0929	11085	154263	Ary, Anon36989	Alert2 (TX to Rome, G148) 1
20241119	Tue	0929-0930	13401	154263	Dave	2.2
20241120	Wed	1238	18245	231654	Ary	TX to Abuja, G423
20241121	Thu	0758-0800	17534	351264	Andrew	TX to Abu Dhabi, G434
20241121	Thu	0924-0931	20837	645321	Andrew	Alert2 (Ho Chi Minh City, G417)1
20241121	Thu	0931-0934	18197	645321	Andrew	2.2
20241121	Thu	1329-1333	20627	436512	Andrew	TX to Harare, G180
20241127	Wed	0821	13369	412356	Ary	TX to Budapest, G243
20241127	Wed	0909-0912	10172	465132	Ary, Andrew	TX to Sofia, G246
20241127	Wed	1030	15968	1-6-16	Schorschi	X06b before XPA2
20241128	Thu	0808-0811	13854	521634	Dave	TX to Bucharest, G261
20241128	Thu	0822-0828	16153	153624	Dave	TX to Damascus, G249
20241202	Mon	0838-0847	14377	432516	Ary, Andrew	TX to Bern, G6
20241203	Tue	0750-0753	14615	125643	Dave	TX to Ulanbatar, G317
20241204	Wed	0917-0921	14631	362154	Dave	TX to Athens, G32
20241204	Wed	1251-1301	19878	231654	Dave	TX to Abuja, G422
20241205	Thu	0756-0757	14947	351264	Dave	TX to Abu Dhabi, G440
20241205	Thu	0924-0930	18197	645321	Andrew	TX to Ho Chi Minh City, G410
20241205	Thu	1328-1331	10627	436512	Ary, Andrew	TX to Harare, G44
20241206	Fri	1026-1029	14824	625413	Ary, Anon25890	TX to Tel Aviv, G56
20241206	Fri	1341	16320	241563	Ary	TX to Karachi, G50
20241208	Sun	1047-1049	15810	145632	Dave	TX to Algiers, G135
20241209	Mon	0817-0821	17475	156234	Ary, Dave	TX to Kampala, G68
20241209	Mon	0934-0940	16117	463125	Ary, Andrew	TX to Rabat, G77
20241210	Tue	1241-1246	19511	314265	Scarach	Alert2 (Antananarivo, G84) 1
20241210	Tue	1247-1252	17517	314265	Anon55155	2.2
20241211	Wed	1603-1604	11544	435621	Anon23273	TX to Maputo, G98
20241212	Thu	0810	11519	1--6--	Andrew	X06b
20241212	Thu	0813-0816	9450	111224	Andrew	X06b (test)
20241212	Thu	1139-1140	12133	153624	Scarach	TX to Damascus, G249
20241213	Fri	0837-0846	12213	615243	Andrew	TX to Geneva, G127
20241216	Mon	0802-0805	12122	165324	Dave	TX to Vienna, G145
20241216	Mon	0837-0844	12152	432516	Andrew	TX to Bern, G341
20241217	Tue	0928-0935	14358	154263	Andrew	TX to Rome, G148
20241218	Wed	1238-1244	18245	231654	Dave	TX to Abuja, G423
20241219	Thu	0758	17534	351264	Dave	TX to Abu Dhabi, G434
20241223	Mon	0831-0840	20690	156234	Dave	TX to Kampala, G203
20241224	Tue	0815-0820	17523	542136	Dave	TX to Beijing, G88
20241224	Tue	1021	17470	216354	Ary	TX to Chennai, G228
20241227	Fri	0741-0746	11155	341265	Ary, Andrew	G444
20241227	Fri	1002-1007	20605	256134	Andrew	TX to Abidjan, G270

1) 0847 UTC: M42/Serdolik v2

Many thanks to all contributors as usual and a happy, healthy new year 2025 to all of you. Till the next issue I say: Good-bye, and all the best to you

Jochen Schäfer, Numbers-, X06 Database and Teamkopf **Tnx Jochen**

Gizza Job

**IT'S NOT JUST TRAINING
FOR EVERY SITUATION...**

**IT'S BEING READY
TO REACT TO IT
TOGETHER.**



SECURITY OFFICERS AT MI5

**SECURITYSERVICE
MI5**

WORTH A CLOSER LOOK

**MISSION-CRITICAL SUPPORT
BEGINS WITH BUSINESS ENABLERS**



**SECURITYSERVICE
MI5**

**THE SERVICE BEHIND
THE INTELLIGENCE
SERVICES**

**ADMIN
CAREERS
AT MI5,
SIS & GCHQ**



**SECURITYSERVICE
MI5**

**SECRET
INTELLIGENCE
SERVICE MI6**

GCHQ

**کاربرد مهارت زبان
فارسی خود برای
دفاع از انگلستان؟**

For language careers

**visit our website
to find out more.**

**NOW
YOU'RE
TALKING**

**SECURITYSERVICE
MI5**

**SECRET
INTELLIGENCE
SERVICE MI6**

GCHQ

Australian Government
Australian Security
Intelligence Organisation

**Come in
for tech
you can't try
at home**

ASIO
Securing Australia—protecting its people

asio.gov.au/careers



BRILLIANT READ FROM USA:

The John Walker Spy Ring and The U.S. Navy's Biggest Betrayal

U.S. Naval Institute Staff
September 2, 2014 1:38 PM

<https://news.usni.org/2014/09/02/john-walker-spy-ring-u-s-navys-biggest-betrayal>

Notorious spy John Walker died on Aug. 28, 2014. The following is a story outlining Walker's spy ring from the June 2010 issue of U.S. Naval Institute's Naval History Magazine with the original title: The Navy's Biggest Betrayal.

Twenty-five years ago the FBI finally shut off the biggest espionage leak in U.S. Navy history when it arrested former senior warrant officer John A. Walker.

To hear the United States' most notorious naval spy tell it, were it not for his ex-wife, Barbara – the weak link his Soviet handlers had warned him about – his espionage might have continued. As it was, however, John Walker's ferreting went on far too long. A few more years and, had he been employed in a conventional job, he could have retired on a pension. Indeed, he already enjoyed a U.S. Navy pension after retiring in 1976 as a senior warrant officer.

The Navy, in which John Walker served for 20 years, was enormously damaged by his espionage. Secretary of Defense Caspar Weinberger concluded that the Soviet Union made significant gains in naval warfare that were attributable to Walker's spying. His espionage provided Moscow "access to weapons and sensor data and naval tactics, terrorist threats, and surface, submarine, and airborne training, readiness and tactics," according to Weinberger. A quarter-century after John Walker's arrest, it is illuminating to revisit the story of his naval spy ring, both for what it reveals about espionage versus security and for how it highlights the ambitions and frailties at the heart of spying.

Building a Naval Career

John Anthony Walker Jr. was born in 1937, the middle son of a Warner Brothers film marketer and an Italian-American mother. Nicknamed "Smilin' Jack," he attended Catholic school and became an altar boy; however, his childhood was traumatic. His father descended into a hell of alcoholism and lost his job. Bankrupt, the family moved near the boy's grandparents in Scranton, Pennsylvania. The entrepreneurial John Jr. secured a paper route, sold home products door to door, and worked as a movie usher, and on his 16th birthday bought a car with his savings.

In late 1955 Walker joined the Navy as a radioman and served on board a destroyer escort before joining the crew of the aircraft carrier USS Forrestal (CV-59). While on shore leave in Boston during the winter of 1957, he met Barbara Crowley. They married soon afterward, and children followed, three daughters by 1960. After qualifying at submarine school, Walker was assigned to the Razorback (SS-394) for a Pacific deployment. While serving in her, Walker, then a petty officer, received his top secret cryptographic clearance and passed the Personnel Reliability Program, a psychological evaluation to ensure that only the most reliable personnel have access to nuclear weapons.

His submarine participated in surveillance missions off the Soviet port of Vladivostok and in the flotilla observing the July 1962 Starfish Prime high-altitude nuclear test. Walker's efficiency reports were uniformly excellent, and he was assigned to the Blue Crew of the Polaris ballistic missile submarine Andrew Jackson (SSBN-619), then under construction at Mare Island Naval Shipyard. On board the boat, Walker impressed the executive officer enough that when he was named to command the Gold Crew of the Simon Bolivar (SSBN-641), he recruited the petty officer to lead his radio room. Walker first qualified on maintenance of cryptographic equipment in early 1963. Along the way, he passed his high school general education degree exams as well as Navy promotion tests, rising through grades to chief petty officer and warrant officer. These were the makings of a fine enlisted career. Ten years in, John Walker had served with some distinction on board half a dozen vessels, was a plank owner on a pair of "boomers," had attained warrant officer rank, and had run the radio shop of a nuclear missile submarine.

Life, however, grated on Smilin' Jack. Walker disliked the impersonal nature of his big ships, and his membership in the tight-knit crews of smaller vessels was long behind him. The lengthy underwater patrols in the ballistic missile subs, during which there were just a handful of brief communications with home, tried him.

Those cruises were also hard on his family, which by now included a son, Michael Lance. Meeting the kids all over again after a patrol was difficult for everyone, and according to Walker, he discovered Barbara philandering with family members, ignoring the household, and – shades of his father – drinking more and more. Walker seems to have despised the Navy for encouraging alcoholism among Sailors and their families. He invested his savings in land outside Charleston, South Carolina, planning to build a car park to give his wife a constructive outlet. He later opened a bar on the property instead, but the marginal venture left Warrant Officer Walker strapped for cash. Casting about for some means of righting his financial boat, he drove a cab and shuttled rental cars among cities, but it was not enough.

A Second Career

Espionage became Walker's way out, though in his telling political disaffection also played a role. He suspected John F. Kennedy's assassination had been engineered by government and corporate leaders intent on preventing the President from toning down the Cold War. In his memoir, Walker recounted his intellectual evolution from 1950s John Bircher to Cold War denier. He said he began to realize the Soviets were not the aggressive adversary Americans feared. "The farce of the cold war and the absurd war machine it spawned," he commented, "was an ever-growing pathetic joke to me."

One bracing fall day in October 1967 Chief Warrant Officer Walker, then assigned as a watch officer at Atlantic Fleet Submarine Force headquarters in Norfolk, decided to correct the military balance – and balance his checkbook – by leaking top secret information to Moscow. Taking the first step, he photocopied a document at headquarters and slipped the copy in his pocket. The next day he hopped into his red 1964 MG sports car, drove to Washington, walked into the Soviet Embassy, and asked to see security personnel.

Yakov Lukasevics, an internal security specialist at the embassy, had no idea what to do with the American who came bearing documents and said he wanted to spy. The papers, however, needed to be evaluated, and so he telephoned the KGB rezident, or station chief, Boris A. Solomatín. KGB rezidenturas (stations) were wary of walk-ins, persons who spontaneously offered their services. The Soviets even used the term "well-wishers" to denote such persons. And the idea of an American striding right into the Soviet Embassy in Washington, which was under constant FBI surveillance, immediately suggested a trap.

"I have an interesting man here who walked in off the street," Lukasevics told Solomatín. "Someone must come down who speaks better English."

Another KGB man presently spoke to Walker, who identified himself and said he wanted to earn money and "make arrangements for cooperation." The KGB officer then took the documents upstairs to Solomatín. As it happened, the 43-year old rezident was a naval buff, having grown up in the Black Sea port of Odessa. Solomatín recognized that some of Walker's documents concerned U.S. submarines, vessels that particularly plagued the Soviet Fleet. Of greater importance, the National Security Agency (NSA) document Walker had purloined before leaving work listed the following month's settings for the American KL-47 encryption machine. The Soviets had already received some NSA papers from a different spy, and after comparing markings and format realized Walker's settings document, called a key list, was genuine.

On the spot Solomatín decided to take a chance. For a KGB station chief personally to meet a prospective agent was unprecedented, but Solomatín spent the next two hours talking privately with Walker. The American favorably impressed him by saying nothing about love for communism, which most phonies emphasized.

This was strictly business. Walker received a few thousand dollars cash as a down payment and was smuggled off the embassy compound in a car. Thus began the Navy's most damaging spy case.

Solomatin, who had not previously paid special attention to the U.S. Navy, now boned up on the subject.

He kept a very tight rein on the Walker operation, assigning Oleg Kalugin, his deputy for political intelligence (Line PR), as the American's manager and Yuri Linkov, a naval spy, as his case officer. Kalugin spent weeks driving around the Washington area to identify and carefully record spots for "dead drops," places Walker would deposit packages of intelligence and pick up cash and instructions. During a meeting outside a northern Virginia department store within a month of Walker's embassy visit, the warrant officer handed over a bigger pile of Navy documents, and Linkov gave him the locations for his first few drops-offs plus more money. Those were the only face-to-face meetings the KGB had with John Walker for a decade. Some versions of the tale maintain that his espionage began in 1968; however, Solomatin, Kalugin, and Walker all agree that it began in October 1967 at the Soviet Embassy.

Only a handful of other KGB officials ever had anything to do with Walker. A stovepipe fed his material to the deputy chief of the First Directorate, the KGB's foreign intelligence unit, and just a couple of assistants. Awarded the Order of the Red Banner for Walker's recruitment, Solomatin was promoted to deputy chief of intelligence. In 1968, when the KGB created the Sixteenth Directorate, its counterpart to NSA, the Walker case passed from Line PR to the new agency, but the tight security surrounding it was preserved.

Whether the KGB had an immediate use for Walker's KL-47 key list is still not clear. In early January 1968, however, the spy delivered to the Soviets a KW-7 encryption machine key list that would quickly prove useful. Later that month, North Korea captured the spy ship USS Pueblo (AGER-2) in international waters and with it a KW-7 device along with manuals and other documents. According to historian Mitchell B. Lerner, a leading authority on the affair, within two days of seizing the Pueblo, North Korea dispatched an aircraft to Moscow containing almost 800 pounds of cargo, presumably from the spy ship. The KGB quickly dispatched a team of intelligence experts to the port of Wonsan, North Korea, where the vessel had been taken. U.S. intelligence detected transmission of an enormous fax to Moscow, presumably the texts of manuals for cryptographic equipment on board the Pueblo.

Thereafter, Moscow had continued access to American naval communications until the U.S. system was entirely changed.

Life As a Spy

John Walker's trickle of intelligence meanwhile became a flood. According to Walker's account, he mostly supplied the Soviets with old key lists – much less zealously guarded – and the KGB never pressed him for current or future ones. In fact, the Soviets advised Walker to avoid future material as well as maintenance manuals. Also, their plan for clandestine drops provided for only two per year, and he claimed that the KGB never demanded more frequent exchanges, which means their take of current/future material had to be limited to a couple of months annually.

Walker also maintained that much of what he gave the Soviets concerned such obsolescent systems as the World War II – vintage KL-47, which featured a seven-rotor encryption machine similar to the German Enigma, and the KW-37, an early online, or automated, encryption system. As for the later-generation KW-7 system, Walker said he only provided the Soviets with its key lists for random future dates. Probably few commentators accept his version of what he handed over. If his claim that the KGB showed no desire for current or future keys is accurate, it puts an interesting light on Soviet gains from his espionage.

Walker nevertheless provided a huge array of other secret Navy and U.S. documents to America's Cold War adversary. These included operational orders, war plans, technical manuals, and intelligence digests. The KGB devised and furnished its spy with an electronic device that could read the KL-47's rotor wiring and gave him a miniature Minox camera. At Norfolk, he used his status as an armed forces courier to smuggle documents from headquarters to his bachelor officer quarters (BOQ) room, where he photographed them. There was such a stream of papers he had to be selective. Walker estimated that photographing just 20 of the hundreds of messages that crossed his desk during a watch would have required more than 100 rolls of film over six months, yet initially everything he left at a dead drop needed to fit inside a single soda can.

Later, while on training duty at San Diego, Walker had less access to top secret documents and had to rely on a classified library. Smuggling out material meant getting it past multiple checkpoints staffed by Marine guards. He also forged the papers required to show renewal of his security clearance. This spy enjoyed amazingly good fortune.

But John Walker's luck ran out with his family. He sometimes spent nights at the BOQ instead of the family's home. Barbara Walker had suspected her husband of sexual adventures – true, as it happened – and looked through his things. Family financial problems that had seemed insuperable were suddenly solved. Walker pointed to his moonlighting as the source of his money, but Barbara remained unconvinced. And then, within a year of her husband becoming a spy, she found a grocery bag in which Walker had secreted a pile of classified documents. Confronted with the discovery, he admitted to his espionage and took Barbara along to one of his dead drops in a dubious attempt to involve her in his crime. From the beginning, the KGB had warned Walker never to reveal anything to his wife or other family members. Though Barbara did nothing immediately, the seeds of John Walker's downfall were planted.

On the West Coast and while assigned to the combat stores ship Niagara Falls (AFS-3), the spy's journeys to drop his gleanings to the KGB became much more onerous. One 1972 drop required a flight from Vietnam to the United States, a brief cover visit home, and then rejoining his ship in Hong Kong. When Walker returned to Norfolk to work at Amphibious Force Atlantic headquarters in the summer of 1974, the problems were ameliorated, but the transfer conflicted with his desire to remain afloat and away from Barbara.

The naval spy's solution was to retire from the Navy. He believed that he could then work more effectively as a network manager, delivering to the Soviets information gathered by others. By the time he separated from the service, Walker had already begun dabbling in private investigating. Later, he took a job at Wackenhut and then opened his own firm. He also divorced Barbara, but not before again bringing her along to one of his drop sites.

Building the Ring

John Walker's network began with an old Navy friend, Senior Chief Petty Officer Jerry Whitworth, also a radioman, who had left the service but re-enlisted in the fall of 1974. He then volunteered for a billet at Diego Garcia, a previous duty station. Whitworth was active by the summer of 1975, when Walker put in for retirement. The more experienced spy forwarded many packets of Whitworth's intelligence to the KGB. Possibly the best resulted from his tour on board the Niagara Falls in the same post Walker once held. When the ship went into dry dock, Whitworth was reassigned to Naval Communications Center Alameda. There, however, he found that clandestinely photographing documents was harder. Walker bought a van, for which the Soviets reimbursed him, in which Whitworth could do his camerawork while it sat in a parking lot near work.

With Walker free to travel after his retirement and Whitworth delivering the goods, the spymaster offered the Soviets more frequent intelligence deliveries. Again the KGB specifically refused, although it invited Walker to a face-to-face meeting in Casablanca in the summer of 1977 during which his Soviet contact denounced his recruitment of a new agent. Walker agreed to annual clandestine meetings in Vienna and not to bring in any more agents. He later claimed that during one of the sidewalk encounters in the Austrian capital he was secreted away and debriefed by a group of men who included KGB Chairman Yuri Andropov. Others claim that Andropov personally oversaw Walker's espionage, which was unlikely.

In late 1980, a visit to Alameda by a Naval Investigative Service (NIS) team to solve a rape case frightened Whitworth. He not only became skittish but also pecuniary, deliberately ruining a batch of his photographs in an attempt to get the KGB to pay twice. Whitworth carried off a foot-high stack of documents from his last post on board the Enterprise (CVN-65) with the intent to continue delivering his stream of classified information after leaving the Navy, which he did in October 1983. Among

the materials the Soviets obtained from him were cable traffic plus photographs of, and some key lists for, the KW-7, KY-8, KG-14, KWR-37, and KL-47 cryptographic systems. Though older crypto setups predominated, the take included data on the newest U.S. secure phone system.

Aware of Whitworth's increasing reluctance to spy and despite Walker's promises to the KGB, in 1983 the spymaster solicited his son, Michael, a freshly minted yeoman on board the Nimitz (CVN-68) who worked in the ship's administration office. (In 1979 he had attempted but failed to draw in his youngest daughter, Laura Walker Snyder, who was then in the Army but pregnant and planning to leave the service.) Michael copied more than 1,500 documents for the KGB, including material on weapon systems, nuclear weapons control, command procedures, hostile identification and stealth methods, and contingency target lists. He also included such ordinary items as copies of the Nimitz ship's newspaper.

Owing money to the spymaster, Arthur L. Walker, John's older brother who was a retired Navy lieutenant commander working for a defense contractor, played the game. He produced repair records on certain warships plus damage-control manuals for another. John Walker's rationalizations aside, this "family of spies" approach to espionage was a security breach waiting to happen, since suspicion of any family member would likely result in questioning of others, and the master spy was perfectly aware that Barbara Walker harbored nothing but ill-will toward him.

End of Walker's Espionage

A most troubling aspect of the Walker affair is how it could have gone on for 18 years without authorities uncovering the leak. There is no indication that counterintelligence was even aware of, much less moving to combat, the Walker network. Norfolk FBI spy catcher Robert W. Hunter claimed he knew that an "elusive master spy . . . was out there," but no attention focused on Walker until he was given away.

John Walker's operational security finally cracked in 1984, and fissures opened at every seam. That May Jerry Whitworth, afflicted with guilt or anxious to make a deal, opened an anonymous correspondence with the FBI in San Francisco using the name "RUS" and offering dark secrets. Whitworth, however, could not bring himself to follow through, and the FBI special agents involved were unable to track him down. In the end the RUS letters would be connected to John Walker, but only after the fact.

Then Barbara Walker denounced her ex-husband to the FBI. In November, after daughter Laura convinced her to speak to authorities, Barbara told the FBI field office in Boston that she had important information, and on 29 November a special agent from Hyannis interviewed her. The spy's ex-wife told him of her growing suspicion of her husband as far back as the 1960s, his admission to spying, and her accompanying Walker to dead drops near Washington. She described actions in those deliveries that dovetailed with KGB techniques.

The agent, however, noted in his report that Barbara appeared to have been drinking when she greeted him at her door and that during the interview she drank a large glass of vodka. She was also evasive when asked why she had not reported the spying earlier. He surmised that her allegations could be the result of her alcohol abuse and ill feelings toward her ex-husband, graded her information as meriting no follow-up, and sent the report to Boston, where it was filed away.

A month later, an FBI supervisor making a routine quarterly check of inactive files noted the Barbara Walker report and forwarded it to the bureau's Norfolk office because the alleged espionage centered there. Joseph R. Wolfinger, special agent in charge at Norfolk, obtained headquarters' approval to open an investigation. On 25 February he assigned the case to Robert Hunter, who had brought the Boston report to his attention.

The pieces then quickly fell into place. Laura Walker Snyder was interviewed about her father's attempt to recruit her and added details to her mother's account, though both Laura and Barbara were recognized as having personal problems that would make them not fully credible witnesses. In early March, headquarters authorized a full field investigation, code-named Windflyer, involving its foreign counterintelligence unit. The Naval Investigative Service also came into play since Michael Walker, a suspect by then, was an active-duty Sailor. Laura Snyder telephoned her father at the behest of the FBI, which recorded the conversation in which he evinced interest in her rejoining the military or perhaps the CIA. The FBI tapped Walker's phones, and the NIS interviewed hundreds of persons who had known him and obtained a confession from Michael on board the Nimitz.

The end for John Walker finally came on 20 May when the FBI arrested him after confiscating 127 classified documents from the Nimitz that he had left at a dead drop. A search of his home turned up plentiful evidence of the spy ring, including records of payments to "D" (Jerry Whitworth), who turned himself in to authorities on 3 June. Brother Arthur was also arrested.

In exchange for limits to his charges, John Walker made a deal to discuss his espionage in detail and plead guilty, and Michael also copped a plea. Arthur Walker was tried in August and found guilty. Whitworth went before a court in the spring of 1986. At his trial John Walker retaliated for the RUS letters, which would have betrayed him, by painting his friend's participation in the starkest terms. Found guilty, Whitworth was fined \$410,000 and given 365 years in prison. As for the Walkers, Arthur was sentenced to three life terms plus a \$250,000 fine. John received a life term, and Michael 25 years. In February 2000 Michael Walker was released for good behavior. John and Arthur Walker, meanwhile, will be eligible for parole in 2015.

Assessing the Damage

Many observers believe the Walker spy ring created the most damaging security breach of the Cold War. Director of Naval Intelligence Rear Admiral William O. Studeman declared that no sentence a court could impose would atone for its "unprecedented damage and treachery." Secretary of the Navy John H. Lehman tried to overturn John Walker's plea agreement but was restrained by Secretary Weinberger. Oleg Kalugin, the KGB officer who had first managed Walker, wrote that his was "by far the most spectacular spy case I handled in the United States."

Walker and his colleagues compromised a huge array of secrets. Jonathan Pollard, another naval spy apprehended during 1985, the Year of the Spy, gave Israel a greater quantity of documents (estimated at 1.2 million pages), but the Walker material, with its cryptographic secrets, has to be judged as the worse loss.

Soviet spy chief Boris Solomatin offered a more nuanced perspective when author Pete Earley interviewed him in Moscow nearly ten years after Walker's arrest. Refusing to compare the Walker case with that of former CIA counterintelligence officer Aldrich Ames, another high-profile spy for the Soviet Union, he observed that agents must be judged on the content of the information they deliver. Ames provided the names of Russians spying for the United States and thus affected the KGB-CIA espionage war. Ames' information "would have been used to identify traitors," he said. "That is a one-time event. But Walker's information not only provided us with ongoing intelligence, but helped us over time to understand and study how your military actually thinks." John Walker had been the Soviets' key source on Navy submarine missile forces, which Solomatin viewed as the main component of the American nuclear triad. The KGB spymaster also noted that Walker helped both superpowers avoid nuclear war by enabling Moscow to appreciate true U.S. intentions – a goal the American articulated as one of his aims.

Among the still-murky aspects of the Walker affair is the question of what impact his intelligence had on the Vietnam War. While on board the Niagara Falls, Walker served in the combat theater, so he is believed to have compromised the Navy's theater cipher settings. Oleg Kalugin maintained that the North Vietnamese benefited from the Walker intelligence. Observers claimed Moscow gave Hanoi data enabling North Vietnam to anticipate B-52 strikes and naval air operations. Solomatin, however, disputed that.

As deputy chief of the KGB's First Directorate, Solomatin himself helped decide what intelligence went to Hanoi, as well as the Soviet Union's other allies. He asserted that little was shared and it was given in the most general terms, precisely to avoid exposing the KGB's prize agent. The logic is inescapable. A CIA operation would have been run the same way.

Even without the B-52 charge, the John Walker spy ring was enormously damaging to United States security. In the history of Cold War espionage only a handful of spies operated as long as Walker (British intelligence official Kim Philby and FBI agent Robert Hanssen are the obvious comparisons), and none had comparable access to military secrets.

No spy ring ever functioned as long as Walker's without the other side becoming aware of a leak. While some specific secrets compromised during the Cold War, such as information about the atomic bomb, were intrinsically more valuable than Walker's, no agent supplied such consistently high-grade intelligence over an equivalent time frame. As Boris Solomatin noted: "You Americans like to call him the 'spy of the decade.' Perhaps you are right."

Sources:

Christopher Andrew and Vasili Mitrokhin, *The Sword and the Shield: The Mitrokhin Archive and the Secret History of the KGB* (Basic Books, 1999).

John Barron, *Breaking the Ring: The Bizarre Case of the Walker Family Spy Ring* (Houghton-Mifflin Company, 1987).

Howard Blum, *I Pledge Allegiance . . . The True Story of the Walkers: An American Spy Family* (Simon & Schuster, 1987).

Peter Earley, *Family of Spies: Inside the John Walker Spy Ring* (Bantam, 1988).

Peter Earley, "Boris Solomatin Interview," Crime Library on truTV.com.

Robert W. Hunter and Lynn Dean Hunter, *Spy Hunter: Inside the FBI Investigation of the Walker Espionage Case* (Naval Institute Press, 1999).

Oleg Kalugin, *The First Directorate* (St. Martin's Press, 1994).

Mitchell B. Lerner, *The Pueblo Incident: A Spy Ship and the Failure of American Foreign Policy* (University Press of Kansas, 2002).

Ronald J. Olive, *Capturing Jonathan Pollard: How One of the Most Notorious Spies in American History Was Brought to Justice* (Naval Institute Press, 2006).

John Prados, *The Soviet Estimate: U.S. Intelligence Analysis and Soviet Strategic Forces* (Princeton University Press, 1986).

Frank J. Rafalko, ed. *A Counterintelligence Reader: vol. 3, Post World War II to the Closing of the 20th Century* (National Counterintelligence Center, 2004).

John A. Walker Jr., *My Life as a Spy: One of America's Most Notorious Spies Finally Tells His Story* (Prometheus Books, 2008).

<https://news.usni.org/2014/09/02/john-walker-spy-ring-u-s-navys-biggest-betrayal>

Take a look online at this; splendid read indeed.



Soviet R-311 receiver

PART 2: NUMBERS STATIONS FROM THE POLISH ARCHIVES by **TOMASZ CHOPIN**

An interesting article appeared in 2012 in the *International Journal of Intelligence and Counter-Intelligence* concerning numbers stations written by Jan Bury. He is our former ambassador to Saudi Arabia and now works at a university here in Warsaw.

It explores Polish state security (UB/SB) operations to counter western spies during the Cold War using declassified Top Secret counter-intelligence reports living in our Institute of National Remembrance (which holds the State Security archive).

It provides a further insight into the world of the numbers stations and the people behind them. I provide some parts of it which are of interest to ENIGMA 2000 reader and a few observations.

Our state security faced the problem of detecting foreign spies in a population of 35 million people in the late 1970s. People sought money, disliked the system and wanted a better life in the West. They were motivated to betray. After recruitment by the western special services, they received their orders via anonymous HF radio links or through the postal system or dead drops with extensive use made of secret writing. Countering these activities was the work of our Ministry of Interior's Police Security Service counter-espionage unit.

They were assisted by Bureau A code breakers and Bureau B surveillance operations. SIGINT was run by Bureau RKW. Some of their cases have been revealed in the archives.

In 1978 state security observed an American diplomat load a dead drop in Warsaw with an artificial stone. This site was put under observation and two days later one of our citizens was arrested clearing the drop under OP SOR GANGSTER. This man was Staff Sgt Zenon Celegrat, a communications specialist in the Polish Army.

Under interrogation he admitted that he had passed secrets to the Americans. He was also an amateur radio operator with callsign SP3EKV. He had previously worked in Vietnam in an office we ran jointly with Hungary to help the socialist government of Vietnam. Zenon had been recruited in Vietnam by the CIA in 1974.

Following his arrest his home was searched and two notepads of one time pads and conversion tables were retrieved. He had been approached, recruited and

turned by the CIA and trained in safe houses in Vietnam.

He used dead drops in the city and special chemicals for secret writing to communicate information to the Americans. He also received coded radio messages every Wednesday at 2000 local time on a frequency of 8MHz.

Zenon used a Soviet R-311 receiver [See above] at his work place to receive his messages and then photographed and passed on information. It emerged that he was not a willing recruit because the US had found out about his affair with a local woman and he was a married man.

One of his CIA handlers was a radio amateur and asked him much about his hobby to ensure that he was genuine. There was always the danger he was a plant. The SB thought that US SIGINT likely monitored his on-air activity to check that he was genuine. He was much thought of because in the 1970s the CIA was paying him hundreds of dollars each month. They likely had few military sources at that time.

He was supplied by CIA with a JVC Nivico 93158 world band receiver to take his messages. When he was back here in Poland he received his messages in Morse code on frequencies on 5750 and 3808kHz every Tuesday and Saturday at 1700GMT. He would then mail his reports by secret writing to the US at regular intervals.

Shortly after his return home, Saigon fell.

The operation with Zenon when he was back here lasted two years with 21 genuine coded HF messages sent and many drops loaded and unloaded in the Warsaw city area. He sent 48 reports to Washington by mail and dead-drop.

A total of fifty HF broadcasts were made to him but just a minority were genuine, the rest being false traffic. The last message was noted a year after his arrest. It was always a danger that a spy was caught and nobody knew and his traffic continued so CIA personnel could be identified.

If traffic stopped then that could indicate that the person was guilty. State Security were able to solve one message as they had the cipher pad and information from Zenon on how to make it clear text. A message in September 1978 under callsign 816 had 99 groups and said that there would be no meeting due to surveillance and the CIA signed off as his friends.

A message in 1979 had callsign 712 and 170 groups. In the coded message there would be an indicator of which 5 number group on his code pad he would start with to decode the message.

The CIA had decided to break contact because they were suspicious that he had been caught. He had been and was jailed for 25 years.

Another declassified SB operation was OP SOR TRAMP.

In 1977 Polish intelligence received information that a CIA officer was travelling to Helsinki to meet a Polish source. A CIA communications officer was also travelling from Thailand to Finland to help with the same operation.

State Security checked over 2700 people to establish who this source could be. It was thought to be someone with a trade background who could travel, a privilege few of us had during that time.

Suspicion fell on Leszek Chrost the deputy head of one of our trade departments who was placed under surveillance in Warsaw. He was seen clearing a

dead-drop in the city and arrested. His home was searched and one time pads and a National Panasonic receiver were seized. Incredibly, there was also a tape with a numbers broadcast on it for which there was no innocent explanation (ENIGMA 2000 did not exist then!) It was also discovered that the radio in his Audi car had been converted to receive numbers stations, possibly to avoid bugging in his home and because he travelled so much he could be contacted on the road.

Is this the first time a car radio has been used for this?

His many contacts were also likely approached by state security for secret collaboration to feed false data, just as the CIA would be interested in his contacts to provide genuine information. Big trees grow from small seeds.

Our SIGINT service said that Leszek received his first HF message in 1965 and was in A2 tone telephony. Numbers stations can be used to determine length of clandestine service and levels of activity.

His messages were simplified Morse code sent at 20-30 words per minute.

From 1966-8 his days for reception were changed every couple of months with broadcasts at 2100 on 3335 and 4770kHz. These used callsign 25 and a group count and from 1966-70 he received a total of 50 messages. On 22 June 1977 the Frankfurt transmitter was used with Wednesday and Saturday broadcasts at 2300 on 4990 and 5750kHz. His three figure callsign was changed with every message with 10 minutes of callsign then 5 tones before a message. The first message was at 20 words per minute and then repeated at 30 words per minute. From June 1977 to June 1979 Leszek received 11 messages via HF link with some messages repeated for 2-18 weeks. If callsign 888 was used then it was a null message.

Our SIGINT service was very impressed by the way the CIA could adjust frequencies and schedules to get favourable propagation. In his home he had two receivers, a Sony TR-919 for 3-24 MHz and a National Panasonic RQ-554 LDS for 2-22 MHz. The National Panasonic had a recorder included for cassette tapes (remember those?) After August 1979 no more messages were broadcast.



Sony TR 919 Receiver



National Panasonic RQ-554 LDS

It emerged that Leszek had been recruited in Thailand through coercion by unknown means.

He had met the CIA all over the world and they had told him to erase any number recordings, which fatally he did not. A tape of three messages was played at his trial and the judges were stunned.

So was he I think when he got 25 years!

Interestingly, how did we know that the CIA was meeting a source in Helsinki? Was there a leak or codebreak?

A security case called SOR IKAR was opened in 1980 concerning one of our officials recruited in South East Asia. A letter was intercepted in Poland to Bogdan Walewski who was a diplomat and academic. As a diplomat he met American personnel who recruited him to pass documents and information. His home was searched and it emerged that he had been recruited by the Americans in the 1950s and had been a CIA source for 20 years.

In New York on a posting he had been taught how to receive numbers stations in a safe house and had the callsign 432. He had also been given an electronic device 12 x 10 x 2.5cm which was a short range agent communication unit to avoid meetings and pass data. Little further was revealed about his case and in 1982 he got 25 years.

The final case concerns Lt Col Istvan Belovai. He was posted to England as the deputy Hungarian military attache from 1982-84 and during his time there volunteered to work for the Americans. He was recruited by the CIA/DIA to provide military information and told them about a spy ring in NATO.

When he was back in Hungary a secret writing letter posted to him by the CIA was intercepted about a container left in a park in Budapest.

Hungarian security saw him retrieve this package which contained carbon papers and a Sony ICF 7600D receiver. There was also a CJD-403 device included which helped him receive 110 Baud data transmissions instead of voice traffic. This device allowed him to record a CIA data message and replay it later. There was also a user manual for this special device and for the Sony radio. There were also secret writing letters.

Istvan was arrested in 1985 and jailed.

In conclusion, these agents were likely used by the US to confirm intelligence gathered from other sources and to provide first-hand information. Poland did not seem to use them to pass disinformation.

Détente in the 1970s made espionage easier in the East and likely helped the work of the CIA. Martial law imposed on us later on isolated our country and western assets in place.

Covert radio was the best means to defeat surveillance but there was the danger of dead-drops and secret letters being detected. Covert transmitters using VHF/UHF provided a road to provide real-time reports.

Interception of numbers stations also shows the value of SIGINT to provide activity levels and times and proof of spying. The presence of radios and code materials in a house could be fatal though!

If a Pole worked for the Soviet liberator (invader) and the communist government, were they a traitor? If they worked for the West, were they also a traitor? When the USSR left, how many spies were left behind?

It was a difficult time to be alive and I wonder what became of the people who spied at this time. Where are their radios now and did they go to live in the West after the end of communism and their release from jail? There must be many more people who were not caught by either side and who lived and died in silence.

There is a story behind every number transmission and in a very dangerous time in Europe they will continue to be with us and of great importance.

73! T.C.

Many thanks TC for this most interesting second part of a splendid article [More please]! What do you know about Family III stations, I wonder?

Chart Section Index

Predictions

M01 Schedule

M12 Yearly Repeat Schedules

Family III

Polytones, XPA1, XPA2

En146

January 2025

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Jan kHz, ID, ...	Feb kHz, ID, ...
x		x					0315		E11	03	12089 25#	12089 25#
x	x	x	x	x	x	x	0400		V13	0	18040	9725,15388
x	x	x	x	x			0400/0420		S06	01A	11616/ 9322 480	11616/ 9322 480
	x		x				0445		S11A	03	11559 79#	11559 79#
x							0450		E11	03	14753 41#	14753 41#
x	x	x	x	x	x	x	0455		HM01	18	10860	10860
x	x	x	x	x	x	x	0500		V13	0	11430	11430
x	x	x	x	x			0500/0520		M14	01A	12211/10243 952	12211/10243 952
	x		x				0505		E11	03	12153 33#	12153 33#
x		x					0510		S11A	03	21906 65#	21906 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	23004 94#	23004 94#
				x		x	0600		E11	03	7850 35#	7850 35#
x	x	x	x	x	x	x	0600		V13	0	11430	10522,11430
x	x						0600/0610/0620 0630/0640/0650		XPB1	01B	12187/13387/13887 14487/14987/15887 search	13443/13943/14443 14943/15843/16343 search
	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	7840 51#	7840 51#
x	x	x	x	x	x	x	0655		HM01	18	13435	13435
x			x				0700		S11A	03	9050 47#	9050 47#
	x			x			0700		E11	03	6804 57#	6804 57#
					x	x	0700		E11	03	5371 49#	5371 49#
x	x	x	x	x	x	x	0700		V13	0	7502, 8169	7502, 8169
						x	0700		M01	01B	5465 197	5465 197
x	x	x	x	x	x	x	0700/0710/0720 0730/0740/0750		XPB1	01B	6941/ 7541/ 7941 8141/ 9241/10241 sporadically	6941/ 7541/ 7941 8141/ 9241/10241 sporadically

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Jan kHz, ID, ...	Feb kHz, ID, ...
	x			x			0710		M01A	14	10651 297/358	10651 297/358
		x	x				0710		M01A	14	9175 146/208	9175 146/208
x		x					0715		E11	03	20167 75#	20167 75#
	x			x			0715		E11	03	14975 63#	14975 63#
					x	x	0715		M01	14	9566 475	9566 475
	x			x			0720		M01A	14	9151 728	9151 728
		x		x			0725		S11A	03	23486 38#	23486 38#
						x	0730/0800		E06 S06	01A	9946/8095 480 sporadically check	10423/ 8167 480 sporadically check
x							0745		E11	03	10213 26#	10213 26#
	x		x				0745		E11	03	13908 22#	13908 22#
		x		x			0745		E11	03	17378 34#	17378 34#
x	x	x	x	x	x	x	0800		V13	0	7502, 8169	7502, 8169
		x					0800/0820/0840		XPA2	01B	11493/13393/13993	13387/13887/14787
	x	x					0820		E11	03	14611 13#	14611 13#
			x	x			0820		E11	03	6986 43#	6986 43#
x				x			0830		E11	03	23353 18#	23353 18#
					x	x	0830		S11A	03	5371 37#	5371 37#
x		x					0845		E11	03	12067 71#	12067 71#
	x		x				0845		E11	03	17378 15#	17378 15#
x		x					0900		E11	03	11092 53#	15915 53#
x		x					0910/0930/0950		XPA2	01B	14977/13971/13371	16102/14951/13991
			x		x		0910/0930/0950		XPA2	01B	14794/13994/12194	16146/15846/14446
x				x			0915		S11A	03	6252 48#	6252 48#
		x	x				0930		E11	03	7469 27#	7469 27#
x	x	x	x	x	x	x	0930		M14	01A	17458 10.&25. 15994 11.&26. when msg	17458 10.&25. 15994 11.&26. when msg
		x					0930/1030		S06	01A	9463/ 9075 480 sporadically check	10755/ 9073 480 sporadically check
	x			x			1000		E11	03	9079 30#	9079 30#
x	x	x	x	x	x	x	1000		V13	0		19052/20025/20095
	x	x	x	x			1015/1025/1035		F01	01A	11079/ 9162/ 7509	12184/10169/ 8079

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Jan kHz, ID, ...	Feb kHz, ID, ...
x		x					1045		E11	03	14410 69#	14410 69#
x	x	x	x	x	x	x	1100		V13	0		19052/20025/20095
	x						1100/1120/1140		M12	01B	11519/12194/13407 289	11519/12194/13407 289
	x			x			1100/1120/1140		XPA2	01B	10231/ 9331/ 8131	12147/10347/ 9247
		x	x				1100/1120/1140		XPA2	01B	13384/12184/10984	13967/13367/11567
x	x	x	x	x	x	x	1200		V13	0	7688	13974/14944/15388 19052
		x			x		1200/1210/1210 1230/1240/1250		XPB1	01B	15425/14825/13425 12125/10425/ 9325	14873/14373/13873 13373/12173/11173
		x		x			1200/1220/1240		XPA2	01B	13878/14978/16278	14956/16356/17456
	x	x					1205		E11	03	11559 46#	11559 46#
x			x				1300		E11	03	4909 31#	4909 31#
x	x	x	x	x	x	x	1300		V13	0	7688,11430	11430/14944/15388 19052
	x			x			1300/1310/1310 1330/1340/1350		XPB1	01B	20069/19369/18269 17469/16269/15969	20035/19235/18335 17435/16235/15835
		x		x			1310/1330/1350		XPA1	01B	14852/13952/11552 895	14374/13374/11474 334
	x			x			1400		S11A	03	10448 42#	10448 42#
			x		x		1410/1430/1450		E07	01B	11593/10293/ 9293 916	13368/12168/11168 745
	x				x		1430		E11	03	13363 91#	13363 91#
					x		1500		M01	14	5810 197	5810 197
x	x	x	x	x	x	x	1500		V13	0		8300
	x			x			1500/1520/1540		E07	01B	13375/12175/10375 313	15858/14458/12158 841
			x				1530		E11	03	5409 26#	5409 26#
					x		1600/1620/1640		XPA2	01B	9317/ 8117/ 7517	11461/10261/ 9161
	x		x				1600/1620/1640		XPA2	01B	10465/ 9165/ 8065	12173/18373/ 9373
					x		1600/1630		E06 S06	01A	7377/ 5410 480 sporadically check	8116/ 5410 480 sporadically check
	x					x	1605		E11	03	5432 23#	5432 23#
		x			x		1610		E11	03	4505 39#	4505 39#
					x	x	1645		E11	03	4909 36#	4909 36#
		x		x			1715		E11	03	5082 97#	5082 97#
			x				1730		E11	03	5779 41#	5779 41#
x						x	1745		E11	03	12924 24#	12924 24#
	x		x				1800		M01	14	5320 197	5320 197

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Jan kHz, ID, ...	Feb kHz, ID, ...
			x				1800/1820/1840		M12	01B	11435/10598/ 9327 938	11435/10598/ 9327 938
				x		x	1815		E11	03	6849 92#	6849 92#
		x			x		1850		S11A	03	11486 28#	11486 28#
x			x				1900		E11	03	6849 64#	6849 64#
		x					1900/1920/1940		M12	01B	8047/ 6802/ 5788 463	8047/ 6802/ 5788 463
				x			1900/2000	1/3	S06	01A		7923/ 5943 842
				x		x	1910		E11	03	10487 61#	10487 61#
			x			x	2000		E11	03	5082 52#	5082 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

M12 Yearly Repeat Schedules

Time UTC			Freq kHz			ID	M	T	W	T	F	S	S
Jan													
0010	0030	0050	16253	15953	14453	294*	X				X		
0030	0050	0110	5886	6786	7486	874		X			X		
0300	0320	0340	14673	13473	12173	641*		X		X			
0800	0820	0840	16357	17457	18357	343			X				X
1110	1130	1150	13386	12189	11491	725				X			
1400	1420	1440	17418	16318	14918	439	X			X			
1800	1820	1840	11435	10598	9327	938						X	
2000	2020	2040	6782	5882	5182	781			X		X		
2200	2220	2240	5778	6778	8178	771					X	X	
2300	2320	2340	11079	10279	9179	136	X			X			
Feb													
0010	0030	0050	17461	16161	15861	418*	X				X		
0300	0320	0340	17437	15937	14537	495*		X		X			
1110	1130	1150	13386	12189	11491	725				X			
1400	1420	1440	19373	17473	16173	341	X			X			
1800	1820	1840	11435	10598	9327	938						X	
2000	2020	2040	7674	6874	5774	687			X		X		
2200	2220	2240	5832	6832	7732	887					X	X	
2300	2320	2340	9362	8062	7462	451	X			X			
Mar													
0010	0030	0050	16284	15984	14784	297*	X				X		
0300	0320	0340	18767	17467	16267	742*		X		X			
1400	1420	1440	20849	19449	18249	842	X			X			
1800	1820	1840	11435	10598	9327	938						X	
2000	2020	2040	10238	9138	7838	218			X		X		
2200	2220	2240	8126	7526	6826	178					X	X	
2300	2320	2340	9157	7957	6857	917	X			X			
Apr													
0010	0030	0050	14837	13937	12137	891*	X				X		
0300	0320	0340	18767	17467	16267	742*		X					
0600	0620	0640	11468	12168	13368	413			X				
1400	1420	1440	20971	20371	19271	932	X			X			
1800	1820	1840	11435	10598	9327	938						X	
1900	1920	1940	13564	12164	11164	511			X		X		
2000	2020	2040	12139	11139	10239	234	X			X			
2100	2120	2140	7575	8175	9175	511					X	X	
May													
0210	0230	0250	13426	12126	10226	412*	X				X		
0300	0320	0340	16272	14972	13972	299*		X					
1400	1420	1440	20282	19482	18382	243	X			X			
1900	1920	1940	15936	14736	13536	975			X		X		
2000	2020	2040	13926	13426	11526	573	X			X			
2100	2120	2140	10843	10243	9243	822					X	X	
Jun													
0210	0230	0250	15918	14818	13918	989*	X				X		
0300	0320	0340	14975	13875	13475	984*		X		X			
1600	1620	1640	17427	16327	14627	436	X			X			
1900	1920	1940	15823	14823	13923	889			X		X		
2000	2020	2040	13892	13392	11592	119	X			X			
2100	2120	2140	11144	10544	9344	153					X	X	

*Asiatic schedules No reception in the UK – Poor in Western Europe

Time UTC			Freq kHz			ID	M	T	W	T	F	S	S
July													
0210	0230	0250	15881	14781	13481	874*	X				X		
0300	0320	0340	16272	14972	13972	299*		X		X			
1110	1130	1150	13386	12189	11491	725				X			
1900	1920	1940	14968	14468	13368	943			X		X		
2000	2020	2040	12217	10817	9317	617	X			X			
2100	2120	2140	10767	10167	9267	712					X	X	
Aug													
0210	0230	0250	12163	11163	10463	114*	X				X		
0300	0320	0340	14975	13875	13475	984*		X		X			
1900	1920	1940	15931	14831	13531	985			X		X		
2000	2020	2040	12148	10648	9148	374	X			X			
2100	2120	2140	10314	9114	8014	310					X	X	
Sep													
0010	0030	0050	14942	13942	12142	991*	X				X		
0300	0320	0340	17437	15937	14537	495*		X		X			
1900	1920	1940	13367	12167	10567	315			X		X		
2000	2020	2040	11109	10309	9209	385	X			X			
2100	2120	2140	7961	6861	5861	988					X	X	
Oct													
0010	0030	0050	17429	16229	15929	429*	X				X		
0300	0320	0340	17437	15937	14537	495*		X		X			
1900	1920	1940	11135	10235	9235	122			X		X		
2000	2020	2040	10318	9218	8118	178	X			X			
2100	2120	2140	5794	6794	8094	770					X	X	
2310	2330	2350	12217	11517	10417	254			X				X
Nov													
0010	0030	0050	16275	15975	14675	296*	X				X		
0300	0320	0340	16184	14784	13484	174*		X		X			
2000	2020	2040	6917	5817	5117	981			X		X		
2200	2220	2240	6859	7459	7959	849					X	X	
2300	2320	2340	10446	9046	7946	392	X			X			
2310	2330	2350	13373	12173	10273	312			X				X
Dec													
0010	0030	0050	14947	13447	12147	941*	X				X		
0300	0320	0340	14354	12154	11154	311*		X		X			
2000	2020	2040	6792	5892	5092	780			X		X		
2200	2220	2240	5832	6832	7732	887					X	X	
2300	2320	2340	9134	8134	7534	457	X			X			
2310	2330	2350	11129	10329	9329	133			X				X

*Asiatic schedules No reception in the UK – Poor in Western Europe

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	Stn	Fam	Jan kHz, ID, ...	Feb kHz, ID, ...	Nov kHz, ID, ...	Dec kHz, ID, ...	Remarks
x		x					0315	E11	03	12089 25#	12089 25#	12089 25#	12089 25#	since 01/14, last log 12/24
	x		x				0445	S11A	03	11559 79#	11559 79#	11559 79#	11559 79#	since 05/22, last log 12/24
x							0450	E11	03	14753 41#	14753 41#	14753 41#	14753 41#	since 02/10, last log 12/24 2nd transmission Thu 1730z
	x		x				0505	E11	03	12153 33#	12153 33#	12153 33#	12153 33#	since 10/11, last log 12/24 Mar/Apr/Sep/Oct at 1230z, Mai-Aug at 1645z
x		x					0510	S11A	03	21906 65#	21906 65#	21906 65#	21906 65#	since 08/19, last log 12/24
x		x					0600	E11	03	23004 94#	23004 94#	23004 94#	23004 94#	since 07/17, last log 12/24
				x		x	0600	E11	03	7850 35#	7850 35#	7850 35#	7850 35#	since 04/15, last log 12/24
	x		x				0645	E11	03	7840 51#	7840 51#	7840 51#	7840 51#	since 07/09, last log 12/24
x			x				0700	S11A	03	9050 47#	9050 47#	9050 47#	9050 47#	since 04/10, last log 12/24
	x			x			0700	E11	03	6804 57#	6804 57#	6804 57#	6804 57#	since 01/12, last log 12/24
					x	x	0700	E11	03	5371 49#	5371 49#	5371 49#	5371 49#	since 07/15, last log 12/24
x	x						0715	E11	03	20167 75#	20167 75#	20167 75#	20167 75#	since 06/21, last log 12/24
	x			x			0715	E11	03	14975 63#	14975 63#	14975 63#	14975 63#	since 02/11, last log 12/24
		x	x				0725	S11A	03	23486 38#	23486 38#	23486 38#	23486 38#	since 05/14, last log 12/24
x							0745	E11	03	10213 26#	10213 26#	10213 26#	10213 26#	since 03/14, last log 12/24 2nd transmission Thu 1530z
	x		x				0745	E11	03	13908 22#	13908 22#	13908 22#	13908 22#	since 01/20, last log 12/24
		x		x			0745	E11	03	17378 34#	17378 34#	17378 34#	17378 34#	since 06/17, last log 12/24
	x	x					0820	E11	03	14611 13#	14611 13#	14611 13#	14611 13#	since 12/18, last log 12/24
			x	x			0820	E11	03	6986 43#	6986 43#	6986 43#	6986 43#	since 10/09, last log 12/24
x				x			0830	E11	03	23353 18#	23353 18#	23353 18#	23353 18#	since 07/15, last log 12/24
					x	x	0830	S11A	03	5371 37#	5371 37#	5371 37#	5371 37#	since 02/14, last log 12/24
x	x						0845	E11	03	12067 71#	12067 71#	12067 71#	12067 71#	since 09/10, last log 12/24
	x		x				0845	E11	03	17378 15#	17378 15#	13046 15#	17378 15#	since 07/17, last log 12/24
x		x					0900	E11	03	11092 53#	15915 53#	15915 53#	15915 53#	since 10/05, last log 12/24
x				x			0915	S11A	03	6252 48#	6252 48#	6252 48#	6252 48#	since 04/19, last log 12/24
		x	x				0930	E11	03	7469 27#	7469 27#	7469 27#	7469 27#	since 02/14, last log 12/24
	x			x			1000	E11	03	9079 30#	9079 30#	9079 30#	9079 30#	since 11/16, last log 12/24
x		x					1045	E11	03	14410 69#	14410 69#	14410 69#	14410 69#	since 03/18, last log 12/24
	x	x					1205	E11	03	11559 46#	11559 46#	11559 46#	11559 46#	since 03/10, last log 12/24 2nd transmission Mon 0450z
x			x				1300	E11	03	4909 31#	4909 31#	4909 31#	4909 31#	since 07/14, last log 12/24
	x			x			1400	S11A	03	10448 42#	10448 42#	10448 42#	10448 42#	since 02/10, last log 12/24
	x				x		1430	E11	03	13363 91#	13363 91#	13363 91#	13363 91#	since 10/15, last log 12/24
			x				1530	E11	03	5409 26#	5409 26#	5409 26#	5409 26#	since 06/14, last log 12/24 2nd transmission Mon 0745z
	x				x		1605	E11	03	5432 23#	5432 23#	5432 23#	5432 23#	since 11/15, last log 12/24
		x		x			1610	E11	03	4505 39#	4505 39#	4505 39#	4505 39#	since 02/14, last log 12/24
					x	x	1645	E11	03	4909 36#	4909 36#	4909 36#	4909 36#	since 03/14, last log 12/24 2nd transmission Thu 1530z
		x		x			1715	E11	03	5082 97#	5082 97#	5082 97#	5082 97#	since 02/15, last log 12/24
				x			1730	E11	03	x5779 41# search	x5779 41# search	5779 41# missing	5779 41# missing	since 03/10, last log 10/24 2nd transmission Mon 0450z
x					x		1745	E11	03	12924 24#	12924 24#	12924 24#	12924 24#	since 04/18, last log 12/24
				x		x	1815	E11	03	6849 92#	6849 92#	6849 92#	6849 92#	since 05/16, last log 12/24
		x			x		1850	S11A	03	11486 28#	11486 28#	11486 28#	11486 28#	since 06/17, last log 12/24
x			x				1900	E11	03	6849 64#	6849 64#	6849 64#	6849 64#	since 05/16, last log 12/24
				x		x	1910	E11	03	10487 61#	10487 61#	10487 61#	10487 61#	since 04/17, last log 12/24
				x		x	2000	E11	03	5082 52#	5082 52#	5082 52#	5082 52#	since 05/15, last log 12/24

Family III

XPA1 Wednesday/Friday schedule

Zulu >	XPA1 Wed/Fri Schedule		
Month v	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 >	XPA2 Sched p		
Month v	Monday/Wednesday H 00 H+20 H+40 0700 / 0800z		
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

Thanks to all our contributors:

AB, BR, DanAR, dMHz, E, Gert, H-FD, HJH, JanO, Jochen, M8, MG, PLdn, PoSW, RRGB, TomaszC

Apologies to anyone missed.

MESSAGES:

E: A very prosperous and HNY to you and yours, thanks you for your valid input. Gd Lk St H!

RELEVANT WEBSITES

ENIGMA 2000 Website:

www.enigma2000.org

Time zone information:

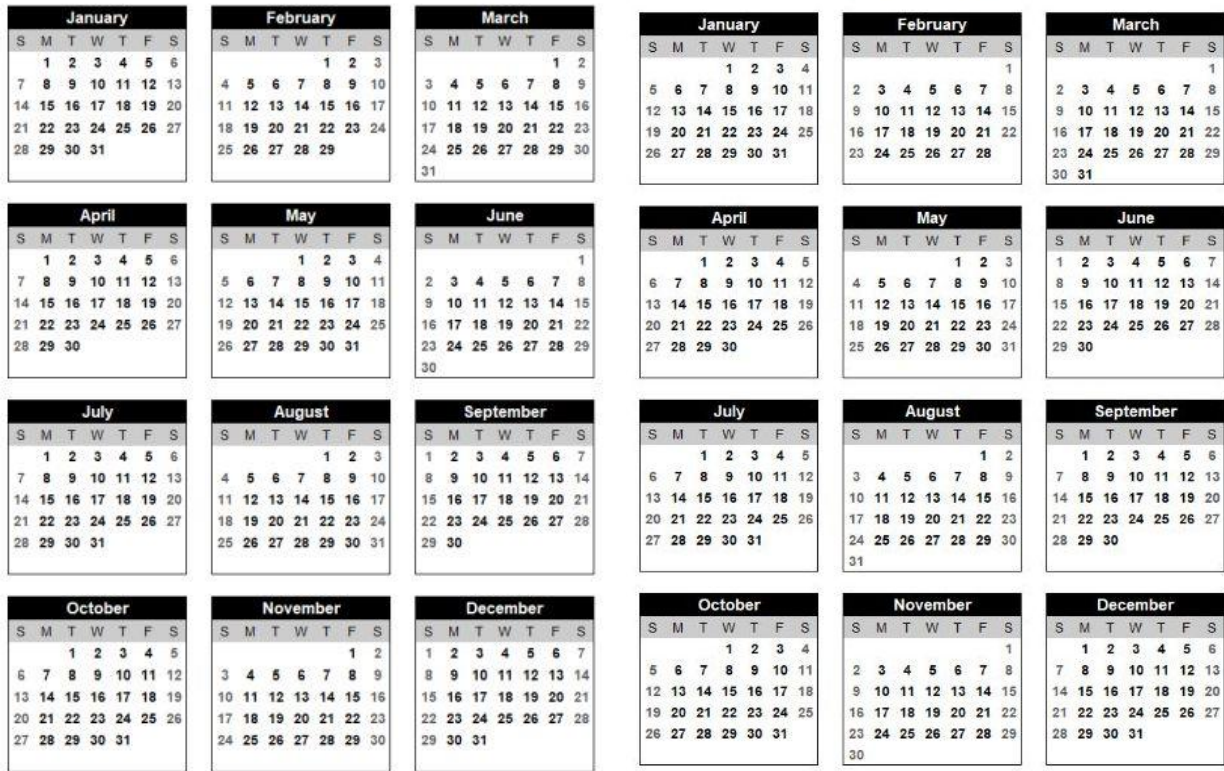
<http://www.timeanddate.com/library/abbreviations/timezones/>

Encyclopedia of Espionage, Intelligence, and Security

<http://www.espionageinfo.com/>

2024

2025



<https://www.vertex42.com/calendars/2025.html>

© 2022 by Vertex42.com. Free to Print

Statements affecting the use of ENIGMA2000 material of all description and intellectual property of others:

Copyright & Fair Use Policy

© All member's items posted on our website and within our newsletter remain the property of ENIGMA 2000 and are copyright.

The above applies only to documents found on this website and not logs sent to ENIGMA 2000 for their sole use which cannot be used elsewhere.

Within the Number Monitors Group site, the following applies:

USE OF POSTINGS, IMAGES, SOUND SAMPLES and OTHER FILES:

©All member's items posted here remain the property of ENIGMA 2000 and are copyright.

MEMBERS' LOGS & IMAGERY POSTED HERE *SOLELY FOR ENIGMA2000 USE* CANNOT BE LIFTED FOR USE ELSEWHERE.