

ENIGMA 2000 NEWSLETTER



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GCHQ Scarborough antennas

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For those with an interest: Active Russian Military freqs:



<u>Day</u>	<u>Night</u>
12041kHz	10057kHz
13619kHz	12905kHz
7140kHz	4570kHz

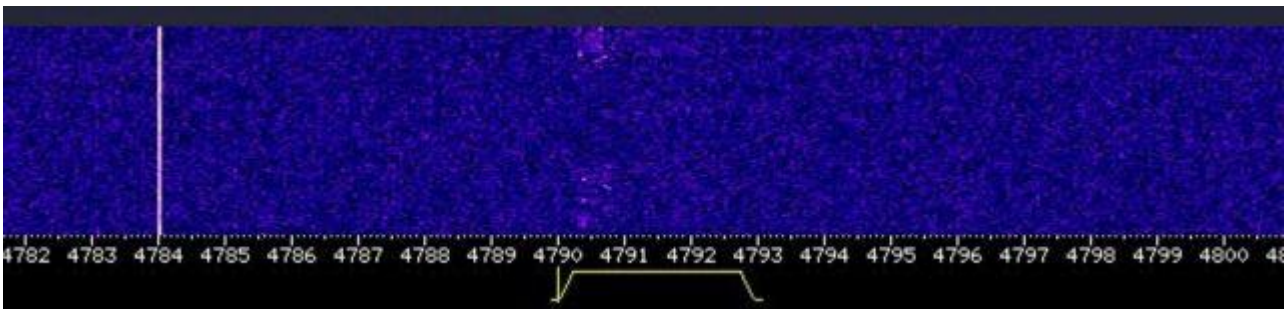
31375kHz
39425kHz
44225kHz

Thanks to 'Male Anon' and others

Latest news from the Telegraph... [01/03/2022]

Parts of the Russian military are reliant on mobile phones and analogue "walkie-talkies", making them vulnerable to interception by radio enthusiasts.(ed. and obviously GCHQ)

Followed by this screen shot sent to me:



There's lots more active freqs. The best though is sent to me via FB and reads: Apart from Russian poor logistics is anyone aware their communications is very flawed. Shortwave enthusiasts are intercepting open comms at will. The Russians are using their mobile phones and cheap Chinese radios to communicate. Will Britain maintain a deep SIGINT and ELINT surveillance as well as sending kit to deny any comms for Russian troops? Needs to be done.

For cheap Chinese read Baofeng – personally always found them very reliable for 2m and 70cms.

Editorial

Apart from the changes in propagation Britain received a shoddy service from our Royal Mail; as I write this I am totally aware of what a crap service it has become. When I was a young boy we had three deliveries a day; that was reduced to two and now, in privatisation, we have one – allegedly. Today, nineteen days after PoSW posted his report, first class post mind you, I receive his letter to me.

Jochen waited for PoSW's report [I have just emailed him asking to include Peter's X06 report next time] and I held the newsletter up almost two weeks just in case.

Royal Mail have announced they are going to scrap the first and second class post. Doubtless they'll hike the price up and give third class service.

I read in the Times the postal service is under effects of covid; don't want to go in – phone up and tell them your LFT is positive – used to be a bad back, a dodgy meal from the local Indian, Chinese or other restaurant, but no! It's now covid which even surpasses the 'must have been a dodgy pint' from the diehards. Of course some will be ill but it's too good an opportunity as certain transport companies have found out. For reasons best known to themselves there's been no travel to London Victoria for those who need. Why? Who knows but you can probably guess?

Next up will be engineering works every weekend; 'But you've had the entire Christmas holidays and all the way to God knows when and nothing ran....'

"You're right of course, but its covid again, holidays and of course the trades unions found a chip in a shovel so for safety reasons we suspended work and had an increase in pay." Welcome to covid Britain.

Conditions started as expected for January but with a small lift of 19/01 things descended rapidly due to the start of solar unrest and very noticeable on the night of 20/01; 21/01 produced some poor strength I XPA2 1 and 2 Wed/Fri schedules where at least the XPA2 1200z et al sendings could be relied on for a very strong signal. Not so. This was noted also with E07 Thursday schedule at 1410z with weak signal across the schedule including that heard via the Dutch SDR. The same trend was seen by Malcolm earlier with E17z; not normally very strong Malcolm resorted to the Dutch SDR for a weak signal, all doubtless due to the solar changes.

Cuban HM01/SK01 etc. Those paying attention to these transmissions will have noticed the change in sound of the digital component. This change, as noted by Ary [Tnks Ary] in his log submissions and noted as SK01 was picked in group by Jochen. Reasonably, Jochen asked if HM01a would be more appropriate, the AMDRM files being a variation.

After consideration between Ary, Briab and myself it was decided that HM01 would suffice; it was generally thought that to continue to catalogue all minor changes, as seemed to be the case until lately, led to confusion. For this reason HM01 will remain as the Ident.

February changes:

February 2022 most notable observation is that the long-standing E07a English Man SSB station appears to have gone. The Wednesday 2100z start, Thursday 0530z repeat, Friday 1610x and Saturday 0900z repeat appeared on their predicted frequencies in January but nothing found in February, and a lot of tuning around at these times in case frequencies have changed has not shown any results.

The related E07 Schedules have appeared as expected in February.

M23 seems to have put in some good appearances; BR's Morse column showing all detail.

Whilst fault finding on a FRG 7700 I bought for £20 the station I used to produce at least a measurable signal suddenly ceased after fading out. Too lazy to set up my sig geny I switched off and watched some rubbish on TV with my wife. The cause for the fade and indeed the crappy programming lays with the sun.



Anyway, back to Numbers etc:

In Peter's last report held up in December he mentioned this interesting intercept:

Tone of 967 Hz:-

Who is it that takes to the airwaves with a fixed audio tone of 967 Hz?

The question is asked because such a transmission has been noted throughout November and December in the UK afternoon on any one of nearly a dozen frequencies, always a strong signal and when the low-level audio output of the receiver is connected to the input of a frequency counter the display is always 967 Hz.

No reason to question the accuracy of this instrument, at least not in the audio range.

Frequencies on which this has been heard, stays on for an hour or more, are:- 14690; 14975; 17420; 17470; 19030; 19920; 18325; 20140; 20200; 20240 and 20250.

The last frequency on this list is the one that has been heard on more occasions than the others. Has not been found before about 1300 UTC. 967 seems to be an unusual frequency for a test-tone, 1 kHz or 400Hz might be considered to be more usual for this purpose.

During the life of this issue we have seen the invasion of Ukraine. E2k will make no mention other than radio signals. It is not for us to judge but I found it interesting that prior to any moves, certainly before Mr Biden was lauding intel from the US Russia forces posted this reminder to its troop to keep their cel Iphone off and certainly off Tik Tok in particular. This is the poster used by Russian forces:



NYET!

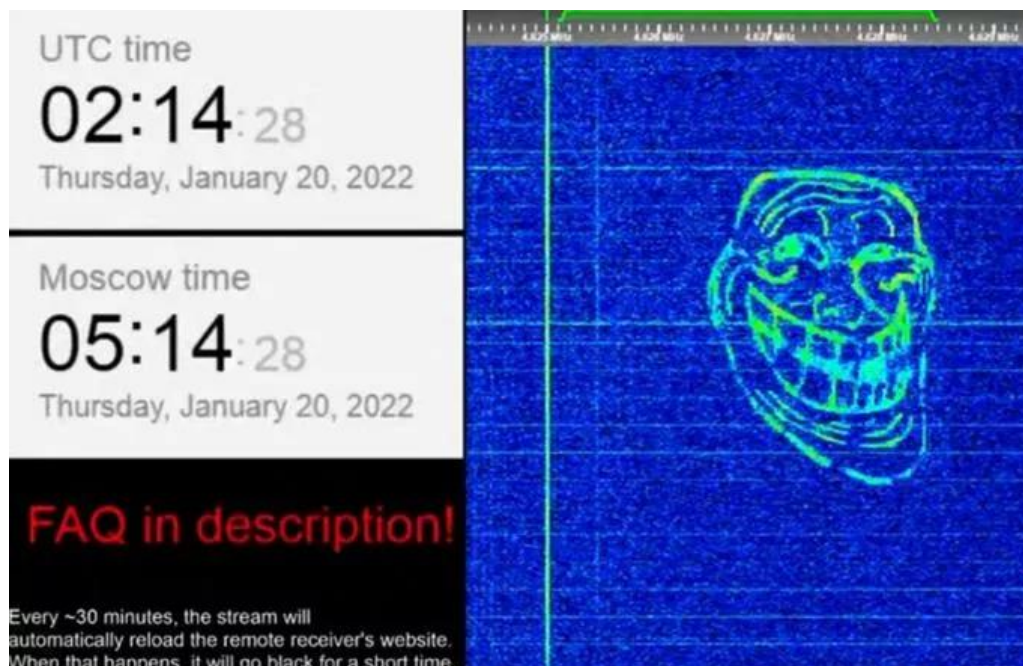
What later transpired was some very decent intel on troop concentrations from signals from Russian servicemen's cell phones as uncovered by CNN

What is interesting is that Russian troops are forced to use cheap Baofeng hand helds and maintain long range comms via mobile phone,

This from [Ukrainian. Russian radio enthusiasts battle over alleged Russian military frequency \(kyivindependent.com\)](https://www.kyivindependent.com/ukrainian-russian-radio-enthusiasts-battle-over-alleged-russian-military-frequency)

Ukrainian, Russian radio enthusiasts battle over alleged Russian military frequency

January 25, 2022 1:16 am by [Dylan Carter](#)



Radio enthusiasts have begun spamming a Russian military radio frequency with memes and propaganda after the frequency allegedly began transmitting encoded messages to elements of the Russian military. (Knowyourmeme.com)

The frequency of a suspected Russian military shortwave radio broadcast, known as the “buzzer” for its recognizable repeating channel marker, has become the battleground for rival Russian and Ukrainian radio enthusiasts, who have been attempting to hijack the frequency to play memes and propaganda.

The UBV-76 transmission, which can be listened to at 4625khz on shortwave radio, is suspected to be used by the Russian military for relaying coded messages to military forces. The signal has been transmitted since the late 1970s, during the height of the cold war.

There has been much speculation about the exact purpose of the radio signal, however according to Numbers Station Research and Information Center, the most widely accepted theory is that the transmissions are used to send communications between Russia’s Western Military District.

The radio signals originate from the village of Naro-Fominsk, near Moscow. The frequency is allegedly marked by the Russian military with a repeated buzz, which is occasionally interrupted by live coded messages.

With tensions between Russia and Ukraine mounting, enthusiasts noted that the encrypted radio messages were becoming much more frequent.

Since the end of November, listeners reported that encrypted radio messages had become a frequent occurrence. The cryptic messages can be picked up hundreds of miles away using strong antennae.

Following this flurry of military radio activity, enthusiasts decided to take to the airwaves themselves, flooding the frequency with memes, propaganda, and pirated music. Radio enthusiasts, including many users suspected to be based in Ukraine, are using internet-based radio transmitters to blast songs such as Korean viral-hit “Gangnam Style”, MGMT’s “Little Dark Age”, and other hits.

Modern shortwave radio receivers also allow users to visualise audio transmissions, leading radio enthusiasts to compete to create images, such as Ukrainian symbols or popular memes.

The flood of memes and music means that the original users of the frequency, suspected to be from the Russian military, are now struggling to be heard.

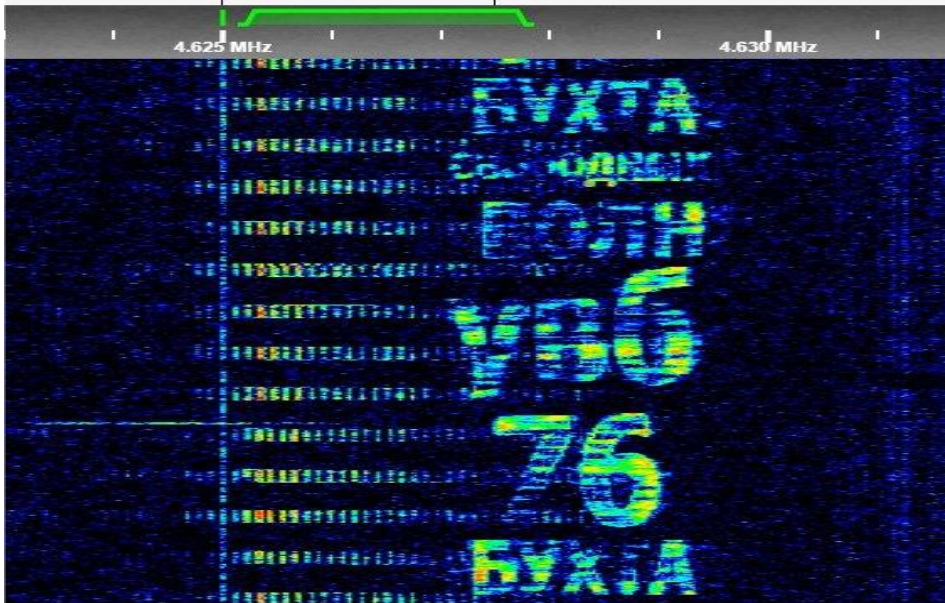
In a Dec. 11 broadcast, live encoded messages were drowned out by Linkin Park’s hit song “In The End.”

In response, Russian listeners began blaring the Soviet national anthem, Russian 90s rock songs, and Russian state propaganda. The frequency is now also being blocked by heavy radio jamming, possibly by the Russian military getting fed up with pirates using their frequency.

A livestream of the broadcast can be viewed on [YouTube](#).

[Ukrainian, Russian radio enthusiasts battle over alleged Russian military frequency \(kyvindependent.com\)](#)

This screen shot of ‘The Buzzer’ being continually bombarded with text messages was captured on the evening of 12 February by BR.



Text Superimposed over Russian Buzzer in the continuing 'Radio Wars' activity – Via SDR Norway - 12 Feb

The word Воин, (voin in Latin), means Warrior The meaning of the other text is unknown,

The BBC's Gordon Corera even got in the act with S28. Apart from a set of recordings from yesteryear he played he called on 'expert' opinion most of us [all of us?] have ever heard of.

[Russian Spy Station Hacked - Radio 4 PM - 9th Feb 2022 - YouTube](#)

4625kHz is thought to be the Russian equivalent of our HANDEL carrier current transmissions over the TIM or 123 Speaking Clock system at 72kHz.. It used subtones to produce a mind numbing tick tick tick heard on current carrier receivers in Police, Fire and some Ambulance stations. Also in military and Royal Observer Corps and Regional Seats of Government.. Carrier system has gone nowgone now. Given area of Russia the choice of frequency is a good one.

[British Cold War Nuclear Warning System \(ringbell.co.uk\)](http://ringbell.co.uk)

Thanks to BR for placing up on group.

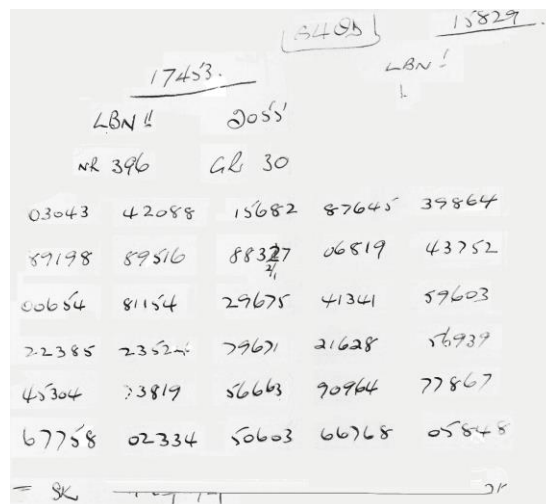
Douglas Britten, a spy.

Some issues back we asked about the whereabouts of Dougie Britten, a convicted spy who was arrested on 13th September, 1968 for acting against the interest of Great Britain.

We had asked whether this bloke was alive; well thanks to resulting chat with an interested party some further information has come to light, including this message received by DB, otherwise known as G3KFL, whilst he was in the pay of Moscow Central PLC [!].



Internet source, no © stated



Internet source, no © stated

Douglas Britten was originally, or should that be allegedly, contacted by the KGB outside the Science Museum in London's South Kensington [Exhibition Road where some of you met PLdn on the ENIGMA2000 GCHQ: Top Secret Exhibition visit]. Allegedly he was called by his amateur radio call sign and in speaking was asked to supply details of a well-known RAF transmitter, the T1154.

The outcome to all this is that Douglas Britten started supplying certain information as requested as well as trying, unsuccessfully, to recruit others in the RAF's SIGINT game. You can read more about this, and in depth of exactly what he did, in Prof Richard Aldrich's GCHQ [ISBN 13 978 0 00 727847 3 pub Harper Collins 2010 pages 230 to 238]. As a SpecOp he served at Habbaniya, Iraq and DoK a late member of E2k mentioned him in passing whilst we were having a chat on 2m a few years back.

Anyway, I discovered that Mr Britten passed away in 1990 which suggests he was only 59 at the time of his passing.

You can read more about Douglas Britten and his treachery on these excellent sites also:

http://www.raf-lincolnshire.info/digby/digbyhistory_DouglasBritten.htm

<https://www.kissack.co.uk/kissack/spot/roy/mil/spy>

<https://scienceblogs.de/klausis-krypto-kolumne/unsolved-a-coded-message-from-the-spy-douglas-britten/>

and see his OTP here, which suggests he was definitely using Number Stations for instructions from Moscow.

<https://www.shutterstock.com/editorial/image-editorial/the-cipher-book-given-to-traitor-douglas-ronald-britten-by-the-russians-to-unravel-messages-from-moscow-box-728-21302172-ajpg-9074125a>

Obviously being in the forces D R Britten would have enjoyed overseas postings. A friend [*who shall remain anonymous*] kindly traced DR Britten's moves. This was done using Call Sign records; G3KFL first appeared in 1956 and nothing seen in 1954.

1956: Corporal DR Britten 16 AMQ RAF Digby Lincolnshire

1957, 1958, 1961: Corporal DR Britten 55 Hinwick Rd, Wollaston, Wellingborough, Northamptonshire

1963: DR Britten 47 Station Road, Ruskington, Sleaford, Lincolnshire

1964, 1965, 1966, 1967: POSTED OVERSEAS

1968: DR Britten 27 Swallow Road, Ashby de la Launde, Lincolnshire.

There were no further entries to the call book between 1978 to 1986, and feasibly beyond. Given that our Soviet serving RAF technician was arrested 13th Sept 1968 and shortly after convicted as a spy, his trial held entirely *in camera* for its duration it is most likely he was never to hold an amateur licence again.

Four 'Y' ops known to me, one the late DoK, all holding callsigns issued in the mid-50's. Their postings covering most of those in the Empire.

I was told that Douglas Britten was a railway enthusiast; it was further suggested that upon release he took a job with a railway company,

Douglas Britten 1932 to 1991

Many thanks to those who have helped with this matter. NNNPD in this matter. [No Names No Pack Drill]

What other secrets can we find on HF?

I received these details from an E2k reader on the YouTube offerings by Ringway Manchester. Lewis, the owner, always offers well researched and interesting videos; none so than these:

<https://www.youtube.com/watch?v=LpeXmLpDC30>

<https://www.youtube.com/watch?v=RH9xD2U9Nj0>

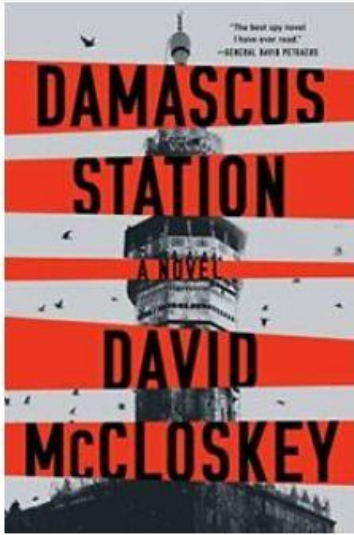
I have a subscription to Ringway Manchester and what he produces is certainly educational and enlightening too.

HAPPY NEW YEAR [BELATED] TO OUR CHINESE READERS



Particularly our friends in Hong Kong

Recommended Reading



Once in a while I get an urge to read the odd thriller and this book did not disappoint. It is written by an ex CIA officer with a good knowledge of events in Syria as well as the Arabic language.

Whilst reading this I was able to brush up on my own Arabic and made notes for my brother, a black cabbie, who raids my bookshelves at Christmas so he has something to read when he's waiting for passengers.

He won't be disappointed; tradecraft, personal events, insight into the Syrian mind and techniques and old and new thinking. It is all there as David McCloskey charts CIA Case Officer, Sam Joseph's activities when he is sent to recruit a Syrian Palace official Mariam Haddad.

A visit to Syria goes pear shaped with the capture of an American officer and the resultant chase which involves assassinations. All this in war ravaged Damascus and even Asad and his Republican Guard are involved.

There's description of the apparatus of espionage – including a messaging unit [sadly its working functions are not described, but you can't give too much away I suspect].

All in all, a very good book and worth a read in whatever format you purchase in.

In the blurb there is a mention the author drew on real events – and from reading it is obvious.

Although around 9 years old this article sets a scene:

GCHQ taps fibre-optic cables for secret access to world's communications

Exclusive: British spy agency collects and stores vast quantities of global email messages, Facebook posts, internet histories and calls, and shares them with NSA, latest documents from Edward Snowden reveal

Ewen MacAskill, Julian Borger, Nick Hopkins, Nick Davies and James Ball
Fri 21 Jun 2013 17.23 BST

<https://www.theguardian.com/uk/2013/jun/21/gchq-cables-secret-world-communications-nsa>

Britain's spy agency GCHQ has secretly gained access to the network of cables which carry the world's phone calls and internet traffic and has started to process vast streams of sensitive personal information which it is sharing with its American partner, the National Security Agency (NSA).

The sheer scale of the agency's ambition is reflected in the titles of its two principal components: Mastering the Internet and Global Telecoms Exploitation, aimed at scooping up as much online and telephone traffic as possible. This is all being carried out without any form of public acknowledgement or debate.

One key innovation has been GCHQ's ability to tap into and store huge volumes of data drawn from fibre-optic cables for up to 30 days so that it can be sifted and analysed. That operation, codenamed Tempora, has been running for some 18 months.

GCHQ and the NSA are consequently able to access and process vast quantities of communications between entirely innocent people, as well as targeted suspects.

This includes recordings of phone calls, the content of email messages, entries on Facebook and the history of any internet user's access to websites – all of which is deemed legal, even though the warrant system was supposed to limit interception to a specified range of targets.

The existence of the programme has been disclosed in documents shown to the Guardian by the NSA whistleblower Edward Snowden as part of his attempt to expose what he has called "the largest programme of suspicionless surveillance in human history".

"It's not just a US problem. The UK has a huge dog in this fight," Snowden told the Guardian. "They [GCHQ] are worse than the US."

However, on Friday a source with knowledge of intelligence argued that the data was collected legally under a system of safeguards, and had provided material that had led to significant breakthroughs in detecting and preventing serious crime.

Britain's technical capacity to tap into the cables that carry the world's communications – referred to in the documents as special source exploitation – has made GCHQ an intelligence superpower.

By 2010, two years after the project was first trialled, it was able to boast it had the "biggest internet access" of any member of the Five Eyes electronic eavesdropping alliance, comprising the US, UK, Canada, Australia and New Zealand.

UK officials could also claim GCHQ "produces larger amounts of metadata than NSA". (Metadata describes basic information on who has been contacting whom, without detailing the content.)

By May last year 300 analysts from GCHQ, and 250 from the NSA, had been assigned to sift through the flood of data.

The Americans were given guidelines for its use, but were told in legal briefings by GCHQ lawyers: "We have a light oversight regime compared with the US".

When it came to judging the necessity and proportionality of what they were allowed to look for, would-be American users were told it was "your call".

The Guardian understands that a total of 850,000 NSA employees and US private contractors with top secret clearance had access to GCHQ databases.

The documents reveal that by last year GCHQ was handling 600m "telephone events" each day, had tapped more than 200 fibre-optic cables and was able to process data from at least 46 of them at a time.

Access to the future 1

Document quoting Lt Gen Keith Alexander, head of the NSA, during a visit to Britain

Each of the cables carries data at a rate of 10 gigabits per second, so the tapped cables had the capacity, in theory, to deliver more than 21 petabytes a day – equivalent to sending all the information in all the books in the British Library 192 times every 24 hours.

And the scale of the programme is constantly increasing as more cables are tapped and GCHQ data storage facilities in the UK and abroad are expanded with the aim of processing terabits (thousands of gigabits) of data at a time.

For the 2 billion users of the world wide web, Tempora represents a window on to their everyday lives, sucking up every form of communication from the fibre-optic cables that ring the world.

The NSA has meanwhile opened a second window, in the form of the Prism operation, revealed earlier this month by the Guardian, from which it secured access to the internal systems of global companies that service the internet.

The GCHQ mass tapping operation has been built up over five years by attaching intercept probes to transatlantic fibre-optic cables where they land on British shores carrying data to western Europe from telephone exchanges and internet servers in north America.

This was done under secret agreements with commercial companies, described in one document as "intercept partners".

The papers seen by the Guardian suggest some companies have been paid for the cost of their co-operation and GCHQ went to great lengths to keep their names secret. They were assigned "sensitive relationship teams" and staff were urged in one internal guidance paper to disguise the origin of "special source" material in their reports for fear that the role of the companies as intercept partners would cause "high-level political fallout".

The source with knowledge of intelligence said on Friday the companies were obliged to co-operate in this operation. They are forbidden from revealing the existence of warrants compelling them to allow GCHQ access to the cables.

"There's an overarching condition of the licensing of the companies that they have to co-operate in this. Should they decline, we can compel them to do so. They have no choice."

The source said that although GCHQ was collecting a "vast haystack of data" what they were looking for was "needles".

"Essentially, we have a process that allows us to select a small number of needles in a haystack. We are not looking at every piece of straw. There are certain triggers that allow you to discard or not examine a lot of data so you are just looking at needles. If you had the impression we are reading millions of emails, we are not. There is no intention in this whole programme to use it for looking at UK domestic traffic – British people talking to each other," the source said.

He explained that when such "needles" were found a log was made and the interception commissioner could see that log.

"The criteria are security, terror, organised crime. And economic well-being. There's an auditing process to go back through the logs and see if it was justified or not. The vast majority of the data is discarded without being looked at ... we simply don't have the resources."

However, the legitimacy of the operation is in doubt. According to GCHQ's legal advice, it was given the go-ahead by applying old law to new technology. The 2000 Regulation of Investigatory Powers Act (Ripa) requires the tapping of defined targets to be authorised by a warrant signed by the home secretary or foreign secretary.

However, an obscure clause allows the foreign secretary to sign a certificate for the interception of broad categories of material, as long as one end of the monitored communications is abroad. But the nature of modern fibre-optic communications means that a proportion of internal UK traffic is relayed abroad and then returns through the cables.

Parliament passed the Ripa law to allow GCHQ to trawl for information, but it did so 13 years ago with no inkling of the scale on which GCHQ would attempt to exploit the certificates, enabling it to gather and process data regardless of whether it belongs to identified targets.

The categories of material have included fraud, drug trafficking and terrorism, but the criteria at any one time are secret and are not subject to any public debate. GCHQ's compliance with the certificates is audited by the agency itself, but the results of those audits are also secret.

An indication of how broad the dragnet can be was laid bare in advice from GCHQ's lawyers, who said it would be impossible to list the total number of people targeted because "this would be an infinite list which we couldn't manage".

There is an investigatory powers tribunal to look into complaints that the data gathered by GCHQ has been improperly used, but the agency reassured NSA analysts in the early days of the programme, in 2009: "So far they have always found in our favour".

Historically, the spy agencies have intercepted international communications by focusing on microwave towers and satellites. The NSA's intercept station at Menwith Hill in North Yorkshire played a leading role in this. One internal document quotes the head of the NSA, Lieutenant General Keith Alexander, on a visit to Menwith Hill in June 2008, asking: "Why can't we collect all the signals all the time? Sounds like a good summer project for Menwith."

By then, however, satellite interception accounted for only a small part of the network traffic. Most of it now travels on fibre-optic cables, and the UK's position on the western edge of Europe gave it natural access to cables emerging from the Atlantic.

The data collected provides a powerful tool in the hands of the security agencies, enabling them to sift for evidence of serious crime. According to the source, it has allowed them to discover new techniques used by terrorists to avoid security checks and to identify terrorists planning atrocities. It has also been used against child exploitation networks and in the field of cyberdefence.

It was claimed on Friday that it directly led to the arrest and imprisonment of a cell in the Midlands who were planning co-ordinated attacks; to the arrest of five Luton-based individuals preparing acts of terror, and to the arrest of three London-based people planning attacks prior to the Olympics.

As the probes began to generate data, GCHQ set up a three-year trial at the GCHQ station in Bude, Cornwall. By the summer of 2011, GCHQ had probes attached to more than 200 internet links, each carrying data at 10 gigabits a second. "This is a massive amount of data!" as one internal slideshow put it. That summer, it brought NSA analysts into the Bude trials. In the autumn of 2011, it launched Tempora as a mainstream programme, shared with the Americans.

The intercept probes on the transatlantic cables gave GCHQ access to its special source exploitation. Tempora allowed the agency to set up internet buffers so it could not simply watch the data live but also store it – for three days in the case of content and 30 days for metadata.

"Internet buffers represent an exciting opportunity to get direct access to enormous amounts of GCHQ's special source data," one document explained.

The processing centres apply a series of sophisticated computer programmes in order to filter the material through what is known as MVR – massive volume reduction. The first filter immediately rejects high-volume, low-value traffic, such as peer-to-peer downloads, which reduces the volume by about 30%. Others pull out packets of information relating to "selectors" – search terms including subjects, phone numbers and email addresses of interest. Some 40,000 of these were chosen by GCHQ and 31,000 by the NSA. Most of the information extracted is "content", such as recordings of phone calls or the substance of email messages. The rest is metadata.

The GCHQ documents that the Guardian has seen illustrate a constant effort to build up storage capacity at the stations at Cheltenham, Bude and at one overseas location, as well as a search for ways to maintain the agency's comparative advantage as the world's leading communications companies increasingly route their cables through Asia to cut costs. Meanwhile, technical work is ongoing to expand GCHQ's capacity to ingest data from new super cables carrying data at 100 gigabits a second. As one training slide told new users: "You are in an enviable position – have fun and make the most of it."

<https://www.theguardian.com/uk/2013/jun/21/gchq-cables-secret-world-communications-nsa>

Why the undersea cables that connect the world are a subject of concern

The Week Staff 2 hrs ago
18/02/2022

<https://www.msn.com/en-gb/money/technology/why-the-undersea-cables-that-connect-the-world-are-a-subject-of-concern/ar-AAU1A6B?ocid=msedgdp&pc=U531>

The global network is a technological marvel – but it's also very vulnerable

The "backbone" of the internet, the data superhighway that connects the world's online computer networks, is a web of fibre-optic cables. Between continents and land masses, the internet relies on cables crossing the sea floor.

This network, which is over half a million miles in length, and comprised of over 200 independent systems of interconnected cables, carries over 95% of global communications (the rest is carried by satellite). If you open a foreign webpage, the data you're accessing will have been propelled by lasers down fibre-optic threads under the sea, at almost the speed of light. In a single day, this network also processes some \$10trn in financial transfers via the SWIFT system, which manages global bank transactions.

The recent explosive growth of cloud computing has vastly increased the volume and sensitivity of data – from military documents to scientific research – crossing these cables.

How do the cables work?

Undersea cables have been used since the 1850s. Today, they've evolved into technological marvels. Laid by slow-moving ships, they are typically between two and seven inches thick and have a lifespan of approximately 25 years. Each cable contains fibre threads capable of transmitting data at 180,000 miles per second, wrapped in steel armour, insulation and a plastic coat.

These fibres have the capacity to transmit up to 400GB of data per second (about enough for 375 million phone calls); a single undersea cable contains anywhere up to 200 such fibres. By way of context, eight fibre-optic strands could transfer the entire contents of the Bodleian Library across the Atlantic in about 40 minutes.

Some new cables, such as the Asia-America Gateway cable, which links California to the Philippines and Southeast Asia, stretch to more than 10,000 miles in length.

Why are they a subject of concern?

Because of their vulnerability. To take an extreme recent example: in January, a volcanic eruption severed the single cable to Tonga, cutting off all communications to the Pacific island for five days. Phone contact has now been restored, via satellite, but normal internet service has still not been reinstated.

Damage occurs fairly regularly: an estimated 100 to 150 cables are severed every year, the vast majority due to fishing equipment or anchors. Usually, the system has enough slack in it to deal with such damage: most nations are connected by scores of fibre-optic cables, so if one or two are damaged, data can be rerouted without disruption. But problems do occur. In 2008, three cables linking Italy and Egypt were accidentally cut, causing data connectivity between Europe and the Middle East to plummet, with knock-on effects for American military operations in Iraq.

How could this affect the UK?

Britain, unlike Tonga, is connected to the rest of the world by around 60 cables, not just one: from the 80-mile CeltixConnect cable to Ireland; to the Tangerine, which runs 81 miles from Kent to Belgium; to the Tata TGN-Atlantic, stretching 8,000 miles from Somerset to New Jersey.

Yet the UK is far more reliant than Tonga on digital services. "Even more significantly, unlike Tonga, we have powerful enemies," said Harry de Quetteville in The Daily Telegraph. Sabotaged cables could pose "an existential threat" to British security, warned the now-Chancellor Rishi Sunak in a 2017 report for the Policy Exchange think tank. "The most severe scenario... of connectivity loss is potentially catastrophic," he added – and even relatively limited damage could "cause significant economic disruption and damage military communications."

How might they be sabotaged?

"Disrupting cables is not only possible," wrote Sunak, it's "surprisingly easy." There is a long history of countries hostile to one another sabotaging cables. Britain cut five German cables in the First World War; in the Cold War, the US placed wiretaps on Soviet subsea cables.

When Russia annexed Crimea in 2014, one of its first moves was to sever its cable connection. The cables are generally owned and installed by consortia of internet and telecoms companies, without much government oversight. Their locations are usually both isolated and publicly known, making them vulnerable to sabotage. There are also several "choke points" potentially vulnerable to attack, such as Wall Township, a small town in New Jersey where five major cables come ashore.

Have any cables been threatened?

Just last month, the head of the UK's Armed Forces, Admiral Tony Radakin, warned that Russian submarine activity is threatening underwater cables and that the Kremlin has "grown the capability" to exploit them.

Russia, through its Main Directorate of Undersea Research, probes cables using vessels such as the research ship Yantar, equipped with submarines and undersea drones thought to be capable of cutting or tapping cables. Last summer, it was tracked in a position around transatlantic cables off the coast of Ireland; a month later, it was in the English Channel.

What can be done about this?

A number of concrete proposals have been put forward. One option is to establish “cable protection zones”, which would ban certain types of anchoring and fishing, and require greater disclosure by vessels inside them. Other solutions include updating international law around cables, and establishing treaties that would criminalise foreign interference.

Nato has held exercises to hone potential responses to an attack on infrastructure. So-called “dark cables” – or backup systems – could also be built to increase resilience in the global network. But it’s clear that much more needs to be done to protect a critical part of the infrastructure of modern life.

<https://www.msn.com/en-gb/money/technology/why-the-undersea-cables-that-connect-the-world-are-a-subject-of-concern/ar-AAU1A6B?ocid=msedgdp&pc=U531>

Germany hid security agency behind fake phone regulator

The Times · 14 Jan 2022 ·

Oliver Moody · Berlin

Germany set up a fake government body as a cover for an intelligence service, an investigation suggests.

The Federal Telecommunications Service (BST), based in an office block above a supermarket in southeast Berlin, vanished from the list of federal agencies after a computer security researcher started asking questions.

The agency is notionally responsible for helping telecom companies to streamline their businesses but has no official budget and until several days ago had no functional email address.

Lilith Wittmann, 26, a German software engineer who has exposed security flaws in government technology such as the national coronavirus app, stumbled upon the agency while she was developing a computer program to evaluate the authorities’ work.

It was founded at some point before 2011, ostensibly to be a “hinge” for the telecoms industry, help the government to digitise its administration and “make complex work-flows more efficient and achieve cost reductions through comprehensive bundling”.

Wittmann became suspicious and found that there was virtually no public information about its purpose on the internet. Her emails to the BST bounced back and calls to its telephone number went unanswered, she wrote in a blog post on the website Medium.

Heidi Reichinnek, 33, an MP from the left-wing Die Linke party, asked in a parliamentary question how much state funding the BST had received.

Hans-Georg Engelke, 58, who was at the time the state secretary in the ministry responsible for domestic intelligence agencies such as the Federal Office for the Protection of the Constitution (BfV), similar to MI5, answered that it had received no public funding.

“It’s all very, very strange,” Wittmann wrote. “The whole thing reminds me of the secret outposts of the BND [Germany’s overseas intelligence agency].”

The ministry and the BST have been contacted for comment.

Thanks KW

Moscow aims to enhance presence in Svalbard as part of hybrid-strategy, expert warns

"A hybrid-strategy is underway in which Russia bolsters its legitimate presence in Svalbard on one hand while raising tensions in the maritime space on the other hand," says polar geopolitics expert Elizabeth Buchanan.

Read in Russian | Читать по-русски

By Thomas Nilsen

December 07, 2021

<https://thebarentsobserver.com/en/security/2021/12/moscow-aims-enhance-presence-svalbard-part-hybrid-strategy-expert-warns>

Diplomatic voices are louder and warships sail closer. Svalbard is increasing in strategic importance for Russia. As it is for Norway, which has sovereignty over the Arctic archipelago.

“We should expect more sabre-rattling,” says Dr. Elizabeth Buchanan to the Barents Observer. She underlines that such military-flexing, though, is a distraction.

“Russia isn’t about to annex Svalbard, Russia doesn’t want such fight.”

Dr. Buchanan is an expert on polar geopolitics and lecturer in strategic studies with the Deakin University in Australia. Next January, she is one of the main speakers at Norway’s large Arctic Frontiers conference in Tromsø.

Elizabeth Buchanan.

“The real push from Moscow when it comes to Svalbard will be occurring onshore, in plain sight, well within the bounds of the Treaty,” Buchanan says.

She expects to see more activity initiated by Moscow coming, like researchers, industry, tourism, all that can populate Russia’s outposts on the archipelago.

“Each citizen affords Moscow an opportunity to play the ‘protecting Russian nationals’ playbook - as seen in South Ossetia and Crimea.”

Today, state-owned mining company Arktikugol runs the society in Barentsburg, but underground coal resources are running low and alternative businesses, like tourism, are on growth. Population is on the decline and consists nowadays of about 400 Russian and Ukrainian citizens. A second Soviet-time settlement on Svalbard is Pyramiden, a coal-mining town that was left to ghosts in the late 1990ties.

Military speaking, Svalbard is of great strategical importance, located between the Barents-, Greenland-, and Norwegian Seas. The one controlling Svalbard is also likely to control the important gateway from the shallow Barents Sea to the deeper North Atlantic.

For Russia’s Northern Fleet, the so-called Bear Island Gap between mainland Norway and the archipelago’s southernmost island is key to conducting sea denial operations in and over the maritime areas further south, potentially threatening NATO’s transatlantic sea lines of communication.

Russian Bastion Defence in relation to Norway and the Bear and GIUK Gaps. Source: Mikkola / RAND Europe report

With international tensions again on the rise in Europe, Norway is well aware of Svalbard's geostrategic location.

The 1920 Svalbard Treaty does not put a ban on Norwegian military presence at Svalbard but limits the use of the archipelago for possible war-like purposes.

"The challenge presented by the 1920s Treaty in the 2020s is that the conception of what constitutes 'war' and 'peace' 100 years ago is now increasingly blurred. This 'grey zone' is a geostrategic space in which Putin's Russia is well-versed," Dr. Buchanan writes in a recent report for Janes Information Service, a global open-source intelligence company specialising in military and security topics.

To the Barents Observer, she elaborates:

"A hybrid-strategy is underway in which Russia bolsters its legitimate presence in Svalbard on one hand while raising tensions in the maritime space on the other hand. Calling out Russian activity (closer Northern Fleet sailings, for example) is permissible, but it is harder to draw a line on Russian activity well within the Treaty bounds - and Moscow will poke and prod the limits of Norwegian comfort with enhanced presence in Svalbard."

Pointing to the October voyage by the Norwegian navy frigate "KNM Thor Heyerdahl", Buchanan says it is of most interest for Russia right now to draw Oslo out into double standards.

"Moscow is quick to protest any Norwegian military activity on Svalbard given the Treaty requirement that Oslo cannot use the archipelago for 'war-like purposes'. While not defined, 'war-like' is a label in the eye of the beholder, and one used by Russia to incite other Treaty parties into the debate. Here, China becomes of interest," Buchanan argues.

China and Russia are among the 46 signature parties to the Svalbard Treaty.

Multipronged strategy

The frigate "KNM Thor Heyerdahl" at Longyearbyen in October 2021. Photo: Helene Synes / Norwegian Navy

Elizabeth Buchanan expects Russia to use a multipronged strategy. "Hybrid in nature, which will blend military pressure in the northern waters, increased military exercises and tests to beat the drums of war, with benign research and economic activities at Svalbard settlements."

"I expect the China card to be played as well - cultivate Chinese-dissatisfaction and anxieties over Norwegian threats to Beijing's economic interests and research interests housed at its Yellow River station. As such, there are many levers Moscow has available to frustrate any NATO or Norwegian ambitions to secure Svalbard."

China's Arctic Yellow River Station was established by the Polar Research Institute of China in Ny-Ålesund, north on Spitsbergen, in 2003.

Longyearbyen, Svalbard. Photo: Thomas Nilsen

High North - higher tensions

If a European or global conflict should escalate between NATO and Russia, defending the bastion with the Northern Fleet's ballistic missile submarines sailing Arctic waters east and north of Svalbard is believed to be the main priority for Russia's defence command.

Establishing the ability to disrupt any attempts by NATO to interfere requires control of the Bear Island Gap.

"If under pressure, whether by NATO Arctic engagement or further Norwegian securitization of Svalbard, I see Moscow redrawing its bastion defence to a hard-red line between Spitsbergen and Norway - controlling the naval waters to this point ensures unfretted access to and from the North Atlantic for Russia's Northern Fleet. But this would raise tensions in the High North - and that is simply bad for Russia and Europe's commercial interests in the region. China's interest in a free-flowing polar silk road would also be threatened by tension on the European end - so there is some solace in the collective interest to maintain stability in the region. What matters is Moscow has the optionality to pivot between a free and open Russian Arctic Zone and a robust bastion defence setting," Buchanan explains.

She concludes: "This is essentially what Russia is working towards with regards to Svalbard - legitimate presence, a bolstered capability to deny access prior to ever having its own access denied by the West, and a built-in fail safe by fanning Chinese dissatisfaction with Norwegian Svalbard policy."

<https://thebarentsobserver.com/en/security/2021/12/moscow-aims-enhance-presence-svalbard-part-hybrid-strategy-expert-warns>

Disruption at one of two undersea cables to Svalbard

There is no redundant between the Arctic archipelago and mainland Norway after loss of power in the area where the fiberoptic cable follows the seabed down to a depth of 2,700 meters in the Greenland Sea.

By Thomas Nilsen

<https://thebarentsobserver.com/en/arctic/2022/01/disruption-one-two-undersea-optical-cables-svalbard>

January 09, 2022

Operator of what is the world's northernmost fiberoptic subsea cable, Space Norway, has located the disruption to somewhere between 130 to 230 kilometers from Longyearbyen in the area where the seabed goes from 300 meters down to 2700 meters in the Greenland Sea.

The error happened on Friday morning, January 7.

Svalbard Undersea Cable System is a twin submarine fiberoptic communication cable connecting Longyearbyen with Andøya north of Harstad in northern Norway.

The two cables are 1,375 and 1,339 km respectively, and Space Norway informs in a press release that there is good connection in the cable still working, but with the other broken there is no redundancy.

How the damaged has happened is not clear, it will be examined, Space Norway informs. A ocean-going cable-laying vessel would be required to repair the cable.

In addition to providing the settlement of Longyearbyen with internet broadband, the fiber optic cables serve the SvalSat park of more than 100 satellite antennas on a nearby mountain plateau. SvalSat is today the world's largest commercial ground station with worldwide customers. Its location at 78°N, halfway between mainland Norway and the North Pole, gives the station a unique position to provide all-orbit support to operators of polar-orbiting satellites.

Norway's Minister of Justice and Public Security, Emilie Enger Mehl, says in a press release Sunday morning that her ministry follows the situation closely.

"I have been informed that an error has occurred on part of one of the two fiber connections between Svalbard and mainland Norway. Communication to and from Svalbard is still running as normal, even though one of the connections now has failed," Enger Mehl says.

<https://thebarentsobserver.com/en/arctic/2022/01/disruption-one-two-undersea-optical-cables-svalbard>

Worth going online for imagery

Admiral Sir Tony Radakin warns of Russian threat at sea

'Phenomenal' increase in submarine activity, says new defence chief
Larisa Brown, Defence Editor | Catherine Philp, Diplomatic Correspondent
Friday January 07 2022, 10.00pm, The Times

<https://www.thetimes.co.uk/article/admiral-sir-tony-radakin-warns-of-russian-threat-at-sea-kx7vf5sxv>

Admiral Sir Tony Radakin, chief of the defence staff, said Russia had the power to cut undersea cables vital to the internet and doing so could be considered an act of war

The head of the armed forces has warned Russia that any attempt by Moscow to sever crucial underwater communication cables could be considered an act of war.

Admiral Sir Tony Radakin, 56, the new chief of the defence staff, has raised concerns about the increase in Russia's underwater activity.

"There's been a phenomenal increase in Russian submarine and underwater activity over the last 20 years," Radakin told The Times in his first interview since being appointed.

He said the underwater programme was "more than about submarines". It was about being able to "put at risk and potentially exploit the world's real information system, which is undersea cables that go all around the world.

"That is where predominantly all the world's information and traffic travels. Russia has grown the capability to put at threat those undersea cables and potentially exploit those undersea cables," Radakin, the first head of the navy to be given the job in 20 years, said. Asked if destroying the cables would be considered an act of war, he said: "Potentially, yes."

The cables transmit nearly all internet data traffic. Many of those serving Britain are in the Atlantic, where Russian submarines are increasingly operating.

Speaking about Ukraine, before talks between Russia, the US and Nato next week, he said the situation there was "deeply worrying" and revealed he had given "military choices" to ministers to respond to an invasion by Russia, without saying what they were.

However, Radakin outlined plans to develop hypersonic missiles to compete with Russia's growing military strength. "We haven't [got them] and we must have," he said.

Hypersonic weapons typically fly at lower altitudes than ballistic missiles and can reach 3,850mph, more than five times the speed of sound. They can also avoid detection for longer.

Tensions between Russia and Nato have soared in recent weeks as a result of the deployment of up to 100,000 Russian troops on the Ukrainian border. Britain and the US have warned President Putin repeatedly of severe consequences in the form of sanctions if he presses ahead with an invasion.

Jens Stoltenberg, the Nato secretary-general, said that the alliance needed to prepare for the possibility that diplomacy would fail, given Russia's "unacceptable" demands. "The risk of conflict is real," Stoltenberg said, adding that despite next week's diplomatic schedule, Russia's military build-up was continuing.

Radakin, who had a rare phone call with his Russian counterpart, General Valery Gerasimov, late last month, said: "There are talks happening next week but from a military point of view the whole situation is deeply worrying."

Radakin said that Moscow was investing heavily in three areas: underwater programmes; "super" missiles, such as hypersonic and long-range missiles; and "anti-access area denial" systems in which it was creating "bubbles" in places such as the Kaliningrad exclave on the Baltic coast, where air defence systems make it impossible for other countries to fly aircraft near by.

Navy sources said that by damaging the cables, Russia could destroy a country's economy: "In a third world war, would this be a particularly good way of making life difficult for us? Yes. That's exactly why they are doing it.

"If you take away cables, no one can make telephone calls, they then can't make business deals, buy shares, and the economy will grind to a halt." The source said they could be blown up as well as severed.

Radakin's comments on underwater cables follow a warning by his predecessor, Air Chief Marshal Sir Stuart Peach, who said in 2017 that the vital communication cables that criss-cross the sea bed were "vulnerable" to Russian military assets.

British ships and other assets have been tasked with protecting the cables from Russian submarines in areas such as the North Atlantic. This week it was reported that HMS Northumberland, a Type 23 frigate, had been trying to find a Russian submarine in late 2020, amid concerns it was trying to locate undersea cables, when the submarine collided with the warship's sonar.

Last month Russia test-fired about ten new Tsirkon hypersonic cruise missiles from a frigate and two more from a submarine. This week North Korea also claimed to have successfully tested a hypersonic missile, China has also tested hypersonic missiles.

An extraordinary virtual meeting of the North Atlantic Council took place on Friday in response to the events in Ukraine. Stoltenberg said afterwards: "The Russian military build-up has not stopped, it continues . . . we see armoured units, we see artillery, we see combat-ready troops. We see electronic warfare equipment and we see a lot of different military capabilities."

What are the talks about?

Senior US and Russian officials are to hold bilateral talks on nuclear arms and Ukraine in Geneva on Monday. Russia and Nato are expected to hold separate talks on Wednesday, while Russian representatives will meet the Organisation for Security and Cooperation in Europe the next day.

Moscow is seeking security guarantees over a perceived increase in western support to Ukraine, which it fears could join Nato.

What is the background?

Russia annexed Ukraine's Crimea peninsula in 2014 and sent troops into the east of the country in support of pro-Moscow rebels, although the Kremlin denies regular army units served there. Peace accords between western-backed Ukraine and the separatists were signed in Minsk, Belarus, in late 2014 and early 2015. A shaky ceasefire has been frequently violated and the military and political steps laid out by the accords remain largely unimplemented.

What does Russia want?

Russia recently moved nearly 100,000 troops close to its border with Ukraine, prompting fears of an imminent invasion. This is seen as a bargaining chip in Kremlin efforts to force the West to reduce military aid to Ukraine, as well as to discourage any attempt to draw Russia's former Soviet neighbour into eventual Nato membership. Moscow also says it is afraid that Nato missiles could be deployed in Ukraine.

What do the US and its European partners want?

The US believes that Russian draft treaties published last month calling for Nato to effectively remove any troops or weapons from countries that joined the alliance after 1997 (meaning most of eastern Europe, including Poland, the Baltic states and Balkan countries) were deliberately unrealistic and an opening gambit.

Nato insists that Ukraine must retain the right as a sovereign state to join the alliance if it wishes, although this is thought to be a distant prospect.

What is the expected outcome?

A breakthrough is very unlikely bearing in mind the entrenched positions of both sides. President Biden has threatened Russia with an unprecedented level of sanctions if it invades its neighbour. Moscow has promised to "remove unacceptable threats to our security" if the West's "aggression" continues. The best that can probably be hoped for is an establishment of some kind of dialogue and a moderate easing of tensions.

<https://www.thetimes.co.uk/article/admiral-sir-tony-radakin-warns-of-russian-threat-at-sea-kx7vf5sxy>

This piece features an excellent world map of undersea cables; worth a look.

Russia plot exposed: Moscow ready to cut 'essential' UK comms cable over rocketing tension

Tim McNulty

<https://www.msn.com/en-gb/news/world/russia-plot-exposed-moscow-ready-to-cut-essential-uk-comms-cable-over-rocketing-tension/ar-AASGOqX?ocid=msedgdp&pc=U531>

The commander of Britain's latest flagship Royal Navy aircraft carrier Prince of Wales has spoken out at the security challenges posed by an increasingly hostile Russia. It comes as ITV's Good Morning Britain reported that senior Royal Navy officials are concerned that Russian submarine could covertly cut key data cables to the United Kingdom in an "act of war."

ITV Chief Correspondent Richard Gaisford said: [HMS Prince of Wales] has just been made the flagship of NATO's maritime rapid response force, the crew onboard are going to be busy.

"In the next year they will spend 200 days at sea ostensibly for training but the captain telling them it's uncertain times in an uncertain world and they need to be ready for anything.

"At a ceremony onboard yesterday he told me that he's never known the North Atlantic to be this febrile.

"His boss is warning that Russian submarines could start cutting data cables that cut the internet to the country and cripple it which would be an act of war."

Russia could cut UK comms in an 'act of war' © GETTY ussia could cut UK comms in an 'act of war'

"All of this because Vladimir Putin is not happy that Ukraine could become a NATO member, he doesn't want Western forces messing on his border and because of that, put his own troops there," he added.

The Commander of HMS Prince of Wales, Captain Steve Higham told GMB: "I think it's self-evident, that the fact that Russia is in the news today, the fact that our hopes and prayers are with the teams working on the diplomatic front, to try and deescalate and provide some sort of solution to the challenges being posed in the east of Europe.

"All our friends and families know that we are yes, absolutely on the frontline.

"But we are. We're confident in our kit and I'm incredibly confident in the amazing women and men who served here on Prince of Wales that will be ready to respond."

Last week a retired US Navy commander warned the Russian special forces are already stationed in Kiev and are spying on Ukraine troop movements.

"Kirk Lippold's concern comes amid rising tensions between Vladimir Putin and NATO amid a huge troop buildup by the Kremlin on the borders of Ukraine.

"I mean, I just found out today from one of my sources that the Russians actually have Spetsnaz, which are military intelligence units inserted and operating out of safe houses in the capital of Kiev.

"They're providing targeting data, they're providing movements on what is going on with the government, they're already in-country right now.

"So to say that they're waiting for an invasion isn't going to happen, but Putin is also smart.

"He's playing a game of chess and hopefully we're not playing the game of checkers," he added.

<https://www.msn.com/en-gb/news/world/russia-plot-exposed-moscow-ready-to-cut-essential-uk-comms-cable-over-rocketing-tension/ar-AASGOqX?ocid=msedgdp&pc=U531>

Russian submarine hit Royal Navy warship sonar in North Atlantic

<https://www.bbc.co.uk/news/uk-59898569>

A Russian submarine collided with a Royal Navy warship's sonar on patrol in the North Atlantic, the Ministry of Defence has confirmed.

HMS Northumberland had been tracking the submarine when it hit the ship's sonar equipment being trailed hundreds of metres behind it.

The incident, in late 2020, was captured by a television crew filming a documentary.

A UK defence source said it was unlikely the collision was deliberate.

HMS Northumberland was searching for the submarine in the Arctic Circle after it disappeared from the ship's radar, according to Channel 5, which was filming for its Warship: Life at Sea series.

The MoD said the frigate had located the hunter-killer submarine using the towed array sonar - a long tube fitted with sensitive hydrophones to listen under the water.

A periscope was spotted on the surface by the ship's Merlin helicopter before the Russian submarine dived again, hitting HMS Northumberland's sonar. The film cameras captured the crew shouting: "What the hell was that?".

It is not clear what, if any, damage was suffered by the Russian vessel but the warship had to return to port in Scotland to replace the damaged equipment. There has been an increase in Russian submarine activity in recent years, and Royal Navy frigates regularly patrol the North Atlantic.

The MoD would not usually comment on operations but it has done so because the incident was caught on camera.

A spokesman said: "In late 2020 a Russian submarine being tracked by HMS Northumberland came into contact with her towed array sonar.

"The Royal Navy regularly tracks foreign ships and submarines in order to ensure the defence of the United Kingdom."

<https://www.bbc.co.uk/news/uk-59898569>

I seem to remember reading one of HM's submarines [HMS Conqueror] sneaking up on a Russian ship that was trialling a sonar head and using a special remote controlled cutter to remove the device for analysis. [Secrets of the Conqueror, Stuart Prebble]. Another book: Crazy Ivan Whilst the US cribs about problems for the Russian's if internet cables are interfered with I wonder if Mr Putin has read about the 'Ivy Bells'? Then again I'd be researching SOSUS, and here's a suitable snippet:

SOSUS (Sound Surveillance System)

K. LEE LERNER

<http://www.faqs.org/espionage/Se-Sp/SOSUS-Sound-Surveillance-System.html>

Utilizing the unique properties of sound transmission in water, during the 1950s, the United States Navy developed the Sound Surveillance System (SOSUS). Code named "Jezebel" the SOSUS system provided critical monitoring of Soviet submarine and ship movements, especially through the critical ocean gaps between Greenland, Iceland, and the United Kingdom (the GI-UK gap). SOSUS systems were so sensitive that trained observers could determine ship type—and in some cases, identify specific ships.

SOSUS used arrays of hydrophones (underwater microphones) strategically placed along the ocean bottom. The hydrophones were connected by cables to onshore monitoring stations.

In addition to localized sound readings (i.e., sounds detected within the expected range of the hydrophones), SOSUS also picked up sounds channeled through specific conditions of state (i.e., pressure, temperature) or salinity that create channels through which sound waves propagate over long distances with minimal resistance and minimal loss of strength. This sound fixing and ranging channel (SOFAR channel) was discovered independently by American and Soviet scientists in 1943 during World War II.

SOFAR channels are capable of transmitting the low frequency, long wavelength sound waves produced by an explosion. Sound waves can be trapped effectively in SOFAR channels and propagate with little loss of energy over distances in excess of 15,500 miles (25,000 km).

Naval communication systems utilize low frequency, long wavelength signals to enhance communications with submerged submarines. Prior to the widespread use of Global Positioning System (GPS) equipment, the SOFAR channel was also used for navigation and the location of marine craft. Evidence gathered by marine biologists indicates that certain species of whales utilize the SOFAR channel to communicate mating calls over long distances.

In general, the speed of sound depends upon the medium through which the sound waves propagate and the properties of the medium (e.g., state, temperature, pressure, salinity, etc.) Accordingly, the speed of sound differs in air, fresh water, and oceanic saltwater.

Within the ocean, the speed of sound varies with changes in temperature and pressure. When the near-surface layer is well mixed by currents and surface action, the resulting isothermal layer provides uniform propagation of sound. When a temperature gradient exists (e.g., a temperature decrease with increasing depth), the resulting thermocline shows a characteristic decrease in the speed of sound with decreasing temperature. At some depth (approximately 420 fathoms or 750 meters), the variations in temperature become so slight that the water becomes isothermal. As depth increases, so does the pressure. Because pressure is directly proportional to sound wave transmission speeds, as the pressure increases with depth so does the speed of sound.

Specific combinations of temperature, pressure, and salinity may act to create "shadow zones" that are resistant to the propagation of sound waves or that act as reflectors of sound waves. Soviet submarine captains attempted to use these zone or layer to conceal their ships from detection by surface SONAR arrays. The layers could also to "bend" signals detected by the SOSUS array in order to attempt to conceal ship movements. In practice, staying within such layers proved impossible to maintain for extended periods, and intermittent SOSUS plots could be used to track ship movements or provide a probable position to explore with the use of sonar buoys dropped by airplane.

Surface sonar buoys were also used to fill gaps in the SOSUS listening network.

Read more: <http://www.faqs.org/espionage/Se-Sp/SOSUS-Sound-Surveillance-System.html#ixzz7Is95k0fA>

<http://www.faqs.org/espionage/Se-Sp/SOSUS-Sound-Surveillance-System.html>



Map showing 'Militarising the North Atlantic' from 'The Unsinkable Aircraft Carrier' Duncan Campbell 1984

Minister to raise concerns over Russian military test with Ambassador

Updated / Sunday, 23 Jan 2022 16:59

By Dimitri O'Donnell
RTÉ News

<https://www.rte.ie/news/ireland/2022/01/23/1275385-russia/>

The Minister for Foreign Affairs is to raise the issue of Russia engaging in military exercises off Irish waters with the Russian Ambassador to Ireland, Yuri Filatov.

Minister for State Patrick O'Donovan told RTÉ's The Week in Politics that Simon Coveney "is not happy with this and will raise it with the Ambassador."

He said it would also be raised a meeting of European leaders.

Civilian aircraft will be routed away from an area out at sea off the Cork coast when Russia is due to conduct the navy artillery exercise there in early February, the Irish Aviation authority has said.

The IAA says it has been made aware that the Russian military drill will take place in international waters - but within Ireland's exclusive economic zone - 240 kilometres off the southwest coast.

In a statement, the IAA said the safety of Irish airspace will not be compromised by the Russian navy artillery test.

The authority said that, while not common, notifications for similar activity in international waters within Irish-controlled airspace are received from time to time from other jurisdictions.

The same procedures are applied to ensure the safety of civilian aircraft at all times, they said.

The Department of Transport said it has been informed that the safety of civil aircraft operations will not be compromised by the exercises.

Sinn Féin's defence spokesperson Sorca Clarke has expressed concern about the exercise.

In a statement, Ms Clarke said the lack of primary radar was the reason other state entities had been probing Irish airspace for years with high-altitude bombers and escorts.

She said that while a 2015 White Paper recognised that radar surveillance is a priority, there has been "no meaningful action by government since then to deliver on it".

The Longford-Westmeath TD also said that Defence Forces staffing levels have been impacted by reducing levels over recent years.

A security analyst has said that Russia has chosen to carry out missile tests off the coast of Ireland to "send a message" to Europe and NATO.

Dr Tom Clonan described Ireland as being a "weak link" in Europe when it comes to security and defence.

"Ireland is responsible for 220 million maritime acres of ocean, but we can't patrol it. We have nine ships, four of them are tied up with crew shortages. We can't see into our airspace, as we are the only country in the EU with no primary radar," he said.

He said that we have one of the busiest air corridors in Europe, with 75% of traffic from the EU and Middle East going through Irish airspace, but that we are "effectively relying on the RAF in Britain" to control our skies.

"The Russians are sending a very clear signal to Europe that Ireland is Europe's weakest link when it comes to defence; in security, in the air, at sea and in our cyber domain," he said.

"They do nothing by mistake, they're sending a message to the EU and NATO that 'your defence is weak and this is our back door into Europe!'"

Dr Clonan said that defence spending in Ireland has "fallen off a cliff in the last 20 years" and that the country is by far one of the lowest spenders on defence in Europe.

<https://www.rte.ie/news/ireland/2022/0123/1275385-russia/>

Yet another view of GCHQ Scarborough antennas



Thanks to the contributing member

© Remains with contributing member 2021

Red Ken aide sold Britain's nuclear secrets to Czech spies: He was a key lieutenant of hard-Left London leader Ken Livingstone - but at the height of the Cold War, Charlie Rossi was passing vital intelligence to our foes behind the Iron Curtain

'Red' Ken Livingstone typified the 'loony Left' infesting Labour in the early 80s
His aide Charlie Rossi sold British nuclear secrets to Czech spies in the Cold War
Mr Livingstone said: 'I never saw him as that intelligent, but clearly I was wrong'
By JAKE RYAN FOR THE MAIL ON SUNDAY

PUBLISHED: 22:19, 1 January 2022 | UPDATED: 22:19, 1 January 2022

<https://www.dailymail.co.uk/news/article-10361121/Ken-Livingstone-aide-Charlie-Rossi-sold-Britains-nuclear-secrets-Czech-spies-Cold-War.html>

Nobody typified the 'loony Left' that infested Labour in the early 1980s quite like 'Red' Ken Livingstone.

Under his notorious regime, the Greater London Council became a byword for financial extravagance, ideological extremism and taxpayer-funded propaganda.

Red Ken flirted with terrorists and religious bigots. While the nation rejoiced when the Prince of Wales married Lady Diana Spencer in 1981, the GLC raised black flags for the recently deceased IRA hunger striker Bobby Sands at County Hall, the council's headquarters on the Thames.

In a photograph from later the same year, Mr Livingstone posed outside the building with his lieutenants, pointing theatrically to a banner on the roof proclaiming the number of unemployed in London.

Behind him was the GLC's vice-chairman, Charlie Rossi, a heavily built, tousle-haired Scotsman – a largely unremarkable figure save for one fact that has remained buried until now.

Cold War intelligence files uncovered in Prague by The Mail on Sunday show that Rossi was a paid agent of Czechoslovakia's brutal Communist spy agency, the StB – a traitor to his country and, it would seem, even more red than Ken.

Last night, Sir Richard Dearlove, the head of MI6 between 1999 and 2004 and himself a former spy in Czechoslovakia, said: 'It looks as if he was a fully recruited agent of the Czechoslovak StB and understood exactly what he was doing – another Cold War traitor who deserves to be exposed even long after the event.'

Mr Livingstone said: 'I'm totally amazed. I never saw him as that intelligent, but clearly I was wrong.'

Rossi's recruitment in 1983, little more than a year after the photograph was taken, came at a time when East-West relations were at rock bottom, with both sides vying for nuclear supremacy.

Such was the prevailing knife-edge paranoia that some months later, the Soviets became convinced that a routine Nato exercise was an imminent attack. This was a crucial Cold War juncture when the right state secret, however outwardly trifling, could tip the balance between the foes.

It was against this tense background that Rossi fell into the arms of the Czechs. Like others before him, he was targeted at a reception at the Czech Embassy on Kensington Palace Gardens, West London.

Rossi, then 55, was approached by Major Josef Houzvicka, the top Czech spy in London, who identified the burly figure before him as a potentially fruitful source.

From then on – for two-and-a-half years, according to the newly declassified documents – the Labour councillor handed over as much sensitive information as he could lay his hands on. The Czechs were impressed with their haul. Rossi passed on details of Britain's weapons development, the location of nuclear bunkers and information on civil defence in London.

Rossi met his paymasters from the StB (Státní bezpečnost) intelligence agency 35 times between 1983 and 1985, mostly in upmarket restaurants. Sometimes there were exchanges in the open, often in an underpass where two of the capital's busiest arteries, the Edgware Road and Marylebone Road, met.

He was also used as a talent spotter, giving the Czechs access to others to approach or monitor.

For his treachery, the files state Rossi was paid more than £700 (about £2,500 in today's money) and received numerous gifts such as vases, porcelain and crystal. The documents show that Rossi joined a select band of politicians who were paid agents of the Warsaw Pact, along with Labour MPs John Stonehouse and Will Owen.

After studying the files, Professor Anthony Glees, a security and intelligence expert at the University of Buckingham, said Rossi was 'certainly a traitor to our country'.

He added: 'He betrayed people and his friends in the Labour movement but he was set up to be a cog in a Communist intelligence machine with many moving parts.'

'There are secret meetings and an agreement to spy for them in particular around civil defence – he's fulfilling the tasks and is clearly interested in the money. This was a period of very aggressive intelligence gathering when the Czechs and the Soviets were desperate for any information which could help build a picture in the event of a possible nuclear war.'

Rossi, then 55, was approached by Major Josef Houzvicka, the top Czech spy in London, who identified the burly figure before him as a potentially fruitful source

Rossi was known to his friends as the 'rat catcher' after his time working as a pest control officer. In truth, he was the rat who was never caught, an irony unlikely to have been lost on him.

He was lauded by Major Houzvicka for 'his natural ability to negotiate with people [that] has enabled him to establish an extensive base of contacts'.

Rossi was given the codename 'SKOT' by the Czechs, possibly a reference to his Scottish heritage, and the pair's relationship quickly developed. Both men carried matching Marks & Spencer carrier bags to exchange documents. Rossi handed over secrets and received further instructions in return. They also had an elaborate system of code words and back-up meeting places. Chalk marks drawn in a public toilet near Tower Hill alerted Rossi to the need for an emergency liaison.

By June 1983 the Czech agency was keen to cement its relationship and proposed a 'recruitment' meeting in Prague with the 'leadership body'. The Labour councillor was duly enlisted as a delegate to the World Peace Conference in the Czech capital.

That year the conference, a pro-Soviet front organisation, was agitating against the deployment of US nuclear missiles in Europe.

It was at this conference that John Simpson, the BBC's celebrated foreign correspondent, almost fell for a honeytrap set by a glamorous hotel receptionist 'Anna' working for the Czech security services.

Although Simpson did not succumb to her charms in Prague – 'there was more than a touch of animal magnetism,' he admitted – Anna began writing to him in London and suggested meeting in Hungary. But a suspicious Simpson alerted MI5, whose agents later explained that a tryst with her would have undoubtedly led to a blackmail attempt by the Czechs.

Rossi was known to his friends as the 'rat catcher' after his time working as a pest control officer. In truth, he was the rat who was never caught, an irony unlikely to have been lost on him

+5

Rossi was known to his friends as the 'rat catcher' after his time working as a pest control officer. In truth, he was the rat who was never caught, an irony unlikely to have been lost on him

But for Charlie Rossi, who was staying at the luxury Hotel International in Prague, the focus was on his Czech spymasters.

A meeting was held in the hotel lobby between Rossi and a suited Major Houzvicka, secretly recorded both on camera and audio by the Czech secret service, apparently to ensure it had kompromat to keep a grip on the agent.

With seats carefully chosen to allow the cameraman a clear line of sight, Rossi – dressed in a light-coloured jumper – was seen enjoying beer and coffee before accepting around £400 – about £1,400 in today's money – as a reward for information provided in the previous six months. This included Government plans on civil defence in the event of a nuclear attack.

A report co-written by Major Houzvicka said: 'SKOT received 250 pounds Sterling and 3,000 Czechoslovak crowns as a financial reward for his fulfilment of tasks so far and for his assistance with uncovering the plans by the British Conservative Party to prepare for a potential nuclear missile attack.'

'When the money was handed over, it was emphasised by the leadership body that Czechoslovak officials greatly appreciated the information and handover of materials and hoped for further development and deepening of collaboration.'

Following Rossi and Houzvicka's return to London, the meetings continued apace. Later that year, on December 21, 1983, the two men met at the La Lupa restaurant on Connaught Street in Bayswater. At this meeting Rossi was able to offer his Czech handler sensitive information on British torpedo weapons development.

The file stated: '... following consultation with representatives of 'Scottish Civil Engineers against Nuclear War' he had determined that the self-propelling computerised torpedo Captor is manufactured in Britain by Plessey Co Ltd. It is not a foreign product. He will find out more details about that weapon.'

Two days later a meeting was arranged after Rossi informed his handler of new Government plans for civil nuclear defence.

The files say: 'SKOT also informed at the meeting that new regulations regarding civil defence had been issued, and the GLC received new instructions. He will try to bring them on 23 December.'

The meeting would be 'at the entrance to the London Underground station Victoria Embankment [with a less frequented underpass], for handover of a report with 30 lines'.

By the following February, 1984, the Czechs wished to reaffirm their covert relationship with Rossi and once again chose La Lupa for the meeting. Major Houzvicka, whose route was secured against surveillance by a colleague, made his way to the meeting by taking his 'sons to their karate training at Kensal Green (in case I needed to disclose details to local authorities).'

In his report, he wrote that he told Rossi: 'I wanted to use the meeting on behalf of the comrades from Prague whom he had not forgotten and whom through contact with me he had already provided a lot of valuable knowledge, particularly regarding civil defence, and I gave him a modest reward in the amount of 200 GBP.'

After placing the envelope on the table 'when none of the servers could see it', Rossi thrust it into his breast pocket – rather 'too quickly' for the spy's liking.

He is then said to have told his Czech handler that 'of course he was glad to assist and that we could always count on him'.

Rossi's information and status as a paid agent was also shared with Russia's KGB spy agency via their internal database, the files show.

Throughout 1984 he continued to provide a steady flow of information to his handlers, including Home Office civil defence documents and the whereabouts of nuclear bunkers.

In April 1984 Rossi was able to tell his handler 'about the start of construction of a new bunker for the commanders of Nato in High Wycombe'. A four-storey bunker, designed to withstand a direct hit from a 1,000 lb bomb, had been started at RAF High Wycombe in 1982 and it remains operational to this day. The conspiracy foundered following a meeting between Rossi and Major Houzvicka in April 1985 in the French city of Rennes.

On his return, Rossi was questioned by the authorities about his trip, which caused him some alarm. A final report in October 1985 revealed that the Czechs suspected that the British security services had uncovered the relationship by tailing Rossi and may have broken into his flat while he was away.

It was at this time that the double-agent for MI6, Oleg Gordievsky, who as a KGB spy had regularly met Major Houzvicka in London, was extracted from Moscow by the British after he was uncovered by his Russian spymasters.

Rossi, who lived with his wife in a two-bedroom flat in North London, died in 1994, aged 66.

Mr Livingstone told The Mail on Sunday: 'I can't quite believe it. I remember he was pictured with me and my colleagues. I was never terribly impressed by him and never saw any great role for him.'

Rossi's grandson Billy, 45, said: 'It's a huge shock. I never thought my grandad could be capable of something like this – it almost doesn't add up. He was very strongly opposed to nuclear weapons and used to teach us as children about the horrors of nuclear war.'

'I can only think that he thought he was furthering this cause but to take money for information like this obviously isn't the way to go about it.'

<https://www.dailymail.co.uk/news/article-10361121/Ken-Livingstone-aide-Charlie-Rossi-sold-Britains-nuclear-secrets-Czech-spies-Cold-War.html>

MI5 names Chinese 'agent' with links to Labour MP Barry Gardiner

Commons Speaker says covert donations facilitated by Christine Lee are unacceptable

Fiona Hamilton, Crime and Security Editor | Oliver Wright, Policy Editor | George Grylls, Political Correspondent
Thursday January 13 2022, 4.50pm, The Times

<https://www.thetimes.co.uk/article/mi5-names-chinese-agent-with-links-to-labour-mp-barry-gardiner-j757fsfs7>

An alleged Chinese agent closely linked to a Labour MP has been exposed by MI5, which has issued an alert warning other politicians of her activities.

An "interference alert" from the security service names Christine Lee, a solicitor whose firm has donated tens of thousands of pounds to the Labour MP Barry Gardiner. She is judged by MI5 to "be involved in political interference activities" in the UK.

Whitehall sources said Lee was suspected of attempting to influence several MPs from both the Conservative and Labour party, including senior politicians.

In a letter to MPs Sir Lindsay Hoyle, the Speaker of the Commons, claimed that Lee had been "engaged in political interference activities on behalf of the Chinese Communist Party, engaging with members here at parliament and associated political entities, including the former APPG [all-party parliamentary group] Chinese in Britain".

Hoyle wrote that Lee had facilitated financial donations to serving and aspiring parliamentarians on behalf of foreign nationals based in Hong Kong and China. "This facilitation was done covertly to mask the origin of the payments. This is clearly unacceptable behaviour and steps are being taken to ensure it ceases," he said.

It is the first interference alert issued on China and only the second to be issued by MI5. The first was issued in recent years about Russia. It is understood that there are no plans to deport Lee, and sources within Whitehall said that her case did not reach the threshold for prosecution under the Official Secrets Act.

Priti Patel, the home secretary, said it was “deeply concerning” that an individual “who has knowingly engaged in political interference activities on behalf of the Chinese Communist Party has targeted parliamentarians” but the UK has measures in place “to identify foreign interference”.

Lee’s firm has donated tens of thousands of pounds to the Labour MP Barry Gardiner

The Times revealed in 2017 that Gardiner, then the shadow international trade secretary, had received more than £180,000 in staff costs from Lee’s firm, which was acting as chief legal adviser to the Chinese embassy. Gardiner also employed Lee’s son, Daniel Wilkes, in his Westminster office. At the time Lee’s website showed her meeting President Xi of China.

Gardiner, who generally took a pro-Beijing stance in his shadow portfolios, declared the payments and there was no suggestion of impropriety.

The MI5 interference alert, obtained by The Times, says that Lee is affiliated with the China Overseas Friendship Association, which promotes the interests of the Chinese Communist Party, and the British-Chinese Project, which had a stated aim of promoting engagement, understanding and co-operation.

MI5 said her facilitation of financial donations had been undertaken in “covert co-ordination” with the United Front Work Department of the Central Committee of the Chinese Communist Party. The alert said: “Anyone contacted by Lee should be mindful of her affiliation with the Chinese state and remit to advance the CCP’s agenda in UK politics.”

Last year Ken McCallum, the director-general of MI5, told Times Radio that hostile states and other actors had tried to interfere in the “Westminster village” by attempting to influence ministers, MPs and political candidates. He has also warned that China represents a greater long-term threat to British interests than Russia.

Tom Tugendhat, co-chairman of the China Research Group, said: “Our security services are rightly focussed on state threats in the UK. It is clear that the challenge from Beijing is increasing and we need to defend our democracy against hostile activity.”

Sir Iain Duncan Smith, the former Conservative Party leader, told the Commons today: “I say, as a member of parliament who has been sanctioned by the Chinese government, that this is a matter of grave concern.

“Will this now lead to a serious overhaul of the accreditation procedures here in the House of Commons because it’s clearly too slack that these people get in — either in APPGs or with individuals? Is it possible we’ll have a statement from the Speaker from the chair about the risks?”

“I understand that the latest news I hear is that this individual is not to be deported and no further action to be taken. How can it be that an agent of a foreign despotic and despicable power that is hellbent on reducing many of those people into penury it seems, how can they put somebody into parliament — this mother of parliaments — and then that individual have nothing done to them other than they’re not allowed in parliament? This is surely not good enough.”

Gardiner, who represents Brent North, said he had been “liaising with our security services” for many years about her.

He said: “They have always known, and been made fully aware by me, of her engagement with my office and the donations she made to fund researchers in my office in the past.

“Steps were taken to ensure Lee had no role in either the appointment or management of those researchers. They are also aware that I have not benefited personally from those donations. She ceased funding any workers in my office in June 2020.”

He said all the donations were properly reported and “their source verified at the time”, adding: “I have been assured by the security services that whilst they have definitively identified improper funding channelled through Christine Lee, this does not relate to any funding received by my office.”

Gardiner said Christine Lee’s son, who had been employed as his diary manager, resigned earlier today. Gardiner added: “The security services have advised me that they have no intelligence that shows he was aware of, or complicit in, his mother’s activity. I will continue to work closely with our security services in this and all other matters that relate to the security of our country.”

It will come as little surprise to China-watchers that one of its nationals has been outed as an alleged agent of the Chinese Communist Party trying to influence British parliamentarians (Fiona Hamilton writes).

Only last year Ken McCallum, the director-general of MI5, warned that hostile states had tried to influence ministers, MPs and political candidates. He said there were “difficult questions” that needed to be asked about issues such as political funding in light of the increased threat and the era of disinformation, and he has been joined by other security officials in repeatedly warning over the past two years about this campaign of influence.

Attempts by China to change the direction of legislation and government decision-making have been a key area of concern, as well as its efforts to steal UK intellectual property and target technology and infrastructure.

Security officials want the UK to become more resilient to hostile state tactics such as disinformation and hacking, while workers in both the public and private sector have been warned that they could be targeted by spies.

Anyone working in the political, military or technology arenas, in cutting-edge scientific research or in certain export markets, are considered a potential target for the Chinese.

In 2020 MI5 became aware of more than 10,000 “disguised approaches” from Chinese intelligence agents on LinkedIn, the world’s largest professional networking site, to military officials, defence contractors and civil servants. The Times revealed that Chinese spies were creating fake business profiles on the site so they could identify targets and obtain classified information.

They offered lucrative business opportunities and enticing sums of money to lure in both present and former government and private-sector workers with access to classified information or commercially sensitive technology.

In his first big speech last year Richard Moore, the head of MI6, said that China had become the “single greatest priority” for UK intelligence services. The previous year three Chinese spies, in the country on journalism visas, were quietly expelled from the UK.

It is unclear why such action has not been taken against Christine Lee, a solicitor with links to the Chinese Communist Party who is suspected of attempting to influence several MPs from both the Conservative and Labour parties. Whitehall sources said that her case had been assessed and it did not reach the threshold for prosecution under the Official Secrets Act.

New legislation is anticipated later this year to reform the law, which has been described as clunky and out of date. The government has been told by senior police and spies that it is virtually impossible to prosecute anyone for espionage unless they are caught red-handed taking delivery of papers marked secret.

The government is also exploring proposals for a registration act of foreign agents, which would require anyone who works on behalf of foreign governments to declare their activities. It is hoped that such a register would make it easier to carry out sanctions such as deportation.

<https://www.thetimes.co.uk/article/mi5-names-chinese-agent-with-links-to-labour-mp-barry-gardiner-j757fsf7>



Christine Ching Kui LEE

SECURITY SERVICE
MI5

Security Service Interference Alert

Christine Ching Kui LEE

The purpose of this Security Service Interference Alert (SSIA) is to draw attention to an individual knowingly engaged in political interference activities on behalf of the United Front Work Department (UFWD) of the Chinese Communist Party (CCP).

State Threat Actors

- The UFWD identifies and cultivates individuals with the goal of promoting the CCP's agenda and challenging those that do not subscribe to its policies. This activity can be both overt and covert.
- UFWD actors have been known to be involved in political interference activity, seeking to deceive, corrupt or coerce politicians and high profile individuals into making statements or taking action in support of the objectives of the CCP, and to silence voices which are critical of the CCP.

Christine LEE

Affiliations:

- China Overseas Friendship Association; and,
- British-Chinese Project.

LEE has acted covertly in coordination with the UFWD and is judged to be involved in political interference activities in the UK.

The purpose of this SSIA is to inform you that Christine Ching Kui LEE is working in coordination with the United Front Work Department (UFWD) of the Chinese Communist Party (CCP). We judge that the UFWD is seeking to covertly interfere in UK politics through establishing links with established and aspiring Parliamentarians across the political spectrum. The UFWD seeks to cultivate relationships with influential figures in order to ensure the UK political landscape is favourable to the CCP's agenda and to challenge those that raise concerns about CCP activity, such as human rights.

LEE has been engaged in the facilitation of financial donations to political parties, Parliamentarians, aspiring Parliamentarians and individuals seeking political office in the UK, including facilitating donations to political entities on behalf of foreign nationals. LEE has publicly stated that her activities are to represent the UK Chinese community and increase diversity; however, the aforementioned activity has been undertaken in covert coordination with the UFWD, with funding provided by foreign nationals located in China and Hong Kong. LEE has extensive engagement with individuals across the UK political spectrum, including through the now disbanded All-Party Parliamentary Chinese in Britain Group, and may aspire to establish further APPGs to further the CCP's agenda.

Anyone contacted by LEE should be mindful of her affiliation with the Chinese state and remit to advance the CCP's agenda in UK politics. If you receive any concerning or suspicious contact or would like any further information, please contact the Parliamentary Security Director (PSD).

Point of Contact

Handling Information

This report should be used to raise awareness of the potential threat posed by the individuals it describes, and is aimed at those who are most likely to encounter them. We would welcome any feedback or comments on the activities of the individuals concerned, particularly from those that have already encountered this individual or will do so in the future.

RESTRICTED - SECURITY

From En126: I too was apparently targeted by a Chinese lady of some assumed social standing.

On my way to a book release and signing [House of Spies by Peter Matthews] at St Ermin's Hotel on 3rd November 2016 I was approached and spoken to by the lady who introduced herself as Chi. Well dressed, wearing beautiful clothes and excellent perfume, well spoken, she engaged me in conversation for almost 40 minutes. What was my spare time interest, my occupation and so on? Was I happily married? It just went on. What was interesting was the lady had sat next to me when there were plenty of free seats available elsewhere. She also made sure her left leg, she was on my right, occasionally moved against my right leg.

It was interesting she moved to my right because since my neurosurgery years ago my right ear is more acute for conversation.

The lady stated she was not married but preferred the company of professional married men. She liked dining out but when I asked her profession she hedged the question and quickly moved on, complimenting me on my dress sense, 'Sports Jacket, white shirt, Royal Signals tie, Cavalry brown slacks and shiny brown shoes.'

Surprised she knew about the Royal Signals to be honest.

Could she have my address and telephone number? No she could not!. It's a pity she said, really interested in what I do in my spare time. Very touchy feely, could we meet at a date and place we could set now. Sorry, best not.

It wasn't until a month or so later I was having lunch with a contact I mentioned this and he said it was almost certainly a pick up. What might have happened? Who knows but the lady was very attractive for her age [estimated as 45 to 50] and on reflection my arrival and alighting from the train at the Underground Station at St James' saved my bacon! This is not wishful thinking but something that occurred a few years back and for someone who has a penchant for Asian ladies was very, very tempting.

Will Britain now take the threat of Chinese espionage seriously?

Andy Owen

14 January 2022, 2:07pm

<https://www.spectator.co.uk/article/will-britain-now-take-the-threat-of-chinese-espionage-seriously->

The UK has long been aware of the risk of cyber-attacks emanating from China. Back in 2007, the head of MI5 Jonathan Evans warned hundreds of British businesses about Chinese cyber-operations targeting the UK. Yet the risk from Chinese spies operating in the UK is less well understood. This is why it came as such a shock to so many when MI5 warned MPs and peers this week that the lawyer Christine Lee was allegedly seeking to influence parliamentarians on behalf of the Chinese Communist party.

A law firm that bears Lee's name made political donations totalling £675,000, of which £584,177 were 'donations in kind' to the office of Labour MP Barry Gardiner. She also received a Points of Light award – which has since been rescinded – from Theresa May when she was prime minister.

Chinese espionage has a long history in the UK. The post-revolution Chinese Embassy in London was set up in 1962 by one of China's greatest spies, Xiong Xianghui. During the civil war between the nationalists and the communists, Xiong operated undercover in the nationalist army as an aide-de-camp to General Hu. Xiong's crowning moment came when Hu shared plans with him of an attack on Chairman Mao's communist base in, Yan'an, north-west China. Xiong tipped Mao off. Mao escaped into the mountains. And Hu captured an empty town.

One of the first people in Western Europe to be put on trial for spying for China was French diplomat Bernard Boursicot in 1986. Boursicot was recruited by his lover, Shi Peipu, a Chinese opera singer. During the trial, to the shock of the French public – and, not least, to Boursicot himself, who had been with Peipu for 18 years and believed he had a son with her – Peipu revealed she was a man. The events of this case were turned into the film Madame Butterfly.

Yet as extraordinary as the case of Peipu is, it is more illustrative of Chinese espionage than the heroic figure of Xiong. Former FBI counter-intelligence officer Paul Moore claims that those who spy for China 'normally don't look like spies, (or) act like spies.' Instead, many of the operations on behalf of the Chinese state are carried out by academics, students, businessmen and journalists, who befriend those in useful positions – or use their own legitimate job – to contribute to the aims of 'the party' when opportunities occur. The espionage is just as likely to seek a technological or commercial information or influence, as military or political, as recent cases in the UK demonstrate.

A suspicious break in at the now bust Scottish renewable energy manufacturer, Pelamis, in 2011 is just one example. The burglars, who were never caught, targeted the firm in the dead of night. They ignored valuables, taking only a handful of laptops. The break-in occurred two months after a visit by the Chinese vice-premier Li Keqiang, who toured the firm's HQ with a delegation of dozens of his country's top business leaders and diplomats. Five years later, a strikingly similar wave machine to the one being developed by Pelamis was unveiled by a Chinese state-owned company.

In recent years, concerns have been growing about the activities of the Chinese state in Britain. Richard Moore, the head of MI6, said in November that China had become the foreign intelligence agency's 'single greatest priority' for the first time in its history. A year before, in 2020, Britain expelled three journalists that MI5 accused of spying.

Yet despite these warning signs, Britain has been slow to recognise the threat. China has been open about the two major initiatives designed to secure its long-term economic and national security. The first is the Belt and Road Initiative, which aims to open trade routes along the old Silk Road from China to Europe. The second is Made In China 2025. This is the ten-year plan to develop sectors central to the fourth industrial revolution. The goal is to reduce dependence on foreign technology and promote Chinese high-tech. How much of this strategy is being achieved by espionage remains to be seen.

Speaking in 2020, the director of MI5, Ken McCallum claimed that the security service's biggest task was countering terrorism. Second to that, he said, was tackling the nuisance of Russian agents. But while he conceded that Russia was delivering 'bursts of bad weather,' Beijing, he warned, was 'changing the climate.' No-one doubts the importance of stopping terror attacks, yet under political and public pressure, MI5 still uses most of its resources looking at a threat that has killed relatively few people and has little impact on our long-term economic prosperity. The revelations about Christine Lee would appear to suggest that more of its resources should be allocated to dealing with Beijing.

Yet due to the elusive nature of Chinese 'spies', even with greater resources, MI5's job remains exceptionally difficult. Educating sensitive industries to the potential risks remain a priority. The UK government's Research Collaboration Advice Team, which promotes security advice on export controls, cyber-security, and protection of intellectual property, was remarkably only formed last year.

In Lee's case, though, we should avoid pearl-clutching over China's activities. We are in competition with China, not necessarily conflict, and we also seek to influence other states, even our allies. After all, perhaps the largest covert influence operation of the last century was British intelligence's efforts to influence the US to join the Second World War. In Chinese, the term espionage was traditionally expressed by the character 'jian', which denotes a ray of sunlight coming through a half open door. We have left the door fully open. Without an over-reaction that risks stirring up anti-Chinese sentiment, we need to be better informed of the risks to our long-term prosperity.

<https://www.spectator.co.uk/article/will-britain-now-take-the-threat-of-chinese-espionage-seriously->

Xinhua News Agency > Recommendation > Text

http://news.xhby.net/tuijian/202201/t20220118_7390672.shtml

Dedication! Jiangsu fishermen salvage unidentified objects at sea and win awards

2022/01/18 22:45 CCTV News Client

On January 17, Jiangsu held the "Special Commendation and Reward Conference for Coastal National Security and People's Defense Lines" to commend and reward 11 fishermen and 5 related personnel who salvaged and turned over suspicious underwater secret stealing devices in my country's territorial waters.

Since 2020, fishermen in Jiangsu have found 10 suspicious devices made in other countries. These suspicious devices have special functions such as underwater investigation, identification, and secret theft, posing a threat to national security.

Chinese fishermen have caught "hard-core seafood" many times

In recent years, fishermen in Jiangsu, Zhejiang, Hainan and other places have repeatedly salvaged various "hard-core seafood" at sea, many of which are reconnaissance devices secretly released by foreign countries.

In 2021, Jiangsu fisherman Wang Suo salvaged some peculiar-looking and sci-fi-looking devices. After landing, Wang Suo immediately reported to the local fishery administration and national security department. It has been identified that this is a new type of marine unmanned underwater vehicle developed by a major country, which can measure hydrological data and environmental parameters around China.

In 2018, 11 fishermen and 7 related personnel in Jiangsu handed over 9 suspicious underwater devices to the national security agency. Six of these devices were manufactured overseas and had special functions such as underwater investigation, identification, and secret theft.

China Central Radio and Television's "Focus Interview" once introduced in the program that a fisherman fished out a thing shaped like a torpedo while fishing in the South China Sea. The fisherman sent pictures of the "torpedo" to state security. After multiple verifications, this submarine unmanned underwater vehicle is not an equipment manufactured and used in my country. It should be secretly released by a certain country's navy in China's waters.

Netizen: I hope to make new contributions!

Netizens praised the fishermen in Jiangsu, and some netizens expressed that they would continue to strengthen national security education for coastal fishermen, hoping that Chinese fishermen would make new contributions.

How to report?

Consciously safeguarding national security is the sacred duty and honorable duty of every citizen. Once you find any behavior or clues that endanger national security, you can call the 12339 reporting hotline specially set up by the national security agency, or log on to the national security agency's reporting acceptance platform www.12339.gov.cn to report. National security agencies will give commendations and rewards to whistleblowers who provide important information and effective clues.

http://news.xhby.net/tuijian/202201/t20220118_7390672.shtml



Items allegedly found by fisherman

China's Espionage Plans for the 2022 Winter Olympics: What Athletes Should Expect Yes, China is going to spy on the Olympic athletes. Its mandatory app is just the tip of the iceberg.

By Nicholas Eftimiades

January 23, 2022

China's Espionage Plans for the 2022 Winter Olympics: What Athletes Should Expect

<https://thediplomat.com/2022/01/chinas-espionage-plans-for-the-2022-winter-olympics-what-athletes-should-expect/>

As the world prepares for the Winter Olympics in Beijing, the athletes will have to contend with more than just competing in their chosen sport. The Chinese government will implement extensive surveillance efforts to ensure the safety of all involved, to control the spread of COVID-19, and to serve China's political interests. It is the latter reason that is of particular concern.

China's national image before the world is of the utmost importance to the ruling Chinese Communist Party (CCP). Why would China feel threatened by professional athletes? Of what possible interest would the personal lives, actions, and opinions of the world's athletes be to China's powerful regime? After all, these athletes have not spent their lives in self-sacrifice and arduous training just to spy on China. They will not have access to any Chinese government facilities, senior officials, or state secrets. Why then would China spy on them? The answer is to protect China's image.

Saving face is a particular paranoia for the CCP; it is what maintains China's dictatorship. Protecting the CCP's image has driven Chinese leaders to create the world's most advanced and pervasive censorship capability, effectively becoming the first digital authoritarian nation. China restricts all information that is released to or by its citizens and is known to coerce or lash out at any foreign government, business, or public figure that criticizes China or its rulers. Athletes are no exception.

First, the athletes must be aware that the information they provide on their visa applications has been used to create files and open-source collection efforts on them. That research effort identifies and places athletes into at least two categories: First, those who have espoused public views that the CCP deems threatening, such as issues relating to democracy, freedom, human rights, Uyghurs, Tibet, minorities, Hong Kong, women's rights, homosexuality, and/or transgender issues. And second, those that have made public statements in support of China (what the CCP would call "friends of China"). The first group can threaten China's image by making public statements at the Winter Olympics, while the second group can be exploited to represent China in a positive light.

Regardless of category, however, athletes can expect to have their cellphone signals intercepted upon arrival in Beijing. Cellphone towers will record everything from the metadata to actual content of messages. The information gathered from the interceptions will be relayed to China's Ministry of Public Security. There are several national security laws that require companies to provide all communications and associated information to the state's intelligence and security services upon request. There are also reports from China on criminal organizations using fake cellphone towers to collect personal information on individuals and using the information for a variety of fraud schemes.

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Beijing requires all athletes to install a smartphone app called MY2022 to report health and travel data while in China. The University of Toronto's Citizen Lab reported the app as having significant encryption and security flaws and a censorship list (albeit currently inactive) of 2,442 "illegal words." The security flaws are by design, allowing authorities to access phones. Such subtle approaches are common among intelligence services.

Once at the Olympic Village, the athletes will be greeted by numerous physical and information security measures. The extensive security measures will be openly advertised as necessary to protect the athletes from COVID-19 – China does not want to put the health of the athletes at risk, as this would embarrass China’s leaders before the world. Therefore, athletes will have limited access to places and people. This practice is standard for large-scale events.

Beijing has promised to provide Olympians internet access at official venues sites and hotels that will allow them to bypass the Great Firewall and access websites banned in China (everything from Facebook and Twitter to Gmail and YouTube, as well as many foreign news sites). That access will most certainly be monitored. Participating companies providing communications and network support, such as Huawei Technologies Co. and Iflytek Co., work closely with China’s Ministry of Public Security. Both are on U.S. export denial lists and Huawei has been accused in U.S. civil and criminal courts of commercial espionage. Several other onsite IT service providers have been banned by foreign countries for their collection of personal data.

All laptop communications will be monitored and provided, in near real time, to China’s security services. Chinese law requires the use of government-approved VPN (Virtual Private Network) providers for internet access. Use of non-approved VPN providers could result in criminal charges against the individual.

Cellphone tracking, onsite video surveillance systems, and facial recognition technology will be used to track the movement of each athlete. China has the most sophisticated facial recognition and associated artificial intelligence in the world, thanks in part to collaborations with U.S. universities and businesses.

Personal behavior will also be watched and catalogued by the Chinese government. Olympic athletes are known for their after-hours celebratory partying. As one would expect, young adults mostly in their 20s, in outstanding physical condition, coming off the most stressful and probably significant event in their lives, are likely to let off a little steam. In fact, during the Tokyo Summer Olympics, the Japanese government built bed frames out of hard cardboard to cut down on any “jumping on the bed” celebrations.

Going beyond this, China will closely monitor the personal behavior of athletes, to include their conversations. For decades, China’s Ministries of State and Public Security have maintained electronic listening devices in hotels frequented by foreigners. It is likely that those security services will do the same at the Olympic Village if deemed necessary. That information may be immediately used or just held for future opportunities.

Politics on the pedestal will be very closely monitored. This is a huge concern for Beijing. In recent years, several athletes have chosen to use their moment on the winner’s pedestal to highlight a political or social issue. The Chinese government will be on watch for such actions. Any public display or statement on any issue that is perceived as offensive will be restricted on Chinese broadcasts, and likely to the global audience as well.

Many of the world’s governments are advising their athletes to take precautions while at the Olympics. Such measures include using new laptops, cellphones, and email addresses, and never accessing any online account with your regular password, which will result in the account being compromised. Devices taken to Beijing should not be used (or at least be thoroughly cleaned) upon return.

Rocked by cheating scandals, international politics, pandemics, and a loss of viewership, the Olympic Games continues to struggle in an ever more cynical and disillusioned world. The great dream of uniting the world through sports is on life support. By being prepared, aware, and protecting themselves in China, the athletes of the world can work to keep that great dream alive and avoid becoming pawns in the game between nations.

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<https://thediplomat.com/2022/01/chinas-espionage-plans-for-the-2022-winter-olympics-what-athletes-should-expect/>

STASI Days.....



A quick one from the recent past [*gave a smile at least*]

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

Continuous Cyrillic Five Letter Groups

Edd, E.SMITH, reported some continuous Cyrillic Morse stations active following the invasion of Ukraine by Russian forces. These stations were sending 5 – letter groups & at a slower speed than the Cyrillic station reported on 14 – 15 September 2021. (See Newsletter 127 – November 2021).

The other difference from the September transmission was that these stations could not be heard in the UK, but were audible on several Russian SDRs, which would indicate medium-power transmissions from the general area of Eastern Europe.

Edd's first find was on 25 February, where this station was heard in progress;

4128.5 0651z (IP) 25/26 Feb Endless Cyrillic Morse 5 -letter groups (Via SDRs Silec – Day & Enschede - Night) E.SMITH FRI/SAT

The station was monitored by Edd, which continued to transmit throughout the night & into the next day without a break, ceasing circa 0730z on Saturday, 26 February, ending abruptly two letters into a group. Edd reports that to the best of his knowledge, (from hours of recordings), only five letter groups were sent throughout this transmission.

Also on Saturday, 26 February, Edd found another station sending continuous 5 –letter groups, but not in parallel with the first station. This station's output was being sent slower than that on 4128.5kHz.

4090.5 0439z (IP) 26/27 Feb Endless Cyrillic Morse five letter groups (Via SDR: Silec, (Day), Enschede (Night) E.SMITH SAT/SUN

From 1046 – 1103z, on 26 February, the output changed to a digital mode before reverting to Morse. With that exception, to the best of Edd's knowledge - only five letter Morse groups were sent on this frequency.

A further check at 1200z on Sunday, 27 February, found a good signal from the SDR at Sidec, Poland, a very weak signal from Southwest Russia & with no signal at all from a Moscow SDR, leaving numerous possibilities for the origin of the signal.

The transmission continued throughout Sunday, 27 February & it was noted that the Morse was increased in speed by 1650z to a much faster rate. A check at 2345z found the station still active, although by 1100z on Monday, 28 February the frequency was silent.

4395 1100z (IP) 28 Feb Endless Cyrillic Morse five letter groups (Via SDR Silec) BR MON

Another station was found active on Monday 28, February. Sending the same Cyrillic groups at a rapid speed. Are these attempts to 'muddy the waters' & to make the interception of the real traffic more difficult?

Morse - Number Stations

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

Five variant formats have been identified.

Standard Format:	197 (R4m) 117 117 30 30 == 93447 20478 == 117 117 30 30 000	(Still the most commonly used format)
Variant Format 1:	197 (R4m) 147/30 147/30 78902 ... 86083 147/30 000	(Not in use)
Variant Format 2:	197 (R4m) 521=30 == 521=30 == 46547 ... 88305 = 521=30 == 521=30 0=0=0	(Not in use)
Variant Format 3:	463 (R4m) 127 30 == == 84820 ... 82607 == == 127 127 30 30 000	(Last used 2019)
Variant Format 4:	197 (R4m) 589 589 = 30 30 == 40728 58918 == 589 589 = 30 30 000	(Last used Jan/Feb & Sep/Oct 2021)
Variant Format 5:	197 (R4m) 452 452 30 30 == 18721 ... 20918 452 452 30 30 == 000	(Appeared Nov 2021 – Used 3 times)

Variant 5 is added from November 2021. The use of these variants is probably just to introduce additional errors to the transmissions. These variants seem to be used randomly after their initial introduction, then appearing rarely before finally ceasing completely.

A new development first noted in July 2021 is the occasional change to the ending where 0.0.0. is sent using periods in place of the usual 000

Sequential Groups

After several years sending well-constructed 'realistic' five figure groups, messages from M01 have recently contained many groups which are made up of number runs or just using two or three numbers.

The example below was transmitted on Tuesday 18 January at 2000z;

197 567 567 30 30 ==
57640 45908 **23456** 90766 **23234 12345 67890 09876 54321 45678**
11223 45456 78789 19970 19960 19980 45654 73435 22334 90987
40958 **78786 23456 09098 12123** 45674 80807 **22334 67890** 23565
= = 567 568 30 30 0000

And this one from Saturday 22 January. Abbreviated start as transmission started abruptly 6 minutes late;

530 == =
23456 98765 66778 45623 **98764 00887 45678 12345 65432 77543**
66789 **57576 35678 54321** 90678 **66778 44335 66554 12121 12345**

Groups in Bold type show number sequences, while red groups are made up of just two or three numbers. Those in blue just an odd & unlikely series!

These types of sequences were in regular use a number of years ago but had been dropped in favour of more randomly composed groups. The reason for these changes are unknown, possibly to provide more basic training for operators or just sheer laziness by whoever is tasked to construct the messages, all of which are believed to be for training purposes only.

At one time it was believed that the M01 schedules were training for the genuine messages transmitted by M01b. However, since the demise of M01b, output from M01 has continued unabated. So the question remains. What is the purpose of M01?

January 2022:

5320	1800z	04 Jan	'197' Very weak via SDR Norway. No useful copy	BR	TUE
	1800z	13 Jan	'197' 730 30 == 79085 ... 31321 == Good via Twente. Fast. Several errors noted	BR	THU
	1800z	20 Jan	NRH - Twente & Russian SDR	BR	THU
	1800z	25 Jan	NRH - Twente & Russian SDR. (Heard by Austrian monitor 091 30 == 56743 ... 19980 [AB])	BR	TUE
4490	2000z	04 Jan	'197' 230 30 == 11230 == Weak on many SDRs. Finally good copy on Russian SDR	BR	TUE
	2000z	06 Jan	'197' 241 30 == 38495 ... 33221 == Good via Twente. Fast. Several errors noted. 29 grps sent	BR	THU
	2000z	11 Jan	NRH - Twente & Russian SDR	BR	TUE
	2000z	13 Jan	NRH - Twente	BR	THU
	2000z	20 Jan	... 33887 == 833 30 000 Weak via Russian SDR. Some grps copied	BR	THU
	2000z	25 Jan	'197' 515 30 == 56478 ... 33221 == Good, fast. Excellent Morse. No errors.	BR	TUE
5465	0700z	09 Jan	'197' 375 30 == 06453 77556 ... 55667 88899 == 375 30 000	AB	SUN
5810	1506z	22 Jan	530 == 23456 ... 76543 876 876 30 30 == 000 Fair/Good. Late start with abbr. intro.	BR	SAT
	1500z	29 Jan	'197' 156 30 == 16758 ... 19826 == Fair, fast. Good Morse. One error in grp12	BR	SAT

February 2022:

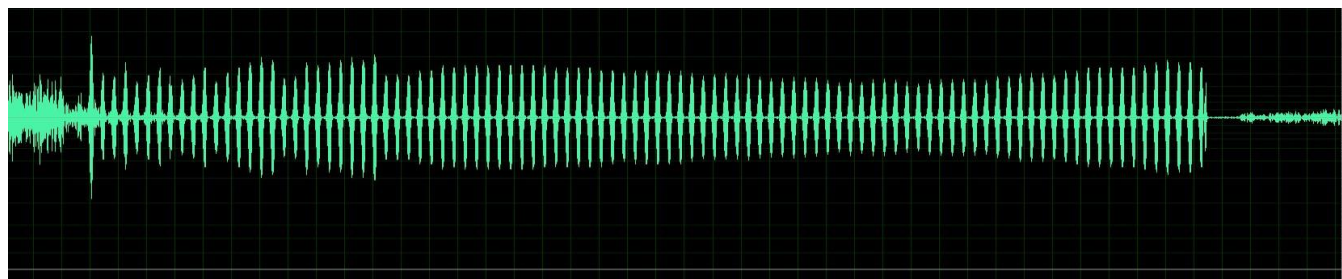
5320	1800z	03 Feb	'197' 655 30 == 12345 ... 54321 == Fair with QSB via Russian SDR. Fast delivery	BR	THU
	1800z	10 Feb	'197' 817 30 == 92736 ... 84637 == 'Normal' groups sent. No sequential numbers!	AB	THU
	1800z	17 Feb	'197' 669 30 == 515677489 == Fair with QSB, fast. Many sequential grps. Poor copy	BR	THU
4490	2000z	03 Feb	'197' 556 30 == 12345 ... 77889 == Fair with QSB via Twente. Fast delivery. Error grp14	BR	THU
	2000z	10 Feb	'197' 298 30 == 73628 ... 64837 == Fair, fast. 'Normal' groups sent. No sequential numbers!	BR	THU
	2000z	15 Feb	'197' 965 30 == 12345 == Fair, fast. Faded to nothing from grp18	BR	TUE
	2000z	17 Feb	'197' 382 30 == 15143 == Fair under data sig. Many sequential grps. Poor copy	BR	THU
	2000z	22 Feb	Wideband data signal on freq. - NRH	BR	TUE
5465	0700z	13 Feb	'197' 647 30 == 77665 12345 ... 8876875 467 468 == Many sequential grps. A mess after grp 22	AB	SUN
5810	1500z	12 Feb	'197' 746 30 == 12345 54321 ... 12345 54321 == Fair, fast. Start DK 746. Ending DK 647	AB/BR	SAT
	1500z	19 Feb	'197' 217 30 == 83647 ... 63547 == Fair, fast. Normal grps but with some repeated segments	BR	SAT
	1500z	26 Feb	'197' 378 30 == 17896 ... 11344 == Fair, fast. Several sequential grps present inc. 12345 67890	BR	SAT

M01a (From Feb 2016 M01a has been redefined to cover all M01 variants - excepting M01b)

A number of regular schedules have been reported & Logged by Edd Smith – See ENIGMA 2000 Newsletter 116 for details.

Edd continues to follow M01a & reports that the schedule only transmits two days a week now, usually Tuesdays and Wednesdays, the reduction of days started around the beginning of the pandemic.

One feature of M01a is the sending of a data burst just prior to the Morse transmission. This occurs too often for it to be coincidental & we have looked at these data bursts in a previous newsletter. Edd sent us a recording of this data burst, transmitted on 22 February, noting that it is of longer duration than normally sent & wondering if it can reveal any further information.



10651kHz 0614z 22 February 2022 Data Burst Sent Prior to M01a Morse Transmission Courtesy E.SMITH

The data burst lasts approximately four seconds, which sounds like a fast trill when heard. The burst was sent approximately 40 seconds before the Morse transmission commenced. Spectral analysis of the signal shows that the burst consists of a series of regular pulses, each approximately 0.025ms long.

There is no variation of tones & the signal carries no information & this agrees with our previous analysis of these intriguing data bursts.

We can only speculate as to the purpose of these data bursts, but we believe the most likely use is to either start some sort of auto system or to trigger an alarm for a manual operator, and we think that is still the most likely purpose. What is slightly puzzling is that there doesn't appear to be a similar data burst following the end of the transmission, so perhaps the manual operator alarm would be the more likely of the two options. In other words, it would appear to be a 'wake-up' call.

If we look at Edd's full log of the transmission we can see that the Morse that follows the data burst consist of a 3-figure call followed by a 5-figure group. This is repeated ten times, with the 11th sending interrupted mid-character. This is followed by the same 3-fig call followed by a different 5-figure group – again repeated ten times & also interrupted mid-character on the 11th sending. The sending of these sequences is clearly automatic as evidenced by the Morse & also the abrupt mid-character cut-off.

This is a common format for these transmissions. Sometimes a message consisting of a number of 5-figure groups will also be sent. These are generally quite small messages in the order of 15 – 30 groups.

10651	0710z	22 Feb	Data burst followed by call-up & 5-figure groups	E.SMITH	TUE
			[Data Pulse] followed by 44 second pause		
			297 297 297 39519 35919	(Repeated 10 times)	
			297 297 2	(Ending mid-character)	
			297 297 297 30839 30839	(Repeated 10 times)	
			297 297 2	(Ending mid-character)	

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

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

Russian New Year

As expected there was very little activity for the first nine days of January as Russia celebrated their extended New Year's celebrations. All received transmissions during that time were null messages, with full messages resuming on 10 January.

What was unusual were the number of null messages noted towards the end of December 2021, with some IDs sending nulls from as early as 17 December while others ceasing live messages from 22 December leaving only a couple of IDs sending any live messages after 27 December.

However, it was good to see 'business as usual' from M12 resuming on 10 January with a large number of live messages sent & hardly a null to be seen.

Asiatic M12 Logs

17451/16151/15851	0100/20/40z	10 Feb	418 1	(Via SDR Japan)	HFD	THU
	0100/20/40z	15 Feb	418 1 (7279 180)	69859 01721....	(Via SDR Japan)	TUE
	0100/20/40z	22 Feb	418 000		(Via SDR Japan)	TUE
17461/16161/15861	0010/30/50z	11 Feb	418 1		HFD	FRI

European M12 Logs

January 2022:

New scheds in bold type

5778/6887/8178	2200/20/40z	01 Jan	771 000		BR	SAT
	2200/20/40z	07 Jan	771 000		HFD	FRI
	2200/20/40z	14 Jan	771 000		BR	FRI
	2200/20/40z	15 Jan	771 000		BR/Gert	SAT
	2200/20/40z	21 Jan	771 1 (1103 162)	31418 83663 ... 51447 70416 000 000	BR/Gert	FRI
	2200/20/40z	28 Jan	771 1 (1103 162)	31418 83663 ... 51447 70416 000 000	BR/Gert	FRI
	2200/20/40z	29 Jan	771 1 (1103 162)	31418 83663 ... 51447 70416 000 000	Gert	SAT
5886/6786/7486	0030/0050/0610z	04 Jan	874 000		Gert/HFD	TUE
	0030/0050/0610z	07 Jan	874 000		Gert	FRI
	0030/0050/0110z	11 Jan	874 1 (6149 61)	50238 29785 ... 81914 82586 000 000	Gert	TUE
	0030/0050/0110z	14 Jan	874 1 (6149 61)	50238 29785 ... 81914 82586 000 000	Gert	FRI
	0030/0050/0110z	18 Jan	874 000		Gert	TUE
	0030/0050/0110z	21 Jan	874 000		Gert	FRI
6782/5882/5182	2000/20/40z	05 Jan	781 000		AB/BR/HFD	WED
	2000/20/40z	07 Jan	781 000		BR	FRI
	2000/20/40z	12 Jan	781 1 (133 88)	31009 43099....	BR	WED
	2000/20/40z	14 Jan	781 1 (133 88)	31009 43099....	BR	FRI
	2000/20/40z	19 Jan	781 000		BR	WED
	2000/20/40z	21 Jan	781 000		BR/Gert	FRI
	2000/20/40z	26 Jan	781 1 (255 63)	32591 73003....	BR	WED
	2000/20/40z	28 Jan	781 1 (255 63)	32591 73003 ... 21986 75621 000 000	BR/Gert	FRI
6937/5737/4537	2210/30/50z	03 Jan	975 000		BR/Gert/HFD	MON
	2210/30/50z	06 Jan	975 000		BR/Gert	THU
	2210/30/50z	10 Jan	975 1 (446 81)	52319 18408 ... 67297 42658 000 000	BR/Gert	MON
	2210/30/50z	13 Jan	975 1 (446 81)	52319 18408....	BR	THU
	2210/30/50z	17 Jan	975 000		Gert	MON
	2210/30/50z	20 Jan	975 000		Gert	THU
	2210/30/50z	24 Jan	975 1 (388 79)	12015 85094....	BR	MON
	2210/30/50z	27 Jan	975 1 (388 79)	12015 85094....	BR	THU
11079/10279/9179	2300/20/40z	03 Jan	136 000		BR/HFD	MON
	2300/20/40z	06 Jan	136 000		BR	THU
	2300/20/40z	10 Jan	136 1 (731 56)	62405 32809 ... 67363 49524 000 000	BR/Gert	MON
	2300/20/40z	13 Jan	136 1 (731 56)	62405 32809....	BR	THU
	2300/20/40z	24 Jan	136 1 (3316 84)	5081320062....	BR	MON

11439/10339/ - - -	0110/30/50z	02 Jan	432 000			Gert/HFD	SUN
13386/12189/11491	1110/30/50z	13 Jan	725 1 (5534 96)	21709 63053....		BR	THU
	1110/30/50z	20 Jan	725 1 (3827 46)	93232 28007....		BR	THU
	1110/30/50z	27 Jan	725 1 (9063 42)	91460 10485 ... 27248 18798 000 000		Gert	THU
14377/13461/12114	1130/1150/1210z	03 Jan	NRH			BR/Gert	MON
	1130/1150/1210z	10 Jan	317 1 (5897 91)	47163 07291 ... 41026 87716 000 000		BR/Gert	MON
	1130/1150/1210z	17 Jan	317 1 (8365 91)	82718 64085 ... 96637 85864 000 000		AB/BR	MON
	1130/1150/1210z	24 Jan	317 1 (4558 95)	25522 12799 ... 50148 56151 000 000		BR	MON
	1130/1150/1210z	31 Jan	317 1 (5101 99)	56820 08263....		BR	MON
16357/17457/18357	0800/20/40z	02 Jan	343 000			Gert/HFD	SUN
	0800/20/40z	16 Jan	343 1 (684 81)	71282 30282 ... 89340 94394 000 000		Gert	SUN
	0800/20/40z	26 Jan	343 1 (3197 92)	03335 78080 ... 11363 05026 000 000		Gert	WED
	0800/20/40z	30 Jan	343 1 (3197 92)	03335 78080 ... 11363 05026 000 000		Gert	SUN
17418/16318/14918	1400/20/40z	03 Jan	439 000			AB/Gert/HFD	MON
	1400/20/40z	06 Jan	439 000			Gert	THU
	1400/20/40z	10 Jan	439 1 (492 61)	81579 58884 ... 90454 35638 000 000		Gert	MON
	1400/20/40z	13 Jan	439 1 (492 61)	81579 58884....		BR	THU
	1400/20/40z	17 Jan	439 000			BR/Gert	MON
	1400/20/40z	24 Jan	439 1 (3763 75)	30578 54714 ... 64077 42361 000 000		BR/Gert	MON
	1400/20/40z	27 Jan	439 1 (3763 75)	30578 54714 ... 64087 42361 000 000		Gert	THU
	1400/20/40z	31 Jan	439 000			BR	MON
February 2022:							
5734/6834/7634	0030/0050/0110z	01 Feb	786 000			HFD	TUE
	0030/0050/0110z	08 Feb	786 1 (8505 76)	61280 75796 ... 23208 15813 000 000		AB/BR	TUE
	0030/0050/0110z	15 Feb	786 000			BR	TUE
	0030/0050/0110z	25 Feb	786 1 (8723 70)	12877 87923 ... 68513 61835 000 000		Gert	FRI
	0030/0050/0110z	22 Feb	786 1 (8723 70)	12878 87923....		BR	TUE
5832/6832/7732	2200/20/40z	05 Feb	887 1 (1562 102)	91204 69942....		BR	SAT
	2200/20/40z	11 Feb	887 1 (1562 102)	91204 69942....		BR	FRI
	2200/20/40z	12 Feb	887 1 (1562 102)	91204 69942 ... 80057 43769 000 000		Gert/HFD	SAT
	2200/20/40z	19 Feb	887 1 (2799 208)	29823 64957 ... 60597 56816 000 000		Gert	SAT
	2200/20/40z	25 Feb	887 1 (2799 208)	29823 64957 ... 60597 56816 000 000		BR/Gert	FRI
6937/5737/4537	2210/30/50z	03 Feb	975 000			BR	THU
	2210/30/50z	07 Feb	975 1 (4682 64)	87547 70850....		BR/HFD	MON
	2210/30/50z	10 Feb	975 1 (4682 64)	87547 70850....		BR	THU
	2210/30/50z	14 Feb	975 000			BR	MON
	2210/30/50z	17 Feb	975 000			BR	THU
	2210/30/50z	24 Feb	975 1 (773 87)	07521 41980 ... 58049 87887 000 000		BR/Gert	THU
7674/6874/5774	2000/20/40z	02 Feb	687 000			BR/HFD	WED
	2000/20/40z	04 Feb	687 000			BR	FRI
	2000/20/40z	09 Feb	687 1 (5851 71)	52593 69770....		BR	WED
	2000/20/40z	11 Feb	687 1 (5851 71)	52593 69770....		BR	FRI
	2000/20/40z	16 Feb	687 000			BR	WED
	2000/20/40z	18 Feb	687 000			BR	FRI
	2000/20/40z	23 Feb	687 1 (4787 68)	27209 87887....		BR	WED
	2000/20/40z	25 Feb	687 1 (4787 68)	27209 87887 ... 83917 59743 000 000		Gert	FRI
9362/8062/7462	2300/20/40z	07 Feb	451 1 (760 97)	76770 12586....		BR	MON
	2300/20/40z	10 Feb	451 1			HFD	THU
	2300/20/40z	14 Feb	451 000			BR	MON
	2300/20/40z	17 Feb	451 000			BR	THU
	2300/20/40z	21 Feb	451 1 (1963 83)	54959 72088....		BR	MON
	2300/20/40z	24 Feb	451 1 (1963 83)	54959 72088....		BR	THU
11435/10598/9327	1800/20/40z	12 Feb	938 1 (4869 77)	02716 49506....		BR	SAT
11464/10464/9164	0010/30/50z	10 Feb	441 1			HFD	THU
	0010/30/50z	20 Feb	441 1 (2531 98)	13968 41210....		BR	SUN
13386/12189/11491	1110/30/50z	03 Feb	725 1 (8657 94)	08307 27067....		BR	THU
	1110/30/50z	10 Feb	725 1 (6987 98)	68512 65216....		BR	THU
	1110/30/50z	17 Feb	725 1 (4429 90)	45906 45095....		BR	THU
	1110/30/50z	24 Feb	725 1 (1422 92)	53085 12365 ... 82734 30275 000 000		Gert	THU
14377/13461/12114	1130/1150/1210z	07 Feb	317 1 (9805 97)	62515 55796 ... 33395 34545		BR/Gert	MON
	1130/1150/1210z	14 Feb	317 1 (1652 97)	31181 64200....		BR	MON
	1130/1150/1210z	21 Feb	317 1 (1408 92)	58324 87100 ... 94708 24247 000 000		BR/Gert	MON
	1130/1150/1210z	28 Feb	317 1 (3044 90)	91118 53187 ... 70048 30288 000 000		Gert	MON
17415/18215/18715	0800/20/40z	02 Feb	427 000			HFD	WED
	0800/20/40z	13 Feb	427 1 (688 840)	31004 71899 ... 44829 62459 000 000		Gert	SUN
19373/17473/16173	1400/20/40z	03 Feb	341 000			AB/HFD	THU
	1400/20/40z	10 Feb	341 1 (572 75)	51579 02749....		BR	THU

1400/20/40z	14 Feb	341 000			BR	MON
1400/20/40z	17 Feb	341 000			BR	THU
1400/20/40z	21 Feb	341 1 (9349 64)	80088 73346 ... 83488 08473 000 000		Gert	MON
1400/20/40z	24 Feb	341 1 (9349 64)	80088 73346 ... 83488 08473 000 000		BR/Gert	THU
1400/20/40z	28 Feb	341 000			Gert	MON

M12 14377/13461/12114kHz 1130/1150/1210z 07 Jan 2022

317 317 317 1 (R2m) 8365 91 8365 91

82718 64085 68554 50292 36819 81744 49028 06135 97253 07304
89048 24520 57540 78273 98842 63278 17605 58646 60930 11846
25665 90612 81838 70485 81707 99530 45716 61056 42427 41542
17997 07585 95218 24772 60920 67523 73019 76735 95196 99334
04815 07780 31258 64111 66323 08051 74282 25858 99831 72500
48128 40684 27172 99436 15521 77005 82956 92998 28016 27102
88248 93910 70536 97613 69444 25459 05076 99567 63891 23747
41066 83806 38320 19766 92937 31522 98984 85317 61503 79680
25077 21682 77586 58471 55680 77900 35729 37211 79490 96637
85864 000 000

M12 5734/6834/7634kHz 0030/0050/0110z 08 Feb 2022

786 786 786 1 (R2m) 8505 76 8505 76

61280 75796 97303 39157 27857 86660 16227 10305 47997 67485
24651 15036 27717 04607 81927 49226 65109 98791 83450 18718
96494 40120 66979 25704 37958 46809 01653 82310 71094 26971
51342 62727 31554 82861 64276 25665 93749 72309 99838 15713
31955 54212 99803 54049 23805 35454 49893 12510 82884 17458
01737 43155 93248 16408 03846 50957 52152 75082 63262 15697
21469 37427 74496 08779 52588 45686 21551 77665 90367 54407
03553 62003 14583 32698 23208 15813 000 000

Courtesy AB

M12 5832/6832/7732kHz 2200/2220/2240z 19 Feb 2022

887 887 887 1 (R2m) 2799 208 2799 208

29823 64957 65943 48580 87955 82297 83638 61458 05949 67606
37137 34455 90852 44575 70862 47591 42129 61872 29906 49078
86542 61838 38835 33792 19791 89295 14840 58359 12375 48636
43144 58119 28422 54760 52006 86556 96054 99542 76275 18984
46697 05861 90300 13431 21898 42230 21023 64085 14660 85924
70949 70262 47447 72082 62367 89694 50943 30555 67634 83530
80270 21637 14108 67161 64457 98789 22590 17720 93770 49505
52981 56355 76052 32889 26029 76876 12672 55511 63807 59130
92794 29852 96423 95321 83500 96177 35003 13807 67815 35198
61961 78857 46072 34514 91169 55408 87228 68188 05817 17691
97852 03990 37555 04943 83172 18240 94338 69317 85857 24117
38302 51670 36824 89636 15055 83964 12123 81554 84536 59976
19139 90333 48674 30679 49825 96964 68081 79332 14761 40109
71449 40086 17072 34362 79304 32046 82725 22559 17886 29408
51007 44821 62387 79647 44681 99318 94911 08191 79932 83268
35553 57990 56089 01900 84939 43836 30386 67016 77620 68540
91288 95357 28328 71095 18705 19200 66267 29277 68655 63320
91610 96246 15826 12307 51113 21971 81532 15057 73277 01985
87064 23421 77145 42932 46614 69029 03948 40039 58933 07509
62794 67507 18044 13586 24416 55278 07769 84489 57434 40581
06235 29826 62417 75636 45631 79872 60597 56816 000 000

Courtesy Gert

M14 IA MCW / ICW Short 0

January 2022:

No logs

February 2022:

17458 0930z 10 Feb 617 00000 (SDR Utwente) ER THU

M23 O ICW

Ary, (AB), reported the reappearance of M23 in February, with several schedules between 1550z and 1650z commencing 02 February, with OOO (letter O), replaced in later transmissions with 000 (zero).

5345 10 Feb – 13 Feb
1558 – 1605z 000 (x3) (R7m40s) Strong Long zero AB/BR THU - SUN
1613 – 1620z 000 (x3) (R7m40s)
1628 – 1635z 000 (x3) (R7m40s)
1643 – 1650z 000 (x3) (R7m40s)

There was a gap of 7m18s between transmissions. A brief check with online SDRs on 11 Feb showed reception of M23 was fair in Moscow & good in Norway.

5345 14 Feb – 20 Feb
1558 – 1611z OOO (x3) (R13m) Strong Letter O AB/BR MON – SUN
1628 – 1641z OOO (x3) (R13m)

5345 21 Feb
1642 – 1651z 000 (x3) (R8m30s) Strong Long zero AB/BR MON

5345 22 Feb – 25 Feb
1557 – 1606z 000 (x3) (R8m30s) Strong Long zero AB/BR TUE - FRI
1612 – 1621z 000 (x3) (R8m30s)
1627 – 1636z 000 (x3) (R8m30s)
1642 – 1651z 000 (x3) (R8m30s)

The process would appear to be fully automated, with length of transmissions & pauses between transmissions being very precise. Thanks to Ary, (AB) for the accurate timings.

A single 'dit', (a characteristic of M23), was sent 3 minutes before each transmission.

Peter, (PoSW), also found M23 & was monitoring almost from the start of this latest series of transmissions. Here is his report;

M23 Report from PoSW

Return of M23 CW on 5345 kHz:-

Saw in En128 that M23 was active on 5345 in late November of 2021, was not aware of that but found it by chance in February of this year, perhaps it had been on for some time:-

11-Feb-22, Friday:-

1619 UTC, 5345 kHz, M23 CW in progress, an unexpected discovery while casually tuning around – as you do.
Sending 3 x 5 dashes, presumably representing “000”, last minute or so of a transmission, stopped after 1620z but came back two more times:-
1627:36s UTC, “000” again, stopped after 1635 UTC.
1642 UTC, after, “000”, stopped after 1650z.

Turns out there are four short transmissions in the late afternoon UK time:-

12-Feb-22, Saturday:-

1600 UTC, in progress with “000”, stopped after 1605 UTC.
1612 UTC, after, “000”, stopped 1620:16s UTC.
1627:35s UTC, “000”, stopped 1635:16s UTC.
1642:35s UTC, “000”, stopped 1650:16s UTC. The characteristic M23 pre-transmission “blip” heard a bit after 1639z.

13-Feb-22, Sunday:-

In true sad anorak fashion I was within earshot of a radio tuned to 5345 kHz all day since the weather was too awful to venture too far outside:-
1557:33s UTC, “000”, stopped 1605:13s UTC.
1612:33s UTC, stopped 1620:13s UTC.
1627:33s UTC, stopped 1635:13s UTC
1642:33s UTC, stopped 1650:13s UTC.

Nothing heard at any other time during the day.

The Modus Operandi changed on the following day:-

14-Feb-22, Monday:-

1601 UTC, transmission in progress, now sending 3 x 3 dashes, so an alphabetic “OOO”. Stopped after 1611 UTC so the length, and as it turned out the number, of transmissions has changed.
1627:25s UTC approx, “OOO”, stopped around 1641 UTC. Nothing further heard.

15-Feb-22, Tuesday:-

1557:30s UTC approx, “OOO”, stopped around 1611 UTC.
1627:30s UTC, stopped 1641 UTC exactly.

16-Feb-22, Wednesday:-

1559 UTC, in progress with “OOO” when tuned in, stopped just before 1611.
1627:30s UTC, stopped just before 1641. An added bit of interest here, after M23 had stopped an amateur CW station, tooled up for sixty metre operation, came up calling CQ, G3 call sign.

Showed up on the following Thursday, Friday and Saturday, starting and finishing a second or two earlier on each day. On the first day of the new working week things had changed again:-

21-Feb-22, Monday:-

M23 active when 5345 checked just after 1644 UTC, sending 3 x 5 dashes so back to “000”. Stopped before 1651 UTC.

22-Feb-22, Tuesday:-

1557 UTC, just after, “000”, stopped around 1605:40s UTC.
1612:10s UTC approx, “000”, stopped 1620:40s
1627:10s UTC, stopped 1635:40s
1642:10s, stopped 1650:39s UTC.

Similar format to that heard earlier in the month.

Approaching the end of February the schedule appears to be four transmissions sending “000”, starting after 1557 UTC, ending before 1606; starting after 1612UTC, ending before 1621; starting after 1627 UTC, ending before 1636 and starting after 1642 UTC, ending before 1651.

ENDS *[Thank you, Peter, for your detailed report.]*

Morse Stations - Not Number Related

M42 IC

M42 is a designation originally assigned by the original ENIGMA group & covered a number of formats & modes. The group of stations was later identified as belonging to the Russian government / intelligence / diplomatic services & as such was deleted from the ENIGMA Control List as being outside of the numbers station remit. However, the station still attracts interest and is regularly still monitored. We last featured M42 in July/Aug 2020 - ENIGMA Newsletter 120.

Transmissions on 9353kHz & 10226kHz at 0912z are currently a daily schedule.

Here are a couple of examples of the M42b variant logs courtesy of Ary, (AB), which were recently submitted;

Transmissions were on 10226kHz & 9353kHz at 0912z (+ - 1 minute or so). 9353kHz was often weak & unreadable.

Mode is Baudot ITA2 50/500, (RTTY - FSK) 3rd Cyrillic alphabet with Op. chat in CW both before & after the main message transmission.

1230 - 1305z	16 Feb	Mercredi- Leçon	03-2/1 Codé,	03-2/2 Clair,	03-2/3 Codé,	03-2/4 Clair (720 grps/hr)	BR	WED
1230 - 1305z	23 Feb	Mercredi- Leçon	13-2/1 Codé,	13-2/2 Clair,	13-2/3 Codé,	13-2/4 Clair (720 grps/hr)	BR	WED
1230 - 1303z	04 Feb	Vendredi- Leçon	05-2/1 Codé,	05-2/2 Clair,	05-2/3 Codé,	05-2/4 Clair (960 grps/hr)	BR	FRI
1230 - 1303z	25 Feb	Vendredi- Leçon	15-2/1 Codé,	15-2/2 Clair,	15-2/3 Codé,	15-2/4 Clair (960 grps/hr)	BR	FRI

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

M51b is currently transmitting almost continuously on their two well-known frequencies, ceasing for the M51a scheduled lessons, with the occasional appearance on other frequencies. (See below).

3881//6825					
0328z	31Jan	Non-stop 5-character groups composed of M51a messages		BR	MON
1339z	20 Feb	Non-stop 5-character groups composed of M51a messages		BR	SUN

M51b Appears in 80 metres Amateur Band – Followed by Morse contacts with Amateur Operators Using F9TM Call.

On Thursday, 20 January, Gert reported the presence of M51b, in progress, sending their usual output of continuous 5-character groups. In a departure from the stations' regular frequencies of 3881//6825kHz, the station was using 3536kHz within the 80 metre amateur band – a band which amateurs share with other services. A Quick check on their regular frequencies showed that both 3881//6825kHz were silent.

Later in the evening a further check was made on 3536kHz which found that the continuous M51b groups had ceased & that the frequency was now occupied by F9TM in QSO's with various amateur stations. F9TM is the amateur call sign associated with the M51 group of transmissions & is registered to the Centre de Contrôle des Fréquences via a PO Box number in Favieres, France.

Ary, (AB), tells us that F9TM has fixed schedules using 3536kHz, one of which is on Thursday evening from 1930z. (For those interested the other schedule is on Sunday at 0930z on 7025//3536kHz, although this schedule doesn't always appear).

Although M51b has previously used a large number of frequencies, these days the station seems to prefer to remain on their two regular frequencies with only the occasional departure onto other parts of the short wave spectrum.

A further check on Thursday, 10 February, also found M51b on 3536kHz at 1745z, although it was not present 30 minutes earlier, so this may be a regular event & will give any listening amateurs some good Morse practice exercise. It will certainly keep the frequency clear for F9TM!

3536	1656z (IP)	20 Jan	M51b – Sending Non-stop 5-character groups	Gert	THU
	1918z	20 Jan	F9TM in QSOs with various amateurs	BR	THU
	1745z (IP)	10 Feb	M51b – Sending Non-stop 5-character groups	BR	THU

M89 O

This is a summary of activity from the M89 stations.

Traffic & Operator Chat from M89

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

3122	4141	5656	6497	7197	8045	10115	11223
3317	4157		6905	7890	8123	10125	11278
3355	4352					10151	
3421	4361					10642	
3557	4389					10890	
3614	4485						
3635	4526						
3689	4726						
3750	4829						

New Scheds for Jan / Feb 2022: From logs submitted from JPL & F5JBR

2984	New Round Slip on known M89 frequency	First heard 18 January	V A8Q3 (x3) DE N4F9 (x2)
3596	Known Round Slip & frequencies	First heard 07 January Last heard 30 December 2020 when replaced by BSA5 DE TP4C	V QYE2 (x3) DE 9WVFV (x2)
4880	Changed frequency for this Round Slip Previously on 4888kHz	First heard 20 January	V QYE2 (x3) DE 9WVFV (x2)
6824//8122	New frequencies for this Round Slip	First heard 03 February	V QYE2 (x3) DE 9WVFV (x2)
8182	Known Round Slip & frequencies	First heard 08 January Last heard 30 December 2020 when replaced by BSA5 DE TP4C	V QYE2 (x3) DE 9WVFV (x2)
4352	New Round Slip & frequency New Round Slip for this frequency	First heard 09 January First heard 31 January	V CD4A (x3) DE UG3N (x2) V Q5Z1 (x3) DE W2X6 (x2)
6210	New frequency for this Round Slip	First heard 28 January	V CD4A (x3) DE UG3N (x2)

<u>Freq in KHz</u>	<u>Call Slip</u>
2984	V A8Q3 (x3) DE N4F9 (x2)
3596//4880	V QYE2 (x3) DE 9WV (x2)
3596//4888	V QYE2 (x3) DE 9WV (x2)
3596//4888//6824//8182	V QYE2 (x3) DE 9WV (x2)
4352	V CD4A (x3) DE UG3N (x2) V Q5Z1 (x3) DE W2X6 (x2)
4720//5150	V WNF(x3) DE FXM (x2) (R5) (Hand sent)
4860// 6840	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) QSA ? K

<u>Freq in kHz</u>	<u>Call Slip</u>
6210	V CD4A (x3) DE UG3N (x2)
6824//8182	V QYE2 (x3) DE 9WV (x2)
6840//NRH	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) QSA ? K
6840//8290	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) QSA ? K
7620//8350	V WNF(x3) DE FXM (x2) (R5) (Hand Sent)
8182//NRH	V QYE2 (x3) DE 9WV (x2)

Courtesy JPL

3596//4880	1924 (IP) - 1924z	27 Jan	V QYE2 (x3) DE 9WV (x2) MSG NR 0122 CK 96 43 0128 0320 RMKS 3999 TO ..29 3624 3539 BT	(Remote tuner Khabarovsk)	JPL	THU
3614	1108 (IP) - 1114z	03 Feb	NR 31/EX 1909 RMKS CQ BT A2E4/P3X1 AR	(Remote tuner Taiwan)	JPL	THU
3635	1118 (IP) - 1119z	03 Feb	MSG NR 0366 CK 199 87 0203 RMKS 1253 TO 7744	(Remote tuner Taiwan)	JPL	THU
3689	1200 (IP) - 1208z	19 Jan	NR 2001/EX 1950 RMKS BT K2BB/S3H4 AR K	(Remote tuner Japan)	JPL	WED
3750	1210 (IP) - 1211z 1215 (IP) - 1222z	19 Jan 20 Jan	1102 RMKS 8827 TO 6210 IEC BT 1871 AR K (Exercise related) IEC BT 8838 AR K NR 1342/EX 2015 RMKS 8824 TO 8868 BT NR 7319/EX 2017 RMKS 8868 TO 8824 BT NR 1343 CK 2... 0120 000 RMKS TO 8868 BT	(Remote tuner Taiwan) (Remote tuner Taiwan)	JPL JPL	WED THU
4352	UG3N 1357z (IP)	09 Jan	V CD4A (x3) DE UG3N (x2) MSG NR 036 CK 499 79 0109 2200 BT (From Round Slip - 1357z)	(Remote tuner Japan)	JPL	SUN
4352	UAL 0912z (IP) 28 Jan		VVV F6C DE UAL QSA 0 QSA 0	(Remote tuner Khabarovsk)	JPL	FRI
4389	NNE7 1305 - 1333z	27 Jan	Calling various Outstations (Duplex on 4377kHz) SQ8N, P1XD, Z1DQ, S8BK, TWG3, LI8X, 5DSZ, YJF9, IEC BT 8391 AR K (Exercise related) IEC BT 5013 AR K IEC BT 2848 AR K IEC BT 2888 AR K NR 134/CCK CK 99 78 0127 2100 RMKS CQ]	(Remote tuner Novosibirsk)	JPL	THU
			Changed to stations calling HUU3. 4EKO, PNW1, QXY4			
4485	1217 (IP) - 1218z	19 Jan	45 0119 2015 RMKS BT 8866 TO 4445 AR K	(Remote tuner Taiwan)	JPL	WED
10151	0047z (IP)	08 Jan	... EX 0807 K BT BT C3WA/G75. AR K NR 3020 CK 35 67 0108 0854 RMKS 2225 TO 22.3 K	(Remote tuner Japan)	JPL	SAT
11223	0829z (IP)	28 Jan	NR 5132 CK 35 67 0128 1644 RMKS 22.7 TO 2256 AR K	(Remote Novosibirsk)	JPL	FRI

M89 3689kHz 1200 (IP) - 1208z 19 January 2022

BT K2BB/S3S4 AR (IP – 1200z)
 NR NR 2001/EX 1950 RMKS BT H467 TO H887 AR BT
 K2BB/S3S4 AR QSL ? K (1201z)
 R NR 2001/EX 1950 RMKS BT S467 TO H087 AR BT
 K2BB/S3H4 AR K (1202z)
 R NR NR 2001/EX 1950 RMKS BT S467 TO S087 AR BT
 K2BB/S3H4 AR K (1203z)
 BT K2BB/S3H4 AR K (1204z)
 R QSL 1952 K
 R OK R HR FF GA HR ? K
 R GA K
 R NR NR 2001/EX 1950 RMKS BT S087 TO S467 AR BT
 K2BB/S254 AR
 NR NR 2001/EX 1950 (Cont'd – 1208z)

M89 3750kHz 1215 (IP) - 1222z 20 January 2022

R QSA 2 QSA K (IP – 1215z)
 R QSA 2 K (Both stations on this frequency)
 R IEC BT 1871 AR K (Exercise related)
 R IEC BT 8838 AR K (1215)
 R GA
 R OK
 FF NR 1342/EX 2015 RMKS 8824 TO 8868 BT
 S7MK/E2CW AR
 F NR 1342/EX 2015 RMKS 8824 TO 8868 BT (1218z)
 A7MK/E2CW AR K
 R QSL 201. K
 U F GA K
 R FF NR 7319/EX 2017 RMKS 8868 TO 8824 BT
 S7MK/E2CW AR K
 FF NR 7319/EX 2017 MKS 8868 TO 8824 BT
 S7MK/E2CW AR
 R QSL 2018 K
 R OK
 R 7G NR 1343 CK 2... 0120 000 RMKS TO 8868 BT
 4NAU ... (Cont'd – now very weak – 1222z)

M89 3614kHz 1108 - 1114z 03 February 2022

F NR 31/EX 1909 RMKS CQ BT (IP – 1108z)
 A2E4/AEEE
 NR 31/EX 1909 RMKS CQ BT
 A2E4/P3X1 AR
 FF NR 31/EX 1909 RMKS CQ BT
 A2E4/P3X1 AR HR WK NR 414 HR WK 414 QSL QSL ?
 R DE .3C5 QSL TIME 1911 HR WK NR 157 K (1110z)
 R ... (Too weak to copy)
 R BBT3A QSL TIME 1910 HR WK NR 222 AR K
 R DE MY6G QSL TIME 1910 HR WK NR 529 AR K
 R DE AQ4D QSL TIME 1911 HR WK NR 55 AR K
 R DE ...KY QSL TIME 1911 HR WK NR 493 AR K
 R R DE ZYU4 QSL TIME 1911 HR WK NR 15. AR K
 DE ATY. QSL TIME 1911 HR WK NR 379 AR K (1114z)

Courtesy JPL

M95 O XSV, XSV70, XSV85

M95 Morse Logs (Bold type indicates new logging)

3568	05 05 05	Call up associated with M95						
	1802 (IP) - 1812z	20 Jan	05 05 05			(Remote tuner Novosibirsk)	JPL THU	
3590	05 05 05	Call up associated with M95						
	1214 (IP) - 1215z	18 Jan	05 05 05	NCFIH (Long zero)		(Remote tuner Taiwan)	JPL TUE	
3642//NRH	Call Sign 3A7D	(Active daily - only first marker log has been included)						
3642//7602	Call Sign 3A7D	(Active daily - only first marker log has been included)						
4178//NRH	Call Sign S2DJ	New frequency for this new Round Slip. Believe this to be new Round Slip and freq for YHXD DE SAQC						
	1330z	10 Jan	V XP5B (x3)	DE S2DJ (x2)		(Remote tuner Novosibirsk)	JPL MON	
4178//7517	Call Sign S2DJ	New frequency for this new Round Slip. Believe this to be new Round Slip and freq for YHXD DE SAQC						
	1337z	10 Jan	V XP5B (x3)	DE S2DJ (x2)		(Remote tuner Novosibirsk)	JPL MON	
4243//NRH	Message number differs from current XSV70 and XSV85 message numbers.							
	1146 - 1205z	12 Jan	NR 012 CK 77 35 0112	1523 BT		(Remote tuner Japan)	JPL WED	
	1145 (IP) – 1200z	18 Jan	NR 24 CK 223 35 0112	154A BT		(Remote tuner Taiwan)	JPL TUE	
			NR 024 CK 61 35 0118	1519 BT				
			NR 36 CK 220 35 0118	1600 BT				
	1147 (IP) - 1155z	09 Feb	NR 68 CK 36 35 0209	1527 BT		(Remote tuner Japan)	JPL WED	
			NR 023 CK 15 35 0209	1547 BT				
			NR 18 CK 130 35 0209	1645 BT				
4243//9054	Message number differs from current XSV70 and XSV85 message numbers.							
	1142 - 1151z	19 Jan	NR 38 CK 182 35 0119	1544 BT		(Remote tuner Taiwan)	JPL WED	
	1146 - 1154z	20 Jan	NR 028 CK 25 35 0120	1526 BT		(Remote tuner Taiwan)	JPL THU	
			NR 40 CK 125 35 0120	1533 BT				
	1143 (IP) - 1203z	31 Jan	NR 050 CK 65 35 0131	1543 BT		(Remote tuner Taiwan)	JPL MON	
			NR 093 CK 17 35 0131	1621 BT				
			NR 62 CK 206 35 0131	1625 BT				

	1146 (IP) – 1200z	01 Feb	NR 052 CK 56 35 0201 1533 BT NR 02 CK 154 35 0201 1545 BT	(Remote tuner Japan)	JPL	TUE
	1153 (IP) – 1203z	03 Feb	NR 056 CK 62 35 0203 1547 BT NR 005 CK 21 35 0203 1623 BT NR 06 CK 210 35 0203 1644 BT	(Remote tuner Japan)	JPL	FRI
	1143 (IP) - 1203z	14 Feb	NR 02 CK 41 47 0214 1..5 BT NR 078 CK 47 35 0214 1520 BT NR 28 CK 163 35 0214 1556 BT	(Remote tuner Taiwan)	JPL	MON
4364//8073	Call Sign XSV85					
	1132 - 1143z	12 Jan	NR 0040 CK 309 35 0112 1617 BT	(Remote tuner Hong Kong)	JPL	WED
	1141 - 1144z	18 Jan	NR 0052 CK 362 35 0118 1627 BT	(Remote tuner Taiwan)	JPL	TUE
	1131 - 1153z	23 Jan	NR 0062 CK 287 35 0123 1628 BT	(Remote tuner Taiwan)	JPL	SUN
	1130 - 1143z	31 Jan	NR 0086 CK 299 35 0131 1637 BT	(Remote tuner Taiwan)	JPL	MON
	1131 - 1144z	01 Feb	NR 0090 CK 394 35 OUT1 1711 BT	(Remote tuner Taiwan)	JPL	TUE
	1130 - 1151z	03 Feb	NR 0098 CK 45 35 0203 1638 BT NR 0099 CK 331 35 0203 1638 BT	(Remote tuner Taiwan)	JPL	FRI
	1130 - 1141z	14 Feb	NR 0129 CK 26 335 0214 1628 BT	(Remote tuner Taiwan)	JPL	MON
4781//7517	Call Sign S2DJ 1206z	Note: Previously on 4178kHz 01 Feb	V XP5B (x3) DE S2DJ (x2)	(Remote tuner Novosibirsk)	JPL	TUE
5258	1121z	23 Jan	V XP5B (x3) DE S2DJ (x2) Note: New frequency for this Round Slip. Still unable to find //	(Remote tuner Novosibirsk)	JPL	SUN
5440	Call Sign OLKVk					
	1150 (IP) – 1200z	26 Jan	IEC BT 4043 AR K (Exercise related) MSG NR 193/CCK CK 95 33 0126 1950 RMKS 4177 TO 4151 K	(Remote tuner Novosibirsk)	JPL	WED
5651//NRH	1220z	14 Feb	V XP5B (x3) DE S2DJ (x2)	(Remote tuner Novosibirsk)	JPL	MON
5651//7517	1207z	09 Feb	V XP5B (x3) DE S2DJ (x2) Note: New frequency for this Round Slip (Previously on 4781kHz)	(Remote tuner Khabarovsk)	JPL	WED
6419	Message format indicates M95 family 1128 - 1130z	12 Jan	NR 2712/CCK CK 59 74 0112 1928 RMKS 8144 TO 2444	(Remote Hong Kong)	JPL	WED
7553//9153	Call sign XSV70					
	0015 - 0044z	08 Jan	NR 022 CK 99 35 0108 0715	(Remote tuner Japan)	JPL	SAT
8073	Call sign XSV85					
			Usual format is Initial call-up in voice USB, then to digital 4+4 mode LSB, finally, switching to CW			
	1131 - 1143z	09 Feb	NR 0119 CK 314 35 0209 1601 BT	(Remote tuner Taiwan)	JPL	WED
9056	0129 (IP) - 0139z	03 Feb	MSG NR 345/CCK CK 95 45 0203 0935 RMKS 1703 TO 1755 K (Remote tuner Taiwan)	(Remote tuner Taiwan)	JPL	THU
10088	1103 (IP) – 1111z	23 Jan	NR 016/CCK CK 71 0123 1903 RMKS 5581 TO 2218 K K K (It appears that the operator is practicing and is not aware that he is live) 1234567D9 5890 NR 016/CCK CK 71 0123 1908 RMKS 5537 R EEEE (1108z)	(RemoteNovosibirsk)	JPL	SUN
10180	Call Sign 3A7D		(Active daily - only first marker log has been included)			
10722//NRH	Call Sign 3A7D					
	1048z	01 May	YHXD (x3) DE SAQC (x2)	(Remote tuner Khabarovsk)	JPL	FRI

M95 10088kHz 1103z 23 January 2022

QSA 2 QSL ? K (IP – 1103z)
 HR HR 7G GA
NR 016/CCK CK 71 0123 1903 RMKS 5581 TO 2218 K K K
 R R R R BT BT VHBT BT BT (1104z)
 VVV (Cont'd – 1104z)
 (It appears that the operator is practicing and is not aware that he is live)
 1234567D9 5890 (1107z)
 RU34567DNT A4ND4AU34567DNT AR AR K QSA ? K
 HZH AS LHR 7G GA
NR 016/CCK CK 71 0123 1908 RMKS 5537 R EEEE (1108z)
 QSA 2 QSA ? K
 HR 7G NR15/CCK EEE
 R 7G 33567D9 AU34567DNT U QSA ? K (1111z)

M95 4364//8073kHz 1130z 03 Feb 2022

BNGC DE XSV85

Into voice USB Chinese Male 1130z
 Switched to Chinese digital 4+4 QPSK 75/3000 LSB 1131z
 Switched to CW – Hand sent 1142z

V BNGC (x3) DE XSV85 (X2) (Cont'd – 1142z)
 HR MSGS GA PSE CY (1143z)
NR 0098 CK 45 35 0203 1638 BT (1146z)
 TTU N5U TT3 N53 TAD N54 7TT TT4 746 7T5
 7TA 4TA N7D N35 7T5 NAN 74D 336 N3U 7A3
 777 TAU 773 TA7 773 TAD 773 TAN 773 TUT
 773 TU4 773 TU5 773 7NN D3A N56 4TN 777
 7AD N47 3AN 7U5 AR A HR MSG GA (1149z)
NR 0099 CK 331 35 0203 1638 BT
 TT3 3U6 3AN 3U7 TAU 773 353 4T3 NN3 (Cont'd – 1151z)

Courtesy JPL

M95 9056kHz 0129z 03 February 2022

AR K (IP – 0129z)
 CY HW K (0130z)
 RPT 57W RPT 57W K (Both stations on this frequency)
 R RPT 57W RPT 57W
 R RPT 57W A345 A345 K (0131z)
 R RPT 91W TO 95W K (Cont'd repeat groups – 0132z)
 R QSL 0935 QSL 0935 QSL 0935 K
 R U MSG GA K (0135z)
R MSG NR 345/CCK CK 95 45 0203 0935 RMKS 1703 TO 1755 K
 (0138z)

GA GA K
 BT NA3. . 7NA. N3T7 4A5D6U3 (Cont'd – fading badly – 0139z)

M95 4243//9054kHz 1153z 03 Feb 2022

(In Progress – 1153z) 446 3DA N3D 3DU 4D6 75D 4D3 5TN 75U
 353 U4T 354 75D 377 4A5 446 34U N3U 467 3DU 4D6 75D 4D3
 5AA 75U 353 U4T 354 75D 377 4TN 346 N3D 4TA 445 34T N3U
 446 467 3DA N3D 3DU 4D6 75D 4D3 AR MSG AGN
NR 056 CK 62 35 0203 1547 BT
 5AA UTT TT3 3U6 3A4 5T7 5TD 75U 353 U4T 353 75D 377 4TA
 445 34T N3U 446 3DA N3D 3DU 4D6 75D 4D3 5TN 75U 353 U4T
 354 75D 377 4A5 446 34U N3U 467 3DU 4D6 75D 4D3 5AA 75U
 353 U4T 354 75D 377 4TN 346 N3D 4TA 445 34T N3U 446 467
 3DA N3D 3DU 4D6 75D 4D3 AR A HR MSG GA
NR 005 CK 21 35 0203 1623 BT
 UT5 TT3 3U6 3A4 TTA TTU TT3 773 35U DN7
 353 4UT 445 336 DND N34 446 4D6 3DA N3D
 3DU AR MSG AGN (1200z)
NR 005 CK 21 35 0203 1623 BT (Repeats message – 1201z)
 AR A HR MSG GA
NR 06 CK 210 35 0203 1644 BT
 UTU TT3 3U6 3A4 TTU 773 35U N3D 353 4TA (Cont'd – 1203z)

Courtesy JPL

RMP – Baltic Fleet HQ

These messages monitored from RMP – Baltic Fleet HQ in Kaliningrad. Heard on 6461.5kHz at 1700z on Friday, 28 January. Each message was repeated. Long zero used.

REO REO DE RMP RMP QTC

909 15 28 1 206 909 =

48923 63696 60805 93177 70166 69070 92623 77956 00006 71273
 01422 25701 68507 23832 28014 =

REO REO DE RMP RMP QTC

939 16 28 1 209 939 =

24262 59488 15119 30922 88083 22788 03891 73419 06570 21203
 82670 73896 57639 11002 86062 28015 =

Marker Beacons (MX MXI)

3657	2020z	12 Jan	MX	CW	Beacon "V"	Khiva		Moderate	chpa	WED
	1609z	15 Jan	MX	CW	Beacon "V"	Khiva		Moderate	chpa	SAT
	1936z	17 Jan	MX	CW	Beacon "V"	Khiva		Weak	chpa	MON
	1604z	18 Jan	MX	CW	Beacon "V"	Khiva		Weak	chpa	TUE
	1627z	21 Jan	MX	CW	Beacon "V"	Khiva		Weak	chpa	FRI
	1634z	07 Feb	MX	CW	Beacon "V"	Khiva	With QRM	Good	chpa	MON
4557.7	2155z	29 Jan	MXI	CW	Beacon "D"	Sevastopol	(Bit chirpy!)		BR	SUN
4557.8	0720z	27 Jan	MXI	CW	Beacon "P"	Kaliningrad		Moderate	chpa	TUE
	1426z	23 Jan	MXI	CW	Beacon "P"	Kaliningrad		Weak	chpa	SUN
	0628z	04 Feb	MXI	CW	Beacon "P"	Kaliningrad		Weak	chpa	FRI
	0628z	12 Feb	MXI	CW	Beacon "P"	Kaliningrad	Minor QSB	Very weak	chpa	SAT
	0610z	26 Feb	MXI	CW	Beacon "P"	Kaliningrad		Moderate	chpa	SAT
	0622z	27 Feb	MXI	CW	Beacon "P"	Kaliningrad		Weak	chpa	SUN
	0559z	28 Feb	MXI	CW	Beacon "P"	Kaliningrad		Moderate	chpa	MON
5153.7	2149z	29 Jan	MXI	CW	Beacon "D"	Sevastopol			BR	SUN
5153.8	2150z	29 Jan	MXI	CW	Beacon "P"	Kaliningrad			BR	SUN
5153.9	2153z	29 Jan	MXI	CW	Beacon "S"	Severomorsk			BR	SUN
5154	2151z	29 Jan	MXI	CW	Beacon "C"	Moscow			BR	SUN

5154.1	2152z	29 Jan	MXI CW Beacon "A" Astrakhan			BR	SUN
5342	0335z	31 Jan	MX CW Beacon "V"			BR	MON
7508.7	2146z	29 Jan	MXI CW Beacon "D" Sevastopol			BR	SUN
7508.9	1135z	10 Feb	MXI CW Beacon "S" Severomorsk		Weak	BR	THU
7509.1	2146z	29 Jan	MXI CW Beacon "A" Astrakhan			BR	SUN
8122	1421z	19 Jan	MX CW Marker "W" Channel Marker (Russian Air Force)	Ceased 1422z		BR	WED
8495.1	2145z	29 Jan	MXI CW Beacon "A" Astrakhan			BR	SUN
8497.8	1132z	10 Feb	MX CW Beacon "L" St Petersburg	(Fast)		BR	THU
10871.7	1802z	15 Feb	MXI CW Beacon "D" Sevastopol			BR	TUE
10871.8	1129z	10 Jan	MXI CW Beacon "P" Kaliningrad	(Faulty: Sending W W P)		BR	THU
10871.9	1129z	02 Jan	MXI CW Beacon "S" Severomorsk		Weak	BR	THU
10872.1	2143z	29 Jan	MXI CW Beacon "A" Astrakhan			BR	SUN
13527.7	1120z	10 Feb	MXI CW Beacon "D" Sevastopol			BR	THU
13527.9	1121z	10 Feb	MXI CW Beacon "S" Severomorsk			BR	THU
13528	1121z	10 Feb	MXI CW Beacon "C" Moscow			BR	THU
16331.7	1118z	10 Feb	MXI CW Beacon "D" Sevastopol			BR	THU
16331.9	1119z	10 Feb	MXI CW Beacon "S" Severomorsk			BR	THU
20047.7	1116z	10 Feb	MXI CW Beacon "D" Sevastopol			BR	THU
20047.9	1114z	10 Feb	MXI CW Beacon "S" Severomorsk			BR	THU

Oddities

'The Goose'

3243	1423z	06 Jan	'Goose' Marker – Night Freq.		Good	USB	chpa	THU
	2014z	12 Jan			Good		chpa	WED
	1608z	15 Jan			Moderate		chpa	SAT
	0628z	16 Jan			Moderate		chpa	SUN
	1934z	17 Jan			Moderate		chpa	MON
	1601z	18 Jan			Excellent		chpa	TUE
	1508z	19 Jan			Good		chpa	WED
	0525z	20 Jan			Excellent		chpa	THU
	1624z	21 Jan			Excellent		chpa	FRI
	1422z	23 Jan			Moderate		chpa	SUN
	0540z	25 Jan			Good		chpa	TUE
	1636z	07 Feb		Minor QSB	Moderate		chpa	MON
	0552z	28 Feb		Minor QSB	Very weak		chpa	MON
4310	0713z	18 Jan	'Goose' Marker – Day freq.	QRM from digital transmission	Moderate		chpa	TUE

'The Air Horn'

3510	1413z	06 Jan	Marker signal (Air Horn)		Moderate	USB	chpa	THU
	1602z	18 Jan			Good		chpa	TUE
	1509z	19 Jan			Weak		chpa	WED
	1626z	21 Jan		Minor QRM	Moderate		chpa	FRI
	1423z	23 Jan			Weak		chpa	SUN
	0626z	04 Feb		Minor QSB	Weak		chpa	FRI
	1637z	07 Feb		Minor QRM	Good		chpa	MON
	0626z	12 Feb			Good		chpa	MON
	0644z	18 Feb			Very weak		chpa	FRI
	0608z	26 Feb		Minor QSB	Very weak		chpa	SAT
	0620z	27 Feb		Minor QSB	Very weak		chpa	SUN
	0556z	28 Feb			Weak		chpa	MON

'The Alarm'

4770	1418z	06 Jan	Marker Signal (The Alarm)		Good	USB	chpa	THU
	1418z	13 Jan			Good		chpa	THU
	1616z	15 Jan			Good		chpa	SAT
	0631z	16 Jan			Good		chpa	SUN
	1608z	18 Jan			Good		chpa	TUE
	1514z	19 Jan			Good		chpa	WED
	1631z	21 Jan			Good		chpa	FRI
	1644z	07 Feb		Minor QSB	Good		chpa	SAT
	0630z	12 Feb		Minor QSB	Very weak		chpa	SAT
	0646z	18 Feb		Minor QSB	Weak		chpa	FRI

0613z	26 Feb			Weak		chpa	SAT
0624z	27 Feb			Weak		chpa	SUN
0601z	28 Feb		Minor QSB	Moderate		chpa	MN

S28 **'The Buzzer'**

4625	1407z	06 Jan	S28	Abnormal sound from the Buzzer	Moderate	USB	chpa	THU
	1416z	13 Jan		Abnormal sound from the Buzzer, with QRM	Moderate		chpa	THU
	1614z	15 Jan		Abnormal sound from the Buzzer, with digital QRM	Moderate		chpa	SAT
	0630z	16 Jan		Normal sound from the Buzzer	Moderate		chpa	SUN
	0715z	18 Jan		Abnormal sound from the Buzzer	Moderate		chpa	TUE
	1607z	18 Jan		Abnormal sound from the Buzzer	Good		chpa	TUE
	1513z	19 Jan		Abnormal sound from the Buzzer	Good		chpa	WED
	1630z	21 Jan		Abnormal sound from the Buzzer, minor QRM	Good		chpa	FRI
	0530z	20 Jan		Abnormal sound from the Buzzer	Weak		chpa	THU
	1427z	23 Jan		Normal sound from the Buzzer, with digital QRM	Moderate		chpa	SUN
	0544z	25 Jan		Normal sound from the Buzzer	Good		chpa	TUE
	0629z	04 Feb		Normal sound from the Buzzer	Moderate		chpa	FRI
	0629z	12 Feb		Normal sound from the Buzzer	Good		chpa	SAT
	1209z	14 Feb		Normal sound from the Buzzer	Moderate		chpa	MON
	0645z	18 Feb		Normal sound from the Buzzer	Moderate		chpa	FRI
	0611z	26 Feb		Normal sound from the Buzzer	Moderate		chpa	SAT
	0623z	27 Feb		Normal sound from the Buzzer	Weak		chpa	SUN
	0600z	28 Feb		Normal sound from the Buzzer, with digital QRM	Moderate		chpa	MON

Brixmis notes that the buzzer sound has recently changed, sounding much cleaner & less raspy than he can previously recall. In reply, Ary, (AB), reports that the signal changed to a first to a pip a few weeks ago, before changing again to the buzzing pip we have now.

It does seem that over the years, the signal has varied greatly from a brisk, sharp note to something resembling a dying buffalo & everything in between. Whether this latest innovation will be a permanent fix remains to be seen.

With the recent conflict in Ukraine, 'The Buzzer' has come under attack in recent weeks from Pop Music, digital transmissions, speech & other forms of QRM, including some innovative use of SSTV, (Slow Scan TeleVision), software to project text & images onto the waterfall display of SDR receivers. (See feature article at the top of the newsletter).

S30 **'The Pip'**

3756	1417z	06 Jan	S30	'Pip' marker (Night freq)	Moderate	USB	chpa	THU
	2022z	12 Jan			Moderate		chpa	WED
	1612z	15 Jan			Moderate		chpa	SAT
	1967z	17 Jan			Moderate		chpa	MON
	1510z	19 Jan			Moderate		chpa	WED
	0526z	20 Jan			Weak		chpa	THU
	1628z	21 Jan		Minor QRM	Moderate		chpa	FRI
	1424z	23 Jan		With QRM	Weak		chpa	SUN
5448	0545z	25 Jan	S30	'Pip' Marker (Day freq)	V. Weak	USB	chpa	TUE

S32 **'Squeaky Wheel'**

3828	2033z	12 Jan	S32	'Squeaky Wheel' marker (Night freq)	Weak	USB	chpa	THU
	1613z	15 Jan			Weak		chpa	SAT
	1983z	17 Jan			Moderate		chpa	MON
	1606z	18 Jan			Moderate		chpa	TUE
	1511z	19 Jan		With a constant tone or QRM	Good		chpa	WED
	0527z	20 Jan			Weak		chpa	THU
	1629z	21 Jan			Moderate		chpa	FRI
	1425z	23 Jan			Weak		chpa	SUN
	1641z	07 Feb			Good		chpa	MON

4182 **'T Marker'**

	2024z	12 Jan		Normal sound from the T Marker	Moderate	USB	chpa	WED
	1618z	15 Jan			Good		chpa	SAT
	1632z	16 Jan			Good		chpa	SUN
	1515z	19 Jan			Good		chpa	WED
	0531z	20 Jan			Excellent		chpa	THU
	1632z	21 Jan			Moderate		chpa	FRI
	0630z	04 Feb			Moderate		chpa	FRI
	0632z	12 Feb			Weak		chpa	SAT
	0647z	18 Feb		Minor QSB	Very weak		chpa	FRI
	0614z	26 Feb			Weak		chpa	SAT
	0625z	27 Feb			Weak		chpa	SUN
	0602z	28 Feb			Moderate		chpa	MON

All logs from chpa Monitored from Stockholm

Contributors: AB, BR, Brixmis, chpa, E.SMITH, ER, Gary, Gert, HFD, JPL, PoSW *Thank you all for your logs.*

Voice, Polytone, Tones, Hybrids and FSK

E06

Jan/Feb log:

E06 Jan/Feb log:

Monday	0210z	10628kHz	0310z	14364kHz
14/02 '537' 208 43 14424.....etc	(Thanks HfD)			
Thursday (repeats Friday)	0300z	14918kHz	0400z	12218khz
21/01 '361' 765 30 67235.....etc	(Fridays repeat copied by HfD)			(frequencies may vary slightly)
03/02	0300z	15683kHz	0400z	13373khz
'361' 287 33 53032.....etc	(Thanks HfD)			
First /Third Thursday (repeats Friday)	0600z	13945kHz	0700z	16350kHz
06/01 '139' 574 60 15340 42274 23965 95472 32910 68910 61899 63108 32041 23967 09098 33184 25390 68362 33307 35216 89587 05152 24291 65453 18066 37407 51974 21358 12262 17992 84070 33454 59639 33418 74104 49235 71962 88968 55800 48810 82265 87284 04736 96968 23943 17590 53237 61364 40419 97750 69420 5149898805 36355 36337 58193 06014 06998 92154 98233 50739 51963 17307 93885 574 60 00000				
20/01 '139' 258 60 47911 77021 14760 23817 77052 28554 65522 61959 98532 60397 24989 50678 49740 07912 87024 18625 55563 53708 30583 65036 09531 27135 85863 33270 65217 55019 56815 67068 36332 55883 60925 53254 28941 94794 72229 80539 54249 41046 78484 69131 95400 95864 88439 50829 26699 82322 50135 04298 08729 14638 66187 75201 07778 89065 16969 35892 13017 63555 27648 64331 258 60 00000				
03/02	0600z	17480kHz	0700z	20085kHz
'702' 684 59 91775 31592 36609 40827 29695 99131 26433 62583 61796 76342 97473 50027 96837 23785 11389 80755 44410 72202 10834 87738 42862 55886 55044 81000 86536 42632 38340 83875 25772 27456 27472 63493 38080 82268 78754 60188 93962 78702 20920 45530 65794 26257 14637 63649 53204 92978 24617 35552 23405 00836 65270 31110 89892 12994 05822 38417 77972 55175 45844 684 59 00000				
17/02 '702' 934 51 58378 42025 81437 56213 01065 26296 92828 42436 75522 92774 96081 12537 92752 00356 80093 57939 20606 14431 77552 45773 88163 22576 12151 98578 03510 17138 80267 46471 33313 86903 78064 06361 17664 85040 09922 67906 18607 65488 39172 90899 25794 05003 67040 43757 67711 53021 50762 37819 01908 76563 96782 934 51 00000				
Other:	0955z	10755kHz		
05/01 '975' 148 30 72357 82328 68475 61268 63470 30437 93895 23595 05424 62803 23726 87628 74521 25484 85875 56079 75099 69133 53518 69293 56337 51831 52966 13411 96750 80289 63451 87976 86042 37868 148 30....				
'975' 014 23 29770 97164 35871 86045 84999 69504 12413 12394 82110 17749 46285 41008 01406 95246 38387 22150 98071 72337 87467 59799 18163 85031 77258 014 23 00000				
Restarts during the second message			Thanks Ary	

E07

PoSW's logs mirror logs and finding in others logs

Sunday + Wednesday Schedule, 1800 UTC Start:-

2-Jan-22, Sunday:- 1800 UTC, 6963 kHz, "987 987 987 000", weak signal.
1820 UTC, 5863 kHz, also weak.

5-Jan-22, Wednesday:- 1800 UTC, 6963 kHz, very weak signal, could just hear the "000" of a "no message" transmission.
1820 UTC, 5863 kHz, stronger.

9-Jan-22, Sunday:- 1800 UTC, 6963 kHz, "987 987 987 000", S6 to S7.
1820 UTC, 5863 kHz, weaker.

12-Jan-22, Wednesday:- 1800 UTC, 6963 kHz, "987 987 987 1" for a full message, good signal, DK/GC "9062 115" x 2.
1820 UTC, 5863 kHz, S5 to S6.
1840 UTC, 4763 kHz, weak.

19-Jan-22, Wednesday:- 1800 UTC, 6963 kHz, “987 987 987 000”, S7 to S8.
1820 UTC, 5863 kHz, weaker.

23-Jan-22, Sunday:- 1800 UTC, 6963 kHz and 1820 UTC, 5863 kHz, both good signals, “987 987 987 000”.

26-Jan-22, Wednesday:- 1800 UTC, 6963 kHz, “987 987 987 1” for a full message, DK/GC “670 87” x 2, S7 with deep QSB.
1820 UTC, 5863 kHz, S5 to S6.
1840 UTC, 4763 kHz, peaking S7 to S8.

30-Jan-22, Sunday:- 1800 UTC, 6963 kHz, “987...1...670...87” again, strong signal.
1820 UTC, 5863 kHz, stronger, well over S9.
1840 UTC, 4763 kHz, S7 to S8.

2-Feb-22, Wednesday:- 1800 UTC, 8144 kHz, “197 197 197 000”, weak signal.
1820 UTC, 6944 kHz, stronger.

6-Feb-22, Sunday:- 1800 UTC, 8144 kHz, weak signal and 1820 UTC, 6944 kHz, stronger, “197 197 197 000”.

9-Feb-22, Wednesday:- 1800 UTC, 8144 kHz, “197 197 197 1”, full message, DK/GC “454 49” x 2, good signal.
1820 UTC, 6944 kHz, strong signal.
1840 UTC, 5744 kHz, even stronger.

13-Feb-22, Sunday:- 1800 UTC, 8144 kHz, “197” and “454 49” again, strong signal.
1820 UTC, 6944 kHz, S7 to S8.
1840 UTC, 5744 kHz, well over S9.

16-Feb-22, Wednesday:- 1800 UTC, 8144 kHz and 1820 UTC, 6944 kHz, both around S7, “197 197 197 000”.

23-Feb-22, Wednesday:- 1800 UTC, 8144 kHz, “197 197 197 1”, full message format, DK/GC “3831 88” x 2, good signal, weaker FSK/RTTY type signal underneath.
1820 UTC, 6944 kHz, strong, over S9.
1840 UTC, 5744 kHz, strong signal but interference from something sending bursts of noise lasting a couple of seconds several times a minute.

Saturday Schedule, 1400 UTC Start:-

8-Jan-22:- 1400 UTC, 10323 kHz, “310 310 310 000”, S5 to S6.
1420 UTC, 9123 kHz, stronger.

22-Jan-22:- 1400 UTC, 10323 kHz, “310 310 310 000”, signal up and down in strength.
1420 UTC, 9123 kHz, weak.

5-Feb-22:- 1400 UTC, 11464 kHz, “472 472 472 000”, very strong signal.
1420 UTC, 10764 kHz, slightly weaker.

12-Feb-22:- 1400 UTC, 11464 kHz, “472 472 472 1” for a full message, DK/GC “699 85” x 2, strong signal, S-meter well over the “9” for most of the time.
1420 UTC, 10764 kHz, slightly weaker.
1440 UTC, 9264 kHz, weakest of the three, S5 to S6.

19-Feb-22:- 1400 UTC, 11464 kHz, “472 472 472 000”, strong signal.
1420 UTC, 10764 kHz, much weaker.

Sunday Schedule, 0700 UTC Start:-

2-Jan-22:- 0700 UTC, 9326 kHz, “345 345 345 000”, peaking S8 with QSB.
0720 UTC, 10426 kHz, much weaker, only just readable.

9-Jan-22:- 0700 UTC, 9326 kHz. “345 345 345 000”, good signal.
0720 UTC, 10426 kHz, weak.

16-Jan-22:- 0700 UTC, 9326 kHz, very strong and 0720 UTC, 10426 kHz, weak, “345 345 345 000”.

23-Jan-22:- 0700 UTC, 9326 kHz and 0720 UTC, 10426 kHz, both weak – unusually, “345 345 345 000”.

30-Jan-22:- 0700 UTC, 9326 kHz, “345 345 345 000”, peaking around S8.
0720 UTC, 10426 kHz, S7, much stronger than usual.

6-Feb-22:- 0700 UTC, 9326 kHz and 0720 UTC, 10426 kHz, both fair signals, “345 345 345 000”.

13-Feb-22:- No great surprise - based on past observations - that this morning's transmission was a repeat of the message heard yesterday starting at 1400z:-
0700 UTC, 9326 kHz, “345 345 345 1”, DK/GC “699 85”, S7 to S8.
0720 UTC, 10426 kHz, also around S7 to S8.
0740 UTC, 11526 kHz, strongest, over S9.

20-Feb-22:- 0700 UTC, 9326 kHz, “345 345 345 000”, much weaker signal than usual.
0720 UTC, 9326 kHz, very weak.

E07 continued

Others' Logs:

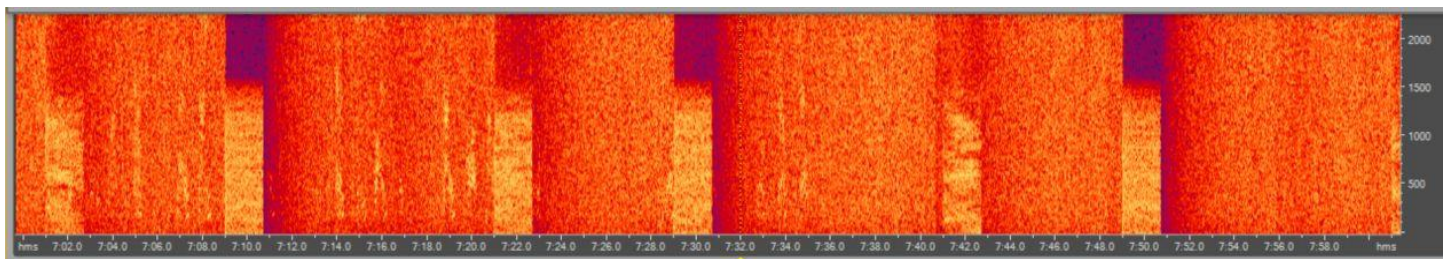
Sunday/Wednesday

January 2022

1800z	6963kHz	1820z	5863kHz	1840z	4763kHz	
02/01	987 000					Weak Dutch SDR
05/01	987 000				[1800z Dutch SDR]	Weak
09/01	987 000					Weak
12/01	987 1 9062 115 83590 ... 54422 000 000					Weak
16/01	987 1 9062 115 83590 ... 54422 000 000					Weak Dutch SDR
19/01	987 000					Weak
23/01	987 000					Weak
26/01	987 1 670 87 90412 ... 91246 000 000				[1800z QSB1]	Weak
30/01	987 1 670 87 90412 ... 91246 000 000				[1800z Weak]	Fair

February 2022

1800z	8144kHz	1820z	6944kHz	1840z	5744kHz	
02/02	197 000					Weak
06/02	197 000				[1800z TTYQRM5]	Weak
09/02	197 1 454 49 42523 ... 94942 000 000				[1840z Strong occQRM3]	Fair



QRM at end of 1840z sending on 13/02/2022

13/02	197 1 454 49 42523 ... 94942 000 000				[QRM at end of 1840z]	Fair
<p>42523 53714 77261 03801 22377 45423 81418 45983 02506 24035 55737 34957 85570 95505 94457 53700 40744 38962 04335 14151 85002 68861 55090 81055 10852 51085 61156 03170 90280 55994 97906 02958 69044 34187 75189 42874 36089 61540 41958 04184 88679 65863 44859 77321 01651 34357 99217 87316 94942 <i>Full msg Courtesy dMH</i></p>						
16/02	197 000				[1800z TTYQRM2]	Fair
20/02	197 000					Weak
23/02	197 1 3831 88 23590 ... 63615 000 000				[1800z TTYQRM2, 1840z DigiQRM3]	Fair
27/02	197 1 3831 88 23590 ... 63615 000 000					1800z Strong, 1820z Fair, 1840z Weak+QRM

Sunday/ Saturday

January 2022

0700z	9326kHz	0720z	10426kHz	0740z	11526kHz	
02/01	345 000				[PLdn 1800z NRH 1820z v.weak]	Weak
09/01	345 000					Weak
16/01	345 000					Fair
23/01	345 000				[PLdn0700z NRH; 0720z V.weak]	Weak
30/01	345 000				[0720z only]	Fair

February 2022

0700z	9326kHz	0720z	10426kHz	0740z	11526kHz	
06/02	345 000					Weak
13/02	345 1 699 85 68076 ... 49877 000 000				[see also Saturday 1400z schedule]	Fair
27/02	345 000					0700z Weak,0720z Strong

Monday/Wednesday**January 2022**

2000z	6776kHz	2020z	5767kHz	2040z	5067kHz
NRH					

February 2022

2000z	8157kHz	2020z	6857kHz	2040z	5257kHz
NRH					

Tuesday/Friday**January 2022**

0700z	14472kHz	0720z	14972kHz	0740z	16272kHz	
04/01	492 000					[0700z NRH] Weak
07/01	492 000					[0720z only] Weak
11/01	492 1 697 58 77268 ... 83906 000 000					Weak
14/01	492 1 697 58 77268 ... 83906 000 000					[Not 0700z] Weak
18/01	492 000					Weak
21/01	492 000					[0720z only] Weak
25/01	492 1 1709 58 95273 ... 33652 000 000					Weak
28/01	492 1 1709 58 95273 ... 29005 000 000					[0740z only] Weak

February 2022

0700z	15823kHz	0720z	16323kHz	0740z	18623kHz	
01/02	836 000					Weak
08/02	836 1 3398 101 53614 ... 39195 000 000					[0700z Dutch SDR] Weak
15/02	836 000					[0700z Unworkable] Weak
22/02	836 1 1361 65 53501 ... 25382 000 000				via Finnish SDR	Weak
25/02	836 1 1361 65 53501 ... 15382 000 000					0700z Weak, 0720zz Fair, 0740z Unworkable

Thursday/Saturday**January 2022**

1410z	11593kHz	1430z	10293kHz	1450z	9323kHz	
01/01	916 000					Weak
06/01	916 1 1446 42 83973 ... 58667 000 000					Weak
08/01	916 1 1446 42 83973 ... 58667 000 000					Weak
13/01	916 000					Weak
15/01	916 000					Strong
20/01	916 1 9929 67 51892 ... 74037 000 000					[1410z Dutch SDR] Weak
22/01	916 1 9929 67 51892 ... 74037 000 000					Weak

27/01	916 000					Weak
29/01	916 000					Weak

February 2022

1410z	13368kHz	1430z	12168kHz	1450z	8068kHz	
03/02	745 1 1669 54 94427... 29048 000 000					[1430z Fair] Weak
10/02	745 000					Weak
12/02	745 000					Weak
24/02	745 000					Weak
26/02	745 000					1410z Weak, 1430z Fair

Saturday

January 2022

1400z	10323kHz	1420z	9123kHz	1440z	8023kHz	
01/01	310 000					Strong
08/01	310 000					Strong
15/01	310 000					1400z Fair, 1420z Weak
22/01	310 000					Fair
29/01	310 000					1400z Strong 1420z Fair

February 2022

1400z	11464kHz	1420z	10764kHz	1440z	9264kHz	
05/02	472 000					Fair
12/02	472 1 699 85 68706 ... 49877 000 000					[see also Sunday 0700z schedule] Fair
26/02	472 000					Strong
26/02	472 000					1400z Fair, 1420z Strong

E07a

Peter's E07 a logs and detail reflect January activity and sad February loss of this stalwart number station:

Reports for the month of January shown below; nothing heard from any of these three schedules in February on the predicted frequencies, i.e. on those used in the same month in past years and searches up and down the short-wave bands in case frequencies have changed have proved fruitless. It looks as if E07a has gone.

Friday Schedule, 1610 UTC Start:-

7-Jan-22:- 1610 UTC, 7632 kHz, "688 688 688 000", around a "6" on the S-meter here.
1630 UTC, 6832 kHz, stronger.

14-Jan-22:- 1610 UTC, 7632 kHz, "688 688 688 000", S6.
1630 UTC, 6832 kHz, peaking S8.

21-Jan-22:- 1610 UTC, 7632 kHz, S7 to S8 and 1630 UTC, 6832 kHz, well over the "9", "688 688 688 000".

28-Jan-22:- 1610 UTC, 7632 kHz and 1630 UTC, 6832 kHz, both strong, "688 688 688 000".

Saturday Schedule, 0900 UTC Start:-

1-Jan-22:- 0900 UTC, 11123 kHz, "114 114 114 000", S6 to S7.
0920 UTC, 12123 kHz, stronger.

8-Jan-22:- 0900 UTC, 11123 kHz, "114 114 114 000", weak signal.
0920 UTC, 12123 kHz, much stronger.

15-Jan-22:- 0900 UTC, 11123 kHz, weak and 0920 UTC, 12123 kHz, much stronger, "114 114 114 000".

22-Jan-22:- 0900 UTC, 11123 kHz, "114 114 114 000", peaking S6.
0920 UTC, 12123 kHz, slightly stronger.

Wednesday Schedule, 2100 UTC Start:-
 12-Jan-22:- 2100 UTC, 5877 kHz, "825 825 825 000", strong signal.
 2120 UTC, 5277 kHz, weaker.

19-Jan-22:- 2100 UTC, 5877 kHz, "825 825 825 1 02698" for a full message, not many of those from E07a in recent weeks. DK/GC "704 92" x 2.
 Weak signal, much weaker than is usual for this Wednesday schedule.
 2120 UTC, 5277 kHz, stronger but still only around S7 at best.
 2140 UTC, 4577 kHz, strong "XJT" on close frequency.

26-Jan-22:- 2120 UTC, 5277 kHz, missed the 2100z sending, "825 825 825 000", strong signal.

Others' Logs:

Wednesday

January 2022

2100z	5877kHz	2120z	5277kHz	2140z	4577kHz	
05/01	825 000					Strong
12/01	825 000					Fair
19/01	825 1 02698 704 92 14975 ... 63766 000 000				[PLdn rpts 2140z QRM5]	Weak
26/01	825 000					Strong

February 2022

02/02	NRH
09/02	NRH
16/02	NRH
23/02	NRH

Thursday

January 2022

0530z	5111kHz	0550z	5811kHz	0610z	6911kHz	
06/01	189 000				[0530z QRM2]	Strong
13/01	189 000					Very strong
20/01	189 1 02698 704 92 14975 ... 63766 000 000				[0530z Very strong]	Strong QSB3
27/01	189 000					Very strong

February 2022

03/02	NRH
10/02	NRH
17/02	NRH
24/02	NRH

Friday

January 2022

1610z	7632kHz	1630z	6832kHz	1650z	5832kHz	
07/01	688 000					Fair
14/01	688 000					Strong
21/01	688 000					1610z Weak, 1630z Strong
28/01	688 000					Fair

February 2022

1610z	9347kHz	1630z	8147kHz	1650z	6847kHz
05/02	NRH			TTY on freq	
11/02	NRH				
18/02	NRH				
25/02	NRH				

Saturday

January 2022

0900z	11123kHz	0920z	12123kHz	0940z	13423kHz
01/01	114 000				Strong
08/01	114 000				Weak
15/01	114 000				0900z Weak, 0920z Strong
22/01	114 000				Weak
29/01	114 000				Weak

February 2022

0900z	11053kHz	0920z	12153kHz	0940z	13553kHz
05/02	NRH				
12/02	NRH				
19/02	NRH				
26/02	NRH				

E11&E11a log Jan/Feb

The crazy world of 121

E11 121 is back. It started its daily message on Feb 2nd at 1930z. It used the following frequencies so far:

- 4146kHz 02-02-2022 1930
- 4073 03-02-2022 1930
- 4073 04-02-2022 1930
- 4016 05-02-2022 1930
- 4099 06-02-2022 1930
- 4146 07-02-2022 1930
- 4073 08-02-2022 1930
- 4016 09-02-2022 1930

4016kHz 09-02-2022 1930 E11a USB

121/31 Attention 77656 37538 75735 76678 78533 00242 90198 28803 83884 88842 77775 73656 71873 89898 00488 58839 19919 18188 94747 88280 17347 84888 79392 76555 25536 26567 95875 66761 65307 66661 75431 (message repeated) Out (Many thanks to Ary)

E11 & E11a log Jan/Feb

4505kHz	1910z	01/01 [392/00] Out 1913z S6	Malc	SAT
	1910z	05/01 [393/00] Out 1913z	Brixmis, Malc	WED
	1910z	08/01 [391/00] Out 1913z S6	Malc	SAT
	1910z	12/01 [393/00] Out 1913z S9	Malc	WED
	1910z	15/01 [396/00] Out 1913z S3	Malc	SAT
	1910z	19/01 [390/31 96772.....72790] Out 1920z S4	Malc, Brixmis	WED
	1910z	22/01 [390/31 96772.....etc] repeat of Wednesday	Malc	SAT
	1910z	26/01 [399/00] Out 1913z S9	Malc	WED
	1910z	29/01 [396/00] Out 1913z S9	Malc	SAT
	1910z	02/02 [394/00] Out 1913z S9	Malc	WED
	1910z	09/02 [399/33 37223 06045 92959 34805 61311 78458 29570.....11771 42833] Out 1919z S8	dMHz, Malc	WED
	1910z	12/02 [399/33 37223.....etc] Repeat of Wednesday	Malc	SAT
	1910z	23/02 [390/00] Out 1913z	Brixmis	WED
	1910z	26/02 [390/00] Out 1913z S9	Malc	SAT

4909kHz	1530z	01/01 [362/38 50369.....02163] Out 1541z S6		Malc	SAT
	1300z	03/01 [344/00] Out 1303z S2 (Dutch SDR)		Malc	MON
	1300z	06/01 [312/00] Out 1303z S2		Malc	THU
	1530z	08/01 [368/00] Out 1533z S4		Malc	SAT
	1530z	09/01 [368/00] Out 1533z S3		Malc	SUN
	1300z	10/01 [315/30 66554.....74163] Out 1310z S4 (Finnish SDR)		Malc	MON
	1300z	13/01 [315/30 66554.....etc] Repeat of Monday		Malc	THU
	1530z	15/01 [363/00] Out 1533z S3		Malc	SAT
	1530z	16/01 [369/00] Out 1533z S2		Malc	SUN
	1300z	17/01 [310/00] Out 1303z S2 (Dutch SDR)		Malc	MON
	1300z	20/01 [312/00] Out 1303z S2		Malc	THU
	1530z	22/01 [366/00] Out 1533z S5		Malc	SAT
	1530z	23/01 [363/00] Out 1533z S4		Malc, Brixmis	SUN
	1300z	27/01 [314/00] Out 1303z S3 (Dutch SDR)		Malc	THU
	1530z	29/01 [369/00] Out 1533z S6		Malc	SAT
	1530z	30/01 [360/00] Out 1533z S2		Malc	SUN
	1300z	31/01 [310/00] Out 1303z S3 (Dutch SDR)		Malc	MON
	1300z	03/02 [313/00] Out 1303z S2 (Dutch SDR)		Malc	THU
	1300z	07/02 [319/00] Out 1303z S5 (Finnish SDR)		Malc	MON
	1300z	10/02 [316/00] Out 1303z S3 (Polish SDR)		Malc	THU
	1530z	12/02 [369/00] Out 1533z S3		Malc	SAT
	1530z	20/02 [367/00] Out 1533z S2		Malc	SUN
	1300z	21/02 [316/35 30817.....72131] Out 1310z S2 (Dutch SDR)		Malc	MON
	1300z	24/02 [316/35 30817.....etc] Repeat of Monday		Malc	THU
	1530z	26/02 [369/00] Out 1533z S2		Malc	SAT
	1530z	27/02 [360/00] Out 1533z S3		Malc	SUN
	1300z	28/02 [319/00] Out 1208z S2 (Dutch SDR)		Malc	MON
	5082kHz	1330z	02/01 [524/00] Out 1333z S2		Malc
1715z		05/01 [978/00] Out 1718z S3		Malc	WED
1330z		06/01 [525/00] Out 1330z S2		Malc	THU
1715z		07/01 [978/00] Out 1718z S5		Malc	FRI
1330z		09/01 [525/00] Out 1333z S2 (Dutch SDR)		Malc	SUN
1715z		12/01 [972/32 21238.....22038] Out 1725z S9		Malc	WED
1715z		14/01 [972/32 21238.....etc] Repeat of Wednesday		Malc	FRI
1330z		16/01 [525/00] Out 1333z S3 (Dutch SDR)		Malc	SUN
1530z		19/01 [977/00] Out 1533z S5		Malc, RNGB	WED
1330z		20/01 [521/00] Out 1333z S5 (Dutch SDR)		Malc	THU
1330z		23/01 [521/00] Out 1333z S2		Malc	SUN
1715z		26/01 [975/00] Out 1718z S9+QRM		Malc, Gary H	WED
1715z		28/01 [976/00] Out 1718z S4		Malc	FRI
1330z		27/01 [527/33 38885.....49527] Out 1340z S5 (Dutch SDR)		Malc	THU
1330z		30/01 [527/33 38885.....etc] Repeat of Thursday		Malc	SUN
1715z		02/02 [975/00] Out 1718z S7		Malc	WED
1330z		03/02 [521/00] Out 1333z S3 (Dutch SDR)		Malc	THU
1715z		03/02 [977/00]		Gary H	FRI
1715z		09/02 [976/31 13118.....09704] Out 1724z S6		Malc	WED
1330z		10/02 [264/31 54929.....44561] Out 1539z S4		Malc	THU
1715z		11/02 [976/31 13118.....09704] Out 1724z S4		Malc	FRI
1715z		16/02 [975/00]		Gary H	WED
1715z		18/02 [976/00]		Gary H	FRI
1330z		20/02 [527/00] Out 1333z S2		Malc	SUN
1715z		23/02 [976/00] Out 1718z S5		Malc	WED
1330z		24/02 [528/36 47985.....01602] Out 1341z S3 (Dutch SDR)		Malc	THU
1715z		25/02 [974/00]		Gary H, Malc	FRI
1330z		27/02 [528/36 47985.....etc] Repeat of Thursday		Malc	SUN
5149kHz	0820z	06/01 [434/00] Out 0823z S4		Malc	THU
	0820z	07/01 [435/00] Out 0823z S3		Malc, RNGB	FRI
	0820z	13/01 [436/35 04197.....26447] Out 0830z S3		Malc	THU
	0820z	14/01 [436/35 04197.....etc] Repeat of Thursday		Malc	FRI
	0820z	20/01 [434/00] Out 0823z S2		Malc	THU
	0820z	21/01 [438/00] Out 0823z S2		Malc	FRI
	0820z	28/01 [436/00] Out 0823z S2		Malc	FRI
	0820z	27/01 [439/00] Out 0823z S2		Malc, RNGB	THU
	0820z	03/02 [438/00] Out 0823z S2		Malc	THU
	0820z	04/02 [432/00]		RNGB	FRI
	0820z	10/02 [434/00] Out 0823z S2		Malc, RNGB	THU
	0820z	11/02 [439/00] Out 0823z S2		Malc	FRI
	0820z	24/02 [430/00] Out 0823z S2		Malc	THU
	0820z	25/02 [435/00] Out 0823z S4 (Polish SDR)		Malc	FRI

5371kHz	0730z	01/01 [495/00] Out 0733z S7	Malc, RNGB	SAT
	0730z	02/01 [497/00] Out 0733z S3	Malc	SUN
	0730z	08/01 [490/00] Out 0733z S5	Malc	SAT
	0730z	09/01 [490/00] Out 0733z S5	Malc	SUN
	0730z	15/01 [492/00] Out 0733z S4	Malc	SAT
	0730z	16/01 [496/00] Out 0733z S3	Malc	SUN
	0730z	22/01 [496/32 74005.....83435] Out 0739z S2	Malc	SAT
	0730z	23/01 [496/32 74005.....etc] Repeat of Saturday	Malc	SUN
	0730z	29/01 [490/00] Out 0733z S3	Malc	SAT
	0730z	12/02 [495/00] Out 0733z S3	Malc	SAT
	0730z	19/02 [496/00] Out 0733z	Brixmis	SUN
	0730z	26/02 [497/33 34811.....50821] Out 0740z S3	Malc	SAT
	0730z	27/02 [497/33 34811.....etc] Repeat of Saturday	Malc	SUN
	5409kHz	1530z	06/01 [269/00] Out 1533z S5	Malc, Gary H
1530z		13/01 [264/00] Out 1533z S6	Malc	THU
1530z		20/01 [269/38 95414.....36411] Out 1541z S3	Malc	THU
1530z		27/01 [269/00] Out 1533z S5	Malc	THU
1530z		03/02 [262/00] Out 1533z S8	Malc, Gary H	THU
1530z		24/02 [267/00] Out 1533z S2	Malc, Brixmis	THU
5432kHz	1605z	02/01 [232/00] Out 1608z S9	Malc, Brixmis	SUN
	1605z	04/01 [231/00] Out 1608z S9+QRM	Malc	TUE
	1605z	09/01 [230/00] Out 1608z S6	Malc	SUN
	1605z	11/01 [231/00] Out 1608z S5	Malc	TUE
	1605z	16/01 [231/00] Out 1608z S4	Malc	SUN
	1605z	18/01 [230/00] Out 1608z S4	Malc	TUE
	1605z	25/01 [230/31 49094 61115 01883 89054 52474 41670 02949.....33400 35517] Out 1614z S9	Gary H, Malc	TUE
	1605z	30/01 [230/31 49094.....etc] Repeat of Tuesday	Malc	SUN
	1605z	01/02 [233/00] Out 1608z S9	Malc	TUE
	1605z	06/02 [235/00]	Brixmis	SUN
	1605z	08/02 [237/00] Out 1608z S5	Malc	TUE
	1605z	15/02 [238/39 28998.....41774] Out 1616z S5	Malc	TUE
	1605z	20/02 [238/39 28998 76863 35940 72475 59715 48464 83586 14171 38170.....24884 41774]	Brixmis, Malc	SUN
	1605z	22/02 [231/00] Out 1608z S4	Malc	TUE
1605z	27/02 [230/00] Out 1608z S6	Malc	SUN	
5779kHz	1730z	06/01 [412/00] Out 1733z S2	Malc	THU
	1730z	13/01 [410/38 05946 50286 76020 62571 52103 69047 75332 62305.....33304 68990] Out 1741z	Gary H, Malc	THU
	1730z	20/01 [418/00]	Gary H	THU
	1730z	27/01 [410/00]	Gary H	THU
	1730z	03/02 [428/00] Out 1733z S6	Malc	THU
	1730z	10/02 [410/00] Out 1733z S4	Malc	THU
	1730z	24/02 [415/31 97545.....04230] Out 1740z S4	Malc	THU
6433kHz	1205z	04/01 [465/00] Out 1208z S3 (Dutch SDR)	Malc	TUE
	1205z	05/01 [460/00] Out 1205z S3 (Dutch SDR)	Malc	WED
	1205z	11/01 [464/00] Out 1208z S2 (Dutch SDR)	Malc	TUE
	1205z	18/01 [464/34 71626.....18215] Out 1215z S2	Malc	TUE
	1205z	19/01 [464/34 71626.....etc] Repeat of Tuesday	Malc	WED
	1205z	25/01 [462/00] Out 1208z S2	Malc	TUE
	1205z	26/01 [466/00] Out 1208z S2	Malc, dMHz	WED
	1205z	01/02 [464/32 54390.....92551] 1214z S2 (Dutch SDR)	Malc	TUE
	1205z	02/02 [464/32 54390.....etc] Repeat of Tuesday	Malc	WED
	1205z	08/02 [465/00] Out 1208z S3+QRM	Malc	TUE
	1205z	09/02 [462/00] Out 1208z S2 (Dutch SDR)	Malc	WED
	1205z	15/02 [469/00] Out 1208z S2	Malc	TUE
	1205z	22/02 [461/00] Out 1208z S4 (Polish SDR)	Malc	TUE
	1205z	23/02 [466/00] Out 1208z S2	Malc	WED
6804kHz	0700z	04/01 [573/33 93879 47837 71899 30443 95652 76735 14205 25519.....20533 91098] Out 0710z	RNGB, Malc	TUE
	0700z	11/01 [570/00] Out 0703z S3	Malc	TUE
	0700z	25/01 [579/00] Out 0703z S3	Malc	TUE
	0700z	01/02 [571/00] Out 0703z S3	Malc, RNGB	TUE
	0700z	08/02 [579/00] Out 0703z S3	Malc	TUE
	0700z	15/02 [576/00] Out 0703z S3	Malc, RNGB	TUE
	0700z	22/02 [577/40 14630.....85666] Out 0711z S2	Malc	TUE
6849kHz	1815z	02/01 [927/00] Out 1818z S3 (Dutch SDR)	Malc	SUN
	1900z	03/01 [648/00] Out 1903z S2 (Dutch SDR)	Malc	MON
	1900z	06/01 [641/00] Out 1903z S2	Malc	THU
	1815z	07/01 [924/00] Out 1818z S3 QSB2	Malc	FRI

1815z	09/01	[922/00] Out 1818z S9	Malc	SUN
1900z	10/01	[649/00] Out 1903z S2 (Dutch SDR)	Malc	MON
1900z	13/01	[646/00] Out 1903z S2	Malc	THU
1815z	14/01	[926/00] Out 1818z S9	Malc	FRI
1900z	20/01	[644/36 51678.....21487] Out 1910z S2	Malc	THU
1815z	21/01	[926/35 44576.....24791] Out 1825z S5	Malc	FRI
1815z	23/01	[926/35 44576....etc] Repeat of Friday	Malc	SUN
1900z	27/01	[640/00] Out 1903z S5 (Dutch SDR)	Malc, Brixmis	THU
1815z	28/01	[929/00] Out 1818z S2	Malc	FRI
1815z	30/01	[925/00] Out 1818z S4	Malc	SUN
1900z	03/02	[641/00] Out 1903z S3	Malc	THU
1900z	07/02	[648/00] Out 1903z	Brixmis, Malc	MON
1900z	10/02	[648/00] Out 1903z S9	Malc	THU
1815z	11/02	[921/39 24281.....75977] Out 1826z S3	Malc	FRI
1900z	17/02	[647/35 89223 99045 01086 67425 11580 58717.....etc]	Brixmis	THU
1815z	20/02	[924/00] Out 1818z S4	Malc	SUN
1900z	21/02	[641/00] Out 1903z S9	Malc	MON
1900z	24/02	[640/00] Out 1903z S3	Malc	THU
1815z	25/02	[921/00] Out 1818z S7	Malc	FRI
1815z	27/02	[925/00] Out 1818z S7	Malc	SUN
1900z	28/02	[641/00] Out 1903z S4	Malc	MON
7469kHz	0930z	05/01 [279/00] Out 0933z S3	Malc, RNGB	WED
	0930z	06/01 [279/00] Out 0930z S3	Malc	THU
	0930z	12/01 [275/00] Out 0933z S3	Malc	WED
	0930z	13/01 [273/00] Out 0933z S3	Malc	THU
	0930z	19/01 [279/40 11815.....27492] Out 0941z S3	Malc	WED
	0930z	20/01 [279/40 11815....etc] Repeat of Wednesday	Malc	THU
	0930z	26/01 [271/00] Out 0930z S2	Malc	WED
	0930z	27/01 [275/00] Out 0933z S2	Malc	THU
	0930z	03/02 [276/00] Out 0933z S4 (Dutch SDR)	Malc, RNGB	THU
	0930z	09/02 [697/30 08740.....90252] Out 1054z S2	Malc	WED
	0930z	10/02 [271/00] Out 0933z S2	Malc	THU
	0930z	17/02 [273/00]	RNGB	THU
	0930z	23/02 [276/34 61656.....55491]	Malc	WED
	0930z	24/02 [276/34 61656.....etc] Repeat of Wednesday	Malc	THU
7984kHz	1045z	03/01 [693/00] Out 1048z S2	Malc	MON
	1045z	10/01 [693/00] Out 1048z S5 (Dutch SDR)	Malc	MON
	1045z	12/01 [698/00] Out 1048z S2	Malc	WED
	1045z	17/01 [694/00] Out 1048z S3	Malc	MON
	1045z	19/01 [690/00] Out 1048z S5 (Dutch SDR)	Malc	WED
	1045z	24/01 [693/40 02637.....11638] Out 1056z S2	Malc	MON
	1045z	26/01 [693/40 02637....etc] Repeat of Monday	Malc	WED
	1045z	31/01 [698/00] Out 1048z S2	Malc	MON
	1045z	02/02 [694/00] Out 1048z S5 (Dutch SDR)	Malc	WED
	1045z	07/02 [697/30 08740.....90252] Out 1054z S4 (Dutch SDR)	Malc	MON
	1045z	23/02 [693/00] Out 1048z S2	Malc	WED
	1045z	28/02 [696/00] Out 1048z S3	Malc	MON
9079kHz	1000z	04/01 [300/00] Out 1003z S3	Malc	TUE
	1000z	07/01 [308/00] Out 1003z S4	Malc, RNGB	FRI
	1000z	11/01 [300/22 15119.....69738] Out 1008z S3	Malc	TUE
	1000z	14/01 [300/22 15119....etc] Repeat of Tuesday	Malc	FRI
	1000z	21/01 [306/00] Out 1003z S2	Malc	FRI
	1000z	25/01 [302/00] Out 1003z S3	Malc	TUE
	1000z	28/01 [302/00] Out 1003z S2	Malc	FRI
	1000z	01/02 [308/00] Out 1003z S5	Malc	TUE
	1000z	08/02 [305/00] Out 1003z S3	Malc	TUE
	1000z	11/02 [307/00] Out 1003z S3	Malc	FRI
	1000z	15/02 [300/00] Out 1003z S3	Malc, RNGB	TUE
	1000z	22/02 [307/21 37928.....87213] Out 1007z S3	Malc	TUE
	1000z	25/02 [307/21 37928....etc] Repeat of Tuesday	Malc	FRI
9130kHz	0715z	04/01 [631/00] Out 0718z S2	Malc, RNGB	TUE
	0715z	07/01 [633/00] Out 0718z S4	Malc	FRI
	0715z	11/01 [631/00] Out 0718z S4	Malc	TUE
	0715z	14/01 [631/00] Out 0718z S6	Malc	FRI
	0715z	18/01 [639/00] Out 0718z S3	Malc, RNGB	TUE
	0715z	21/01 [630/00] Out 0718z S2	Malc	FRI
	0715z	25/01 [635/38 93150.....29005] Out 0726z S4	Malc	TUE
	0715z	01/02 [630/38 77654 68094 88914 01971 66320 70907 34262.....46305 87446] Out 0726z	RNGB, Malc	TUE

	0715z	08/02 [636/00] Out 0718z S2		Malc	TUE
	0715z	11/02 [634/00] Out 0718z S6		Malc	FRI
	0715z	15/02 [635/00] Out 0718z S4		Malc, RNGB	TUE
	0715z	18/02 [637/00]		RNGB	FRI
	0715z	22/02 [633/00] Out 0718z S5		Malc, RNGB	TUE
	0715z	25/02 [634/00] Out 0718z S4		Malc	FRI
10213kHz	0745z	03/01 [269/00] Out 0748z S6		Malc	MON
	0745z	10/01 [268/00] Out 0748z S9		Malc	MON
	0745z	10/01 [268/00] Out 0748z S9		Malc	MON
	0745z	17/01 [269/38 95414.....36411] Out 0756z S4		Malc	MON
	0745z	24/01 [261/00] Out 0748z S5		Malc	MON
	0745z	31/01 [268/00] Out 0748z S8		Malc	MON
	0745z	07/02 [264/31 54929.....44561] Out 0754z S5		Malc	MON
	0745z	21/02 [262/00] Out 0748z S8		Malc	MON
10487kHz	1910z	02/01 [610/00] Out 1913z S9 (Finnish SDR)		Malc	SUN
	1910z	07/01 [617/00] Out 1913z S2		Malc	FRI
	1910z	09/01 [613/00] Out 1913z S4 (Finnish SDR)		Malc	SUN
	1910z	14/01 [614/00] Out 1913z S2 (Finnish SDR)		Malc	FRI
	1910z	16/01 [618/00] Out 1913z S2 (Russian SDR)		Malc	SUN
	1910z	23/01 [611/00] Out 1913z S3 (Finnish SDR)		Malc	SUN
	1910z	28/01 [618/37 92794.....51393] Out 1921z S5 (Dutch SDR)		Malc	FRI
	1910z	30/01 [618/37 92794etc] Repeat of Friday		Malc	FRI
	1915z	20/02 [617/00] Out 1918z S2 (Dutch SDR)		Malc	SUN
	1910z	25/02 [618/00] Out 1913z S2 (Polish SDR)		Malc	FRI
	1910z	27/02 [612/00] Out 1913z S9		Malc	SUN
11092kHz	0900z	03/01 [533/00] Out 0903z S5		Malc	MON
	0900z	05/01 [537/00] Out 0903z S5		Malc, RNGB	WED
	0900z	10/01 [530/32 36139 59192 97982 26013 08741 66508 17561.....14334 83271] Out 0910z S3		RNGB, Malc	MON
	0900z	12/01 [530/32 36139.....etc] Repeat of Monday		Malc	WED
	0900z	17/01 [530/00] Out 0903z S3		Malc	MON
	0900z	19/01 [538/00] Out 0903z S2		Malc	WED
	0900z	24/01 [535/00] Out 0903z S3		Malc	MON
	0900z	26/01 [535/00] Out 0903z S2		Malc	WED
	0900z	31/01 [537/00] Out 0903z S4		Malc	MON
	0900z	02/02 [533/00] Out 0903z S3+QRM		Malc	WED
	0900z	09/02 [532/00] Out 0903z S3+QRM		Malc, RNGB	WED
	0900z	16/02 [534/00]		RNGB	WED
	0900z	21/02 [533/33 70953.....82378] Out 0910z S4		Malc	MON
	0900z	23/02 [533/33 70953.....etc] Repeat of Monday		Malc	WED
	0900z	28/02 [530/00] Out 0903z S4		Malc	MON
11104kHz	0715z	03/01 [754/00] Out 0718z S2		Malc	MON
	0715z	05/01 [752/00] Out 0718z S2		Malc	WED
	0715z	10/01 [753/38 30883..... 35260] Out 0726z S6		Malc	MON
	0715z	12/01 [753/38 30883.....etc] Repeat of Monday		Malc	WED
	0715z	17/01 [757/00] Out 0718z S4		Malc	MON
	0715z	19/01 [757/00] Out 0718z S2		Malc	WED
	0715z	24/01 [750/00] Out 0718z S6		Malc	MON
	0715z	26/01 [750/00] Out 0718z S2+QRM		Malc	WED
	0715z	31/01 [754/00] Out 0718z S4+QRM		Malc	MON
	0715z	02/02 [759/00] Out 0718z S7		Malc	WED
	0715z	07/02 [755/00] Out 0718z S4		Malc	MON
	0715z	09/02 [759/00] Out 0718z S6		Malc	WED
	0715z	21/02 [757/32 46110 37933 24276 58713 02784 85787 54414.....92367 06138] Out 0725z S7		RNGB, Malc	MON
	0715z	23/02 [757/32 46110.....etc] Repeat of Monday		Malc	WED
	0715z	28/02 [267/00] Out 0718z S7		Malc	MON
12067kHz	0845z	03/01 [710/00] Out 0848z S7		Malc	MON
	0845z	05/01 [716/00] Out 0848z S3		Malc	WED
	0845z	10/01 [716/35 33397.....01350] Out 0855z S8		Malc	MON
	0845z	12/01 [716/35 33397.....etc] repeat of Monday		Malc	WED
	0845z	17/01 [714/00] Out 0848z S4		Malc, RNGB	MON
	0845z	19/01 [716/00] Out 0848z S2		Malc, RNGB	WED
	0845z	24/01 [716/00] Out 0848z S2		Malc	MON
	0845z	26/01 [716/00] Out 0848z S3		Malc	WED
	0845z	31/01 [714/00] Out 0848z S4		Malc	MON
	0845z	02/02 [716/00] Out 0848z S5		Malc	WED
	0845z	07/02 [711/00] Out 0848z S4		Malc	MON
	0845z	09/02 [715/00] Out 0848z S3		Malc, RNGB	WED

	0845z	16/02 [710/00]		dMHz, RNGB	WED
	0845z	21/02 [719/39 65312.....87094] Out 0856z S6		Malc	MON
	0845z	23/02 [719/39 65312.....etc] repeat of Monday		Malc	WED
	0845z	28/02 [715/00] Out 0848z S6		Malc	MON
12924kHz	1745z	02/01 [247/00] Out 1748z S3 (Dutch SDR)		Malc	SUN
	1745z	03/01 [248/00] Out 1748z S2 (Dutch SDR)		Malc	MON
	1745z	09/01 [247/00] Out 1748z S3 (Polish SDR)		Malc	SUN
	1745z	10/01 [249/00] Out 1748z S2 (Polish SDR)		Malc	MON
	1745z	17/01 [245/34.....] too weak to copy		RNGB	MON
	1745z	30/01 [248/00] Out 1748z S2 (Dutch SDR)		Malc	SUN
	1745z	31/01 [249/00] Out 1748z S3 (Polish SDR)		Malc, Gary H	MON
	1745z	07/02 [242/00] Out 1748z S3		Malc	MON
	1745z	20/02 [247/00] Out 1748z S2 (Dutch SDR)		Malc	SUN
	1745z	21/02 [245/31 87137.....20803] Out S3 (Dutch SDR)		Malc	MON
	1745z	27/02 [245/31 87137.....etc] Repeat of Monday		Malc	SUN
	1745z	28/02 [242/00] Out 1748z S2 (Dutch SDR)		Malc	MON
13046kHz	0845z	06/01 [159/00] Out 0848z S5		Malc	THU
	0845z	11/01 [159/00] Out 0848z S6		Malc	TUE
	0845z	13/01 [154/00] Out 0848z S6		Malc	THU
	0845z	18/01 [152/00] Out 0848z S3		Malc, RNGB	TUE
	0845z	20/01 [152/00] Out 0848z S4		Malc, RNGB	THU
	0845z	25/01 [157/23 09757.....71366] Out 0853z S4		Malc	TUE
	0845z	27/01 [157/23 09757.....etc] Repeat of Tuesday		Malc	THU
	0845z	01/02 [155/00] Out 0848z S6		Malc, RNGB	TUE
	0845z	03/02 [150/00]		RNGB	THU
	0845z	08/02 [159/00] Out 0848z S6		Malc	TUE
	0845z	10/02 [150/00]		RNGB	THU
	0845z	15/02 [151/30 23230 07274 47686 04826 18110 46033 63003.....079943 83703] Out 0854z S6		RNGB, Malc	TUE
	0845z	22/02 [159/00] Out 0848z S3 (Polish SDR)		Malc, RNGB	TUE
13363kHz	1430z	01/01 [918/00] Out 1433z S6		Malc	SAT
	1430z	04/01 [912/00] Out 1433z S5		Malc	TUE
	1430z	08/01 [917/00] Out 1433z S3		Malc	SAT
	1430z	11/01 [912/32 14776.....34418] Out 1440z S2 (Dutch SDR)		Malc	TUE
	1430z	15/01 [912/32 14776.....etc] Repeat of Tuesday		Malc	SAT
	1430z	18/01 [919/00] Out 1433z S3		Malc	TUE
	1430z	22/01 [914/00] Out 1433z S6		Malc, RNGB	SAT
	1430z	25/01 [917/00] Out 1433z S4		Malc	TUE
	1430z	29/01 [919/00] Out 1433z S3		Malc	SAT
	1430z	01/02 [915/00] Out 1433z S3		Malc	TUE
	1430z	08/02 [917/00] Out 1433z S4		Malc	TUE
	1430z	12/02 [915/00] Out 1433z S3		Malc	SAT
	1430z	15/02 [914/39 77599.....68021] Out 1346z S6		Malc	TUE
	1430z	22/02 [918/00] Out 1433z S4		Malc	TUE
	1430z	26/02 [914/00] Out 1433z S4		Malc	SAT
13908kHz	0745z	04/01 [221/00] Out 0748z S3		Malc, RNGB	TUE
	0745z	06/01 [221/00] Out 0748z S4 (Dutch SDR)		Malc	THU
	0745z	11/01 [227/00] Out 0748z S3		Malc, RNGB	TUE
	0745z	13/01 [229/00] Out 0748z S2		Malc	THU
	0745z	18/01 [221/33 13938 75834 08505 00204 49987 39341 38177 07885.....78624] Out 0755z S2		RNGB, Malc	TUE
	0745z	25/01 [225/00] Out 0748z S2		Malc	TUE
	0745z	27/01 [221/00] Out 0748z S2		Malc	THU
	0745z	01/02 [220/00] Out 0748z S6		Malc, RNGB	TUE
	0745z	03/02 [228/00] Out 0748z S2		Malc, RNGB	THU
	0745z	08/02 [224/00] Out 0748z S8 QSB3		Malc	TUE
	0745z	10/02 [228/00] Out 0748z S4		Malc, RNGB	THU
	0745z	15/02 [227/36 44391.....42092] Out 0756z S5		Malc	TUE
	0745z	22/02 [228/00] Out 0748z S2 (Finnish SDR)		Malc	TUE
	0745z	24/02 [221/00] Out 0748z S2		Malc	THU
14611kHz	0820z	04/01 [136/00] Out 0823z S3		Malc, RNGB	TUE
	0820z	05/01 [131/00] Out 0823z S3		Malc, RNGB	WED
	0820z	11/01 [130/36 42916 52894 23731 34250 18468 19498 73507.....52433 94288] Out 0830z S7		RNGB, Malc	TUE
	0820z	12/01 [130/36 42916.....etc] Repeat of Tuesday		Malc	WED
	0820z	18/01 [135/00] Out 0823z S3		Malc	TUE
	0820z	19/01 [132/00] Out 0823z S6		Malc, RNGB	WED
	0820z	25/01 [130/00] Out 0823z S2		Malc	TUE
	0820z	26/01 [133/00] Out 0823z S2		Malc	WED
	0820z	01/02 [131/00] Out 0823z S7		Malc	TUE

0820z	02/02 [138/00] Out 0823z S5	Malc, RNGB	WED
0820z	08/02 [130/31 24501.....34151] Out 0829z S9 QSB4	Malc	TUE
0820z	09/02 [130/31 24501....etc] Repeat of Tuesday	Malc	WED
0820z	15/02 [130/00] Out 0823z S6	Malc, RNGB	TUE
0820z	22/02 [135/00] Out 0823z S3 (Polish SDR)	Malc	TUE
0820z	23/02 [136/00] Out 0823z S2 (Dutch SDR)	Malc	WED
14940kHz	0830z 03/01 [183/00] Out 0833z S3 (Dutch SDR)	Malc	MON
	0830z 07/01 [189/00] Out 0833z S3	Malc, RNGB	FRI
	0830z 10/01 [185/00] Out 0833z S5	Malc	MON
	0830z 17/01 [180/21 27275 58137 70243 94190 93269 52044 75542.....66178 77069] Out 0837z	RNGB, Malc	MON
	0830z 21/01 [180/21 27275.....etc] Repeat of Monday	Malc	FRI
	0830z 24/01 [182/00] Out 0833z S6	Malc, RNGB	MON
	0830z 31/01 [180/00] Out 0833z S4	Malc	MON
	0830z 07/02 [184/34 97504 01616 22531 98378 02112 09522 52516.....56417] Out 0840z S9	RNGB, Malc	MON
	0830z 11/02 [184/34 97504.....etc] Repeat of Monday	Malc	FRI
	0830z 21/02 [182/00] Out 0833z S2 (Dutch SDR)	Malc	MON
	0830z 25/02 [188/00]	RNGB	FRI
	0830z 28/02 [182/00] Out 0833z S2	Malc, RNGB	MON
16005kHz	0640z 17/01 [945/00]	RNGB	MON
	0640z 21/02 [940/26 71271 04624 39225 70924 96078 52466 72069 43794 01520.....91816]	RNGB	MON
17378kHz	0745z 05/01 [343/00] Out 0748z S2	Malc	WED
	0745z 07/01 [349/00] Out 0748z S2 (Dutch SDR)	Malc	FRI
	0745z 12/01 [340/00] Out 0748z S2 (Dutch SDR)	Malc	WED
	0745z 14/01 [349/00] Out 0748z S3 (Dutch SDR)	Malc	FRI
	0745z 19/01 [346/34 46742.....98201] Out 0755z S3 (Dutch SDR)	Malc	WED
	0745z 20/01 [346/34 46742.....etc] Repeat of Wednesday	Malc	FRI
	0745z 26/01 [349/00] Out 0748z S2 (Dutch SDR)	Malc	WED
	0745z 28/01 [343/00] Out 0748z S3 (Dutch SDR)	Malc	FRI
	0745z 02/02 [343/37 51143 33642 73059 73935 58972 28457 86677.....97777 84337] Out 0735z S2	RNGB, Malc	WED
	0745z 09/02 [347/00] Out 0748z S2	Malc	WED
	0745z 16/02 [343/00]	RNGB	WED
	0745z 18/02 [347/00]	FRI	FRI
	0745z 23/02 [348/00] Out 0748z S2 (Dutch SDR)	Malc	WED
	0745z 25/02 [342/00] Out 0748z S4 (Polish SDR)	Malc	FRI

E17z

Thursday

January 2022

0800z	11170kHz	0810z	9820kHz	
06/01	217 408 5 81413 94073 83531 94063 63156 408 5 00000			Weak
	0800z 217 Tx fail at 3mins then 408 5 81413 94073 83531 94063 63156 408 5 00000			
13/01	217 408 5 81413 94073 83531 94063 63156 408 5 00000			Weak
20/01	217 490 5 13621 26252 82057 44817 89106 490 5 00000			Weak Dutch SDR

February 2021

03/02	217 890 5 64906 66610 20336 17301 88554 890 5 00000	[0800z DutchSDR]	Weak
10/02	217 890 5 64906 66610 20336 17301 88554 890 5 0000	Weak, voa Diutch SDR	
24/02	NRH		

G06

Further traffic no longer expected; previously heard as G06 and variant G06b [Previously G906] as part of Russian Exercise/Radio War CIS vs UKR.

S06

S06 log Jan 2022

Thursdays (Repeats Friday)

	0830z	16243kHz	0930z	13469kHz
13/01	'842' 169 50 84109 39469 04391 83389 44325 73547 41639 13201 57600 92951 63463 44691 18601 74210 43504 76022 42925 94211 35705 99452 79521 11055 72329 60159 48599 72342 99184 01114 09713 74357 65236 79916 89708 20551 08812 68549 25227 52787 07568 71971 99436 53779 84417 26501 77697 44152 86600 63922 71838 22573 169 50 00000			
20/01	'842' 765 30 67235 52022 27560 80166 27377 57305 66178 81069 04841 78788 91601 34057 78345 85149 97583 34737 35092 33170 46906 66415 13651 00927 31105 67517 84838 10935 79918 47551 75270 66663 765 30 00000			
27/01	'842' 905 31 56433 11320 39706 64801 98114 88950 14878 80349 97234 06194 83052 99648 29126 58934 94714 05472 34384 58811 26397 47161 68099 98155 99109 01516 48027 09556 69908 99392 31355 68486 38796 905 31 00000			

Fridays (1st & 3rd)

	2000z	7672khz	2100z	5457kHz
07/01	'319' 00000			
21/01	'319' 00000			

Other transmissions:

	0740z	11073kHz
11/01	'352' 698 17 11005 46033 47972 56824 47681 13967 25538 09808 16794 72589 44410 35228 10407 29375 52687 02159 91834 698 17] '352' 761 40 87213 70579 01208 40467 77924 48876 36227 32349 16861 19197 56169 24438 92604 41519 21251 94449 51927 15597 34713 56936 24273 72118 42354 74677 97507 20209 13796 93776 37123 12218 10179 90881 66098 11732 67966 15970 47573 75746 53559 83138 761 40 00000	

Restarts during both messages Thanks Ary

	1300z	7377kHz	1330z	5410kHz
29/01	'480' 791 45 26968 41395 63128 96786 40981 20337 35927 48027 34648 30416 98984 84605 62432 92695 18405 48811 46057 69549 98345 46084 51275 56631 32823 01662 61147 39116 81816 88102 52005 49441 82272 69397 10380 76271 14863 88731 73774 73536 63766 95243 28064 45881 72465 94685 14422 791 45 00000] 1313z			

	0930z	9946kHz	1000z	8095kHz
30/01	'480' 791 45 26968.....etc (Repeat of Saturdays' message)			

S06s Jan log:

Monday

3rd/10th	0630/0640z	13470/16515	'462' 837 5 10597 23521 47660 92883 69901
17th/24th			'462' 897 5 46062 68672 97478 39685 30485
3rd/10th	0830/0840z	8057/8530	'764' 810 5 77282 15894 05811 78988 20222
17th/24th			'764' 930 5 65906 66610 20336 17301 88554
3rd/10th	0900/0910z	14675/12830	'232' 819 5 73535 60293 67626 29200 22247
17th/24th			'232' 917 5 11171 64385 82707 06123 22536
3rd/10th	1300/1310z	8420/10635	'149' 820 5 52356 60315 07843 14634 76398
17th/24th			'149' 867 5 88569 89617 25757 77159 95225

Tuesday

4th/11th	0600/0610z	16145/14240	'438' 972 5 09807 09582 75973 57586 07568
18th/25th			'438' 210 5 48754 65125 41879 84548 42036
4th/11th	0700/0710z	5250/6320	'452' 983 6 34756 21112 72832 79961 20336 17309
18th/25th			'452' 971 6 95225 84090 09531 88430 33240 61135
4th/11th	0730/0740z	7410/11532	'427' 805 6 06376 48057 13361 19474 34978 46512
18th/25th			'427' 901 5 15899 50387 45847 23013 89758
4th/11th	0800/0810z	11945/13195	'127' 450 6 22192 27868 19761 57217 91858 57634
18th/25th			'127' 405 6 52343 79628 42432 56075 56281 47665
4th/11th	1000/1010z	6440/5660	'427' 810 5 11171 64385 82707 06133 22536
18th/25th			'427' 801 5 23247 94961 35826 65906 77233
4th/11th	1100/1110z	5035/5975	'265' 819 7 88620 58069 67132 74537 57440
18th/25th			'265' 891 7 33796 13577 74526 46647 79302 53516 25616

Wednesday

5th/12th	0830/0840z	7062/10532	'464' 297 5 83630 93731 58194 77985 88222
19th/26th			'464' 298 5 26605 94742 27434 31321 09233
5th/12th	1000/1010z	12365/14280	'276' 894 5 58825 26990 68923 04709 84174
19th/26th			'276' 498 5 51404 71387 62783 50983 57191

Thursday

6th/13th (E17z)	0800/0810z	11170/9820	'217' 408 5 81413 94073 83531 94063 63156
20th/27th			'217' 490 5 13621 26252 82057 44817 89106
6th/13th	0830/0840z		'172' See note below
20th/27th			'172'
6th/13th	0930/0940z	8812/9540	'698' 243 5 52343 79628 42432 56075 56281
20th/27th			'698' 204 5 83630 93731 58291 64212 67195

6th/13th 1200/1210z 12155/10920 '175' 439 6 49686 96643 63647 64427 06676 52746
20th/27th '175' 829 6 04537 87875 47152 23486 80331 17613

Friday

7th/14th 0830/0840z 11040/12153 '156' 982 7 77620 38569 51722 64337 57220 20498 22421
21st/28th '156' 923 7 04537 87875 47152 23486 80331 17613 74220
7th/14th 0900/0910z 5765/6315 '239' 870 5 52402 62939 92688 12500 64238
21st/28th '239' 847 5 73943 36679 05666 60982 08338

Saturday

1st 0800/0810z 8680/8260 '132' 467 5 17099 94961 35826 65906 77233

Note: S06s ID 172 has been sending nulls since middle of last month.
Heard on Thursday 5th & 13th January at 0830z, then at 10 minute intervals sending '172' 00000 for 4 minutes.
Frequencies 9921, 9379, 11550, 12142, 13375, 13875 and 14986kHz (in that order)

S06 log Feb 2022

Thursdays (Repeats Friday) 0830z 17440kHz 0930z 15614kHz (frequencies may vary +/- 15kHz)

03/02 '842' 176 32 43448 36738 14987 64571 25895 33041 64019 83162 65212 57430 04965 82779 37248 84924 66790 52660 85236 91915 07611 39115
94420 48062 67881 80242 09364 21556 90487 75106 23608 46205 49910 98334 176 32 00000
10/02 '842' 509 33 56726 26993 44901 53984 55318 57725 54143 11578 67692 79024 44784 20560 66782 21837 77974 93783 27375 87706 74501 75500
47271 23334 31318 42725 47844 92099 22920 30909 96173 53503 42289 57375 15956 509 33 00000
17/02 '842' 716 34 65140 25899 71878 92300 70106 77965 38193 02910 63951 79227 44822 38346 55997 30861 45477 81297 05356 31829 26933 00477
04791 66907 92934 88898 65834 01068 79839 60846 97377 41142 08686 30967 94894 50703 716 34 00000
(used 17432kHz & 15608kHz)
24/02 '842' 709 35 97548 03290 81108 27627 31544 53769 33204 72426 06346 27799 33434 73884 64685 22307 57822 44028 01248 58450 25799 23250
09176 32877 50270 99389 19250 32369 04576 11295 61426 60302 48536 47790 03434 48356 80765 709 35 00000

Fridays (1st & 3rd) 2000z 7672khz 2100z 5457kHz

04/02 '319' 00000
18/02 '319' 00000

Other transmissions:

Saturday 1300z 8116kHz 1330z 5412kHz

05/02 '480' 723 45 13303.....etc (thanks HfD)
12/02 '480' 519 42 84676 22763 63948 35769 95824 79412 98651 94441 68080 27882 77305 23843 95883 08867 73626 67677 92924 75241 15470 32175
64478 75710 14096 73995 85328 87650 23576 55716 55206 60429 13963 73321 22894 94543 02359 17202 33903 47724 14863 70931
67461 66089 519 42 00000] 1312z
26/02 '480' 531 40 56799 23171 12538 90406 07309 11939 47843 07747 55613 13621 64782 61188 95389 50048 29275 46166 33523 55941 82452 21222
19101 18485 00621 22894 94543 02359 17202 33903 47724 14863 70931 67471 66089 57923 15689 38290 64137 99288 71561 84703
531 40 00000] 1312z

Sunday 0930z 10423kHz 1000z 8167kHz

13/02 '480' 519 42 84676 22763.....etc
27/02 \480\ 531 40 56799 23171.....etc

S06s transmissions ceased on the 24th February following the Russian invasion of Ukraine

S06s Feb log:

Monday

7th/14th 0630/0640z 13470/16515 '462' 983 5 88280 84116 53718 78927 34694
21st '462' 801 5 77620 48069 62733 74526 56440
7th/14th 0830/0840z 8057/8530 '764' 892 5 88146 57856 98825 82707 06123
21st '764' 208 5 46062 68672 97478 39685 30485
7th/14th 0900/0910z 14675/12830 '232' 875 6 88569 89617 25757 77159 95225 22536
21st '232' 409 5 21767 53762 11834 81022 36905
7th/14th 1300/1310z 8420/10635 '149' 830 5 52343 79628 42432 56075 40614
21st '149' 203 5 47665 94092 48521 63888 92060

Tuesday

1st/8th 0600/0610z 16145/14240 '438' 296 5 96521 42341 52344 81413 11749
15th/22nd '438' 271 5 88280 84116 53718 78927 34694
1st/8th 0700/0710z 5250/6320 '452' 961 7 75357 55678 79628 94083 70552 65125 71736
15th/22nd '452' 806 7 17975 21816 42997 94184 47374 74154 08531

1st/8th	0730/0740z	7410/11532	'427' 986 5 46062 68672 97478 39685 30485
15th/22nd			'427' 8156 81413 94073 83531 94063 63156
1st/8th	0800/0810z	11945/13195	'127' 853 6 21767 53672 11834 81022 36903 41412
15th/22nd			'127' 896 5 21767 53672 11843 81022 36903
1st/8th	1000/1010z	6440/5660	'427' 935 6 05899 50387 45847 23013 87758 52434
15th/22nd			'427' 835 6 88554 82045 36717 24042 46956 31670
1st/8th	1100/1110z	5035/5975	'265' 830 7 33796 13577 74526 46647 79302 53516 25616
15th/22nd			'265' 947 8 92699 14600 74248 48754 65125 41879 84648 47660

Wednesday

2nd/9th	0830/0840z	7062/10532	'464' 839 5 10597 23521 47660 92883 69901
16th/23rd			'464' 270 5 35387 42143 30304 35113 59321
2nd/9th	1000/1010z	12365/14280	'276' 408 5 82045 36717 24042 75855 31607
16th/23rd			'276' 403 5 56721 38731 43808 59031 84583

Thursday

3rd/10th (E17z)	0800/0810z	11170/9820	'217' 890 5 64906 66610 20336 17301 88554
17th			'217' 439 5 37833 30024 32958 32235 87855
3rd/10th/17th	0830z (see note below)		'172' 00000
3rd/10th	0930/0940z	8812/9540	'698' 240 6 88146 57856 98835 46186 16945
17th			'698' 214 5 37867 86001 40275 44333 31502
3rd/10th	1200/1210z	12155/10920	'175' 489 6 09394 76911 75155 92918 97067 58604
17th			'175' 482 6 31467 33351 43533 35211 33212

Friday

4th/11th	0830/0840z	11040/12153	'156' 430 7 96320 26792 52028 77344 25009 23240 77286
18th			'156' 943 7 46062 68672 97478 39685 30485 96632 52537
4th/11th	0900/0910z	5765/6315	'239' 876 5 20534 22260 42393 27628 26060
18th			'239' 476 5 21767 53672 11834 81022 36903

Saturday

1st	0800/0810z	8680/8260	'132' 409 5 46062 68672 97478 39685 30485
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Note: S06s ID 172 has been sending nulls since middle of December.
 Thursdays 0830z, then at 10 minute intervals sending '172' 00000 for 4 minutes.
 Frequencies 9921, 9379, 11550, 12142, 13375, 13875 and 14986kHz (in that order)

PoSW's S06 and S06s Logs and analysis of this Russian speaking station

S06, OM Voice:-

First + Third Fridays in the Month Schedule:-

What appears to be one of the last remaining regular S06 schedules - at least as far as being heard at a convenient time in the UK is concerned - has survived into 2022.

7-Jan-22:- 2003 UTC, 7672 kHz, found in progress about three minutes in, my attention had been diverted during the search by a very strong M12 CW on 6782 kHz sending "781...000". S06 with weak signal with no message "319 319 319 00000".

2100 UTC, 5457 kHz, second sending, much stronger.

21-Jan-22:- 2000 UTC, 7672 kHz, very weak signal of some kind, unable to confirm as S06.

2100 UTC, 5457 kHz, much stronger, "319 319 319 00000".

Moved back by one hour in February:-

4-Feb-22:- 1900 UTC, 7672 kHz, very weak signal, unreadable.

2000 UTC, 5457 kHz, weak but readable, "319 319 319 00000".

18-Feb-22:- 1900 UTC, 7672 kHz, "319 319 319 00000", reasonable signal, around S6, much stronger than on previous occasions.

2000 UTC, 5457 kHz, good signal.

S06s, YL Voice:-

Some of the stronger S06s transmissions in the first months of 2022. Wide variations in signal strength from week to week, presumably all down to propagation and the state of the ionosphere, and often a considerable difference in strength between the first and second sendings.

Monday 0830 + 0840 UTC Schedule, Call "764":-

3-Jan-22:- 0830 UTC, 8057 kHz, DK/GC "810 810 5 5", weak signal at first, became stronger, "77282 15894 05811 78988 20222".

0840 UTC, 8530 kHz, stronger.

17-Jan-22:- 0830 UTC, 8057 kHz, DK/GC "930 930 5 5", good signal, "65906 66610 20336 17301 88554".

0840 UTC, 8530 kHz, slightly weaker.

31-Jan-22:- 0830 UTC, 8057 kHz, "764 764 764 00000", the fifth Monday in this month, "no message" format, strong signal.
0839 UTC, 8530 kHz, the usual one minute early start routine for the second sending of a "no message", strong.

Tuesday 0730 + 0740 UTC Schedule, Call "427":-

11-Jan-22:- 0730 UTC, 7410 kHz, DK/GC "805 805 6 6", weak signal at first then became stronger, "06376 48057 13361 19474 34978 46512".
0740 UTC, 11532 kHz, strong, peaking well over S9.

8-Feb-22:- 0730 UTC, 7410 kHz, S9 with QSB, unusually strong, has been very weak for the past few weeks, DK/GC 986 986 5 5", "46062 68672 97478 39685 30485".

0740 UTC, 11532 kHz, well over S9, also much stronger than of late.

15-Feb-22:- Back to being very weak and unreadable on both transmissions.

Tuesday 0800 + 0810 UTC Schedule, Call "127":-

4-Jan-22:- 0800 UTC, 11945 kHz, voice stopped after about three minutes into the preamble, carrier stayed on, tone at approx 0805z, voice resumed shortly after, DK/GC at around 0806:30s. DK/GC "450 450 6 6", around S7, "22192 27868 19761 57217 91858 57634".
0812 UTC, just after, 13195 kHz, second sending running late, S6 with deep fading.

11-Jan-22:- 0800 UTC, 11945 kHz, "450 450 6 6" as on the 4th, peaking S9 with deep fading.
0810 UTC, 13195 kHz, weaker.

18-Jan-22:- 0800 UTC, 11945 kHz, DK/GC "405 405 6 6", weak at first then became stronger, "52343 79628 42432 56075 56281 47665".
0810 UTC, 13195 kHz, S7-S8 with QSB.

1-Feb-22:- 0800 UTC, 11945 kHz, weak signal, managed to hear the DK/GC "853 853 6 6",
5Fs unreadable.

0810 UTC, 13195 kHz, swamped by extremely strong wide-band pulse signal extending from approx 13190 to 13210 kHz, over the horizon radar, presumably.

8-Feb-22:- 0800 UTC, 11945 kHz, DK/GC "853 853 6 6", signal up and down, "21767 53672 11834 81022 36903 41412".
0810 UTC, 13195 kHz, weak.

Wednesday 1000 + 1010 UTC Schedule, Call "276":-

5-Jan-22:- 1000 UTC, 12365 kHz, DK/GC "894 894 5 5", weak signal, "58825 26990 68923 04709 84174".
1010 UTC, 14280 kHz, stronger.

12-Jan-22:- 1000 UTC, 12365 kHz, "894 894 5 5" and 5Fs as on the 5th, S5 to S6.
1010 UTC, 14280 kHz, strong.

19-Jan-22:- 1000 UTC, 12365 kHz, DK/GC "498 498 5 5", very strong signal, "51404 71387 62783 50983 57191".
1010 UTC, 14280 kHz, strong signal.

2-Feb-22:- 1000 UTC, 12365 kHz, DK/GC "408 408 5 5", "82045 36717 24042 75855 31607", S6 to S7.
1010 UTC, 14280 kHz, weak, difficult copy.

9-Feb-22:- 1000 UTC, 12365 kHz, "408 408 5 5" and 5Fs as on the 2nd, good signal.
1010 UTC, 14280 kHz, S7 to S8, inside the 20 metre band, weaker amateur station heard underneath.

16-Feb-22:- 1000 UTC, 12365 kHz, good signal, DK/GC "403 403 5 5", "56721 38731 43808 59031 84583".
1010 UTC, 14280 kHz, also a good signal.

Friday 0830 + 0840 UTC Schedule, Call "156":-

21-Jan-22:- 0830 UTC, 11040 kHz, strong signal, DK/GC "923 923 7 7", "04537 87875 47152 23486 80331 17613 74220".
0840 UTC, 12153 kHz, very strong.

28-Jan-22:- Not the slightest sign of the 0830 UTC sending on 11040; the second sending showed up but had technical problems:-
0840 UTC, 12153 kHz, loud buzz or hum present when the receiver was in either USB or LSB mode, not so noticeable in AM. Voice sounded reasonable in USB apart from the hum, sounded weak and distorted in AM mode. DK/GC "923 923 7 7" and 5Fs as on the 21st. Strong signal, cut carrier as soon as the message ended.

4-Feb-22:- 0830 UTC, 11040 kHz, strong enough this morning, well over S9, DK/GC "430 430 7 7", "96320 26792 52028 77344 25009 23240 77286".
0840 UTC, 12153 kHz, very strong.

11-Feb-22:- 0830 UTC, 11040 kHz, very weak signal of some kind, unreadable, second sending much stronger.
0840 UTC, 12153 kHz, strong signal, "430 430 7 7" and 5Fs as on the 4th.

18-Feb-22:- 0830 UTC, 11040 kHz, again very weak, unreadable, second sending much better:-
 0840 UTC, 12153 kHz, peaking around S8, DK/GC “943 943 7 7”, “46062 68672 97478 39685 30485 96632 52537”.
 Incoming windy day outside, Stansted Air Traffic Information on VHF at 0842z reporting, “Wind 220 degrees at 27, gusting 37 knots, temperature +10, dew-point + 7, QNH 990, moderate icing and turbulence in vicinity of Stansted.”

25-Feb-22:- Nothing heard at 0830 or 0840, either propagation is unusually poor or more likely something to do with the ongoing situation in Ukraine.

First Saturday in the Month 0800 + 0810 UTC Schedule, Call “132”:-
 1-Jan-22:- Missed first sending which would have been on 8680 kHz – well, it's New Years Day.
 0810 UTC, 8260 kHz, DK/GC “467 467 5 5”, “17099 94961 35826 65906 77233”, good signal.

5-Feb-22:- 0800 UTC, 8680 kHz, DK/GC “409 409 5 5”, weak signal, “46062 68672 97478 39685 30485”.
 0810 UTC, 8260 kHz, stronger.

S11a log Jan/Feb

S11a log Jan/Feb

5371kHz	0830z	01/01 [370/00] Konyetz 0833z S5	Malc	SAT
	0830z	02/01 [370/00] Konyetz 0833z S6	Malc	SUN
	0830z	08/01 [377/00] Konyetz 0833z S6	Malc	SAT
	0830z	09/01 [376/00] Konyetz 0833z S4	Malc	SUN
	0830z	15/01 [373/00] Konyetz 0833z S6	Malc	SAT
	0830z	16/01 [370/00] Konyetz 0833z S3	Malc	SUN
	0830z	22/01 [378/39 90408.....61670] Konyetz 0842z S3	Malc	SAT
	0830z	23/01 [378/39 90408....etc] Repeat of Saturday	Malc	SUN
	0830z	29/01 [372/00] Konyetz 0833z S3	Malc, Kopf, RNGB	SAT
	0830z	30/01 [370/00] Konyetz S8	Malc	SUN
	0830z	05/02 [370/00]	RNGB	SAT
	0830z	12/02 [379/00] Konyetz 0833z S2	Malc	SAT
	0830z	20/02 [377/00]	RNGB	SUN
	0830z	26/02 [372/34 98977.....22713] Konyetz 0841z S2	Malc	SAT
	0830z	27/02 [372/34 98977....etc] Repeat of Saturday]	Malc	SUN
6252kHz	0915z	03/01 [486/00] Konyetz 0918z S6	Malc	MON
	0915z	07/01 [482/00] Konyetz 0918z S3	Malc	FRI
	0915z	10/01 [483/00] Konyetz 0918z S2	Malc	MON
	0915z	17/01 [487/39 09602 68997 64931 99752 55309 52005 32741.....76845 45887] Konyetz 0927z	RNGB, Malc	MON
	0915z	21/01 [487/39 09602....etc] Repeat of Monday	Malc, RNGB	FRI
	0915z	24/01 [482/00] Konyetz 0918z S3	Malc	MON
	0915z	28/01 [481/00] Konyetz 0918z S9 (Russian SDR)	Malc	FRI
	0915z	31/01 [480/00] Konyetz 0918z S2	Malc	MON
	0915z	07/02 [483/00] Konyetz 0918z S3 (Dutch SDR)	Malc	MON
	0915z	11/02 [486/00] Konyetz 0918z S3	Malc	FRI
	0915z	18/02 [484/33 61453 17497 81486 12964 31824 93537 90771.....46076 72998]	RNGB	FRI
	0915z	21/02 [481/00] Konyetz 0918z S5	Malc	MON
	0915z	25/02 [480/00] Konyetz 0918z S2	Malc	FRI
	0915z	28/02 [485/00] Konyetz 0918z S3	Malc	MON
8102kHz	1020z	04/01 [425/00] Konyetz 1023z S3	Malc	TUE
	1020z	07/01 [429/00] Konyetz 1023z S2	Malc	FRI
	1020z	11/01 [425/35 10495.....05969] Konyetz 1031z S3	Malc	TUE
	1020z	14/01 [425/35 10495....etc] Repeat of Tuesday	Malc	FRI
	1020z	18/01 [424/00] Konyetz 1023z S3	Malc, RNGB	TUE
	1020z	25/01 [425/00] Konyetz 1023z S3	Malc	TUE
	1020z	28/01 [420/00] Konyetz 1023z S2	Malc	FRI
9050kHz	0700z	03/01 [470/00]	RNGB	MON
	0700z	20/01 [479/38 18968.....78351] Konyetz S3	Malc	THU
	0700z	03/02 [477/00]	RNGB	THU
	0700z	14/02 [470/31 22478....etc]	Hfd	MON
	0700z	21/02 [472/00]	RNGB	MON
	0700z	28/02 [475/00] Konyetz 0703z S4	Malc	MON
11486kHz	1850z	01/01 [284/00] Konyetz 1853z S2 (Dutch SDR)	Malc	SAT
	1850z	05/01 [286/00] Konyetz 1853z S4 (Polish SDR)	Malc	WED
	1850z	26/01 [281/00] Konyetz 1853z S4 (Dutch SDR)	Malc	WED
	1850z	29/01 [282/00] Konyetz 1853z S2	Malc	SAT
	1850z	02/02 [282/00] Konyetz 1853z S2	Malc	WED
	1850z	09/02 [285/00] Konyetz 1853z S3 (Dutch SDR)	Malc	WED
	1850z	12/02 [286/00] Konyetz 1853z S2	Malc	SAT
	1850z	26/02 [281/35 03065.....06056] Konyetz 1901z S4	Malc	SAT

V02 a

Nil Reports

V07

Sunday

January 2022

0100z	15893kHz	0120z	14963kHz	0140z	13893kHz
02/01	868 000 000				Weak
09/01	868 000				Weak
16/01	868 1 80331 07529 64469 ... 97132 000 000				Weak

868 868 868 1
161 68
80331 07529 64469 15055 39967
59161 45135 65445 90971 24990
53224 56902 01366 51187 42529
40774 02839 71845 88098 65671
17825 93542 31560 50051 18685
37851 44553 36488 73329 92475
85317 89330 21023 75630 23428
72589 03013 00858 25001 38146
59127 70380 23717 39976 44216
30221 51788 37043 06684 44169
31409 08520 57093 13044 44788
78331 10165 14600 40937 65562
77490 11168 50067 33663 15383
07132 77321 97132 000 000
Courtesy DanAR

23/01	868 1 2858 128 04036 ... 58639 000 000				Weak
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868 868 868 1
2858 128
04036 01407 98042 56671 00351 94755
38830 89662 40202 23432 68289 07856
99542 19941 90922 25146 97615 62535
58528 37581 48145 72627 69940 28054
85690 16082 66187 92604 39925 69850
49605 87294 96722 66421 88698 63689
24572 96360 31121 39853 15721 43673
12515 83562 25689 87648 09223 06809
47088 13400 23099 15651 41107 50208
08728 19187 22004 11067 13462 41991
95277 55345 21847 34500 64767 23284
13725 48459 39657 28303 86133 24757
08051 64840 13627 72108 42267 59193
44803 29190 53193 12970 85543 49149
91942 81104 03878 92335 92574 33334
44342 59154 04141 68492 73005 19712
91877 08311 80755 71713 04930 61554
16255 09696 81499 88672 46595 92040
24525 53083 83549 47021 32257 62698
12660 00613 76689 56095 42792 28417
58597 95142 38222 62785 39254 37742
50536 58639 000 000 Courtesy DanAR

30/01	868 1 164 120 52298 ... 39674 000 000				Weak
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868 868 868 1
164 120
52298 36151 18098 98570 86307
20797 68509 66514 45177 11412
03408 20105 73223 59234 93550
32067 43877 66612 32220 68817
53289 26804 69877 46544 43132
17498 12040 15791 24959 71416
07442 91772 39266 81187 78368
64890 57144 50427 23964 70155
15374 20266 18731 77722 65574
96140 84012 84544 39122 45035
07270 57826 17671 55516 73896
84003 19329 92923 90089 56620
06282 70237 96647 72033 99311
68622 65119 99747 24000 85908
49723 58435 84645 04809 24828
09798 30722 51928 05068 85545
21263 69416 65795 62506 62621
44280 78018 31307 19639 08851
85033 03278 90770 00208 75207
43252 71939 06343 08796 78396
70728 62762 73513 47530 90815
78121 09445 34780 49504 67697
41053 97326 21655 90448 47884
40285 30951 55385 67383 39674
000 000 Courtesy DanAR

February 2022

0100z 15874kHz 0120z 14774kHz 0140z 13874kHz

06/02 868 1 9504 115 45806 ... 63979 000 000 Weak

878 878 878 1
9504 115
45806 27040 79358 25593 91016
59583 60015 41701 11897 70417
12070 93669 30845 20376 91876
23316 30646 33013 41200 49352
82600 47284 96955 17628 69908
65463 05640 43721 89297 48837
03643 45925 84975 60983 63285
96864 53279 11428 39612 77218
90666 22761 57298 62575 69348
96275 44410 92251 56701 61544
50336 08432 87589 06923 22710
49923 49827 13499 60205 28199
05015 36562 08525 87325 18363
82150 34428 53079 33740 26510
21096 07027 39768 07268 44432
50539 45123 78719 16553 99332
32985 57630 83649 57753 88358
39912 80563 61686 91305 98724
39766 86759 80398 14256 43236
85977 48717 85571 88831 35392
47089 97619 29064 67579 56076
41559 47857 16292 99194 70162
92785 11889 91760 41734 63979
000 000 *Courtesy DanAR*

13/02 878 1 312 120 35170 ... 34431 000 000 Weak

878 878 878 1
312 120
35170 84970 93707 29920 66028
24632 12206 60396 41266 15560
51910 52423 63884 88370 67958
23385 83877 54713 22012 13928
99324 45149 35217 21745 70899
89840 90553 10433 11615 15773
68949 00108 68058 20994 48684
20707 48109 29798 71145 82139
52039 00805 90382 15638 08640
37126 21532 38077 09570 73286
52717 94563 44814 02640 56244
93927 71332 40061 76127 52060
26190 31492 82548 12869 12459
35108 52373 75707 47337 89630
75665 97438 02878 39568 37754
38399 85912 32784 02301 77603
07076 63797 37867 96591 49154
45915 11945 41190 87203 49282
23990 32012 86630 87742 17941
02308 95973 52498 69624 01787
11081 06590 90700 87195 83943
72737 23216 49764 64459 59548
47332 18212 66730 74494 71288
97697 29818 42542 94337 34431
000 000 *Courtesy DanAR*

20/02 878 1 474 108 72535 ... 23674 000 000 Weak

878 878 878 1
474 108
72535 99785 03807 57111 49456
65843 33724 09353 77479 54803
72977 50449 40480 87566 02446
15935 37056 72254 57130 83148
58169 93908 52864 84962 96588
16406 01315 48914 40427 87924
59760 32213 50521 76561 98900
59646 90497 97861 85847 47696
44942 11435 52490 59630 75448
56774 45420 16006 69383 24625
99930 06545 15789 91819 47907
22417 33987 14540 69844 56467
71177 99304 60719 17865 58384
12822 47171 91113 44920 40599
00469 45832 70493 99681 63886
94253 73799 64078 08749 11957
40029 25532 91372 87184 56105
79127 21949 92051 58238 89332
39373 03662 79286 09942 91252
79110 77686 34671 28435 41002
50575 43849 64058 56182 75269
66859 90012 23674 000 000
Courtesy DanAR

27/02 878 1 7326 104 50106 ... 39396 000 000 Weak

878 878 878 1
7326 104
50106 57220 80767 44875 71462
04971 69973 31493 61591 17788
88059 33380 12618 75281 27124
65798 85756 45750 56882 13313
22795 62389 97638 62880 30930
50283 29954 99199 37813 24660
37468 09853 99085 22628 03564
54518 45732 39426 74460 61616
47384 45288 83492 21343 48919
78489 87376 31786 56280 71823
28971 71321 61882 78264 52464

23716 72169 01435 13314 65723
 86326 79787 90207 81045 78405
 14210 92341 98124 06913 48714
 81303 93719 69443 20725 89716
 00873 05019 15154 99469 75150
 10791 71531 33716 78554 63692
 47043 75033 62617 75617 95539
 45986 48159 19754 00902 13809
 01641 87765 17498 82062 04949
 46690 14398 39262 39396
 000 000 *Courtesy DanAR*

V13 New Star Radio

From Ary:

13974 04-02-2022 1240 V13 USB New Star Broadcasting in progress
 11430 04-02-2022 1300 V13 USB New Star Broadcasting
 To my surprise they were both audible in Holland with a fair signal.

Ary FRI
 Ary FRI

V15 North Korean Intelligence via Radio Pyongyang

657, 3250, 3320, 6400kHz Listed in DATE ORDER

Nothing via ENIGMA2000

V24 South Korean intelligence

Nothing via ENIGMA2000

V26

Nothing via ENIGMA2000

Polytones

Variable signal strengths as well as a massive transmission of XPA2 messages [kindly copied and sent in by Ary and H-FD]. Actual messages or repetitive transmissions to keep SIGINT and analysis on their toes?

FOR FURTHER FREQUENCIES AND SCHEDULES OF H+10 SCHEDULES THAT HAVE APPEARED DURING THE UKR/RUS DEBACLE PLEASE CHECK MESSAGES 'XPA2' ON GROUP FRPM 09/02/2022. SAMPLE MESSAGES AVAILABLE AT END OF THE CHARTS SECTION

Thanks to Ary for his continual posts of this 10minute schedule that seemed to dominate daily

XPA1 c

Tuesday/Thursday

January 2022

0810z	12157kHz	0830z	13462kHz	0850z	14374kHz	
04/01	265 000 08712 00001 00000 ... 35661					Fair
06/01	265 000 07932 00001 00000 ... 36662				[0830z Strong, 0850z QSB3]	Fair
11/01	265 000 06381 00001 00000 ... 33266				[0850z Strong]	Very strong
13/01	265 000 09139 00001 00000 ... 36264				[0810z Fair]	Very strong
18/01	265 1 00419 00106 43511 ... 00673				[0810z Very strong]	Fair QSB2

265 265 265 1 265 265 265 1 265 265 265 1

00419 00106 43511 26540 42067 35838 39744 60441 84173 83695
 98385 49358 05235 96017 97231 62978 61010 59124 04311 58265
 98987 20007 98833 88548 42671 68409 89883 56784 16757 74573
 76845 78566 70740 96084 24920 74741 30164 72367 86032 22323
 56055 43918 39842 18826 16335 82159 20534 13177 84890 84319
 71332 56644 40235 41149 84042 55051 30241 38787 77635 68977
 22302 24269 40064 63292

18127 22222 61130 13709 24329 98664 69517 98101 36684 35921
 31527 89094 56486 54850 81364 52937 55839 75302 16231 86927
 39746 39230 54161 39777 69779 56946 89164 14357 22150 46212
 21563 19847 50842 35201 75398 10488 90757 14689 45911 97204
 55884 32895 52684 53279 00673 *Courtesy PLdn*

20/01	265 1 00419 00106 43511 ... 00673		Very strong
25/01	265 1 00419 00106 43511 ... 00673	[0850z Fair, QSB3]	Very strong
27/01	265 1 00419 00106 43511 ... 00673		Very strong

February 2022

0810z	13397kHz	0830z	14413kHz	0850z	15972kHz	
01/02	143 1 07301 00118 49703 ... 56546					[0810z Strong, 0850z QRM3] Fair
143 143 143 1 143 143 143 1 143 143 143 1						
07301 00118 49703 42752 44695 71583 58215 06345 22101 77449 65745 41117 47673 26583 53351 02348 15958 14695 55199 16847 19259 95306 40782 48602 79958 13556 76146 26478 35029 38394 40216 27591 02816 51581 95103 63038 50431 76348 71840 70483 63819 28230 30321 91878 27093 32461 51823 29077 37961 83999 06105 41511 92948 59808 14966 58820 34722 88449 11201 17046 57482 71405 79237 75104 50047 89200 31743 28292 61213 05767 22409 98950 60531 20744 34895 39324 45605 93611 46159 27661 77240 98375 17309 55119 71252 27371 10086 09409 28646 64518 11415 48221 60526 83843 06613 58244 51289 36974 67643 78412 64635 77475 23678 20894 76249 33402 64679 67353 30702 07743 15382 03059 00999 33641 46750 45440 75829 93274 68287 58729 56546 <i>Courtesy PLdn</i>						
03/02	143 1 07301 00118 49703 ... 56546					[0850z Strong] Very strong
08/02	143 1 07301 00118 49703 ... 56546					[0850z Strong] Very strong
10/02	143 1 07301 00118 49703 ... 56546					[0830z Weak QRM3] Strong
15/02	143 000 02540 00001 00000 ... 33656					[0810z Very strong] Strong
17/02	143 000 06329 00001 00000 ... 37260					Strong
22/02	143 000 06869 00001 00000 ... 41664					[0850z NRH] Fair
24/02	143 000 04635 00001 00000 ... 36657					[0850z Very strong] Strong

XPA1 Wed/Fri

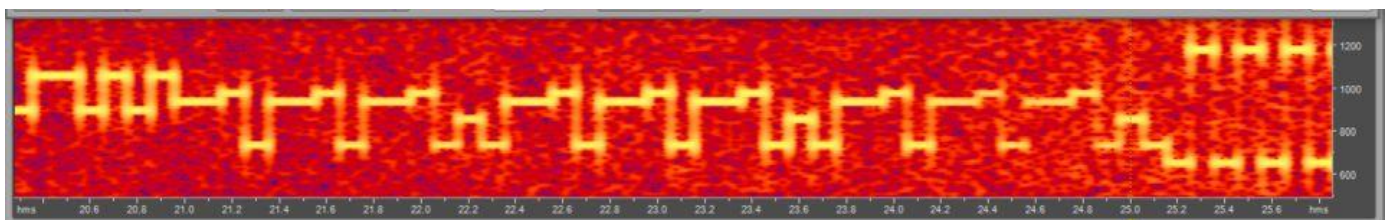
Wednesday/Friday [*Very difficult freqs to receive in Southern England*]

January 2022

1310z	14852kHz	1330z	13952kHz	1350z	11552kHz	
05/01	895 000 02n17 nnnn1 nnnnn ... nnnnn					Mostly unworkable, QSB3/4. Poor condx
07/01	895 000 05613 00001 00000 ... 35656					[1330z Fair] Unworkable
12/01	895 000 01205 00001 00000 ... 32660			<i>n unsure of characters</i>		[1310z unworkable] Weak, QRM3
14/01	895 000 04164 00001 00000 ... 33662					[1330z Fair QSB2] Weak QSB2
19/01	895 1 07938 00114 82298 ... 35671					[1330z Fair QRM3] Weak QSB4
21/01	895 1 07938 00114 82298 ... 35671					Weak QSB3
26/01	895 1 07938 00114 82298 ... 35671					[1310z Weak QSB4] Strong

February 2022

1310z	14374kHz	1330z	13374kHz	1350z	11474kHz
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Ident as 334 334 334 1 334 334 334 1 334 334 334 1 First time double length tone [940Hz in this case] seen by me in an active message 02/02/2022

02/02 334 1 00752 00094 79816 ... 75407 [1350z Weak, QSB3] Fair

334 334 334 1 334 334 334 1 334 334 334 1

00752 00094 79816 51214 40123 22707 53306 00946 75692 31348
 29972 15202 45577 15690 55783 49629 59055 06255 00692 15355
 41176 56969 46647 11228 43808 67556 07067 49317 14949 44114
 79716 02526 41286 62643 19615 03067 11161 69796 61479 61897
 54748 94376 47909 52482 82793 15160 89105 13680 11014 72480
 79432 59827 49040 20192 54406 63345 13936 56248 83347 41360
 69742 62428 70670 29946

80903 87803 67418 65370 60903 14860 22554 59171 09067 84001
 63902 35435 47893 35183 45147 61863 41725 25953 29459 05356
 65055 82381 02634 15252 13340 14080 69760 47801 88753 52451
 73826 45790 75407 *Courtesy PLdn*

04/02 334 1 00752 00094 79816 ... 75407 Fair

09/02 334 1 00752 00094 79816 ... 75407 [1350z QSB3] Strong

334 334 334 1 334 334 334 1 334 334 334 1

00752 00094 79816 51214 40123 22707 53306 00946 75692 31348
 29972 15202 45577 15690 55783 49629 59055 06255 00692 15355
 41176 56969 46647 11228 43808 67556 07067 49317 14949 44114
 79716 02526 41286 62643 19615 03067 11161 69796 61479 61897
 54748 94376 47909 52482 82793 15160 89105 13680 11014 72480
 79432 59827 49040 20192 54406 63345 13936 56248 83347 41360
 69742 62428 70670 29946

80903 87803 67418 65370 60903 14860 22554 59171 09067 84001
 63902 35435 47893 35183 45147 61863 41725 25953 29459 05356
 65055 82381 02634 15252 13340 14080 69760 47801 88753 52451
 73826 45790 75407 *Courtesy PLdn*

11/02 334 1 00752 00094 79816 ... 75407 [1350z Weak QRM3] Strong

16/02 334 1 07930 00130 61660 ... 72301 [1330z Weak] Weak QSB3

18/02 334 1 07930 00130 61660 ... 72301 [1350z Fair] Weak QSB3

23/02 334 1 07930 00130 61660 ... 72301 [1330z Fair] Weak

25/02 334 1 07930 00130 61660 ... 72301 [1330z MISSED] Weak

XPA2 m

Sunday/Tuesday

January 2022

1200z 10921kHz 1220z 12221kHz 1240z 13521kHz

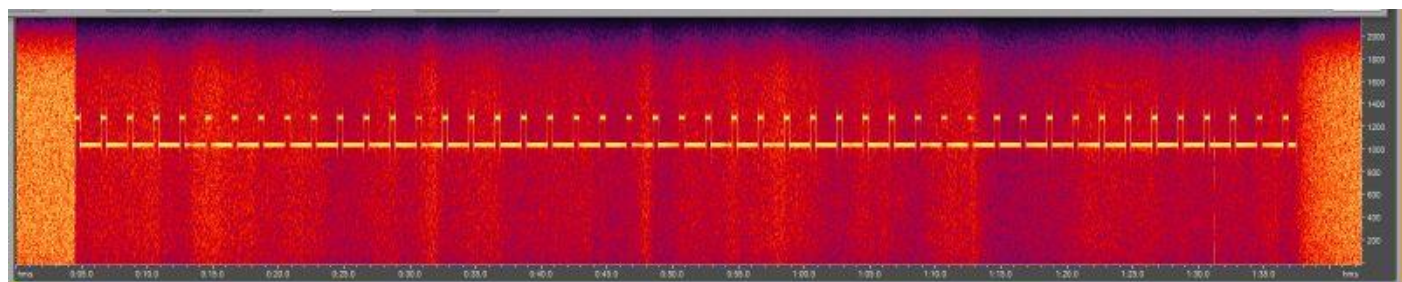
02/01 09140 00001 00000 ... 31665 [1200z Fair] Strong

04/01 02965 00001 00000 ... 40260 [1220z Very strong] Strong

09/01 06633 00001 00000 ... 35661 [1200z Fair QSB4] Very strong

11/01 00268 00056 20438 ... 15362 [1220z Very strong] Strong

00268 00056 20438 13268 18427 27791 57568 67633 52719 04724
 37181 90687 58947 81962 87895 24158 45887 56968 53047 92357
 98298 87147 37646 29436 81656 43111 85946 90293 18528 88604
 72672 25776 13216 16531 04482 47866 10131 19874 68585 35689
 05995 11638 68992 48020 89925 54638 54325 85912 11381 55100
 20163 09584 67606 18571 86951 49576 85389 48172 15362
Courtesy PLdn



16/01 00268 00056 20438 ... 15362 [1m33s lead in only, Strong see above] Fair QSB2

18/01 08773 00126 14203 ... 43750 Very strong

08773 00126 14203 14569 39898 31298 90259 84513 63449 76445
39650 74177 39490 89294 17204 07731 14046 78172 67319 46046
33616 81997 94408 53205 98325 33958 04956 80925 56925 27732
82620 94160 62798 05239 79105 20870 67966 24829 31593 14632
65403 61900 29048 78709 19115 79904 60781 34305 04041 22312
51744 26660 92010 20545 11441 94293 88885 31974 33371 09806
90003 56432 47372 85016 74382 66929 58327 26544 90908 41229
71064 46951 33164 72681 74498 39556 01165 48560 45581 78631
42096 29635 78299 41580 11996 40817 20167 75519 10854 74884
40529 82486 70982 57552 25962 84870 88090 84183 77702 05880
08374 51239 09709 07045 54925 58077 11444 51688 33682 89312
60177 63260 85415 80570 77075 62362 15781 16726 39121 85258
50253 29710 79359 86551 44359 79072 12206 67598 43750

Courtesy PLdn

23/01 08773 00126 14203 ... 43750 [1240z Fair] Strong

08773 00126 14203 14569 38898 31298 90259 84513 63449 76445
39650 74177 39490 89294 17204 07731 14046 78072 67319 46046
33616 81997 94408 53205 98325 33958 04956 80925 56825 27732
82620 94160 62798 05239 79105 20870 67966 24829 31593 14622
55403 61900 29048 78709 19115 79904 60781 34305 04031 22312
51744 26660 92010 20535 11441 94293 88885 31974 33371 09806
90003 56432 47372 85016 74382 66929 58317 26544 90908 41229
71054 46951 33164 72681 74498 39506 01165 48560 45581 78631
42096 29635 78299 41580 11996 40817 20067 75519 10854 74884
40529 82486 70982 57552 25962 84870 88090 84183 77702 05880
08374 51239 08709 07045 54925 58077 11444 52688 33682 89312
60177 63260 85415 80570 77075 62362 15780 16626 39121 85258
50253 28710 79359 86551 44359 79072 12206 67598 43750

Courtesy PLdn

25/01 07281 00130 07840 ... 73711 [1220z Very strong] Strong

07281 00130 07840 77970 85616 42762 32933 97441 62869 85677
36225 51353 40998 54664 54610 86114 54336 29235 18869 65055
37896 29808 97502 60577 42765 69286 38919 91146 59285 44629
72255 71020 49043 27414 41293 03017 84346 59766 28226 83253
97473 86091 40075 21252 85451 37598 86826 26516 72872 69531
19434 31365 36532 14363 66006 92326 48266 03879 62575 04163
35273 60645 81102 53821 92053 33457 81243 40357 55180 93183
68502 41131 30365 03847 27713 79329 07271 96420 00199 13152
94119 79822 80286 35670 20878 58696 61040 30290 71396 73379
98996 90289 70937 01018 10429 15123 84453 87088 82085 56808
35568 00433 17878 96314 29862 83744 80391 42100 76997 27178
97953 04660 85235 78528 07569 58537 32812 65649 99552 45613
16625 78130 06428 44160 50059 80689 69412 13466 51063 88076
04400 08210 73711

Courtesy PLdn

30/01 07281 00130 07840 ... 73711 [1240z Very strong] Strong

February 2022

1200z 11163kHz 1220z 13363kHz 1240z 14563kHz

01/02 02532 00080 88236 ... 16531 Strong

02532 00080 88236 36998 56691 07795 68807 98741 66241 46287
92319 48219 83797 36892 83203 58154 88228 85766 69663 70912
88718 85720 10309 44861 71189 58942 07585 94193 79409 35776
94761 86027 60779 36368 38660 30498 98645 79857 43540 69932
25269 95387 77254 69738 50565 03328 79397 01481 83649 34222
37951 08895 67636 19441 09874 17918 57688 30620 02084 55394
14247 88363 77997 16850 11019 60593 88231 38611 79698 65235
29029 23412 34131 48203 00642 88009 75589 53052 22818 99414
63591 23522 16531

Courtesy PLdn

06/02 02532 00080 88236 ... 16531 [1220z QSB3] Weak

08/02 03686 00160 71532 ... 60254 Strong

03686 00160 71532 70656 11093 91196 85340 80297 31210 47775
47691 33202 61301 09709 51589 33609 27546 74025 20399 76432
98585 70402 08254 59921 31711 40459 76388 46529 51843 49482
81030 43387 38793 95169 19984 15792 34768 62005 97282 28361
07343 48897 67282 89281 27423 98948 69979 50957 30423 42155
52037 54305 58856 84227 65024 68590 72607 77442 95766 08827
15361 92930 51854 29774 79911 88348 83616 01585 82278 68006
18457 33573 33240 91783 27084 09178 78028 38178 85408 01353
34698 34319 85329 16159 09877 16312 72241 72589 18823 31895
66544 94610 79842 21997 96911 55816 38205 20003 68455 54809
31410 66780 12069 22336 54275 43039 16974 04827 67619 67302
80824 94307 92445 41244 72722 36193 45281 74015 74545 37066
79251 38785 79162 10280 10697 57718 47358 88779 09348 20336
97979 94512 81362 16794 43204 32512 70181 56779 89086 83313
62419 84843 95082 78438 69590 30455 36203 86818 15124 72077
04689 12442 95396 18068 60409 12617 29733 64129 58845 05594
56627 49273 60254

Courtesy PLdn

13/02 03686 00160 71532 ... 60254 [1240z Fair] Strong

15/02 00755 00220 58813 ... 55041 4m59s lg [1200z Fair] Weak QSB2/3

20/02 00755 00220 58813 ... 55041 [1200z Fair] Weak QSB3

22/02 00540 00182 15695 ... 06301 [1200z TTYQRM3, 1220z Weak] Strong

00540 00182 15695 64318 30072 68529 08934 58077 97002 77023
 40878 57025 28317 97312 28031 29055 22830 96708 21833 81137
 53638 76704 70767 86298 06921 56443 29837 08815 49852 33904
 81217 11851 36501 72461 82095 34480 07290 82551 64371 23065
 25485 60611 33940 96374 02253 35014 25424 67260 09080 31802
 47423 25432 64314 35950 82781 97753 12955 96759 73521 39298
 18960 93395 44554 67102 67919 98567 06318 91834 16917 06806
 35647 58188 40584 20137 96457 82226 96350 88867 30199 81802
 93079 08748 18247 25081 64877 21846 14958 12200 13757 55002
 46169 21426 90650 18330 33475 40473 13980 08347 17406 52646
 24453 59859 63358 48500 75618 72697 41496 69864 37646 78336
 86918 18834 33415 59251 85098 47392 30051 32023 95733 28561
 44687 62799 45855 75917 04571 95590 36570 93614 03013 39658
 02147 77139 51981 08032 49329 45497 98633 42184 34323 84618
 31780 62334 07633 72921 82889 18682 15267 46271 89434 73377
 09709 69263 26929 04896 71805 18517 34393 19430 68114 29707
 95618 69052 78610 86618 79464 21437 38359 90682 03246 71507
 09905 79172 15530 14689 45224 14327 06010 35759 37071 66318
 75964 57900 44241 80444 06301 *Courtesy PLdn*

27/02 00540 00182 15695 ... 06301 [1200z Fair] Strong

XPA2 p

Monday/Wednesday

January 2022

0800z	11493kHz	0820z	13393kHz	0840z	13993kHz	
03/01	04441 00001 00000 ... 33660					Strong
05/01	05564 00001 00000 ... 35663				[0840z MISSED]	Fair
10/01	02338 00001 00000 ... 36655				[0800z Very weak, 0840z Not monitored]	Strong
12/01	02387 00001 00000 ... 36262				[0820z Strong]	Weak
17/01	02106 00128 51605 ... 57250				[0840z Fair QRM2]	Weak QRM2
<p>02106 00128 51605 70819 54489 16393 17934 07767 46969 94845 50282 07136 93840 21173 98811 57130 80700 45352 01670 26769 41317 19774 38395 99422 38191 66677 82722 19525 60900 38382 08252 43536 02970 28498 16560 47287 90032 08101 87831 04612 58141 84281 02150 94745 79703 83405 81430 39435 85457 53847 14267 16946 27515 85421 27195 19086 80258 52962 84494 18370 07144 68784 98540 21617 07753 38807 72649 51023 48859 84092 00733 28331 22501 80106 95966 67345 30711 68001 60680 03417 41445 65337 63085 92423 10086 24955 26885 70132 69316 52040 56067 87004 98873 68310 94764 69351 14958 42655 04119 86630 70329 81918 62039 62964 88689 57512 67504 28647 83931 35215 33812 74902 42210 75314 98985 86051 04342 23770 95915 65597 78001 29824 01461 71617 80851 92819 35546 74883 92965 11721 57250 <i>Courtesy PLdn</i></p>						
19/01	02106 00128 51605 ... 57250				[0800z Strong]	Very strong
24/01	02106 00128 51605 ... 57250				[0800z Unworkable]	Strong
26/01	02106 00128 51605 ... 57250				[0800z Weak QSB4]	Unworkable
31/01	MISSED					

February 2022

0800z	13387kHz	0820z	13887kHz	0840z	14787kHz	
02/02	00734 00162 88183 ... 23141					[0840z Weak] Very strong

00734 00162 88183 68392 18356 66400 70246 52648 67036 90634
 73521 69943 63197 21378 90866 62443 52040 65196 38877 96551
 74131 75533 58435 16058 91556 14785 69836 32592 51163 04664
 95101 17239 28564 54827 71314 74200 72909 75284 31282 25497
 21474 23347 85210 87294 23466 41355 94513 66517 67421 17474
 00603 67386 71755 94637 13452 95852 16427 98742 60124 75730
 82674 48619 21766 20258 74788 36652 68806 85755 53667 76781
 17354 04114 32034 50502 51768 86004 16378 04611 72666 29678
 33097 05008 91888 61344 26458 35437 21809 24704 51835 90445
 21817 67018 67216 28509 82087 59242 20251 22899 74620 67792
 26320 19110 26590 94235 75741 86314 56686 49087 00137 89913
 51407 79550 69786 77811 79983 59613 59439 08105 83081 92871
 51176 54398 37957 11535 86775 33713 13529 78406 45563 24964
 79019 86967 37808 50096 40966 61510 13676 34003 87926 98669
 12978 36946 04412 94484 84229 06677 20745 65491 45872 80708
 17760 29620 87812 82745 45063 93750 73834 89404 25398 70608
 61939 06594 14380 43940 23141 *Courtesy PLdn*

07/02	00734 00162 88183 ... 23141		Very strong
09/02	00734 00162 88183 ... 23141	[0800z Strong]	Very strong
14/02	07334 00184 13279 ... 77222	[0840z Fair]	Strong
16/02	07334 00184 13279 ... 77222	[0840z Strong]	Very strong

07334 00184 13279 10187 59961 75085 26478 82959 78230 47920
84318 73343 56932 07734 46446 82472 11221 84836 77957 00500
17748 53193 13279 08354 09050 71576 93615 86782 54476 80075
53977 31180 51558 54474 28673 38711 93058 94345 09726 26085
92977 08503 07443 64500 00196 27928 32423 65942 45324 64376
91793 16695 24789 03366 00214 88900 70004 07990 35840 32048
59990 86566 40342 47199 53390 72799 27478 86154 74029 19563
88049 52342 45687 55945 95505 91981 25741 24262 94632 68831
64937 64722 18272 63855 64216 63425 85909 42268 18602 78845
44191 70668 10715 63522 16491 11783 18381 13839 09929 42425
67481 91768 37088 04196 48331 11495 71642 15260 52331 82621
30022 05327 83567 96692 07076 32574 67407 52033 70338 16285
71501 81580 26347 97844 28400 12175 33531 12612 06004 34026
38265 68421 01623 71278 06304 57186 51535 10566 52136 41140
11532 14766 05903 03332 14801 18595 44281 66197 60221 85223
03112 08699 83975 58851 49502 44955 94890 71172 57830 43893
86074 93327 98377 20353 49880 67425 10035 89524 84517 88295
87628 46918 53563 11022 47651 48137 38197 26938 07754 55414
39495 95594 30348 83077 43338 22215 77222 *Courtesy PLdn*

21/02	07334 00184 13279 ... 77222		Fair QRM3
23/02	07334 00184 13279 ... 77222	[0800z QRM3. 0840z MISSED]	Fair
28/02	00663 00106 70661 ... 50315	[0800z strong]	Fair

00663 00106 70661 00627 51746 12378 61362 62005 39886 23208
11538 84850 87690 32309 30089 39762 67403 25204 83773 90974
00787 93937 94977 12472 52986 97307 57461 56459 78689 60052
78787 67335 06703 84884 45992 84504 19561 54848 54654 99981
55130 64755 54202 18654 24804 26678 51946 48943 01567 59935
78868 91620 10517 32957 92999 18388 49768 28169 39945 17779
86537 44123 98575 53470 14965 27444 25887 10205 71074 88400
34017 64377 83838 14348 12938 27872 76610 82099 46793 27596
45372 33544 00346 06999 32395 34570 61143 51227 48071 82169
59255 07175 31975 29058 31437 23273 83598 90691 20148 38058
66503 71956 10586 89143 24352 50605 42359 74989 50315
Courtesy PLdn

XPA 2 Wed/Fri

Wednesday/Friday

January 2022

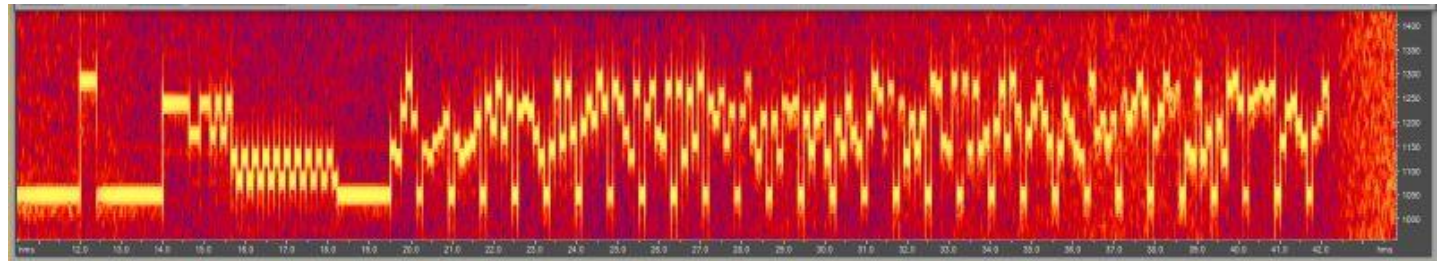
1200z	10726kHz	1220z	11426kHz	1240z	12226kHz		
05/01	06086 00062 39737 ... 47412					[1240z Very strong]	Strong
<p>06086 00062 39737 55281 19937 65661 41395 01293 07822 29513 47681 04333 52786 92394 07222 66701 87006 94892 11181 04510 69180 14268 34366 35715 92149 97189 64653 76664 02879 52385 78222 59537 53862 32083 88489 12764 75875 26653 58243 85940 46087 25421 50057 40804 99287 85379 68146 50138 27961 80979 47744 60315 27722 04327 23542 76182 16489 12408 80086 73381 51497 96114 01294 01970 47412 <i>Courtesy PLdn</i></p>							
07/01	06086 00062 39737 ... 47412						Very strong
12/01	07462 00098 78933 ... 24156					[1200z Fair]	Strong
<p>07462 00098 78933 40798 63871 79601 24887 97023 66092 84724 07444 57813 76888 02541 36087 01916 76817 67958 60774 39470 23202 83088 04891 84486 56677 83494 80068 04593 47865 32139 19963 69403 23159 95316 35184 22530 49516 56781 82649 08147 91845 25190 32826 43054 14616 95775 03857 18367 24145 18632 52937 17786 82500 39415 06917 88371 21480 10747 96331 62639 98537 71965 10579 44485 74154 40176 60358 53288 36594 03760 08116 27000 04126 80024 37444 00764 77055 79772 09909 35447 75280 57446 18610 81697 31138 38849 97742 51642 99444 89836 02866 29276 99031 94051 45316 18993 40457 15765 89485 33163 24156 <i>Courtesy PLdn</i></p>							
14/01	07462 00098 78933 ... 24156						Very strong
19/01	09174 00144 75953 ... 63744					[1200z Very strong]	Strong
21/01	09174 00144 75953 ... 63744					[1240z Strong]	Weak QSB3
26/01	00563 00168 65299 ... 03136					[1220z Fair QSB3]	Strong

February 2022

1200z 11575kHz 1220z 13375kHz 1240z 13975kHz

02/02 00594 00124 11014 ... 75177 [1240z Strong] Fair

00594 00124 11014 63826 56522 08182 36496 86228 58218 88719
 64715 59224 44656 40455 30620 49728 66404 98109 90802 38195
 25841 05300 92414 74696 25978 00882 33896 67878 15631 24850
 81638 57467 35676 25821 21247 09532 68070 24858 55874 49928
 88740 56517 15302 90716 95428 22005 90926 07059 46370 28100
 65054 59025 45920 36695 88499 38925 55865 40921 90899 89542
 32320 59070 05453 15825 92441 45411 82043 95641 68174 35038
 21575 83725 66972 54720 82895 54281 59145 71861 96110 66585
 43095 49455 54331 63654 50348 02383 15739 44074 33179 26292
 36373 37760 97028 63635 37325 29530 14422 79498 45681 59408
 98324 22672 51451 36800 75389 72282 84461 96167 32420 38613
 61643 34936 60704 05270 57111 10251 70213 24659 76303 86362
 68127 87622 60991 83257 30428 10174 75177 *Courtesy PLdn*



11575kHz 1200z 04/02 Last full msg grp 25 [2m28s fm start of transmission]

04/02 00594 00124 11014 ... 75177 [1220z Fair] Very strong*
 *Break in 1200z transmission. Last full msg group 25 at 2m28s into sending, as illustrated above.

09/02 08435 00206 54209 ... 13573 [1240z Very strong] Fair QRM3

08435 00206 54209 68397 54440 72120 07911 48846 34356 80350
 47358 76472 30366 79671 58690 44482 30690 62113 18442 34081
 27355 16966 86314 72373 38243 56601 57825 11061 10640 35138
 84370 03169 43996 16274 99099 49253 49317 69342 53363 62777
 75818 43366 57122 73175 32217 59096 51025 40164 09628 58133
 68039 39359 40834 56314 99289 60373 59189 89821 41904 12524
 58139 68881 58494 85084 07119 34059 88492 21862 77394 26714
 69943 35166 69567 95237 81091 16862 71490 20318 48468 56060
 09200 11604 77329 29367 52313 31596 33957 31479 98188 92790
 80021 21999 36929 16823 24652 91591 95508 81829 16301 15067
 73531 33790 36945 06358 97444 06231 97214 47224 65897 10993
 06983 01835 96056 03485 06121 04046 89317 08651 10327 34426
 38124 58241 41651 89277 31025 41973 15649 92838 31531 35774
 83622 57109 35822 10735 74981 24909 64102 65960 86072 07037
 09628 41500 00279 22077 54258 11024 83612 18522 40830 42006
 18404 08489 43768 87679 50541 00233 79915 19251 78749 86279
 33568 20081 57161 07050 53763 03952 68692 04242 08079 20165
 00679 95517 30957 61207 04763 54505 53089 46665 84684 82365
 02766 67026 37639 10572 42891 24745 15836 07746 83122 37935
 71120 65583 63010 00193 06037 61263 12272 37642 51781 95997
 55102 89985 83634 08873 53581 48151 40537 56303 13573
Courtesy PLdn

11/02 08435 00206 54209 ... 13573 Very strong

16/02 06167 00220 94550 .. 23054 [1240z Very strong] Strong

06167 00220 94550 86369 10193 37034 17036 31091 03247 71046
 10055 76851 58825 26528 66711 31923 92443 56027 11696 92892
 59023 53895 29415 48149 85892 44365 05139 31200 31704 58130
 08544 59064 78688 98116 68243 85156 67052 65943 53428 76604
 15364 73550 01094 18881 55984 69241 01370 24717 61906 47648
 53671 16501 38980 93584 51710 28619 01403 01276 68568 17175
 87447 37013 12627 39299 33352 70593 61504 14254 90547 08418
 20678 96910 35988 25925 80922 38506 55500 78730 11194 76250
 34049 65244 63793 90158 59150 82186 27703 42007 98618 25684
 86061 99095 26035 34887 05292 62917 66901 13844 90454 85126
 44525 01427 86738 08218 68303 86902 87804 92583 18576 36261
 52618 52109 28897 55598 66377 89255 30768 28948 88930 79900
 85195 95462 23580 58313 23845 07909 46122 70002 54407 17764
 47301 29127 91096 20993 77578 03208 47914 47779 07570 70717
 94661 11123 02879 18744 61629 19751 90318 93212 54962 28574
 29880 43688 94746 61145 91857 31476 29658 38062 15912 44915
 46273 42220 61199 17166 58043 59589 03991 33312 68177 90277
 83421 80468 78895 06001 64015 37006 15901 79258 44165 33906
 17789 71028 36586 19478 49219 63538 31824 75313 37022 09033
 63915 96614 77573 90975 65607 48026 40896 36261 58156 93815
 64047 68914 41960 73630 86842 03574 30305 37594 08566 20619
 67347 70321 76378 42163 79304 79608 15519 90200 46345 03106
 58196 31712 23054
Courtesy PLdn

18/02 06167 00220 94550 .. 23054 Very strong

23/02 00732 00088 91748 ... 37770 [1200z Very strong] Strong
00732 00088 91748 80822 43691 81723 19756 88785 01849 66034
77979 94088 39706 03290 37136 09276 52093 97601 00023 07713
52178 17161 31086 92352 45335 02200 95345 03184 40203 81865
26000 65006 53060 96444 96788 51474 83611 11200 60400 88267
85613 58988 58838 62241 10914 73579 94685 37897 51265 40238
70247 58298 92398 31561 12671 18529 18780 23773 37438 31889
00685 30540 78594 66015 70553 96057 11582 49818 10060 00698
25787 55786 19163 40501 80140 17246 12688 76507 71205 09887
30642 29482 40146 17322 18839 10200 21329 59461 41826 20750
37770 *Courtesy PLdn*

25/02 00732 00088 91748 ... 37770 [1200z Very strong] Strong

Other uncatalogued XPA2 schedules

1B XPA2 H-FD

Wed 05.01.2022 1100Z 13384 msg
Wed 05.01.2022 1120Z 12184 msg
Wed 05.01.2022 1140Z 10984 msg

Thu 06.01.2022 0910Z 14794 msg
Thu 06.01.2022 0930Z 13994 msg
Thu 06.01.2022 0950Z 12194 msg

Thu 06.01.2022 1600Z 10465 msg
Thu 06.01.2022 1620Z 9165 msg
Thu 06.01.2022 1640Z 8065 msg

Fri 07.01.2022 1100Z 10231 msg
Fri 07.01.2022 1120Z 9331 msg
Fri 07.01.2022 1140Z 8131 msg

Sat 08.01.2022 1600Z 9317 msg via KiwiSDR RUS
Sat 08.01.2022 1620Z 8117 msg
Sat 08.01.2022 1640Z 7517 msg

Wed 19.01.2022 0910Z 14977 msg
Wed 19.01.2022 0930Z 13971 msg
Wed 19.01.2022 0950Z 13371 msg

H-FD posted a host of unscheduled transmissions:

0830z 11431 kHz
1110z 10683 kHz
1120z 11431 kHz
1320z 12192 kHz
1350z 11431 kHz
1500z 12192 kHz

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1B XPA2

Tue 01.02.2022 0830Z 11431 msg

Tue 01.02.2022 1100Z 12147 msg
Tue 01.02.2022 1110Z 10643 msg
Tue 01.02.2022 1120Z 10347 msg
Tue 01.02.2022 1120Z 11431 msg
Tue 01.02.2022 1140Z 9247 msg

Tue 01.02.2022 1320Z 12192 msg
Tue 01.02.2022 1350Z 11431 msg

Tue 01.02.2022 1500Z 12192 msg

Tue 01.02.2022 1600Z 12173 msg
Tue 01.02.2022 1620Z 10373 msg
Tue 01.02.2022 1640Z 9373 msg

Wed 02.02.2022 1200Z 11575 msg
Wed 02.02.2022 1220Z 13375 msg
Wed 02.02.2022 1240Z 13975 msg

Thu 03.02.2022 0910Z 16146 msg
Thu 03.02.2022 0930Z 15846 msg
Thu 03.02.2022 0950Z 14446 msg

Thu 03.02.2022 1100Z 13967 msg
 Thu 03.02.2022 1120Z 13367 msg
 Thu 03.02.2022 1140Z 11567 msg

Fri 04.02.2022 1130Z 12192 msg

Mon 07.02.2022 1600Z 11461 msg
 Mon 07.02.2022 1620Z 10261 msg
 Mon 07.02.2022 1640Z 9161 msg

Wed 16.02.2022 0910Z 16102 msg via KiwiSDR RUS
 Wed 16.02.2022 0930Z 14951 msg via KiwiSDR RUS
 Wed 16.02.2022 0950Z 13991 msg via KiwiSDR RUS

Operator training?

XPB: XPB1

Sun/Tue

January 2022

7771kHz 2000z	02/01	V.weak	4m28s		PLdn	SUN
7471kHz 2010z	02/01	NRH			PLdn	SUN
6771kHz 2020z	02/01	Weak	4m28s		PLdn	SUN
5771kHz 2030z	02/01	Fair	4m28s		PLdn	SUN
5171kHz 2040z	02/01	Fair	4m28s		PLdn	SUN
4771kHz 2050z	02/01	Weak	4m28s		PLdn	SUN
7771kHz 2000z	04/01	NRH			PLdn	TUE
7471kHz 2010z	04/01	Weak	2m15s		PLdn	TUE
6771kHz 2020z	04/01	Weak	2m15s	QRM2	PLdn	TUE
5771kHz 2030z	04/01	Weak	2m15s		PLdn	TUE
5171kHz 2040z	04/01	Weak	2m15s		PLdn	TUE
4771kHz 2050z	04/01	Weak	2m15s		PLdn	TUE
7771kHz 2000z	09/01	Weak	2m15s		PLdn	SUN
7471kHz 2010z	09/01	Weak	2m15s		PLdn	SUN
6771kHz 2020z	09/01	Weak	2m15s		PLdn	SUN
5771kHz 2030z	09/01	Fair	2m15s		PLdn	SUN
5171kHz 2040z	09/01	Fair	2m15s		PLdn	SUN
4771kHz 2050z	09/01	Fair	2m15s		PLdn	SUN
7771kHz 2000z	11/01	Fair	2m15s		PLdn	TUE
7471kHz 2010z	11/01	Fair	2m15s	QRM2	PLdn	TUE
6771kHz 2020z	11/01	Strong	2m15s		PLdn	TUE
5771kHz 2030z	11/01	Strong	2m15s		PLdn	TUE
5171kHz 2040z	11/01	Strong	2m15s		PLdn	TUE
4771kHz 2050z	11/01	Strong	2m15s		PLdn	TUE
7771kHz 2000z	16/01	NRH			PLdn	SUN
7471kHz 2010z	16/01	NRH			PLdn	SUN
6771kHz 2020z	16/01	NRH		QRM5	PLdn	SUN
5771kHz 2030z	16/01	NRH			PLdn	SUN
5171kHz 2040z	16/01	NRH			PLdn	SUN
4771kHz 2050z	16/01	V.Weak	1m40s		PLdn	SUN
7771kHz 2000z	18/01	NRH			PLdn	TUE
7471kHz 2010z	18/01	NRH			PLdn	TUE
6771kHz 2020z	18/01	NRH		QRM5	PLdn	TUE
5771kHz 2030z	18/01	Strong	2m15s		PLdn	TUE
5171kHz 2040z	18/01	V.Strong	2m15s		PLdn	TUE
4771kHz 2050z	18/01	Strong	2m15s		PLdn	TUE
7771kHz 2000z	23/01	NRH			PLdn	SUN
7471kHz 2010z	23/01	NRH			PLdn	SUN
6771kHz 2020z	23/01	Weak	2m15s		PLdn	SUN
5771kHz 2030z	23/01	Strong	2m15s		PLdn	SUN
5171kHz 2040z	23/01	Strong	2m15s		PLdn	SUN
4771kHz 2050z	23/01	Fair	2m15s		PLdn	SUN
7771kHz 2000z	25/01	NRH			PLdn	TUE
7471kHz 2010z	25/01	NRH			PLdn	TUE
6771kHz 2020z	25/01	Strong	4m28s		PLdn	TUE
5771kHz 2030z	25/01	Strong	4m28s		PLdn	TUE
5171kHz 2040z	25/01	V.Strong	4m28s		PLdn	TUE
4771kHz 2050z	25/01	V.Strong	4m28s		PLdn	TUE

7771kHz	2000z	30/01	NRH			PLdn	SUN
7471kHz	2010z	30/01	Weak	4m28s		PLdn	SUN
6771kHz	2020z	30/01	Strong	4m28s		PLdn	SUN
5771kHz	2030z	30/01	Strong	4m28s		PLdn	SUN
5171kHz	2040z	30/01	V.strong	4m28s		PLdn	SUN
4771kHz	2050z	30/01	V.strong	4m28s		PLdn	SUN

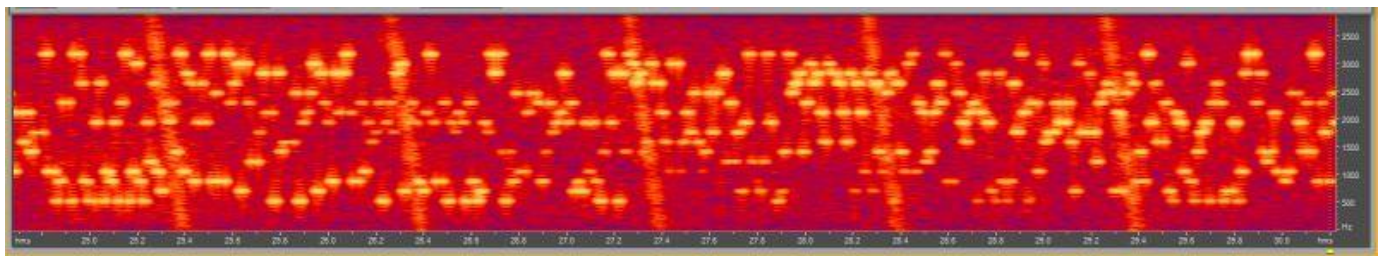
February 2022

8064kHz	2000z	02/02	NRH			PLdn	TUE
7964kHz	2010z	02/02	Weak	2m15s		PLdn	TUE
6964kHz	2020z	02/02	Strong	2m15s		PLdn	TUE
5864kHz	2030z	02/02	Fair	2m15s		PLdn	TUE
5364kHz	2040z	02/02	Strong	2m15s		PLdn	TUE
4464kHz	2050z	02/02	Strong	2m15s	XWPQRM2	PLdn	TUE

8064kHz	2000z	06/02	NRH			PLdn	SUN
7964kHz	2010z	06/02	NRH			PLdn	SUN
6964kHz	2020z	06/02	Weak	2m15s		PLdn	SUN
5864kHz	2030z	06/02	Strong	2m15s		PLdn	SUN
5364kHz	2040z	06/02	Strong	2m15s		PLdn	SUN
4464kHz	2050z	06/02	Fair	2m15s	XWPQRM3	PLdn	SUN

8064kHz	2000z	08/02	V.strong	4m28s		PLdn	TUE
7964kHz	2010z	08/02	Strong	4m28s		PLdn	TUE
6964kHz	2020z	08/02	Fair	4m28s		PLdn	TUE
5864kHz	2030z	08/02	V.strong	4m28s		PLdn	TUE
5364kHz	2040z	08/02	Strong	4m28s		PLdn	TUE
4464kHz	2050z	08/02	Strong	4m28s	XWPQRM2/3	PLdn	TUE

See image below



XWPQRM2/3 4464kHz 2050z 08/02/2022

8064kHz	2000z	13/02	Weak	4m28s		PLdn	SUN
7964kHz	2010z	13/02	Weak	4m28s		PLdn	SUN
6964kHz	2020z	13/02	Strong	4m28s		PLdn	SUN
5864kHz	2030z	13/02	Strong	4m28s		PLdn	SUN
5364kHz	2040z	13/02	Strong	4m28s		PLdn	SUN
4464kHz	2050z	13/02	Strong	4m28s	XWPQRM3	PLdn	SUN

8064kHz	2000z	15/02	NRH			PLdn	TUE
7964kHz	2010z	15/02	NRH			PLdn	TUE
6964kHz	2020z	15/02	Weak	2m15s		PLdn	TUE
5864kHz	2030z	15/02	Strong	2m15s		PLdn	TUE
5364kHz	2040z	15/02	Strong	2m15s		PLdn	TUE
4464kHz	2050z	15/02	Strong	2m15s	XWPQRM3	PLdn	TUE

8064kHz	2000z	20/02	NRH			PLdn	SUN
7964kHz	2010z	20/02	NRH			PLdn	SUN
6964kHz	2020z	20/02	Weak	2m15s		PLdn	SUN
5864kHz	2030z	20/02	Weak	2m15s		PLdn	SUN
5364kHz	2040z	20/02	Weak	2m15s		PLdn	SUN
4464kHz	2050z	20/02	Fair	2m15s		PLdn	SUN

8064kHz	2000z	22/02	Weak	2m15s		PLdn	TUE
7964kHz	2010z	22/02	Weak	2m15s		PLdn	TUE
6964kHz	2020z	22/02	Weak	2m15s		PLdn	TUE
5864kHz	2030z	22/02	Strong	2m15s		PLdn	TUE
5364kHz	2040z	22/02	Strong	2m15s		PLdn	TUE
4464kHz	2050z	22/02	Strong	2m15s	XWPQRM3	PLdn	TUE

8064kHz	2000z	27/02	Strong	2m15s		PLdn	SUN
7964kHz	2010z	27/02	V.strong	2m15s		PLdn	SUN
6964kHz	2020z	27/02	V.strong	2m15s		PLdn	SUN
5864kHz	2030z	27/02	V.strong	2m15s		PLdn	SUN
5364kHz	2040z	27/02	Strong	2m15s		PLdn	SUN
4464kHz	2050z	27/02	Strong	2m15s	XWPQRM2	PLdn	SUN

Mon/Sat**January 2022**

14769kHz	1100z	01/01	Strong	4m28s		PLdn	SAT
14369kHz	1110z	01/01	Strong	4m28s		PLdn	SAT
13969kHz	1120z	01/01	Strong	4m28s		PLdn	SAT
13369kHz	1130z	01/01	Strong	4m28s		PLdn	SAT
12169kHz	1140z	01/01	Weak	4m28s	QRM2	PLdn	SAT
11169kHz	1150z	01/01	Weak	4m28s	QRM2	PLdn	SAT
14769kHz	1100z	03/01	Fair	4m28s		PLdn	MON
14369kHz	1110z	03/01	Strong	4m28s		PLdn	MON
13969kHz	1120z	03/01	Fair	4m28s		PLdn	MON
13369kHz	1130z	03/01	Fair	4m28s		PLdn	MON
12169kHz	1140z	03/01	Fair	4m28s	QRM3	PLdn	MON
11169kHz	1150z	03/01	Fair	4m28s		PLdn	MON
14769kHz	1100z	08/01	NRH			PLdn	SAT
14369kHz	1110z	08/01	Unworkable			PLdn	SAT
13969kHz	1120z	08/01	V.weak	4m28s		PLdn	SAT
13369kHz	1130z	08/01	Weak	4m28s		PLdn	SAT
12169kHz	1140z	08/01	Unworkable			PLdn	SAT
11169kHz	1150z	08/01	Weak	4m28s		PLdn	SAT
14769kHz	1100z	10/01	Fair	1m40s		PLdn	MON
14369kHz	1110z	10/01	Fair	1m40s	QRM3	PLdn	MON
13969kHz	1120z	10/01	Fair	1m40s	QRM3	PLdn	MON
13369kHz	1130z	10/01	Fair	1m40s		PLdn	MON
12169kHz	1140z	10/01	Fair	1m40s		PLdn	MON
11169kHz	1150z	10/01	Weak	1m40s		PLdn	MON
14769kHz	1100z	15/01	Weak	1m40s		PLdn	SAT
14369kHz	1110z	15/01	Strong	1m40s		PLdn	SAT
13969kHz	1120z	15/01	Strong	1m40s		PLdn	SAT
13369kHz	1130z	15/01	Strong	1m40s		PLdn	SAT
12169kHz	1140z	15/01	Fair	1m40s		PLdn	SAT
11169kHz	1150z	15/01	Weak	1m40s		PLdn	SAT
14769kHz	1100z	17/01	Weak	4m28s		PLdn	MON
14369kHz	1110z	17/01	Weak	4m28s		PLdn	MON
13969kHz	1120z	17/01	Weak	4m28s		PLdn	MON
13369kHz	1130z	17/01	Weak	4m28s		PLdn	MON
12169kHz	1140z	17/01	Fair	4m28s		PLdn	MON
11169kHz	1150z	17/01	Fair	4m28s		PLdn	MON
14769kHz	1100z	22/01	Fair	4m28s		PLdn	SAT
14369kHz	1110z	22/01	Fair	4m28s		PLdn	SAT
13969kHz	1120z	22/01	Fair	4m28s		PLdn	SAT
13369kHz	1130z	22/01	Fair	4m28s		PLdn	SAT
12169kHz	1140z	22/01	Fair	4m28s		PLdn	SAT
11169kHz	1150z	22/01			QRM5	PLdn	SAT
14769kHz	1100z	24/01	Fair	1m40s		PLdn	MON
14369kHz	1110z	24/01	Fair	1m40s		PLdn	MON
13969kHz	1120z	24/01	Fair	1m40s		PLdn	MON
13369kHz	1130z	24/01	Strong	1m40s		PLdn	MON
12169kHz	1140z	24/01	Weak	1m40s		PLdn	MON
11169kHz	1150z	24/01	Weak	1m40s		PLdn	MON
14769kHz	1100z	29/01	Weak	1m40s		PLdn	SAT
14369kHz	1110z	29/01	Weak	1m40s		PLdn	SAT
13969kHz	1120z	29/01	Weak	1m40s		PLdn	SAT
13369kHz	1130z	29/01	Weak	1m40s		PLdn	SAT
12169kHz	1140z	29/01	MISSED			PLdn	SAT
11169kHz	1150z	29/01	Weak	1m40s		PLdn	SAT
14769kHz	1100z	31/01	Strong	4m28s		PLdn	MON
14369kHz	1110z	31/01	Strong	4m28s		PLdn	MON
13969kHz	1120z	31/01	Strong	4m28s	QRM2	PLdn	MON
13369kHz	1130z	31/01	Strong	4m28s		PLdn	MON
12169kHz	1140z	31/01	Strong	4m28s	QRM2	PLdn	MON
11169kHz	1150z	31/01	Strong	4m28s	QRM2	PLdn	MON

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15814kHz	1100z	05/02	Weak	4m28s		PLdn	SAT
14814kHz	1110z	05/02	Weak	4m28s		PLdn	SAT
14414kHz	1120z	05/02	Weak	4m28s		PLdn	SAT
13914kHz	1130z	05/02	Weak	4m28s		PLdn	SAT
13414kHz	1140z	05/02	Fair	4m28s		PLdn	SAT
12214kHz	1150z	05/02	Weak	4m28s		PLdn	SAT

15814kHz	1100z	07/02	Weak	1m40s		PLdn	MON
14814kHz	1110z	07/02	Weak	1m40s		PLdn	MON
14414kHz	1120z	07/02	Weak	1m40s		PLdn	MON
13914kHz	1130z	07/02	Weak	1m40s		PLdn	MON
13414kHz	1140z	07/02	Fair	1m40s		PLdn	MON
12214kHz	1150z	07/02	Weak	1m40s		PLdn	MON
15814kHz	1100z	12/02	Weak	1m40s		PLdn	SAT
14814kHz	1110z	12/02	Fair	1m40s		PLdn	SAT
14414kHz	1120z	12/02	Fair	1m40s		PLdn	SAT
13914kHz	1130z	12/02	Fair	1m40s		PLdn	SAT
13414kHz	1140z	12/02	Fair	1m40s		PLdn	SAT
12214kHz	1150z	12/02	Fair	1m40s		PLdn	SAT
15814kHz	1100z	14/02	Fair	4m28s		PLdn	MON
14814kHz	1110z	14/02	Fair	4m28s		PLdn	MON
14414kHz	1120z	14/02	Fair	4m28s	QRM3	PLdn	MON
13914kHz	1130z	14/02	Fair	4m28s	QRM3	PLdn	MON
13414kHz	1140z	14/02	Strong	4m28s		PLdn	MON
12214kHz	1150z	14/02	Strong	4m28s		PLdn	MON
15814kHz	1100z	19/02	Weak	4m28s		PLdn	SAT
14814kHz	1110z	19/02	Fair	4m28s		PLdn	SAT
14414kHz	1120z	19/02	Fair	4m28s		PLdn	SAT
13914kHz	1130z	19/02	Weak	4m28s	QRM3	PLdn	SAT
13414kHz	1140z	19/02	Weak	4m28s		PLdn	SAT
12214kHz	1150z	19/02	Weak	4m28s		PLdn	SAT
15814kHz	1100z	21/02	NRH			PLdn	MON
14814kHz	1110z	21/02	V.weak	1m40s		PLdn	MON
14414kHz	1120z	21/02	V.weak	1m40s		PLdn	MON
13914kHz	1130z	21/02	V.weak	1m40s		PLdn	MON
13414kHz	1140z	21/02	V.weak	1m40s		PLdn	MON
12214kHz	1150z	21/02	V.weak	1m40s		PLdn	MON
15814kHz	1100z	26/02	Weak	1m30s		PLdn	SAT
14814kHz	1110z	26/02	Weak	1m30s		PLdn	SAT
14414kHz	1120z	26/02	Weak	1m30s		PLdn	SAT
13914kHz	1130z	26/02	Fair	1m30s		PLdn	SAT
13414kHz	1140z	26/02	Fair	1m30s		PLdn	SAT
12214kHz	1150z	26/02	Fair	1m30s		PLdn	SAT
15814kHz	1100z	28/02	Weak	4m28s		PLdn	MON
14814kHz	1110z	28/02	Fair	4m28s		PLdn	MON
14414kHz	1120z	28/02	Fair	4m28s		PLdn	MON
13914kHz	1130z	28/02	Strong	4m28s		PLdn	MON
13414kHz	1140z	28/02	Fair	4m28s		PLdn	MON
12214kHz	1150z	28/02	Fair	4m28s		PLdn	MON

Wed/Sat [Saturday only monitored]

January 2022

kHz	1200z	01/01	MISSED			PLdn	SAT
kHz	1210z	01/01	MISSED			PLdn	SAT
kHz	1220z	01/01	MISSED			PLdn	SAT
12125kHz	1230z	01/01	Fair	4m28s		PLdn	SAT
10425kHz	1240z	01/01	Weak	4m28s		PLdn	SAT
9325kHz	1250z	01/01	Weak	4m28s		PLdn	SAT

1200/1210/1220z frequencies kindly supplied by Ary.

15925kHz	1200z	05/01		NOT MONITORED, Off watch		PLdn	WED
14825kHz	1210z	05/01		NOT MONITORED, Off watch		PLdn	WED
13425kHz	1220z	05/01		NOT MONITORED, Off watch		PLdn	WED
12125kHz	1230z	05/01		NOT MONITORED, Off watch		PLdn	WED
10425kHz	1240z	05/01		NOT MONITORED, Off watch		PLdn	WED
9325kHz	1250z	05/01		NOT MONITORED, Off watch		PLdn	WED
15925kHz	1200z	08/01	Strong	4m28s		PLdn	SAT
14825kHz	1210z	08/01	Fair	4m28s		PLdn	SAT
13425kHz	1220z	08/01	V.strong	4m28s		PLdn	SAT
12125kHz	1230z	08/01	Strong	4m28s		PLdn	SAT
10425kHz	1240z	08/01	Unworkable			PLdn	SAT
9325kHz	1250z	08/01	Weak	4m28s		PLdn	SAT
15925kHz	1200z	12/01		NOT MONITORED, Off watch		PLdn	WED
14825kHz	1210z	12/01		NOT MONITORED, Off watch		PLdn	WED
13425kHz	1220z	12/01		NOT MONITORED, Off watch		PLdn	WED
12125kHz	1230z	12/01		NOT MONITORED, Off watch		PLdn	WED
10425kHz	1240z	12/01		NOT MONITORED, Off watch		PLdn	WED
9325kHz	1250z	12/01		NOT MONITORED, Off watch		PLdn	WED

15925kHz	1200z	15/01	Weak	1m40s		PLdn	SAT
14825kHz	1210z	15/01	Weak	1m40s		PLdn	SAT
13425kHz	1220z	15/01	Strong	1m40s		PLdn	SAT
12125kHz	1230z	15/01	Strong	1m40s	QRM2	PLdn	SAT
10425kHz	1240z	15/01	Weak	1m40s		PLdn	SAT
9325kHz	1250z	15/01	Weak	1m40s		PLdn	SAT
15925kHz	1200z	19/01			NOT MONITORED, Off watch	PLdn	WED
14825kHz	1210z	19/01			NOT MONITORED, Off watch	PLdn	WED
13425kHz	1220z	19/01			NOT MONITORED, Off watch	PLdn	WED
12125kHz	1230z	19/01			NOT MONITORED, Off watch	PLdn	WED
10425kHz	1240z	19/01			NOT MONITORED, Off watch	PLdn	WED
9325kHz	1250z	19/01			NOT MONITORED, Off watch	PLdn	WED
15925kHz	1200z	22/01	V.weak	4m28s		PLdn	SAT
14825kHz	1210z	22/01	V.weak	4m28s		PLdn	SAT
13425kHz	1220z	22/01	Strong	4m28s		PLdn	SAT
12125kHz	1230z	22/01	Fair	4m28s	QRM3	PLdn	SAT
10425kHz	1240z	22/01	V.weak	4m28s		PLdn	SAT
9325kHz	1250z	22/01	V.weak	4m28s		PLdn	SAT
15925kHz	1200z	26/01			NOT MONITORED, Off watch	PLdn	WED
14825kHz	1210z	26/01			NOT MONITORED, Off watch	PLdn	WED
13425kHz	1220z	26/01			NOT MONITORED, Off watch	PLdn	WED
12125kHz	1230z	26/01			NOT MONITORED, Off watch	PLdn	WED
10425kHz	1240z	26/01			NOT MONITORED, Off watch	PLdn	WED
9325kHz	1250z	26/01			NOT MONITORED, Off watch	PLdn	WED
15925kHz	1200z	29/01	Weak	1m30s		PLdn	SAT
14825kHz	1210z	29/01	Weak	1m30s		PLdn	SAT
13425kHz	1220z	29/01	V.strong	1m30s		PLdn	SAT
12125kHz	1230z	29/01	Weak	1m30s		PLdn	SAT
10425kHz	1240z	29/01	Weak	1m30s		PLdn	SAT
9325kHz	1250z	29/01	Weak	1m30s		PLdn	SAT
February 2022		[Wed freqs kindly supplied by Ary, Thanks].					
14873kHz	1200z	02/02			NOT MONITORED, Off watch	PLdn	WED
14373kHz	1210z	02/02			NOT MONITORED, Off watch	PLdn	WED
13873kHz	1220z	02/02			NOT MONITORED, Off watch	PLdn	WED
13373kHz	1230z	02/02			NOT MONITORED, Off watch	PLdn	WED
12173kHz	1240z	02/02			NOT MONITORED, Off watch	PLdn	WED
11173kHz	1250z	02/02			NOT MONITORED, Off watch	PLdn	WED
14873kHz	1200z	05/02	Weak	4m28s	QRM3	PLdn	SAT
14373kHz	1210z	05/02	Weak	4m28s		PLdn	SAT
13873kHz	1220z	05/02	Weak	4m28s		PLdn	SAT
13373kHz	1230z	05/02	Weak	4m28s	QRM3	PLdn	SAT
12173kHz	1240z	05/02	Strong	4m28s		PLdn	SAT
11173kHz	1250z	05/02	Fair	4m28s		PLdn	SAT
14873kHz	1200z	09/02			NOT MONITORED, Off watch	PLdn	WED
14373kHz	1210z	09/02			NOT MONITORED, Off watch	PLdn	WED
13873kHz	1220z	09/02			NOT MONITORED, Off watch	PLdn	WED
13373kHz	1230z	09/02			NOT MONITORED, Off watch	PLdn	WED
12173kHz	1240z	09/02			NOT MONITORED, Off watch	PLdn	WED
11173kHz	1250z	09/02			NOT MONITORED, Off watch	PLdn	WED
14873kHz	1200z	12/02	Fair	1m40s		PLdn	SAT
14373kHz	1210z	12/02	Strong	1m40s		PLdn	SAT
13873kHz	1220z	12/02	Strong	1m40s		PLdn	SAT
13373kHz	1230z	12/02	Fair	1m40s		PLdn	SAT
12173kHz	1240z	12/02	Fair	1m40s		PLdn	SAT
11173kHz	1250z	12/02	Weak	1m40s		PLdn	SAT
14873kHz	1200z	16/02			NOT MONITORED, Off watch	PLdn	WED
14373kHz	1210z	16/02			NOT MONITORED, Off watch	PLdn	WED
13873kHz	1220z	16/02			NOT MONITORED, Off watch	PLdn	WED
13373kHz	1230z	16/02			NOT MONITORED, Off watch	PLdn	WED
12173kHz	1240z	16/02			NOT MONITORED, Off watch	PLdn	WED
11173kHz	1250z	16/02			NOT MONITORED, Off watch	PLdn	WED
14873kHz	1200z	19/02	Weak	2m15s		PLdn	SAT
14373kHz	1210z	19/02	Weak	2m15s		PLdn	SAT
13873kHz	1220z	19/02	Weak	2m15s		PLdn	SAT
13373kHz	1230z	19/02	Weak	2m15s		PLdn	SAT
12173kHz	1240z	19/02	Weak	2m15s		PLdn	SAT
11173kHz	1250z	19/02	Weak	2m15s		PLdn	SAT

14873kHz 1200z	23/02			NOT MONITORED, Off watch	PLdn	WED
14373kHz 1210z	23/02			NOT MONITORED, Off watch	PLdn	WED
13873kHz 1220z	23/02			NOT MONITORED, Off watch	PLdn	WED
13373kHz 1230z	23/02			NOT MONITORED, Off watch	PLdn	WED
12173kHz 1240z	23/02			NOT MONITORED, Off watch	PLdn	WED
11173kHz 1250z	23/02			NOT MONITORED, Off watch	PLdn	WED
14873kHz 1200z	26/02	Weak	2m15s		PLdn	SAT
14373kHz 1210z	26/02	Weak	2m15s		PLdn	SAT
13873kHz 1220z	26/02	Strong	2m15s		PLdn	SAT
13373kHz 1230z	26/02	Weak	2m15s		PLdn	SAT
12173kHz 1240z	26/02	Fair	2m15s		PLdn	SAT
11173kHz 1250z	26/02	Fair	2m15s QRM3		PLdn	SAT

Other XPB1 [H-FD]

1B XPB1

Mon 03.01.2022 0600Z 12187 msg, 4:30
 Mon 03.01.2021 0610Z 13387 msg
 Mon 03.01.2022 0620Z 13887 msg
 Mon 03.01.2022 0630Z 14487 msg
 Mon 03.01.2022 0640Z 14987 msg
 Mon 03.01.2022 0650Z 15887 msg

X06 Mazielka (1c) logs section

First of all, here are the logs from PoSW in November/December 2021, which we received long time after stop press for EN128 due to royal postal problems. PoSW writes :

X06 6-Tone Repeating:-

A few of these found in November:-

14-Nov-21, Sunday:- 1124 UTC, 15710 kHz, strong signal, went off a couple of minutes after being tuned in.

19-Nov-21, Friday:- 1011 UTC, 12215 kHz, very strong.

A couple of the two-tone version also logged:-

23-Nov-21, Tuesday:- 0903 UTC, 12550 kHz, strong signal, still on when checked at 0925, and 0950 UTC, gone when checked at 1020.

26-Nov-21, Friday:- 0806 UTC, 8560 kHz, S9 signal, this was in for the long haul, still on when checked every twenty - twenty-five minutes or so, still on at 1100 UTC but weaker, gone when checked at 1135 UTC.

The transmission on Nov 19 had the scale "361245", TX to Copenhagen, G190, also heard by Ary (as reported in EN128, like all the 2-tone tests found by PoSW).

Many thanks PoSW for your great logs, and also Paul for submitting them.

And here are the current logs for January/February 2022:

Date	Day	UTC	Freq	Scale	Monitor	Comments
20220105	Wed	1033	15925	1--6--	Schorschi	X06b shortie (3 rounds) (1)
20220110	Mon	0914-0918	11424	421635	Ary	TX to Oslo, G74
20220110	Mon	0947-0955	10372	431625	Ary	TX to Warsaw, G75
20220111	Tue	0718-0733	10650	1--6--	Edd Smith	X06b (2)
20220111	Tue	1004-1021	11025	612534	Ary, Edd	TX to Ashgabat, G89
20220111	Tue	1008-1018	9350	1--6--	Edd	X06b (SDR)
20220111	Tue	1042-1043	10350	1--6--	Edd	X06b (SDR)
20220111	Tue	1130-1131	10230	61-612	Ary	X06b i. p.
20220112	Wed	0835-0910	10714	156234	Ary	TX to Kampala, G91 (3)
20220112	Wed	0906-0907	13441	?	PoSW	S9+, carrier 5 secs longer than TX
20220112	Wed	0913-0919	11153	465132	Ary	TX to Sofia, G100
20220113	Thu	0809	16153	153624	Andrew	TX to Damascus, G249 (SDR)
20220115	Sat	1020	13969	1--6--	Schorschi	X06b shortie with S9
20220117	Mon	0702-0845	10920	1--6--	Dave/AU, Ary	Very long X06b test (SDR)
20220117	Mon	0728-0845	12220	1--6--	Dave, Ary	Next long X06b test (SDR)
20220117	Mon	0750-0752	13452	165324	Dave, Ary	TX to Vienna, G145 (SDR)
20220117	Mon	0813-0818	10175	263514	Dave	G425 (SDR)
20220117	Mon	0836-0838	11562	432516	Andrew, Ary	TX to Bern, G341 (SDR)
20220117	Mon	0907-1052	14220	1--6--	Dave, Ary	Next long X06b test (SDR)
20220117	Mon	0921-0927	13395	532614	Dave	TX to Paris, G147 (SDR)
20220117	Mon	1028-1052	11920	1--6--	Dave	Next X06b test (SDR)
20220118	Tue	0722	13462	1--6--	Andrew/SE	X06b before XPA1 (SDR)
20220118	Tue	0920-0937	14765	154632	Andrew	G427 (SDR)
20220119	Wed	0737-0742	12150	256341	Andrew	TX to Beirut, G169 (SDR)
20220119	Wed	1108-1110	13979	215346	Andrew	TX to Mumbai, G167 (SDR)
20220120	Thu	1057	12450	1-----	Andrew	X06d shortie (SDR)
20220120	Thu	1057	12649	1-----	Andrew	X06d, moved from 12450 kHz (SDR)
20220121	Fri	0745-0830	7230	1--6--	Andrew	X06b test (SDR)

20220121	Fri	0830	17230	1--6--	Andrew	X06b, moved from 7230 kHz (SDR)
20220122	Sat	1300	10323	1--6--	Schorschi	X06b before E07 with S9
20220122	Sat	1509	12169	1--6--	Andrew	X06b shortie, start w/ carrier(SDR)
20220123	Sun	1122-1125	15710	261453	Russo	TX to Cairo, G285 (discord)
20220124	Mon	0810-0828	20690	156234	Andrew,Dave	TX to Kampala, G203 (discord/SDR)
20220124	Mon	0906-0908	11424	421635	Andrew	TX to Oslo, G220 (SDR)
20220124	Mon	0933-0936	16117	463125	Dave	TX to Rabat, G222 (SDR)
20220124	Mon	0936-0942	10372	431625	Dave	TX to Warsaw, G221 (SDR)
20220124	Mon	0945-1010	8750	1-----	Dave	X06d test (SDR)
20220124	Mon	1014-1050	8750	1-----	Dave	X06d test (SDR - approx end time)
20220124	Mon	1245-1250	12177	364152	Andrew	TX to New Delhi, G73 (discord)
20220125	Tue	0745-0800	13530	1--6--	Andrew	X06b (SDR)
20220125	Tue	0809-0810	16257	542136	Andrew	TX to Beijing, G88 (SDR)
20220125	Tue	0814-0815	11545	534216	Dave	TX to Bagdad, G232 (SDR)
20220125	Tue	1005-1010	17520	612534	Dave,Andrew	TX to Ashgabat, G234 (SDR)
20220125	Tue	1307	12349	1-----	Andrew	X06d
20220126	Wed	0727-0730	20950	435621	Dave	TX to Maputo, G244 (SDR)
20220126	Wed	0836-0839	10814	412356	Dave	TX to Budapest, G243 (SDR)
20220126	Wed	0901-1100	16250	111111	Dave,Andrew	Long X06d test (SDR)
20220126	Wed	0904	13985	134265	Andrew	Short TX to Tunis, G90 (SDR)
20220126	Wed	0904	13419	465132	Andrew	Short TX to Sofia, G246 (SDR)
20220126	Wed	1055-1100	13250	111111	Andrew	X06d test (SDR)(4)
20220126	Wed	1106	15825	1--6--	Andrew	X06b shortie (SDR)
20220126	Wed	1151	14650	1-----	Andrew	X06d shortie (SDR)
20220127	Thu	0702	12157	1--6--	Andrew	X06b before XPA1 (SDR)
20220127	Thu	0757-0801	14419	521634	Andrew	TX to Bucharest, G261 (SDR)
20220127	Thu	0937-0942	13506	164532	Dave	Alert 7 (TX to Dublin, G252)1(SDR)
20220127	Thu	0944-0947	11411	164532	Dave	7.2 (SDR)
20220127	Thu	0950-0953	16223	164532	Dave	7.3 (SDR)
20220127	Thu	0955-1005	13506	164532	Dave	7.4 (SDR)
20220128	Fri	0705-0709	12079	1-----	Ary	X06d (CW)
20220128	Fri	0711-0718	12079	1-----	Ary	X06d, comeback (CW)
20220128	Fri	0720	12079	1-----	Ary	X06d, another short comeback (CW)
20220129	Sat	0546	4056	1--6--	Andrew	X06b, followed by 200hz FSK (SDR)
20220130	Sun	1106-1107	15810	145632	Andrew	Alert 3 (TX to Algiers, G411) 1
20220130	Sun	1110-1115	12114	145632	Andrew,Dave	3.2
20220130	Sun	1114-1120	11067	145632	Andrew,Dave	3.3
20220130	Sun	1159-1227	13548	214356	Andrew	Alert 2 (TX to Amman, G430, new) 1
20220130	Sun	1231-1305	10550	214356	Andrew	2.2 (51.5 kHz spurs)
20220201	Tue	0752-0754	13524	125643	Dave	TX to Ulanbatar, G317 (SDR)
20220201	Tue	0857-0910	12157	165423	Andrew	TX to Brussels, G12 (SDR)
20220201	Tue	0912-0920	15836	165423	Andrew	TX to Brussels, G12 - spurs again
20220201	Tue	0920-0930	14812	246531	Andrew	TX to Accra, G16
20220201	Tue	0945	14358	154263	Gabriele/IT	TX to Rome, G7 (SDR - no end time)
20220201	Tue	1154-1207	16188	325614	Dave	TX to Nairobi, G392 (SDR)
20220202	Wed	0737-0738	13838	256341	Dave	TX to Beirut, G311 (SDR)
20220202	Wed	0930-0940	14631	362154	Andrew	TX to Athens, G32 (SDR)
20220202	Wed	1111-1115	13979	215346	Dave	TX to Mumbai, G25 (SDR)
20220202	Wed	1238-1251	20374	231654	Bero768	TX to Abuja, G422 (discord)(5)
20220203	Thu	0709	19511	314265	Andrew	Short TX to Antananarivo,G380 (SDR)
20220203	Thu	0825-0837	14447	162543	Ary, Dave	TX to Nicosia, G39
20220204	Fri	1003-1012	14720	241563	Dave	TX to Karachi, G50 (SDR)
20220204	Fri	1015-1019	12215	361245	Dave	TX to Copenhagen, G53 (SDR)
20220204	Fri	1021-1030	14824	625413	Dave	TX to Tel Aviv, G56 (SDR)
20220207	Mon	0744-0748	13452	165324	Dave, Ary	TX to Vienna, G1
20220207	Mon	0832-0845	14377	432516	Dave	TX to Bern, G6 (SDR)
20220207	Mon	0904-0906	14392	532614	Dave, Ary	TX to Paris, G4
20220208	Tue	0810	11545	534216	Andrew	Short TX to Bagdad, G87 (SDR)
20220208	Tue	0829-0831	17523	542136	Andrew	TX to Beijing, G88 (SDR)
20220208	Tue	1009-1014	16317	612534	Andrew	TX to Ashgabat, G89 (SDR)
20220208	Tue	1021	17470	216354	Andrew	Short TX to Chennai, G388 (SDR)
20220208	Tue	1113	20605	256134	RadioT101	Short TX to Abidjan, G431(new)(SDR)
20220209	Wed	0906-0911	10214	263145	Ary	TX to Prague, G428
20220210	Thu	0817	16153	153624	Andrew	TX to Damascus, G249 (SDR)
20220210	Thu	0943-0953	13506	164532	Dave	TX to Dublin, G106 (SDR)
20220211	Fri	0932-0935	12177	356412	Dave	TX to Berlin, G126 (SDR)
20220213	Sun	1040-1048	12114	145632	Dave	TX to Algiers, G135 (SDR)(7)
20220213	Sun	1127-1131	15710	261453	Dave	TX to Cairo, G138 (SDR)
20220214	Mon	0811-0816	17475	156234	Andrew,Dave	Alert 2 (TX to Kampala, G68)1(8)
20220214	Mon	0817-0821	20690	156234	Dave	2.2 SDR
20220214	Mon	0908-0916	11537	421635	Andrew,Dave	TX to Oslo, S9+, G74 (SDR)
20220214	Mon	0931-0937	16117	463125	Andrew,Dave	TX to Rabat, S9+, G77 (SDR)
20220214	Mon	0936-0944	10372	431625	Andrew,Dave	TX to Warsaw, S9+, G75 (SDR)(6)
20220215	Tue	0745-0920	13548	214356	Ary, Andrew, PoSW	Alert2 (TX to Amman,G432,new)1 Long

20220215	Tue	0751-0808	14615	125643	Andrew	TX to Ulanbatar, G383
20220215	Tue	0815	11350	1--6--	Andrew	X06b
20220215	Tue	0854-0858	13411	165423	Ary	TX to Brussels, G151
20220215	Tue	0902-0906	12174	154632	PoSW,Andrew	S9+ in UK, G427
20220215	Tue	0917-0918	12186	214356	Andrew,PoSW	2.2 Shortie with S4-5 in UK
20220215	Tue	0927	14358	154263	Andrew	Short TX to Rome, G148 (SDR)
20220216	Wed	1112-1118	16115	215346	Dave	TX to Mumbai, G167 (SDR)
20220216	Wed	1120-1134	18660	621543	Dave	TX to Lisbon, G433 (new) (SDR)
20220216	Wed	1232	18245	231654	Dave	TX to Abuja, G423 (SDR) (9)
20220217	Thu	0759-0800	14947	351264	Andrew	TX to Abu Dhabi, R (SDR)
20220217	Thu	0853-0855	19405	352416	Andrew	TX to Dar es Salaam, G179 (SDR)
20220217	Thu	0929-0936	16103	645321	Andrew	TX to Ho Chi Minh City, G417 (SDR)
20220218	Fri	0947-1006	15878	621543	Andrew,Dave	Alert1(TX to Lisbon,G934,new)1(SDR)
20220218	Fri	1003-1021	12215	361245	Dave, Ary	TX to Copenhagen, G190(10)
20220218	Fri	1009-1021	15878	621543	Dave	1.2 (SDR)
20220218	Fri	1023-1104	15878	621543	Dave	1.3 (SDR)
20220218	Fri	1026-1037	14824	625413	Dave	Alert7 (TX to Tel Aviv,G193)1(10)
20220218	Fri	1037-1042	13547	625413	Andrew	7.2
20220218	Fri	1042-1045	11545	625413	Andrew	7.3
20220218	Fri	1052-1111	11545	625413	Dave	7.4
20220218	Fri	1815-1820	6831	6----	Schorschi	X06d, sometimes (USB) with S9
20220218	Fri	1815-1820	6873	6----	Schorschi	X06d, sometimes (USB) with S9
20220221	Mon	0750-0753	13452	165324	Ary	TX to Vienna, i. p., G145
20220221	Mon	0811-0820	10175	263514	Dave	Alert2(G425)1 Appr. end time (SDR)
20220221	Mon	0828-0830	12133	263514	Dave	2.2 (SDR)
20220221	Mon	0833-0841	11562	432516	Dave	TX to Bern, G341 (SDR)
20220221	Mon	0916-0921	11438	532614	Dave	TX to Paris, G147 (SDR)
20220223	Wed	1650	5744	1--6--	Schorschi	X06b before E07 with S9
20220224	Thu	0750	12152	521634	Andrew	Alert 2 (TX to Bucharest, G261) 1
20220224	Thu	0755-0758	12126	521634	Andrew	2.2
20220224	Thu	0920	12189	16-1--	Schorschi	X06b before M12 with S9(11)
20220225	Fri	1301-1309	14547	645321	Andrew	TX to Ho Chi Minh City, G216
20220227	Sun	1025-1034	15710	261453	Dave	TX to Cairo, G285 (SDR)
20220227	Sun	1042-1044	12114	145632	Dave	TX to Algiers, G284 (SDR)
20220228	Mon	0849-0917	20690	156234	Dave,Andrew	TX to Kampala, G203
20220228	Mon	0907-0915	11537	421635	Dave,Andrew	TX to Oslo, G220
20220228	Mon	0934-0938	16117	463125	Dave,Andrew	TX to Rabat, G222
20220228	Mon	0937-0945	10372	431625	Dave,Andrew	TX to Warsaw, S9+, G221

- 1) Not sure about freq and scale
- 2) Began during M01 schedule at 0710 UTC on 10651 kHz, recorded in CW (SDR Enschede)
- 3) Not audible after 0910 UTC due to fading
- 4) Also heard by Schorschi at 1100 UTC on 13249 kHz in USB with "666666" and QSA5 QRM1 QRN1 QSB1
- 5) Long TX on an unknown freq
- 6) Break between 0937 and 0938 UTC
- 7) Serdolik on 13410 kHz
- 8) SDR Twente, spurs
- 9) Break between 1234 and 1235, still going at 1253 UTC (no end time)
- 10) SDR Twente - dualling with Lisbon
- 11) Not sure about scale

Many thanks to all contributors for their busy work. You see, X06 is going "berserk", especially in February – no wonders why.

Also in the next issue will come more. Till then I say as usual "Good-bye" and stay safe!

Jochen Schäfer, Numbers-, X06 Database and Teamkopf

HM01 MIXED MODE

11435 kHz 01-02-2022 1634z HM01 AM/RDFT i.p. 76364 34333 86271 01128 87525 20061 Ary MON

Ary writes: Finally new groups after months of repeating the groups and files of 23 Sept, whilst Hugh Stegman offered: HM01 started early and on the wrong frequency (11530 AM) at 1757 UTC, with the groups Ary mentioned. They abruptly switched the carrier to the new frequency (11635 AM) at 1800 and after a brief carrier they started up in progress from the previous frequency.

Nice to hear something new after 4 months.

HM01 sending WinDRM instead of RDFT.

11435kHz1625z 10/02 AM/WinDRM Ary THU

Groups
73257 67177 57715 86753 61371 82006

Files
50008675.F1C
50206137.F1C
50008200.F1C
68807325.TXT.lz
03516717.TXT.lz
84415771.TXT.lz

11435kHz1633z 11/02 AM/WinDRM Late start. Nothing at 1600z Ary FRI

Groups
08352 15521 32767 33585 67724 35381

Files
31870835.TXT.lz
22001552.TXT.lz
46423276.TXT.lz
36223358.F1G
10116772.TXT.lz
00363538.TXT.lz

11530kHz1708z 12/02 AM/WinDRM in progress Ary SAT

Groups
28686 08022 15231 51558 20377 46664

Files
66022868.TXT.lz
36000802.F1G
36701523.F1G
13885155.TXT.lz
00072037.TXT.lz
36614666.F1G

11435kHz1608z 13/02 AM/WinDRM in progress Ary SUN

Groups
43641 07114 08643 14543 50241 56516

Files
18544364.TXT
73660711.TXT
86870864.TXT
18441454.TXT
62505024.TXT
32445651.TXT

11530kHz1700z 14/02 AM/WinDRM Ary MON

Groups
80133 86266 68227 35616 35714 46119

Files
88178013.TXT
55118626.TXT
26546822.TXT
21073561.TXT
04763571.TXT
56264611.TXT

11435kHz1630z 15/02 AM/WinDRM Ary TUE

Groups

27727 77241 81422 82411 38741 13772

Files

13632772.TXT
36717724.FIG
63658142.TXT
10128241.TXT
17733874.TXT
13632772.TXT

11530kHz1703z 16/02 AM/WinDRM Ary WED

Groups

61272 17844 71745 87275 63632 55325

Files

36876127.FIG
88531784.TXT
50257174.FIC
22668727.TXT
43336363.TXT
46155532.TXT

11530kHz1701z 17/02 AM/WinDRM Ary THU

Groups

24045 55747 62019 65070 40844 76878

Files sent

76652404.TXT
03325574.TXT
86066201.TXT
17546507.TXT
50774084.FIC
33307687.TXT

11435kHz1603z 19/02 AM/WinDRM i.p. Ary SAT

Groups

60303 28856 61574 30106 77572 70332

Files sent

12726030.TXT
27512885.TXT
05566157.TXT
02533010.TXT
37537757.TXT
36127033.FIG

11530kHz1702z 18/02 AM/WinDRM Ary FRI

Groups

05071 43782 44352 35412 57858 47701

Files

06500507.TXT
50744378.FIC
32604435.TXT
23503541.TXT
43665785.TXT
42824770.TXT

11530kHz1703z 21/02 AM/WinDRM Ary MON

Groups

08377 60161 66338 06129 21004 54514

Files sent

56530837.TXT
76776016.TXT
36306633.TXT
07860612.TXT
36252100.FIG
04535451.TXT

11435kHz1632z 21/02 AM/WinDRM Ary MON

08377 60161 66338 06129 21004 54514 (repeat of 20 Feb)

11530kHz1700z 24/02 AM/WinDRM

Ary

THU

Groups

10458 73387 67662 06311 65374 10341

Files

80141045.TXT
68237338.TXT
27626766.TXT
67000631.TXT
45216537.TXT
46771034.TXT

16180 kHz 2140z 26/02 AM/WinDRM

Ary

SAT

Groups

41151 02721 67664 06313 65376 10343

Files

70644115.TXT
75510272.TXT
27626766.TXT
67000631.TXT
45216537.TXT
46771034.TXT

No transmissions on 25/02, the first transmission on 26/02 was at 2100z


Gizza Job

```


<div class="card bg-light">
  
    <h4 class="card-title">Headlines</h4>
    <p class="card-text">Interesting updates in the socia
    <button type="button" class="
  <div class="modal" id="Headl.
    <div class="modal-dialog">
      <div class="modal-conten
      <div class="modal-header'
        <h4 class"modal-title":
        <button type="button"
      </div>
  </div>

```


Can you spot the error in our html?

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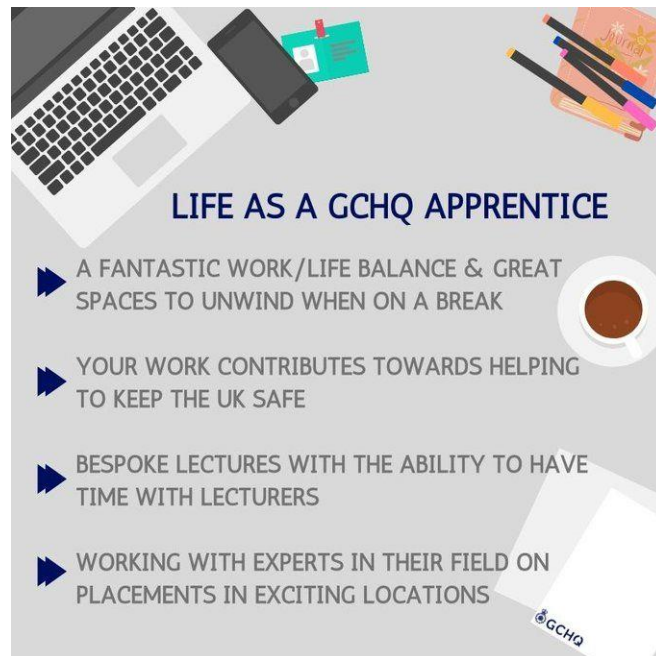


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NOT Number Station/Espionage related but a very good read – Satphone interception etc:

**Captain Cojones and the narco sub mission from hell
A boxer in too deep with drug lords risked his life to cross the Atlantic in a flimsy vessel loaded with cocaine**

Police seized the narco-sub on arrival in a Spanish cove. The fleeing crew had pulled out stoppers in an attempt to sink the evidence
 Matthew Campbell
 Pontevedra, Spain
 Saturday January 22 2022, 6.00pm, The Sunday Times

<https://www.thetimes.co.uk/article/captain-cojones-and-the-narco-sub-mission-from-hell-gvqshbj09>

The Spanish boxer and his two Ecuadorean crewmen were hundreds of miles from land in the tiny cabin of a homemade submarine loaded with drugs when things started to go wrong.

The weather had turned nasty as they made their way across the Atlantic at 11mph. After a few days of being rocked by waves the size of buildings, “captain” Agustín Álvarez reached for the satellite phone to warn his Colombian employers that delivery of the three-tonne cargo to Spain would be delayed.

“That was the point when things started to unravel,” said a Spanish police source last week. “British intelligence intercepted this and later calls, alerting Portugal and us to a submarine in the Atlantic heading to our shores and stuffed with cocaine.”

The first “narco-submarine” to have appeared on this side of the Atlantic was eventually cornered by Spanish police in a Galician cove in late November 2019. Álvarez, the two crew and other alleged accomplices are awaiting sentencing after being tried last month in connection with a drug-trafficking conspiracy.

It is only now that the full story has begun to emerge of their ill-starred odyssey, a journey that began in the Amazon and ended on the rugged coast of northwestern Spain. The tale hinges on a curious alliance between Galician, or “Gallego”, smuggling families and Latin America’s drug lords. “The Colombians know that they can trust us Gallegos, we speak the same language and our criminal gangs observe the same code of omerta,” said Javier Romero, a local journalist and author of Operation Black Tide, a book on the semi-submersible submarine.

It was built out of fibreglass in a clandestine waterside workshop in the Amazon jungle and christened “Che”, after the former Argentine revolutionary Che Guevara — a sign of the influence of former Colombian Marxist rebels in the ranks of the “narcos”.

The problem they faced then was finding someone to pilot it, a job for the desperate or the insane. “Each minute in a vessel like that, you’re risking your life,” one of the police investigators told me.

The Gallegos like to boast that a feel for the tiller and their region’s jagged, 1,000-mile coastline of inlets and coves — dubbed Cocaine Coast in a Netflix series — is somehow encoded in their DNA.

Álvarez, 31, was no exception. He began, however, as a boxer. The middle-class boy from a respectable family was twice crowned national champion on the junior amateur circuit. “He wanted to go professional,” Paco Amoedo, his trainer, said last week in an interview in his Vigo gym. “But he feared he wouldn’t earn what he wanted.”

Remarkably agile at 78, the coach raised his fists and did a little dance to demonstrate Álvarez’s fighting style. “He was tall, with a good reach,” he said, jabbing the air. “He was intelligent, he always kept a cool head.” Another ringside acquaintance put it another way: “That boy had cojones.”

He got a job in a go-kart business in southern Spain before being befriended by a wealthy Colombian, who offered him work in “transport”.

Then one day in late October 2019 he locked up his elegant studio flat and boarded a flight to Belém near the mouth of the Amazon river, ending up in the makeshift submarine shipyard.

Such yards have proliferated in recent years, with single-use “throwaway” vessels such as the Che popular as a means of shifting large quantities of drugs north to America and increasingly, police believe, to Europe — their main market. It turns out that Álvarez was not the drug lords’ first choice for the job: another “Gallego” had taken one look at the Che and backed out of what he considered to be a “suicide mission”, taking the next plane home.

Alvarez, though, appears to have been eager to help, perhaps because of an unfortunate setback during a previous mission: he had “lost” part of a shipment that he was transporting from Algeciras to Madrid. “He had been forced to go into hiding for a few months,” Captain Francisco Torres, a senior Civil Guard commander, told me. “There were people looking for him who wanted to kill him.” He may have been hoping for redemption.

Under questioning, Alvarez’s crewmates, cousins Pedro and Luis Manzaba, told Torres that the journey was “horrendous”. They had to endure three storms. “Fibreglass is quite weak. If it breaks, you’re dead,” said Torres.

The submarine was taking such a hammering that the cousins were convinced it would turn into their tomb. The narco-submarines are often referred to as “floating coffins” by those involved in the drug trade. Tales abound of bosses locking turrets on the outside with padlocks and handing the keys to underlings with instructions to meet the cargo at its journey’s end. “This is to ensure there are no losses or theft,” said Torres. “Your only choice then is succeed or die.”

Things had started well for Alvarez. He managed to find a way down the Amazon river and into the sea, no mean feat in the dark.

The ventilation system had failed already and the cabin was misty with diesel fumes. But Alvarez and the cousins — mercifully, not locked in — could take turns standing with their heads out of the turret, which rose barely a foot above the waves. Otherwise visibility was limited through little fogged-up windows in the turret. One night an oil tanker loomed out of the darkness.

Showing his quick boxer’s reactions, Alvarez grabbed the wheel to guide the submarine out of its path. The tanker passed within a few feet.

The cramped control room doubled as a sleeping area

Besides bad weather, other concerns surfaced: food supplies of crackers and tinned sardines were holding up well but fuel was running low.

After almost a month at sea the crew’s alarm increased when they got to within 300 miles of the Portuguese coast. Two “go fasts” — boats with powerful engines — were supposed to meet them at this pre-designated point to offload the merchandise (and them) before sinking the submarine.

But nobody came: one of the boats, it turned out, had suffered a mechanical failure. They were told to idle on the spot for 72 hours.

By this stage the Portuguese, alerted by the British, had deployed naval vessels and aircraft to search for the sub. The crew knew they were being hunted — they had heard planes circling above.

The planes had not yet spotted the submarine, apparently, even though it was leaving in its wake not only foam — and satellite telephone chatter — but a trail of black smoke: an oil cannister had split, leaking its contents over a red-hot engine that was beginning to falter after almost 2,700 miles.

Life on board was becoming unbearable. The three occupants’ skin had turned black from the smoke and grime. They wanted nothing more at this stage than to get home for a shower. There was no lavatory aboard — they used plastic bags.

Alvarez was told to head north to the Costa da Morte, a stretch of Galician cliffs that was a notorious graveyard for ships. When a fishing boat was seen approaching, it seemed as if, finally, the Che might have accomplished its mission.

As the boat came within hailing distance, however, a helicopter could be heard, its searchlight piercing the late afternoon winter gloom. The fishing boat sped away.

Underwater specialists from the Spanish Civil Guard refloated the submarine and recovered 3,000kg of cocaine

Later that night Alvarez decided to head into a cove in a secluded inlet that he knew well from childhood holidays on the beach. He called some of his best friends in a desperate appeal for help unloading the drugs — the bosses, it turned out, had not been able to persuade any of the four best-known Galician “narco taxistas” to take on the job.

That night a friend of Alvarez sat in his car at the cove with the headlights on to show the submarine the way in. But as it chugged into the bay, two Civil Guard officers were waiting.

After pulling out stoppers to sink the submarine, Alvarez swam ashore with the cousins. The police caught one of the exhausted Ecuadoreans immediately and arrested the other shortly afterwards but in the confusion Alvarez escaped up a hill to a partially built holiday home that he knew, where he managed to stay hidden for a further six days until caught in a door-to-door search. By then police had refloated the submarine and unloaded its waterproofed cargo, which was later burnt.

Amoedo still puzzles over what went wrong with his young boxing champion. “If I could see him, I’d give him a hug. I’d say: ‘Tell me, why? Was it the money?’ If it was for money, I could not have given him millions, but I would have been happy to help.”

He paused. “We can all make mistakes. He was an intelligent lad but he got caught up in this. I know, that’s a contradiction, isn’t it?”

<https://www.thetimes.co.uk/article/captain-cojones-and-the-narco-sub-mission-from-hell-gvqshbj09>

ASIO Sparrow Anne Neill was a 'secret service housewife' who lived an incredible double life

ABC Radio National /

By Anna Kelsey-Sugg and Brett Evans for The History Listen

Posted Tue 8 Feb 2022 at 6:00pm Tuesday 8 Feb 2022 at 6:00pm, updated Wed 9 Feb 2022 at 1:06am Wednesday 9 Feb 2022 at 1:06am

https://www.abc.net.au/news/2022-02-09/anne-neill-asio-secret-agent-and-inconspicuous-housewife/100802168?utm_medium=social&utm_content=sf253392723&utm_campaign=abc_australia&utm_source=m.facebook.com&sf253392723=1&fbclid=IwAR22zflpsPH9RW8XISr2jHk_cTjiuG04BjFB_Y6iYqEOxmrDo7cbk_sTcEO

In the 1950s, Anne Neill cut an unimposing figure. She was neatly dressed, white-haired, softly spoken.

Some regarded her as “a fluttery old lady”, historian Phillip Deery tells ABC RN’s The History Listen.

But they were wrong.

Neill, a suburban Adelaide housewife, was living a double life. She was working as a secret agent for Australia’s security police, ASIO.

The inconspicuous, middle-aged widow was an ideal recruit, and from 1950 until 1958 she was one of ASIO’s most effective penetrative agents, or “Sparrows”.

“It’s a remarkable story in that her self-sacrifice and dedication almost knew no bounds,” Professor Deery says.

Newspaper clipping with image of smiling Anne Neill and headline, ‘7 YRS. IN REDS AS SECURITY AGENT’. Neill’s work as an undercover agent took her all the way to Russia. (Supplied)

Deceit and duplicity in Cold War Australia

Anne Neill was already in her 50s when her career in espionage began.

Her late husband Roy had been gassed in World War I, contributing to his early death. It sparked in Neill an interest in efforts to achieve harmony between nations.

She also held the Christian faith, British Empire and monarchy in high regard – and she saw communism as a threat to all of them.

In 1949, Neill joined a peace organisation, but when she received some information that bore, as she saw it, a striking resemblance to communist propaganda, she took it to the South Australian Attorney-General and asked what she could do about it.

Not long afterwards, an ASIO officer came calling at Neill's home in suburban Adelaide. He saw the potential to gain some undercover information.

"[The officer] said, 'Would you like to go to the South Australian peace conference just to test the water?'" says Professor Deery, a Cold War expert who has studied Neill's archives.

Neill willingly took up the offer.

Almost immediately, Neill was hooked on her new role. A natural spy, she'd found her vocation.

She joined – and spied on – as many communist front organisations as she could: the New Theatre, the Eureka Youth League and the Union of Australian Women. Then, in 1951, the ASIO Sparrow finally joined the Communist Party itself.

Ethel Rosenberg's death

Her brother's lie, the FBI's thirst for knowledge and traditional ideas about womanhood led to Ethel's conviction.

At regular meetings, Neill surreptitiously gathered information "for a handler, who was extremely impressed with both the volume and the value of, as they called it, her 'product', her 'intelligence material'," Professor Deery says.

Neill was paid five pounds 10 shillings a week by ASIO, plus two pounds for expenses – but money was never her primary motivation.

"Her dedication, her commitment, her assiduousness made her calling almost a moral one ... that impelled her to sacrifice nearly a decade of life, as she saw it, to a higher cause," Professor Deery says.

"I don't see her as merely another snitch."

'Communists don't take holidays'

Leaders in South Australia's Communist Party found her to be charming and dedicated.

One of the comrades she worked alongside was party member Beryl Miller. At 94 years of age, she's been a communist for nearly 70 years.

Beryl Miller, wearing purple cardigan and dress, sits on a chair holding a newspaper on her lap, with neutral expression.

Long-time Communist Party member Beryl Miller was spied on by Anne Neill.(Supplied)

"I suppose if you were that way inclined, you could have found [Neill] a very likeable person," Ms Miller says.

"She was very motherly. She spoke very softly. Never raised her voice like me. And a lot of people would have held her in good regard."

She says Neill "seemed to have a finger in every pie" – sewing costumes for the New Theatre, typing notes and making marmalade for fundraising fetes.

"She made herself very valuable for the organisation," Ms Miller says.

By day, Neill worked hard as a member of the Communist Party.

But by night, she did her real work for ASIO writing up hundreds of security reports about the comrades and their activities.

She was such a dedicated spy that ASIO actually tried to rein in her passion for the job, after she experienced a series of illnesses.

"Her handlers were trying to pull her back from some of her commitments," Professor Deery says.

"They'd say, 'Take it easy, go on a holiday.' And she would say, 'No, communists don't take holidays.'"

"It was an incredible commitment. I haven't come across any other agent with quite that drive."

'Inside the belly of the beast'

In 1952, Neill flew as a Communist Party delegate to the World Peace Congress in Vienna and then to Moscow, on a ticket secretly covered by an enthusiastic ASIO.

"Anne Neill's visit to Moscow was the first time ever an ASIO agent had gone over to the enemy territory. So this was a coup for ASIO, having an agent inside the belly of the beast," Professor Deery says.

The Australian who worked for the Stasi

A Cold War tale of spies, diplomacy and secret police, from Indigenous communities in the Top End to the opera houses of Berlin.

Her visit to the Soviet Union impressed her Australian comrades, too.

"When she returned from overseas, that was a real badge of honour," Professor Deery says.

"She spoke at great length and with great enthusiasm about the Soviet experiment and its other virtues."

Neill was even invited to attend the Soviet National Day celebrations at the Russian embassy in Canberra in November 1953. It was here that she met the KGB spy Vladimir Petrov, who, after defecting in 1954, became one of the most famous Russians in Australian history.

Suspicious confirmed

Petrov's defection came just months after his private meetings with Neill, timing that raised suspicion within the Communist Party.

More stories from The History Listen:

Snakes, the CIA and nitric acid: How 'mind-control' experiments came to the University of Sydney

Meat could 'lead you into sin': the story of vegetarianism in Australia

The digger from Shanghai

'Duelling was not about killing': The real motives behind the deadly practice

Was Neill working undercover too? Senior party members took her aside to find out, Professor Deery explains.

"The doors were locked. The interrogation went on for several hours, and she was asked to explain her whole history.

"She came through it relatively unscathed. She held her nerve. She showed enormous strength of will and resilience, and she didn't crack."

The party accepted her assurances of loyalty and for several more years she continued her double life of good communist and ASIO agent.

That is, until 1958, when the mother of a committee member expressed her suspicions that Neill was working undercover. Unbeknownst to her, the confidant was a secret ASIO agent herself.

"She, of course, informed ASIO, who said, 'Right, time to pull the plug,'" Professor Deery says.

For the Communist Party, Neill concocted a story about needing to devote more time to her religion. But a few years later, in 1962, she went public as an ASIO Sparrow.

In 1962, after years of secrecy, the Sparrow finally outed herself.(Supplied)

Neill, who died in October 1986, wanted Adelaide and the world to know that she spent years in the Communist Party only to help protect Australia from what she perceived as the menace of communism.

She published a series of newspaper articles in the Sunday Mail and the Herald under headlines like "Secret Service Housewife".

"It was confirmation for what we had thought for a very long time," Beryl Miller says.

Even the lifelong communist has some grudging respect for the woman who spied on her.

"She worked very hard and was a woman who did a job for her cause. That you can't deny."

https://www.abc.net.au/news/2022-02-09/anne-neill-asio-secret-agent-and-inconspicuous-housewife/100802168?utm_medium=social&utm_content=sf253392723&utm_campaign=abc_australia&utm_source=m.facebook.com&sf253392723=1&fbclid=IwAR22zflpsPH9RW8XISr2jHk_cTjuGO4BjFB_Y6iYqEOxmrDo7cbk_sTcE0

Thanks JPL, interesting storyline.

Finally.....

COMMENTARY

To Brief, Or Not to Brief: UK Intelligence and Public Disclosure

Dr Dan Lomas

2 February 2022

<https://rusi.org/explore-our-research/publications/commentary/brief-or-not-brief-uk-intelligence-and-public-disclosure>

The UK government's recent release of information on Moscow's intentions in Ukraine is not the first time intelligence has been released as evidence, and raises questions about who delivers the message and what information should be used.

Last week, Foreign Secretary Liz Truss issued a statement on a Russian plot to install a pro-Kremlin leadership in Ukraine. The statement – echoing a similar one from US sources – referred to 'information' that Russia considered Ukrainian politician Yevhen Murayev a likely replacement for President Volodymyr Zelensky, and identified four former MPs and businessmen as working closely with Russian intelligence.

'The information being released today shines a light on the extent of Russian activity designed to subvert Ukraine', said Truss, amid signs that the Kremlin has increased its troop presence bordering Eastern Ukraine to 130,000 troops. 'Russia must de-escalate, end its campaigns of aggression and disinformation, and pursue a path of diplomacy', she urged.

Days later, in a statement to the House of Commons, Prime Minister Boris Johnson said the UK had 'declassified compelling intelligence exposing Russian intent to install a puppet regime in Ukraine', indicating that the UK would continue to disclose Russian 'cyber-attacks, false flag operations or disinformation'.

There had been speculation that intelligence came from the UK's agencies, yet recent reporting, based on those close to the matter, suggests the intelligence was US sourced and assessed to be accurate by UK officials. The Washington Post believe the Biden administration 'asked the British government ... to publicly expose the Russian plotting'. In recent weeks, the US administration has aimed to expose Moscow's false claims (a so-called 'prebutter').

That the UK government is following the US in the publication of intelligence comes as little surprise. Previously, intelligence was neither seen nor heard; for historian Michael Handel, it was as if 'MI5 and MI6, do not exist. Enemy agents are found under gooseberry bushes and intelligence is brought by the storks'. Aside from a small number of official reports and scandals, intelligence did not feature. Yet things are different now, with intelligence taking on a visible role.

Historical Precedents

Nonetheless, the recent disclosure of intelligence on Ukraine is not as unusual as some commentators suggested. The public use of intelligence to support policy decisions has a long yet fraught history, often involving the blowing of secret sources to justify political positions. In 1920, diplomatic signals intelligence from the Government Code and Cipher School (GC&CS) was used as part of a wider (and unauthorised) leak to undermine Britain's rapprochement with Bolshevik Russia, inevitably compromising SIGINT on Moscow.

The public use of intelligence to support policy decisions has a long yet fraught history, often involving the blowing of secret sources to justify political positions

Worse followed. Justifying a raid on the All-Russian Co-operative Society in May 1927, the Baldwin government wrecked Britain's ability to read high-grade Soviet traffic citing 'telegrams' based on GC&CS reporting. Inevitably, Soviet security improved with the use of the one-time pad. Equally, the Attlee government drew attention to the Jewish Agency's double dealing in post-war Palestine by publishing messages from secret traffic.

The effect in each case was the wanton vandalism of sources, and greater headaches for policymakers. More recently, intelligence has also taken a public facing role. In part, the public role of the agencies makes further engagement necessary, yet the nature of intelligence targets also requires greater disclosure. Few in the bipolar Cold War world questioned the threat of the Warsaw Pact, it was there for all to see. Gone are the days where intelligence is collected and analysed, only to sit on a consumer's desk. We now live – to quote former CIA Director James Woolsey – 'in a jungle filled with a bewildering variety of poisonous snakes' where threats seem, to the public, unclear, and clarity can be useful in supporting policy.

The UK's agencies have now found their voice, with implications for policy input, as one former agency official explains: 'The agencies can't isolate themselves from the implications of their having found themselves in policy space: the public use of intelligence, whether attribution of what has been a secret source, or the routine exposure of cybersecurity issues, needs agency staff who are able to think on their feet about the implications of releasing classified information, but without their traditional "Just Say No" attitude'.

The use of the Joint Intelligence Committee's (JIC) assessments to support UK policy on Iraq, and Tony Blair's claim that the intelligence was 'extensive, detailed and authoritative', stands out as a key example. Here, the public use of intelligence to support policy led to claims that the committee had broken former JIC chair Sir Percy Cradock's mantra that intelligence and policy need to be in 'separate but adjoining rooms'.

Yet Iraq is an aberration. The November 2001 release of intelligence by Downing Street to identify Al-Qa'ida and Osama bin Laden as responsible for the 9/11 attacks met with little controversy. The intelligence was caveated that it could not be 'used evidentially ... But on the basis of all the information available HMG is confident of its conclusions as expressed in this document'.

The JIC's assessments of the use of chemical weapons by the Syrian regime in August 2013 were also used as part of the debate on intervention. The then chair of the JIC, Jon Day, wrote it was 'highly likely' that the Assad regime had used chemical weapons in Ghouta, killing an estimated 1,400 civilians. In this case, few questioned the intelligence. Instead, Parliament found the policy options unconvincing.

The statement on Ukraine, and the response to it, is a reminder that release of 'intelligence' to support policy is littered with problems. Intelligence also formed the cornerstone of the UK response to the 2018 Salisbury attacks. Speaking to MPs, Theresa May noted that while she could not provide details, 'based on a body of intelligence, the Government has concluded that the two individuals named by the police and CPS are officers from the Russian military intelligence service, also known as the GRU'. If anything, Russia's bungling efforts to shape a counternarrative – highlighted by the widely mocked RT interview of the suspects, contrasted with the calm statements from the UK government, and was an important factor in garnering support from NATO and EU allies.

Looking Ahead

Liberal democracies will always need to justify decisions, and intelligence forms part of the argument. Governments also need to counter 'false premises', a point recently made by former SIS Chief Sir Alex Younger, speaking to BBC's Radio 4 Today programme. Of course, the UK's agencies also release intelligence when it comes to the cyber domain. 'National security and cyber security are converging as dependence on networked devices becomes essential for everybody, particularly in the way they interact with the state', notes one former senior GCHQ official. Going forward, GCHQ and the National Cyber Security Centre will provide yet more public information.

There are warnings. Naturally, the use of intelligence as evidence will not convince everyone, and claims of 'dodgy dossiers' continue. Another problem – as history tells us – is source protection. The examples of the 1920s serve as a warning that disclosure blows profitable steams of intelligence for little value.

Confusion over the Foreign Office statement also stems from presentation. The initial packaging of the Ukraine plot story as 'information' did little to reinforce the immediacy of the message, and past cases have shown it is possible to refer to JIC assessments or 'intelligence' as a blanket without compromising sources. Lord Butler's 2004 review of intelligence on Iraqi WMD is a useful reminder that clarity is needed when presenting intelligence in public.

Trust in the messenger also matters. Obviously, the ultimate decision to blow sources in the interests of policy is a political choice, and it is hard to divorce intelligence from policy. Yet polling has consistently shown a sharp decline in trust in government and politicians, whereas civil servants and government officials are viewed more favourably. Equally, the UK public also have relatively high levels of trust in the intelligence agencies.

Yet the statement on Ukraine, and the response to it, is a reminder that release of 'intelligence' to support policy is littered with problems. Agency warnings or caveated summaries of JIC assessments are clearly more favourable than press releases, and carry greater weight. It is also of note that the JIC, front and centre in past statements, is absent in recent statements. While the release of intelligence to support policy will continue – and is welcomed in some cases – there is a need to carefully think about the mode of delivery.

The views expressed in this Commentary are the author's, and do not represent those of RUSI or any other institution.

<https://rusi.org/explore-our-research/publications/commentary/brief-or-not-brief-uk-intelligence-and-public-disclosure>

Russian forces entered Donbass Region 22/02/2022 and took no time in recognising the republics of the Donetsk and Luhansk, DPR and LPR respectively. Notably Moscow reported 61000 refugees entering Russia at the same time.

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March 2022

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Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Mar kHz, ID, ...	Apr kHz, ID, ...
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x				x			0025/0035		F01	01A	16023/13555	15820/13405
	x			x			0030/0050/0110		M12	01B	5863/ 7463/ 8163 841	6854/ 8154/ 9354 813
	x		x				0100/0120/0140		M12	01B	17463/16263/15863 428	
x				x			0125/0135		F01	01A	16023/13555	15820/13405
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			x			x	0110/0130/0150		M12	01B	10267/ 9267/ 8067 229	
x	x	x	x	x	x	x	0200		V13	0	15388	15388
x							0210/0310		E06	01A	11567/14568 537	11454/14456 537
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x	x	x	x	x	x	x	0300		V13	0	15388	15388
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		x	x				0315		E11	03	11092 25#	11092 25#
x	x	x	x	x	x	x	0400		V13	0	15388	15388
x	x	x	x	x			0400/0420		S06	01A	11616/ 9322 480	11616/ 9322 480
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x							0450		E11	03	5371 41#	5371 41#
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	x		x		x		0455		HM01	18	11462	11462
x	x	x	x	x	x	x	0500		V13	0	11430	11430
	x		x				0500		S11A	03	14769 38#	14769 38#
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x	x						0500/0510/0520 0530/0540/0550		XPB1	01B		13527/13927/14727 14927/15827/16327
			x	x			0500/0600	1/3	E06	01A		15645/17470 951
x		x					0510		S11A	03	11116 65#	11116 65#
	x			x			0530		M01A	14	9441 751	9441 751
		x	x				0530		M01A	14	9129 or 9192 498	9129 or 9192 498
	x						0530/0550/0610		M12	01B	9317/10484/11552 135	9317/10484/11552 135
			x				0530/0550/0610		E07A	01B	6922/ 8122/ 9322 913 deleted?	
		x	x				0540		M01A	14	7692 536	7692 536
x		x		x		x	0555		HM01	18	10345	10345
	x		x		x		0555		HM01	18	14375	14375

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x	x						0600/0610/0620 0630/0640/0650		XPB1	01B	13562/14362/14862 15962/16262/17462	
						x	0600/0620/0640		E07	01B		9261/10261/11461 224
			x	x			0600/0700	1/3	E06	01B	16230/19325 864	
	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							0630/0640		S06S	01A	22185/20050 462	22185/20050 462
x		x					0640		E11	03	14865 94#	14865 94#
	x		x				0645		E11	03	8423 51#	8423 51#
x		x		x		x	0655		HM01	18	9330	9330
	x		x		x		0655		HM01	18	13435	13435
x			x				0700		S11A	03	8597 47#	8597 47#
	x			x			0700		E11	03	8180 57#	8180 57#
x	x	x	x	x	x	x	0700		V13	0	15250	15250
						x	0700		M01	01B	6510 463	6510 463
	x						0700/0710		S06S	01A	5760/ 6930 452	5760/ 6930 452
	x			x			0700/0720/0740		E07	01B	14942/16142/18042 310	17453/18453/19653 446
						x	0700/0720/0740		E07	01B	10268/11068/12168 201	
	x		x				0700/0720/0740		M12	01B		10904/10204/ 9304 923
x		x					0700/0720/0740		XPA2	01B		11409/12209/13409
	x			x			0710		M01A	14	10651 297/358	10651 297/358
		x	x				0710		M01A	14	9175 146/208	9175 146/208
	x		x				0710/0730/0750		XPA1	01B		10428/11431/13441
x		x					0715		E11	03	15632 75#	15632 75#
	x			x			0715		E11	03	9963 63#	9963 63#
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x			x				0745		E11	03	10213 26#	10213 26#
	x		x				0745		E11	03	14865 22#	14865 22#
		x	x				0745		E11	03	17410 34#	17410 34#
x		x		x		x	0755		HM01	18	9065	9065
	x		x		x		0755		HM01	18	11365	11365
x	x	x	x	x	x	x	0800		V13	0	15250	15250
			x				0800/0810		E17Z	01A	14260/12930 217	14260/12930 217
	x						0800/0810		S06S	01A	11635/10420 127	11635/10420 127
					x		0800/0810	1	S06S	01A	10350/ 8520 132	10350/ 8520 132
					x		0800/0820/0840		E07A	01B		12218/13418/14418 244 deleted?
		x				x	0800/0820/0840		M12	01B	15848/17448/19148 841	
		x					0800/0820/0840		XPA2	01B	13931/14831/16131	
	x		x				0810/0830/0850		XPA1	01B	12132/13453/14576	
	x	x					0820		E11	03	19184 13#	19184 13#
			x	x			0820		E11	03	5941 43#	5941 43#
x				x			0830		E11	03	15905 18#	15905 18#
					x	x	0830		S11A	03	6433 37#	6433 37#
							0830/0840		S06S	01A	9220/ 8270 764	9220/ 8270 764
x		x					0830/0840		S06S	01A	9082/ 9952 464	9082/ 9952 464
x			x				0830/0840		S06S	01A	11530/12140 172	11530/12140 172
				x			0830/0840		S06S	01A	12140/13515 156	12140/13515 156
x			x	x			0830/0930		S06	01A	19415/16268 842	19078/16318 842
x		x					0845		E11	03	12202 71#	12202 71#
	x		x				0845		E11	03	12202 15#	12202 15#
		x	x			x	0855		HM01	18	9240	9240
	x		x		x		0855		HM01	18	11462	11462
x		x					0900		E11	03	9968 53#	9968 53#
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x				x			0915		S11A	03	6480 48#	6480 48#
x	x	x	x	x	x	x	0930		M14	01A	17458 617, only 10.+25. when msg repeat 15994 on 11.+26.	17458 617, only 10.+25. when msg repeat 15994 on 11.+26.
		x	x				0930		E11	03	6940 27#	6940 27#
x			x				0930/0940		S06S	01A	9081/10514 698	9081/10514 698
						x	0930/1000		S06	01A	12093/10212 480	13945/11128 480
x		x		x		x	0955		HM01	18	9155	9155
	x		x		x		0955		HM01	18	12180	12180
	x			x			1000		E11	03	9951 30#	9951 30#
	x						1000/1010		S06S	01A	6410/ 7340 427	6410/ 7340 427
		x					1000/1010		S06S	01A	13365/14505 276	13365/14505 276
x	x	x	x				1015/1025/1035		F01	01A	10861/ 8076/ 6974	10177/ 9317/ 7572
	x			x			1020		S11A	03	8088 42#	8088 42#
x		x					1045		E11	03	7317 69#	7317 69#
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		x			x		1100/1110/1110 1130/1140/1150		XPB1	01B		search
x				x			1100/1120/1140		XPA2	01B	14639/13539/12139	16341/14841/13841
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x							1200/1220/1240		M12	01B	14377/13461/12114 317	14377/13461/12114 317
x	x	x	x	x	x	x	1200		V13	0	7688	9276,15890
x							1200/1210		S06S	01A	9145/11460 149	9145/11460 149
x			x				1200/1210		S06S	01A	12415/14212 175	12415/14212 175
x					x		1200/1210/1210 1230/1240/1250		XPB1	01B		17474/16274/15974 14974/14374/13874
		x			x		1200/1210/1210 1230/1240/1250		XPB1	01B	search	
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		x		x			1200/1220/1240		XPA2	01B	12139/13539/14639	14377/14977/15977
	x	x					1205		E11	03	6923 46#	6923 46#

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x			x				1300		E11	03	5371 31#	5371 31#
x	x	x	x	x	x	x	1300		V13	0	7688	7502
x					x		1300/1320/1340		E07	01B		12176/11576/10276 512
					x		1300/1330		S06	01A	10755/ 9073 480	11487/ 9412 480
		x		x			1310/1330/1350		XPA1	01B	14451/13451/12151 441	
			x			x	1330		E11	03	5737 52#	5737 52#
x			x				1400/1420/1440		M12	01B	search	
					x		1400/1420/1440		E07	01B	12143/11143/10443 114	
			x		x		1410/1430/1450		E07	01B	16284/14854/13384 328	16331/15831/14831 893
	x				x		1430		E11	03	14972 91#	14972 91#
					x		1500		M01	14	6260 463	6260 463
x	x						1500/1510		S06S	01A	6464/ 7242 914	6464/ 7242 914
	x	x	x				1500/1600		S06	01A	14913/10387 387	
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x				x			1510/1530/1550		E07A	01B		12174/11074/10274 102 deleted?
			x				1530		E11	03	10330 26#	10330 26#
					x	x	1530		E11	03	4505 36#	4505 36#
x	x	x	x	x	x	x	1555		HM01	18	11435	11435
x			x				1600/1620/1640		M12	01B		search
		x				x	1600/1620/1640		M12	01B		16321/15821/14721 387
					x		1600/1620/1640		XPA2	01B	12163/10863/ 9363	
x		x					1600/1620/1640		XPA2	01B	13994/13494/12194	15819/14919/13919
x						x	1605		E11	03	5082 23#, check	5082 23#
				x			1610/1630/1650		E07A	01B	11473/10173/ 9373 413 deleted?	
	x		x				1645		E11	03	33# search	33#
x	x	x	x	x	x	x	1655		HM01	18	11530	11530
		x				x	1700/1720/1740		E07	01B		13417/12117/10717 417
			x				1700/1720/1740		M12	01B	12162/11566/18711 546	12162/11566/18711 546

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Mar kHz, ID, ...	Apr kHz, ID, ...
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	x		x				1800		M01	14	5475 463	5475 463
		x				x	1800/1820/1840		E07	01B	10321/ 9121/ 7821 318	
			x				1800/1820/1840		M12	01B	12162/11566/10711 546	12162/11566/10711 546
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				x		x	1815		E11	03	11116 92#, check	11116 92#
	x			x			1840/1850/1900	1	F01	01A		12194/10581/ 8112
		x			x		1850		S11A	03	10213 28#	10213 28#
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		x					1900/1920/1940		M12	01B	8047/ 6802/ 5788 463	8047/ 6802/ 5788 463
		x		x			1900/1920/1940		M12	01B		search
				x			1900/2000	1/3	S06	01A		x9056/ 6825 319 search
		x			x		1910		E11	03	4181 39#	4181 39#
				x		x	1910		E11	03	8530 61#	8530 61#
x				x			1940/1950/2000	1	F01	01A	10467/ 8094/ 6779	
	x		x				2000		M01	14	5020 463	5020 463
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x			x				2000/2020/2040		M12	01B		12139/11139/10239 234
		x					2000/2020/2040		E07A	01A		8144/ 6944/ 5744 147 deleted?
		x		x			2000/2020/2040		M12	01B	search	
			x				2000/2020/2040		M12	01B	14377/13461/12112 317	14377/13461/12112 317
				x			2000/2100	1/3	S06	01A	x9056/ 6825 319 search	
x		x		x		x	2055		HM01	18	11635	11635
	x		x		x		2055		HM01	18	16180	16180
		x					2100/2120/2140		E07A	01A	5877/ 5277/ 4577 825 deleted?	

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Mar kHz, ID, ...	Apr kHz, ID, ...
				x	x		2100/2120/2140		M12	01B		7575/ 8175/ 9175 511
x			x				2110/2130/2150		M12	01B		10572/ 9372/ 8172 531
x		x		x		x	2155		HM01	18	10715	10715
	x		x		x		2155		HM01	18	17480	17480
				x	x		2200/2220/2240		M12	01B	8126/ 7526/ 6826 178	
			x				2210/2230/2250		M12	01B	8164/ 6964/ 5764 197	
		x			x		2210/2230/2250		M12	01B		11012/10212/ 9312 923
					x		2230/2240		F01	01A	20700/18726	22953/19405
x			x				2300/2320/2340		M12	01B	9157/ 7957/ 6857 917	
					x		2330/2340		F01	01A	20700/18726	22953/19405

M01 FREQUENCY LIST

Frequencies may vary by a few kHz

JAN FEB NOV DEC

M01/1

197

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

MAR APRIL SEPT OCT

M01/2

463

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

MAY JUNE JULY AUG

M01/3

025

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

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Jan kHz, ID, ...	Feb kHz, ID, ...	Mar kHz, ID, ...	Apr kHz, ID, ...	Remarks
		x	x				0315		E11	03	9052 25#	9052 25#	11092 25#	11092 25#	since 01/14, last log 02/22
x							0450		E11	03	4909 41#	4909 41#	5371 41#	5371 41#	since 02/10, last log 02/22 2nd transmission Thu 1730z
	x		x				0500		S11A	03	12530 38#	12530 38#	14769 38#	14769 38#	since 05/14, last log 02/22
x		x					0510		S11A	03	9057 65#	9057 65#	11116 65#	11116 65#	since 08/19, last log 02/22
				x		x	0600		E11	03	7850 35#	7850 35#	8680 35#	8680 35#	since 04/15, last log 02/22
x		x					0640		E11	03	16005 94#	16005 94#	14865 94#	14865 94#	since 07/17, last log 02/22
	x		x				0645		E11	03	7840 51#	7840 51#	8423 51#	8423 51#	since 07/09, last log 02/22
x			x				0700		S11A	03	9050 47#	9050 47#	8597 47#	8597 47#	since 04/10, last log 02/22
	x			x			0700		E11	03	6804 57#	6804 57#	8180 57#	8180 57#	since 01/12, last log 02/22
x		x					0715		E11	03	11104 75#	11104 75#	15632 75#	15632 75#	since 06/21, last log 02/22
	x			x			0715		E11	03	9130 63#	9130 63#	9963 63#	9963 63#	since 02/11, last log 02/22
					x	x	0730		E11	03	5371 49#	5371 49#	9079 49#	9079 49#	since 07/15, last log 02/22
x			x				0745		E11	03	10213 26#	10213 26#	10213 26#	10213 26#	since 03/14, last log 02/22 2nd transmission Thu 1530z
	x		x				0745		E11	03	13908 22#	13908 22#	14865 22#	14865 22#	since 01/20, last log 02/22
		x		x			0745		E11	03	17378 34#	17378 34#	17410 34#	17410 34#	since 06/17, last log 02/22
	x	x					0820		E11	03	14611 13#	14611 13#	19184 13#	19184 13#	since 12/18, last log 02/22
			x	x			0820		E11	03	5149 43#	5149 43#	5941 43#	5941 43#	since 10/09, last log 02/22
x				x			0830		E11	03	14940 18#	14940 18#	15905 18#	15905 18#	since 07/15, last log 02/22
					x	x	0830		S11A	03	5371 37#	5371 37#	6433 37#	6433 37#	since 02/14, last log 02/22
x		x					0845		E11	03	12067 71#	12067 71#	12202 71#	12202 71#	since 09/10, last log 02/22
	x		x				0845		E11	03	13046 15#	13046 15#	12202 15#	12202 15#	since 07/17, last log 02/22
x		x					0900		E11	03	11092 53#	11092 53#	9968 53#	9968 53#	since 10/05, last log 02/22
x				x			0915		S11A	03	6252 48#	6252 48#	6480 48#	6480 48#	since 04/19, last log 02/22
		x	x				0930		E11	03	7469 27#	7469 27#	6940 27#	6940 27#	since 02/14, last log 02/22
	x			x			1000		E11	03	9079 30#	9079 30#	9951 30#	9951 30#	since 11/16, last log 02/22
x				x			1020		S11A	03	8102 42#	8102 42#	8088 42#	8088 42#	since 02/10, last log 02/22 2nd transmission Thu 1730z
x		x					1045		E11	03	7984 69#	7984 69#	7317 69#	7317 69#	since 03/18, last log 02/22
	x	x					1205		E11	03	6433 46#	6433 46#	6923 46#	6923 46#	since 03/10, last log 02/22 2nd transmission Mon 0450z
	x		x				1230		E11	03	33#	33#	12530 33# search	12530 33#	since 10/11, last log 10/21 Nov-Feb & May-Aug at 1645z (?) deleted?
x			x				1300		E11	03	4909 31#	4909 31#	5371 31#	5371 31#	since 07/14, last log 02/22
			x			x	1330		E11	03	5082 52#	5082 52#	5737 52#	5737 52#	since 05/15, last log 02/22
x				x			1430		E11	03	13363 91#	13363 91#	14972 91#	14972 91#	since 10/15, last log 02/22
				x			1530		E11	03	5409 26#	5409 26#	10330 26#	10330 26#	since 06/14, last log 02/22 2nd transmission Mon 0745z
					x	x	1530		E11	03	4909 36#	4909 36#	4505 36#	4505 36#	since 03/14, last log 02/22 2nd transmission Thu 1530z
	x					x	1605		E11	03	5432 23#	5432 23#	5082 23# check	5082 23#	since 11/15, last log 02/22
	x		x				1645		E11	03	33#	33#	33# search	33#	since 10/11, last log 10/21 (only ?) Mar/Apr/Sep/Oct at 1230z deleted?
		x		x			1715		E11	03	5082 97#	5082 97#	6923 97#	6923 97#	since 02/15, last log 02/22
x			x				1730		E11	03	5779 41#	5779 41#	7864 41#	7864 41#	since 03/10, last log 02/22 2nd transmission Mon 0450z
x						x	1745		E11	03	12924 24#	12924 24#	13470 24#	13470 24#	since 04/18, last log 02/22
				x		x	1815		E11	03	6849 92#	6849 92#	11116 92# check	11116 92#	since 05/16, last log 02/22
		x			x		1850		S11A	03	11486 28#	11486 28#	10213 28#	10213 28#	since 06/17, last log 02/22
x			x				1900		E11	03	6849 64#	6849 64#	7317 64#	7317 64#	since 05/16, last log 02/22 until 10/21 at 1650z
		x			x		1910		E11	03	4505 39#	4505 39#	4181 39#	4181 39#	since 02/14, last log 02/22
				x		x	1910		E11	03	10487 61#	10487 61#	8530 61#	8530 61#	since 04/17, last log 02/22

XPA1 Sched c and XPA2[Sched m & p] Russian Intelligence and/or Diplomatic Multitone Systems
[Radiogramma] Transmission Schedules.

Zulu >	XPA1 Sched c			XPA2 Sched m			XPA2 Sched p		
Month v	Tuesday/Thursday H+10 H+30 H+50 0710 / 0810z			Sunday/Tuesday H 00 H+20 H+40 1200/2100			Monday/Wednesday H 00 H+20 H+40 0700 / 0800z		
Jan	12157	13462	14374	10921	12221	13521	11493	13393	13993
Feb	13397	14413	15972	11163	13363	14563	13387	13887	14787
Mar	12132	13453	14576	13384	13984	14984	13931	14831	16131
Apr	10428	11431	13441	14442	15842	16342	11409	12209	13409
May	11169	12179	13431	13376	11576	10776	12148	13448	13948
June	11421	12151	13972	13427	12227	10827	12148	13448	13948
July	10446	11474	12175	13394	12194	10794	12148	13448	13948
Aug	10234	11511	12117	12159	11559	10559	12152	13552	13952
Sept	10862	11571	12216	13914	15814	16314	12152	13552	13952
Oct	12167	13437	14972	14469	16169	17469	13372	14672	15872
Nov	13978	14859	15871	14783	13883	12183	11529	13429	13929
Dec	11531	12137	13932	10807	12207	13507	11493	13393	13993

XPA1 and XPA2 Wednesday/Friday schedules

Zulu >	XPA1 Wed/Fri Schedule			XPA2 Wed/Fri Schedule		
Month v	H+10 1210 / 1310z	H+30	H+50	H 00 1200/2100z	H+20	H+40
Jan	14852	13952	11552	10726	11426	12226
Feb	14374	13374	11474	11575	13375	13975
Mar	14451	13451	12151	12139	13539	14639
Apr	13368	12168	11168	14377	14977	15977
May	13419	12219	11419	12124	11124	10624
June	13545	12145	11145	13462	12162	11562
July	13368	12168	11168	12124	11124	10624
Aug	13491	12191	10691	13919	14719	16219
Sept	12137	11137	10237	13484	14684	15984
Oct	14564	13564	11464	13452	14452	15852
Nov	13875	13375	10875	10968	12168	13368
Dec	13465	12165	10265	9389	10289	11589

XPA2 Sample messages [Courtesy of Ary]

10643 01-02-2022 0820 XPA2 MFSK-16/20Bd
11431 01-02-2022 0830 XPA2 MFSK-16/20Bd
12192 01-02-2022 0840 XPA2 MFSK-16/20Bd
06586 00068 75828 69261 64788 44723 56680 68097 79830 72836
95334 09523 27350 18022 79283 65480 25454 93339 72764 06229
91618 02498 45721 73710 75624 52643 93181 09364 78344 25447
69111 34463 85058 13810 70073 91172 07167 01977 54636 18853
86340 68382 22642 04488 04134 23612 03644 33760 27145 28205
74973 44907 31261 86298 76786 22781 40664 63810 93797 05526
55217 06110 17182 25614 48199 39815 67415 97484 02708 12864
01745

10643 01-02-2022 1110 XPA2 MFSK-16/20Bd
11431 01-02-2022 1120 XPA2 MFSK-16/20Bd
12192 01-02-2022 1130 XPA2 MFSK-16/20Bd
07116 00070 87617 22676 56196 02629 35289 67561 67720 60078
53435 71485 38263 34810 56069 78880 91843 00921 52707 84197
12962 93837 82686 19823 35595 39980 37919 72224 71542 35946
96853 66918 93934 12589 97686 29062 80521 69372 03035 31201
09056 10091 66299 98718 29768 56222 07041 80759 68366 40136
54019 11460 58770 95771 88112 35194 54867 66950 66343 70657
82427 62995 50415 10004 26264 25674 28525 20580 37904 62192
70614 20785 22407

10643 01-02-2022 1300 XPA2 MFSK-16/20Bd
11431 01-02-2022 1310 XPA2 MFSK-16/20Bd
12192 01-02-2022 1320 XPA2 MFSK-16/20Bd
07007 00070 82053 84800 88958 13312 27195 91503 53850 79260
55508 77766 44324 00094 68764 59350 11607 61018 14838 09619
69214 67963 73255 37347 89913 29483 53253 29561 82470 72385
26230 79171 63027 41613 42638 65105 96520 81856 28744 51206
66141 09844 18021 97828 32051 64283 43149 35110 82314 37525
73913 35535 57009 86628 36629 08907 89936 03016 89764 11215
71241 07712 46566 67748 56560 49078 85740 66516 35982 24098
34839 06647 07747

10643 01-02-2022 1340 XPA2 MFSK-16/20Bd
11431 01-02-2022 1350 XPA2 MFSK-16/20Bd
12192 01-02-2022 1400 XPA2 MFSK-16/20Bd
82106 89695 33706 84618 50063 41239 03775 77349 00696 29009
49192 71562 66294 05947 00118 55001 50244 00858 62612 36556
79628 46917 10557 54853 77550 8315577633 53950 56666 66146
88007 05000 05060 33122 23347 60694 12617 76463 92840 00072
24824 35740 99269 78891 79582 96847 50861 63463 39006 00152
11155 33395 77255 90552 33157 78852 93116 28108 63516 66213
04629 81577 31466 24002 06566 88081 15722 36170

10643 02-02-2022 0900 XPA2 MFSK-16/20Bd
11431 02-02-2022 0910 XPA2 MFSK-16/20Bd
12192 02-02-2022 0920 XPA2 MFSK-16/20Bd
02958 00056 89740 26212 76101 39776 56346 75937 71830 26414
85974 64958 37246 26372 77845 67899 64528 06599 25354 98468
62796 06528 96062 81956 60479 23305 73203 37667 30310 64725
88891 58904 73570 64928 05383 57272 75047 94298 48629 94504
25444 25066 76176 13101 11043 29183 02120 20594 33620 66858
63593 04912 34225 54974 07157 75744 50597 76299 52408

10643 02-02-2022 1000 XPA2 MFSK-16/20Bd
11431 02-02-2022 1010 XPA2 MFSK-16/20Bd
12192 02-02-2022 1020 XPA2 MFSK-16/20Bd
09806 00079 41348 66517 56831 03132 60660 96242 30620 71687
53454 09524 71992 34739 04183 50534 86356 36010 90904 21706
24397 02528 93185 18329 73529 04131 43571 43485 11820 58143
37409 89096 61104 67460 83468 52223 22697 68582 52529 99784
73535 92823 36854 35137 72635 58268 67475 87247 30248 83976
47406 57189 00136 62195 52753 60146 29404 83400 06347 39982
62011 10960 56627 15097 27085 99280 70329 08292 84705 49175
88909 81161 27062 42426 32169 89930 07531 81320 87670 13171
14902 65447

10643 02-02-2022 1040 XPA2 MFSK-16/20Bd
11431 02-02-2022 1050 XPA2 MFSK-16/20Bd
12192 02-02-2022 1100 XPA2 MFSK-16/20Bd
01478 00051 86244 02917 66990 64181 16552 90712 62161 71096
95302 66662 50189 20614 94890 44372 53211 53435 33087 61269
64844 57408 13946 18063 96350 53923 31676 05746 88354 04625
70630 01241 18264 96176 51604 02810 17766 25265 93225 06704
32859 64680 83049 40502 44526 28344 44766 88169 79467 62831
90670 7687 81145 51410

10643 02-02-2022 1300 XPA2 MFSK-16/20Bd not heard
11431 02-02-2022 1310 XPA2 MFSK-16/20Bd
12192 02-02-2022 1320 XPA2 MFSK-16/20Bd
08246 00074 57342 81494 66061 68340 50706 73794 44831 10190
04119 10311 04942 40384 43549 18740 56339 09604 70683 95307
17346 79618 32816 31541 53337 47710 64678 83871 12511 41420
70892 84071 02502 86137 03730 28112 32512 65750 42051 97493
89149 42599 93948 76485 38623 82110 54184 31018 39850 12674
22539 93801 10484 51105 55292 30012 56468 28784 93006 35015
91528 69616 93685 55791 64265 25228 70962 30282 22514 66141
77099 48966 07338 83052 43978 49018 07667

10643 03-02-2022 0700 XPA2 MFSK-16/20Bd
11431 03-02-2022 0710 XPA2 MFSK-16/20Bd
12192 03-02-2022 0720 XPA2 MFSK-16/20Bd
07046 00075 43858 58457 03300 48451 34765 96860 92619 29001
41265 60426 67475 96298 99858 76207 57446 12009 92693 18960
67112 42788 07341 83903 75109 63816 86691 86221 95218 18175
88923 05025 14610 41333 10784 23017 71058 97360 26960 48114
04843 71081 75847 93020 67730 50189 31977 33610 86452 77580
18807 27438 70198 56164 66822 92113 85287 43805 59233 85576
15843 40577 95300 17323 27119 73494 47441 26843 37025 95231
01234 44746 06633 20887 49999 46869 11074 30160

10643 03-02-2022 0800 XPA2 MFSK-16/20Bd
11431 03-02-2022 0810 XPA2 MFSK-16/20Bd
12192 03-02-2022 0820 XPA2 MFSK-16/20Bd
02301 00054 34053 80287 01872 07623 56599 72380 15444 10650
93377 21039 80115 79066 66486 57420 90014 23727 61982 03387
10094 29411 47829 89063 42790 56565 13549 90161 28512 82693
02743 93199 54859 11330 78441 56661 20525 96019 58276 89011
78285 28237 27476 58600 40244 85783 66554 47663 04736 84400
92906 65846 61301 62932 81079 03876 51644

10643 03-02-2022 0900 XPA2 MFSK-16/20Bd
11431 03-02-2022 0910 XPA2 MFSK-16/20Bd
12192 03-02-2022 0920 XPA2 MFSK-16/20Bd
01599 00071 89950 34643 69338 78288 18014 11081 69450 94566
04223 01698 39545 99718 24827 64839 33617 66774 04008 64090
06473 66946 52305 03369 31077 83841 24829 68871 06308 81047
21407 86695 38424 04019 14559 68989 72369 19750 91928 11067
30856 75910 97898 04832 06509 94377 48206 73801 50650 23047
63636 74847 22235 14730 66827 09097 64990 11938 25328 38299
75630 05366 74871 83234 95448 02543 16111 08589 58361 87610
05949 21149 80925 52137

10643 03-02-2022 1000 XPA2
11431 03-02-2022 1010 XPA2
12192 03-02-2022 1020 XPA2
03419 00058 34858 99190 27905 50842 60539 69892 03476 78462
15170 80268 78875 29561 91279 82247 65120 19820 57214 25713
83853 03471 58881 27564 21355 19037 34109 37690 75005 79391
49160 79291 02008 07798 40657 70208 25112 33591 34679 54014
01417 32693 67219 51975 71875 94951 30067 00039 07564 62574
44367 83767 93079 66639 50584 06228 78117 87389 73469 76867
07305

10643 03-02-2022 1300 XPA2 MFSK-16/20Bd
11431 03-02-2022 1310 XPA2 MFSK-16/20Bd
12192 03-02-2022 1320 XPA2 MFSK-16/20Bd
07368 00076 29454 44138 51812 27738 46186 17958 33001 73350
69647 00386 77424 58692 75645 21794 94222 49606 14191 59755
97433 13295 82347 24109 61520 24729 24244 10980 17758 90628
18669 82120 66992 30995 25308 83940 27448 48645 98674 48734
91765 54670 52618 91418 53445 38553 05601 10882 91830 51595
33649 56301 79040 96607 83589 35138 13600 68105 47765 01420
04416 07755 04929 33934 04642 15939 11828 68449 81645 07561
61080 68095 48464 96633 58545 97182 30212 00022 17007

New Times

10643 04-02-2022 0710 XPA2 MFSK-16/20Bd
11431 04-02-2022 0720 XPA2 MFSK-16/20Bd
12192 04-02-2022 0730 XPA2 MFSK-16/20Bd
01141 00050 63974 65628 36543 20818 02038 28346 83258 22017
98919 35210 38159 32591 71150 93950 00739 23944 65243 01664
97099 76309 96700 30866 02054 29720 77201 39831 60844 08140
03004 66547 89001 23696 31450 03604 38210 37264 64463 79832
61277 89503 30594 06907 51059 97812 15277 15441 42220 68412
00857 51677 06623

10643 04-02-2022 0810 XPA2 MFSK-16/20Bd
11431 04-02-2022 0820 XPA2 MFSK-16/20Bd
12192 04-02-2022 0830 XPA2 MFSK-16/20Bd
09523 00067 88123 83387 27715 48005 82463 49982 23638 45074
72581 06629 40177 63598 93555 91331 97358 56552 73788 11951
00185 37932 83200 67692 98961 55674 72710 86404 87233 40782
45032 20579 80294 65191 03544 25626 58850 22498 81606 75397
89761 09580 63214 91681 41112 97486 61758 51139 36591 48566
58472 67642 34623 45628 80398 76297 01810 87031 74705 80356
92278 54595 94662 16514 75310 32239 73728 79034 32081 46513

10643 04-02-2022 0910 XPA2 MFSK-16/20Bd
11431 04-02-2022 0920 XPA2 MFSK-16/20Bd
12192 04-02-2022 0930 XPA2 MFSK-16/20Bd
06320 00057 69228 47618 24286 98020 80523 11007 40083 81784
57843 14186 79593 63086 26544 13358 80175 11181 70230 45147
41911 81491 80608 67742 52179 24149 62883 61957 96163 64143
77621 19128 30095 62762 57173 80542 83602 95661 79753 96216
46427 96983 14790 93965 05144 50433 28378 28433 26730 32763
66556 84972 81550 20017 19633 47741 32797 53809 78615 52513

10643 04-02-2022 1010 XPA2 MFSK-16/20Bd
11431 04-02-2022 1020 XPA2 MFSK-16/20Bd
12192 04-02-2022 1030 XPA2 MFSK-16/20Bd
01046 00069 81662 31028 73961 69736 04492 55978 03273 16732
44663 24111 81126 37636 71238 40239 91401 57750 03769 91909
40465 21288 12811 76101 59135 33649 30235 96859 34968 85642
20893 49111 85895 00462 08517 10446 87116 22201 05630 75007
80921 44712 34642 04723 87441 41100 50378 77801 75078 59210
38779 06516 23617 21965 25606 36666 59006 63687 12739 48995
40557 71615 39940 32551 95183 08211 47702 53438 46423 23226
23386 63073

10643 04-02-2022 1110 XPA2 MFSK-16/20Bd
11431 04-02-2022 1120 XPA2 MFSK-16/20Bd
12192 04-02-2022 1130 XPA2 MFSK-16/20Bd
07699 00072 31186 54651 55219 76980 06881 19174 04513 65728
02979 50685 39497 62364 63911 09082 18709 87096 12320 00647
32071 72768 69853 42409 81303 30700 03508 87081 59409 14786
76558 28037 75758 33764 62583 97302 92842 37016 96603 92816
76039 50619 45018 56235 53594 95454 78234 21547 20922 46528
39560 31089 96171 52765 31862 54370 30161 83520 10647 68106
19874 11945 98286 84463 27453 24385 62218 42419 74171 38788
24573 45232 67098 66101 73422

Many thanks to Ary for posting these additional XPA2 files. More can be seen withing ENIGMA2000 Group and Ary's /N&O

SPECIAL MATTERS

Thanks to all our contributors:

Ary, Edd, BR, CC, CQ, Danix, DanAr, DrmHzE, F5, HH, HJH, JkC, Jochen, KW, Malc, MaleAnon, PoSW, PLdn, RNGB, VP
Apologies to anyone missed.



MESSAGES:

E: **Hope you are keeping ok**

RELEVANT WEBSITES

ENIGMA 2000 Website:

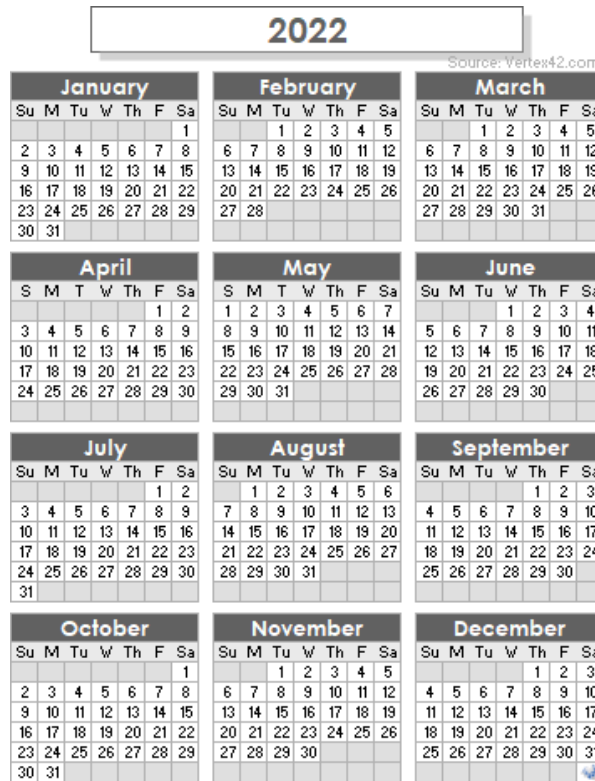
<http://www.enigma2000.org>

More Info on 'oddities' can be found on Brian of Sussex' excellent web pages:

[Mystery Signals \(signalshed.com\)](http://Mystery Signals (signalshed.com))

Time zone information:

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



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