

ENIGMA 2000 NEWSLETTER



<http://www.enigma2000.org>



Inside NCSC UK

Tactics and techniques to keep security monitoring effective

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Editorial

Reader information: ENIGMA 2000 is distancing itself from reporting directly on the conflict between Ukraine, Russia as well as NATO and any other interested parties.

We will continue to report on matters 'espionage' worldwide with the exception of the above mentioned conflict.

"Man, when perfected, is the best of animals, but when separated from law and justice, he is the worst of all." Aristotle, Greek philosopher, Politics (4th century BC)

Quotation taken from The Times dtd 7th March 2022

The quick quote above says it all. With events in Ukraine ENIGMA2000 will maintain an impartial view on events and make no comment other than that on SIGINT/ELINT whatever and of course operational changes to the stations we monitor.

Before we get too far into the newsletter we received this change of site info from Dirk Rijmenants

"Cipher Machines and Cryptology has moved

"Dirk Rijmenants' extensive site which features technical & historical information about cipher machines & cryptology has moved to a new domain & can now be found at; <https://www.ciphermachinesandcryptology.com/>

The website is now https encrypted for secure and anonymous surfing, & with a lot more server space for expansion so more content can be expected in the future.

Dirk also has a blog covering cryptology & associated subjects. Both are highly recommended; <https://rijmenants.blogspot.com/> "

One of the most interesting things to happen in the world of Number Stations is the disappearance of the E07 a series. As we know they disappeared from February and have yet to be heard.

S06s and E17z have also obviously gone and as H-FD pointed out there is a suggestion these belonged to the Ukraine :

On August 24, 1991, Ukraine declared its independence from the USSR. On December 21, 1991, the existence of the USSR ended.

Acc. to the E2k Active Stations and N&O ident list v1.3 of September 2017 on January 14, 2010 S06(S)(hereinafter referred to as S06s) was specified as the female variant of S06 ("Russian Man") .

S06 belongs to the family IA, which is attributed as "Owner" "KGB/GRU/FSB".

E17z is also assigned to family IA. There is also the note "ex Ukraine?".

According to this, the location of both the S06s transmitters and the E17z transmitter is Russia and the stations belong to the KGB/GRU/FSB.

In recent years there has been increasing evidence that both S06s and E17z would be broadcast from Ukraine. The E2k Newsletter #77 from July 2013, which names the Ukrainian town of Rivne as one/the(?) location, should be mentioned here as an example.

A location in Ukraine would also mean, that the stations belong to the Ukrainian Sluzhba Bespeky Ukrayiny (SBU = Security Service of Ukraine).

With the invasion of Russia into the Ukraine it has become evident that since February 24th all(!) S06s transmissions and the E17z transmission ceased. This strongly suggests that S06s and E17z came from the Ukraine in the past.

Therefore it would be worth to consider whether S06s and E17z should get a different designator and should be assigned to a different family. [H-FD]

Jochen suggested a new sub-group 1 d to cover the Sluzhba Bespeky Ukrayiny SBU if they are the owners.

A quick discussion between Ary, Brian and Paul suggested the idea of 1d is a good, firm move.

However, things are still developing here and we are happy to wait to see if these stations return; in which case it would be imperative we add a sub to the family of 1 d.

We recognised that in the past too many changes were made, perhaps causing more confusion than they prevented,

For the moment there will be no changes, should the stations stay silent a correcting sentence will be added. There seems little point in repairing what has closed.

Thank you to Ary, Brian and Jochen for their help with the determination, as it stands at this time.

Antennas atop the Russian Embassy, Bulgaria --- for communications only, *in case the telephone lines fault.* 📶



Real Cold War Spies: BRIXMIS

A documentary on BRIXMIS appeared on Forces TV in early April 2022. An interesting piece it can be found here:

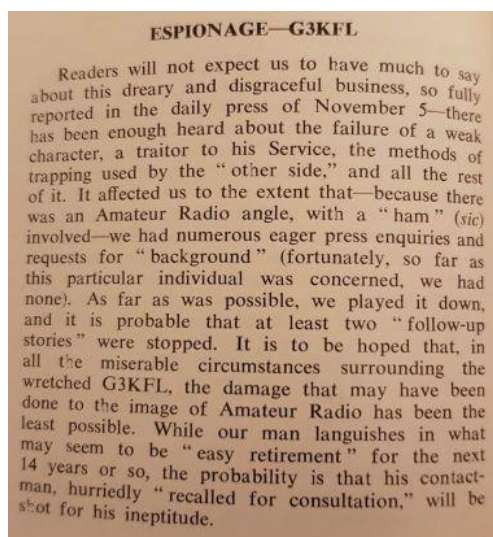
<https://www.forces.net/video?video=41782>

Douglas Ronald Britten

Briefly, we continue with the saga of Douglas Britten, a spy in the RAF. We have received some extra information as seen on the right of Mr Britten's headstone. E2k thanks the member, who must remain anonymous, for that info.

However, in the left pane is the entry, a little over the top perhaps, about Mr Britten, as printed in the Short Wave Magazine, dated December 1968. We have also seen images of a one time pad as discovered in Britten's accommodation as well as a 'roll over' copying device disguised as a cigarette case.

One question, the headstone shows only the months and year; October 1931 to January 1990. No days. Any ideas why?



Whilst Professor Richard Aldrich's book, GCHQ does indeed reveal details up until the arrest and conviction of Mr Britten, answers to the question raised may be found in Chris Boyd's book, Special Operator – The Rise and Fall of a Cut-price Spy.

In here details of events following Britten's release from Prison, his abode, his employment, and the cause of his death at the age of 58 are revealed.

He was buried on 6 February 1990 at Canwick Road Cemetery, Lincoln.

See also PoSW Newsround

The Grave site information of Douglas Ronald Britten (Oct 1931 - Jan 1990) at Lincoln Canwick Road New Cemetery in Lincoln, East Midlands, England, United Kingdom from BillionGraves ©BillionGraves 2019

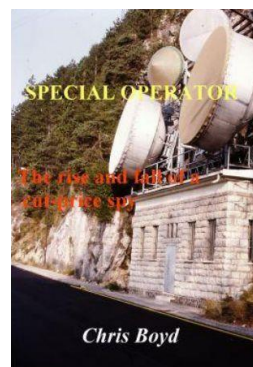
Continuing with the DRB stories, more than adequate cover in here as I stated above.

'Special Operator: The rise and fall of a cut price spy'

[available via Amazon for your 'Kindle, Tablet, iPad' or paperback] Repost from NL92 January 2016

I was fortunate in being asked to read the draft and given the subject matter I jumped at the honour. A well written work it takes one through training, travel and duties of the intercept operator and places the reader in the set room. For those of us of a certain age the descriptive writing conjured up the unique smell of valves [tubes] running efficiently and hot, the warmth of the set cases and so on.

Extremely humorous and equally informative the author takes the reader on a trip around certain parts of the globe where Great Britain had signals units that were employed in the collection of SIGINT, its analysis and ultimate contribution into what has evolved today as the world's greatest intelligence machine.



Members of ENIGMA2000 and other like groups will often be told that Morse is obsolete but in this book you will discover within the first few pages that wireless interception of Morse signals [!] is still carried out; the author making reference to the various modes used with 'illicit' transmissions which come from Europe, China, Cuba, Russia etc. An excellent read for the Number Station enthusiast available from Amazon on both sides of the Atlantic

GCHQ Prof Richard J Aldrich [Recommended Read]



This book, published in 2010 and, as far as I can discover, not reviewed by ENIGMA2000 is the definitive history of GCHQ 'From Bletchley Park to a Brave New World.

634 pages of absolute information and, should you need them, further reference.

In keeping with that written above Prof Aldrich covers a number of subjects at length, including the case of Douglas Britten, noting whatever he did was so serious his trial was held *in camera*.

There's other stuff too, historical to a point but well researched.

It's all there; Bletchley Park and before, after and into the modern world. Prime, Portland, Britten, the American Ivy Bells project – all covered.

Oh, and Russian capabilities too.

Recommended and well worth a read.

Before you read the splendid article below you might care to view: [Ukraine's battle of the airwaves | FT - YouTube](https://www.youtube.com/watch?v=fn9q7V1m0Ps)
<https://www.youtube.com/watch?v=fn9q7V1m0Ps>

Skywaves and satellites

Technologies old and new may help keep Ukrainians in touch with the world

IN COMMUNIST Eastern Europe a short-wave radio was a vital piece of equipment for anyone wanting to stay ahead of the censors. Stations such as the BBC World Service, Radio Free Europe and Voice of America broadcast news, entertainment and rock-and-roll across the Iron Curtain.

After the cold war ended, shortwave radios gave way to television and the internet, and the broadcasts were wound down. But on March 3rd, in the aftermath of Russia's invasion of Ukraine, the BBC announced their return. The World Service has begun nightly news broadcasts into Ukraine and parts of Russia (see map).

Radio is an early-20th-century technology. But the BBC hopes it can still be useful in the internet age because it is hard to

stop. Shortwave signals bounce off the ionosphere, a layer of charged particles high in the atmosphere. The resulting "sky-wave" travels for thousands of kilometres, meaning broadcasters can sit safely beyond the reach of censors, secret policemen—and invading armies. And in Ukrainian cities like Mariupol, where days of shelling have left the place without electricity, battery-powered radios still work when the internet and television do not.

Ukraine's government does rely on the internet where it can, though, to fight the public-relations war and to keep communication with the outside world alive. In the past few days, for example, Volodymyr Zelensky, the president, has addressed America's Congress, the European Parliament and Britain's House of Commons via a video link.

With Russian troops massing near Kyiv, ground-based internet links are unlikely to last. But, on February 28th, Mykhailo Fedorov, Ukraine's vice-prime minister, thanked Elon Musk, an American entrepreneur, for a delivery of "Starlink" satellite-internet dishes. These can provide high-speed, low-latency access to the internet via a network of low-flying satellites run by SpaceX, one of Mr Musk's companies. A few days later Mr Musk said SpaceX had modified the dishes' software to allow them to be powered by a car's cigarette lighter. That could prove useful if and when the siege of Kyiv begins in earnest.

Reach of BBC Ukraine shortwave service*
Very good service Good service
Source: BBC. *Four hours a day since March 4th 2022

From 'E' [Thanks] Source unknown.

Russian Comms in Ukraine: A World of Hertz

Sam Cranny-Evans and Thomas Withington
9 March 2022 10 Minute Read

<https://rusi.org/explore-our-research/publications/commentary/russian-comms-ukraine-world-hertz>

Evidence of Russian communications in Ukraine indicates that the modernisation of the Russian Armed Forces has been troubled, causing operational and tactical challenges.

Russia's war in Ukraine has been marked by its apparent lack of coordination and an ostensibly flawed plan. Russian forces have been observed moving deep into Ukraine, only to be cut off by a lack of fuel, vehicle breakdowns, and ultimately Ukrainian forces. Open-source intelligence and Ukrainian reports suggest that radio communications across the Russian forces are poor, leading to makeshift solutions including the use of unencrypted high frequency (HF) radio for long-range communications and mobile phones to communicate. There is some evidence that Russian soldiers have deployed with more advanced software-defined radios (SDR) such as the R-187P1 Azart and R-168-5UN-2 tactical radios that were carried by a Russian airborne soldier captured near Kyiv. However, the impression provided by the Russian Ministry of Defence (MoD) over the years has been that this equipment was widespread and that the majority of the Russian Armed Forces (RuAF) were operating digital radios and systems designed to facilitate planning and decision-making.

The R-187P1 Azart is a sixth-generation digital tactical SDR with built-in encryption designed to provide Russian troops with secure and jam-resistant communications. It operates in the very high frequency (VHF)/ultra high frequency (UHF) bands, has a range of 18 km in ground communications depending on configuration, can be used as a repeater station and can utilise GLONASS or GPS to provide positioning. The radios appear to have been delivered for the first time in 2017 to the 90th Guards Tank Division and were provided to other units thereafter, with claims of 300 radios delivered to a unit in the Leningrad region. The R-187P1 serves alongside the R-168 Akveduk family of fifth-generation tactical digital radios, which is also designed to provide uninterrupted communications in an electromagnetically challenging environment. The family has many variants, including HF and VHF systems designed to provide communications up to 350 km and 20 km respectively while mounted in a command vehicle. The radios were introduced by 2000, and deliveries were reported through to 2016 and beyond.

It is possible that the delivery of the Azart radios has been troubled by corruption. Reports from 2021 observed that senior military figures and the Azart's manufacturer were under investigation for fraud and embezzlement. At least some of the radios had been manufactured in China before elements were added in Russia, the defendants claimed. Russian forums discussing the radios also feature complaints of 'childhood illnesses' and short battery lives for the Azart family, as well as further evidence of Chinese parts in the radios. It is not unusual for radio families to experience difficulties when introduced into service; the UK's BOWMAN is no exception to this. However, Russia's MoD has made various claims about the capabilities of its command and control (C2) network, indicating that target data can be shared very quickly between systems and that communication between units has been enhanced. For all of this to be true, it would require the Azart and Akveduk families of radios to be operating optimally and capable of supporting the transfer of significant data packets between units. The current operations in Ukraine suggest that Russia does not have as many modern radios in service as it has claimed, and that it may not have adequately considered its communication needs for the range and scale of operations conducted.

A Matter of Distance

In addition, there is the question of Russian forces using their mobile phones to communicate. This is not unusual for modern warfare; accounts of Ukrainian soldiers doing the same are plentiful. However, one story documented by Nicholas Laidlaw cites a captured Russian soldier who states, 'The officers started stationing themselves further and further away from the fighting ... they are out of radio range at this point, and no one can contact them'. The soldier proceeds to explain that a lack of long-range communications equipment was preventing anyone from contacting the Central Command of the deployed forces. It follows that some Russian soldiers may have resorted to the use of mobile phones to communicate with officers and each other in order to gain some situational awareness. It seems bizarre that units advancing into Ukraine during this dangerous phase of the operation would not be outfitted with the best equipment, including radios, that Russia's defence industry has to offer

Vulnerabilities



One of the most striking images from Russia's war in Ukraine so far has been the photograph of a civilian handheld radio. Although impossible to confirm, sources on social media said this radio had been captured by Ukrainian troops. Further inquiry hinted that the radio in question, a BaoFeng UV-82HP, had been purchased from suppliers in the People's Republic of China. The radio uses V/UHF wavebands and lacks military-grade encryption. Why it was reportedly in the possession of Russian troops is unknown. However, this triggered immediate speculation on the health and performance of RuAF radio communications.

One would assume that RuAF units in Ukraine would mostly be using the more advanced radios detailed above. It seems bizarre that units advancing into Ukraine during this dangerous phase of the operation would not be outfitted with the best equipment, including radios, that Russia's defence industry has to offer. Are new military radios being delivered to units in fits and starts, forcing them to improvise? Or worse, are these new military radios considered substandard? That troops may feel more confident using a cheap Chinese handheld radio would say much about the quality of Russian equipment.

At the time of writing (4 March), Russia's invasion of Ukraine is just one week old. Open-source information has raised questions about whether RuAF communications are fit for purpose. We must qualify this by saying that neither author is in Ukraine. Our analysis is produced from what we consider reliable open-source information and from our sources in theatre. Based on this information, we can paint a broad-brush picture of Russia's military communications situation, and that situation does not look good.

BaoFeng UV-82HP

The electromagnetic spectrum does not always capture the interest and imagination of students of war or the public. The electromagnetic spectrum, where radio waves reside, is an environment humans cannot appreciate with their own senses. It is invisible, silent, odourless, flavourless and formless. Yet it matters. Commanders and personnel are an army's brain and its strike assets its limbs. Radio communications are its nervous system. Disrupt the nervous system and the brain and limbs communicate with great difficulty, or not at all.

Important clues are emerging regarding RuAF communications, hinting at potentially serious weaknesses. Radios like the BaoFeng UV-82HP will be relatively easy for electronic warfare (EW) practitioners to exploit. Firstly, their lack of discernible military-grade COMSEC/TRANSEC means the radios should be relatively susceptible to straightforward jamming. Secondly, this lack of COMSEC/TRANSEC could make it easy to feed false or misleading traffic into networks depending on these radios. This could pay tactical dividends for the Ukrainians, allowing them to sow disorganisation, doubt and demoralisation into Russian units. It is highly likely these radios are being used for squad communications at the tactical edge by dismounted infantry. Attacking networks at the tactical edge using these radios could help blunt or slow Russian manoeuvres.

Moreover, transmissions from these radios could be relatively easy to detect using rudimentary communications intelligence (COMINT) equipment. Once these transmissions are detected, COMINT systems could be used to follow the movement of the transmissions, and hence the movements of troops. Armed with this knowledge, Ukrainian forces could have a reasonable real-time picture of Russian dismounted troops moving within range of their COMINT equipment. This depends on those troops keeping their radios switched on and in regular use. Given the apparently lax communications discipline sources have said some Russian units have exhibited to date, this may well be the case. As noted above, open-source evidence also suggests that Russian troops are using mobile phones for tactical communications.

While Ukrainian forces may be numerically inferior on the battlefield, they have an opportunity to be superior in the electromagnetic spectrum. The employment of civilian communications by Russian manoeuvre units raises an interesting possibility. US sources expressed surprise after the invasion that Russian EW had not been more heavily employed. Once again, definitive answers as to why this is the case remain scant. It is reasonable to assume that inadequate numbers of EW systems and personnel were deployed into theatre. The equipment may be in a bad state of repair. These factors may combine in deterring commanders from employing electronic effects to their full potential. On paper, the RuAF can jam civilian V/UHF communications including two-way radios and mobile phone networks. The force's RB-314V Leer-3 EW system deployed at the operational/tactical level can reportedly target mobile phone transmissions. V/UHF transmissions can also be targeted by the RP-377U/UA EW systems that the RuAF deploys at the tactical level (Grau and Bartles, *The Russian Way of War: Force Structure, Tactics and Modernisation of the Russian Ground Forces*, 2016, pp. 289–300). Have Russian EW cadres refrained from a heavier weight of electronic attack to avoid friendly fire against the civilian communications their troops rely on? This theory must be entertained.

The discernible lack of COMSEC/TRANSEC is mirrored in the HF domain. Unlike V/UHF, HF can perform beyond line-of-sight communications. This is because it uses the ionosphere to bounce radio transmissions over-the-horizon. The RuAF in general place a high premium on HF. It is a favourite mechanism for long-range trunk communications, having a similar importance to SATCOM in NATO forces. The RuAF do have access to domestic military-grade SATCOM. However, the preference for HF is said to be due to the fact that high frequency radio is difficult – although not impossible – to jam (Withington, 'Thinking about the Unthinkable', in *Military Technology*, Issue 1, 2022). Online sources reveal not only that Russian military HF radio transmissions are relatively easy to find, but that they are made en clair without encryption. This appears seemingly oblivious to the danger that these transmissions may be intercepted and exploited for intelligence. This raises three possibilities. The first is that Russian military HF users may simply not care if eavesdropping takes place. The second possibility is that HF may be used to deliberately transmit false information; however, anecdotal evidence from the Ukraine theatre hints that intercepted traffic has correlated with Russian tactical actions. The third possibility is that the RuAF cannot encrypt their HF traffic. Encryption devices may not have been supplied to the forces en masse. Equally, those that have been supplied may be of poor quality.

Either way, Russia military HF is out there in the spectrum. With the right HF COMINT/COMJAM equipment, it can be detected, intercepted and the source of transmissions determined. While HF jamming is difficult, it is not impossible. Much like V/UHF radio, Ukrainian EW cadres could exploit Russian HF nets and jam them to impede command and control, or use them as a conduit for false, misleading and demoralising traffic. Determining the location of HF transmission sources could also let Ukrainian forces determine the position of Russian units. As HF is used for significant quantities of tactical/operational command level and operational/strategic level traffic, detecting and locating an HF radio may help betray the position of an RuAF command post. Engaging such a target kinetically would clearly help dislocate RuAF command and control, as would attacking it electronically.

Exploitable Vulnerabilities

The seemingly parlous state of RuAF communications creates an opportunity for Ukrainian forces. Lax communications discipline and deficient COMSEC/TRANSEC can be exploited by Ukrainian EW cadres. While Ukrainian forces may be numerically inferior on the battlefield, they have an opportunity to be superior in the electromagnetic spectrum. By detecting and locating sources of RuAF radio transmissions, Ukrainian forces can find, fix and engage the enemy kinetically and/or electronically. At the same time, via the use of COMINT equipment, Ukrainian forces can exploit Russian networks for intelligence and for battlefield deception. That said, the enemy has a vote, and it is imperative that Ukrainian troops ensure cast-iron communications discipline. The goal should be to preserve Ukrainian use of the electromagnetic spectrum while denying it to their opponents as far as possible. With the possibility of the war moving into a prolonged insurgency should Russia complete its occupation, Ukraine should look at utilising volunteers with radio, telecommunications and broadcasting expertise and experience. These cadres can be rapidly trained in EW techniques and thrown into the electromagnetic battle. EW is unlikely to defeat the RuAF by itself. Nonetheless, it is a valuable centre of gravity that Ukrainian forces should continue to exploit as a means of attacking Russian battlefield cohesion.

<https://rusi.org/explore-our-research/publications/commentary/russian-comms-ukraine-world-hertz>

Yours truly has a number of these cheapo Baofeng units. The UV82 I have allows coverage of the 2m/70cm bands, allowing me to exploit the repeaters as I travel. It has one other band 220 to 260MHz. Whilst the DAB+ stuff will never be resolved a quick connection to my RHCP 240 to 265MHz antenna allows me to listen to the Brazill pirates on this LoUHF SATCOM band. I doubt the Russian Mil will have an interest in listening to the Brazillians but they may well be able to input a signal into their Russian Equivalent satellites.

How western spy planes keep tabs on Russian tactics

One of the 'crown jewels' of British intelligence is helping Ukraine chart Putin's next moves

Larisa Brown
Defence Editor

Friday March 11 2022, 11.00pm, The Times

<https://www.thetimes.co.uk/article/how-western-spy-planes-keep-tabs-on-russian-tactics-8slcm0j22>

British and American spy planes are carrying out regular missions on the fringes of Ukraine's airspace, where RAF sources say they can try to monitor Russian communications on the battlefield.

Intelligence gathered by the RAF's three RC-135W Rivet Joint electronic surveillance aircraft, also known as Airseekers, is fed back to analysts in the Defence Intelligence (DI) team based at the Ministry of Defence in London, who combine it with other information to work out Vladimir Putin's next moves.

The aircraft use sensors to pick up communications and can locate where signals are coming from, helping to paint a picture of what is happening on the ground.

In theory, the crew could intercept radio transmissions from a convoy of troops a few hundred miles away, sources said. An RAF source added that they could pick up conversations from further afield depending on the transmitter. Foreign language speakers on board interpret transmissions, sending up-to-date intelligence back to analysts in London.

Publicly available flight trackers show Rivet Joint operations have intensified operations near Ukraine in recent months. An RAF Rivet Joint was flying over Poland on Friday. One RAF source said the Americans, who also operate such aircraft, consider them “one of the crown jewels” in terms of gathering intelligence. Rivet Joint would be just one string of many in a bow of intelligence gathering,” the source said.

Analysing all its data is a team of military intelligence officers based on the seventh floor of the MoD building in Whitehall, who are working around the clock to establish Russia’s battleplan.

Equipped with sensitive and commercial satellite data, along with intercepted communications, and aided by artificial intelligence, they are in a 24/7 “crisis” mode.

DI, which is rarely talked about, is made up of 5,000 staff, of which two thirds are military personnel and one third are civilians. Experts include linguists, civilian scientists, psychologists, geographers and data experts.

Resources have been shifted from elsewhere to bolster the unit focused on Russia, comprising hundreds of “collectors” of information and analysts. “As this has moved into crisis we’ve moved more people to support this. We’ve moved to a much more intensive 24/7 workforce,” a military intelligence source said.

At its helm is Lieutenant General Sir Jim Hockenhill, chief of defence intelligence. He was commissioned into the Intelligence Corps in 1986 and as a junior officer spent his early years focused on Russia. He was in Berlin when the wall came down in 1989. Few people can predict Putin’s next moves better.

Hockenhill and his team have paid special attention to the region since April last year when Russia massed troops and hardware along the border with Ukraine. What they witnessed set alarm bells ringing in the West.

The source said: “We learnt last April of the build-up and as we developed our intelligence picture through autumn 2021 we became very concerned about the operations.”

DI provided the rest of the government — and its international partners across the world — early warning of Russia’s intent to invade Ukraine, many months before the conflict began.

Since the invasion started, DI has delivered “near real-time updates” to the government, foreign allies and, for the first time, the public on how the conflict is unfolding.

“We have always taken the Russian threat seriously,” the intelligence source said. “Russia has been a primary area of focus for a long time. That’s paid dividends now as we have a depth of experience, with some people having covered Russia for 20 years.”

In rare comments about the achievements of his team, Hockenhill told The Times: “The performance of Defence Intelligence during the current crisis is the culmination of a three-year transformation project. The breadth of influence and impact our dedicated staff have achieved in recent months is unparalleled in our history.”

Military personnel across MoD have been told by senior officers that there are three priorities across the department when it comes to the conflict. One is to support the flow of lethal aid, the second is to show Nato solidarity and the third is to “weaponise the truth”.

Defence sources said that as part of that, teams were working day and night to expose the reality of the situation on the ground. The MoD effort has been part of a wider one across Nato governments to use intelligence gathered to expose what Putin is up to and ultimately try and help save Ukraine.

The military source said: “We’ve worked hard to try and get more intelligence out there than ever before.”

When it comes to helping Ukraine on the battlefield, intelligence is giving its armed forces an edge over the Russians, according to analysts.

Earlier this month the White House confirmed that the US was sharing intelligence with Ukraine about the invasion “in real time”. Jen Psaki, the White House press secretary, said: “Without getting too far into details of what we do, for obvious reasons, we have consistently been sharing intelligence that includes information the Ukrainians can use to inform and develop their military response to Russia’s invasion.”

“Almost certainly the UK will be doing the same,” said Philip Ingram, a former senior military intelligence officer, adding that many of the UK and US assets worked together.

Ingram said Russia’s failure to make the gains it would have liked in Ukraine was partly due to its lack of intelligence.

“The battalion tactical groups don’t understand how to work together,” he said, adding that intelligence was gathered by the GRU, Russia’s foreign intelligence agency, and not fed down properly. “They are going in blind and just reacting to orders,” he said.

Russian forces are also ill-equipped, with western officials saying some of them are using commercial radios and phones to communicate, which are easier to intercept.

Intelligence products produced by DI, such as imagery analysis, have been used as part of efforts to hold Russia to account. Its use of social media — which aims to provide the public with accurate information and counter Russian disinformation — has been viewed more than 50 million times.

DI has “collectors” of information, people who gather intelligence through a variety of means. They are based in the UK and countries across the world. It also has analysts who examine the information and another team that assesses sources and pulls in all the information. DI uses image-recognition technology to help speed up the analysis of satellite imagery and machine translation to allow the rapid reading of foreign language material.

Sources for information within defence intelligence have shifted in recent years, with experts relying less on traditional methods such as secrets from insiders.

Experts now rely more on information from military platforms such as Rivet Joint, intelligence agencies such as MI6 and GCHQ, open-source information, intelligence from partners, insights from academia, and the media.

“This creates a fused picture of our understanding. We have lots of people, highly skilled and well-trained, some of whom have looked at the region for a long time. They bring experience and insight so when they are looking at a complex picture it enables them to make more sense of it,” the military intelligence source said.

In recent years money has been spent to bolster the MoD’s ability to carry out intelligence, surveillance and reconnaissance, including into the Rivet Joint aircraft, which are being maintained to the same standard as the American aircraft.

The intelligence source said: “All of those investments in defence are then brought together with that analytical element. It needs to work as a system. There is no point in collecting if it is not going to be analysed. In this crisis we are seeing much of that paying off as we’ve been remarkably successful.”

Intelligence assessed is given a confidence level with a percentage for how likely it is, based on a “probability yardstick” applied across the intelligence community.

Military intelligence is then handed to the Joint Intelligence Organisation (JIC), which also takes into account other information from security agencies, diplomats and open-source material, before reporting to the National Security Council (NSC).

Last year Hockenhill said there had been a move away from reliance on traditional classified intelligence-collection methods towards the exploitation of open-source information and commercial services, as well as the use of machine learning and artificial intelligence to process the “deluge of information” now available to intelligence analysts.

Information from satellites — both top secret ones and commercial ones — is crucial. Commercial Earth observation satellites do not generate images with the same resolution as those produced by military reconnaissance satellites.

However, Hockenhill said: “Private sector satellites are more numerous and resilient: they take more pictures than [their military equivalents], so you can’t dismiss them.” He added that the analysts needed a way to manage a “deluge of information” and had ambitious plans for developing automation.

<https://www.thetimes.co.uk/article/how-western-spy-planes-keep-tabs-on-russian-tactics-8slcm0j22>

An excellent piece indeed; worth looking at for the graphics.

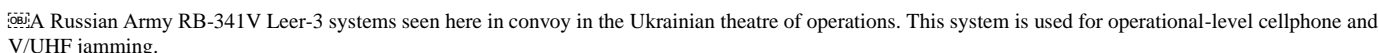
The Russian Army and Electronic Warfare

<https://www.thaienquirer.com/38210/analyzing-the-russian-armys-electronic-warfare-capabilities-in-its-invasion-of-ukraine/?s=09>

Russian Army EW doctrine focuses on detecting and attacking radio transmissions in frequencies of three megahertz/MHz to six gigahertz/GHz. In addition, the doctrine stresses electronically attacking hostile airborne radars. The latter are targeted by jammers covering frequency bands of one gigahertz up to 18GHz. Jamming airborne radars is an important part of Russian EW doctrine. Military aircraft use X-band radars (8.5GHz to 10.68GHz) to detect targets in the air, on the ground and at sea. These radars provide fire control for air-to-air and air-to-surface weapons. Russian Army logic is to protect deployments and targets on the ground by jamming airborne radars to deprive military aircraft of fire control information.

Beyond airborne radars, Russian Army EW doctrine prioritises detecting and jamming enemy military radios. Military radios use High Frequency (HF: three megahertz to 300MHz), and Very/Ultra High Frequency (V/UHF: 30MHz to three gigahertz) signals for Command and Control (C2). Russian Army EW strives to attack hostile military radio networks to deprive the enemy of C2 and situational awareness. The desired result is for enemy C2 to become badly coordinated, if not impossible. If enemy radio networks are attacked, hostile unit commanders cannot share their situation with higher echelons. Headquarters are thus deprived a reliable, real-time picture of what is happening in the battle. Attacking these networks has a secondary but equally important benefit. It makes it difficult for commanders to distribute orders to subordinate units based on the prevailing situation. To summarise, land EW prevents enemy commanders from accurately reading the battle and responding accordingly.

Like all land forces, the Russian Army uses its EW systems to detect and intercept hostile radio transmissions so they can be exploited for intelligence. Every land forces unit from an infantry squad upwards uses radios. Almost any vehicle from main battle tanks to surface-to-air missile units supporting the manoeuvre force also needs radios as do deployed headquarters. Detect and locate these radio transmissions and you can detect and locate these units, vehicles and headquarters making them. This information can provide real time details of where hostile units are at any moment. It is easy to see how useful this is from a targeting point of view when manoeuvring.

A Russian Army RB-341V Leer-3 systems seen here in convoy in the Ukrainian theatre of operations. This system is used for operational-level cellphone and V/UHF jamming.

It may also be possible to decrypt the opposing force's radio traffic which will invariably have some measures in place to stop eavesdropping. These measures are known in EW jargon as COMSEC/TRANSEC. (Communications/Transmission Security). If they can be cracked it maybe possible for this radio traffic to be exploited for intelligence. This could yield important information on hostile intentions, troop movements and the enemy force's situation. Army EW is a compromise. On one hand, there is an imperative to attack hostile radio communications to deprive the enemy of C2 and situational awareness. On the other, there maybe an imperative to leave radio communications untouched. This will let hostile radio networks be exploited for intelligence.

Given the frequencies that Russian Army EW capabilities cover, they can potentially be used to attack civilian radio transmissions. The military are not the only users of HF and V/UHF radio. Cellphone networks, broadcasting, satellite communications, first responder radio and air traffic control all rely on V/UHF radio. GNSS (Global Navigation Satellite Signal) navigation and timing signals use UHF transmissions of 1.1GHz to 1.6GHz. Whereas military radio and GNSS signals are protected using COMSEC/TRANSEC techniques like encryption, this is not always the case with civilian radio traffic. As such, it may be targeted deliberately by Russian Army EW. This may prevent cellphone networks or civilian GNSS signals being used by the military. It may also be done as part of a wider information warfare strategy. For example, enemy media outlets may find their radio or television broadcasting jammed. This may be done to demoralise the population. Likewise, HF radio may be jammed. Amateur radio enthusiasts, known as 'radio hams', use high frequency radio for their hobby. They may find their communications come under attack both as a side effect of HF jamming and to prevent amateur radio being used to assist the military.

The Russian Army's EW Order of Battle

The Russian Army deploys its EW assets at the operational and tactical levels. Operational level EW units are organised into EW brigades, battalions and companies. Each have distinct tasks supporting different levels of war.

The EW Brigades are independent army units providing operational/strategic electronic warfare to their parent military district. As well as assisting the land battle, these units assist Russian ground-based air defence. This also seems to be the case for the military districts' Independent EW Battalions. Tactical electronic warfare is provided by the EW Companies equipping Russian Army manoeuvre formations.

A typical Independent EW Brigade will perform electronic warfare over a large part of the theatre of operations. It appears they are tasked with jamming hostile airborne radar, cellphone networks and HF radio communications. Details of the EW systems comprising an Independent EW Brigade are listed in the table below:

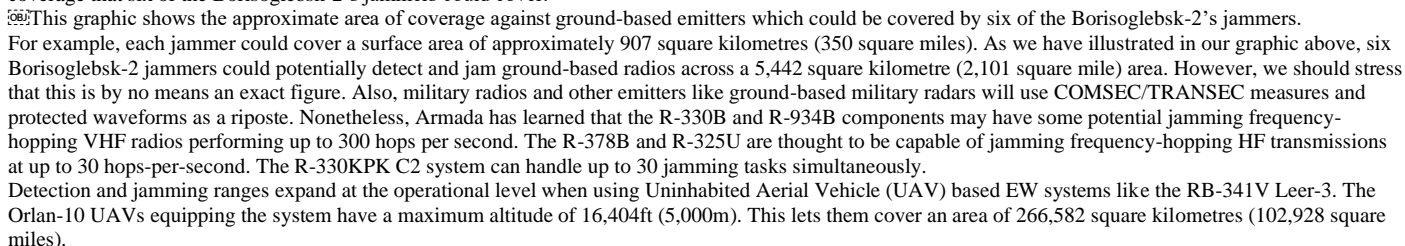
System	Role	Estimated Frequency	Coverage
1 x Murmansk-BN	Gathers Communications Intelligence (COMINT) and performs Communications Jamming (COMJAM) on HF radio	3MHz – 30MHz	1 x RB-341V Leer-3
Cellphone and general V/UHF	COMINT/COMJAM	30MHz – 3GHz	1 x IL269 Krasukha-2.0
Jamming of airborne radar		1GHz – 2GHz	1 x IRL257 Krasukha-C4
Jamming of airborne radar		8.5GHz – 18GHz	1 x IL267 Moskva-1
COMINT/Passive Radar		30MHz – 18GHz	

Russian Army manoeuvre units like motorised rifle regiments, brigades and divisions and tank brigades are sometimes furnished with an attendant EW Company. Open sources state that not all manoeuvre formations have organic EW companies. Where they are absent, it is assumed that these formations must rely on EW provision from the Independent EW Brigades and Battalions at the military district level. EW companies provide electronic warfare support at the tactical level. This is to help the manoeuvre unit meet its tactical objective. Russian Army EW companies deploy large quantities of systems covering disparate wavebands. The order of battle of a typical Russian EW Company is detailed below:

System	Role	Estimated Frequency	Coverage
1 x RP-330KPK	EW Company C2	Not Applicable	1 x R-330KEW Company C2
Not Applicable	2 x R-325UM	VHF COMINT/COMJAM	1.5MHz – 30MHz
2 x R-330B	VHF COMINT/COMJAM	30MHz – 100MHz	1 x R-330Z
GNSS Jamming and general V/UHF	COMINT/COMJAM	100MHz – 2GHz	2 x SPR-2/RTUT-B
Radio-activated weapons fuse jamming		95MHz – 420MHz	21 x RP-377U/UV
VHF COMJAM		30MHz – 3GHz	2 x R-934B
VHF airborne radio	COMJAM	20MHz – 2GHz	

Some of the systems used by the Russian Army's EW brigades and companies are vehicle mounted. Others like the RP-377U/UV are housed in a backpack. Apart from the RP-377U/UV systems, it is thought that Russian Army EW systems can only be used when stationary. This could mean they cannot advance alongside the manoeuvre force. On the other hand, they could provide an umbrella of EW coverage over large parts of the theatre (EW Brigade) or the brigade, division or regiment (EW Company).

Confusingly, Russian order-of-battle information lumps some of these systems together as a single system or 'complex'. For example, the Borisoglebsk-2 HF/VHF COMINT/COMJAM system includes five distinct components. These include the R-330KPK C2 system, the R-378B, R-330B, R-934B and R-325U. The number of these latter four systems in an EW Company can be scaled up or down according to tactical requirements. Our table above includes a Borisoglebsk-2 system at its full strength with a single C2 system and two each of the COMINT/COMJAM systems. The graphic below illustrates the approximate COMINT and COMJAM coverage that six of the Borisoglebsk-2's jammers could cover.

This graphic shows the approximate area of coverage against ground-based emitters which could be covered by six of the Borisoglebsk-2's jammers. For example, each jammer could cover a surface area of approximately 907 square kilometres (350 square miles). As we have illustrated in our graphic above, six Borisoglebsk-2 jammers could potentially detect and jam ground-based radios across a 5,442 square kilometre (2,101 square mile) area. However, we should stress that this is by no means an exact figure. Also, military radios and other emitters like ground-based military radars will use COMSEC/TRANSEC measures and protected waveforms as a riposte. Nonetheless, Armada has learned that the R-330B and R-934B components may have some potential jamming frequency-hopping VHF radios performing up to 300 hops per second. The R-378B and R-325U are thought to be capable of jamming frequency-hopping HF transmissions at up to 30 hops-per-second. The R-330KPK C2 system can handle up to 30 jamming tasks simultaneously. Detection and jamming ranges expand at the operational level when using Uninhabited Aerial Vehicle (UAV) based EW systems like the RB-341V Leer-3. The Orlan-10 UAVs equipping the system have a maximum altitude of 16,404ft (5,000m). This lets them cover an area of 266,582 square kilometres (102,928 square miles).

The Story So Far

Armada assesses that the Russian Army may have deployed up to six Independent EW Brigades, three Independent EW Battalions and two EW companies to the Ukraine Theatre. We believe these may include the following units:

Military District Independent EW Brigade Independent EW Battalion Army Formation EW Company Western 15th 16th 49th 328th 1st Guard Tank Army NIL 6th CAA 511th EW Company (part of the 138th Guards Motorised Rifle Brigade) 20th CAANIL Southern 19th NIL 8th CAANIL 49th CAANIL 58th CAA 141st EW Company (part of 136th Independent Guards Motorised Rifle Regiment) Eastern 17th Independent EW Battalion 29th CAANIL 35th CAANIL 36th CAANIL Central 18th NIL 2nd Guards Tank Army NIL 41st Guards Tank Army NIL Black Sea Fleet 475th NIL 22nd Army Corps NIL

The graphic below illustrates the hypothetical land area these EW brigades, battalions and companies could cover based on our estimations of their jamming and detection footprints, and estimated locations of their parent CAAs as of March 3.

Definitive information on the effectiveness of these units is scant. Nonetheless, some tentative conclusions can be drawn. On February 25, CNBC quoted an unnamed US defence official who said “we do not believe that the Russians have not employed the full scope of their electronic warfare capabilities, and it is not clear exactly why.”

This succinct summary underlines some surprising aspects of the conflict’s EW dimension to date. At first blush, it seems that the civilian world has not suffered as much as feared by Russian Army EW. There does not appear to have been any sustained efforts to deny Ukraine writ large access to the radio spectrum. Media satellite transmissions from Ukraine to the outside world appear to continue uninterrupted. Cellphone video footage sent from Ukraine indicates that local telecommunications networks have largely continued as before. Several Armada sources in Ukraine said their cellphone coverage has remained mostly unaffected. The Russian Army’s primary system targeting cellphone networks is the RB-341V Leer-3. Regardless of whether it has been used sporadically or in a sustained fashion, it seems to have had little effect so far. It is possible that Russian Army COMINT cadres want to leave cellphone coverage unjammed to exploit any cellphone traffic. Given how effective cellphones are in helping organise armed resistance it is hard to see why the army has left this alone. Perhaps Russian communications jamming technology is not as effective as previously thought?

☞ Pictures surfaces on social media on 28th February of captured civilian handheld V/UHF radios reportedly used by Russian troops. Their possible use seems to indicate lackadaisical V/UHF jamming by Russian EW units.

It is noteworthy that pictures circulated on social media on 28th February showed what appeared to be captured civilian V/UHF handheld radios. These were said to have been captured from Russian troops. There was some speculation that these radios were manufactured in the People’s Republic of China. It is a safe bet that these radios are not at the leading edge of telecommunications technology. As such, they should be very easy to jam. The use by Russian forward units of such basic technology raises some interesting questions, not least about the health of Russian Army tactical communications. These questions will be dealt with in later articles. From an EW perspective, it may illustrate lacklustre jamming performance. Such rudimentary radios should be a piece of cake to jam. Anecdotal evidence from Russia’s previous intervention in Ukraine from 2014 divulged that electromagnetic fratricide was rife. Russian V/UHF jamming regularly shut down the radio communications of Russian troops in range of the jammer. Surely troops using would find these radios all but useless if V/UHF jamming was supporting their manoeuvre. Russian doctrine stresses EW as an integral part of manoeuvre. There is an apocryphal adage that summarises Russian Army doctrine; “atrit a third, jam a third and the remain third will collapse.” This use of civilian standard V/UHF communications seems to suggest that either V/UHF jamming is not being used, being used sporadically and/or is useless.

There has been speculation that the Russian Army is husbanding its EW capabilities for use later in the conflict. That is possible but seems counterintuitive. Surely the manoeuvre force would want to use the full panoply of its EW capabilities during the initial invasion, arguably the riskiest part of the operation? This is when depriving Russia’s adversaries of radio communications networks and airborne radar would be an absolute priority? Does this mean that Russian Army EW systems and personnel are struggling? It may mean that army commanders have little confidence in their EW abilities and are loath to rely on them. Likewise, are these systems unreliable or have poor levels of maintenance which degrades their efficacy?

☞ This screen capture from the FlightRadar24 website clearly shows that aircraft overflying Ukraine and Belarus are keeping their transponders switched off. Some people on social media suspected that the loss of coverage of Ukrainian territory on aviation tracking websites like flightradar24 was the result of Russian GNSS jamming. This seems unlikely. Ukrainian civilian aircraft rapidly cleared from Ukrainian skies as the invasion unfolded. Civilian and military aircraft use transponders to share information with air traffic controllers. Transponders share details of the aircraft’s identity and flight characteristics. This can be supplemented with information from the aircraft’s GNSS systems.

However, it seems that GNSS signals over Ukraine were not jammed en masse. Transponder information from other aircraft flying near Ukraine’s borders was unaffected. Large-scale, theatre-level GNSS jamming would have almost certainly spread beyond Ukraine’s borders. What appears to have happened is that Ukrainian and Russian military aircraft flying over Ukraine kept their transponders switched off. This is standard wartime procedure. If you detect a transponder’s transmissions you can determine an aircraft’s location. This risks the aircraft being found and engaged by fighters or surface-to-air weapons. Russia does have form jamming GNSS transmissions. This has been noted during the country’s deployment to Syria. As this month’s Spectrum SitRep article notes, the Israeli government recently complained to its Russian counterpart about GNSS jamming emanating from Syria. This was affecting civilian air traffic over Israel.

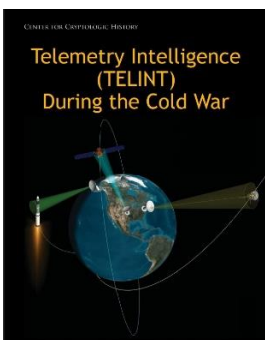
Conclusions

So far, the Russian Army’s electronic warfare acumen seems a shadow of its former self. As Armada reported in December 2019, it acquitted itself well during Russia’s first invasion. Russian Army EW continued to cause problems for the Ukrainian military in the following years. The stubborn resistance of the Ukrainian Army and population in general indicates it is less effective this time around. Russian Army EW equipment maybe under-performing and may not have the confidence of army commanders. This can only be good news for Ukraine as it fights tenaciously to repulse Russia’s invasion.

<https://www.thaienquirer.com/38210/analyzing-the-russian-armys-electronic-warfare-capabilities-in-its-invasion-of-ukraine/?s=09>

This article needs to be read in full; it is also accompanied by a vdo file, well worth a look

Finally, Get your own copy!



<https://www.nsa.gov/portals/75/documents/about/cryptologic-heritage/historical-figures-publications/publications/misc/telint-9-19-2016.pdf>

Here we have echoes of the 'Airfix 12' fiasco of December 2001: <http://news.bbc.co.uk/1/hi/uk/1697862.stm>

Norwegian Photographer Suspected of Espionage Arrested on Greece's Lesvos

By Tasos Kokkinidis
March 18, 2022

<https://greekreporter.com/2022/03/18/norwegian-photographer-espionage-arrested-greece-lesvos/>

Bry has won a number of photographic awards, among them Photographer of the Year in the United States in 1986 and in Norway in 1989. Internationally acclaimed Norwegian photographer Knut Bry was arrested on the Greek island of Lesvos on Thursday, suspected of espionage.

According to local media stonisi, he was arrested for taking pictures of the Greek Coast Guard and Navy vessels.

Citing Coast Guard sources, the local news website notes that the vessels were in the photographs he shot. During a search of his home in the presence of a judicial representative, electronic archives with photographs were seized, and are now under examination.

"He has been referred to the First Instance prosecutor of Mytilene with heavy felony charges for espionage and received 24 hours to prepare his testimony," stonisi reports. He will testify on Friday.

He has visited Lesvos several times in the recent past and has campaigned for migrants and refugees crossing into the Aegean island from the Turkish coast. He has been critical of Greece's policy on migration accusing Greek authorities of migrant pushbacks.

The United Nation's refugee agency (UNHCR) has called for Greece to stop pushing back migrants who are attempting to seek asylum in the country.

Greek politicians denied the accusations that such pushbacks were taking place, saying that the UNHCR has been misled by Turkish propaganda. Turkey recently bolstered its claims that Greece was responsible for the deaths of migrants pushed back from its borders.

Bry is a volunteer for the Lesvos Solidarity group, a human rights group catering to the welfare of migrants and refugees arriving on Lesvos.

In a Facebook message, the group announced his arrest and noted: "Bry was arrested in the port of Mytilene, where he was shooting for his next book on the landscapes of Lesvos! Knut above all loves the island and its people as he is always been next to those in need with his lens and his special look. The Knut case is, unfortunately, another example of the unjustified criminalization of innocent people.

<https://greekreporter.com/2022/03/18/norwegian-photographer-espionage-arrested-greece-lesvos/>

The spy who came to lunch: Ireland and Russia during the Cold War

Updated / Thursday, 7 Jan 2021 11:55

<https://www.rte.ie/brainstorm/2020/1120/1179406-ireland-russia-soviet-union-cold-war/>

Analysis: while determined to remain neutral, Ireland could not remain aloof from the potentially devastating implications of the Cold War

By Eoin Kinsella, Royal Irish Academy

As a new world order emerged from the ashes of World War II, Ireland's diplomatic service swiftly adapted to the reality of a global stage dominated by the United States and the Soviet Union. These were two superpowers with sharply opposing ideologies and growing nuclear arsenals. In recognition of the need to repair relations that had been damaged by its neutrality during the war, Irish foreign policy shifted towards multilateralism and engagement, epitomised by an application to join the United Nations in 1946. However, the realities of Cold War politics intervened, with Irish membership of the UN blocked by the USSR until 1955.

The impact of the Cold War threads subtly through Volume XII of Documents on Irish Foreign Policy, which covers the lifetime of the 17th Dáil (October 1961 to April 1965). While determined to maintain its neutrality (an attitude that caused difficulties for its first application to join the EEC), Ireland could not remain aloof from the potentially devastating implications of the Cold War.

The realities of Cold War politics intervened, with Irish membership of the UN blocked by the USSR until 1955

Mindful of the need to maintain good relations with Western powers, yet determined to forge an independent path, Irish policy at the UN in the late 1950s and early 1960s was underpinned by a concerted push for nuclear non-proliferation and disarmament. That policy bore fruit on December 4th 1961 when the UN General Assembly adopted Resolution 1665 (XVI) – commonly known as the 'Irish resolution' – which called upon all member states to agree to prevent the spread of nuclear capability to states not already in possession of a nuclear arsenal. Two years later, Ireland was a firm supporter and signatory of the Nuclear Test Ban Treaty, which prohibited the detonation of nuclear weapons in the atmosphere or underwater.

In January 1962, Ireland began a temporary, year-long membership of the UN's most important body, the Security Council. The defining event of its tenure, and one of the most important in the Cold War, arrived in October 1962 when the Kennedy administration dramatically confronted the government of Nikita Khrushchev over the build-up of Soviet military strength in Cuba. Issuing an ultimatum for its withdrawal, American forces initiated a blockade of the island and sought international approval.

Taoiseach Seán Lemass was quick to assure the American administration of Ireland's support, an assurance that was immediately drawn upon. Both Lemass and Frank Aiken (Minister for External Affairs) were absent from Dublin in late October, leaving Sheila Murphy, Assistant Secretary at the Department of External Affairs, to handle the initial Irish response.

Murphy dealt with requests from the United States, Britain and Canada for copies of all manifest data and for searches to be made of all Cuban and Eastern Bloc flights that landed at Shannon airport en route to Cuba. The latter request raised some delicate legal matters regarding the authority under international treaties of the Irish government to conduct searches, with the resolution of the crisis in early November effectively rendering the point moot.

Just a few months later, in February 1963, the Soviet trawler Paltus was taken into custody in Waterford harbour and its crew arrested for illegally fishing within Irish territorial waters. The fallout required some careful diplomatic manoeuvring. Following receipt of a note on the incident from the Soviet Embassy in London, the Department of External Affairs' response had to be carefully worded to avoid any 'recognition by implication' of the Soviet annexation of Latvia. Ireland had tacitly recognised the Soviet Union when supporting its admission to the League of Nations in 1935, but maintained no diplomatic presence in Moscow or, indeed, in any country east of the Iron Curtain throughout the 1960s.

Though Dublin may not have been a hotspot of espionage during the 1960s, and Ireland hardly a high priority target for either side's covert operations during the Cold War, Ireland's diplomatic corps were required to tread carefully in their dealings with Russian diplomats.

In the final days of December 1963, Boris Zhiltsov, a third secretary at the Russian embassy in London, spent some time in Dublin. Shortly after his departure, the Department of Justice wrote to Hugh McCann, Secretary of the Department of External Affairs, to say that Zhiltsov had been observed acting suspiciously. Moreover, Justice had recently learned that Zhiltsov (aka Boris Skoridov) held the rank of Major in the Russian intelligence service. It was advised that Ireland's ambassador in London, Con Cremin, should be informed 'so that Zhiltsov may be treated with circumspection in any dealings with him'.

Ireland's diplomatic corps were required to tread carefully in their dealings with Russian diplomats

In early 1965, the first secretary at the Irish embassy in London, Andrew O'Rourke, was invited to lunch by Vyacheslav Dolgov, an attaché in the Soviet embassy's political section. While much of their conversation was relatively mundane, O'Rourke reported that Dolgov repeatedly emphasised Moscow's interest in developing deeper relations with the Irish government, and hinted at their willingness to see a diplomatic mission established in Moscow.

O'Rourke's response – that as a small nation Ireland could not maintain a diplomatic presence in every country – was the standard response offered to countries with which the Irish government had no desire to establish formal relations. It was not until 1974 that an Irish embassy was established in Moscow.

<https://www.rte.ie/brainstorm/2020/1120/1179406-ireland-russia-soviet-union-cold-war/>

Why are Russian military aircraft flying in Irish controlled airspace?

Updated / Monday, 8 Jun 2020 12:43

By Professor Ray Murphy
NUI Galway

<https://www.rte.ie/brainstorm/2020/0318/1123836-russian-military-aircraft-bombers-ireland/>

Analysis: there have been reports of incursions of Russian bombers like the Tupolev TU-95 in airspace controlled by Ireland.

There have been a number of recent incursions into Irish controlled airspace by the Russian air force. Most recently Tupolev TU-95, the so called "Bear" strategic bomber aircraft, triggered UK Royal Air Force fighter jets to scramble in order to confront the Russian aircraft. Reliable sources indicate that there is an agreement between the UK and Ireland permitting the Royal Air Force to enter Irish airspace if deemed necessary, though the specific nature of this arrangement is not clear.

Like much of Russia's current military equipment, the Tupolev bombers are quite old, having come into service in the early 1950s. Although it is the only propeller powered bomber still in operational use today, it is far from obsolete and, like the United States B-52 bomber, it is planned to be in service for some time to come.

So what were these Russian bombers doing in airspace controlled by Ireland? It is important to emphasise that they did not violate Irish sovereign airspace as such and that the Irish Aviation Authority are responsible for a much larger area than this. Nevertheless, such behaviour by Russian aircraft is reckless and dangerous, especially when they turn off their transponders, making them effectively invisible to civil aviation surveillance systems. Although somewhat provocative owing to the nature of the aircraft and the proximity to UK and NATO airspace, any reasonably minded person could not perceive this as posing any significant military threat by Russia.

Former NATO Supreme Commander in Europe, Admiral James Stavridis, has speculated that the Russians were testing a strategically important "gap" that controls the entrance to the North Atlantic and transatlantic commerce. Most likely, they are probing NATO and UK responses in particular. Relations between NATO and Russia have been strained for some time, due mainly to NATO's expansion into what was traditionally viewed as Russia's backyard. They may also wish to antagonise the UK and its allies, and sow discord within the alliance. At present, there are differences among NATO members as to what is an appropriate response. One thing is clear: this is not the result of a navigation error by Russian pilots.

In the past, incidents of this nature have prompted calls for Ireland to acquire the capability to intercept incursions by foreign military aircraft. Commenting on this recently, retired Major General Ralph James of the Irish Air Corps indicated that Ireland would need to invest in at least 15 fighter aircraft, as well as support crews and infrastructure, to counter such threats. However, this would cost the Irish exchequer a great deal of money. In fact, the purchase of such aircraft is only part of the overall cost, as the purchase and maintenance of an up-to-date air defence system to accompany this is also prohibitively costly.

NATO members such as Belgium, Denmark, Norway and Portugal all have significant air defence capability, but they are part of a military alliance that requires such commitments. Ireland is not a member of NATO and as yet the EU has not adopted a common defence policy.

The case of the much wealthier Switzerland, a nation known to take its neutrality seriously, is an interesting example. In 2014, Swiss voters rejected a plan to purchase 22 Swedish Gripen jets from Saab for CHF 3.1 billion (€2.94 billion), overturning an earlier decision by the Swiss parliament. The Swiss government has since confirmed plans to acquire new fighter jets for around CHF6 billion (€5.68 billion) over the next few years, but a vote on this may also be taken before any purchase agreement is signed. The purchase of Eurofighter Typhoon fighter jets by Austria, another neutral country, also proved controversial and expensive.

It is almost certain that a similar proposal would be rejected if it was put to the general population of Ireland in a referendum. With a health and housing crisis, along with greater awareness of the need for climate action, it would not make sense to spend large amounts of exchequer funding on fighter aircraft. Even if we did, Ireland is not part of any military alliance and it would stand no chance of repelling an attack from a state with the military capabilities of Russia. Nevertheless, it is worth remembering that such a threat is low on the scale of security issues currently confronting Ireland.

Among the main threats identified in the 2015 White Paper on Defence were inter and intra-state conflict, terrorism, cyber attacks and espionage. The paper also declared natural disasters, cyber security and pandemics (such as the coronavirus) as national security issues.

Cyber attacks in particular can cripple a country's electronic infrastructure, including the wide range of network connected devices and systems that control or operate critical national infrastructure. There is evidence of such attacks and interference in elections by Russia, making attacks of this nature a more immediate threat to Ireland than violation of air space. There is no emphasis on air defence in the White Paper, and it concludes that the Air Corps will continue to operate a

range of rotary and fixed wing aircraft to allow it continue to undertake the required military operations and to deliver a broad range of air supports to other government departments and agencies.

Russia violates these protocols by switching off transponders on military aircraft

In 2014, the Minister for Defence admitted in the Dail that the Air Corps was not tasked or equipped for monitoring or responding to unauthorised aircraft overflying Irish airspace. He described it as unacceptable for large aircraft to travel through international air space that is the responsibility of the Irish Aviation Authority without informing it and with the transponders deliberately turned off.

The Irish Aviation Authority has invested significantly in modern equipment, but it still relies on the co-operation of the military in order to monitor the whereabouts of military aircraft. There are agreements that states have signed to ensure maximum aviation safety. Russia, or any other state that violates these protocols, especially by switching off transponders on military aircraft, should be held to account for endangering other civil aircraft.

<https://www.rte.ie/brainstorm/2020/0318/1123836-russian-military-aircraft-bombers-ireland/>

The two above from out NI correspondent Thanks CR

Germany charges army reserve officer with spying for Russia

Ralph G was allegedly passing information to Russian spy agencies between 2014 and 2020.

Published On 1 Apr 2022

1 Apr 2022

<https://www.aljazeera.com/news/2022/4/1/germany-charges-army-reserve-officer-with-spying-for-russia>

An officer in the German army reserve has been charged with spying for allegedly passing information to Russian intelligence services between 2014 and 2020, according to federal prosecutors.

The man, referred to as Ralph G, is suspected of supplying information on the German military's reserves, "civil defence", the effect of sanctions levelled against Moscow in 2014, and the Nord Stream 2 gas pipeline project between Russia and Germany, the federal prosecutor's office said in a statement on Friday.

The accused had been "in contact with a Russian intelligence service through various people since October 2014 at the latest", prosecutors said.

Until March 2020, the suspect is said to have passed these contacts "documents and information on numerous occasions", relating both to the army reserve and business.

Alongside his role in the reserve, the suspect "belonged to several German business committees" thanks to his civilian profession.

He is also said to have shared the "personal data of high ranking members of the Bundeswehr [the German army]" and figures from the business world, "including contact details".

"In return for his services, the accused received invitations to events organised by the Russian government agencies," prosecutors said.

The trial is to take place at the Dusseldorf Higher Regional Court. The accused is not in custody.

Previous cases

Ralph G is the latest in a string of suspected Russian spies uncovered on German soil.

Russian scientist Inur Nagaev is currently standing trial accused of spying for Moscow while working at a German university.

Nagaev, who was stopped by authorities last year, is accused of having shared information about Europe's Ariane space rocket programme with Russia's foreign intelligence service SVR.

In October 2021, a German man was handed a two-year suspended sentence for passing on floor plans of parliament buildings to Russian secret services while employed by a security company.

Last August, a former employee of the British embassy in Berlin was arrested on suspicion of having passed on documents to Russian intelligence.

<https://www.aljazeera.com/news/2022/4/1/germany-charges-army-reserve-officer-with-spying-for-russia>

Dissident links led to Russian diplomats' expulsion

John Mooney

Sunday April 03 2022, 12.01am, The Sunday Times

<https://www.thetimes.co.uk/article/dissident-links-led-to-russian-diplomats-expulsion-vj9fr83b>

The decision to expel four Russian diplomats was taken in response to increased espionage by the Kremlin, including efforts to cultivate contacts with dissident republicans and loyalist paramilitaries in efforts to undermine confidence in the European Union.

Russia's intelligence services are encouraging fringe groups and paramilitaries in Northern Ireland to stoke social unrest. Russia is also amplifying sectarian and hate speech posted online by loyalists who oppose the Northern Ireland protocol, to undermine trust in governing institutions.

One of the four diplomats ordered to leave the state last week was a Russian military intelligence officer working under diplomatic cover out of the Russian embassy on Orwell Road in Dublin.

The GU, still widely known as the GRU, is the main Russian agency spearheading Moscow's efforts to stoke political unrest in Northern Ireland and the Republic through subversion and active measures, the type of political warfare employed by the KGB during the Cold War.

It has used third parties known as “useful idiots” in security parlance to contact disaffected loyalists, but Russian diplomats have also been observed meeting republicans under the guise of discussing history at public meetings and lectures.

Russia’s efforts to support paramilitaries and their supporters on both sides of the political divide in Northern Ireland is part of its wider effort to undermine the European Union by causing tensions about Brexit and the introduction of the Northern Ireland protocol, according to intelligence and defence analysts. Russia has spread false information in the past about interactions between Arlene Foster, the former DUP leader, and Michel Barnier, the EU’s chief Brexit negotiator.

Russian operatives have also disseminated rumours online that the Real IRA was recruiting Islamist militias.

The names of the four diplomats ordered to leave the state were provided to the government by the security and intelligence branch of garda headquarters and J2, the intelligence branch of the Defence Forces. For security reasons the government was not provided with the specifics of why the four were chosen, but was generally briefed, according to government sources.

Last week’s expulsions were also aimed at reducing the “footprint” of Russia’s intelligence services on Irish soil. The Department of Foreign Affairs does not intend to allow the Kremlin to replace the four expelled diplomats, though sources said that this was unlikely to thwart Russian espionage in Ireland as they will be replaced by illegals — sleeper agents working undercover.

The government has previously revoked planning permission granted to the Russian embassy to expand its Orwell Road complex, citing national security grounds, though the Kremlin is trying to have the decision overturned.

The existing embassy complex is used for the collection and analysis of intelligence gathered not only in Ireland but across Europe. There are 30 accredited officials working at the Russian embassy in Ireland. Only six officials are based at the Irish embassy in Moscow

The Russian embassy last week described the decision to expel its diplomats as arbitrary and groundless, saying it would further deteriorate the already strained Russian-Irish relationship, which it said was damaged by Ireland’s support of sanctions. In a statement on Twitter, the embassy said the move would not go unanswered.

<https://www.thetimes.co.uk/article/dissident-links-led-to-russian-diplomats-expulsion-vj9fr83b>

Brit in Berlin ‘handed over secret files to the Russians’

Metro (UK) 8 Apr 2022 By FLORA THOMPSON

<https://www.pressreader.com/uk/metro-uk/20220408/281925956542019>

A SECURITY guard at the British embassy in Berlin passed secret information about the government to a Russian military attache, a court was told.

Alleged spy David Smith is accused of gathering classified material ‘thought or intended to be useful to an enemy, namely the Russian state’.

The 57-year-old Brit denied nine offences under the Official Secrets Act at Westminster magistrates’ court yesterday.

They relate to when he was living in Potsdam between October 2020 and August last year.

It is claimed Smith ‘attempted to communicate’ by letter with ‘Gen Maj Sergey Chukhurov, Russian military attache based out of the Russian Embassy, Berlin’.

The material ‘contained details about the activities, identities, addresses and telephone numbers of various members of Her Majesty’s Civil Service’.

Smith is accused of collecting classified information ‘prejudicial to the safety and interest... of Her Majesty’s Government’.

He also allegedly made unauthorised photocopies of documents and video recordings of the embassy’s CCTV system. The charges also claim he gave information about building repairs at the embassy after being approached by someone he ‘believed to be a member of Russian Military Intelligence (the GRU)’.

Smith was arrested in August by German police and extradited to the UK earlier this week. Flanked in the dock by two plain-clothes guards, he confirmed his name, adding he no longer has an address.

He was remanded in custody and is due to appear at the Old Bailey on Wednesday.

<https://www.pressreader.com/uk/metro-uk/20220408/281925956542019>

Thanks ‘E’

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

The appearance of continuous Cyrillic 5 – letter groups reported in our last newsletter 129, continue;

4913	2000z (IP)	03 Mar	Continuous Cyrillic Morse 5 –letter groups	(Via Twente SDR)	BR	WED
3753.5	0019z (IP)	08 Mar	Continuous Cyrillic Morse 5 –letter groups	Good (Via Twente SDR)	BR	TUE

In addition to these continuous transmissions, a number of operational stations have been heard using Cyrillic Morse. These use four character call signs & send messages in either 5-figure or 5-letter groups following a formal header. Morse is hand sent & professional. The example below was logged on 12 March:

5HCD 5HCD 5HCD DE JGXV JGXV QTC AR 462 38 12 1248 462 = MMMM ZITCH HHUNAetc

Header appears to represent Msg. No. - Grp count - Date - Msg. origin time - Msg. No.

A Short UNID CW

3885 2010z 14 Apr VVV VVV DE WS1 WS1 AR Repeated several times over period monitored BR THU
Carrier keyed on & off for various lengths between calls, (tuning?). Nothing heard after 2015z

Morse - Number Stations

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

Variant Formats

As the variant formats have not been used for some while, the last logs reported Sept - Nov 2021, the variant definition listings have now been shelved but will be reintroduced should they reappear. These variants were in use irregularly from late 2017 until the end of 2021, with the first definitions appearing in the January 2018 newsletter, EN104. Whether these formats were introduced to add variation to the training exercises or experimentally with a view to changing the format on a more permanent basis is unknown.

First noted in July 2021 is the occasional change to the ending where 0.0.0. is sent using periods or random 'series of 'dits' in place of the usual 000. Also of note is the tendency to omit the == pair at the end of the message on numerous occasions.

More recently is the appearance of a signal on 5020kHz consisting of several elements combining to effect a 'tonal' sound. This can make copy of the 2000z M01 transmission difficult or impossible depending on signal strength. Copy can often be achieved by off-tuning to the upper carrier of the M01 signal.

March 2022:

5020	2000z	01 Mar	'463' 712 30 == 84736...		HFD	TUE
	2000z	03 Mar	'463' 342 30 == 19832 ... 28765	Good, med-fast. Many repeated pairs / triads	BR	THU
	2000z	08 Mar	'463' 735 30 == 12345 ... 67890 ==	Fair, fast. Numerous sequential grps. 12345 87654 etc.	BR	TUE
	2000z	15 Mar	'463' 327 30 == 28745 ... 29856	Good, fast. 29 grps only sent. Much use of 45 pairings	BR	TUE
	2000z	17 Mar	'463' 826 30 == 93827 ... 64837 ==	Fair, fast. Excellent Morse. Much use of 73 & 37 pairings	AB/BR	THU
	2000z	22 Mar	NRH - Moderate QRM on freq.		BR	TUE
	2000z	24 Mar	'463' 990 30 == 77009 ... 66000 ==	Fair, fast. QRM & QSB. Numerous sequential grps	BR	THU
	2000z	31 Mar	'463' 197 30 == 09415 ... 20910	Good, fast. Numerous 45 pairings. Only 21 grps sent	BR	THU
5475	1800z	01 Mar	'463' 242 30 == 61534 ... 74635 ==	Fair, fast. With errors. Many repeated pairs / triads	BR/HFD	TUE
	1800z	03 Mar	'463' 243 30 == 26154 ... 20912	Fair, med-fast. Many 298 sequences. Ends 0.0.0.	AB/BR	THU
	1759z	15 Mar	'463' 215 30 == 28175 ... 74329 ==	29 grps only sent. Ends 0.0.0	AB	TUE
	1800z	17 Mar	'463' 299 30 == 53726 ... 93728 ==	No noted errors	AB	THU
	1800z	22 Mar	'463' 515 30 == 15654 ==	Fair, fast. Missed start of msg. 12345 67890 grps noted	BR	TUE
	1800z	31 Mar	'463' 135 30 == 28176 ... 00198	Fair / Good, fast. One error Grp20. Numerous 45 pairings	BR	THU
6260	1500z	05 Mar	'463' 689 30 == 83746 ... 52635 ==	Fair, fast. No errors. Pause before msg. Many repeat pairs	BR/HFD	SAT
	1500z	19 Mar	'463' 372 30 == 29185 ... 75754 ==	Fair, med-fast. Several 123, 234, 321 sequences	BR	SAT
6510	0700z	06 Mar	'463' 292 30 == 99273 ... 54637 ==	Fair, fast. Good Morse. No errors. Many 73 & 37 pairs	BR	SUN

April 2022:

5020	2000z	05 Apr	'463' 948 30 == 38546 ... 65723 ==	Good, fast. Good Morse. 'Mixed' triplets, 546, 231 etc.	BR	TUE
	2000z	07 Apr	NRH		BR	THU
	2000z	12 Apr	'463' 953 30 == 73524 ... 65341 ==	Fair, med-fast. Good Morse. QSB on 2 nd half of msg.	BR	TUE
	2000z	14 Apr	'463' 774 30 == 65432 ... 64785 ==	Good, fast. Excellent Morse. No errors. Perfect sending!	BR	THU
	2000z	19 Apr	'463' 629 30 == 48753 ... 83462 ==	Good, fast. Excellent Morse. Couple of pauses. No errors	BR	TUE
	2000z	26 Apr	'463' 528 30 == 65748 ... 90907 ==	Good, fast. Good Morse. No errors. Sequential grps noted	BR	TUE
5475	1800z	05 Apr	'463' 147 30 == 87634 ... 34786 ==	Good, fast. Good Morse. Many sequential triplets	BR	TUE
	1800z	07 Apr	NRH		BR	THU
	1800z	26 Apr	'463' 138 30 == 67678 ... 02089 ==	Weak, fast. Good Morse. No errors. Sequential grps noted	BR	TUE
6260	1500z	02 Apr	'463' 125 30 == 16167 ... 28287 ==	Weak, fast. Several errors noted. Many sequential triplets	BR	SAT
	1500z	09 Apr	'463' 418 30 == 49044 ... 62080 ==	Weak / Fair. Good Morse with longer pauses between grps	BR/F5JBR	SAT
	1500z	23 Apr	'463' 697 30 == 84753 ... 73462 ==	Weak, fast. Excellent Morse. No errors. Perfect sending	BR	SAT
	1500z	30 Apr	'463' 341 30 == 92584 ... 20956 341 30 ==	Weak, med-fast. Two sequential grps noted.	BR	SAT
6510	0700z	17 Apr	'463' 491 30 == 27190 20918 28451 43613 ...	09834 65471 54310 92876 == 491 491 30 30 000	F5JBR	SUN
	0700z	24 Apr	'463' 936 30 == 64753 ==	Missed start of transmission (Via SDR Poland)	HFD	SUN

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.

Logs are shown as continuous. In practice there are often pauses between lines - Often quite lengthy pauses.

March 2022:

4981	1218z	28 Mar	278 (x3) 15858 (x2) 278 (x3) 14301 (x2) 111 999 358 10 = 14230 86102 75423 45957 24851 71248 14230 43385 95148 29351 = 358 10 111 = 43385 95148 111 000 (Traffic ends 1227z)	F5JBR	MON
7587	0816z (IP)	29 Mar	... / ... 3483 (In progress) 111 75368 447 10 = 16201 53018 22799 17160 90638 19019 86353 60958 05729 01107 = 447 10 000	F5JBR	TUE
8024	1257z	29 Mar	624 10 = 42294 68206 12781 64573 23318 48050 02657 69315 99182 53342 = 624 10 000	F5JBR	TUE
6798	1748z	30 Mar	481 (x3) 88052 (x2) 111 999 00164 00020 == 44490 07555 22374 99833 65515 41825 36432 53142 55985 93387 78027 03094 19989 17067 78991 01956 71569 18419 51919 65078 == 00164 00020 00000	F5JBR	WED
6952	1748z (IP)	30 Mar	CW Messages in progress 111 000	F5JBR	WED
5827	1432z	31 Mar	Message in progress...4 12511 18406 11902 45964 60046 26251 25296 68922 39757 18488 71349 11102 58398 62975 65184 85731 09191 73498 64551 62983 09407 97004 43115 06723 28318 66429 46643 31698 98301 12159 06579 01855 05130 30815 78688 93523 77144 53841 95357 42492 40336 09629 79163 17557 25292 18035 48119 32767 42000 00663 27065 69011 18095 38944 13988 48202 15146 97632 18467 91809 60391 78690 87335 59195 94050 65076 07881 51031 82694 19107 87242 30815 78688 = 261 77	F5JBR	THU
5349	1542z	31 Mar	319 319 319 (Repeated) 263 62 = 263 62 = 30290 78502 07121 ... / ... (repeats each group 2 times) = 263 62 = 263 62 000	F5JBR	THU

April 2022:

5410//5510	1453z	11 Apr	111 111 (x2) 111	F5JBR	MON
9214	0708z	13 Apr	641 (x3) 65986 (x2) 641 (x3) 65900 (x2)	F5JBR	WED
4641 187	0745z	13 Apr	187 (x3) 16725 (x2) 111 33300 333 333 16355 16355 333 16355	F5JBR	WED
10559	0906z (IP)	13 Apr	564 (x3) 88943 (x3) 564 (x3) (Silent - 0908z)	(Remote tuner Novosibirsk) JPL	WED
4321	1233z	13 Apr	333 39752 333 39593 333 1417 18 111 999 821 07 = 31128 66853 32833 10017 21493 32633 19899 = 821 07 111 821 07 = 31128 66853 32833 10017 21493 32633 19899 = 821 07 111 000	F5JBR	WED
4471	1249z	13 Apr	111 333 19 333 999 716 10 = 24851 14230 14250 75423 45957 24851 71248 29351 54205 78654 = 716 10 111 000 (End Traffic at 1257z)	F5JBR	WED
7406	1340z	13 Apr	111 (x2) 333 333 66 111 000	F5JBR	WED
4471	1457z	13 Apr	417 142 = EEEEEEE 142 10 = = 85631 85631 47592 47592 68514 68514 75423 75423 45957 45957 24851 24851 14230 14230 24654 24654 12345 12345 75361 75361 = = 142 142 10 10	F5JBR	WED
000	(End Traffic at 1502z)				

5391	1504z	13 Apr	333 09 333 10 333 22 333 23 333 24 333 24 333 25 333 32 175 12 = 47575 67858 98096 27825 94662 25988 10090 75000 53234 49063 49049 53234 = 175 12 333 (x2) 111 = 175 12 111 = 47575 111 = 67858 (x3) 111 = 27825 (x2) 111 = 94662 111 000		F5JBR	WED
6882	322	1205z	20 Apr	322 (x3) 80329 (x2)	F5JBR	WED
5761	470	1124z	21 Apr	470 (x3) 83006 (x2) 111 000 111 000	F5JBR	WED
5311	911	1143z	21 Apr	911 (x3) 61825 (x2) 111 000	F5JBR	WED
7998	263	1335z	26 Apr	263 (x3) 76378 (x2) 263 (x3) 77661 (x2) 111 000 263 (x3) 111 000	F5JBR	TUE
5447	948	1412z	27 Apr	948 (x3) 04478 (x2) 333 00 111 999 999 148 05 / 45677 34464 78994 45677 34464 / 148 05 000 111 333 01 45677 000 000	F5JBR	WED

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.

Asiatic M12 Logs

16284/15984/14784	0010/30/50z 0010/30/50z	14 Mar 21 Mar	297 1 (572 176) 297 1 (661 78)	55100 75836.... 48099 90141....	(Via SDR Japan) (Via SDR Japan)	BR BR/HFD	MON MON
17463/16263/15863	0100/20/40z 0100/20/40z	17 Mar 24 Mar	428 1 (7161 188) 428 1 (651 164)	82979 44381.... 37499 40546....	(Via SDR Japan) (Via SDR Japan)	BR BR	THU THU
10904/10204/9304	0700/20/40z	05 Apr	923 1		(Via SDR Japan)	HFD	TUE
14837/13937/12137	0010/30/50z 0010/30/50z 0010/30/50z 0010/30/50z	08 Apr 11 Apr 22 Apr 25 Apr	891 1 (796 36) 891 1 (9552 160) 891 1 (2644 174) 891 1 (253 132)	78238 44037.... 79215 25785.... 42383 57260.... 11132 84939....	(Via SDR Japan) (Via SDR Japan) (Via SDR Japan) (Via SDR Japan)	BR BR/HFD BR BR	FRI MON FRI MON

European M12 Logs

March 2022: New scheds in bold type

5863/7463/8163	0030/0050/0110z 0030/0050/0110z 0030/0050/0110z 0030/0050/0110z 0030/0050/0110z 0030/0050/0110z 0030/0050/0110z	01 Mar 04 Mar 08 Mar 15 Mar 22 Mar 25 Mar 29 Mar	841 000 841 000 841 1 (8188 76) 841 000 841 1 (5348 55) 841 1 (5348 55) 841 000	01674 20357.... 82726 84622.... 82726 84622 ... 91547 27527 000 000		HFD Gert BR BR BR Gert Gert	TUE FRI TUE TUE TUE FRI TUE
8126/7526/6826	2200/20/40z 2200/20/40z 2200/20/40z 2200/20/40z 2200/20/40z 2200/20/40z	04 Mar 05 Mar 11 Mar 12 Mar 19 Mar 25 Mar 26 Mar	178 1 (762 106) 178 1 (762 106) 178 1 (762 106) 178 1 (762 106) 178 1 (320 98) 178 1 (320 98) 178 1 (320 98)	81244 90330 ... 40868 43332 000 000 81244 90330 ... 40868 43332 000 000 81244 90330.... 81244 90330.... 58229 19013.... 58229 19013 ... 63723 40763 000 000 58229 19013 ... 63723 40763 000 000		BR/Gert Gert/HFD BR BR BR Gert BR/Gert	FRI SAT FRI SAT SAT FRI SAT
8164/6964/5764	2210/30/50z 2210/30/50z	03 Mar 07 Mar	197 000 197 1 (787 81)	86719 13517....		BR/Gert/HFD BR	THU MON

	2210/30/50z	10 Mar	197 1 (787 81)	86719 13517....		BR	THU
	2210/30/50z	14 Mar	197 000			BR	MON
	2210/30/50z	17 Mar	197 000			BR	THU
	2210/30/50z	21 Mar	197 1 (9784 74)	10543 25192....		BR	MON
	2210/30/50z	24 Mar	197 1 (9784 74)	10543 25192 ... 39389 45171 000 000	Extremely weak	Gert	THU
	2210/30/50z	28 Mar	197 000			BR/Gert	MON
	2210/30/50z	31 Mar	197 000			Gert	THU
9157/7957/6857	2300/20/40z	03 Mar	917 000			BR/Gert	THU
	2300/20/40z	14 Mar	917 000			BR	MON
	2300/20/40z	17 Mar	917 000			BR	THU
	2300/20/40z	21 Mar	917 1 (1643 73)	69554 17527....		BR/HFD	MON
	2300/20/40z	24 Mar	917 1 (1643 73)	69554 17527 ... 49422 69925 000 000		Gert	THU
	2300/20/40z	28 Mar	917 000			BR/Gert	MON
	2300/20/40z	31 Mar	917 000			Gert	THU
10238/9138/7838	2000/20/40z	04 Mar	218 000			BR/HFD	FRI
	2000/20/40z	09 Mar	218 1 (5206 97)	52365 27827....		BR	WED
	2000/20/40z	11 Mar	218 1 (5206 97)	52365 27827....		BR	FRI
	2000/20/40z	16 Mar	218 000			BR	WED
	2000/20/40z	18 Mar	218 000			BR	FRI
	2000/20/40z	23 Mar	218 1 (1516 63)	80213 75164....		BR	WED
	2000/20/40z	25 Fri	218 1			HFD	FRI
	2000/20/40z	30 Mar	218 000			BR/Gert	WED
10267/9267/8067	0110/30/50z	06 Mar	229 1 (730 56)	73538 58871....		BR/Gert/HFD	SUN
	0110/30/50z	13 Mar	229 1 (3069 86)	71669 97605....		BR	SUN
	0110/30/50z	17 Mar	229 1 (409 98)	64..... (Poor copy)		BR	THU
	0110/30/50z	31 Mar	229 1 (1373 88)	20977 90058 ... 73249 57037 000 000		Gert	THU
11435/10598/9327	1800/20/40z	05 Mar	938 1 (4024 71)	06131 85759 ... 96613 96129 000 000		Gert/HFD	SAT
13386/12189/11491	1110/30/50z	03 Mar	725 1 (8632 95)	51415 01237 ... 99477 59041 000 000		BR/Gert/HFD	THU
	1110/30/50z	10 Mar	725 1 (9196 94)	61178 84894....		BR	THU
	1110/30/50z	24 Mar	725 1 (8806 95)	58437 05613 ... 99555 62455 000 000		Gert	THU
	1110/30/50z	31 Mar	725 1 (4286 96)	73298 59796....		BR	THU
14377/13461/12114	1130/1150/1210z	07 Mar	317 1 (4834 97)	24288 43700 ... 87827 24604 000 000		BR/Gert	MON
	1130/1150/1210z	14 Mar	317 1 (2523 98)	77692 34823....		BR	MON
	1130/1150/1210z	21 Mar	317 1 (9709 97)	23509 92623....		BR/HFD	MON
	1130/1150/1210z	28 Mar	317 1 (3916 91)	05992 83351 ... 74807 46927 000 000		BR/Gert	MON
14728/16138	0920/40z	08 Mar	973 1 (5105 132)	71717 29235 ... 09647 05064 000 000		Gert	TUE
14377/14728/16138	0900/20/40z	15 Mar	973 1 (9720 116)	28891 04320 ... 95878 30298 000 000		AB	TUE
14728	1230z	28 Mar	973 1 (6408 54)	60890 99203 ... 34896 49747 000 000		Gert	MON
14427/14927/ 16327	0900/20/40z	22 Mar	493 000			AB/Gert	TUE
	0900/20/40z	25 Mar	493 000			AB	FRI
	0900/20/40z	29 Mar	493 1 (8245 69)	56681 71612 ... 07453 08396 000 000		AB	TUE
15848/1744/191488	0800/20/40z	02 Mar	841 000			HFD	WED
	0800/20/40z	06 Mar	841 000			Gert	SUN
	0800/20/40z	27 Mar	841 1 (744 92)	28717 38116 ... 98776 91193 000 000		Gert	SUN
	0800/20/40z	30 Mar	841 000			Gert	WED
20849/19449/18249	1400/20/40z	03 Mar	842 000			Gert/HFD	THU
	1400/20/40z	07 Mar	842 1 (7925 96)	67641 13139 ... 70064 45082 000 000		Gert	MON
	1400/20/40z	10 Mar	842 1 (7925 96)	67641 13139....		BR	THU
	1400/20/40z	14 Mar	842 000			BR	MON
	1400/20/40z	17 Mar	842 000			BR	THU
	1400/20/40z	24 Mar	842 1 (223 82)	33206 79838 ... 98302 41876 000 000		BR/Gert	THU
	1400/20/40z	28 Mar	842 000			BR/Gert	MON
	1400/20/40z	31 Mar	842 000			Gert	THU

Note: ID 841 is used twice for two schedules one on Tue/Fri at 0030z & the other Wed/Sun at 0800z

April 2022:

6854/8154/9354	0030/0050/0110z	01 Apr	813 000			Gert/HFD	FRI
	0030/0050/0110z	05 Apr	813 1 (7044 79)	34424 36199....		BR	TUE
	0030/0050/0110z	08 Apr	813 1 (7044 79)	34424 36199....		BR	FRI
	0030/0050/0110z	12 Apr	813 000			BR	TUE
	0030/0050/0110z	19 Apr	813 1 (9241 81)	46875 18762 ... 95244 00793		BR/Gert	TUE
	0030/0050/0110z	26 Apr	813 000			Gert	TUE
	0030/0050/0110z	29 Apr	813 000			Gert	FRI
7575/8175/9175	2100/20/40z	01 Apr	511 1 (7946 106)	19171 24274 ... 93933 96753 000 000		BR/Gert/HFD	FRI
	2100/20/40z	02 Apr	511 1 (7946 106)	19171 24274....		BR/HFD	SAT
	2100/20/40z	08 Apr	511 1 (7946 106)	19171 24274....		BR	FRI
	2100/20/40z	09 Apr	511 1 (7946 106)	19171 24274....		BR	FRI
	2100/20/40z	09 Apr	511 1 (7946 106)	19171 24274 ... 93933 96753 000 000		Gert	SAT

	2100/20/40z	15 Apr	511 1 (426 136)	85761 39827....	BR	FRI
	2100/20/40z	16 Apr	511 1 (426 136)	85761 39827....	BR	SAT
	2100/20/40z	22 Apr	511 1 (426 136)	85761 39827 ... 67278 26226 000 000	Gert	FRI
	2100/20/40z	23 Apr	511 1 (426 136)	85761 39827 ... 67278 26226 000 000	BR/Gert	SAT
	2100/20/40z	29 Apr	511 1 (3753 140)	40326 67774 ... 57679 62353 000 000	Gert	FRI
	2100/20/40z	30 Apr	511 1 (3753 140)	40326 67774 ... 57679 62353 000 000	Gert	SAT
10572/9372/8172	2110/30/50z	07 Apr	531 1 (581 49)	44662 63943....	BR	THU
	2110/30/50z	11 Apr	531 000		BR/HFD	MON
	2110/30/50z	14 Apr	531 000		BR	THU
	2110/30/50z	18 Apr	531 1 (362 64)	68279 59804 ... 76019 03615	BR/Gert	MON
	2110/30/50z	21 Apr	531 1 (362 64)	68279 59704....	BR	THU
	2110/30/50z	25 Apr	531 000		BR	MON
	2110/30/50z	28 Apr	531 000		BR	THU
11012/10212/9312	2210/30/50z	06 Apr	923 1 (485 114)	16909 31567....	BR/HFD	WED
	2210/30/50z	09 Apr	923 1 (485 114)	16909 31567.... 25467 33120 000 000	BR/Gert	SAT
	2210/30/50z	13 Apr	923 1 (8972 98)	. .450 29466.... (Poor copy – distorted sig)	BR	WED
	2210/30/50z	16 Apr	923 1 (8971 98)	52460 39466....	BR	SAT
	2210/30/50z	20 Apr	923 1 (4631 68)	06859 89498.... (Poor copy – distorted sig)	BR	WED
	2210/30/50z	23 Apr	923 1 (4641 68)	06759 88592 ... 82460 18651	BR/Gert	SAT
	2210/30/50z	27 Apr	923 1 (9437 84)	59657 21584 ... 79715 54724 000 000	Gert	WED
	2210/30/50z	30 Apr	923 1 (9437 84)	59657 21584 ... 79715 54724 000 000	Gert	SAT
11435/10598/9327	1800/20/40z	02 Apr	938 1 (1061 76)	65839 55320 ... 27180 86552 000 000	BR/Gert	SAT
	1800/20/40z	09 Apr	938 1 (6115 73)	21846 80379 ... 77274 63354 000 000	Gert/HFD	SAT
	1800/20/40z	16 Apr	938 1 (9968 78)	94423 07672....	BR	SAT
	1800/20/40z	23 Apr	938 1 (4243 71)	19055 39649 ... 85937 46105 000 000	Gert	SAT
	1800/20/40z	30 Apr	938 1 (3672 71)	09570 91186....	BR	SAT
12139/11139/10239	2000/20/40z	07 Apr	234 1 (938 84)	41217 12652....	BR/HFD	THU
	2000/20/40z	14 Apr	234 000		BR	THU
	2000/20/40z	18 Apr	234 1 (3908 69)	93925 05676 ... 99938 85917	BR/Gert	MON
	2000/20/40z	21 Apr	234 1 (3908 69)	93925 05676....	BR	THU
	2000/20/40z	28 Apr	234 000		BR	THU
13386/12189/11491	1110/30/50z	07 Apr	725 1 (9866 98)	55852 02458....	BR	THU
	1110/30/50z	14 Apr	725 1 (7848 95)	26815 25562....	BR	THU
	1110/30/50z	21 Apr	725 1 (9517 95)	31133 51117 ... 17450 12918 000 000	BR/Gert	THU
	1110/30/50z	28 Apr	725 1 (2823 96)	66127 62885 ... 44720 93165 000 000	Gert	THU
13391/13891/14791 13891	0800/20/40z	01 Apr	387 1 (8245 69)	56681 71612 ... 07453 08396 000 000	Gert	FRI
	0820z	19 Apr	387 000		F5JBR	TUE
	0800/20/40z	22 Apr	387 000		BR/Gert	FRI
13564/12164/11164	1900/20/40z	01 Apr	511 000		HFD	FRI
	1900/20/40z	06 Apr	511 1 (789 68)	72734 95320 ... 80877 83400	Gert/HFD	WED
	1900/20/40z	08 Apr	511 1 (789 68)	72734 95320....	BR	FRI
	1900/20/40z	13 Apr	511 000		BR	WED
	1900/20/40z	20 Apr	511 1 (150 88)	34209 40883....	BR	WED
	1900/20/40z	22 Apr	511 1 (150 88)	34209 40883 ... 56897 84204 000 000	BR/Gert	FRI
	1900/20/40z	27 Apr	511 000		Gert	WED
	1900/20/40z	29 Apr	511 000		BR/Gert	FRI
14377/13461/12114	1130/1150/1210z	11 Apr	317 1 (2480 96)	01735 77470....	BR	MON
	1200/20/40z	11 Apr	317 1 (4595 55)	77874 64273 ... 79760 63055 000 000	AB	MON
	1130/1150/1210z	18 Apr	317 1 (7840 59)	11386 83555 ...	BR/F5JBR	MON
	1130/1150/1210z	25 Apr	317 1 (5654 42)		BR	MON
16321/15821/14721	1600/20/40z	03 Apr	387 1		HFD	SUN
	1600/20/40z	06 Apr	387 1 (8925 98)	89031 47334....	BR	WED
	1600/20/40z	10 Apr	387 000		BR	SUN
	1600/20/40z	24 Apr	387 1 (3726 72)	58985 65301....	BR	SUN
	1600/20/40z	27 Apr	387 000		BR/Gert	WED
20971/20371/19271	1400z/20/40z	07 Apr	932 1 (404 77)	26959 59950 ... 67988 58961 000 000	AB/BR	THU
	1400z/20/40z	11 Apr	932 1		HFD	MON
	1400/20/40z	14 Apr	932 000		BR	THU
	1400/20/40z	21 Apr	932 1 (5279 53)	75661 16610 ... 32043 61423 000 000	Gert	THU
	1400/20/40z	28 Apr	932 000		BR	THU

Note: ID 387 is used twice for two schedules one on Tue/Fri at 0800z & the other Wed/Sun at 1600z
ID 511 is used twice for two schedules one on Wed/Fri at 1900z & the other Wed/Fri at 2100z

M12 14427/14927/16327kHz 0900/0920/0940z 29 Mar 2022
493 493 493 1 (R2m) 8245 69 8245 69
56681 71612 02271 48921 99724 17160 37339 42286 60367 23139 37523 14180 39644 07134 32681 50536 28845 43690 26392 82137 35727 73501 69252 92268 64127 37024 61607 44266 09964 03875 09210 19466 96955 74788 79095 21632 18192 61937 14344 74433 70032 34348 81196 99794 29118 69899 04657 63759 99964 41370 69864 22442 36759 21589 31250 02509 59902 79676 52127 27931 12052 13716 45514 82319 80395 51973 29855 07453 08396 000 000
<i>Courtesy AB</i>

M12 14377/13461/121141kHz 1200/1220/1240z 11 Apr 2022
317 317 317 1 (R2m) 4595 55 4595 55
77874 64273 72372 89328 63973 17752 79094 21739 31042 13666 40648 37042 96755 72320 61925 53551 70088 72500 40200 64484 80469 20493 02535 85878 56315 68818 18602 75585 68670 14951 05709 26203 41202 16507 39012 70614 18308 50510 13550 45548 49988 15582 20152 68226 00496 94517 14139 19426 05788 02924 53387 45928 79400 79760 63055 000 000
<i>Courtesy AB</i>

March 2022:

10243	0520z	01 Mar	952 (104 54) = 58007....	HFD	TUE
12211	0500z	01 Mar	952 (104 54) = 58007....	HFD	TUE
17458	0930z	10 Mar	617 (982 41) =	(SDR Utwente) ER	THU
	0930z	25 Mar	617 00000	HFD	FRI

April 2022:

17458	0930z	10 Apr	617 00000	(SDR Utwente) ER	SUN
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M23 O ICW

No Reports

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 & so will now be included in all forthcoming newsletters.

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

Due to space constraints these logs show only main detail of the exchanges logged.

Baudot (RTTY) content shown in **Bold** type.

March 2022:

11440	UBI	1130z	05 Mar	UBI Working RDK (Calling and QSY 13425) in Duplex CW	F5JBR	SAT
13425	RDK	1132z	05 Mar	UBI Working RDK (Calling and QSY 14876) in Duplex CW – QSX on 14876kHz NIL SK	F5JBR	SAT
13922	3ESG	0757z	06 Mar	3ESG Working XN6O QSO in Duplex CW – QSX on 14456kHz QRU NIL SKO	F5JBR	SUN
5421	G3MT	1045z	08 Mar	G3MT Working 1 outstation (QSO and QRV ZTH) in Duplex CW R 085 1152 NIL SK	F5JBR	TUE
10204	UBI	0930z	17 Mar	UBI Working RDK (Calling and QSY 13428) in Duplex CW – QSX on 13428kHz QRU NIL SK (Via SDR JAPAN)	F5JBR	THU
6784	UGA	0926z	19 Mar	UGA Working 1 Outstation (QSO and QTCs 2) QSX on 7465kHz in CW QTC 1 Groups 5 figures and QTC 2 11100 30330 87369 19014 01009 = POKJB ULPVB Groups 5 letters: no Cyrillic letters	F5JBR	SAT
7565		0942z	19 Mar	Net Station Working UGA (QSO and QTCs 2). QSX on 6784kHz in CW QTC 1 : 11100 30330 53691 19013 01003 = 18134 09130 30660 – Groups 5 figures QTC 2 : 11100 30330 56827 19014 01003 = MNWGH SAIHQ MFAMA – Groups 5 letters. No Cyrillic letters QRX 1903 1400 QSY 6873/5910 QSW 7531/8173 CFM NIL SK. (End traffic at 1029z)	F5JBR	SAT
9091		1318z	21 Mar	Net station Working 1 outstation (QSO and QRV) in Duplex CW – QSX on 10163kHz R 562 1322 NIL SK	F5JBR	MON
6772	K5LW	1452z	22 Mar	K5LW Working FI8R (QSO and QSY) in Duplex CW QSA NO NIL SK	F5JBR	TUE

8167	MN7L	1537z	25 Mar	MN7L Working IMSK in QSO in Duplex CW R161 1543 QTC 1 ZZC SLV K (Traffic in RTTY) CFM NIL K SLV R 479 1548 QTC 1 ZZC ZVP SLV NIL SK	F5JBR	FRI
5223	MRLC	0818z	28 Mar	MRLC Working BZTJ in QSO in Duplex CW QRU NIL SK in Duplex	F5JBR	MON
5731	L2RS	0857z	28 Mar	L2RS Working KE4T in QSO in Duplex CW. QSX on 6801kHz QLO 20	F5JBR	MON
5731	L2RS	0900z	28 Mar	L2RS Working KE4T in QSO in Duplex CW. QSX on 6781kHz QLP 20	F5JBR	MON
6781	KE4T	0900z	28 Mar	CW/FSK 50/500 (Other side of link) 218 100 28 0830 1238 = 8817 218 100 28 0830 1238 = 88172 47199 26462 11239 38758 75689 56723 47866 =100=	AB	MON
5751	L2RS	0902z	28 Mar	L2RS Working KE4T in QSO in Duplex CW. QSX on 6781kHz QTC1 QRV (Traffic in FSK 50Bd/500Hz)	F5JBR	MON
5267	IRWN	1130z	28 Mar	IRWN Working TOAM in QSO in Duplex CW. QSA NO QSY 75413 R 387 1139 R 388 1140 QSRU NIL SK	F5JBR	MON
6831	L2RS	1358z	29 Mar	L2RS Working KE4T in QSO in Duplex CW	F5JBR	TUE
7781	KE4T	1426z	29 Mar	KE4T Working L2RS (QSO & QLO 20) in Duplex CW	F5JBR	TUE
7761	KE4T	1428z	29 Mar	KE4T Working L2RS (QSO & QTC1 in FSK 50Bd/500 Hz) in Duplex CW & FSK R028 1440 QRU NIL SK	F5JBR	TUE
<u>April 2022:</u>						
4958	UOGW	1439z	04 Apr	OUGW Working PRIL (QSO & QSA & QTC 2) in Duplex – QSX on 4044kHz [TRAFFIC:] OUGW QTC 2 ZTH QRV ? K OUGW NW 323 100 K PRIL R 323 1442 K OUGW NW 324 100 K PRIL R 324 1443 K PRIL QTC 2 ZTH QRV ? K PRIL NW 429 100 K OUGW R 429 1448 K PRIL NW 430 30 K OUGW R430 1449 K PRIL QRU NIL SK K OUGW NIL SK End at 1440z NOTE : QSY 98127 is QSY 4044 kHz	F5JBR	MON
6817	W8AD	1508z	04 Apr	Operator chat in CW, message in FSK 50/500 W8AD ZVP K 204 183 4 1503 5678 = 23484 58606 20176 98365 75455 13436 86024 73445 - 1517 K CFM NIL SK	AB	MON
8167	MN7L	1535z	04 Apr	CW/FSK 50/500. Weak signal. Message partly unreadable IMSK IMSK IMSK DE MN7L MN7L K 832 100 04 1535 4356 = 57612 34576 45675 67472 89192 20101 21934 89487 =100= CFM NIL K	AB	MON
8167	MN7L	1535z	05 Apr	CW/FSK 50/500 IMSK IMSK IMSK DE MN7L MN7L K (repeated) 854 100 5 1514 8005 = 78463 61286 20700 87601 14678 74459 06490 87045 =100= -1543 CFM NIL K SK	AB	TUE
13902		0802z	06 Apr	800 1902 K CFM NIL SK	F5JBR	WED
4958	UOGW	1439z	06 Apr	OUGW Working PRIL (QSO & QSA NO QSY 98127 K) in Duplex QSA 4 QTC2 ZTH	F5JBR	WED
8167	MN7L	1538z	06 Apr	MN7L Working IMSK (QSO & QTC1 & Traffic in FSK 50Bd/500Hz) in Duplex IMSK IMSK IMSK DE MN7L MN7L K 313 105 6 1535 1749 = = 83795 65547 92962 72106 47929 31074 73610 51904 -1543 CFM NIL K SK	AB/F5JBR	WED
4958	UOGW	1439z	07 Apr	OUGW Working PRIL (QSO & QSA QSA4 & QTC2) in Duplex ZTH NW 339 100 K 340 30 K QRU QRU ? K QRV R445 1442 R 446 1142 K NIL SK	F5JBR	THU

8167	MN7L	1534z	07 Apr	MN7L Working IMSK (QSO & QTC1 in Duplex Traffic in FSK 50Bd/500Hz) IMSK IMSK IMSK DE MN7L MN7L K 164 105 7 1535 7890 = 57622 34576 45675 67472 38829 38792 73722 31_1_ -1531 CFM NIL K	AB/F5JBR	THU
5351	ZUDG	1725z	07 Apr	ZUDG Working KEVT (QSO & QSY 65177 & QSA NO SK) in duplex	F5JBR	THU
5731	L2RS	1000z	08 Apr	L2RS Working KE4T (Calling and QSA NO & SK) in Duplex – QSX on 6801kHz	F5JBR	FRI
6781	KE4T	1003z	08 Apr	KE4T Working L2RS (QSO & OK ZVP K) in Duplex – QSX on 5731kHz BK BK QRV K R178 1012 K QTC1 ZZC K	F5JBR	FRI
6781	KE4T	1006z	08 Apr	KE4T Working L2RS in Duplex – QSX on 5751kHz Traffic in FSK Mode FSK 50Bd/500Hz BK QRV K R032 1014 K NIL K SK	F5JBR	FRI
8167	MN7L	1535z	08 Apr	CW/FSK 50/500 IMSK IMSK IMSK DE MN7L MN7L K 957 104 8 1535 7397 = 18556 78095 22791 59766 72624 48146 04681 80181 - 1542 K CFM NIL SK	AB	FRI
5376		0445z	09 Apr	CW NET STATION Working 1 Outstation (QTC1 K) in Duplex – QSX on 5882kHz Traffic in FSK 50Bd/500Hz CFM QRU ? K QRV R912 0452 K NIL SK	F5JBR	SAT
5882		0445z	09 Apr	CW NET STATION Working 1 Outstation (QTC1 K) in Duplex – QSX on 5376kHz Traffic in FSK 50Bd/500Hz CFM QRU NIL SK	F5JBR	SAT
5471	UOZG	0549z	09 Apr	UOZG Working WDAK (QSO & QTC1) in Duplex – QSX on 5921kHz Traffic in FSK Mode 50Bd/500Hz ZVP K BK QRV K R 515 0602 K NIL SK	F5JBR	SAT
5921	WDAK	0549z	09 Apr	WDAK Working UOZG (QSO & R169 0556 K) in Duplex – QSX on 5471kHz QTC1 ZZC K Traffic in FSK Mode 50Bd/500Hz NIL SK	F5JBR	SAT
13922	FA3C	0757z	09 Apr	FA3C Working G1ZE (QSO : & calling) in Duplex – QSX on 14456kHz	F5JBR	SAT
14456	G1ZE	0803z	09 Apr	G1ZE Working FA3C (QSA NO QSY 03743 & QSY 04973) in Duplex	F5JBR	SAT
14532	FA3C	0814z	09 Apr	FA3C Working G1ZE (QSO NO QSY 01252 & QSY 01396 & QSY 04793) in Duplex	F5JBR	SAT
4498	UOGW	1452z	09 Apr	UOGW Working PRIL (QSO & QSA NO QSY 50921 & QSA NO SK) in Duplex End Traffic at 1500z	F5JBR	SAT
8167	MN7L	1535z	09 Apr	CW/FSK 50/500 IMSK IMSK IMSK DE MN7L MN7L K 721 10 9 1535 6768 = = 88508 97437 94605 55503.....17634 11803 19697 72446 =100= -1542 = CFM NIL SK	AB	SAT
7547	IMSK	1534z	09 Apr	CW/FSK 50/500 (Other side of link) MN7L MN7L MN7L DE IMSK IMSK K 191 100 9 1523 8105 = 91892 40783 14341 65003.....39338 46394 37461 47184 =100= NIL SK	AB	SAT
13922	3AZB	0757z	10 Apr	3AZB Working MR4V (QSO in Duplex) – QSX on 14456 OK QLO 20 K R714 0807 K QTC1 ZTH ? K 340 100 100800 1908 K CFM NIL SK (End Traffic at 0809z)	F5JBR	SUN
5223	MRLC	0820z	10 Apr	MRLC Working BZTJ (QSO and QTC1 in Duplex) NW = 352 100 K NW = 353 30 K CFM NIL QRU ? K R452 0823 K R 454 0823 K NIL SK (End Traffic at 0823z)	F5JBR	SUN
5267	IRWN	1130z	10 Apr	IRWN Working TOAM (QSO and QTC2 in Duplex) – QSX on 5932 ZTH Mode QRU NIL SK	F5JBR	SUN

8167	MN7L	1535z	10 Apr	CW/FSK 50/500 IMSK IMSK IMSK DE MN7L MN7L K (repeated) 248 105 10 1230 2762 = = = 248 105 10 1530 2762 = = 06052 83251 43422 09557 ... 15542 28571 80108 19164 =100= -1549 = 248 100 10 1535 955 = CFM NIL SK	AB	SUN
7547	IMSK	1537z	10 Apr	CW/FSK 50/500 (Other side of link) MN7L MN7L MN7L DE IMSK IMSK K 193 100 10 1500 8375 = 94343 34864 57849 99933....80750 53207 10472 57167 =100= NIL SK	AB	SUN
6772	K5LW	1439z	11 Apr	K5LW Working FI8R (Calling and QSA in Duplex) NO QSY 54862 – NO RESPONSE	F5JBR	MON
8167	MN7L	1535z	11 Apr	CW/FSK 50/500 IMSK IMSK IMSK DE MN7L MN7L K QSA3 QRU? K 894 105 11 1535 8344 = 894 105 11 1535 8344 = = 38091 87330 87740 22449....30694 89822 05843 26808 000 -1542= CFM NIL K SK	AB/F5JBR	MON
7547	IMSK	1535z	11 Apr	CW/FSK 50/500 (Other side of link) MN7L MN7L MN7L DE IMSK IMSK K 195 100 11 1520 6935 = 41652 25677 65438 43989....37277 03795 46345 11317 =100= R 819 1543 K NIL SK	AB	MON
7547	IMSK	1535z	12 Apr	CW/FSK 50/500 MN7L MN7L MN7L DE IMSK IMSK K 197 100 12 1523 4728 = 41652 25677 65438 43989....37277 03795 46345 11317 =100= R 812 1546 K NIL SK NIL SK	AB	TUE
5471	UOZG	0550z	13 Apr	UOZG Worked WDAK (QSO) in Duplex – QSX on 5921kHz	F5JBR	WED
4618	UOZG	0550z	13 Apr	UOZG Worked WDAK (QSO and QSW) & QDD in Duplex – QSX on 5921kHz	F5JBR	WED
6853		0640z	13 Apr	CW Net Station Working 1 outstation in Duplex R 851 06400 QRX 827404 K AR	F5JBR	WED
6853	K4MT	0700z	13 Apr	K4MT Working NT9P (QSW 81138 K) in Duplex	F5JBR	WED
13922	DVY7	0757z	13 Apr	DVY7 Working PVS9 (QSO) in Duplex – QSX on 14456kHz	F5JBR	WED
14456	PVS9	0800z	13 Apr	PVS9 Working DVY7 (QSO 3) in Duplex QSY 72087 QSY 73480 QSA 3 QRU ? K R343 0807 K QTC 1 ZTH K NW 250 100 13 00 NW 250 100 13 0800 5193 K CFM NIL SK (End Traffic at 0812z)	F5JBR	WED
5426	PRIL	1440z	13 Apr	PRIL Working UOGW (QSO) in Duplex – QSX on 4958kHz QTC 2 K NW 460 100 K QRU NIL SK	F5JBR	WED
4958	UOGW	1440z	13 Apr	UOGW Working PRIL (QSO) in Duplex – QSX on 5426kHz QTC2 ZTH NW 468 100 K 469 30 K QRU NIL SK	F5JBR	WED
7547	IMSK	1534z	13 Apr	CW/FSK 50/500 MN7L MN7L MN7L DE IMSK IMSK K = 6497 3251 31 001 991 = 6497 3251 31 001 991 199 100 13 1523 7946 = 91892 40783 14341 65003....39338 46394 37461 47184 =100= R 482 1548 K	AB	WED
6837	W9SP	1654z	16 Apr	W9SP Working LM7K (QSO : only Calling to 1704z) in Duplex LM7K de W9SP K Only Calling End Traffic at 1704z	F5JBR	SAT
5868		1708z	16 Apr	CW FSK 50/500 NET STATION Working 1 outstation in Duplex – QSX on 6996kHz R125 1717 QRU NIL SK (On 6996 kHz In Progress)... 88417 69173 70665 64864....25036 97771 85702 36694 =100 = A1717 K	F5JBR	SAT

CFM
NIL SK (End Traffic at 1725z)

5471	UOZG	0550z	17 Apr	UOZG Worked WDAK (QSO & QTC1) in Duplex – QSX on 5921kHz WDAK de UODG K 183 100 17 0507 9150 = 96930 72429 32641 88300....89652 34981 97615 46578 WDAK de UODG R 146 0605 K	F5JBR	SUN
5921	WDAK	0550z	17 Apr	CW FSK 50/500 (Other side of link) UODG de WDAK QSA 3 QRU ? K UODG de WDAK R183 0602 K 146 100 17 0545 5105 = 14297 7881 7744 45173....87691 33082 06268 06606 =100= A0605 UODG de WDAK NIL SK	F5JBR	SUN
13902	PG67	0810z	18 Apr	PG67 Working F8PW (QSO : calling) in Duplex QSA 0 QSY 68848 QSA 0 QSY 69414	F5JBR	MON
6773	RGG	0813z	18 Apr	RGG Working UBI (QSO : calling and QSY 11541) in Duplex	F5JBR	MON
7591		1155z	18 Apr	CW NET STATION Working 1 outstation (QSO) in Duplex QLO 20 K R207 1202 NIL SK	F5JBR	MON
10160	NT9P	1240z	18 Apr	NYT9P Working K4MT (QSO) in Duplex QSY 98014 R751 1250 QTC1 K K4MT de NT9P K 134 105 18 1245 9162= 42055 54039 01413 86044.... 27480 01109 27180 21280 -1253 K4MT de NT9P CFM NIL SK	F5JBR	MON
7547	IMSK	1534z	18 Apr	IMSK Working MN7L (QSO and QTCs) in Duplex – QSX on 8167kHz	F5JBR	MON
8167	MN7L	1534z	18 Apr	MN7L Working IMSK (Other side of link) 361 100 18 1523 3677 = 18454 91391 91429 66956....65150 29850 18224 =100= -1543	F5JBR	MON
5868	ZUDG	1708z	18 Apr	ZUDG Working KEVT (QSO and QTC1) in Duplex – QSX on 6996 KEVT DE ZUDG K 185 100 18 1648 3579 = 44378 42390 42394 30076....53783 72311 95923 85140 =100= KEVT DE ZUDG NIL SK	F5JBR	MON
6996	KEVT	1708z	18 Apr	KEVT Working ZUDG (Other side of link) ZUDG de KEVT QSA 4 K ZUDG de KEVT R185 1713 K ZUDG de KEVT QTC1 ZCC K 429 105 18 1705 3456 = 85276 38786 44917 97232....52733 65187 14703 21034 64669 A 1717 ZUDG de KEVT CFM QRU NIL SK	F5JBR	MON

Next log is possible M42b - Why M42b: The form of the preamble, the time used in the preamble (UTC), the abbreviations used for traffic (NW SRU SK) and the link is made every MONDAY at 1200UTC (F5JBR)

8069	YP3M	1200z	18 Apr	YP3M Working VXB M (VXB M de YP3M QTC - for 4 minutes) ?? NW NW = 289 030 18 1125 2881 = 65685 82467 66340 20676....13279 82716 86936 73974 = QRU QRU SK SK in Broadcast -	F5JBR	MON
5471	UOZG	0550z	19 Apr	UOZG Working WDAK (QSO and QTC1 in Duplex) – QSX on 5921kHz WDAK de UODG K WDAK de UODG QSA 3 QTC 1 ZCC K 186 100 19 0510 = 41653 25677 65438 43989.... 77277 03795 46345 11317 =100= 0551 WDAK de UODG R 513 0557 K WDAK de UODG NIL SK	F5JBR	TUE
5921	WDAK	0550z	19 Apr	WDAK Working UOZG (Other side of link) UODG de WDAK QSA 3 QRU ? K UODG de WDAK R 186 0551 K UODG de WDAK QTC1 ZCC K K 513 100 19 0545 3456 = 94354 92401 04622 05350....49080 09774 43392 66307 = 100 = A 0557 UODG de WDAK NIL SK	F5JBR	TUE
13922	K9VE	0757z	19 Apr	K9VE Working IC8U (QSO and QLO20) in Duplex – QSX 13392kHz QSY 39912 QSA NO QSY 31911 QSA 3 QTC1 ZTH ? K NW = 348 200 190800 5321 K R818 0823 K QSY 32851 R 818 0835 QSY 32321	F5JBR	TUE

7547	IMSK	1535z	19 Apr	IMSK Working MN7L (QSO and QTC1) in Duplex – QSX on 8167kHz MN7L de IMSK K MN7L de IMSK QTC1 ZCC K 211 100 19 1525 4673 = 41652 25677 65438 43989.....37277 09 46345 11317 100 = 1539 MN7L de IMSK R 155 1544 K MN7L de IMSK NIL SK	F5JBR	TUE
8167	MN7L	1535z	19 Apr	MN7L Working IMSK (Other side of link) IMSK de MN7L K IMSK de MN7L R 211 1539 K 155 100 19 1535 7130 = = 00186 45499 11084 83296....84479 85730 09290 39511 = 100 = -1543 IMSK de MN7L NIL SK	F5JBR	TUE
13922	2ÂNH	0757z	20 Apr	2ÂNH Working 6J1I (QSO : Calling and QLO 20) in Duplex – QSX on 14456kHz	F5JBR	WED
13902	2ÂNH	0801z	20 Apr	2ÂNH Working 6J1I (QSO) in Duplex – QSX on 14456kHz R 931 0805 QTC 1 ZTH NW 349 100 20 0808 1908 K NIL SK	F5JBR	WED
5789		0857z	20 Apr	CW MESSAGE IN PROGRESS (5 letters – no Cyrillic letters) QRU NIL SK	F5JBR	WED
5932	TOAM	1130z	20 Apr	TOAM Working IRWN (Calling and SK)	F5JBR	WED
5267	IRWN	1133z	20 Apr	IRWN Working TOAM (QSO) in Duplex – QSX on 5932kHz SA NO QSY 75430	F5JBR	WED
4762	IRWN	1143z	20 Apr	IRWN Working TOAM (QSO) in Duplex QSA NO QSY 88455 QSA NO SK	F5JBR	WED
7547	IMSK	1534z	20 Apr	IMSK Working MN7L (Calling and QSA 3) in Duplex – QSX on 8167kHz 213 100 20 1530 8519 = 91892 40783 14341 65003.....39338 46394 37461 47184 = 100 = CFM CFM NIL ZVP R 745 1541 NIL SK	F5JBR	WED
8167	MN7L	1534z	20 Apr	MN7L Working IMSK (Other side of link) QS3 QRU ? K ZVP K R 231 1538 K QTC 1 ZCC K 745 110 20 1531 3535 = 80847 18247 06249 99626....69368 80973 66887 11427 -1541		
5789		0744z	21 Apr	CW Net Station Working 1 outstation in Duplex – QSX on 7653kHz (MESSAGE IN PROGRESS (5 letters – no Cyrillic letters) QRU NIL SK	F5JBR	THU
10310		1215z	21 Apr	ZVP BK RPT AA GR90 K R 116 1224 K 349 109 21 1100 8212 FM 83889 FOR 83899 20220 93075 66994 40880....62700 94162 57686 54741 – CFM NIL SK (End Traffic at 1250z)	F5JBR	THU
7406	F8IR	1435z	21 Apr	F8IR Working K5LW (QSO and QTC1) in Duplex – QSX on 6772kHz K5LW de F8IR K K5LW de F8IR R 772 1438 K K5LW de F8IR QTC 1 ZCC K 361 115 21 1425 6295 = 21020 63694 84084 48242....52857 25791 73969 98773 A1441 K5LW de F8IR SK	F5JBR	THU
6772	K5LW	1435z	21 Apr	K5LW Working F8IR (Other side of link) F8IR de K5LW K F8IR de K5LW QTC 1 ZCC K 772 111 21 1420 2358 = 75001 45939 08284 81359.....31235 76085 39754 97299 A 1438 K F8IR de K5LW R 361 1442 K F8IR de K5LW NIL SK	F5JBR	THU
8167	MN7L	1534z	21 Apr	MN7L Working IMSK (QSO and QTC 1) in Duplex – QSX on 7547kHz IMSK de MN7L K IMSK de MN7L R 215 1538 K IMSK de MN7L QTC1 ZCC K 529 105 21 1535 1497 = = 78218 26944 83559 38630....66567 16270 28230 92466 -1541 K IMSK de MN7L NIL SK	F5JBR	THU
7547	IMSK	1534z	21 Apr	IMSK Working MN7L (Other side of link) MN7L de IMSK QTC 1 ZCC K Traffic in FSK 50Bd/500Hz (QSA 1/2 ...) MN7L de IMSK R 529 1541 K MN7L de IMSK NIL SK	F5JBR	THU
6996	KEVT	1709z	21 Apr	KEVT Working ZUDG (QSO and QTC1) in Duplex – QSX on 5868kHz ZUDG de KEVT K ZUDG de KEVT R 191 1714 K	F6JBR	THU

ZUDG de KEVT CFM QTC 1 ZZC K
783 109 21 1650 7645 = 24710 21078 87801 06194....58981 88911 55405 61444 A 1719 K
 ZUDG de KEVT SK

5868	ZUDG	1709z	21 Apr	ZUDG Working KEVT (Other side of link) KEVT DE ZUDG 191 100 21 1700 6839 = 96920 72429 32641 H88300....8592 34513 49761 66578 KEVT DE ZUDG R 783 1719 KEVT DE ZUDG NIL SK	F5JBR	THU
5342	TI4T	1805z	21 Apr	TI4T Working W7AD (QSO and QLO 20) in Duplex	F5JBR	THU
5322	TI4T	1808z	21 Apr	TI4T Working W7AD (QSO and QTC1) in Duplex W7AD de TI4T K W7AD de TI4T R 938 1813 K W7AD de TI4T QTC 1 ZZC K 209 200 21 1801 2348 = 19475 48492 89850 85784....16586 78380 08202 69340 = 200 = A 1819 K = W7AD de TI4T NIL SK	F5JBR	THU
5267	IRWN	1130z	22 Apr	IRWN Working TOAM (QSO and QRU ?) in Duplex R505 1131 K NIL SK	F5JBR	FRI
14907		0752z	24 Apr	CW NET Station (probably UHC) Working 1 outstation (QSA 3 QTC 2 K) in Duplex OK QRQ 18 K NW 11100 80104 36925 24007 01009 = 38068 07527 93822 90449 75054 (GROUPS – 5 FIGURES)	F5JBR	SUN
13922	MB8W	0757z	24 Apr	MB8W Working S5W8 (QSO and QLO 20) in Duplex – QSX on 14456kHz	F5JBR	SUN
13902	MB8W	0800z	24 Apr	MB8W Working S5W8 (QSO and QTC 1 ZTH ? K) QSY 84108 K R 295 0813 K QTC1 K 353 100		
14907		0803z	24 Apr	CW NET Station (probably UHC) Working 1 outstation) in Duplex NW 11100 80104 47812 24008 01009 (AQXVY ENMUJ BHOLD GNTIJ POWWA SDVBB FOPKK AUWSW Text 5 ltrs – NO CYRILLICS LETTERS) CKM NIL SK	F5JBR	SUN
5267	IRWN	1131z	24 Apr	IRWN Working TOAM (QSO : only calling) in Duplex	F5JBR	SUN
4762	IRWN	1145z	24 Apr	IRWN Working TOAM (QSO : only calling QSA NO SK SK) in Duplex	F5JBR	SUN
10556		0930z	25 Apr	R 227 0931 K QTC 1 ZZC K 842 109 25 0900 7054 FM 56823 FOR 66937 = 91254 21365 84602 32458....46520 76432 81709 25980 - 0934 K CFM NIL K SK	F5JBR	MON
5932	TOAM	1130z	25 Apr	TOAM Working IRWN (QSO and QRU ? K) in Duplex – QSX on 5267kHz R 412 1132 K R413 1133 K QTC 2 ZTH QRV ? K NW = 516 100 K 517 30 K CFM NIL K SK) (25-APRIL-2022 1130) (F5JBR)	F5JBR	MON
5267	IRWN	1130z	25 Apr	IRWN Working TOAM (Other side of link) NW 413 30 K CFM NIL QRU ? K R 516 1134 K R 517 1136 K CFM NIL SK K	F5JBR	MON
8069.	N5OR	1200z	25 Apr	N5OR Working Z6QG (Z6QG de N5OR QTC for 4 minutes) in broadcast ?? NW NW = 871 030 25 1132 1472 = 67823 60810 12661 23582 38800....31130 45418 57149 35265 = QRU QRU SK SK (End Traffic at 1207z)	F5JBR	MON
9281	N5OR	1212z	25 Apr	N5OR Working Z6QG (Z6QG de N5OR QTC (for 4 minutes) in broadcast ?? NW NW = 871 030 25 1132 1472 = 67823 60810 12661 23582 38800....31130 45418 57149 35265 = QRU QRU SK SK (End Traffic at 1220z)	F5JBR	MON
6772	K5LW	1433z	25 Apr	K5LW Working FI8R (Calling) in Duplex	F5JBR	MON
6793	RGI	1436z	25 Apr	RGI Working 1 outstation (QSA 4 K and QTC 2 K) in Duplex – QSX on 4903kHz NW 11100 60102 00000 25356 00753 = 94568 51348 13269 64327 70168 67215 - TEXT GROUPS 5 FIGURES NW 11100 60102 00000 25357 01003 = ONLVW VCYCO FDJIN text 5 letters – NO CYRILLICS LETTERS QSW 5885 K NIL SK (End Traffic at 1511z)	F5JBR	MON
4903		1436z	25 Apr	CW NET Station Working RGI (QSO and QTC2 QSY 5885 K) in Duplex – QSX on 6793kHz	F5JBR	MON

4903		1453z	25 Apr	CW NET Station Working RGI in Duplex – QSX on 5885kHz NW 11100 60102 00000 25474 00759 = 369045 - TEXT GROUPS 5 FIGURES – K 11100 60102 00000 25475 01009 = JMZYJ JMMJM - Text 5 letters – NO CYRILLICS LETTERS QRU NIL SK (End Traffic at 1511z)	F5JBR	MON
4903		1527z	25 Apr	CW NET Station Working RGI (REPEAT GROUPS and K) in Duplex – QSX on 5885kHz QTC 2 QSY 5885 K NW = 11100 60102 00000 25476 000759 = 37659 22612 73287 24900 42519 95326 - TEXT GROUPS 5 FIGURES 11100 60102 00000 25477 01009 = EAFXX MFOOL BXDPD WUVJX RRQR EEFDP UGISO - Text 5 letters NO CYRILLICS LETTERS QRU NIL SK (End Traffic at 1600z)	F5JBR	MON
6996	KEVT	1709z	25 Apr	KEVT Working ZUDG (QSO : QSA 2 QSA ? K and QSY 76341) in Duplex	F5JBR	MON
5738	KEVT	1720z	25 Apr	KEVT Working ZUDG (QSO : Only Calling and QSA) in Duplex NO QSY 65025 QSA NO NIL SK (End Traffic at 1729z)	F5JBR	MON
13922	WSJ8	0757z	26 Apr	WSJ8 Working K9M1 (QSO : QSA 4 and QTC1) in Duplex – QSX on 14456kHz 355 100 26 0800 1908 K CFM NIL QRU ? K QRV K R 171 0807 K NIL SK (26-APRIL-2022 0757) (F5JBR)	F5JBR	TUE
14456	K9M1	0757z	26 Apr	K9M1 Working WSJ8 (Other side of link) R355 0804 K QTC1 ZTH QRV ? K NW 171 100 26 0800 0102 K	F5JBR	TUE
12212	NT9P	1247z	26 Apr	NYT9P Working K4MT (QSO and QSA 2 QSY 81419) in Duplex R 692 1250 K QTC1 K an Traffic in FSK 50Bd/500Hz 793 115 26 1246 1746 = 93357 58355 08472 96263.....25121 21991 30961 74008 1255 CFM NIL SK	F5JBR	TUE
5921	WDAK	0555z	27 Apr	SDAK Working UOZG (QSO and QSA NO QSY36017 K) in Duplex QSY 38288 K QSO NA SK SK	F5JBR	WED
13922	PRDN	0747z	27 Apr	PRDN Working FI17 (QSO and FI17 Send QLO 20 K for PRDN) in Duplex – QSX on 14456kHz	F5JBR	WED
13902	PRDN	0758z	27 Apr	PRDN Working FI17 (QSO and QRV K) in Duplex – QSX on 14456 R 415 0801 K QTC1 ZTH QRV ? K NW = 356 100 27 0800 7890 K CFM QRU ? K SK	F5JBR	WED
14456	FI17	0758z	27 Apr	FI17 Working PRDN (Other side of link) NW = 415 100 27 0800 1821 K R 356 0809 K QRU NIL SK	F5JBR	WED
5932	TOAM	1131z	27 Apr	TOAM Working IRWN (QSO and QRU ? K) in Duplex – QSX on 5267kHz R 424 1131 K R 425 30 1132 K QTC 2 ZTH QRV ? K NW = 528 100 K NW 529 30 K CFM NIL K SK	F5JBR	WED
5267	IRWN	1133z	27 Apr	IRWN Working TOAM (Other side of link) NW 424 100 K NW 425 30 CFM NIL QRU ? K R 528 1138 K R 529 1139 K CFM NIL SK K	F5JBR	WED
6772	K5LW	1437z	27 Apr	K5LW Working FI8R (Calling and QSA NO QSY 43773 K) in Duplex	F5JBR	WED
4958	UOGW	1440z	27 Apr	OUGW Working PRIL (QSO Only Calling) in Duplex – QSX on 5426kHz	F5JBR	WED
4958	UOGW	1449z	27 Apr	OUGW Working PRIL (QSO Only Calling) in Duplex QSA NO QSY 52991 K QSA NO SK (End Traffic at 1500z)	F5BR	WED

6996 KEVT 1709z 27 Apr KEVT Working ZUDG (QSO and QRU ? K) in Duplex – QSX on 5868kHz F5JBR WED
 R201 1715 K and QTC 1 ZVP ? K
 ZUDG de KEVT QSA 3 K
 ZUDG de KEVT R 201 1715 K
 ZUDG de KEVT QTC 1 ZVP ? K
239 108 27 1650 8138 = 51210 48110 83839 15042....75766 87557 94693 78764 A 1720
 CFM NIL SK

5868 ZUDG 1711z 27 Apr ZUDG Working KEVT (Other side of link) F5JBR WED
 R239 1720
 KEVT de ZUDG QSA 3 QTC 1 ZCC ? K
201 100 27 170504673 = 96925 7AC29 32641 88300....89652 3413 49761 66978
 KEVT de ZUDG R 239 1720 K
 KEVT de ZUDG CFM K
 KEVT de ZUDG NIL SK

M42	6781kHz	0900z	28 March 2022	M42	6996kHz	1709z	21 April 2022
Operator chat in CW, message in FSK 50/500 (Shown in Bold type)				Operator chat in CW, message in FSK 50/500 (Shown in Bold type)			
L2RS L2RS L2RS OK UR QLP 20 K BK BK QSA 4 QSA? K QTC 1 K CFM SLD K				KEVT Working ZUDG in Duplex – QSX on 5868kHz			
RYYRYRYRYRYRYRY				RYYRYRYRYRYRYRYRYR			
218 100 28 0830 1238 =				783 109 21 1650 7645 =			
8817 218 100 28 0830 1238 =				24710 21078 87801 06194 78513 06986 69491 61107 20789 84232			
88172 47199 26462 11239 98723 78567 19291 46374 18998 65343				27894 02798 26168 56225 84541 64855 39524 40655 57556 77402			
00413 56724 28762 84516 84812 54616 58910 82352 56718 92843				44710 08695 69842 23146 51270 55924 44699 43620 50910 85313			
85832 59102 67632 98100 51243 57563 82123 50920 57628 99887				50128 33560 59157 88533 72074 76427 87393 86784 41024 01147			
74463 72288 24472 34008 83405 08762 38758 75689 56723 47866				63248 64855 10316 19864 31777 91682 88503 28776 09045 93145 = 50 =			
23409 23408 65723 20913 45623 49027 34608 23423 12314 55221 =50=				56317 48500 30163 83759 57723 57113 12989 11289 29883 40445			
00173 73192 38858 18654 01009 41237 65561 98763 21234 12123				99495 34786 86438 46612 59907 14557 39848 49185 22192 42868			
89012 37856 78787 23478 65362 36592 75298 36523 92390 12156				39297 17928 53553 90329 53177 95253 71814 62947 70660 43924			
91283 71264 81726 05732 78521 85764 87163 12039 90981 12741				68370 50887 16340 69821 32870 68427 96247 34389 88083 01997			
24823 54735 47832 40987 22387 56165 01265 71265 81265 82735				86460 11756 85196 19473 49877 82634 82413 63383 39941 77877 = 100 =			
74463 72288 24472 34008 83405 08762 38758 75689 56723 47866 =100=				69471 87811 78685 41920 91154 58981 88911 55405 61444 A 1719 K			
CFM NIL OK SLV K BK BK QRV K				ZUDG de KEVT CFM NIL K ZUDG de KEVT SK			
RK R 027 0911 K RPT K NIL K SK				<i>Courtesy F5JBR</i>			
<i>Courtesy AB</i>							

M51 XIX

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

No reports – M51b format in use

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

Shutdowns over Easter Period & Continuing Irregular Transmissions.

M51 was missing from their usual two frequencies over Easter with no output at all heard from the station. It returned to air for two days from Tuesday, 19 April with the usual continuous groups but was missing again on 21 & 22 April.

M51's transmissions have since been unpredictable & irregular, with the station appearing for a couple of days only to go quiet again for the following day or two, whereas previously the station was to be found almost continuously on the two core frequencies 24 hours a day. Some days the station has not appeared at all, or will transmit the scheduled Morse lessons before going off-air once again.

Whether the station is experiencing technical problems – on one transmission the station went off-air part-way through a Morse lesson, or whether there are other reasons behind these changes is unknown. We are at the beginning of a new financial year, so perhaps funding has been reduced - running those transmitters continuously must be a very expensive business. We will watch with interest to see any further developments.

3881//6825

1230 - 1313z	14 Mar	Lundi-Leçon	11-2/1 Codé	11-2/2 Clair,	11-2/3 Codé,	11-2/4 Clair (420 grps/hr)	BR	MON
1230 - 1301z	15 Mar	Mardi-Leçon	12-2/1 Codé	12-2/2 Clair,	12-2/3 Codé,	12-2/4 Clair (600 grps/hr)	BR	TUE
1230 - 1306z	16 Mar	Mercredi- Leçon	13-2/1 Codé,	13-2/2 Clair,	13-2/3 Codé,	13-2/4 Clair (720 grps/hr)	BR	WED
1230 - 1255z	10 Mar	Jeudi- Leçon	04-2/1 Codé,	04-2/2 Clair,	04-2/3 Codé,	04-2/4 Clair (840 grps/hr)	BR	THU
1230 - 1304z	11 Mar	Vendredi- Leçon	05-2/1 Codé,	05-2/2 Clair,	05-2/3 Codé,	05-2/4 Clair (960 grps/hr)	BR	FRI
0930 – 1001z	26 Apr	Mardi-Leçon	12-11 Codé	12-1/2 Clair,	12-1/3 Codé,	12-1/4 Clair (600 grps/hr)	BR	TUE

M51b

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

3881//6825

1416z	08 Apr	Non-stop 5-character groups composed of M51a messages	BR	FRI
2304z	13 Apr	Non-stop 5-character groups composed of M51a messages	BR	WED
1057z	19 April	Non-stop 5-character groups composed of M51a messages	BR	TUE

More on M51b on 80 metres from PoSW

M51b on 3536kHz inside the 80 metre amateur band. Interested in the report of M51b on this frequency on 20-January; I was not aware of M51b active on this particular day but it had been noted earlier in the week:-

17-Jan-22, Monday: 0729 UTC 3536 kHz. Strong CW, groups of five characters, just like the Morse usually heard on 6825kHz and 3881kHz, nothing heard on these two frequencies but that would change later:-

0849 UTC 3536 kHz. Still going strong and also similar on 6825.
0922 UTC Gone from both frequencies when checked at 0922 UTC.

0929 UTC Starting up on 6825//3881 kHz with the usual slow "VVV DE FAV22....." routine, nothing on 3536kHz

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).

3322	4078	5505	6210	8356.25	10088	12023
3455	4108	5694	6803	8358	10389	
3889	4178			8898		
	4345					
	4352					

New Scheds for Mar / Apr 2022:**From logs submitted from JPL & F5JBR**3221//NRH New frequency for known Round Slip First heard 31 March V JKMP (x3) DE RDQY (x2)
Round Slip last heard 10 Sep 20 on 5322kHz.

4034 New Round Slip & frequency First heard 12 April V MJO5 (x3) DE LK9M (x2)

Chart of M89 Freq & Call signs heard in Mar / Apr 2022**New Scheds shown in Bold Type****From logs submitted from JPL & F5JBR**

<u>Freq in KHz</u>	<u>Call Slip</u>	<u>Freq in kHz</u>	<u>Call Slip</u>
3221//NRH	V JKMP (x3) DE RDQY (x2)	4860// NRH	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) QSA ?
3596//NRH	V QYE2 (x3) DE 9WV (x2)	4860// 6840	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) QSA ? K
3596//4888	V QYE2 (x3) DE 9WV (x2)		
3596//4888//8182	V QYE2 (x3) DE 9WV (x2)	6210	V CD4A (x3) DE UG3N (x2)
4034	V MJO5 (x3) DE LK9M (x2)	6824//NRH	V QYE2 (x3) DE 9WV (x2)
4352	V CD4A (x3) DE UG3N (x2)	6824//8182	V QYE2 (x3) DE 9WV (x2)
4620	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) QSA ? K	6840//NRH	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) QSA ? K
4720//5150	V WNF(x3) DE FXM (x2) (R5) (Hand sent)	8182//NRH	V QYE2 (x3) DE 9WV (x2)

3322 1742z (IP) 28 Apr NR 048 CK 199 36 0429 0020 RMKS 4325 TO 4268 BT (Remote tuner Novosibirsk) JPL THU
 ARTW DE KDEC R QSA 2 QSA ? K
 QSA 2 IEC BT 5760 AR K (Exercise related)
 NR 099/EX 0000 RMKS 9493 TO 9645 BT PJK3/YCF5 AR
 NR 047/EX 0003 RMKS 4325 TO 4248 BT ABC1/BCD2 AR
 NR 048 CK 199 36 0429 0020 RMKS 4325 TO 4248 BT
 TIWK DE DRAN K
 ARTM DE KNEC QSA 2
 NR 048 CK 199 36 0429 0028 RMKS 4325 TO 4248 BT

3455 1538z (IP) 12 Apr MSG NR 203. CK 122 .2 0412 2230 RMKS 2268 TO .333 K (Remote tuner Khabarovsk) JPL TUE

3889		1527z (IP) 31 Mar	331 033 RMKS 1175 TO 1175 K R RPT K NR 3647 50AU76 3N355T A445U (Cont'd - 1528z) AR QSL ? K (1529z)	Very weak	(Remote tuner Novosibirsk)	JPL	THU
4178	S2DJ	1550z 04 Mar	S2DJ Working XP5B (Only XP5B de S2DJ V) in Broadcast			F5JBR	FRI
4345		1934z (IP) 09 Mar	91 64 9319 .320 RMKX 6888 TO 6831 K R 01W BT 5UA6....		(Remote tuner Japan)	JPL	WED
8356.25		1308z (IP) 10 Mar	NR 2426/EX 2107 RMKS 7D30 596.. /D.2C AR K (Weak/fading)		(Remote tuner Japan)	JPL	THU
8358		1742z 26 Apr	8815 Working QLS6 (QSO and QSA 2 K) in Duplex = 9161 AR K R QSL 0140 K HR NR 34 K HR WK NR 34			F5JBR	TUE
10389		1127z (IP) 01 Mar	MSG NR .3 CK 79 41 0301 0920 RMKS 8177 TO 8175 K		(Remote tuner Novosibirsk)	JPL	TUE
12023		0851z (IP) 13 Apr	RMKS 8514 TO 8347 TO 8657 TO Z474 K		(Remote tuner Novosibirsk)	JPL	WED

Previously Unknown Format Logged

4352	UG3N	1520z 08 Mar	UG3N Working CD4A (Only CD4A de UG3N V) in Broadcast NR J CK NNN IN WAN AA = 5UDU N3DA 436D 6AU3 U5UT 3TU6 ... in Broadcast.			F5JBR	TUE
6210	UG3N	1100z 08 Mar	UG3N Working CD4A. Only CD4A de UG3N V & MSG NR P CK NNN IN WATENAA = 5UDU N3DA 436D 6D6A U3U5 UT30 TU65 TAUU 6ATT TA64 363D U7UN 3A74 UANU 3AD7 464D NT57 45.... Text Groups - 4 Figures/letters in Broadcast Preamble of type not seen before from this station. Note identical headers & groups - Training msg? When there is a message: - At full time (0800, 0900, 1000, etc ...) transmission of callsigns: CD4A of UG3N V for 3 minutes, - Then stop for about 30 seconds, - Then transmission of the message which is repeated twice: The transmission speed is 2 to 4 times higher than the normal speed...			F5JBR	TUE

6210	UG3N	0800z 19 Mar	UG3N Working CD4A (ONLY :CD4A de UG3N V) & MSG NR 85 CK499 99 ..19 1600 = A6EE AT6C (groups 4characters) repeat MSG 2 Times. AR (0833z)			F5JBR	SAT
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DP Stations

5673		1630z	07 Apr CQ de DP91 V	HR NIL SK GB - End Traffic at 1642z		F5JBR	THU
		1629z	12 Apr CQ DE DP91	CQ (X3) DE DP91 (x2) V	(Remote tuner Novosibirsk)	JPL	TUE

M95 O XSV, XSV70, XSV85

M95 Morse Logs (Bold type indicates new logging)

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//7517	Call Sign S2DJ	New frequency for this new Round Slip. Believe this to be new Round Slip and freq for YHXD DE SAQC					
	1758z	06 Mar V XP5B (x3) DE S2DJ (x2)			(Remote tuner Novosibirsk)	JPL	SUN
	1544z	08 Mar (Only XP5B de S2DJ V) in Broadcast				F5JBR	TUE
	1240z	08 Apr V XP5B (x3) DE S2DJ (x2)			(Remote tuner Novosibirsk)	JPL	FRI
	1642z	16 Apr (Only XP5B de S2DJ V) in Broadcast				F5JBR	SAT
4243//NRH	Message number differs from current XSV70 and XSV85 message numbers.						
	1145 (IP) - 1153z	01 Mar NR 02 CK 161 35 0301 1536 BT			(Remote tuner Taiwan)	JPL	TUE
	1142 (IP) - 1156z	28 Apr NR 026 CK 5 . 35 0428 1533 BT NR . 5 CK 170 35 0428 1557 BT			(Remote tuner Japan)	JPL	THU
4243//9054	Message number differs from current XSV70 and XSV85 message numbers.						
	1142 (IP) - 1207z	17 Mar NR 041 CK 62 35 0317 1538 BT NR 036 CK 20 35 0317 1546 BT NR 34 CK 201 35 0317 1600 BT			(Remote tuner Japan)	JPL	THU
	1147 (IP) - 1152z	29 Mar VVV HR MSG TO YR PSE CY (Unable to copy further)			(Remote tuner Japan)	JPL	TUE
4364//8073	Call Sign XSV85						
	1133 - 1139z	01 Mar NR 0178 CK 255 35 0301 1539 BT			(Remote tuner Taiwan)	JPL	TUE
	1131 - 1145z	29 Mar NR 0242 CK 398 35 0329 1646 BT			(Remote tuner Vietnam)	JPL	TUE
	1130z	01 Apr Monitored 8073 // 4364 M95 sked at 1130z but NRH					
	1132 - 1139z	28 Apr NR 0323 CK 300 35 0428 1549 BT			(Remote tuner Philippines)	JPL	THU

5560 05

	1613 (IP) – 1616z	12 Apr	A755 57UN 75NA 6 H0 5 5 05 05 (Long zero)	(Remote tuner Khabarovsk)	JPL	TUE
5651//NRH	Call sign S2DJ					
	1115z	17 Mar	V XP5B (x3) DE S2DJ (x2) (IP - Cont'd)	(Remote tuner Novosibirsk)	JPL	THU
	1615z	18 Mar	Only XP5B de S2DJ V in Broadcast		F5JBR	FRI
7517	Call sign S2DJ					
	1535z	19 Mar	Only XP5B de S2DJ V in Broadcast		F5JBR	SAT
	1522z	11 Apr	Only XP5B de S2DJ V) in Broadcast CL/2000/Z.A474/6501 AR QSL ?		F5JBR	MON
7536	1234 (IP) - 1238z	08 Apr	NR18/CCK CK 41 58 0408 2030 RMKS 544DET05650 5585 5407 5584 4699 5643 5481 BT	(Remote tuner Novosibirsk)	JPL	FRI
7553//9153	Call sign XSV70 0936 - 0954z	13 Apr	NR 307 CK 112 35 0413 0708	(Remote tuner South Korea)	JPL	WED
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 – 1140z	17 Mar	NR 0210 CK 243 35 0317 1609 BT	(Remote tuner Japan)	JPL	THU
9054	Call sign XSV85 (See also 4243//9054kHz listing) 1140 (IP) - 1156z	01 Apr	NR 071 CK 45 35 0401 1513 BT (// 4243 N/H)	(Remote tuner Japan)	JPL	FRI
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
11230//12039z	Call sign S2DJ 1108z	22 Apr	(Only XP5B de S2DJ V) in Broadcast		F5JBR	FRI
12036	Call sign S2DJ 0705z	09 Apr	(Only XP5B de S2DJ V) in Broadcast		F5JBR	SAT
12039	Call sign S2DJ 1125z 0920z 0547z	18 Apr 20 Apr 28 Apr	(Only XP5B de S2DJ V) in Broadcast (Only XP5B de S2DJ V) in Broadcast V XP5B (x3) DE S2DJ (x2)		F5JBR F5JBR JPL	MON WED THU

M95 4243//9054kHz 1142z (IP) 17 March 2022

(In Progress at 1142z)
In Chinese digital 4+4 QPSK 75/3000 LSB 1142z
Switched to CW Handsent 1150z

VVV HR MSG TO YR PSE CY (1150z)
NR 041 CK 62 35 0317 1538 BT
5AA UTT TA7 3U6 3A4 5T7 5TD 75U 354 34A (Cont'd – 1152z)
AR MSG AGN
NR 041 CK 62 35 0317 1538 BT (Repeats message – 1156z)
AR A HR MSG GA
NR 036 CK 20 35 0317 1546 BT
UT5 TA7 3U6 3A4 TTA TTU TT3 773 357 37D
4T3 447 336 DA5 N34 446 4D6 4D3 N3D 3DA AR MSG AGN
NR 036 CK 20 35 0317 1546 BT (Repeats message – 1204z)
AR A HR MSG
NR 34 CK 201 35 0317 1600 BT
UTU TA7 3U6 3A4 7TU 7TA NU6 736 N44 7T5 (Cont'd – 1207z)

M95 4364//8073kHz 1133z (IP) 01 March 2022

BNGC DE XSV85

(In Progress at 1133z)
In Chinese digital 4+4 QPSK 75/3000 LSB 1133z
Switched to CW Hand sent 1137z

V BNGC (x3) DE XSV85 (x2) (Cont'd – 1137z)
HR MSG GA PSE CY (1138z)
NR 0178 CK 255 35 0301 1539 BT
TTA3 U63A N 3U7 TAU 773 353 35N (Cont'd – 1139z)

Courtesy JPL

M95 5560kHz 1613z (IP) 12 April 2022

7UNETKHZ H7UN 75NA6D5757UN57UN (IP – 1613z)
5 05 A U
M 775 7UN 75NA 6D57 57UN 5DA6 (1615z)
A755 57UN 75NA 6
H0 5 5 05 05 (Long zero – 1616z)

M95 7553//9153kHz 0936z (IP) 13 April 2022

4TU UT3 TA3 3U6 TT4 773 3AD 353 U46 (IP – Cont'd – 0936z)
II U46 353 4T3 447 46D 4D6 75D (Cont'd – 0940z)
AHR MSG GA
NR 307 CK 112 35 0413 0708
4TU UT3 TA3 3U4 3A4 TT4 773 354 37U 4T3 446 4D6 (Cont'd – 0945z)
II EDU TA3 773 353 U46 35A 4A7 N3D 4UT 445
4D6 3D3
MSG AGN
NR 307 CK 112 35 0413 0708
4TU UT3 3U4 (Cont'd – 0949z)
II EDU TA3 773 353 U46 35A 4A7 N3D 4UT 445
4D6 3D3
ZNN SK (0954z)

M95 4364//8073kHz 1132z (IP) 28 April 2022

In Progress at 1132z in Chinese digital 4+4 QPSK 75/3000 LSB
Switched to CW Hand sent 1137z

V BNGC (x3) DE XSV85 (x2) (Cont'd – 1137z)
HR MSG GA PSE CY (138z)
NR 0323 CK 300 35 0428 1549 BT
TUD 3U6 3TN 3U7 TAU 773 356 4AD NN3 434 (Cont'd – 1139z)

Courtesy JPL

Marker Beacons (MX MXI)

4557.7	0443z	05 Mar	MXI	CW	Beacon "D"	Sevastopol		Moderate	chpa	SAT
	0219z	09 Apr	MXI	CW	Beacon "D"	Sevastopol		Moderate	chpa	SAT
4557.8	0458z	01 Mar	MXI	CW	Beacon "P"	Kaliningrad		V.Weak	chpa	TUE
	0604z	06 Mar	MXI	CW	Beacon "P"	Kaliningrad		Good	chpa	SUN
	0443z	13 Mar	MXI	CW	Beacon "P"	Kaliningrad	Minor QSB	Weak	chpa	SUN
	0414z	12 Apr	MXI	CW	Beacon "P"	Kaliningrad	Minor QSB	Weak	chpa	TUE
4557.9	0445z	05 Mar	MXI	CW	Beacon "S"	Severomorsk		Moderate	chpa	SAT
	0220z	09 Apr	MXI	CW	Beacon "S"	Severomorsk		Moderate	chpa	SAT
5153.7	2102z	10 Mar	MXI	CW	Beacon "D"	Sevastopol			BR	THU
5153.8	2100z	10 Mar	MXI	CW	Beacon "P"	Kaliningrad			BR	THU
	0421z	12 Apr	MXI	CW	Beacon "P"	Kaliningrad		Excellent	chpa	TUE
5154	2103z	10 Mar	MXI	CW	Beacon "C"	Moscow			BR	THU
5156.7	0633z	06 Mar	MX	CW	Beacon "L"	St Petersburg		Moderate	chpa	SUN
	0447z	13 Mar	MX	CW	Beacon "L"	St Petersburg	Minor QRM	Moderate	chpa	SUN
	0427z	12 Apr	MX	CW	Beacon "L"	St Petersburg		Excellent	chpa	TUE
	0511z	14 Apr						Excellent	chpa	THU
5445	1900z	07 Apr	MX	CW	Beacon "V"				BR	THU
7508.7	2107z	10 Mar	MXI	CW	Beacon "D"	Sevastopol			BR	THU
7508.8	1148z	09 Mar	MXI	CW	Beacon "P"	Kaliningrad			BR	WED
7508.9	1148z	09 Mar	MXI	CW	Beacon "S"	Severomorsk			BR	WED
	0504z	11 Apr	MXI	CW	Beacon "S"	Severomorsk		Moderate	chpa	MON
7509.1	2108z	10 Mar	MXI	CW	Beacon "A"	Astrakhan			BR	THU
8494.8	1326z	05 Apr	MXI	CW	Beacon "P"	Kaliningrad			BR	TUE
8497.8	1147z	09 Mar	MX	CW	Beacon "L"	St Petersburg			BR	WED
10871.7	1144z	09 Mar	MXI	CW	Beacon "D"	Sevastopol			BR	WED
10871.8	1136z	28 Mar	MXI	CW	Beacon "P"	Kaliningrad		Weak	BR	MON
10871.9	1145z	09 Mar	MXI	CW	Beacon "S"	Severomorsk			BR	WED
13527.7	1137z	09 Mar	MXI	CW	Beacon "D"	Sevastopol			BR	WED
13527.9	1137z	09 Mar	MXI	CW	Beacon "S"	Severomorsk			BR	WED
16331.7	1135z	09 Mar	MXI	CW	Beacon "D"	Sevastopol			BR	WED
16331.9	1134z	09 Mar	MXI	CW	Beacon "S"	Severomorsk			BR	WED
16332.1	1603z	27 Apr	MXI	CW	Beacon "A"	Astrakhan			BR	TUE
20048.1	1133z	09 Mar	MX	CW	Beacon "A"	Astrakhan			BR	WED
20047.9	1132z	09 Mar	MXI	CW	Beacon "S"	Severomorsk			BR	WED

Oddities

PoSW reports on a Mystery Tone

First noticed in early November of last year in the UK afternoon time on one of a number of frequencies between just below 15 MHz to just above 20 MHz, a fixed audio tone of 967 Hz as read on a frequency counter connected to the receiver low-level output and still on in the last days of April – except that the tone has changed in frequency, now reads as 1208 or 1209 Hz, which has been the case since early March, although this higher tone had been noted on a couple of days in February before returning to 967.

Always a strong signal and can usually be found some time after 1200 UTC but appears to take a break over the weekend - searches on several Saturday and Sunday afternoons have failed to find it. The modulation appears to be very wide and it is difficult to be sure the tuning-in is spot on but there is no mistaking it when found. It was a strong signal on Wednesday 27-April at 1235 UTC on 20250 kHz, give or take. Difficult to see what purpose a transmission like this serves.

'The Goose'

3243	0454z	01 Mar	'Goose' Marker – Night freq.		Minor QSB	V.Weak	USB	chpa	TUE
	0440z	05 Mar			Minor QSB	Weak		chpa	SAT
	1908z	18 Mar			Minor QSB	Moderate		chpa	FRI
	0205z	09 Apr				Excellent		chpa	SAT
	1753z	09 Apr				Excellent		chpa	SAT
	0435z	11 Apr				Good		chpa	MON
	0506z	14 Apr				Good		chpa	THU
4310	0633z	03 Mar	'Goose' Marker – Day freq.		Minor QRM	Moderate	USB	chpa	THU
	0602z	06 Mar			Minor QSB	Weak		chpa	SUN

'The Air Horn'

3510	0456z	01 Mar	Marker signal (Air Horn)		Moderate	USB	chpa	TUE
	0631z	03 Mar		Minor QSB	Weak		chpa	THU
	0442z	05 Mar			Good		chpa	SAT
	0441z	13-Mar		Minor QRM	Moderate		chpa	SUN
	1909z	18 Mar		Minor QSB	Good		chpa	FRI
	0208z	09 Apr			Excellent		chpa	SAT
	1754z	09 Apr			Excellent		chpa	SAT
	0436z	11 Apr		Minor QSB	Good		chpa	MON

'The Alarm'

4770	0502z	01 Mar	Marker Signal (The Alarm)		Moderate	USB	chpa	TUE
	0637z	03 Mar		Minor QRM	Weak		chpa	THU
	0606z	06 Mar			Good		chpa	SUN
	0445z	13 Mar		Minor QSB	Moderate		chpa	SUN
	1913z	18 Mar		QSB	Moderate /Good		chpa	FRI
	0222z	09 Apr			Good		chpa	SAT
	1758z	09 Apr			Excellent		chpa	SAT
	0440z	11 Apr		Minor QSB	Moderate		chpa	MON
	0510z	14 Apr			Good		chpa	THU

S28 'The Buzzer'

4625	0501z	01 Mar	S28	'The Buzzer' Marker	QRM from digital transmission	Moderate	USB	chpa	TUE
	0635z	03 Mar				Moderate		chpa	THU
	0605z	06 Mar				Good		chpa	SUN
	0444z	13 Mar			QRM from digital transmission	Moderate		chpa	SUN
	1912z	18 Mar			Minor QSB	Good		chpa	FRI
	0221z	09 Apr			QRM from digital transmission	Good		chpa	SAT
	1756z	09 Apr			QRM from digital transmission	Good		chpa	SAT
	0438z	11 Apr				Excellent		chpa	MON
	0508z	14 Apr		Minor QRM "music in the background"		Good		chpa	THU

S30 'The Pip'

3756	1910z	18 Mar	S30	'Pip' marker (Night freq)	USB	Good		chpa	FRI
	0210z	09 Apr				Good		chpa	SAT
	1755z	09 Apr				Excellent		chpa	SAT
5448	0620z	06 Mar	S30	'Pip' Marker (Day freq)	USB	Weak		chpa	SUN
	0450z	13 Mar				Moderate		chpa	SUN
	0502z	11 Apr				Good		chpa	MON
	0435z	12 Apr				Good		chpa	TUE

S32 'Squeaky Wheel'

3828	1911z	18 Mar	S32	'Squeaky Wheel' marker (Night freq)	Minor QRM	Weak	USB	chpa	FRI
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4182 'T Marker'

	0503z	01 Mar		Normal sound from the T Marker		Moderate	USB	chpa	TUE
	0446z	13 Mar			Minor QSB	Moderate		chpa	SUN
	1759z	09 Apr				Excellent		chpa	SAT
	0407z	12 Apr				Good		chpa	TUE

All logs from chpa Monitored from Stockholm

Contributors: AB, BR, chpa, ER, F5JBR, Gert, HFD, JPL, PoSW *Thank you all for your logs.*

Voice, Polytone, Tones and Hybrids

E06

Unusually, we start this section with Peter's analysis of this section compiled by RNGB from his and others reports:

Only one E06 schedule left at a reasonable time of day apparently; first + third Thursdays in the month with a repeat on the following day. That'll be a Friday, then.

En123 of March 2021 predicted 16230 + 19325 kHz with call "864" for the month of March of that year and that holds true for the present year:-

4-Mar-22, Friday:- 0600 UTC, 16230 kHz, tuned in a couple of minutes past the hour, calling "864", DK/GC "791 791 50 50, not too strong, ended 0612:40s UTC.

0700 UTC, 19325 kHz, second sending, stronger.

17-Mar-22:- 0700 UTC, 19325 kHz, DK/GC "317 317 52 52", strong signal, ended 0713 UTC, missed 0600z sending.

18-Mar-22, Friday:- 0600 UTC, 16220 kHz, ten lower than expected, S6 to S7.

0700 UTC, 19325 kHz, also S6 to S7.

Nothing readable on the predicted frequencies on the first Thursday in April, or on the Friday. Forgot to listen on the third Thursday, managed to catch the last transmission in this month:-

22-Apr-22, Friday:- 0600 UTC, 17470 kHz, call "951", DK/GC "874 874 62 62", strong signal dipping into the noise on only a couple of occasions, ended before 0615 UTC.

Onto RNGB's section:

E06 Mar/April log:

Monday		0210z	11454kHz	0310z	14456kHz
25/04	'537' 492 31 30740.....etc	via KiwiSDR RUS		Thanks HfD	
Thursday (repeats Friday)		0300z	15726kHz	0400z	13384khz (frequencies may vary slightly)
03/03	'361' 204 37 72465.....etc]	Thanks HfD			
		0300z	15641kHz	0400z	13392khz
14/04	'361' 790 43 09366.....etc			Thanks HfD	
First /Third Thursday (repeats Friday)		0600z	13945kHz	0700z	19325kHz
03/03	'864' 791 50 00009 40216 99118 10627 17816 43179 63926 86560 65455 69615 69249 38569 50798 14532 43328 48919 64734 07150 81164 12132 52399 10822 62879 20577 09511 48443 99503 87198 64731 58034 29653 22635 34011 08192 15520 08914 57839 28084 11615 36923 57335 31689 04704 99840 70137 40960 48369 59702 52003 37599 791 50 00000				
17/03	'864' 317 52 91185 76197 21315 67245 23828 92500 45151 82313 99983 84291 93831 ? 47667 03231 16401 01244 56460 92859 27941 51209 44079 02238 42849 23935 89171 87652 32867 04674 25693 32333 56406 71781 91934 25338 21722 06351 47465 39950 47843 90332 33913 81551 21703 27347 40534 58823 74879 17297 60509 59330 28423 77099 08895 317 52 00000				
		0600z	kHz	0700z	17470kHz
07/04	'951' 423 60 42963 40052 16152 93781 76058 64681 53710 50907 34587 53579 37169 51621 98122 85440 39176 34040 66576 81677 51042 50987 60390 01114 24975 28903 13791 00018 42966 56046 34550 24645 48283 83682 28685 28493 00488 44955 13538 31457 39935 21108 67674 63051 72680 09770 91030 56918 11730 74971 73755 88781 35580 83590 97182 75050 49982 57908 15367 74252 63859 98965 423 60 00000				

OTHER

13921kHz 18-03-2022 1000z 980 980 980 00000 instead of the daily F06 transmission Thanks Ary

E06 instead of the daily F06

13921kHz 22-03-2022 1000 E06

12167kHz 22-03-2022 1100 E06

'980' 574 36 70228 11784 19272 25403 85149 30764 36957 80993 08362 11259 58638 61926 13622 97007 54270 48883 39846 39699 05297 53247 51725 60381 94550 64236 95623 63349 22586 54566 44139 58974 25818 72403 38228 58874 37324 83971 574 36 00000 Thanks Ary

E07

PoSW leads in with his analysis of E07/E07a :

The E07a SSB number station may be no more but the related E07 continues to show up on the expected frequencies:-

Sunday + Wednesday Schedule, 1800 UTC Start in March, 1700 UTC in April:-

2-Mar-22, Wednesday:- 1800 UTC, 10321 kHz, very weak signal, difficult copy, sounded like the "no message" routine.
1820 UTC, 9121 kHz, much stronger, "318 318 318 000".

6-Mar-22, Sunday:- 1800 UTC, 10321 kHz, very weak, unreadable.
1820 UTC, 9121 kHz, again much stronger, "318 318 318 000".

9-Mar-22, Wednesday:- 1800 UTC, 10321 kHz, "318 318 318 1" for a full message, DK/GC "305 61" x 2, weak at first then became stronger.
1820 UTC, 9121 kHz, S5 to S6.
1840 UTC, 7821 kHz, very strong.

13-Mar-22, Sunday:- 1800 UTC, 10321 kHz, "318" and "305 61" again, S6 to S7.
1820 UTC, 9121 kHz, weaker.
1840 UTC, 7821 kHz, S7, interference from some kind of pulse signal.

16-Mar-22, Wednesday:- 1800 UTC, 10321 kHz, "318 318 318 000", good signal.
1820 UTC, 9121 kHz, weaker.

20-Mar-22, Sunday:- 1800 UTC, 10321 kHz, weak signal and 1820 UTC, 9121 kHz, stronger,
"318 318 318 000".

23-Mar-22, Wednesday:- 1800 UTC, 10321 kHz, very weak, unreadable.
1820 UTC, 9121 kHz, "318 318 318 1", full message, DK/GC "5871 87" x 2, weak but readable.
1840 UTC, 7821 kHz, much stronger.

27-Mar-22, Sunday:- 1800 UTC, 10321 kHz, "318" and "5871 87" as on Wednesday. Unlike on Wednesday this was a strong signal.
1820 UTC, 9121 kHz, slightly weaker.
1840 UTC, 7821 kHz, back up to being a strong signal, peaking well over S9.
First day of British Summer Time today, this schedule shows up one hour later this evening, 7 pm but we confidently predicted a shift to 1700 UTC start in April to bring it back to a 6 pm start.

3-Apr-22, Sunday:- 1700 UTC, 13417 kHz, "417 417 417 000", strong signal, very strong wide-shift FSK signal on the HF side, close enough to be a nuisance when using a receiver with a 2.5 kHz filter.
1720 UTC, 12117 kHz, strong.

6-Apr-22, Wednesday:- 1700 UTC, 13417 kHz, "417 417 417 1", DK/GC "2129 96" x 2, strong signal, FSK signal still there but weak.
1720 UTC, 12117 kHz, strong signal.
1740 UTC, 10717 kHz, weak, local noise interference, difficult copy.

10-Apr-22, Sunday:- 1700 UTC, 13417 kHz, "417" and "2129 96" again, signal strength up and down, the FSK on close frequency very strong.
1720 UTC, 12117 kHz, very strong.
1740 UTC, 10717 kHz, weak.

13-Apr-22, Wednesday:- 1720 UTC, 12117 kHz, missed 1700z sending, "417 417 417 000",
strong.

17-Apr-22, Sunday:- 1700 UTC, 13417 kHz, "417 417 417 000", strong, FSK on close frequency also strong.
1720 UTC, 12117 kHz, very strong.

20-Apr-22, Wednesday:- 1700 UTC, 13417 kHz, "417 417 417 1", DK/GC "2269 81" x 2, strong signal, no sign of the FSK/RTTY signal this evening.
1720 UTC, 12117 kHz, strong.
1740 UTC, 10717 kHz, very weak, down in the noise.

27-Apr-22, Wednesday:- 1700 UTC, 13417 kHz, "417 417 417 000", good signal, the wide-shift FSK interference is back.
1720 UTC, 12117 kHz, very strong signal.

Saturday Schedule, 1400 UTC Start in March, 1300 UTC in April:-

5-Mar-22:- 1400 UTC, 12143 kHz, "114 114 114 000", very strong signal, strong "XJT" on the HF side.
1420 UTC, 11143 kHz, strong.

12-Mar-22:- 1400 UTC, 12143 kHz, "114 114 114 000", strong, the STANAG noise-maker still going strong.
1420 UTC, 11143 kHz, slightly weaker.

19-Mar-22:- 1420 UTC, 11143 kHz, missed first sending, "114 114 114 000", strong signal.

2-Apr-22:- 1300 UTC, 12176 kHz, "152 152 152 000", strong signal.
1320 UTC, 11576 kHz, slightly weaker.

9-Apr-22:- 1300 UTC, 12176 kHz, full message, "152 152 152 1", DK/GC "901 140" x 2,
longer than your usual E07 message although not as long as some in the past, ended approx 1316:25s UTC, strong signal, interference from a wide-band buzz/pulse signal extending from below 12170 to above 12190 kHz, someone's over-the-horizon radar presumably.
1320 UTC, 11576 kHz, good signal.
1340 UTC, 10276 kHz, weak, local interference in this part of the short-wave spectrum, difficult copy.

16-Apr-22:- 1300 UTC, 12176 kHz, "152" and "901 140" again, strong signal.
 1320 UTC, 11576 kHz, very strong.
 1340 UTC, 10276 kHz, weaker.

23-Apr-22:- 1300 UTC, 12176 kHz, "152 152 152 000", strong signal.
 1320 UTC, 11576 kHz, also strong.

Sunday Schedule, 0700 UTC Start in March, 0600 UTC in April:-

6-Mar-22:- 0700 UTC, 10268 kHz, "201 201 201 000", weak signal.
 0720 UTC, 11068 kHz, also weak.

13-Mar-22:- 0700 UTC, 10268 kHz and 0720 UTC, 11068 kHz, both around S6 to S7, "201 201 201 000".

3-Apr-22:- 0600 UTC, 9261 kHz, "224 224 224 000", weak signal.
 0620 UTC, 10261 kHz, very weak.

10-Apr-22:- 0600 UTC, 9621 kHz, expected to be a repeat of yesterday's full message based on past observations, weak signal, difficult copy, could just hear the "224 224 224 1" preamble.
 0620 UTC, 10261 kHz, very weak, unreadable.
 0640 UTC, 11461 kHz, strong signal, the only transmission of the three that was readable, DK/GC as expected "901 140".

17-Apr-22:- The 0600 and 0620 UTC transmissions too weak to copy under local interference, third sending much better:-
 0640 UTC, 11461 kHz, "224" and "901 140", as expected, strong signal.

24-Apr-22:- 0600 UTC 9261 kHz and 0620 UTC 10261 kHz, both weak but readable, "224 224 224 000".

One from the prediction list:-

Saturday Schedule, 1410 UTC Start:-

Also predicted to appear on Thursdays, missed so far.

9-Apr-22:- 1410 UTC, 16331 kHz, "893 893 893 000", strong signal, SLT cluster on close frequency, "S" the strongest "D" strong but with a noticeable "chirp".
 1430 UTC, 15831 kHz, weaker.

16-Apr-22:- 1410 UTC, 16331 kHz, full message, "893 893 893 1", DK/GC "1675 35" x 2, signal up and down with SLT cluster for company, ended 1415:30s UTC.

1430 UTC, 15831 kHz, good signal with QSB.

1450 UTC, 14831 kHz, weaker.

Unusually for E07 the three-figure call is not reflected in the kHz x 100 of the three frequencies.

23-Apr-22:- 1410 UTC, 16331 kHz and 1430 UTC, 15831 kHz, both good signals, "893 893 893 000".

And on to others' logs, reflecting that found by Peter:

Sunday

April 2022

0600z	9261kHz	0620z	10261kHz	0640z	11461kHz	
03/04	224 000					Fair
17/04	224 1 901 140 96813 ... 05267 000 000					Weak/Fair
24/04	224 000					Weak

Sunday/Wednesday

March 2022

1800z	10321kHz	1820z	9121kHz	1840z	7821kHz	
02/03	318 000					1800z Strong, 1820z Weak
06/03	318 000					1800z Fair, 1820z Strong
09/03	318 1 305 61 65327 ... 07023 000 000				[1840z Very strong]	Strong
13/03	318 1 305 61 65327 ... 07023 000 000				[1820z Fair,1840z QRM3]	Weak
16/03	318 000					Strong
20/03	318 000					Strong
23/03	318 1 5871 87 20600 ... 52527 000 000				[1800z Very strong]	Strong
27/03	318 1 5871 87 20600 ... 52527 000 000				[1820z Fair]	Strong
30/03	318 000					Strong

April 2022

1700z	13417kHz	1720z	12117kHz	1740z	10717kHz	
03/04	417 000					Strong
06/04	417 1 2129 96 74753 ... 86545 000 000				[1700z ttyQRM2, 1740z Weak]	Strong
<p>417 417 417 1 2129 96 2129 96 74753 70249 20009 72213 18753 35351 61655 92990 43091 69818 66111 20825 41959 34521 62818 34566 04286 41712 98226 92302 34366 67769 24259 54067 16763 83254 83677 59008 98572 36898 70816 81126 44781 83191 97681 83897 76369 33956 80897 77897 58537 35475 60672 35297 95252 75429 22839 40716 51115 79511 59088 43007 59820 38255 45757 25258 96584 14526 60831 11881 65562 72646 96282 71270 27921 31570 09554 73035 41749 45069 51273 80777 77288 07407 72023 09909 93056 17685 23014 55652 37575 97541 59336 62308 53210 47560 45406 69719 06038 02504 31758 34206 77272 59769 20611 86545 000 000 <i>Courtesy Ary</i></p>						
13/04	417 000					Fair
17/04	417 000					1700z Fair ttyQRM2, 1720z Weak
20/04	417 1 2269 81 63506 ... 56557 000 000				[1740z Fair, QRM3/4]	Strong
24/04	417 1 2269 81 63506 ... 56557 000 000					Strong
<p>417 1 2269 81 63506 25602 51413 70588 29781 01201 77170 52442 71976 41216 52163 57328 27301 64127 82102 02834 72589 47472 57187 51592 84175 33068 10999 55557 02761 78091 43480 49605 72673 98543 42524 26974 18524 39585 18035 25428 38534 01323 96469 17095 52410 24745 92578 83623 61016 88165 68151 92754 90011 51433 48848 85438 28675 51243 78946 26155 28320 15171 29556 07226 66859 34704 72503 48796 82057 45549 78620 76280 39631 27475 00405 04582 16288 32621 05664 30205 66176 47353 57050 61114 56557 000 000 <i>Courtesy HRH</i></p>						
27/04	417 000				[1700z TTYQRM2]	Strong

Sunday/Saturday

March 2022

0700z	10268kHz	0720z	11068kHz	0740z	10168kHz	
06/03	201 000				[0720z Weak]	Fair
12/03	201 000					Strong
20/03	201 000					Weak
27/03	201 000				[0700z QRM3]	Weak

Monday/Wednesday

March 2022

2000z	10651kHz	2020z	9151kHz	2040z	7651kHz
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NRH

April 2022

1900z	15819kHz	1920z	14419kHz	1940z	12219kHz
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NRH

Tuesday/Friday**March 2022**

0700z	14942kHz	0720z	16142kHz	0740z	18042kHz	
01/03	310 000					Weak
04/03	310 000					0700z Weak, 0720z Fair
08/03	310 1 405 75 99863 ... 64157 000 000				[0740z Weak via Dutch SDR]	Fair
11/03	310 1 405 75 99863 ... 64157 000 000					Weak via Dutch SDR
15/03	310 000					Weak/Fair
22/03	310 1 360 96 36136... 35106 000 000				[0700z QTH Rx, 0720z Dutch SDR QRM, 0740z Finnish SDR]	Weak
25/03	310 1 360 96 36136 ... 35106 000 000				[0750z Weak]	Fair
29/03	310 000					Fair

April 2022

0700z	17453kHz	0720z	18453kHz	0740z	19653kHz	
01/04	446 000					Weak Dutch SDR
05/04	446 1 966 65 70734 ... 24244 000 000					Weak.
08/04	Unworkable, 0740z NRH					
12/04	446 000					Weak
15/04	446 000					Weak, Dutch SDR
22/04	446 1 547 143 35470 ... 10335 000 000				[0700z Weak, QRM]	Weak, via DutchSDR
26/04	446 000					Weak

Thursday/Saturday**March 2022**

1410z	16284kHz	1430z	14854kHz	1450z	13384kHz	
03/03	328 1 658 93 51866 ... 71276 000 000				[1430z Strong]	Fair
05/03	328 1 658 93 51866 ... 71276 000 000				[1430z Fair]	Weak
12/03	328 000					1410z Very strong, 1430z Strong
17/03	328 1 8965 84 41786 ... 55642 000 000					Weak
19/03	328 1 8965 84 41786 ... 55642 000 000				[1410z Fair QSB5]	Weak
24/03	328 000					Weak
26/03	328 000					Weak

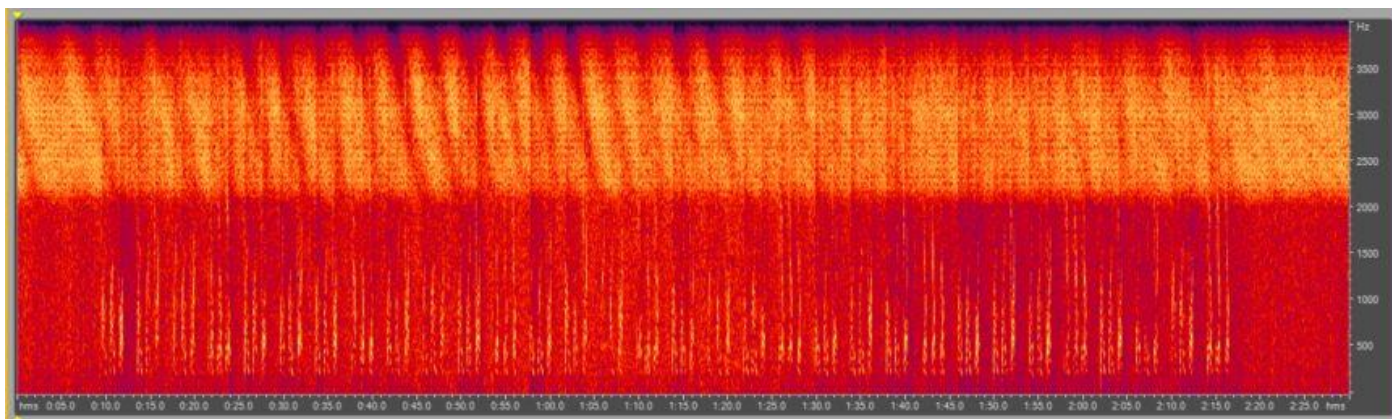
April 2022

1410z	16331kHz	1430z	15831kHz	1450z	14831kHz	
02/04	893 1 990 35 29774 ... 13004 000 000 [1410 and 1430z Tx heavily distorted, unworkable, 1450z pos New Freq 16333kHz]					Weak [1450z]
07/04	893 000					1410z Strong, 1430z Weak
09/04	893 000					Weak
23/04	Cardiff: 893 000 Fair, Crystal Palace: Unworkable [High QRN/QRM]					
28/04	893 1 892 35 74614 ... 27307 000 000					Weak

Saturday

March 2022

1400z 12143kHz 1420z 11143kHz 1440z 10443kHz



QRM on 1400z sending, 05/03 at PLdn QTH

05/03	114 000		Strong
13/03	114 000		Strong
19/03	114 000		Strong
26/03	114 000	[1400z QRM3]	Strong

April 2022

1300z 12176kHz 1320z 11576kHz 1340z 10276kHz

02/04	152 000		Weak
09/04	152 1 901 140 96813 ... 05267 000 000		Strong
23/04	152 000		Strong

E07a

Wednesday

March 2022

2100z 5877kHz 2120z 5277kHz 2140z 4577kHz

NRH

April 2022

2000z 8144kHz 2020z 6944kHz 2040z 5744kHz

NRH

Thursday

March 2022

0530z 6922kHz 0550z 8122kHz 0610z 9322kHz

NRH

April 2022

0430z 6788kHz 0450z 7488kHz 0510z 8188kHz

NRH

Friday

March 2022

1610z 11473kHz 1630z 10173kHz 1650z 9373kHz

NRH

April 2022

1510z 12174kHz 1530z 11074kHz 1550z 10274kHz

NRH

Saturday

March 2022

0900z 11133kHz 0920z 12133kHz 0940z 13433kHz

NRH

April 2022

0800z 12218kHz 0820z 13418kHz 0840z 14418kHz

NRH

E11 log March/April

E11 & E11a log Mar/April

4181kHz	1910z	02/03 [390/00] Out 1913z S7	Malc, HfD	WED
	1910z	05/03 [394/00] Out 1910z S9	Malc	SAT
	1910z	09/03 [399/00] Out 1913z S9	Malc	WED
	1910z	12/03 [393/00] Out 1913z S7	Malc	SAT
	1910z	16/03 [392/00] Out 1913z S9	Malc	WED
	1910z	19/03 [395/00] Out 1903z S9	Malc	SAT
	1910z	23/03 [395/33 77340.....32498] Out 1920z S5	Malc	WED
	1910z	26/03 [395/33 77340.....etc] Repeat of Wednesday	Malc	SAT
	1910z	30/03 [392/00] Out 1913z S5	Malc	WED
	1910z	02/04 [394/00] Out 1913z	Brixmis	SAT
	1910z	06/04 [390/00] Out 1903z S9	Malc, Brixmis	WED
	1910z	13/04 [391/34 46644 39233 62454 29284 67051 77277 63404.....35736 27303] Out 1920z S9	Brixmis, Malc	WED
	1910z	16/04 [391/34 46644.....etc] Repeat of Wednesday	Brixmis	SAT
	1910z	23/04 [399/00] Out 1013z S7	Malc	SAT
	1910z	27/04 [390/00] Out 1913z S9	Malc	WED
1910z	30/04 [395/00] Out 1913z S6	Malc	SAT	
4505kHz	1530z	05/03 [363/00] Out 1533z S2	Malc, HfD	SAT
	1530z	06/03 [360/00] Out 1533z S2 (Dutch SDR)	Malc	SUN
	1530z	12/03 [366/00] Out 1533z S2	Malc	SAT
	1530z	19/03 [360/32 05162.....97045] Out 1540z S2	Malc	SAT
	1530z	20/03 [360/32 05162.....etc] Repeat of Saturday	Malc	SUN
	1530z	26/03 [365/00] Out 1533z S3 (Dutch SDR)	Malc	SAT
	1530z	27/03 [364/00] Out 1533z S3 (Dutch SDR)	Malc	SUN
	1530z	02/04 [368/00] Out S6 (Dutch SDR)	Malc	SAT
	1530z	09/04 [369/00] Out 1533z S4 (Dutch SDR)	Malc	SAT
	1530z	10/04 [360/00] Out 1533z S4 (Dutch SDR)	Malc	SUN
	1530z	23/04 [360/00] Out 1533z S3 (Dutch SDR)	Malc	SAT
	1530z	24/04 [360/00] Out 1533z S2 (Dutch SDR)	Malc	SUN
	1530z	30/04 [365/00] Out 1533z S2 (Dutch SDR)	Malc	SAT
5176kHz	1605z	01/03 [233/00]	Ary	TUE
	1605z	06/03 [231/00] Out 1608z S2+QRM	Malc, HfD	SUN
	1605z	08/03 [235/00] Out 1608z S5+QRM	Malc	TUE
	1605z	15/03 [237/00] Out S3+QRM	Malc	TUE
	1605z	22/03 [237/35 18486.....21103] Out 1615z S3+QRM	Malc	TUE
	1605z	29/03 [235/00] Out 1608z S2+QRM	Malc	TUE
	1605z	03/04 [238/00] Out 1608z S2+QRM	Malc	SUN
	1605z	05/04 [233/00] Out 1608z S2	Malc	TUE
	1605z	10/04 [235/00] Out 1608z S2+QRM	Malc	SUN
	1605z	12/04 [236/00] Out 1608z S2+QRM	Malc	TUE
	1605z	24/04 [237/33 59486.....52906] Out 1615z S3+QRM	Malc	SUN
	1605z	26/04 [233/00] Out 1608z S3 (Dutch SDR)	Malc	TUE

5371kHz	1300z	03/03 [313/00] Out 1303z S3		Malc, RNGB, HfD	THU
	1300z	07/03 [310/37 41742.....63608] Out 1311z S2	(Dutch SDR)	Malc	MON
	1300z	10/03 [310/37 41742.....etc] Repeat of Monday		Malc	THU
	1300z	14/03 [314/00] Out 1303z S2	(Dutch SDR)	Malc	MON
	1300z	17/03 [315/00] Out 1303z S3		Malc	THU
	1300z	21/03 [312/00] Out 1303z S2	(Dutch SDR)	Malc	MON
	1300z	24/03 [316/00] Out 1303z S2	(Dutch SDR)	Malc	THU
	1300z	28/03 [310/00] Out 1303z S2	(Dutch SDR)	Malc	MON
	1300z	04/04 [313/00] Out 1303z S3	(Dutch SDR)	Malc	MON
	1300z	07/04 [315/00] Out 1303z S2		Malc	THU
	0450z	11/04 [410/00]		HfD	MON
	1300z	11/04 [314/00] Out 1303z S2		Malc	MON
	1300z	14/04 [314/00] Out 1303z S2	(Dutch SDR)	Malc	THU
	1300z	18/04 [316/37 31527.....75674] Out 1311z S2	(Dutch SDR)	Malc	MON
	1300z	25/04 [313/00] Out 1303z S3	(Dutch SDR)	Malc	MON
	1300z	28/04 [312/00] Out 1303z S2	(Polish SDR)	Malc	THU
	5737kHz	2000z	06/03 [528/34 23912.....49360] Out 2010z		Malc
2000z		10/03 [521/00] Out 2003z S9		Malc, HfD	THU
2000z		13/03 [521/00] Out 2003z S7		Malc	SUN
2000z		17/03 [525/00] Out 2003z S6		Malc	THU
2000z		20/03 [520/00] Out 2003z S7		Malc, Brixmis	SUN
2000z		24/03 [522/00] Out 2003z S7		Malc	THU
2000z		27/03 [527/00] Out 2003z S7		Malc	SUN
2000z		31/03 [522/00] Out 2003z S7		Malc, Brixmis	THU
2000z		03/04 [524/00] Out 2003z S5		Malc, Brixmis	SUN
2000z		07/04 [525/00] Out 2003z S3		Malc	THU
2000z		10/04 [527/00] Out 2003z S7		Malc	SUN
2000z		14/04 [520/35 23556.....65104] Out 2010z S7		Malc	THU
2000z		17/04 [520/35 23556.....etc] Repeat of Thursday		Malc	SUN
2000z		24/04 [524/00] Out 2003z S4		Malc	SUN
2000z	28/04 [522/00] Out 2003z S4		Malc	THU	
5941kHz	0820z	03/03 [439/39 32504 61774 68052 94153 43554 88735 67303.....06996 87662] Out 0831z S3		RNGB, Malc	THU
	0820z	04/03 [439/39 32504.....etc] Repeat of Thursday		Malc, HfD	FRI
	0820z	10/03 [434/00] Out 0823z S3		Malc	THU
	0820z	11/03 [432/00] Out 0823z S5		Malc, RNGB	FRI
	0820z	17/03 [435/00] Out 0823z S3		Malc	THU
	0820z	18/03 [430/00] Out 0823z S2		Malc	FRI
	0820z	24/03 [432/00] Out 0823z S2		Malc	THU
	0820z	25/03 [439/00] Out 0823z S2		Malc	FRI
	0820z	31/03 [436/00] Out 0823z S2		Malc	THU
	0820z	01/04 [437/00] Out 0823z S2		Malc	FRI
	0820z	07/04 [434/34 68501.....97828] Out 0830z S2	(Dutch SDR)	Malc	THU
	0820z	08/04 [434/34 68501.....etc] Repeat of Thursday		Malc	FRI
	0820z	14/04 [436/00] Out 0823z S2		Malc	THU
	0820z	15/04 [432/00] Out 0823z S2		Malc	FRI
	0820z	22/04 [431/00] Out 0823z S3	(Dutch SDR)	Malc	FRI
	0820z	28/04 [434/00] Out 0823z S4	(Finnish SDR)	Malc, RNGB	THU
	0820z	29/04 [438/00] Out 0823z S2		Malc	FRI
6923kHz	1205z	02/03 [465/00] Out 1208z S2		HfD, Malc	WED
	1715z	02/03 [976/00] Out 1718z S6		Malc, RNGB	WED
	1715z	04/03 [977/00] Out 1718z S7		Malc	FRI
	1205z	08/03 [463/31 53831.....95255] Out 1214z S3		Malc	TUE
	1205z	09/03 [463/31 53831.....etc] Repeat of Tuesday		Malc	WED
	1715z	09/03 [977/36 93965.....37546] Out 1725z S7		Malc	WED
	1715z	11/03 [977/36 93965.....etc] Repeat of Wednesday		Malc	FRI
	1205z	15/03 [466/00] Out 1208z S2		Malc	TUE
	1205z	16/03 [464/00] Out 1208z S2		Malc	WED
	1715z	18/03 [974/00] Out 1718z S6		Malc	FRI
	1205z	22/03 [562/00] Out 1208z S2		Malc	TUE
	1205z	23/03 [466/00] Out 1208z S5	(Dutch SDR)	Malc	WED
	1715z	23/03 [970/00] Out 1718z S5		Malc	WED
	1000z	25/03 [302/00] Out 1003z S5		Malc	FRI
	1205z	29/03 [463/00] Out 1208z S2		Malc, Andre	TUE
	1205z	30/03 [466/00] Out 1208z S2	(Dutch SDR)	Malc	WED
	1715z	30/03 [970/00] Out 1718z S3		Malc	WED
	1715z	01/04 [970/00] Out 1718z S3		Malc, dMHz	FRI
	1205z	06/04 [462/00] Out 1208z S3	(Dutch SDR)	Malc	WED
	1715z	06/04 [977/36 45799.....16397] Out 1725z S5		Malc	WED
	1715z	08/04 [977/36 45799.....etc] Repeat of Wednesday		Malc	FRI
	1205z	12/04 [465/00] Out 1208z S2		Malc	TUE
	1205z	13/04 [469/00] Out 1208z S2	(Dutch SDR)	Malc	WED
	1715z	13/04 [974/00] Out 1718z S4		Malc	WED
	1715z	15/04 [970/00] Out 1718z S4		Malc	FRI
	1715z	22/04 [970/00] Out 1718z S3		Malc	FRI
	1205z	26/04 [466/00] Out 1208z S5	(Dutch SDR)	Malc	TUE
1205z	27/04 [465/00] Out 1208z S3	(Dutch SDR)	Malc	WED	
1715z	27/04 [974/00] Out 1718z S4		Malc	WED	
1715z	29/04 [972/00] Out 1718z S7		Malc	FRI	

6940kHz	0930z	02/03 [275/32 21401.....57252] Out 0940z S3	Malc	WED	
	0930z	09/03 [271/00] Out 0933z S2	Malc, HfD	WED	
	0930z	16/03 [278/00] Out 0933z S2	Malc	WED	
	0930z	23/03 [277/00] Out 0933z S2	Malc	WED	
	0930z	30/03 [273/00] Out 0933z S2	Malc	WED	
	0930z	31/03 [276/00] Out 0933z S2	Malc	THU	
	0930z	06/04 [276/00] Out 0933z S3 (Dutch SDR)	Malc	WED	
	0930z	07/04 [277/00]	RNGB	THU	
	0930z	13/04 [279/00] Out 0933z S2	Malc, dMHz	WED	
	0930z	14/04 [278/00] Out 0933z S2	Malc	THU	
	0930z	28/04 [279/00] Out 0933z S2	Malc	THU	
7317kHz	1045z	02/03 [691/00] Out 1048z S5	Malc, HfD	WED	
	1900z	03/03 [640/00] Out 1903z S7+QRM	Malc, HfD	THU	
	1045z	07/03 [690/00] Out 1045z S2	Malc	MON	
	1900z	07/03 [641/00] Out 1903z S3+QRM	Malc, Brixmis	MON	
	1045z	09/03 [690/00] Out 1048z S3	Malc	WED	
	1900z	10/03 [649/00] Out 1903z S5+QRM	Malc	THU	
	1045z	14/03 [690/37 61787.....54401] Out 1055z S2	Malc	MON	
	1900z	14/03 [648/00] Out 1903z S7	Malc	MON	
	1045z	16/03 [690/37 61787.....etc] Repeat of Monday	Malc	WED	
	1900z	17/03 [641/00] Out 1903z S9+QRM	Malc	THU	
	1900z	21/03 [647/00] Out 1903z S5+QRM	Malc, Brixmis	MON	
	1045z	23/03 [697/00] Out 1048z S2	Malc	WED	
	1900z	24/03 [648/00] Out 1903z S3+QRM	Malc	THU	
	1045z	28/03 [697/00] Out 1048z S2	Malc	MON	
	1900z	28/03 [640/34 03214..... 21097] Out 1910z S4	Malc	MON	
	1045z	30/03 [693/00] Out 1048z S2	Malc	WED	
	1900z	31/03 [640/34 03214 81121 46865 17410 59460 40266 77798.....58698 21097] Out 1910z S6	Brixmis, Malc	THU	
	1045z	04/04 [697/00] Out 1048z S2	Malc, RNGB	MON	
	1900z	04/04 [644/00] Out 1903z	Brixmis, Malc	MON	
	1045z	06/04 [698/00] Out 1048z S2	Malc	WED	
	1900z	07/04 [648/00] Out 1903z S3	Malc, Brixmis	THU	
	1045z	11/04 [698/26 53389.....59881] Out 1054z S3	Malc	MON	
	1045z	13/04 [698/26 53389.....etc] Repeat of Monday	Malc	WED	
1900z	14/04 [646/00] Out 1903z S7	Malc	THU		
1045z	18/04 [690/00] Out 1048z S3 (Dutch SDR)	Malc	MON		
1900z	18/04 [646/32 68179.....07617] Out 1910z S6	Malc	MON		
1900z	25/04 [646/00] Out 1903z S4	Malc	MON		
1900z	28/04 [646/00] Out 1903z S6	Malc	THU		
7864kHz	1730z	03/03 [414/00] Out 1733z S6+QRM	Malc, HfD	THU	
	1730z	10/03 [416/00] Out 1733z S5	Malc, Gary H	THU	
	1730z	17/03 [413/00] Out 1733z S6	Malc	THU	
	1730z	17/03 [413/00] Out 1733z S6	Malc	THU	
	1730z	24/03 [414/00] Out 1733z S5	Malc	THU	
	1730z	31/03 [416/38 64685.....18744] Out 1741z S5	Malc	THU	
	1730z	07/04 [414/00] Out 1733z S3	Malc, Brixmis	THU	
	1730z	14/04 [415/00] Out 1733z S6	Malc	THU	
	1730z	28/04 [411/35 16322.....88774] Out 1740z S8	Malc	THU	
8180kHz	0700z	01/03 [571/00] Out 0703z S3	Malc, HfD	TUE	
	0700z	04/03 [570/00] Out 0703z S4	Malc	FRI	
	0700z	08/03 [575/00] Out 0703z S4	Malc	TUE	
	0700z	11/03 [577/00] Out 0703z S3	Malc	FRI	
	0700z	15/03 [576/00] Out 0703z S3	Malc, RNGB	TUE	
	0700z	18/03 [579/00] Out 0703z S4	Malc	FRI	
	0700z	22/03 [577/35 34989 60489 95868 23157 45952 74552 61707.....01631] Out 0711z S4	RNGB, Malc	TUE	
	0700z	25/03 [577/35 34989.....etc] Repeat of Tuesday	Malc	FRI	
	0700z	29/03 [574/00] Out 0703z S6	Malc	TUE	
	0700z	01/04 [571/00] Out 0703z S4	Malc	FRI	
	0700z	05/04 [575/00] Out 0703z S3	Malc, RNGB	TUE	
	0700z	08/04 [577/00] Out 0703z S2	Malc	FRI	
	0700z	12/04 [573/00] Out 0703z S3	Malc	TUE	
	0700z	15/04 [574/00] Out 0703z S2	Malc	FRI	
	0700z	22/04 [573/35 75366.....45010] Out 0710z S2+QRM	Malc	FRI	
	0700z	26/04 [571/00] Out 0703z S3	Malc	TUE	
	0700z	29/04 [571/00] Out 0703z S2	Malc	FRI	
	8423kHz	0645z	01/03 [510/00]	HfD	TUE
		0645z	29/03 [514/00] Out 0643z S4	Malc	TUE
0645z		31/03 [512/00] Out 0648z S3	Malc, RNGB	THU	
0645z		05/04 [515/00] Out 0648z S6	Malc	TUE	
0645z		07/04 [518/00] Out 0648z S3	Malc	THU	
0645z		12/04 [514/38 02469.....00782] Out 0756z S5	Malc	TUE	
0645z		14/04 [514/38 02469.....etc] Repeat of Tuesday	Malc	THU	
0645z		21/04 [517/00]	RNGB	THU	
0645z		26/04 [514/00] Out 0648z S3	Malc, RNGB	TUE	
0645z		28/04 [519/00] Out 0648z S2	Malc	THU	

8530kHz	1910z	04/03 [614/00] Out 1913z S5	Malc, HfD	FRI
	1910z	06/03 [617/00] Out 1913z S4	Malc	SUN
	1910z	11/03 [610/00] Out 1913z S8	Malc	FRI
	1910z	13/03 [613/00] Out 1913z S6	Malc	SUN
	1910z	18/03 [611/00] Out 1913z S7	Malc	FRI
	1910z	20/03 [616/00] Out 1913z S7	Malc, Brixmis	SUN
	1910z	25/03 [613/38 67807.....92573] Out 1921z S7	Malc	FRI
	1910z	27/03 [613/38 67807.....etc] Repeat of Friday	Malc	SUN
	1910z	01/04 [616/39 87237 09980 19604 47703 11655 01655 99211 08442.....23183] Out 1921z S7	Brixmis, Malc	FRI
	1910z	03/04 [616/39 87237.....etc] Repeat of Friday	Malc	SUN
	1910z	08/04 [610/00] Out 1913z S9	Malc	FRI
	1910z	10/04 [617/00] Out 1913z S6	Malc	SUN
	1910z	15/04 [613/00] Out 1913z S7	Malc	FRI
	1910z	17/04 [618/00] Out 1913z S6	Malc	SUN
	1910z	22/04 [616/00] Out 1913z S5	Malc	FRI
	1910z	24/04 [617/00] Out 1913z S6	Malc	SUN
	1910z	29/04 [611/00] Out 1913z S8	Malc, Brixmis	FRI
8680kHz	0600z	25/03 [350/00]	HfD	FRI
	0600z	01/04 [351/00] Out 0603z S5	Malc	FRI
	0600z	08/04 [359/00] Out 0603z S4	Malc	FRI
	0600z	10/04 [350/00] Out 0603z S3	Malc	SUN
	0600z	17/04 [35?/35 53292.....05535] Out 0610z S3	Malc	SUN
	0600z	24/04 [354/00] Out 0603z S4	Malc	SUN
	0600z	29/04 [354/00] Out 0603z S3	Malc	FRI
9079kHz	0700z	13/03 [492/00] Out 0703z S5	Malc, HfD	SUN
	0700z	19/03 [490/00] Out 0703z S5	Malc	SAT
	0700z	02/04 [491/34 34661 00364 42311 33115 84248 47018 19432 92827.....96405 46397] Out 0710z	RNGB, Malc	SAT
	0700z	03/04 [491/34 34661.....etc] Repeat of Saturday	Malc	SUN
	0700z	09/04 [496/00] Out 0703z S6	Malc	SAT
	0700z	10/04 [496/00] Out 0703z S5	Malc	SUN
	0700z	17/04 [490/00] Out 0703z S4	Malc	SUN
	0700z	23/04 [490/00] Out 0703z S2	Malc	SAT
	0700z	24/04 [490/00] Out 0703z S2	Malc	SUN
	0700z	30/04 [490/00] Out 0703z S3	Malc	SAT
9951kHz	1000z	01/03 [304/00]	HfD	TUE
	1000z	04/03 [300/00] Out 1003z S5	Malc	FRI
	1000z	08/03 [307/00] Out 1003z S3	Malc	TUE
	1000z	11/03 [308/00] Out 1103z S6	Malc, RNGB	FRI
	1000z	15/03 [304/33 06746.....63311] Out 1010z S4	Malc	TUE
	1000z	18/03 [304/33 06746.....etc] repeat of Tuesday	Malc	FRI
	1000z	22/03 [304/00] Out 1003z S2	Malc	TUE
	1000z	29/03 [309/00] Out 1003z S3	Malc	TUE
	1000z	01/04 [309/00] Out 1003z S4	Malc	FRI
	1000z	25/03 [302/00] Out 1003z S5	Malc	FRI
	1000z	08/04 [300/00] Out 1003z S3	Malc	FRI
	1000z	12/04 [302/00] Out 1003z S2	Malc	TUE
	1000z	15/04 [306/00] Out 1003z S5	Malc	FRI
	1000z	22/04 [304/00] Out 1003z S2	Malc, RNGB	FRI
	1000z	26/04 [308/40 85807.....02187] Out 1011z S3	Malc	TUE
1000z	29/04 [308/40 85807.....etc] Repeat of Tuesday	Malc	FRI	
9963kHz	0715z	01/03 [631/00] Out 0718z S4	Malc, HfD	TUE
	0715z	08/03 [630/39 49050.....92295] Out 0726z S3	Malc	TUE
	0715z	15/03 [637/00] Out 0718z S4	Malc, RNGB	TUE
	0715z	22/03 [631/00] Out 0718z S4	Malc	TUE
	0715z	29/03 [637/00] Out 0718z S3	Malc	TUE
	0715z	01/04 [634/00] Out 0718z S2	Malc	FRI
	0715z	05/04 [639/35 55482.....82332] Out 0725z S4	Malc	TUE
	0715z	08/04 [639/35 55482.....etc] Repeat of Tuesday	Malc	FRI
	0715z	12/04 [639/00] Out 0718z S4	Malc	TUE
	0715z	15/04 [634/00] Out 0718z S4	Malc	FRI
	0715z	22/04 [630/00] Out 0718z S3	Malc	FRI
	0715z	26/04 [630/00] Out 0718z S2	Malc	TUE
	0715z	29/04 [633/00] Out 0718z S3	Malc	FRI
	9968kHz	0900z	02/03 [535/00] Out 0903z S5	Malc, RNGB
0900z		07/03 [535/00] Out 0903z S2	Malc, RNGB	MON
0900z		09/03 [536/00] Out 0903z S5	Malc	WED
0900z		14/03 [532/00] Out 0903z S3	Malc, RNGB	MON
0900z		16/03 [536/00] Out 0903z S4	Malc	WED
0900z		21/03 [533/31 26596.....15605] Out 0909z S3	Malc	MON
0900z		23/03 [533/31 26596.....etc] Repeat of Monday	Malc	WED
0900z		28/03 [534/00] Out 0903z S8	Malc	MON
0900z		30/03 [532/00] Out 0903z S6	Malc	WED
0900z		04/04 [535/00] Out 0903z S3	Malc	MON
0900z		06/04 [537/00] Out 0903z S6	Malc	WED
0900z		11/04 [535/36 30458.....00445] Out 0910z S3	Malc	MON
0900z		13/04 [538/36 30458.....etc] Repeat of Monday	Malc	WED
0900z		18/04 [532/00] Out 0903z S2	Malc	MON
0900z		25/04 [533/00] Out 0903z S4	Malc	MON

10213kHz	0745z	07/03 [269/00] Out 0748z S6	Malc, HfD	MON
	0745z	14/03 [262/00] Out 0748z S9	Malc	MON
	0745z	21/03 [268/00] Out 0748z S9	Malc	MON
	0745z	28/03 [261/38 97725.....47839] Out 0756z S9	Malc	MON
	0745z	04/04 [267/00] Out 0748z S7	Malc	MON
	0745z	11/04 [266/35 65636.....08213] Out 0755z S6+QRM	Malc	MON
	0745z	18/04 [266/00] Out 0748z S5	Malc	MON
	0745z	25/04 [260/00] Out 0748z S2	Malc	MON
10330kHz	1530z	03/03 [266/00] Out 1533z S8	Malc, HfD	THU
	1530z	10/03 [268/00] Out 1533z S6	Malc, Gary H	THU
	1530z	17/03 [269/00] Out 1533z S9	Malc	THU
	1530z	24/03 [268/00] Out 1533z S7	Malc	THU
	1530z	31/03 [261/38 97725.....47839] Out 1541z S9	Malc	THU
	1530z	07/04 [261/00] Out 1533z S7	Malc, Gary H, Brixmis	THU
	1530z	14/04 [266/35 65636 72408 29544 78185 28835 48737 93719 38840.....15021 08213] Out 1540z	Gary H, Malc	THU
	1530z	28/04 [261/00] Out 1533z S6	Malc	THU
11092kHz	0315z	24/03 [256/00]	HfD	THU
	0315z	13/04 [251/30 76729.....etc]	HfD	WED
11116kHz	1815z	04/03 [926/00] Out 1818z S7	Malc, HfD	FRI
	1815z	06/03 [920/00] Out 1818z S7	Malc	SUN
	1815z	11/03 [929/31 02505.....82865] Out 1824z S0	Malc	FRI
	1815z	13/03 [929/31 02505.....etc] Out 1829z S9	Malc E	SUN
	1815z	18/03 [921/00] Out 1818z S6	Malc	FRI
	1815z	20/03 [926/00] Out 1818z S9	Malc	SUN
	1815z	25/03 [929/00] Out 1818z S6	Malc	FRI
	1815z	27/03 [922/00] Out 1818z S6	Malc	SUN
	1815z	01/04 [920/00] Out 1818z S5	Malc, Brixmis	FRI
	1815z	03/04 [929/00] Out 1818z S7	Malc E	SUN
	1815z	08/04 [920/00] Out 1818z S7	Malc	FRI
	1815z	10/04 [925/00] Out 1818z S3	Malc	SUN
	1815z	15/04 [924/00] Out 1818z S5	Malc	FRI
	1815z	17/04 [920/00] Out 1818z S5	Malc	SUN
	1815z	22/04 [929/37 80653 15980 49201 25804 78668 72789 40307.....46066 68814] Out 1826z S4	Gary H, Malc	FRI
	1815z	24/04 [929/37 80653.....etc] Repeat of Friday	Malc, Gary H	SUN
	1815z	29/04 [924/00] Out 1818z S4	Malc	FRI
12202kHz	0845z	02/03 [715/00] Out 0838z S4	Malc, RNGB, HfD	WED
	0845z	07/03 [718/00] Out 0848z S7	Malc	MON
	0845z	09/03 [716/00] Out 0848z S4	Malc	WED
	0845z	14/03 [714/00] Out 0848z S3	Malc	MON
	0845z	16/03 [714/00] Out 0848z S3	Malc	WED
	0845z	21/03 [716/00] Out 0848z S5	Malc	MON
	0845z	23/03 [714/00] Out 0848z S8	Malc	WED
	0845z	28/03 [714/38 72002.....53274] Out 0856z S3	Malc	MON
	0845z	30/03 [714/38 72002.....etc] Repeat of Monday	Malc	WED
	0845z	04/04 [710/00] Out 0848z S2	Malc	MON
	0845z	06/04 [716/00] Out 0848z S5	Malc	WED
	0845z	11/04 [716/00] Out 0848z S4	Malc	MON
	0845z	13/04 [716/00] Out 0848z S5	Malc	WED
	0845z	18/04 [710/00] Out 0848z S3	Malc	MON
	0845z	25/04 [715/39 08068.....39680] Out 0856z S5	Malc	MON
	0845z	27/04 [715/39 08068.....etc] Repeat of Monday	Malc	WED
12530kHz	1230z	03/03 [333/00] Out 1233z S3	Malc, HfD	THU
	1230z	10/03 [337/00] Out 1233z S3	Malc	THU
	1230z	15/03 [334/00] Out 1233z S5	Malc	TUE
	1230z	17/03 [334/00] Out 1233z S5	Malc	THU
	1230z	22/03 [337/40 60244.....36507] Out 1241z S5	Malc	TUE
	1230z	24/03 [337/40 60244.....etc] Repeat of Tuesday	Malc	THU
	1230z	29/03 [330/00] Out 1233z S6	Malc	TUE
	1230z	31/03 [334/00] Out 1233z S3	Malc	THU
	1230z	05/04 [335/36 78259.....34608] Out 1241z S5	Malc	TUE
	1230z	07/04 [335/36 78259.....etc] Repeat of Tuesday	Malc	THU
	1230z	12/04 [334/00] Out 1233z S3	Malc	TUE
	1230z	14/04 [330/00] Out 1233z S3	Malc	THU
	1230z	26/04 [333/00] Out 1233z S2	Malc	TUE
	1230z	28/04 [337/00] Out 1233z S4 (Dutch SDR)	Malc	THU
13470kHz	1745z	06/03 [249/00] Out 1748z S2+QRM (Dutch SDR)	Malc, HfD	SUN
	1745z	07/03 [242/33 21602..... 53459] Out 1755z S2 +QRM	Malc	MON
	1745z	13/03 [242/33 21602.....etc] Repeat of Monday	Malc	SUN
	1745z	14/03 [247/00] Out 1748z S5	Malc	MON
	1745z	20/03 [244/00] Out 1748z S7	Malc	SUN
	1745z	21/03 [240/00] Out 1748z S6	Malc	MON
	1745z	27/03 [248/00] Out 1748z S7	Malc	SUN
	1745z	28/03 [248/00] Out 1748z S2	Malc	MON
	1745z	03/04 [249/00] Out 1748z S9	Malc	SUN
	1745z	04/04 [247/33 97145.....60607] Out 1755z S9 QSB4	Malc	MON
	1745z	11/04 [244/00] Out 1748z S6	Malc	MON
	1745z	17/04 [246/00] Out 1755z S3	Malc	SUN

	1745z	18/04 [248/00] Out 1748z S8	Malc	MON
	1745z	24/04 [249/00] Out 1748z S9	Malc	SUN
	1745z	25/04 [242/00] Out 1748z S9	Malc	MON
13908kHz	0845z	03/03 [152/00] Out 0848z S4	Malc, RNGB, HfD	THU
	0845z	08/03 [151/00] Out 0848z S5	Malc	TUE
	0845z	10/03 [155/00] Out 0848z S6	Malc, RNGB	THU
	0845z	15/03 [157/00] Out 0848z S7	Malc	TUE
	0845z	17/03 [154/00] Out 0848z S5	Malc	THU
	0845z	22/03 [154/21 60170.....28606] Out 0853z S2 (Polish SDR)	Malc	TUE
	0845z	24/03 [154/21 60170.....etc] Repeat of Tuesday	Malc	THU
	0845z	29/03 [156/00] Out 0848z S7	Malc	TUE
	0845z	31/03 [159/00] Out 0848z S4	Malc	THU
	0845z	05/04 [152/20 75309.....41246] Out 0852z S7	Malc	TUE
	0845z	07/04 [152/20 75309.....etc] Repeat of Tuesday	Malc	THU
	0845z	12/04 [152/00] Out 0848z S7	Malc	TUE
	0845z	14/04 [152/00] Out 0848z S6	Malc	THU
	0845z	26/04 [155/00] Out 0848z S3	Malc	TUE
	0845z	28/04 [152/00] Out 0848z S2	Malc	THU
14865kHz	0745z	01/03 [227/32 90910 23678 19249 01795 09276 75344 95649.....04207 31853] Out 0755z S6	RNGB, Malc, HfD	TUE
	0640z	02/03 [942/00]	HfD	WED
	0745z	03/03 [227/32 90910.....etc] Repeat of Tuesday	Malc	THU
	0745z	08/03 [228/00] Out 0748z S2	Malc, RNGB	TUE
	0745z	15/03 [227/00] Out 0748z S4	Malc	TUE
	0745z	17/03 [223/00] Out 0748z S9	Malc	THU
	0745z	22/03 [227/00] Out 0748z S2	Malc	TUE
	0745z	24/03 [223/00] Out 0748z S2	Malc	THU
	0640z	28/03 [945/39 00186.....27070] Out 0651z S2 (Dutch SDR)	Malc	MON
	0745z	29/03 [220/00] Out 0748z S2	Malc	TUE
	0640z	30/03 [945/39 00186 30526 83725 13702 88073 47811 14387 33988.....59947 27070] Out 0651z	RNGB, Malc	WED
	0745z	31/03 [223/00] Out 0748z S2+S9 QRM (Dutch SDR)	Malc	THU
	0640z	04/04 [942/00] Out 0643z S2	Malc, RNGB	MON
	0745z	05/04 [227/32 99657.....46814] Out 0755z S8	Malc	TUE
	0640z	06/04 [945/00] Out 0643z S2	Malc	WED
	0745z	07/04 [227/32 99657.....46814] Out 0748z S2	Malc	THU
	0745z	12/04 [220/00] Out 0748z S2	Malc	TUE
	0640z	13/04 [945/00] Out 0643z S2	Malc	WED
	0745z	14/04 [223/00] Out 0748z S2	Malc	THU
	0640z	18/04 [945/00] Out 0643z S3 (Dutch SDR)	Malc	MON
	0640z	20/04 [945/00]	RNGB	WED
	0640z	25/04 [945/34 96127.....04009] Out 0650z S2 (Dutch SDR)	Malc	MON
	0745z	26/04 [221/00] Out 0748z S5	Malc	TUE
	0640z	27/04 [945/34 96127.....04009] Out 0650z S5	Malc	WED
	0745z	28/04 [224/00] Out 0748z S4	Malc	THU
14972kHz	1430z	01/03 [917/00] Out 1433z S6	Malc, HfD	TUE
	1430z	05/03 [919/00] Out 1433z S6	Malc	SAT
	1430z	08/03 [918/00] Out 1433z S4	Malc	TUE
	1430z	12/03 [915/00] Out 1433z S2	Malc	SAT
	1430z	15/03 [912/31 83227.....19586] Out 1340z S5 QSB3	Malc	TUE
	1430z	19/03 [912/31 83227.....etc] repeat of Tuesday	Malc	SAT
	1430z	22/03 [918/00] Out 1433z S7	Malc	TUE
	1430z	26/03 [912/00] Out 1433z S6	Malc	SAT
	1430z	29/03 [912/00] Out 1433z S4	Malc, Gary H	TUE
	1430z	02/04 [919/00] Out 1433z S3	Malc E	SAT
	1430z	05/04 [917/00] Out 1433z S4	Malc	TUE
	1430z	09/04 [910/00] Out 1433z S9	Malc	SAT
	1430z	12/04 [912/39 26877.....04795] Out 1441z S5+QRM	Malc	TUE
	1430z	23/04 [914/00] Out 1433z S3	Malc	SAT
	1430z	26/04 [914/00] Out 1433z S4	Malc	TUE
	1430z	30/04 [919/00] Out 1433z S4	Malc	SAT
15632kHz	0715z	02/03 [750/00] Out 0718z S6	Malc, RNGB	WED
	0715z	07/03 [759/00] Out 0718z S2	Malc	MON
	0715z	09/03 [754/00] Out 0703z S2	Malc	WED
	0715z	14/03 [750/00] Out 0718z S2	Malc	MON
	0715z	16/03 [759/00] Out 0718z S5	Malc	WED
	0715z	21/03 [755/00] Out 0718z S2	Malc	MON
	0715z	23/03 [750/00] Out 0718z S2	Malc	WED
	0715z	30/03 [759/31 16589 21265 04702 24575 99883 90716 45950 56328.....77313] Out 0724z	RNGB, Malc	WED
	0715z	04/04 [751/35 24464 17556 66095 15157 86574 11866 30280 39235.....70449 56884] Out 0718z	RNGB, Malc	MON
	0715z	06/04 [751/25 24464.....etc] Repeat of Monday	Malc	WED
	0715z	11/04 [752/00] Out 0718z S2	Malc	MON
	0715z	13/04 [752/00] Out 0718z S2+QRM	Malc	WED
	0715z	18/04 [759/00] Out 0718z S2 (Dutch SDR)	Malc	MON
	0715z	25/04 [754/00] Out 0718z S2	Malc	MON
	0715z	27/04 [750/00] Out 0718z S3	Malc	WED
15905kHz	0830z	04/03 [182/00] Out 0833z S5	Malc, HfD	FRI
	0830z	07/03 [180/31 43533 86403 49747 81455 15078 73985 74199.....15866 08192] Out 0840z S3	RNGB, Malc	MON
	0830z	11/03 [180/31 43533.....etc] Repeat of Monday	Malc	FRI
	0830z	14/03 [185/00] Out 0833z S2	Malc	MON

0830z	18/03 [180/00] Out 0833z S6		Malc, RNGB	FRI
0830z	21/03 [189/00] Out 0833z S2		Malc	MON
0830z	25/03 [183/00] Out 0833z S2		Malc	FRI
0830z	04/04 [182/00] Out 0833z S2		Malc	MON
0830z	11/04 [180/22 12636.....60277] Out 0838z S3		Malc	MON
0830z	15/04 [188/22 12636...etc] Repeat of Monday		Malc	FRI
0830z	22/04 [185/00] Out 0833z S2		Malc	FRI
0830z	25/04 [184/00] Out 0833z S2	(Dutch SDR)	Malc	MON
0830z	29/04 [181/00] Out 0933z S3		Malc	FRI
17410kHz	0745z	02/03 [347/00] Out 0748z S2	Malc	WED
	0745z	04/03 [342/00] Out 0748z S6	Malc, RNGB	FRI
	0745z	09/03 [347/33 86374 28404 62877 81099 12539 65222 32959.....40278 32723] Out 0755z	RNGB , Malc	WED
	0745z	11/03 [347/33 86374.....etc] Repeat of Wednesday	Malc	FRI
	0745z	18/03 [340/00] Out 0748z S2	Malc	FRI
	0745z	16/03 [346/00] Out 0748z S2	Malc	WED
	0745z	23/03 [343/00] Out 0748z S5	(Polish SDR)	WED
	0745z	25/03 [340/00] Out 0748z S2	Malc	FRI
	0745z	30/03 [340/00] Out 0748z S2	Malc	WED
	0745z	01/04 [347/00] Out 0748z S2	(Finnish SDR)	FRI
	0745z	06/04 [340/36 88376.....82125] Out 0755z S5	(Polish SDR)	WED
	0745z	08/04 [340/36 88376.....etc] Repeat of Wednesday	Malc	FRI
	0745z	13/04 [343/00] Out 1748z S2	(Dutch SDR)	WED
	0745z	15/04 [344/00] Out 0748z S2	(Finnish SDR)	FRI
	0745z	20/04 [346/00]	RNGB	WED
	0745z	22/04 [347/00] Out 0748z S2	Malc	FRI
	0745z	27/04 [342/00] Out 0748z S3	(Dutch SDR)	WED
	0745z	29/04 [343/00] Out 0748z S5	Malc	FRI
19184kHz	0820z	01/03 [130/00] Out 0823z S3	Malc, RNGB, HfD	TUE
	0820z	02/03 [132/00] Out 0823z S2	(Dutch SDR)	WED
	0820z	08/03 [138/00] Out 0823z S2	(Dutch SDR)	TUE
	0820z	09/03 [138/00] Out 0823z S2	(Dutch SDR)	WED
	0820z	15/03 [131/35 62204 70034 54606 88403 94842 13553 976585.....83060 34679] Out 0830z	RNGB, Malc	TUE
	0820z	16/03 [131/35 62204.....etc] Repeat of Tuesday	Malc	WED
	0820z	22/03 [133/00] Out 0823z S4	(Polish SDR)	TUE
	0820z	29/03 [132/00] Out 0823z S2	(Dutch SDR)	TUE
	0820z	05/04 [132/00] Out 0823z S2	(Dutch SDR)	TUE
	0820z	06/04 [138/00] Out 0823z S4	(Polish SDR)	WED
	0820z	13/04 [132/00] Out 0823z S2	(Finnish SDR)	WED
	0820z	26/04 [134/35 92615.....15922] Out 0830z S4	(Polish SDR)	TUE
	0820z	27/04 [134/35 92615.....etc] Repeat of Tuesday	Malc	WED

And from PoSW:

A small selection of some stronger E11 transmissions heard in March and April, frequencies from the prediction list:-

4181 kHz:- 9-Mar-22, Wednesday 1910 UTC, "399/00". very strong signal.
 2-Apr-22, Saturday:- 1910 UTC, "394/00", very strong.
 13-Apr-22, Wednesday:- 1910 UTC, "391/34", full message, strong signal, "out" just after 1920 UTC.
 16-Apr-22, Saturday:- 1910 UTC, "391/34", as on the 13th.
 20-Apr-22, Wednesday:- 1910 UTC, "391/00".

5737 kHz:- 24-Mar-22, Thursday:- 2000 UTC, "522/00".
 31-Mar-22, Thursday:- 2000 UTC, "522/00", strong signal.
 3-Apr-22, Sunday:- 2000 UTC, "524/00", strong.
 7-Apr-22, Thursday:- 2000 UTC, "525/00".
 14-Apr-22, Thursday:- 2000 UTC, "520/35". "Out" at 2010:20s UTC.
 17-Apr-22, Sunday:- 2000 UTC, "520/35", as on the 14th.
 21-Apr-22, Thursday:- 2000 UTC, "525/00", strong

6923 kHz:- 9-Mar-22, Wednesday 1715 UTC, "977/36", strong signal.
 25-Mar-22, Friday:- 1715 UTC, "978/00". strong.
 30-Mar-22, Wednesday:- 1715 UTC, "970/00", strong.
 1-Apr-22, Friday:- 1715 UTC, "970/00", strong signal as always.
 6-Apr-22, Wednesday:- 1715 UTC, "977/36", not quite as strong as previously but strong enough, "Out" 1725:30s UTC.
 8-Apr-22, Friday:- 1715 UTC, "977 36" again.
 13-Apr-22, Wednesday:- 1715 UTC, "974/00", strong signal.
 15-Apr-22, Friday:- 1715 UTC, "970/00".
 20-Apr-22, Wednesday:- 1715 UTC, "976/00".
 22-Apr-22, Friday:- 1715 UTC, "970/00".
 27-Apr-22, Wednesday:- 1715 UTC, "974/00".

7317 kHz:- 28-Mar-22, Monday:- 1900 UTC, "640/34", full message format, "out" just after 1910 UTC.
 31-Mar-22, Thursday:- 1900 UTC, "640/34", same message as on the 28th.
 4-Apr-22, Monday:- 1900 UTC, "644/00".
 7-Apr-22, Thursday:- 1900 UTC, "648/00".
 21-Apr-22, Thursday:- 1900 UTC, "646/32", strong signal.

7864 kHz:- 7-Apr-22, Wednesday:- 1730 UTC, "414/00".
14-Apr-22, Wednesday:- 1730 UTC, "415/00".

8530 kHz:- 20-Mar-22, Sunday:- 1910 UTC, "616/00".
1-Apr-22, Friday:- 1910 UTC, "616/39", full message, good signal, "out" just after 1921 UTC.
3-Apr-22, Sunday:- 1910 UTC, "616/39", same as on the 1st.
15-Apr-22, Friday:- 1910 UTC, "613/00".
17-Apr-22, Friday:- 1910 UTC, "618/00".

12202 kHz:- 21-Mar-22, Monday:- 0845 UTC, "716/00, strong.
30-Mar-22, Wednesday:- 0845 UTC, "714/38", message ending with "out" at 0855:50s UTC.
4-Apr-22, Monday:- 0845 UTC, "710/00", weak signal.
25-Apr-22, Monday:- 0845 UTC, "715/39", strong, "out" after 0856.

13470 kHz:- 21-Mar-22, Monday:- 1745 UTC, "240/00", all E11 transmissions heard on this frequency suffer from interference from a rapidly swept carrier.
10-Apr-22, Sunday:- 1745 UTC, "247/33", severe interference from swept carrier, "out" 1755:50s UTC.
11-Apr-22, Monday:- 1745 UTC, "244/00" with interference.
17-Apr-22, Sunday:- 1745 UTC, "246/00", weak with the usual interference, difficult copy.

13908 kHz:- 15-Mar-22, Tuesday:- 0845 UTC, "157/00".
29-Mar-22, Tuesday:- 0845 UTC, "156/00".
5-Apr-22, Tuesday:- 0845 UTC, "152/20", message, weak signal, "out" at 0852:11s UTC.

14972 kHz:- 22-Mar-22, Tuesday:- 1430 UTC, "918/00".
5-Apr-22, Tuesday:- 1430 UTC, "911/00", weak signal.
9-Apr-22, Saturday:- 1430 UTC, "910/00".
12-Apr-22, Tuesday:- 1430 UTC, "912/39", weak, difficult copy.

E17z

March 2022

Thursday

0800z 14260kHz 0810z 12930kHz

NRH

April 2022

NRH

S06

S06 log March 2022

01/03 '480' 629 51 10700.....etc] Thanks HFJ **0400z 11616khz 0420z 9322khz**

Thursdays (Repeats Friday)

0830z 19415kHz 0930z 16268kHz (frequencies may vary +/- 15kHz)
03/03 '842' 513 42 15950 31893 57813 32995 34705 86619 59935 04699 91946 32763 21861 28104 66416 35197 98799 08427 05066 08042 33208 92203
86839 52357 36986 47022 65083 86888 39008 67912 43240 45338 65170 46333 63545 38555 43140 62696 13387 05123 49011 88364
79039 98752 513 42 00000

10/03 '842' 796 43 11646 47498 06509 55116 64983 68717 85557 16592 10856 27154 06224 77877 84681 21461 44563 08188 52241 54049 55182 68322
31374 58326 01188 29163 28225 98690 47907 09024 67736 41717 12565 90780 23055 21971 87104 04730 73564 50889 76340 88100
46207 42163 18630 796 43 00000

17/03 '842' 135 44 26430 47873 23184 25113 11052 94403 65426 46654 82417 29594 33472 48820 10253 90423 28994 98835 99995 25643 78536 18359
79633 48698 91878 44066 46398 89968 16994 71157 28020 21764 58759 15701 38209 54506 53637 56763 31070 27547 17498 44270
84129 43043 08768 83515 135 44 00000

24/03 '842' 607 45 63223 30957 56856 98006 64585 39452 37715 44109 53672 25291 06743 77397 05660 37095 45702 74906 21919 37651 23184 27919
75442 49801 17829 26774 78632 14151 00614 41080 28149 32036 43418 31286 06485 92170 46045 52531 44975 04434 98882 36721
77920 89220 23407 63755 42502 607 45 00000

31/03 '842' 153 46 53788 92527 03120 69891 44413 03367 70021 88536 61351 21753 06115 68216 47913 55811 84900 15867 10914 75340 08973 87400
19648 50413 21732 40024 36198 46702 02786 03010 38044 82237 70485 84102 18881 75277 40025 53778 78606 37980 10543 74497
38400 95558 79665 67190 41843 35619 153 46 00000

Fridays (1st & 3rd) **2000z** **9268kHz** **2100z** **6775kHz**
 04/03 '319' 00000
 18/03 '319' 00000

Other transmissions:

Saturday **1300z** **10755kHz** **1330z** **9073kHz**
 05/03 '480' 297 41 68128 53518 23246 76308 38133 29892 12160 63004 98610 77027 77900 36871 19030 84327 99556 48826 40681 18838 64157 50440
 33147 78759 54791 17214 63791 24926 19009 37644 43254 57917 06973 93248 07056 26795 68612 38242 46045 16619 94601 82040
 46795 297 41 00000] 1312z
 12/03 '480' 356 44 64950 21574 35374 12960 46909 92803 54055 87610 92227 73725 26084 47466 34377 10233 10401 79513 57755 49501 13643 28472
 84385 02233 32666 02585 01921 66086 88729 54680 04965 79335 25984 41166 70541 92449 13303 85017 16590 36384 51092 13958
 72436 47109 34818 96901 356 44 00000] 1312z
 26/03 '480' 652 43 73995 85328 87650 23576 55716 52066 01630 66200 57401 84853 00773 88198 03406 11905 45671 09335 66502 84676 22763 63948
 35769 95824 79412 98651 94441 68080 27822 77305 23834 95883 08867 73626 67677 92924 75241 15470 32175 64478 75710 14096
 55206 60429 13963 652 43 00000] 1312z

Sunday **0930z** **12093kHz** **1000z** **10212kHz**
 06/03 '480' 297 41 68128 53518 23246.....etc
 13/03 '480' 356 44 64950 21574 35374.....etc
 20/03 '480' 179 42 49563 01154 35760 43827 70133 41841 91351 23807 46730 26195 37508 65502 07278 88195 63001 89482 40690 02059 14403 02084
 54905 99393 82853 77357 69775 24274 23272 32630 13025 36453 01089 48475 62523 89342 52755 47781 00930 72731 53277 31812
 31821 27269 179 42 00000] 0942z

S06 log April 2022

Thursdays (Repeats Friday) **0830z** **19078kHz** **0930z** **16318kHz** (frequencies may vary +/- 15kHz)
 01/04 '842' 153 46 53788 92527 03120 69891 44413 03367 70021 88536 61351 21753 06115 68216 47913 55811 84900 15867 10914 75340 08973 87400
 19648 50413 21732 40024 36198 46702 02786 03010 38044 82237 70485 84102 18881 75277 40025 53778 78606 37980 10543 74497
 38400 95558 79665 67190 41843 35619 153 46 00000
 07/04 '842' 690 47 39519 54633 83531 09416 44661 69279 55634 35308 55986 10123 55460 85022 20300 24355 59754 21276 21079 53838 75265 39989
 23845 30755 60733 98996 13444 32729 46244 33563 65402 08356 04632 32163 18548 09081 54630 70945 41097 88365 00431 30327
 07383 54071 37374 42159 27409 85009 78428 690 47 00000
 14/04 '842' 351 48 too weak to copy ms
 21/04 '842' 760 49 36739 15339 65890 94422 81031 84135 26527 80774 28148 94060 35667 63011 16029 99047 39122 25924 24702 30668 86918 55457
 35586 53403 03'86 57906 79158 81623 66324 24498 97670 32430 62447 77338 19405 10681 11270 57640 43556 53149 74654 42167
 66227 76750 94178 98845 02224 06368 23531 17473 82339 760 49 00000
 28/04 '842' 139 50 83401 20553 25959 12211 69363 58649 17949 79976 48740 65610 39739 06961 89369 74925 05339 71001 94377 46930 14937 40597
 19021 96753 13392 61104 70437 36816 21474 04711 26243 13568 38301 76363 32911 43150 38406 92832 69884 75672 11862 77120
 90333 42790 20920 35383 74525 68266 71586 08559 56715 46217 139 50 00000

Fridays (1st & 3rd) **2000z** **9268kHz** **2100z** **6775kHz**
 01/04 '319' 00000
 15/04 '319' 00000

Other transmissions:

Saturday **1300z** **11487kHz** **1330z** **9412kHz**
 02/04 '480' 793 41 67421 97700 61483 28452 43208 78646 87173 43262 04309 72604 46472 76509 47464 91755 34140 31170 87099 87476 50135 80378
 36926 77384 32258 43795 81190 22191 26184 16869 81013 09636 72604 93390 46472 76509 47464 91755 34140 31170 87099 87576
 80378 793 41 00000] 1312z
 09/04 '480' 651 42 73746 95785 34200 61430 27548 96964 43742 38222 82233 19822 00621 22894 94543 02359 17202 33903 47724 14863 70931 67461
 57923 15689 38290 64137 99288 71561 84703 48826 40681 18838 50440 33147 78759 64791 17214 63791 24926 19009 37644 43254
 06973 93248 651 42 00000
 16/04 '480' 729 43 99625 71339 69531 12708 92028 19160 26665 57696 44576 21605 38872 29052 63405 35848 23128 89060 02032 01790 18411 66539
 89817 46338 63102 37871 29829 19860 90023 39302 58963 10418 46472 76509 47464 91755 34140 31170 87099 87476 74804 95315
 02521 55044 77254 729 43 00000
 23/04 '480' 153 44 61188 95389 50048 29275 46166 33523 55941 82452 21222 19101 00621 22894 94543 02359 17202 33903 47724 14863 70931 67461
 57923 15689 38920 64137 05660 12561 99127 26660 43262 00411 73746 95785 34200 61430 27548 96964 43742 38222 82233 19822
 44229 96640 58228 64164 153 44 00000
 30/04 '480' 926 41 77479 03752 62892 95901 70394 16432 54239 60685 45440 93446 16377 82115 50637 57420 10276 03234 48730 41612 13948 73415
 55663 25581 77890 31125 47907 42842 41314 59321 99407 13073 89496 01428 13748 38932 10878 44775 21692 07335 01994 73310
 61447 926 41 00000

Sunday **0930z** **13945kHz** **1000z** **11128kHz**
 03/04 '480' 793 41 34661 to 80378 753 41 00000
 10/04 '480' 651 42 73746 to 93248 651 42 00000
 17/04 '480' 729 43 99625 to 77254 729 43 00000
 24/04 '480' 153 44 61188 to 64164 153 44 00000

From PoSW we receive:

First + Third Fridays in the Month Schedule:-

4-Mar-22:- 2100 UTC, 6775 kHz, "319 319 319 00000", strong signal, presumably the second sending, nothing found at 2000z.

18-Mar-22:- 2100 UTC, 6775 kHz, "319 319 319 00000", not as strong as on the 4th, still unable to find the first sending at 2000.

Moved back by one hour in April but because the clocks went forwards by an hour for summertime shows up at the same local time:-

1-Apr-22:- 1901 UTC, 9268 kHz, the elusive first sending found in progress, "319 319 319 00000", strong enough to be over-ride local RF noise interference.

2000 UTC, 6775 kHz, strong signal.

15-Apr-22:- 1900 UTC, 9268 kHz, "319 319 319 00000", weak signal.

2000 UTC, 6775 kHz, much stronger.

Sunday 0930 + 1000 UTC Schedule:-

13-Mar-22:- 0930 UTC, 12093 kHz, call "480", DK/GC "356 356 44 44", good signal, ended around 0942 UTC. This schedule from the prediction list in En129.

1000 UTC, 10212 kHz, predicted frequency for the second sending, something there, very weak, unreadable made worse by local noise interference, very fierce between 8.5 and 11 MHz.

20-Mar-22:- 0930 UTC, 12093 kHz, call "480", DK/GC "179 179 42 42", S6 to S7.

Nothing heard at 1000 UTC.

27-Mar-22:- 0930 UTC, 12093 kHz, British Summer Time started this morning, S06 stays on UTC so now shows up one hour later local time, 10.30 AM. Weak signal, difficult copy, "480" and DK/GC "652 652 43 43".

10-Apr-22:- 0930 UTC, 13945 kHz, "480", DK/GC "651 651 42 42", weak, nothing heard at 1000 UTC on predicted frequency of 11128.

24-Apr-22:- 0930 UTC, 13945 kHz, very weak, could just hear the "480" call. Nothing found at 1000 UTC.

S11a log March/April

6433kHz	0830z	05/03 [373/00] Konyetz 0833z S9	Malc, HfD	SAT
	0830z	06/03 [372/00] Konyetz 0833z S3	Malc	SUN
	0830z	12/03 [377/36 97115.....13361] Konyetz 0832z S7	Malc	SAT
	0830z	13/03 [377/36 97115.....etc] Repeat of Saturday	Malc	SUN
	0830z	19/03 [376/00] Konyetz 0833z S3	Malc	SAT
	0830z	02/04 [372/00] Konyetz 0833z S3	Malc	SAT
	0830z	03/04 [370/00] Konyetz 0833z S3	Malc, RNGB	SUN
	0830z	09/04 [370/00] Konyetz 0833z S3	Malc	SAT
	0830z	10/04 [373/00] Konyetz 0833z S5	Malc	SUN
	0830z	17/04 [370/00] Konyetz 0833z S4 (Dutch SDR)	Malc	SUN
	0830z	23/04 [378/34 46183.....07149] Konyetz 0841z S2	Malc	SAT
	0830z	30/04 [376/00] Konyetz 0833z S2	Malc	SAT
6480kHz	0915z	04/03 [482/00] Konyetz 0918z S3	Malc, RNGB, HfD	FRI
	0915z	07/03 [481/00] Konyetz 0918z S3	Malc	MON
	0915z	11/03 [486/00] Konyetz 0918z S2+QRM	Malc	FRI
	0915z	21/03 [487/00] Konyetz 0918z S2+QRM	Malc	MON
	0915z	25/03 [482/00] Konyetz 0918z S2+QRM	Malc	FRI
	0915z	28/03 [486/00] Konyetz 0918z S3 (Dutch SDR)	Malc	MON
	0915z	01/04 [487/00] Konyetz 0918z S2+QRM	Malc	FRI
	0915z	08/04 [486/00]	Ary, Andre	FRI
	0915z	11/04 [485/00] Konyetz 0918z S2	Malc	MON
	0915z	15/04 [482/00] Konyetz 0918z S2 (Dutch SDR)	Malc	FRI
	0915z	18/04 [485/38 79158.....55287] Konyetz 0927z S4 (Dutch SDR)	Malc	MON
	0915z	22/04 [485/38 79158.....etc] Repeat of Monday	Malc	FRI
	0915z	25/04 [486/00]	RNGB	MON
	0915z	29/04 [487/00] Konyetz 0918z S2	Malc	FRI
6797kHz	1400z	11/03 [421/34 50366 62828 87551 00203 41195 79881 93432.....51277 49385] Konyetz 1411z	Ary, Malc, HfD	FRI
	1400z	15/03 [427/00] Konyetz 1403z S2	Malc	TUE
	1400z	18/03 [425/32 73282.....03757] Konyetz 1411z S2+QRM	Malc	FRI
	1400z	22/03 [429/00] Konyetz 1403z S3	Malc	TUE
	1400z	25/03 [427/00] Konyetz 1023z S2	Malc	FRI
	1400z	01/04 [429/00] Konyetz 1403z S2	Malc	FRI
	1400z	05/04 [420/00] Konyetz 1403z S2	Malc	TUE
	1400z	08/04 [422/00] Konyetz 1023z S2	Malc	FRI
	1400z	12/04 [424/00] Konyetz 1403z S2	Malc	TUE
	1400z	15/04 [420/00] Konyetz 1403z S2 (Dutch SDR)	Malc	FRI
	1400z	22/04 [420/00] Konyetz 1403z S3 (Dutch SDR)	Malc	FRI
	1400z	26/04 [421/38 39623.....50741] Konyetz 1412z S3 (Dutch SDR) Jamming started 1410z	Malc	TUE
	1400z	29/04 [421/38 39623.....etc] Repeat of Tuesday	Malc	FRI

8597kHz	0700z	03/03 [476/00]		RNGB, HfD	THU
	0700z	07/03 [476/00] Konyetz 0703z S6		Malc	MON
	0700z	10/03 [475/00] Konyetz 0703z S9		Malc	THU
	0700z	14/03 [470/00] Out 0703z S6		Malc	MON
	0700z	17/03 [478/00] Konyetz 0703z S4		Malc	THU
	0700z	21/03 [479/40 45304.....33769] Konyetz 1912z S5		Malc	MON
	0700z	24/03 [479/40 45304.....etc] Repeat of Monday		Malc	THU
	0700z	28/03 [476/00] Konyetz 0703z S6		Malc, RNGB	MON
	0700z	31/03 [479/00] Konyetz 0703z S3		Malc, RNGB	THU
	0700z	04/04 [472/00] Konyetz 0703z S2		Malc, RNGB	MON
	0700z	07/04 [470/00] Konyetz 0703z S2		Malc, RNGB	THU
	0700z	11/04 [476/31 32474.....27041] Konyetz 0710z S3		Malc	MON
	0700z	14/04 [476/31 32474.....etc] Repeat of Monday		Malc	THU
	0700z	18/04 [478/00] Konyetz 0703z S3		Malc	MON
	0700z	25/04 [678/00] Konyetz 0703z S2		Malc	MON
	0700z	28/04 [477/00] Konyetz 0703z S2		Malc	THU
10213kHz	1850z	02/03 [285/00] Konyetz 1853z S7		Malc, HfD	WED
	1850z	05/03 [284/00] Konyetz 1853z S9		Malc	SAT
	1850z	09/03 [282/00] Konyetz 1853z S9		Malc	WED
	1850z	12/03 [282/00] Konyetz 1853z S2		Malc	SAT
	1850z	16/03 [218/37 48990.....87132] Konyetz 1901z S9		Malc	WED
	1850z	19/03 [281/37 48990.....etc] Repeat of Wednesday		Malc	SAT
	1850z	23/03 [280/00] Konyetz 1853z S6		Malc	WED
	1850z	30/03 [287/00] Konyetz 1853z S9		Malc	WED
	1850z	06/04 [285/00] Konyetz 1853z S9		Malc	WED
	1850z	09/04 [288/00] Konyetz 1853z S9		Malc	SAT
	1850z	13/04 [280/00] Konyetz 1853z S5		Malc	WED
	1850z	23/04 [281/00] Konyetz 1853z S4		Malc	SAT
	1850z	27/04 [280/34 84804.....44753] Konyetz 1900z S9		Malc	WED
	1850z	30/04 [280/34 84804.....etc] Repeat of Wednesday		Malc	SAT
11116kHz	0510z	02/03 [654/00]		HfD	WED
	0510z	11/04 [652/00]		HfD	MON
14769kHz	0500z	01/03 [385/00]		HfD	

V02 a

Not heard.

V07

[Thanks to DanAr]

March 2022

Sunday

0100z 15893kHz 0120z 14693kHz 0140z 13893kHz

06/03 868 1 307 109 03596 ... 62776 000 000

Weak

868 868 868 1
307 109
03596 44290 27831 93666 51529
64081 22616 73468 01937 30964
06528 86559 83915 44665 93819
30038 75039 56753 62176 13764
30182 93656 71798 98479 57895
00855 13572 64535 44745 64616
14131 45769 16999 73288 37991
01794 92391 95185 98229 09480
00757 15079 00116 69056 81156
3720? 92361 45699 07384 31626
36791 04183 14466 90528 13812
32431 39721 34844 09943 54979
44930 62269 76034 18232 74416
45402 72291 02233 87182 31139
01193 46354 75174 69693 97479
36972 20362 01565 88266 65826
12167 57419 88297 16125 92206
06024 53976 55841 82827 25112
52944 63097 70676 79479 33410
77518 55158 64416 76582 64082
17667 24797 31871 11924 19755
53101 82311 89686 62776
000 000 *Courtesy DanAR*

13/03 868 1 558 122 35004 ... 88338 000 000 Weak

868 868 868 1
558 122
35004 40978 36484 21272 57306
86751 56137 13460 73355 02883
34650 00716 83683 90398 43745
46295 73807 71715 29049 71702
96727 45941 34337 37283 92264
46585 05033 83103 74085 29536
28290 57502 98374 99834 22359
05314 86680 80509 44036 16304
48849 70804 81679 91756 94591
46574 42310 25896 40079 68755
74103 72098 83683 39103 55890
43576 86349 86212 29838 74072
51607 23903 34762 01919 56893
05352 11687 23176 23222 81844
13139 87573 20084 90091 55306
73087 30773 06261 77957 47285
63524 09932 27388 59324 68146
49618 32045 71348 91516 69690
54589 15136 98158 59172 38635
66962 60299 73360 29761 58989
65947 42743 17709 79646 74231
73040 42194 01231 02750 79796
86026 83921 91205 52388 54861
10510 70823 91959 62757 43446
97781 88338 000 000

Courtesy DanAR

20/03 868 000 Weak

27/03 868 1 462 98 15262 ... 03020 000 000 Weak

868 868 868 1
462 98
15262 37395 04193 63822 99424
57587 40186 78231 58072 78110
02579 96258 26802 99693 59034
35723 07591 50872 93542 70672
79069 99604 42222 64133 12604
67403 63753 83689 98113 22097
87469 96386 60256 52368 20968
24297 24642 85840 18494 56712
64739 50668 14563 46383 09370
38762 14757 89414 22543 24960
13876 77577 91355 57954 34281
84783 27601 95140 63856 10652
84477 39785 03110 94707 10722
38546 10919 86604 13101 91771
46837 53918 48919 70259 31935
09105 46466 17894 89686 05441
09093 37818 90422 26048 66942
04331 86815 29166 38948 84821
61655 61141 41380 77664 04854
84385 23950 03020 000 000

Courtesy DanAR

April 2022

0300z 12218kHz 0320z kHz 0340z kHz

10/04 254 1 617 88 48733 ... 75170 000 000 Weak

254 254 254 1
617 88
48733 58115 40126 59014 44299
10265 76777 40467 71726 16332
73568 47850 59632 82662 73253
17810 37940 09294 05989 95124
46315 88475 60336 65957 00237
82703 01343 19332 21185 00063
69643 56219 48601 50046 74522
08897 81130 42100 59927 74341
87173 87457 59166 44058 35732
87673 01077 37000 40728 37378
36128 37268 97989 78127 20039
27161 26267 23481 55363 14850
70264 08417 64546 22574 06044
28147 83733 49604 35735 78715
03401 77532 09681 57794 44093
44348 83793 10203 31733 13708
53759 32053 19135 74767 72208
12410 77518 75170 000 000

Courtesy DanAR

17/04 NRH DanAr writes, "First time in years , at least for me , there are no scheduled transmissions from V07."

Followed by Original Token's, "This has happened before, but is very uncommon. On all 3 frequencies the transmitter did tune up before the scheduled transmit times. There was a very light carrier present, indicating the system was transmitting, but there was no audio present. For all three transmit periods the carrier disappeared at about 15 minutes, 10 seconds, after the scheduled start time.

Either a technical problem, or an operator error, but based on the 15+ minute weak carrier on each frequency I suspect there should have been a message. If there had been no message, if it was a null, the third frequency would not have tuned up."

24/04

254 1 466 98 19103 ... 40221 000 000

[0330z SDR Japan]

Weak

254 254 254 1
 466 98
 19103 56789 71023 03922 68795
 22870 84479 52475 13539 00826
 40869 85853 03807 10630 60311
 80782 74048 44118 51611 34478
 64497 26219 21018 75658 92820
 25053 27996 88182 41316 13169
 58614 49978 61176 51136 91157
 67179 81131 52175 62855 57858
 52085 40227 75068 18389 56173
 84028 98830 75723 03282 61651
 41444 64583 53941 39594 72700
 83779 86002 85953 83815 01079
 65771 31434 03909 33373 67709
 20164 69371 57308 00846 64724
 48135 74357 32006 98650 71747
 77380 02178 71672 28314 33435
 11092 25031 83687 85282 69029
 19941 54133 44786 68418 23942
 97791 79483 74245 70441 74913
 33367 80165 40221 000 000

Courtesy DanAR

V15 North Korean Intelligence via Radio Pyongyang

Nil Reports via ENIGMA2000

V24

Nil Reports via ENIGMA2000

V26

Nil Reports via ENIGMA2000

Polytones XPA1c

Tuesday/Thursday

March 2022

0810z	12132kHz	0830z	13453kHz	0850z	14576kHz
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01/03 973 1 03474 00126 20386 ... 36013

0810z Strong, 0830z Fair,0850z Weak

973 973 973 1 973 973 973 1 973 973 973 1

03474 00126 20386 86203 42441 75771 74140 56516 28125 47056
 08560 81138 27968 92113 67132 66207 01188 62995 61416 24598
 36781 02253 04013 58203 08527 47316 16770 03401 13030 89434
 99691 86896 08773 95333 39887 06069 83434 22412 84849 41265
 05276 55205 06318 59724 79667 18393 11752 66082 29154 89009
 72995 07744 73433 54370 74217 13838 30211 44192 16050 10786
 60559 87638 42606 98766

30855 43906 40762 45092 66237 62083 09401 46671 75757 68246
 26894 73951 20938 57889 62802 42153 82807 88469 96778 67724
 71674 76828 98938 31529 93332 59592 67278 84720 92145 64728
 30197 94263 84070 00969 66585 05522 03212 52725 38226 38973
 30399 96223 64459 27048 07373 77924 16301 50107 13425 93827
 10096 38177 02879 22778 58992 64359 97115 11568 29218 76994
 73220 35505 87491 86121

36013

Courtesy PLdn

03/03 973 1 03474 00126 20386 ... 36013

Fair QRM3

08/03 973 1 03474 00126 20386 ... 36013

[0850z Weak]

Unworkable

10/03 973 1 03474 00126 20386 ... 36013

Fair

15/03 973 1 04114 00140 35559 ... 32014 [0810z QSB3/4] Fair

973 973 973 1 973 973 973 1 973 973 973 1

04114 00140 35559 38340 48602 13348 88947 49183 21679 58009
81914 02389 26507 23376 73508 41603 66417 20923 94384 59519
09726 10044 91383 64220 79537 94618 15334 99838 93886 55780
10294 08883 94335 00979 33208 11012 19484 33058 08382 78230
87684 96792 46808 75172 74960 93299 33179 54264 38343 23301
44253 64668 61295 43773 29570 96520 59555 83180 94438 34643
59590 79316 41665 68771

20573 22055 97542 18887 69684 88401 36675 76119 81607 00990
31276 07247 58436 11340 62227 29255 34452 03242 74092 74834
00115 83542 32418 85167 01076 43244 92445 47153 66993 04627
64454 83411 45878 37964 20486 48834 59543 68895 24539 65584
12635 10561 76045 30665 56460 68525 88502 9825 62595 47144
42865 29501 19939 89633 36400 80626 00380 29034 41997 44334
90807 33847 06092 98225

69698 32565 79334 83188 33985 87217 63712 10981 15985 79783
39815 80131 21072 91610 32014 *Courtesy PLdn*

17/03 MISSED

22/03 MISSED

24/03 0810/0830z Missed, 0850z Very weak, unworkable, poor condx

29/03 973 1 00641 00190 22265 ... 15353 [0810z Fair] Strong

973 973 973 1 973 973 973 1 973 973 973 1

00641 00190 22265 76786 38541 23418 09608 26932 58757 42149
67247 59719 17724 30985 71099 45925 34753 15906 44029 79348
22752 98738 13839 86942 81678 67445 85409 93351 57472 04595
22075 90484 08555 13594 98516 84696 91961 06766 56003 88640
87199 09392 26906 43806 69404 60333 15205 13960 61083 59018
33984 69593 89256 54066 02455 59635 89714 50152 42419 69065
19509 84550 61395 19905

34959 82215 35736 16418 45823 25853 61370 15979 00330 59895
58943 28487 71563 04789 85496 70217 28087 29188 86420 71711
04066 95648 78864 60811 24337 81568 64044 65522 17448 29272
99424 27990 54004 55774 18810 00564 36836 67558 62896 19082
48070 79624 62912 58331 21175 41064 64799 93511 75072 62211
64081 72743 00945 06364 52217 02613 91215 84924 58710 20511
75978 67141 06559 49313

80127 76344 12852 83378 27969 57729 00566 46230 63746 70952
22979 03019 62243 79111 67980 62799 61593 97528 63773 54534
44048 73036 42315 64729 39139 04152 16438 57461 33593 97998
51899 31763 73480 90435 26670 28451 06938 27415 21484 68820
46510 79910 71942 19990 84573 39789 20099 31692 06358 02992
43259 46601 42590 47672 55267 45784 42676 24455 01349 25637
83826 12730 24645 19547

15353 *Courtesy PLdn*
31/03 973 1 00641 00190 22265 ... 15353

[0850z Strong] Weak

April 2022

0710z 10428kHz 0730z 11431kHz 0750z 13441kHz

05/04 486 1 00641 00190 22265 ... 15353 [0850z Fair] Weak

07/04 486 1 00641 00190 22265 ... 15353 [0730z Strong] Unworkable

486 486 486 1 486 486 486 1 486 486 486 1

00641 00190 22265 76786 38541 23418 09608 26932 58757 42149
67247 59719 17724 30985 71099 45925 34753 15906 44029 79348
22752 98738 13839 86942 81678 67445 85409 93351 57472 04595
22075 90484 08555 13594 98516 84696 91961 06766 56003 88640
87199 09392 26906 43806 69404 60333 15205 13960 61083 59018
33984 69593 89256 54066 02455 59635 89714 50152 42419 69065
19509 84550 61395 19905

34959 82215 35736 16418 45823 25853 61370 15979 00330 59895
58943 28487 71563 04789 85496 70217 28087 29188 86420 71711
04066 95648 78864 60811 24337 81568 64044 65522 17448 29272
99424 27990 54004 55774 18810 00564 36836 67558 62896 19082
48070 79624 62912 58331 21175 41064 64799 93511 75072 62211
64081 72743 00945 06364 52217 02613 91215 83924 58710 20511
75978 67141 06559 49313

80127 76344 12852 83378 27969 57729 00566 46230 63746 70952
22979 03019 62243 79111 67980 62799 61593 97528 63773 54534
44048 73036 42315 64729 39139 04152 16438 57461 33593 97998
51899 31763 73480 90435 26670 28451 06938 27415 21484 68820
46510 79910 71942 19990 84573 39789 20099 31692 06358 02992
43259 46601 42590 47672 55267 45784 42676 24455 01349 25637
83826 12730 24645 19547

15353 *Courtesy PLdn*

12/04 NOT MONITORED, Off watch

14/04 NOT MONITORED, Off watch

19/04 486 1 00701 00136 55684 ... 10037 [0710z QSB4] Weak, poor condx

21/04	486 1 00701 00136 55684 ... 10037	[0730z Unworkable]	Fair QRM3
26/04	486 1 02087 00152 01555 ... 200104	[0710z Unworkable]	Weak, QSB3
28/04	486 1 02087 00152 01555 ... 21104	[0710/0730z Unworkable]	Fair, QRM2

XPA1 Wed/Fri

Wednesday/Friday

March 2022

1310z 14451kHz 1330z 13451kHz 1350z 12151kHz

02/03 441 1 04451 00070 19408 ... 71766 Strong

441 441 441 1 441 441 441 1 441 441 441 1

04451 00070 19408 73718 26386 27547 50847 59953 48698 72311
53090 47691 12852 26413 07602 12667 06135 43507 86534 22924
82618 63775 22080 49031 07676 13562 46583 08077 89814 75486
98872 57987 56115 32157 97120 86001 19765 38759 88327 22434
96303 61561 23767 36821 32363 02558 81134 03121 31505 78240
04174 45173 90995 57175 21745 71989 21730 95403 85353 61151
54717 84847 10431 67282

31982 97207 37680 90912 90730 74063 13797 36236 71766
Courtesy PLdn

04/03 441 1 04451 00070 19408 ... 71766 [1330z Very strong] Fair

09/03 441 1 04451 00070 19408 ... 71766 [1330z QRM2] Strong

16/03 441 1 00104 00204 91322 ... 22001 [1350z QRM3/4] Fair

441 441 441 1 441 441 441 1 441 441 441 1

00104 00204 91322 91705 16669 38995 62906 38901 16728 57741
09458 50080 15608 64956 38947 29635 47226 54855 35347 06680
92399 91286 70440 45646 80016 53224 24513 49627 09738 80829
70067 11924 95974 22674 91094 49671 37905 20112 86470 95917
38467 52643 73013 54767 03545 22145 02401 06661 31445 19870
65962 54581 75505 65739 47549 80607 29070 54429 95619 48316
25685 22455 67740 59559

44382 27536 29069 78236 60885 71445 98686 82612 20124 56272
75320 76171 40144 02640 83595 30812 10530 46424 50606 52765
17800 11032 12010 95357 74242 14758 22507 58230 49626 38482
63896 29895 30493 85476 18981 57191 80148 44078 90707 94280
29766 51431 89467 96643 58123 50865 22556 06676 31526 50387
23298 69312 91048 86574 85906 59412 79484 65860 96030 50839
61312 05174 25124 52678

90165 64691 39016 89402 47684 99614 32621 96377 27613 97514
36747 95880 66861 94293 86274 13768 96584 31801 32539 69005
32321 65189 58913 67008 46634 50500 23548 10393 57698 23439
31523 01917 69007 59154 03169 16236 49359 80706 59948 84188
53746 65937 99456 90136 93932 63254 01614 04800 09618 39950
21404 34650 24560 37501 16743 80231 38903 76335 49546 43094
06989 92298 65826 06550

99651 65746 40080 68029 19641 88872 07921 15920 79585 18300
78894 93258 74932 66590 22001
Courtesy PLdn

18/03 441 1 00104 00204 91322 ... 22001 [1350z Fair] Strong

23/03 441 1 00104 00204 91322 ... 22001 [1350z Fair] Weak

25/03 441 1 00104 00204 91322 ... 22001 [1330z Weak QSB4] Unworkable

30/03 441 1 00766 00238 91636 ... 60432 [1330z Fair] Very strong 4m51s lg

441 441 441 1 441 441 441 1 441 441 441 1

00766 00238 91636 34523 83739 69636 97889 08486 08716 24959
27379 18038 88600 91739 35417 18249 64309 11512 89903 82470
79818 20407 52161 59624 37895 92289 91725 58367 25567 63031
46821 27431 44326 85419 23587 22746 24636 87123 59058 46346
62215 70510 43018 13665 53176 85193 04019 00314 90186 61801
57610 40209 91922 66454 58916 16164 08543 49279 59288 49004
65235 12349 67948 65665

37028 21363 99613 72153 19170 78935 97768 48392 29045 13062
14455 02171 59776 11192 14823 72076 88963 59159 58092 02476
52619 65116 06459 81317 29175 06004 47862 18625 07821 99519
78783 43555 31632 18175 62887 08570 09686 38474 75224 34238
02414 24339 11660 19288 74393 18182 84472 16443 38820 69233
61316 70505 78813 27964 68631 95071 68157 98542 49559 37988

76990 41468 26789 70249

08687 55164 91576 22853 75112 01668 06702 75043 54879 54822
67969 56127 72446 01015 60151 44371 03448 28170 82587 12536
19968 82530 05520 62277 95821 36572 18844 22097 97617 53975
70917 42566 72611 77783 04558 51116 47751 91672 91468 09910
90415 83304 57945 75626 54421 68299 78051 70536 16110 22047
21528 42491 66286 50263 99309 55458 30433 18886 97439 04929
16579 31741 35683 59606

02096 46539 44895 44166 33402 94206 81597 43557 66531 16351
29317 88589 65441 50307 02941 20143 89380 29090 43754 17346
42523 10872 00529 57107 34602 07020 42139 36992 16552 77308
62274 53446 77478 25616 80567 28934 42259 22311 78735 85226
55807 49366 36068 94375 90350 12149 11417 89100 60432

Courtesy PLdn

April 2022

1210z	13368kHz	1230z	12168kHz	1250z	11168kHz	
01/04		Msg 4m51s lg, probably repeat from 30/03, also 4m51s lg				Unworkable.
06/04		311 1 00939 00238 39993 ... 01151			[1210z QSB4]	Weak
08/04		311 1 00939 00238 39993 ... 01151			[1210, 1250z QSB4]	Fair
13/04		MISSED, OFF WATCH				
16/04		MISSED, OFF WATCH				
20/04		311 1 02478 00082 06734 ... 45767			[1250z Unworkable]	Very strong

311 311 311 1 311 311 311 1 311 311 311 1

02478 00082 06734 83633 34616 35021 11911 10493 66113 66351
71681 86970 85381 04093 43852 98274 90484 96388 03522 15859
13669 15362 11624 10038 29348 71996 30057 30612 59021 00285
91749 67037 81967 06177 05009 73453 39559 85408 54311 07362
87378 60077 23850 24905 68807 78470 17611 46802 47022 68192
11985 24916 53848 98959 12468 82431 47337 05994 70526 56390
89173 33979 32012 04774

99177 75396 56158 25376 72517 07248 48048 83875 42790 11944
43106 34751 24361 45832 90933 42651 96331 71069 36414 24392
45767

Courtesy PLdn

22/04		311 1 02478 00082 06734 ... 45767			[1250z Very weak]	Weak
27/04		311 1 08278 00112 77470 ... 10673			[1250z Unworkable]	Weak [1230z QSB3]
29/04		311 1 08278 00112 77470 ... 10673				Weak QSB4

XPA2 m

Sunday/Tuesday

March 2022

1200z	13384kHz	1220z	13984kHz	1240z	14984kHz				
01/03		00686 00198 84843 ... 60368				Strong			
		00686 00198 84843 01339 41375 52026 78042 87790 00165 33979 82260 37553 88151 90666 88832 89846 20173 81497 80758 53683 87574 30372 46390 79309 76440 69069 77747 48593 52111 33105 81439 81438 21662 00339 16738 84307 57492 72621 18091 74988 80196 03651 67436 76614 39434 34128 93724 88718 24834 53930 75311 97109 97577 42193 14470 51192 01218 39595 14084 37327 52468 12322 86932 54223 47788 94497 01990 93758 78633 75698 91109 76746 35058 28811 50961 66022 80291 06139 15319 32453 77941 53228 39943 49759 60679 99796 35558 72617 63218 04020 60060 75891 09035 58297 51748 23299 67399 74499 92379 21362 45763 56199 48408 36855 53680 63693 56963 61145 15139 05684 57757 35130 17017 94642 71441 02616 00138 01469 11799 45981 83029 24192 04946 38505 55435 09471 44995 31393 82897 57111 46731 00204 76253 24209 01703 17014 70560 36266 76330 83257 43787 37795 78166 85005 87281 13776 82477 04096 03827 45624 37498 42985 13728 93330 47629 13414 85437 95331 29844 25611 68728 77026 99550 60386 12501 94831 86442 91840 43779 04656 97885 75104 83898 61836 07565 82497 43824 58231 00384 01052 02999 91305 96531 68381 70399 50516 96621 26376 45930 30367 95851 68354 29088 27778 60368 54799 13439 86708 97343 13446 30420							<i>Courtesy PLdn</i>
06/03		00686 00198 84843 ... 60368				[1240z Very strong]	Fair		

08/03 08057 00226 97387 ... 11713 Very strong

08057 00226 97387 99385 70306 88384 94170 83648 74530 40086
44672 65947 25367 71914 96226 05464 45730 55769 32085 32083
26288 02206 48088 03338 28708 89908 85038 22827 85653 74800
35866 60865 05830 18655 88582 49310 25045 12130 47794 86080
24884 71958 38262 72082 45870 60367 26998 73065 34248 20686
72022 56742 98758 76685 38633 70933 77050 04557 75332 65200
70080 65208 07118 54856 65055 45858 67555 77850 68458 93007
45200 48806 65008 50078 65147 81235 26374 78978 08824 73244
14823 72685 70055 60113 28116 27299 16381 67173 67033 36458
53707 30852 26954 28276 28604 87326 45216 93406 84447 15925
69975 66775 94512 28587 88208 59347 26087 52808 40028 80224
72746 72046 58874 02335 08007 20387 94341 70304 04889 51335
30666 74825 73227 28100 14291 20176 47699 65406 60376 78422
04628 38586 50008 23487 16484 82085 07616 41399 17262 40237
31556 78446 58848 76272 90036 44147 80326 82840 24059 06200
78870 37050 98722 05372 52815 32245 54872 20454 82502 83241
37207 72921 44994 02190 98780 56347 40114 75851 08560 51367
89155 56496 27050 30305 18805 22282 26157 36585 95402 27589
17833 56020 12005 82783 03122 03127 43455 69038 42285 12699
48693 12371 59495 34877 41175 30870 75943 52823 53230 25893
74180 70766 63038 83706 87198 20481 63468 44347 81227 01029
87950 13383 15836 42745 28931 82770 93785 99558 88231 92913
36537 94796 40248 84957 31234 25824 87259 00025 11713

Courtesy PLdn

13/03 08057 00226 97387 ... 11713 Weak

15/03 05002 00204 04891 ... 77347 [1200z QSB3] Fair

20/03 05002 00204 04891 ... 77347 Strong

05002 00204 04891 69461 77449 05672 53263 38085 16286 40210
72189 07079 32326 62658 27801 19956 12896 51604 04726 72339
31908 07909 21380 56084 00101 96936 05212 07245 16353 98398
46086 86359 20114 55073 46786 01982 57055 85905 93476 88890
56409 68109 05206 83129 41825 95913 06625 14517 68038 47645
46019 96772 02477 32470 73208 25015 29411 76125 99359 77283
03109 23860 09439 67355 78714 78751 72637 75669 04946 71663
77518 39476 78012 75130 39928 58133 18919 20272 25188 41546
64488 27930 40776 80623 93843 79970 73322 51411 57266 19227
85225 77353 95477 75738 85354 49107 42076 88525 67630 16809
72067 14412 19287 18789 23221 59865 56658 75727 60899 46601
54613 28992 37851 79082 97372 53833 72792 11343 14273 07366
17150 62138 92900 74371 83332 99981 66377 68171 12270 94797
51442 18503 73943 28625 69756 08990 04087 43908 50320 17612
55141 42708 71103 18395 60720 93302 93706 82723 44480 53986
85904 77724 36141 95414 28467 85058 06250 39873 72930 60459
09304 00181 71073 90288 00187 15763 85244 34588 55711 17223
91180 28609 28908 46362 09076 02554 66124 74794 03195 78038
52157 11256 27074 99688 14332 43675 84311 79202 22366 09114
59529 93046 48631 25556 12357 11384 98702 24206 56828 51544
40916 86751 95124 56983 83257 35920 77347 Courtesy PLdn

22/03 00280 00140 10917 ... 71317 Weak

27/03 00280 00140 10917 ... 71317 Weak, QSB4

29/03 00867 00096 23437 ... 76544 Strong

00867 00096 23437 60138 86111 77567 50669 06828 26362 34564
40708 37053 12588 99642 61746 09900 93489 04644 52782 06658
81301 09609 53895 56126 98104 13720 79463 42993 62989 44719
41545 80741 57683 57784 46123 32545 59925 81377 83305 13178
75872 48589 92295 61588 54465 48250 41235 07475 21620 08044
36400 85890 80159 01618 01350 33095 18255 35803 40413 96645
02647 97959 05532 69689 54861 44826 20325 93627 23108 32605
75790 84345 00903 82800 06084 27517 08553 76255 60562 85521
17184 36962 83412 76770 65884 77322 36318 75110 89757 77876
84040 18563 98718 73893 04357 18885 35946 42154 76544
Courtesy PLdn

April 2022

1200z 14442kHz 1220z 15842kHz 1240z 16342kHz
03/04 00867 00096 23437 ... 76544 Fair

05/04 05829 00096 18108 ... 01746 [1220z Fair, QRM3] Strong

05829 00096 18108 97119 98060 62026 94939 24001 43292 40979
02853 03735 66377 66474 71154 95075 08239 32575 06965 98390
95390 52469 66736 17782 64097 33443 56872 90537 77896 82593
99666 11408 96471 44503 96089 40203 16863 30904 78585 77026
33082 72891 07949 53391 33442 49926 76446 11714 94368 23393
37198 87968 54984 91579 92499 25648 92993 87036 82601 11414
73322 42776 47811 71313 79036 69506 55038 53295 53272 85987
97387 60603 89993 20621 64507 94633 08993 88946 77815 01075
82437 43788 26575 34291 03098 76480 97915 52902 19400 25752
54023 19690 56485 25087 99177 52828 97518 21985 01746
Courtesy PLdn

10/04 MISSED, OFF WATCH

12/04 MISSED, OFF WATCH

17/04 MISSED, OFF WATCH

19/04 09446 00118 71572 ... 44256 Weak

24/04 09446 00118 71572 ... 44256 [1200z QRM2, 1240z NRH] Fair

09446 00118 71572 60698 34279 02020 20137 82005 44528 23365
 81873 34988 58823 43308 34188 30273 78247 08761 53034 11756
 56859 38862 86226 55677 06172 53291 56362 92156 86305 11291
 05273 32632 61903 56579 16437 58805 32460 81310 91599 30129
 96608 25417 02864 60918 85887 76934 88536 87890 08553 00683
 95509 28462 32975 67972 17863 04186 20986 71970 64352 25580
 01353 50350 08587 44289 02244 23061 82868 58717 80838 58220
 95774 50624 33420 75356 43941 47247 97072 72860 45160 54013
 86558 66627 82887 73028 91323 65330 67025 90625 22842 96526
 69343 47542 67451 20602 53768 38549 79768 55835 90279 87636
 35214 61348 55180 52279 77822 50940 80040 25225 28370 74316
 90881 19456 84079 55262 65587 83886 13632 08389 50641 07490
 44256 *Courtesy PLdn*

26/04 00797 00142 72243 ... 71274 Fair

XPA2 p

Monday/Wednesday

March 2022

0800z	13931kHz	0820z	14831kHz	0840z	16131kHz	
02/03	0663 00106 70661 ... 50315			[0840z Fair]		Very strong
07/03	0663 00106 70661 ... 50315			[0840z QSB2]		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 51146 48943 01567 59935
 78868 91620 10517 32957 92999 18388 49768 28169 39945 17779
 86537 44129 98575 53470 14965 27444 25887 10205 71074 88400
 34017 64377 83838 14348 12938 27872 76610 82099 46793 27596
 45372 33544 00356 06999 32395 34570 61143 51227 48071 82169
 59255 07175 31975 29058 31437 23273 83598 90691 20148 38058
 66503 71956 10586 89143 24352 50615 42359 74989 50315
Courtesy PLdn

09/03 0663 00106 70661 ... 50315 Strong

14/03 00264 00146 47068 ... 47157 Strong

00264 00146 47068 92328 19038 74572 59345 32932 26247 93987
 02243 77979 12463 26175 88680 23335 49734 42738 51160 65395
 69712 82142 29535 30839 57172 03413 02733 58321 80573 64955
 91043 27588 15833 81628 26732 45849 30955 39867 78977 58668
 94211 70663 31409 18979 78842 97339 51375 66004 98180 04589
 82803 10623 51459 77427 93964 40416 85316 00286 24863 10848
 18015 79053 45812 65722 61526 18009 11434 94027 97606 12455
 71515 77165 02208 53313 87788 59166 84664 49401 23485 08249
 06456 09597 68361 29173 07643 58185 88630 94750 77150 44674
 05760 80504 93943 94546 92943 25564 86289 36442 47195 51178
 27583 18912 53200 71527 11267 12754 53340 85487 55529 62122
 85192 32271 57119 66994 88316 08324 76719 87494 20303 83614
 75736 69979 76133 77007 67030 47790 34724 75560 16397 88663
 62434 99079 97568 64949 63487 61213 48990 55586 51098 29611
 49818 26842 09823 72986 02879 61025 80987 43264 47157
Courtesy PLdn

16/03 00264 00146 47068 ... 47157 [0800z Very strong] Strong

00738 00188 24942 11962 01364 83102 08775 93879 86910 55988
 87053 17380 54449 93585 86285 30505 60160 79850 89105 13674
 78131 44325 65192 63585 89657 15553 75520 24024 12289 78368
 31444 53473 64143 77600 51192 82739 48043 79185 02712 96181
 30457 62795 26136 83874 68217 33565 69805 52969 71082 81067
 74420 01893 63036 77142 48099 13679 23296 87013 36885 21110
 97657 75531 16218 37521 19266 92837 96108 67925 35740 67228
 95929 22904 62210 05061 21855 58904 10845 27399 92347 38004
 94804 42096 88520 91339 59372 53243 16500 95699 18520 36470
 48299 50956 50102 10637 16818 58181 30633 75576 20502 57452
 64779 26987 57076 18620 71707 40088 85348 92629 55307 29201
 35413 29877 25893 02025 24625 24334 60737 94750 83647 68441
 73513 48623 86095 94619 40498 20523 15340 72463 06280 85790
 35974 43574 66061 95848 65551 43539 53833 89939 61326 17442
 02810 11156 34135 25615 72736 47995 21783 08478 06677 19092
 08459 69065 74746 10787 47717 75460 85169 11240 22453 83551
 47014 98583 25542 50956 01256 37223 24279 35707 48496 66585
 60529 23922 77683 58594 15746 57748 18521 99144 91576 42841
 51089 67425 08456 10360 47540 30089 00602 05536 90531 88376
 40267 *Courtesy PLdn*

21/03 MISSED

23/03 00264 00146 47068 ... 47157 [0800z Fair] Strong

00264 00146 47068 92328 19038 74572 59345 32932 26247 93987 02243 77979 12463 26175 88680 23335 49734 42738 51160 65395 69712 82142 29535 30839 57172 03413 02733 58321 80573 64955 91043 27588 15833 81628 26732 45849 30955 39867 78977 58668 94211 70663 31409 18979 78842 97339 51375 66004 98180 04589 82803 10623 51459 77427 93964 40416 85316 00286 24863 10848 18015 79053 45812 65722 61526 18009 11434 94027 97606 12455 71515 77165 02208 53313 87788 59166 84664 49401 23485 08249 06456 09597 68361 29173 07643 58185 88630 94750 77150 44674 05760 80504 93943 94546 92943 25564 86289 36442 47195 51178 27583 18912 53200 71527 11267 12754 53340 85487 55529 62122 85192 32271 57119 66994 88316 08324 76719 87494 20303 83614 75736 69979 76133 77007 67030 47790 34724 75560 16397 88663 62434 99079 97568 64949 63487 61213 48990 55586 51098 29611 49818 26842 09823 72986 02879 61025 80987 43264 47157

Courtesy PLdn

28/03 00858 00154 40502 ... 74063 Strong

00858 00154 40502 58728 95822 24846 61228 15312 87418 33154 81726 65566 14008 72330 53296 94933 31316 28895 42205 91980 85425 41375 61774 99618 55042 65358 35960 52034 97971 49172 16965 54436 46607 09064 22041 44463 45795 35733 44183 93536 50452 48088 10009 10971 96184 53138 33326 56518 40508 00962 26325 44654 18778 81602 68726 91624 02088 83884 16932 88201 24272 13002 23885 42369 85465 92789 08557 00806 89162 63385 88196 33786 25784 02759 63319 23802 48161 46783 38853 80259 36544 73565 16021 97309 60193 25254 96663 62142 67030 65545 00000 22468 07011 15858 72484 08802 54894 08220 32000 73873 18654 77549 82737 87149 66131 88120 48854 74153 34134 56018 03073 11242 71469 45022 95918 23001 82394 09318 87496 73164 24000 26051 04034 30958 58940 74435 41718 33862 35635 45021 78802 07823 87233 11609 95286 60524 62683 24618 65909 58844 63099 60599 11186 99053 23489 20008 18998 33350 87227 89091 11049 60046 03588 57885 88705 18672 74063

Courtesy PLdn

30/03 00858 00154 40502 ... 74063 [0820z MISSED] Strong

April 2022

0700z	11409kHz	0720z	12209kHz	0740z	13409kHz	
04/04	00858 00154 40502 ... 74063			[0740z Very strong]		Strong
06/04	00858 00154 40502 ... 74063			[0740z Weak]		Very strong
11/04	MISSED, OFF WATCH					
13/04	MISSED, OFF WATCH					
18/04	04578 00140 59257 ... 30007			[0720z Strong]		Fair

04578 00140 59257 68221 01930 75053 58426 13306 03097 35645 72625 77542 74015 91073 28763 99586 85498 23747 65349 05876 32740 46243 69508 32405 90551 55440 11290 70289 43866 24375 22073 31938 77789 47416 73956 73968 79373 61932 63534 33993 75060 86276 42262 23766 87482 18155 55022 04628 63544 47624 78710 25761 90701 39349 55516 94045 92444 71036 49441 06028 50347 88177 66365 11425 11768 82324 93298 69520 94300 08513 61289 60219 93628 02474 65581 27412 51103 35663 91847 46544 49733 99754 54957 76219 86260 30037 51685 06925 86402 43117 50072 23819 08146 77086 73949 09338 55492 43352 62129 60429 81696 85869 40155 38967 60857 26478 02992 09860 89381 65588 79973 98296 36718 25785 87813 10202 34820 24424 32274 67118 80015 90393 35047 76081 67824 91011 45894 02669 70270 73607 88597 64649 32575 16044 26906 94807 43964 97380 11416 11308 34304 77931 30007

Courtesy PLdn

20/04 04578 00140 59257 ... 30007 Very strong

25/04 02624 00188 00613 ... 34416 Very strong

02624 00188 00613 55904 92462 43138 48670 47525 75760 14410 32800 14702 46010 14504 37522 20642 93013 89996 73619 97134 61932 25670 42737 88696 70685 48994 40448 97175 46204 91119 06700 60915 12376 20667 95842 79487 80303 94147 79853 97118 36013 98312 34819 97712 71362 28780 92546 38285 28390 29712 35341 42531 86786 12207 32901 66460 41211 27399 05061 66240 27462 37469 83465 21474 04560 61178 75251 17484 86514 32810 05179 84679 21695 90008 95674 29273 73809 34910 70476 93076 88169 92891 24367 84816 42944 78145 16071 31423 07057 02845 67432 10762 93630 11883 95919 74006 68274 89262 47158 65519 46868 49373 13674 32355 96516 79192 06145 87607 74097 00991 58314 95100 27659 65206 95416 84630 65609 52442 46478 09925 28788 67568 54567 88064 47118 86824 24409 45138 06692 59549 63414 91812 43396 75969 51595 69309 16246 74175 57849 39901 74991 76462 07216 75299 77028 91733 45602 97961 37595 49913 83922 46854 98975 95658 12395 72618 81186 30285 59203 56034 47930 52992 72708 42208 47237 61107 18094 97448 52763 83606 17003 60525 22293 04662 16895 31265 16294 53192 37797 26463 11405 34069 36453 49248 70969 91713 51986 70313 30942 29709 34416

Courtesy PLdn

27/04 02624 00188 00613 ... 34416 [0740z Fair] Weak [0720z QSB4]

XPA2 Wed/Fri

Wednesday/Friday

March 2022

1200z	12139kHz	1220z	13539kHz	1240z	14639kHz
02/03	00436 00204 80092 ... 02453			[1240z Very strong]	Strong
00436 00204 80092 70862 21787 28312 12224 73713 43520 98955 90598 12941 59313 53883 65811 35438 76670 04362 38976 82844 98440 54820 52844 77370 82687 65972 45145 74752 92175 93798 09518 08373 07407 21057 20580 58135 94304 84379 40286 95171 28144 55082 40714 71294 47986 15795 31906 37797 35044 94761 28140 42285 56111 21636 69194 06321 88492 85534 62503 31194 57871 69793 62334 78986 74859 07116 71068 75216 73052 29039 51675 07905 59194 03355 35433 69215 34937 35994 84206 40784 69033 24942 14986 48774 53852 86439 87461 17178 29472 94439 23348 78443 03300 81567 63775 60747 12638 90778 08308 66150 61051 56492 15615 83568 56160 24741 45456 62182 61958 85028 91043 80338 50851 49916 31219 53243 45814 66509 34448 32951 92667 98180 73716 73639 68124 87406 78334 40012 52360 12672 63708 11216 58114 47502 23238 63734 72820 43782 12214 00271 96298 89650 21070 00348 87081 60909 47413 42129 29931 97596 87365 74720 47566 36034 49339 80510 78241 30527 89481 14722 29321 43713 51604 11469 79757 94780 99185 92536 57236 38597 59633 32982 26396 17591 99522 23179 05801 03978 38232 47903 56596 96251 64884 68494 90938 73498 50128 34964 23823 96312 93055 25593 28934 63347 34965 77693 16658 31493 55903 71253 23362 45861 90038 83952 91695 60623 02453 <i>Courtesy PLdn</i>					
04/03	00436 00204 80092 ... 02453			[1240z Very strong]	Strong
09/03	08656 00190 54582 ... 45251				Strong
08656 00190 54582 17824 44377 72715 66118 40232 27421 88469 23579 00380 92467 92319 85171 71878 06759 18783 25402 36594 03924 09147 53020 85458 97145 66145 29291 35699 08978 09176 83826 27693 50429 45792 31490 73867 91196 87317 15101 15127 81111 60417 97399 92651 09272 19202 81270 94862 22923 29329 31398 31479 77762 13606 05833 67621 87133 83204 54417 10302 68555 87917 90864 44316 12177 22160 71982 69818 63744 66293 41444 12910 93938 49106 29548 77743 85300 60207 77020 42405 38963 12302 93142 88434 13207 19188 78387 13650 61608 22389 69007 47707 20795 86806 31352 34784 27149 05379 91913 64542 45704 75173 97310 05743 12975 61650 67944 75517 40147 25284 09289 88023 48408 04959 14979 80975 93478 52097 12056 99503 50730 27078 17170 50537 49376 20154 17156 16292 17600 23478 30866 27874 29650 98215 70800 81795 35002 79538 86306 31139 92283 21386 46611 07078 69395 87411 33869 16809 82561 68784 46151 24881 45308 84181 39726 44350 61719 49704 85824 05939 62892 83771 00337 26060 74279 58559 22479 20997 24439 13032 95172 74337 26112 96935 55892 43258 77226 61051 45750 78360 00171 10072 11804 76012 85634 36553 48349 11785 48763 18845 88893 01963 45251 <i>Courtesy PLdn</i>					
16/03	00738 00188 24942 ... 40267				Very strong
18/03	00738 00188 24942 ... 40267				Strong
23/03	00229 00030 31383 ... 52626				Weak
25/03	00229 00030 31383 ... 52626			[1220z Very strong]	Weak, 1200z QSB4
00229 00030 31383 25244 85071 20049 38058 57009 56066 33840 34807 32977 95404 85499 11558 96803 86791 29568 59951 50626 11986 90860 38771 26229 01080 00860 74464 57228 99144 65845 87056 10494 52626 <i>Courtesy PLdn</i>					
30/03	08698 00096 49041 ... 04207			[1200z MISSED]	Very strong
08698 00096 49041 75640 51868 53466 18774 04646 36866 06934 91627 39385 85062 84449 36794 35749 27104 75839 43987 38665 57081 52131 44351 36399 86769 24300 31755 32756 96086 17661 62876 35285 50613 66829 61385 55264 67259 81627 70516 55889 09628 35296 22102 19167 83735 82066 69362 12461 54372 44435 70196 76655 94821 68871 64589 74550 24726 87642 35697 94322 26592 19757 27468 43797 07528 18023 92495 13880 43913 34964 23320 14327 14685 97392 16235 40044 88095 42343 58742 49039 00634 62416 02038 32352 55269 26127 44393 84263 58730 19634 23551 75680 81775 88296 57472 82914 72112 51509 04207 <i>Courtesy PLdn</i>					

Wed/Fri

April 2022

1200z	14377kHz	1220z	14977kHz	1240z	15977kHz
01/04	08698 00096 49041 ... 04207			[1240z Very strong]	Strong

06/04 00618 00146 38824 ... 32526 Very strong

00618 00146 38824 55200 69718 72846 35174 40015 14118 96886
55656 08020 87398 18722 53489 91298 66867 90585 03536 75766
46818 54749 69286 23542 25073 78851 54938 28434 64071 12207
69834 35010 64289 23061 76720 06602 28811 43704 90689 64988
25328 05288 74564 99992 18572 84046 93736 29677 85952 21710
35330 23025 26248 36104 00737 11706 79588 73105 55338 13485
48924 87891 37027 15553 49783 76531 59036 77498 62864 59949
24091 79077 33872 64383 37996 73911 13030 71763 51992 67334
79839 55426 53556 65433 12784 51012 72043 42492 76059 63392
45084 91855 90450 51575 83351 53693 13841 39518 61140 72048
28948 02207 80196 70311 63214 82465 21304 18847 99161 34927
37317 87058 56445 81394 93793 07268 86470 89220 66673 14319
27727 41602 81333 04949 70607 48552 88931 79700 84053 69634
19051 29548 60680 41772 01699 99419 25422 09027 53652 08861
80703 40803 74873 82750 04812 97485 37186 89368 32526

Courtesy PLdn

08/04 00618 00146 38824 ... 32526 [1200z QSB3] Fair

13/04 MISSED, OFF WATCH

16/04 MISSED, OFF WATCH

20/04 07563 00086 82298 ... 65156 [1200z Very strong] Strong, QRM2

07563 00086 82298 95740 19863 55086 19808 61969 26386 86013
77043 74425 28752 15577 68816 72653 77511 28712 81970 59741
77826 29115 46212 52849 76272 84371 23832 87223 35124 85690
26685 54885 59932 44939 41613 36578 01797 82820 79991 68252
86965 19983 83980 91758 79307 61563 41745 37524 06740 22652
30276 48710 19978 03572 18765 42120 15700 95403 62041 59388
55905 63133 91506 38857 09397 47578 97733 70181 80359 35961
70687 33734 48961 44551 80254 61783 50443 42582 30250 61938
54338 28697 53321 70277 57132 74171 33396 53599 65156

Courtesy PLdn

22/04 07563 00086 82298 ... 65156 [1200z Strong] Weak

27/04 05813 00078 15642 ... 16027 Fair

29/04 05813 00078 15642 ... 16027 [1240z Strong] Fair

05813 00078 15642 38666 42660 68500 60180 44038 53343 35339
63166 16218 21276 78368 66676 77826 52283 88665 41280 78433
20323 11523 24100 33588 13115 36845 14660 40148 20233 60168
80843 71244 68243 37652 17858 74815 20111 14180 01380 42327
72666 05863 53342 16667 54715 00056 10768 54407 02813 58236
62786 20335 40668 25408 13386 35446 32223 48803 41716 62333
54460 25526 11118 58886 56425 05225 60633 32266 84113 21456
17244 21182 48176 77088 34418 67871 08866 16723 11516 11375
16027

Courtesy PLdn

XPA2 others

From H-FD:

1B XPA2

Tue 01.03.2022 1100Z 14639 msg
Tue 01.03.2022 1120Z 13539 msg
Tue 01.03.2022 1140Z 12139 msg

Tue 01.03.2022 1600Z 13994 msg
Tue 01.03.2022 1620Z 13494 msg
Tue 01.03.2022 1640Z 12194 msg

Wed 02.03.2022 0910Z 18333 msg
Wed 02.03.2022 0930Z 16345 msg
Wed 02.03.2022 0950Z 14838 msg

Wed 02.03.2022 1100Z 15861 msg
Wed 02.03.2022 1120Z 14431 msg
Wed 02.03.2022 1140Z 13431 msg

Wed 02.03.2022 1200Z 12139 msg
Wed 02.03.2022 1220Z 13539 msg
Wed 02.03.2022 1240Z 14639 msg

Thu 03.03.2022 0910Z 16261 msg
Thu 03.03.2022 0930Z 15961 msg
Thu 03.03.2022 0950Z 14861 msg
Sat 05.03.2022 1600Z 12163 msg

Sat 05.03.2022 1620Z 10863 msg
Sat 05.03.2022 1640Z 9363 msg

From H-FD

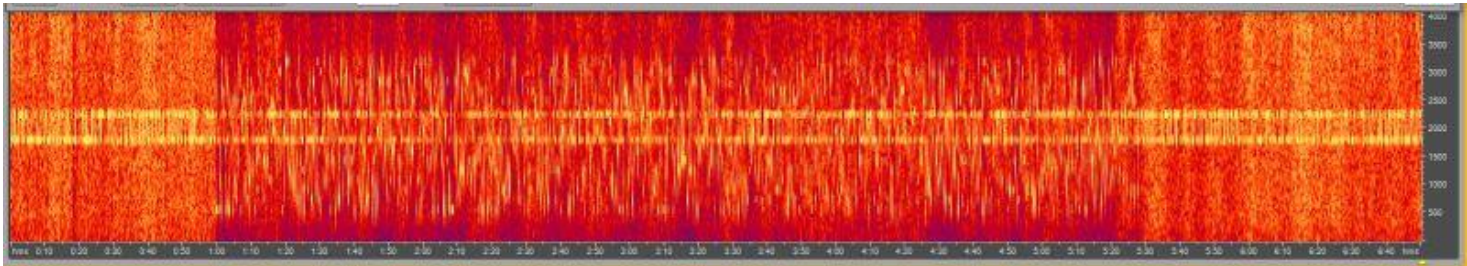
Thu 07.04.2022 0910Z 15859 msg
Thu 07.04.2022 0930Z 14659 msg
Thu 07.04.2022 0950Z 13459 msg

Mon 11.04.2022 0910Z 18038 msg
Mon 11.04.2022 0930Z 17474 msg
Mon 11.04.2022 0950Z 16286 msg

Tue 12.04.2022 1600Z 15819 msg
Tue 12.04.2022 1620Z 14919 msg
Tue 12.04.2022 1640Z 13919 msg

Thu 14.04.2022 1100Z 17426 msg
Thu 14.04.2022 1120Z 16326 msg
Thu 14.04.2022 1140Z 14926 msg

1B XPB1



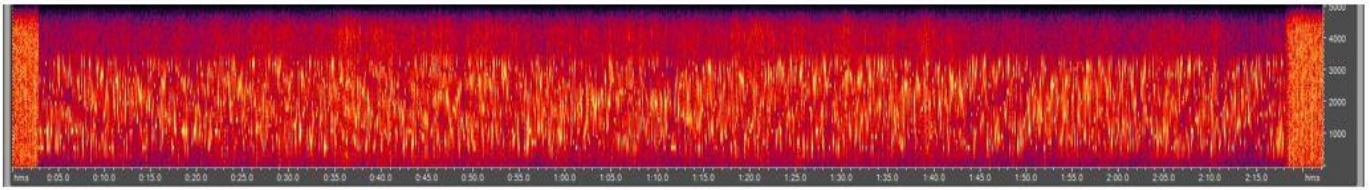
4581kHz 2050z 06/03 Strong 4m28s TTYQRM3

Sun/Tue

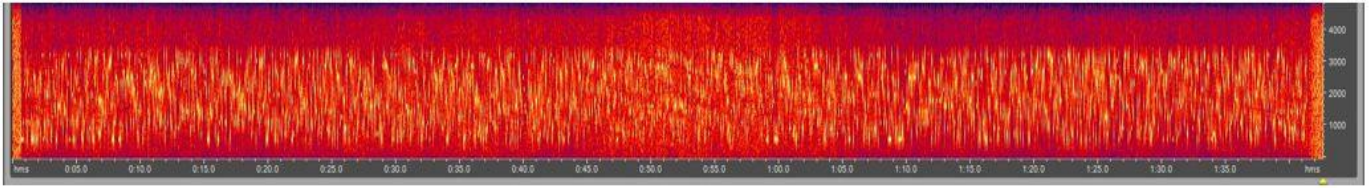
March 2022

9181kHz 2000z	01/03	Fair	4m28s		PLdn	TUE
7881kHz 2010z	01/03	Strong	4m28s		PLdn	TUE
6881kHz 2020z	01/03	V.strong	4m28s		PLdn	TUE
5881kHz 2030z	01/03	V.strong	4m28s		PLdn	TUE
5181kHz 2040z	01/03	V.strong	4m28s		PLdn	TUE
4581kHz 2050z	01/03	V.strong	4m28s	TTYQRM3	PLdn	TUE
9181kHz 2000z	06/03	Fair	4m28s		PLdn	SUN
7881kHz 2010z	06/03	Strong	4m28s		PLdn	SUN
6881kHz 2020z	06/03	Fair	4m28s		PLdn	SUN
5881kHz 2030z	06/03	Strong	4m28s		PLdn	SUN
5181kHz 2040z	06/03	Strong	4m28s		PLdn	SUN
4581kHz 2050z	06/03	Strong	4m28s	TTYQRM3	PLdn	SUN
9181kHz 2000z	08/03	Fair	2m15s		PLdn	TUE
7881kHz 2010z	08/03	Fair	2m15s		PLdn	TUE
6881kHz 2020z	08/03	Fair	2m15s		PLdn	TUE
5881kHz 2030z	08/03	V.strong	2m15s	BCQRM2	PLdn	TUE
5181kHz 2040z	08/03	V.strong	2m15s	DIGIQRM2	PLdn	TUE
4581kHz 2050z	08/03	Strong	2m15s	TTYQRM2	PLdn	TUE
9181kHz 2000z	13/03	V.strong	1m40s		PLdn	SUN
7881kHz 2010z	13/03	V.strong	1m40s		PLdn	SUN
6881kHz 2020z	13/03	V.strong	1m40s		PLdn	SUN
5881kHz 2030z	13/03	V.strong	1m40s	BC stn 5180k	PLdn	SUN
5181kHz 2040z	13/03	V.strong	1m40s		PLdn	SUN
4581kHz 2050z	13/03	Strong	1m40s	TTYQRM3	PLdn	SUN
9181kHz 2000z	15/03	Fair	4m28s		PLdn	TUE
7881kHz 2010z	15/03	V.strong	4m28s		PLdn	TUE
6881kHz 2020z	15/03	V.strong	4m28s		PLdn	TUE
5881kHz 2030z	15/03	V.strong	4m28s	BC stn 5180k	PLdn	TUE
5181kHz 2040z	15/03	V.strong	4m28s		PLdn	TUE
4581kHz 2050z	15/03	Strong	4m28s	TTYQRM3	PLdn	TUE
9181	20-03-2022	2000 XPB1	MFSK-16	Russian intel.	Ary	SUN
7881	20-03-2022	2010 XPB1	MFSK-16	Russian intel.	Ary	SUN
6881	20-03-2022	2020 XPB1	MFSK-16	Russian intel.	Ary	SUN
5881	20-03-2022	2030 XPB1	MFSK-16	Russian intel.	Ary	SUN
5181	20-03-2022	2000 XPB1	MFSK-16	Russian intel.	Ary	SUN
4581	20-03-2022	2050 XPB1	MFSK-16	Russian intel.	Ary	SUN

9181kHz	2000z	22/03	Weak	1m40s		PLdn	TUE
7881kHz	2010z	22/03	Weak	1m40s		PLdn	TUE
6881kHz	2020z	22/03	Weak	1m40s		PLdn	TUE
5881kHz	2030z	22/03	Fair	1m40s		PLdn	TUE
5181kHz	2040z	22/03	Fair	1m40s		PLdn	TUE
4581kHz	2050z	22/03	Fair	1m40s	TTYQRM3	PLdn	TUE
9181kHz	2000z	27/03	Strong	1m40s		PLdn	SUN
7881kHz	2010z	27/03	V.strong	1m40s		PLdn	SUN
6881kHz	2020z	27/03	V.strong	1m40s		PLdn	SUN
5881kHz	2030z	27/03	V.strong	1m40s		PLdn	SUN
5181kHz	2040z	27/03	V.strong	1m40s		PLdn	SUN
4581kHz	2050z	27/03	V.strong	1m40s	TTYQRM4	PLdn	SUN
9181kHz	2000z	29/03	V.strong	4m28s		PLdn	TUE
7881kHz	2010z	29/03	V.strong	4m28s		PLdn	TUE
6881kHz	2020z	29/03	V.strong	4m28s		PLdn	TUE
5881kHz	2030z	29/03	V.strong	4m28s		PLdn	TUE
5181kHz	2040z	29/03	Strong	4m28s		PLdn	TUE
4581kHz	2050z	29/03	Fair	4m28s	TTYQRM3	PLdn	TUE
April 2022							
13547kHz	1900z	03/04	Strong	4m28s		PLdn	SUN
12147kHz	1910z	03/04	Strong	4m28s		PLdn	SUN
11547kHz	1920z	03/04	Strong	4m28s		PLdn	SUN
10447kHz	1930z	03/04	V.strong	4m28s		PLdn	SUN
9347kHz	1940z	03/04	V.strong	4m28s		PLdn	SUN
8147kHz	1950z	03/04	V.strong	4m28s		PLdn	SUN
13547kHz	1900z	05/04	Fair	2m15s		PLdn	TUE
12147kHz	1910z	05/04	Strong	2m15s		PLdn	TUE
11547kHz	1920z	05/04	Strong	2m15s		PLdn	TUE
10447kHz	1930z	05/04	Strong	2m15s		PLdn	TUE
9347kHz	1940z	05/04	V.strong	2m15s		PLdn	TUE
8147kHz	1950z	05/04	V.strong	2m15s		PLdn	TUE
13547kHz	1900z	10/04		NOT MONITORED, Off watch		PLdn	SUN
12147kHz	1910z	10/04		NOT MONITORED, Off watch		PLdn	SUN
11547kHz	1920z	10/04		NOT MONITORED, Off watch		PLdn	SUN
10447kHz	1930z	10/04		NOT MONITORED, Off watch		PLdn	SUN
9347kHz	1940z	10/04		NOT MONITORED, Off watch		PLdn	SUN
8147kHz	1950z	10/04		NOT MONITORED, Off watch		PLdn	SUN
13547kHz	1900z	12/04		NOT MONITORED, Off watch		PLdn	TUE
12147kHz	1910z	12/04		NOT MONITORED, Off watch		PLdn	TUE
11547kHz	1920z	12/04		NOT MONITORED, Off watch		PLdn	TUE
10447kHz	1930z	12/04		NOT MONITORED, Off watch		PLdn	TUE
9347kHz	1940z	12/04		NOT MONITORED, Off watch		PLdn	TUE
8147kHz	1950z	12/04		NOT MONITORED, Off watch		PLdn	TUE
13547kHz	1900z	17/04	Strong	1m40s		PLdn	SUN
12147kHz	1910z	17/04	V.strong	1m40s		PLdn	SUN
11547kHz	1920z	17/04	V.strong	1m40s		PLdn	SUN
10447kHz	1930z	17/04	V.strong	1m40s		PLdn	SUN
9347kHz	1940z	17/04	V.strong	1m40s		PLdn	SUN
8147kHz	1950z	17/04	V.strong	1m40s		PLdn	SUN
13547kHz	1900z	19/04	V.strong	4m28s		PLdn	TUE
12147kHz	1910z	19/04	V.strong	4m28s	QRM2	PLdn	TUE
11547kHz	1920z	19/04	V.strong	4m28s	QRM2	PLdn	TUE
10447kHz	1930z	19/04	V.strong	4m28s		PLdn	TUE
9347kHz	1940z	19/04	V.strong	4m28s		PLdn	TUE
8147kHz	1950z	19/04	V.strong	4m28s		PLdn	TUE
13547kHz	1900z	24/04	Strong	4m28s		PLdn	SUN
12147kHz	1910z	24/04	V. strong	4m28s		PLdn	SUN
11547kHz	1920z	24/04	V. strong	4m28s		PLdn	SUN
10447kHz	1930z	24/04	V.strong	4m28s		PLdn	SUN
9347kHz	1940z	24/04	V.strong	4m28s		PLdn	SUN
8147kHz	1950z	24/04	V.strong	4m28s		PLdn	SUN
13547kHz	1900z	27/04	V.strong	2m15s		PLdn	TUE
12147kHz	1910z	27/04	V.strong	1m40s*	<i>See below</i>	PLdn	TUE
11547kHz	1920z	27/04	V.strong	2m15s		PLdn	TUE
10447kHz	1930z	27/04	V.strong	2m15s		PLdn	TUE
9347kHz	1940z	27/04	V.strong	2m15s		PLdn	TUE
8147kHz	1950z	27/04	V.strong	2m15s		PLdn	TUE



13547kHz 1900z 26/04/2022 2m15s



12147kHz 1910z 26/04/2022 1m40s

Mon/Sat

March 2022

18253kHz 1100z	05/03	Fair	4m28s	PLdn	SAT
17453kHz 1110z	05/03	Weak	4m28s	PLdn	SAT
15953kHz 1120z	05/03	Fair	4m28s	PLdn	SAT
14953kHz 1130z	05/03	Fair	4m28s	PLdn	SAT
14353kHz 1140z	05/03	Weak	4m28s	PLdn	SAT
13553kHz 1150z	05/03		MISSED	PLdn	SAT
18253kHz 1100z	07/03	Weak	1m40s	PLdn	MON
17453kHz 1110z	07/03	Weak	1m40s	PLdn	MON
15953kHz 1120z	07/03	Weak	1m40s	PLdn	MON
14953kHz 1130z	07/03	Weak	1m40s	PLdn	MON
14353kHz 1140z	07/03	Weak	1m40s	PLdn	MON
13553kHz 1150z	07/03	Weak	1m40s	PLdn	MON
18253kHz 1100z	12/03	V.weak	4m28s	PLdn	SAT
17453kHz 1110z	12/03	V.weak	4m28s	PLdn	SAT
15953kHz 1120z	12/03	Weak	4m28s	PLdn	SAT
14953kHz 1130z	12/03	Weak	4m28s	PLdn	SAT
14353kHz 1140z	12/03	Weak	4m28s	PLdn	SAT
13553kHz 1150z	12/03	Weak	4m28s	PLdn	SAT
18253kHz 1100z	14/03	Fair	4m28s	PLdn	MON
17453kHz 1110z	14/03	Weak	4m28s	PLdn	MON
15953kHz 1120z	14/03	Weak	4m28s	PLdn	MON
14953kHz 1130z	14/03	Fair	4m28s	PLdn	MON
14353kHz 1140z	14/03	Fair	4m28s	PLdn	MON
13553kHz 1150z	14/03	Fair	4m28s	PLdn	MON
18253kHz 1100z	19/03	Weak	4m28s	PLdn	SAT
17453kHz 1110z	19/03	Weak	4m28s	PLdn	SAT
15953kHz 1120z	19/03	Fair	4m28s	PLdn	SAT
14953kHz 1130z	19/03	Fair	4m28s	PLdn	SAT
14353kHz 1140z	19/03	Weak	4m28s	PLdn	SAT
13553kHz 1150z	19/03	Fair	4m28s	PLdn	SAT
18253kHz 1100z	21/03	Weak	1m40s	PLdn	MON
17453kHz 1110z	21/03	Fair	1m40s	PLdn	MON
15953kHz 1120z	21/03	Weak	1m40s	PLdn	MON
14953kHz 1130z	21/03	Weak	1m40s	PLdn	MON
14353kHz 1140z	21/03	Weak	1m40s	PLdn	MON
13553kHz 1150z	21/03	Fair	1m40s	PLdn	MON
18253kHz 1100z	26/03	Fair	1m40s	PLdn	SAT
17453kHz 1110z	26/03	Fair	1m40s	PLdn	SAT
15953kHz 1120z	26/03	Weak	1m40s	PLdn	SAT
14953kHz 1130z	26/03	Weak	1m40s	PLdn	SAT
14353kHz 1140z	26/03	Weak	1m40s	PLdn	SAT
13553kHz 1150z	26/03	Weak	1m40s	PLdn	SAT
18253kHz 1100z	28/03	Fair	4m28s	PLdn	MON
17453kHz 1110z	28/03	Fair	4m28s	PLdn	MON
15953kHz 1120z	28/03	Weak	4m28s	PLdn	MON
14953kHz 1130z	28/03	Weak	4m28s	PLdn	MON
14353kHz 1140z	28/03	NRH		PLdn	MON
13553kHz 1150z	28/03	NRH		PLdn	MON

April 2022

17474kHz	1200z	02/04	Weak	4m28s	QSB4	PLdn	SAT
16274kHz	1210z	02/04	Weak	4m28s	QSB4	PLdn	SAT
15974kHz	1220z	02/04	Weak	4m28s	QSB4	PLdn	SAT
14974kHz	1230z	02/04	Weak	4m28s		PLdn	SAT
14374kHz	1240z	02/04	Weak	4m28s		PLdn	SAT
13874kHz	1250z	02/04	Weak	4m28s		PLdn	SAT
17474kHz	1200z	04/04	Weak	1m28s		PLdn	MON
16274kHz	1210z	04/04	Weak	1m28s		PLdn	MON
15974kHz	1220z	04/04	Weak	1m28s		PLdn	MON
14974kHz	1230z	04/04	Unworkable			PLdn	MON
14374kHz	1240z	04/04	Unworkable			PLdn	MON
13874kHz	1250z	04/04	Unworkable			PLdn	MON
17474kHz	1200z	09/04	Weak	1m28s		PLdn	SAT
16274kHz	1210z	09/04	Weak	1m28s		PLdn	SAT
15974kHz	1220z	09/04	Weak	1m28s		PLdn	SAT
14974kHz	1230z	09/04	Weak	1m28s		PLdn	SAT
14374kHz	1240z	09/04	NRH			PLdn	SAT
13874kHz	1250z	09/04	Weak	1m28s		PLdn	SAT
17474kHz	1200z	11/04			NOT MONITORED, Off watch	PLdn	MON
16274kHz	1210z	11/04			NOT MONITORED, Off watch	PLdn	MON
15974kHz	1220z	11/04			NOT MONITORED, Off watch	PLdn	MON
14974kHz	1230z	11/04			NOT MONITORED, Off watch	PLdn	MON
14374kHz	1240z	11/04			NOT MONITORED, Off watch	PLdn	MON
13874kHz	1250z	11/04			NOT MONITORED, Off watch	PLdn	MON
17474kHz	1200z	16/04			NOT MONITORED, Off watch	PLdn	SAT
16274kHz	1210z	16/04			NOT MONITORED, Off watch	PLdn	SAT
15974kHz	1220z	16/04			NOT MONITORED, Off watch	PLdn	SAT
14974kHz	1230z	16/04			NOT MONITORED, Off watch	PLdn	SAT
14374kHz	1240z	16/04			NOT MONITORED, Off watch	PLdn	SAT
13874kHz	1250z	16/04			NOT MONITORED, Off watch	PLdn	SAT
17474kHz	1200z	18/04	Weak	1m40s		PLdn	MON
16274kHz	1210z	18/04	Weak	1m40s		PLdn	MON
15974kHz	1220z	18/04	Weak	1m40s		PLdn	MON
14974kHz	1230z	18/04	V.weak	1m40s		PLdn	MON
14374kHz	1240z	18/04	V.weak	1m40s		PLdn	MON
13874kHz	1250z	18/04	V.weak	1m40s		PLdn	MON
17474kHz	1200z	23/04	Fair	1m40s		PLdn	SAT
16274kHz	1210z	23/04	NRH			PLdn	SAT
15974kHz	1220z	23/04	NRH			PLdn	SAT
14974kHz	1230z	23/04	Fair	1m40s		PLdn	SAT
14374kHz	1240z	23/04	Weak	1m40s		PLdn	SAT
13874kHz	1250z	23/04	Weak	1m40s		PLdn	SAT
17474kHz	1200z	25/04	Strong	4m28s		PLdn	MON
16274kHz	1210z	25/04	Weak	4m28s		PLdn	MON
15974kHz	1220z	25/04	Weak	4m28s		PLdn	MON
14974kHz	1230z	25/04	Weak	4m28s		PLdn	MON
14374kHz	1240z	25/04	Fair	4m28s		PLdn	MON
13874kHz	1250z	25/04	Fair	4m28s		PLdn	MON
17474kHz	1200z	30/04			NOT MONITORED, Off watch	PLdn	SAT
16274kHz	1210z	30/04			NOT MONITORED, Off watch	PLdn	SAT
15974kHz	1220z	30/04			NOT MONITORED, Off watch	PLdn	SAT
14974kHz	1230z	30/04			NOT MONITORED, Off watch	PLdn	SAT
14374kHz	1240z	30/04			NOT MONITORED, Off watch	PLdn	SAT
13874kHz	1250z	30/04			NOT MONITORED, Off watch	PLdn	SAT

Wed/Sat

March 2022

14621kHz	1200z	02/03			NOT MONITORED, Off watch	PLdn	WED
13921kHz	1210z	02/03			NOT MONITORED, Off watch	PLdn	WED
13421kHz	1220z	02/03			NOT MONITORED, Off watch	PLdn	WED
12121kHz	1230z	02/03			NOT MONITORED, Off watch	PLdn	WED
11121kHz	1240z	02/03			NOT MONITORED, Off watch	PLdn	WED
10421kHz	1250z	02/03			NOT MONITORED, Off watch	PLdn	WED
14621kHz	1200z	05/03	Fair	4m28s	QRM2	PLdn	SAT
13921kHz	1210z	05/03	Fair	4m28s	QRM2	PLdn	SAT
13421kHz	1220z	05/03	Fair	4m28s		PLdn	SAT
12121kHz	1230z	05/03	Weak	4m28s	QRM2	PLdn	SAT
11121kHz	1240z	05/03	Weak	4m28s		PLdn	SAT
10421kHz	1250z	05/03	Weak	4m28s		PLdn	SAT

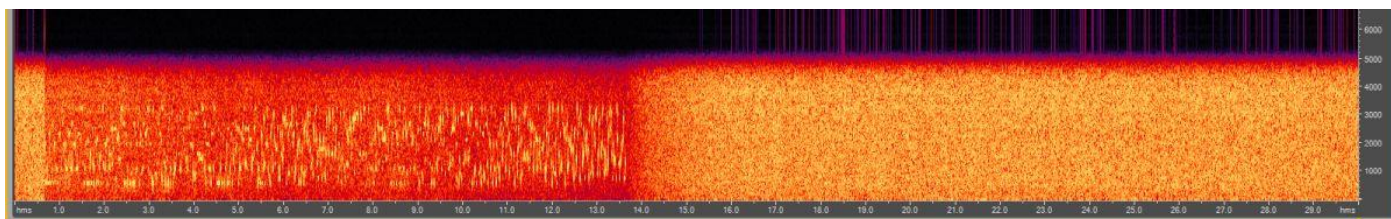
14621kHz 1200z	09/03			NOT MONITORED, Off watch	PLdn	WED
13921kHz 1210z	09/03			NOT MONITORED, Off watch	PLdn	WED
13421kHz 1220z	09/03			NOT MONITORED, Off watch	PLdn	WED
12121kHz 1230z	09/03			NOT MONITORED, Off watch	PLdn	WED
11121kHz 1240z	09/03			NOT MONITORED, Off watch	PLdn	WED
10421kHz 1250z	09/03			NOT MONITORED, Off watch	PLdn	WED
14621kHz 1200z	12/03	Weak	4m28s		PLdn	SAT
13921kHz 1210z	12/03	Weak	4m28s		PLdn	SAT
13421kHz 1220z	12/03	Weak	4m28s		PLdn	SAT
12121kHz 1230z	12/03	Weak	4m28s		PLdn	SAT
11121kHz 1240z	12/03	Fair	4m28s		PLdn	SAT
10421kHz 1250z	12/03	Fair	4m28s		PLdn	SAT
14621kHz 1200z	16/03			NOT MONITORED, Off watch	PLdn	WED
13921kHz 1210z	16/03			NOT MONITORED, Off watch	PLdn	WED
13421kHz 1220z	16/03			NOT MONITORED, Off watch	PLdn	WED
12121kHz 1230z	16/03			NOT MONITORED, Off watch	PLdn	WED
11121kHz 1240z	16/03			NOT MONITORED, Off watch	PLdn	WED
10421kHz 1250z	16/03			NOT MONITORED, Off watch	PLdn	WED
	16/03			All monitored by Ary		
14621kHz 1200z	19/03	Fair	4m28s		PLdn	SAT
13921kHz 1210z	19/03	Fair	4m28s		PLdn	SAT
13421kHz 1220z	19/03	Strong	4m28s		PLdn	SAT
12121kHz 1230z	19/03	Fair	4m28s		PLdn	SAT
11121kHz 1240z	19/03	Fair	4m28s		PLdn	SAT
10421kHz 1250z	19/03	Fair	4m28s		PLdn	SAT
14621kHz 1200z	23/03	Weak	4m28s		PLdn	WED
13921kHz 1210z	23/03	Weak	4m28s		PLdn	WED
13421kHz 1220z	23/03	Weak	4m28s		PLdn	WED
12121kHz 1230z	23/03	Strong	4m28s		PLdn	WED
11121kHz 1240z	23/03	Fair	4m28s	QSB4	PLdn	WED
10421kHz 1250z	23/03	Fair	4m28s		PLdn	WED
14621kHz 1200z	26/03			QRM5	PLdn	SAT
13921kHz 1210z	26/03	Strong	4m28s		PLdn	SAT
13421kHz 1220z	26/03	V.strong	4m28s		PLdn	SAT
12121kHz 1230z	26/03	Fair	4m28s		PLdn	SAT
11121kHz 1240z	26/03	Weak	4m28s		PLdn	SAT
10421kHz 1250z	26/03	Weak	4m28s		PLdn	SAT
14621kHz 1200z	29/03			NOT MONITORED, Off watch	PLdn	WED
13921kHz 1210z	29/03			NOT MONITORED, Off watch	PLdn	WED
13421kHz 1220z	29/03			NOT MONITORED, Off watch	PLdn	WED
12121kHz 1230z	29/03			NOT MONITORED, Off watch	PLdn	WED
11121kHz 1240z	29/03			NOT MONITORED, Off watch	PLdn	WED
10421kHz 1250z	29/03			NOT MONITORED, Off watch	PLdn	WED

April 2022

Ary opens this log; my own condx bad with QRM enabling me only to hear 1130z sending and record the freq 2kHz higher than correct one.

13562 02-04-2022 1100 XPB1 not 100% sure of the freq, later confirmed.
 12162 02-04-2022 1110 XPB1
 11562 02-04-2022 1120 XPB1
 11162 02-04-2022 1130 XPB1
 10562 02-04-2022 1140 XPB1
 10262 02-04-2022 1150 XPB1

13562kHz 1100z	06/04			NOT MONITORED, Off watch	PLdn	WED
12162kHz 1110z	06/04			NOT MONITORED, Off watch	PLdn	WED
11562kHz 1120z	06/04			NOT MONITORED, Off watch	PLdn	WED
11162kHz 1130z	06/04			NOT MONITORED, Off watch	PLdn	WED
10562kHz 1140z	06/04			NOT MONITORED, Off watch	PLdn	WED
10262kHz 1150z	06/04			NOT MONITORED, Off watch	PLdn	WED



LoS 13562kHz 1100z 09/04; not restarted

13562kHz 1100z	09/04	Weak	4m28s	13s only LoS	[See above]	PLdn	SAT
12162kHz 1110z	09/04	Weak	4m28s			PLdn	SAT
11562kHz 1120z	09/04	Weak	4m28s			PLdn	SAT
11162kHz 1130z	09/04	Unworkable				PLdn	SAT
10562kHz 1140z	09/04			QRM5		PLdn	SAT
10262kHz 1150z	09/04			QRM5		PLdn	SAT
13562kHz 1100z	13/04			NOT MONITORED, Off watch		PLdn	WED
12162kHz 1110z	13/04			NOT MONITORED, Off watch		PLdn	WED
11562kHz 1120z	13/04			NOT MONITORED, Off watch		PLdn	WED
11162kHz 1130z	13/04			NOT MONITORED, Off watch		PLdn	WED
10562kHz 1140z	13/04			NOT MONITORED, Off watch		PLdn	WED
10262kHz 1150z	13/04			NOT MONITORED, Off watch		PLdn	WED
13562kHz 1200z	16/04			NOT MONITORED, Off watch		PLdn	SAT
12162kHz 1210z	16/04			NOT MONITORED, Off watch		PLdn	SAT
11562kHz 1220z	16/04			NOT MONITORED, Off watch		PLdn	SAT
11162kHz 1230z	16/04			NOT MONITORED, Off watch		PLdn	SAT
10562kHz 1240z	16/04			NOT MONITORED, Off watch		PLdn	SAT
10262kHz 1250z	16/04			NOT MONITORED, Off watch		PLdn	SAT
13562kHz 1100z	20/04	Strong	4m28s			PLdn	WED
12162kHz 1110z	20/04	Strong	4m28s	QRM2		PLdn	WED
11562kHz 1120z	20/04	Weak	4m28s	QRM3		PLdn	WED
11162kHz 1130z	20/04	Weak	4m28s	QRM3		PLdn	WED
10562kHz 1140z	20/04	NRH				PLdn	WED
10262kHz 1150z	20/04	NRH				PLdn	WED
13562kHz 1100z	23/04	Fair	2m49s			PLdn	SAT
12162kHz 1110z	23/04	Weak	2m49s			PLdn	SAT
11562kHz 1120z	23/04	Weak	2m49s			PLdn	SAT
11162kHz 1130z	23/04	Weak	2m49s			PLdn	SAT
10562kHz 1140z	23/04	Weak	2m49s			PLdn	SAT
10262kHz 1150z	23/04	Weak	2m49s			PLdn	SAT
13562kHz 1100z	27/04	Strong	2m49s			PLdn	WED
12162kHz 1110z	27/04	Strong	2m49s	QRM2		PLdn	WED
11562kHz 1120z	27/04			Unworkable		PLdn	WED
11162kHz 1130z	27/04			Unworkable		PLdn	WED
10562kHz 1140z	27/04			Unworkable		PLdn	WED
10262kHz 1150z	27/04			Unworkable		PLdn	WED
13562kHz 1200z	30/04			NOT MONITORED, Off watch		PLdn	SAT
12162kHz 1210z	30/04			NOT MONITORED, Off watch		PLdn	SAT
11562kHz 1220z	30/04			NOT MONITORED, Off watch		PLdn	SAT
11162kHz 1230z	30/04			NOT MONITORED, Off watch		PLdn	SAT
10562kHz 1240z	30/04			NOT MONITORED, Off watch		PLdn	SAT
10262kHz 1250z	30/04			NOT MONITORED, Off watch		PLdn	SAT

Early schedule from Ary:

14362 15-03-2022 0610 XPB1 MFSK-16 Russian intel.
14862 15-03-2022 0620 XPB1 MFSK-16 Russian intel.
15962 15-03-2022 0630 XPB1 MFSK-16 Russian intel.
16262 15-03-2022 0640 XPB1 MFSK-16 Russian intel.
17462 15-03-2022 0650 XPB1 MFSK-16 Russian intel.

Early schedule from H-FD:

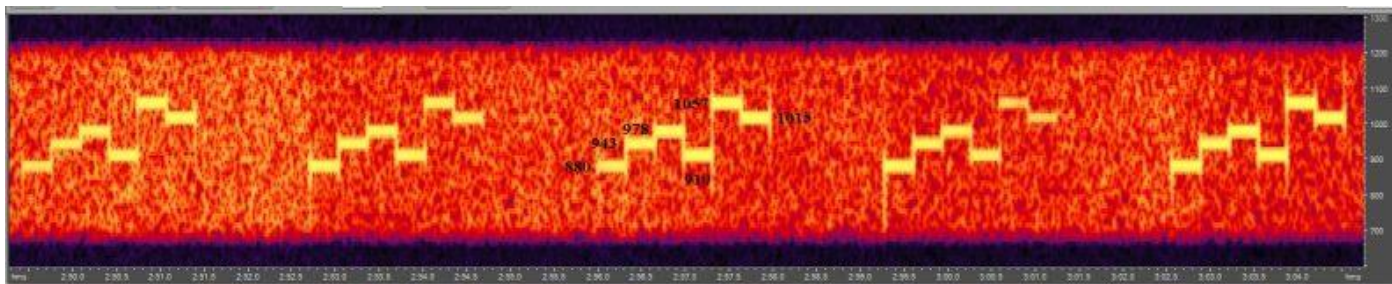
Mon 21.03.2022 0600Z 13562 msg 1:42
Mon 21.03.2022 0610Z 14362 msg
Mon 21.03.2022 0620Z 14862 msg
Mon 21.03.2022 0630Z 15962 msg
Mon 21.03.2022 0640Z 16262 msg
Mon 21.03.2022 0650Z 17462 msg

Sat 02.04.2022 1200Z 17474 msg 4:29
Sat 02.04.2022 1210Z 16274 msg
Sat 02.04.2022 1220Z 15974 msg
Sat 02.04.2022 1230Z 14974 msg
Sat 02.04.2022 1240Z 14374 msg
Sat 02.04.2022 1250Z 13874 msg

Tones, Hybrids and FSK

X06 Mazielka (1c) logs section

Unusually PLdn tuned across a X06 transmission on 16116kHz 1000 to 1010z 23/03 whilst checking his system which had been subject to the Blue Screen of Death due to program conflict and a loss of time synch between the programs. This sonogram was captured and tones measured:



134265

Date	Day	UTC	Freq	Scale	Monitor	Comments
20220227	Sun	1730	6944	1--6--	Schorschi	X06b before E07 with S9
20220301	Tue	0751-0800	11081	125643	Dave,Andrew	Alert2(TX to Ulanbatar,G317)1(SDR)
20220301	Tue	0801-0803	14615	125643	Dave,Andrew	2.2 (SDR)
20220301	Tue	0909-0914	11462	165423	Dave/AU	TX to Brussels, G12 (SDR) (1)
20220301	Tue	0933-0941	14358	154263	Dave	TX to Rome, G7 (SDR)
20220301	Tue	1030-1033	14984	1--616	Andrew/SE	X06b, 2 h before XPA2
20220301	Tue	1145-1147	16188	325614	Dave	TX to Nairobi, G392 (SDR)
20220301	Tue	1521-1522	12194	325614	Andrew	TX to Nairobi, G392 (SDR) (2)
20220301	Tue	1607-1720	13427	341265	Andrew, Ary, Kopf	Rare scale (approx. end time)
20220302	Wed	0923-0933	14631	362154	Andrew	Alert 7 (TX to Athens, G32) 1
20220302	Wed	0933-0936	17445	362154	Andrew	7.2
20220302	Wed	0944-0945	17445	362154	Andrew	7.3
20220302	Wed	0945	14631	362154	Andrew	7.4 No end time
20220302	Wed	1051-1142	14631	362154	PoS	Comeback
20220302	Wed	1339-1348	12174	154632	PoS	Alert 2 (S9, G434, new) 1
20220302	Wed	1351-1410	13765	154632	PoS	2.2
20220303	Thu	0716-0724	19511	314265	Andrew	TX to Antananarivo, G380
20220303	Thu	0736-0746	18575	352416	Andrew, Ary	TX to Dar es Salaam, G43
20220303	Thu	0759-0810	17534	351264	Andrew, Ary	TX to Abu Dhabi, R
20220303	Thu	0818-0823	18591	162543	Andrew	Alert 3 (TX to Nicosia, G39) 1
20220303	Thu	0840	12066	162543	Schorschi	3.2 S9
20220303	Thu	0848-0849	12219	162543	Schorschi, Andrew	3.3 S9 (Schorschi)
20220303	Thu	0927	16103	645321	Andrew	TX to Ho Chi Minh City, G410
20220303	Thu	1328-1338	17468	436512	Andrew	TX to Harare, G44
20220304	Fri	0915-0920	14570	324615	Andrew	TX to Madrid, G52
20220304	Fri	0957-1007	12215	361245	Andrew	TX to Copenhagen, G53
20220304	Fri	1025-1035	13547	625413	Andrew	TX to Tel Aviv, G56
20220308	Tue	1843	4581	1--6--	Schorschi	X06b before XPB1 with S9
20220309	Wed	0913-0915	13419	465132	Andrew	TX to Sofia, G100
20220310	Thu	0449-0510	9067	256134	Andrew	Alert 2 (TX to Abidjan, G110) 1
20220310	Thu	0538	11093	256134	Ary/NL	2.2 No end time
20220313	Sun	1123	15710	261453	Dave	TX to Cairo, G138
20220314	Mon	0904-0914	13423	421635	Ary	TX to Oslo, i. p., spurs, G74
20220314	Mon	0934	16117	463125	Omsg	TX to Rabat, G77 (discord)
20220314	Mon	0943	12109	156234	Ary	TX to Kampala, G68, no end time
20220314	Mon	1245-1252	12177	364152	Andrew	TX to New Delhi, G73
20220314	Mon	1252	14650	1--6--	Andrew	X06b
20220314	Mon	1300-1320	15320	1-----	Ary	X06d (CW)
20220315	Tue	0718	14576	1--6--	Andrew	X06b before XPA1
20220315	Tue	0727	14350	1--6--	Andrew	Short X06b
20220315	Tue	0729	13453	1--6--	Andrew	X06b before XPA1
20220315	Tue	0739-0815	17560	1-----	Andrew, Ary	Very long X06d test (CW)
20220315	Tue	0759-0810	14615	125643	Andrew	TX to Ulanbatar, G383
20220315	Tue	0828-0849	11250	1--6--	Andrew	X06b
20220315	Tue	0932	10249	154263	Ary	TX to Rome, i.p., G148, no end time
20220315	Tue	1025-1048	16650	1--6--	Ary	X06b

20220316	Wed	0734-0743	13838	256341	Andrew	TX to Beirut, G169
20220316	Wed	0745-0749	15630	1--6--	Andrew	X06b(3)
20220316	Wed	1018-1040	11320	1-----	Andrew	X06d (CW)
20220316	Wed	1024	11319	6-----	Schorschi	X06d with S9
20220316	Wed	1027	15861	1--6--	Schorschi	X06b with S9
20220316	Wed	1047	17560	1--6--	Andrew	X06b
20220317	Thu	0751-0758	17534	351264	Andrew	TX to Abu Dhabi, G435, new
20220317	Thu	0802-0805	18575	352416	Andrew, Ary	TX to Dar es Salaam, G179
20220317	Thu	0928-0931	16103	645321	Andrew	TX to Ho Chi Minh City, G417
20220317	Thu	1332-1334	17468	436512	Andrew	TX to Harare, G180
20220318	Fri	1001	14501	361245	Andrew	TX to Copenhagen, G190
20220318	Fri	1030-1032	13547	625413	Ary	TX to Tel Aviv, i. p., G193
20220318	Fri	1045-1047	14695	341265	Andrew	Rare scale
20220318	Fri	1225-1229	14720	241563	Andrew	TX to Karachi, G187
20220321	Mon	0816-0822	10175	263514	Andrew	Alert 7 (G425) 1
20220321	Mon	0826-0832	12133	263514	Andrew	7.2
20220321	Mon	0832-0845	13415	263514	Ary	7.3
20220321	Mon	0834-0839	11562	432516	Pofistal975	TX to Bern, G341
20220321	Mon	0852-0905	13415	263514	Andrew	7,4
20220323	Wed	0830	10814	412356	Dave	TX to Budapest, G243
20220323	Wed	0902-0909	13149	465132	Andrew	TX to Sofia, G246
20220323	Wed	0909	14812	263145	Andrew	TX to Prague, G436, new
20220323	Wed	1000-1010	16116	134265	PLdn	TX to Tunis, weak, G90 See above
20220324	Thu	0805-0811	13854	521634	Andrew	TX to Bucharest, G261
20220324	Thu	1048-1054	14560	621543	Andrew	Alert 3 (TX to Lisbon, G248) 1
20220324	Thu	1110-1200	10250	1--6--	Andrew	Very long X06b test
20220324	Thu	1114-1203	12360	1--6--	Andrew	Next long X06b test
20220324	Thu	1137-1147	15878	621543	Andrew	3.2
20220324	Thu	1155	12167	621543	Andrew	3.3 No end time
20220328	Mon	0822-0826	11537	421635	Andrew	TX to Oslo, G220
20220328	Mon	0904-0914	14871	156234	Andrew	Alert 3 (TX to Kampala, G203) 1
20220328	Mon	0914-0943	13940	156234	Andrew	3.2
20220328	Mon	0938-0942	13517	463125	Andrew	TX to Rabat, G222
20220328	Mon	1010-1015	20690	156234	Andrew	3.3
20220328	Mon	1255	12177	364152	Andrew	TX to New Delhi, G73, no end time
20220401	Fri	0845-0846	13556	324615	Andrew	TX to Madrid, G52
20220401	Fri	1021-1028	13547	625413	Andrew	Alert 1 (TX to Tel Aviv, G56) 1
20220401	Fri	1030	13547	625413	HFD	1.2
20220404	Mon	1030-1033	13395	532614	Schorschi	TX to Paris, S9, G4
20220405	Tue	0800	14615	125643	Ary	TX to Ulanbatar, i. p., G317(4)
20220405	Tue	0803	11462	165423	Ary	TX to Brussels, i. p., G12(4)
20220405	Tue	0837-0838	15687	154263	Ary	TX to Rome, i. p., G7
20220406	Wed	0640-0642	13838	256341	Andrew	TX to Beirut, G311
20220406	Wed	0817	13550	16-161	Andrew	X06b
20220406	Wed	0820-0823	17445	362154	Andrew	TX to Athens, G32
20220406	Wed	1109-1116	16115	215346	Dave	TX to Mumbai, G25
20220407	Thu	0713-0724	17430	214356	Andrew	TX to Amman, G437, new
20220407	Thu	0716-0718	19511	314265	Andrew	TX to Antananarivo, G380
20220407	Thu	0720-0721	14447	162543	Andrew	TX to Nicosia, G39
20220407	Thu	0743	13450	1--6--	Andrew	X06b
20220407	Thu	0803-0805	16650	1--6--	SW01	X06b (SDR)
20220407	Thu	0857	11650	1-----	Andrew	X06d (CW)
20220407	Thu	1111	11491	1-----	Andrew	X06d before M12 (CW)
20220407	Thu	1323-1328	16277	436512	Andrew	TX to Harare, G44
20220408	Fri	0834-0902	12177	356412	Andrew	TX to Berlin, G126
20220411	Mon	0904-0935	14871	156234	Dave	TX to Kampala, G68
20220411	Mon	0933-0940	16117	463125	Dave	TX to Rabat, G77
20220411	Mon	1014	16219	324615	vogris, Dave	TX to Madrid, R
20220411	Mon	1252	14683	364152	Andrew	TX to New Delhi, G73
20220412	Tue	1022-1034	16317	612534	Andrew	TX to Ashgabat, G89
20220412	Tue	1024-1028	17470	216354	Andrew	Alert 2 (TX to Chennai, G388) 1
20220411	Mon	1028	20813	216354	Andrew	2.2
20220414	Thu	0744-0752	7988	561243	Andrew	Alert 2 (TX to Helsinki, G117) 1
20220414	Thu	0800-0803	9388	561243	Andrew	2.2
20220414	Thu	0811-0812	16153	153624	Andrew	TX to Damascus, G249
20220414	Thu	0935-0938	13506	164532	Andrew	TX to Dublin, G106
20220419	Tue	0752-0816	14615	125643	Andrew	TX toUlanbatar, G383
20220419	Tue	0800-0807	11572	154632	Andrew	Alert 2 (G427) 1
20220419	Tue	0809-0811	12174	154632	Andrew	2.2
20220420	Wed	0638-0643	12150	256341	PoSW	TX to Beirut, S9, G169
20220420	Wed	0803-0819	18440	241563	Andrew	TX to Karachi, G438, new(5)
20220420	Wed	1131-1136	16115	215346	Dave	TX to Mumbai, G167
20220420	Wed	1233-1248	15676	231654	Dave	TX to Abuja, G423
20220421	Thu	0945-0951	16103	645321	Andrew	Alert2(TX to HoChiMinhCity,G417)1

20220421	Thu	0952-1005	18197	645321	Andrew	2.2
20220422	Fri	0827-0829	12177	356412	Andrew	TX to Berlin, G271
20220422	Fri	1000-1012	17463	256134	Andrew	Alert 3 (TX to Abidjan, G270) 1(6)
20220422	Fri	1019	15828	256134	Andrew	3.2 No End time
20220424	Sun	1039	11067	145632	Schorschi	TX to Algiers, S9, G284(7)
20220425	Mon	0835-0845	20690	156234	Andrew	TX to Kampala, G203
20220425	Mon	1237	13467	364152	Andrew	TX to New Delhi, G73, no end time
20220426	Tue	0804-0808	11545	534216	Dave	Alert 2 (TX to Bagdad, G232) 1
20220426	Tue	0809-0811	13420	534216	Dave	2.2 No end time
20220426	Tue	0811	17523	542136	Dave	TX to Beijing, G88, no end time
20220426	Tue	1050	17470	216354	Dave	TX to Chennai, G228, no end time
20220427	Wed	0710-0713	16116	134265	Dave	Alert 7 (TX to Tunis, G90) 1
20220427	Wed	0713-0721	13985	134265	Dave	7.2
20220427	Wed	0721-0728	16116	134265	Dave	7.3
20220427	Wed	0733-0735	9061	412356	Andrew	TX to Budapest, G243
20220428	Thu	0737	11431	1--6--	Schorschi	X06b after XPA1(!) with S9
20220428	Thu	0937-0950	13506	164532	Dave, Ary	TX to Dublin, G252
20220501	Sun	1742	14335	1--6--	Schorschi	X06b, freq in spectrum (6 rounds)

- 1) Break between 0910 and 0911 UTC
- 2) Followed by brief "1--616 325614"
- 3) Switched to X06d and then back again
- 4) No end time
- 5) Brief reappearances at 0821 and 0823 UTC
- 6) Break at 1001 UTC
- 7) Not sure about freq

Many thanks to all contributors as usual. Till the next E2K issue I say "Good-bye" and please stay safe!

Jochen Numbers-, X06 Database and Teamkopf

F01

Not usually reported by E2k this from H-FD:

1A F01

Wed 02.03.2022 1940Z 10467 FSK 200/500 6:55

Wed 02.03.2022 1950Z 8094 FSK 200/500

Wed 02.03.2022 2000Z 6779 FSK 200/500

Thu 03.03.2022 1015Z 10861 FSK 200/500 7:40

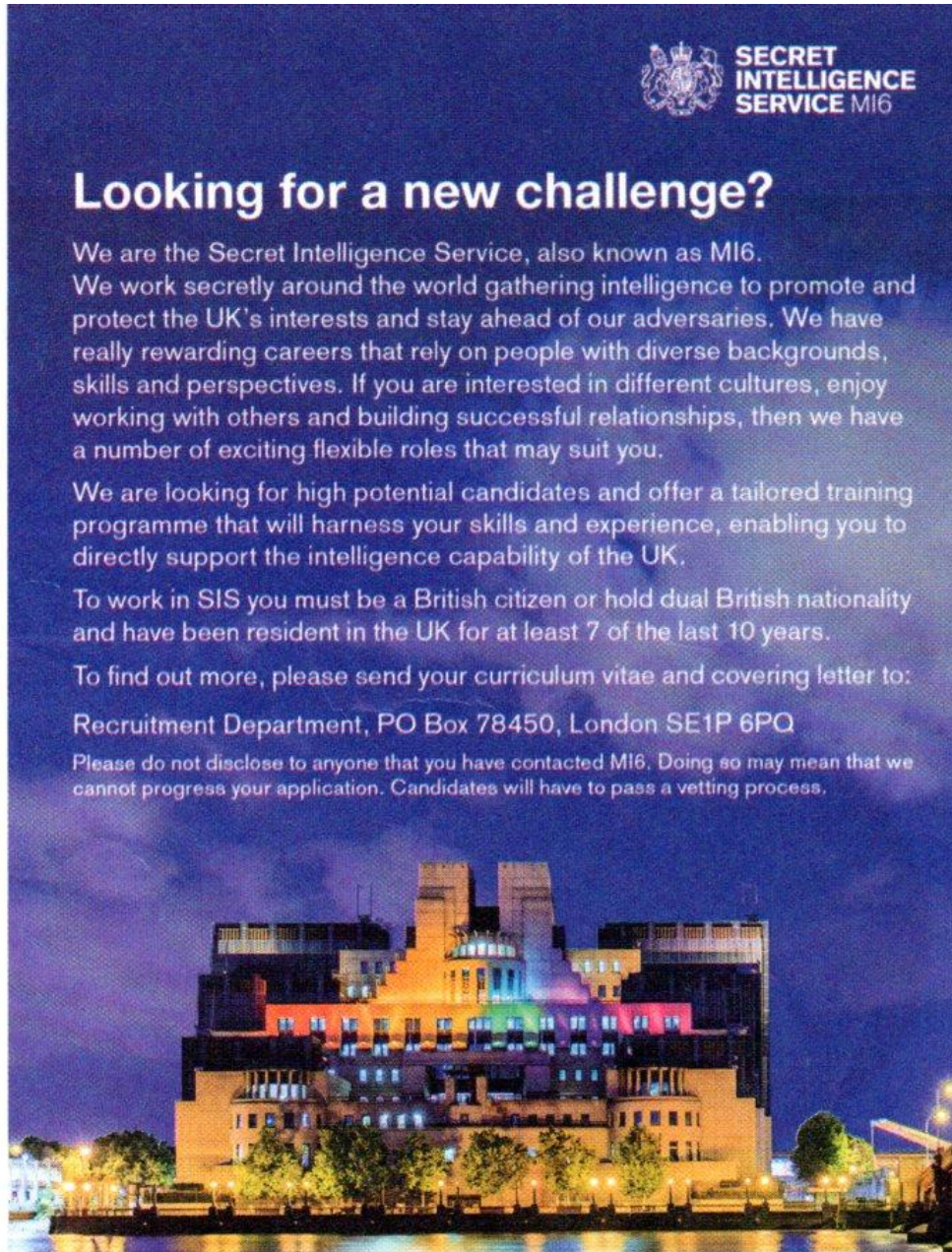
Thu 03.03.2022 1025Z 8187 FSK 200/500


Thu 03.03.2022 1035Z 6939 FSK 200/500 via KiwiSDR BLR

HM01

Nil Repots via ENIGMA2000

Gizza Job!



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Thanks 'E'

PoSW's Items of Interest

Accidentally left out from the last issue [En129] I take pleasure in placing it here with apologies to Peter:

Denmark is not a country which frequently comes to mind when one thinks of espionage, so the following story from the Breitbart Europe site on 12-January is, perhaps, a little unusual:-

"Danish spy chief arrested on alleged treason charges over data leaks" is the headline and goes on to say, "The head of Denmark's Defense Intelligence Service (FE), Lars Findsen, the country's top spy, has been in police custody for over a month after allegations that several current and former employees had leaked sensitive data.

The spy chief is one of four current and former employees of the FE to have been arrested in connection with the alleged data leaks and has been in custody for over a month, but a publication ban on the case was not lifted by the Danish court until Monday.

The hearing took place behind closed doors.

A Danish Police Intelligence (PET) investigation led to the arrest of Findsen and three others on December 8th but the exact details of the leaks are unknown and the case has been shrouded in secrecy due to publication bans, broadcaster DR reports.

According to the Swedish broadcaster SVT, Findsen is facing possible charges of treason in relation to the case. Findsen is said to have allowed his name to become public and commented to reporters at the court hearing on Monday saying, 'I want the charges brought forward and I plead not guilty. This is completely insane.'

The case is believed to have stemmed from an August 2020 report from an independent supervisory body that criticised the FE and led to media scrutiny of the agency, specifically an article published in the newspaper *Berlingske* which alleged the FE had partnered with the American National Security Agency (NSA) to spy on Danish citizens and European leaders.

Last year it was revealed that Danish intelligence cooperated with the NSA under the administration of former President Barack Obama after allegedly granting the NSA access to Danish internet cables.

The surveillance is believed to have targeted several European leaders including former German Chancellor Angela Merkel and current German President Frank-Walter Steinmeier as he served in his former role as Minister of Foreign Affairs.

The PET is also believed to have investigated possible leaks involving Danish citizen Ahmed Samsam, who is subject to a terrorism case. *Berlingske* reported in January of 2020 that Samsam had allegedly been in the service of Danish intelligence while a member of the Islamic State terrorist group in Syria, citing anonymous sources at the time.

Wars and rumours of wars – although as of 24-February and with regard to Ukraine - no longer rumours - it's all happening, folks. The British Prime Minister has been sounding off as though the increasingly Disunited Kingdom was still a major power, what with his comments and threats directed towards Vladimir Putin and Russia's invasion of Ukraine, and Boris Johnson had been directing his venom towards Mr P before the event. Johnson ain't no Churchill, but you have to wonder if he has been studying Churchill's plan to attack the Soviet Union, as it then was, immediately after World war 2, given the code name Operation Unthinkable, some details of which are given in a slim volume entitled, "State Secrets - Behind the Scenes of the 20th Century", edited by one Chris Pomery and published by The National Archives of Kew, Richmond, Surrey.

The entry for Operation Unthinkable reads thus, "There is a dossier in the National Archives with the stark title, 'Russian Threat to Western Civilization'. The plan, later known as Operation Unthinkable, was drawn up by the Joint Planning Staff in May 1945. It speculated how force might be used to 'impose upon Russia the will of the United States and the British Empire' and set 1 July 1945 for the date for commencing hostilities. Churchill was afraid that a swift withdrawal of US forces from Europe would leave Britain vulnerable to a Russian advance as well as result in the loss of Persian and Iraqi oilfields.

The paper believed that it would take 'total war' to inflict defeat on Russia in the field, where it had a three to one manpower advantage, Operation Unthinkable was never developed into a coherent plan. By 1946 it was clear that US troops would be based in Europe for a long time." Not that planning to attack Russia was confined to Churchill (Conservative Party) because 1945 General Election was won by the Labour Party led by Clement Attlee who was just as keen according to a book entitled "Deceiving the Deceivers", by S. J. Hamrick, a study of the espionage careers of Kim Philby, Donald Maclean and Guy Burgess, Prime Minister Attlee had something similar in mind. "Meeting on November 25, 1948...Herbert Morrison - a senior figure in the Attlee administration - predicted war with Russia by the summer of 1949".

Point to ponder:- "The bankers will ensure we stay in debt. The pharmaceutical companies will ensure we stay sick. The weapons manufacturers will ensure we keep going to war. The media will ensure we are prevented from knowing the truth. The Government will ensure all of this is done legally." - seen on the internet.

For NL130:

A comment on newsletter issue 129:- The item on Douglas Britten caught my eye; I had happened across his name recently whilst searching through the vast collection of radio and electronics related publications on the World Radio History website and in particular in an issue of the long defunct British periodical the Short Wave Magazine, the December 1968 edition, edited by one Austin Forsyth, which sounds like the name of a 1950's British saloon car - like Ford Prefect in The Hitch-hiker's Guide to the Galaxy .

brief item on page 616 under the headline, "Espionage – G3KFL" which says, "Readers will not expect us to have much to say about this dreary and disgraceful business, so fully reported in the daily press of November 5 – there has been enough heard about the failure of a weak character, a traitor to his Service, the methods of trapping used by the 'other side' and all the rest of it. It affected us to the extent that - because there was an Amateur Radio angle, with a 'ham' (sic) involved – we had numerous eager press enquiries and requests for 'background' (fortunately, as far as this individual was concerned we had none).

As far as was possible, we played it down, and it is probable that at least two 'follow-up stories' were stopped. It is to be hoped that, in the miserable circumstances surrounding the wretched G3KFL, the damage that may have been done to the image of Amateur Radio has been the least possible. While our man languishes in what may seem to be 'easy retirement' for the next 14 years or so, the probability is that his contact-man, hurriedly 'recalled for consultation' will be shot for his ineptitude."

Thanks indeed Peter!

Chart Section Index

1. Prediction Chart
2. M01 Schedule
3. Family III
4. XPA1 schedule c, XPA1 Wed/Fri
XPA2 schedules m, p and Wed/Fri
5. Special XPA sendings - H-FD

May 2022

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Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	May kHz, ID, ...	Jun kHz, ID, ...
x	x	x	x	x			0000		F01	01A	17471	17471
x	x	x	x	x	x	x	0000		V13	0		11430,13975
x				x			0025/0035		F01	01A	14941/12221	16218/13949
	x			x			0030/0050/0110		M12	01B	8161/ 9161/10561 115	7857/ 9157/10457 814
x	x	x	x	x	x	x	0100		V13	0		9276,11430
x				x			0125/0135		F01	01A	14941/12221	16218/13949
x	x	x	x	x	x	x	0200		V13	0	15388	7502
x							0210/0310		E06	01A	11404/13562 537	11557/13803 537
x				x			0210/0230/0250		M12	01B	13426/12126/10226 412	15918/14818/13918 989
			x	x			0300/0400		E06	01A	14767/12157 361	14932/12212 361
x	x	x	x	x	x	x	0300		V13	0	15388	9276
						x	0300/0320/0340		V07	01B	13521/12121/11421 514	13479/12179/11479 414
		x	x				0315		E11	03	8565 25#	14575 25#
x	x	x	x	x	x	x	0400		V13	0	9725	15388
x	x	x	x	x			0400/0420		S06	01A	11616/ 9322 480	11616/ 9322 480
x							0450		E11	03	7469 41#	7469 41#
x		x		x		x	0455		HM01	18	10860	10860
	x		x		x		0455		HM01	18	11462	11462
x	x	x	x	x	x	x	0500		V13	0	9725, 18040	11430
	x		x				0500		S11A	03	15690 38#	15690 38#
x	x	x	x	x			0500/0520		M14	01A	12211/10243 952	12211/10243 952
x	x						0500/0510/0520 0530/0540/0550		XPB1	01B	13435/13935/14435 14835/15935/16225	11559/12159/13459 13959/14459/14959
			x	x			0500/0600	1/3	E06	01A	14565/16125 460	13985/15830 328
x		x					0510		S11A	03	13537 65#	13537 65#
	x			x			0530		M01A	14	9441 751	9441 751
		x	x				0530		M01A	14	9129 or 9192 498	9129 or 9192 498
		x	x				0540		M01A	14	7692 536	7692 536
x		x		x		x	0555		HM01	18	10345	10345
	x		x		x		0555		HM01	18	14375	14375
				x		x	0600		E11	03	9150 35#	9150 35#
x	x	x	x	x	x	x	0600		V13	0	11430	11430
	x						0600/0610		S06S	01A	15945/16945 438	15945/16945 438
						x	0600/0620/0640		E07	01B	10317/11117/12217 312	10317/11117/12217 312
	x			x			0620		M01A	14	10233 or 10235 354/458	10233 or 10235 354/458

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	May kHz, ID, ...	Jun kHz, ID, ...
		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	16320/14875 462	16320/14875 462
x		x					0640		E11	03	15800 94#, check	15800 94#
	x		x				0645		E11	03	8091 51#	8091 51#
x		x	x	x		x	0655		HM01	18	9330	9330
	x		x		x		0655		HM01	18	13435	13435
x			x				0700		S11A	03	9339 47#	9339 47#
	x			x			0700		E11	03	8680 57#	8680 57#
					x	x	0700		E11	03	7377 49#	7377 49#
x	x	x	x	x	x	x	0700		V13	0	15388	15388
						x	0700		M01	01B	6780 025	6780 025
	x						0700/0710		S06S	01A	5430/ 6780 452	5430/ 6780 452
	x			x			0700/0720/0740		E07	01B	16246/18446/19246 242	16331/18731/19331 373
	x		x				0700/0720/0740		M12	01B	13423/12123/11123 411	14581/13481/12181 541
x		x					0700/0720/0740		XPA2	01B	12148/13448/13948	12148/13448/13948
	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	11169/12179/13431	11421/12151/13972
x		x					0715		E11	03	18030 75#	18030 75#
	x			x			0715		E11	03	10429 63#	10429 63#
	x			x			0720		M01A	14	9151 728	9151 728
x	x						0730/0740		S06S	01A	7365/11655 427	7365/11655 427
x		x					0730/0740		S06S	01A	11530/14977 172	11530/14977 172
x			x				0745		E11	03	9610 26#	9610 26#
	x		x				0745		E11	03	14940 22#	14940 22#
		x	x				0745		E11	03	15720 34#	15720 34#
x		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	15388	15388

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	May kHz, ID, ...	Jun kHz, ID, ...
			x				0800/0810		E17Z	01A	16780/12850/ 217	16780/12850/ 217
	x						0800/0810		S06S	01A	14373/12935 127	14373/12935 127
					x		0800/0810	1	S06S	01A	12460/10250 132	12460/10250 132
	x	x					0820		E11	03	17378 13#	17378 13#
			x	x			0820		E11	03	4909 43#	4909 43#
x				x			0830		E11	03	18#, search	18#
					x	x	0830		S11A	03	5149 37#	5149 37#
							0830/0840		S06S	01A	8221/ 9353 764	8221/ 9353 764
x		x					0830/0840		S06S	01A	11565/12560 464	11565/12560 464
				x			0830/0840		S06S	01A	10290/ 9655 156	10290/ 9655 156
x			x	x			0830/0930		S06	01A	17475/14736 842	16022/13925 842
x		x					0845		E11	03	12815 71#	12815 71#
	x		x				0845		E11	03	12153 15#, search	12153 15#
		x		x		x	0855		HM01	18	9240	9240
	x		x		x		0855		HM01	18	11462	11462
x		x					0900		E11	03	7449 53#, check	7449 53#
x							0900/0910		S06S	01A	16380/14835 232	16380/14835 232
				x			0900/0910		S06S	01A	6844/ 7161 239	6844/ 7161 239
x		x					0910/0930/0950		XPA2	01B	17431/15841/13934	17417/15812/14504
			x		x		0910/0930/0950		XPA2	01B	14794/13994/12194	13527/12227/11427
x				x			0915		S11A	03	6814 48#	6814 48#
x	x	x	x	x	x	x	0930		M14	01A	16347 617, only 10.+25. when msg repeat 14878 on 11.+26.	16347 617, only 10.+25. when msg repeat 14878 on 11.+26.
		x	x				0930		E11	03	6923 27#	6923 27#
x			x				0930/0940		S06S	01A	9255/10325 698	9255/10325 698
						x	0930/1000		S06	01A	14735/12207 480	
x		x		x		x	0955		HM01	18	9155	9155
	x		x		x		0955		HM01	18	12180	12180
	x			x			1000		E11	03	12153 30#	12153 30#
	x						1000/1010		S06S	01A	4820/ 5660 427	4820/ 5660 427

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	May kHz, ID, ...	Jun kHz, ID, ...
		x					1000/1010		S06S	01A	14580/16020 276	14580/16020 276
	x	x	x	x			1015/1025/1035		F01	01A	11414/ 9317/ 7572	11487/ 9376/ 7591
x		x					1045		E11	03	8545 69#	8545 69#
	x						1100/1110		S06S	01A	6810/ 7560 265	6810/ 7560 265
		x			x		1100/1110/1110 1130/1140/1150		XPB1	01B	search	search
	x			x			1100/1120/1140		XPA2	01B	16159/14359/13459	15874/14474/13374
		x	x				1100/1120/1140		XPA2	01B	16147/15847/14747	15982/14982/13882
			x				1110/1130/1150		M12	01B	13386/2189/11491 725	13386/2189/11491 725
x							1200/1220/1240		M12	01B	14377/13461/12114 317	14377/13461/12114 317
x	x	x	x	x	x	x	1200		V13	0	9276,15890	9276,15890
x							1200/1210		S06S	01A	10230/12165 149	10230/12165 149
x			x				1200/1210		S06S	01A	13145/14535 175	13145/14535 175
x					x		1200/1210/1210 1230/1240/1250		XPB1	01B	16329/15929/14829 14429/13929/13529	15876/14876/14376 13976/13376/12176
	x	x					1205		E11	03	6304 46#	6304 46#
		x		x			1210/1230/1250		XPA1	01B	13419/12219/11419	13535/12145/11145
x			x				1300		E11	03	5737 31#	5737 31#
x	x	x	x	x	x	x	1300		V13	0	7502	7502, 8300
x					x		1300/1320/1340		E07	01B	12176/11576/10276 512	12176/11576/10276 512
					x		1300/1330		S06	01A	13457/11128 480	
	x			x			1400		S11A	03	x10125 42# search	10125 42#
			x		x		1410/1430/1450		E07	01B	15836/14536/13536 157	13417/14717/15817 603
	x				x		1430		E11	03	12984 91#	12984 91#
					x		1500		M01	14	6435 025	6435 025
	x	x	x				1500/1600		S06	01A		13944;11496 387
					x		1500/1520/1540		XPA2	01B	15938/14538/13438	14892/13492/12192
			x				1530		E11	03	10356 26#	10356 26#
					x	x	1530		E11	03	5082 36#	5082 36#
	x	x	x	x	x	x	1555		HM01	18	11435	11435
x			x				1600/1620/1640		M12	01B	search	search
		x				x	1600/1620/1640		M12	01B	16113/15813/14813 188	14926/14426/13426 944
	x		x				1600/1620/1640		XPA2	01B	13538/14438/14938	13417/14817/15917
	x					x	1605		E11	03	5371 23#, check	5371 23#

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	May kHz, ID, ...	Jun kHz, ID, ...
	x		x				1645		E11	03	14575 33#	14575 33#
	x	x	x	x	x	x	1655		HM01	18	11530	11530
		x				x	1700/1720/1740		E07	01B	13934/12134/10934 919	13368/11568/10468 354
		x		x			1715		E11	03	7863 97#	7863 97#
x			x				1730		E11	03	8088 41#	8088 41#
x						x	1745		E11	03	14410 24#	14410 24#
x	x	x	x	x	x	x	1755		HM01	18	11635	11635
	x		x				1800		M01	14	5280 025	5280 025
					x		1800/1820/1840		M12	01B	11435/10598/ 9227 938	11435/10598/ 9227 938
				x		x	1815		E11	03	12229 92#, check	12229 92#
x			x				1840/1850/1900	1	F01	01A	14363/12189/10346	14621/12206/10465
		x			x		1850		S11A	03	12457 28#	12457 28#
x			x				1900		E11	03	7600 64#	7600 64#
	x					x	1900/1910/1910 1930/1940/1950		XPB1	01B	14852/13952/12152 11152/10352/ 9252	15863/14963/13963 12163/11163/10463
		x					1900/1920/1940		M12	01B	8047/ 6802/ 5788 463	8047/ 6802/ 5788 463
		x		x			1900/1920/1940		M12	01B	search	search
				x			1900/2000	1/3	S06	01A	x9475/ 7561 319 search	
		x			x		1910		E11	03	4783 39#	4783 39#
				x		x	1910		E11	03	9610 61#	9610 61#
			x			x	2000		E11	03	5409 52# check	5409 52#
	x		x				2000		M01	14	4905 025	4905 025
x			x				2000/2020/2040		M12	01B	13926/13426/11526 573	13892/13392/11592 119
				x			2000/2100	1/3	S06	01A		x9475/ 7561 319 search
x		x		x		x	2055		HM01	18	11635	11635
	x		x		x		2055		HM01	18	16180	16180
				x	x		2100/2120/2140		M12	01B	10843/10243/ 9243 822	11144/10544/ 9344 153
x						x	2100/2120/2140		XPA2	01B	13376/11576/10776	13427/12227/10827
		x		x			2100/2120/2140		XPA2	01B	12124/11124/10624	13462/12162/11562
x			x				2110/2130/2150		M12	01B	13381/12181/10781 317	14493/13393/12193 431
x		x		x		x	2155		HM01	18	10715	10715
	x		x		x		2155		HM01	18	17480	17480
		x			x		2210/2230/2250		M12	01B	10183/ 9083/ 8083 199	10223/ 9323/ 8023 239

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	May kHz, ID, ...	Jun kHz, ID, ...
					x		2230/2240		F01	01A	20206/18031	19224/17491
					x		2330/2340		F01	01A	20206/18031	19224/17491

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	Mar kHz, ID, ...	Apr kHz, ID, ...	May kHz, ID, ...	Jun kHz, ID, ...	Remarks
		x	x				0315		E11	03	11092 25#	11092 25#	8565 25#	14575 25#	since 01/14, last log 04/22
x							0450		E11	03	5371 41#	5371 41#	7469 41#	7469 41#	since 02/10, last log 04/22 2nd transmission Thu 1730z
	x		x				0500		S11A	03	14769 38#	14769 38#	15690 38#	15690 38#	since 05/14, last log 04/22
x		x					0510		S11A	03	11116 65#	11116 65#	13537 65#	13537 65#	since 08/19, last log 04/22
				x		x	0600		E11	03	8680 35#	8680 35#	9150 35#	9150 35#	since 04/15, last log 04/22
x		x					0640		E11	03	14865 94#	14865 94#	15800 94#	15800 94#	since 07/17, last log 04/22 check
	x		x				0645		E11	03	8423 51#	8423 51#	8091 51#	8091 51#	since 07/09, last log 04/22
x			x				0700		S11A	03	8597 47#	8597 47#	9339 47#	9339 47#	since 04/10, last log 04/22
	x			x			0700		E11	03	8180 57#	8180 57#	8680 57#	8680 57#	since 01/12, last log 04/22
				x		x	0700		E11	03	9079 49#	9079 49#	7377 49#	7377 49#	since 07/15, last log 04/22 until 02/22 0730z
x		x					0715		E11	03	15632 75#	15632 75#	18030 75#	18030 75#	since 06/21, last log 04/22
	x			x			0715		E11	03	9963 63#	9963 63#	10429 63#	10429 63#	since 02/11, last log 04/22
x			x				0745		E11	03	10213 26#	10213 26#	9610 26#	9610 26#	since 03/14, last log 04/22 2nd transmission Thu 1530z
	x		x				0745		E11	03	14865 22#	14865 22#	14940 22#	14940 22#	since 01/20, last log 04/22
		x	x				0745		E11	03	17410 34#	17410 34#	15720 34#	15720 34#	since 06/17, last log 04/22
	x	x					0820		E11	03	19184 13#	19184 13#	17378 13#	17378 13#	since 12/18, last log 04/22
			x	x			0820		E11	03	5941 43#	5941 43#	4909 43#	4909 43#	since 10/09, last log 04/22
x				x			0830		E11	03	15905 18#	15905 18#	18#	18#	since 07/15, last log 04/22 until 02/22 0730z search
				x		x	0830		S11A	03	6433 37#	6433 37#	5149 37#	5149 37#	since 02/14, last log 04/22
x		x					0845		E11	03	12202 71#	12202 71#	12815 71#	12815 71#	since 09/10, last log 04/22
	x		x				0845		E11	03	13908 15#	13908 15#	12153 15#	12153 15#	since 07/17, last log 04/22 search
x		x					0900		E11	03	9968 53#	9968 53#	7449 53#	7449 53#	since 10/05, last log 04/22 check
x				x			0915		S11A	03	6480 48#	6480 48#	6814 48#	6814 48#	since 04/19, last log 04/22
		x	x				0930		E11	03	6940 27#	6940 27#	6923 27#	6923 27#	since 02/14, last log 04/22
	x			x			1000		E11	03	9951 30#	9951 30#	12153 30#	12153 30#	since 11/16, last log 04/22
x		x					1045		E11	03	7317 69#	7317 69#	8545 69#	8545 69#	since 03/18, last log 04/22
	x	x					1205		E11	03	6923 46#	6923 46#	6304 46#	6304 46#	since 03/10, last log 04/22
	x		x				1230		E11	03	12530 33#	12530 33#			since 10/11, last log 04/22 Nov-Feb & May-Aug at 1645z (?)
x			x				1300		E11	03	5371 31#	5371 31#	5737 31#	5737 31#	since 07/14, last log 04/22
	x			x			1400		S11A	03	6797 42#	6797 42#	x10125 42#	10125 42#	since 02/10, last log 04/22 until 01/22 1020z search
	x			x			1430		E11	03	14972 91#	14972 91#	12984 91#	12984 91#	since 10/15, last log 04/22
			x				1530		E11	03	10330 26#	10330 26#	10356 26#	10356 26#	since 06/14, last log 04/22 2nd transmission Mon 0745z
				x		x	1530		E11	03	4505 36#	4505 36#	5082 36#	5082 36#	since 03/14, last log 04/22
	x					x	1605		E11	03	5176 23#	5176 23#	5371 23#	5371 23#	since 11/15, last log 04/22 check
	x		x				1645		E11	03			14575 33#	14575 33#	since 10/11, last log 10/21 Mar/Apr/Sep/Oct at 1230z
		x		x			1715		E11	03	6923 97#	6923 97#	7863 97#	7863 97#	since 02/15, last log 04/22
x			x				1730		E11	03	7864 41#	7864 41#	8088 41#	8088 41#	since 03/10, last log 04/22 2nd transmission Mon 0450z
x						x	1745		E11	03	13470 24#	13470 24#	14410 24#	14410 24#	since 04/18, last log 04/22
				x		x	1815		E11	03	11116 92#	11116 92#	12229 92#	12229 92#	since 05/16, last log 04/22 until 10/21 at 1650z check
			x			x	1850		S11A	03	10213 28#	10213 28#	12457 28#	12457 28#	since 06/17, last log 04/22
	x		x				1900		E11	03	7317 64#	7317 64#	7600 64#	7600 64#	since 05/16, last log 04/22 until 10/21 at 1650z
		x		x			1910		E11	03	4181 39#	4181 39#	4783 39#	4783 39#	since 02/14, last log 04/22
				x		x	1910		E11	03	8530 61#	8530 61#	9610 61#	9610 61#	since 04/17, last log 04/22
			x			x	2000		E11	03	5737 52#	5737 52#	5409 52#	5409 52#	since 05/15, last log 04/22 until 02/22 at 1330z check

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

SPECIAL MATTERS

Thanks to all our contributors:

Ary, Edd, BR, CC, CQ, Danix, DanAr, E, F5, HH, HJH, JkC, Jochen, KW , Malc, MaleAnon, PoSW, PLdn, RRGB, Son of Bob.

E: Thanks, I'll wager Snowden is well pleased with himself and as you state, food for thought. Stay well Hopefully StH trips on the wane.

RELEVANT WEBSITES

ENIGMA 2000 Website:

<http://www.enigma2000.org.uk>

Frequency Details can be downloaded from:

<http://www.cvni.net/radio/>

More Info on 'oddities' can be found on Brian of Sussex' excellent web pages:

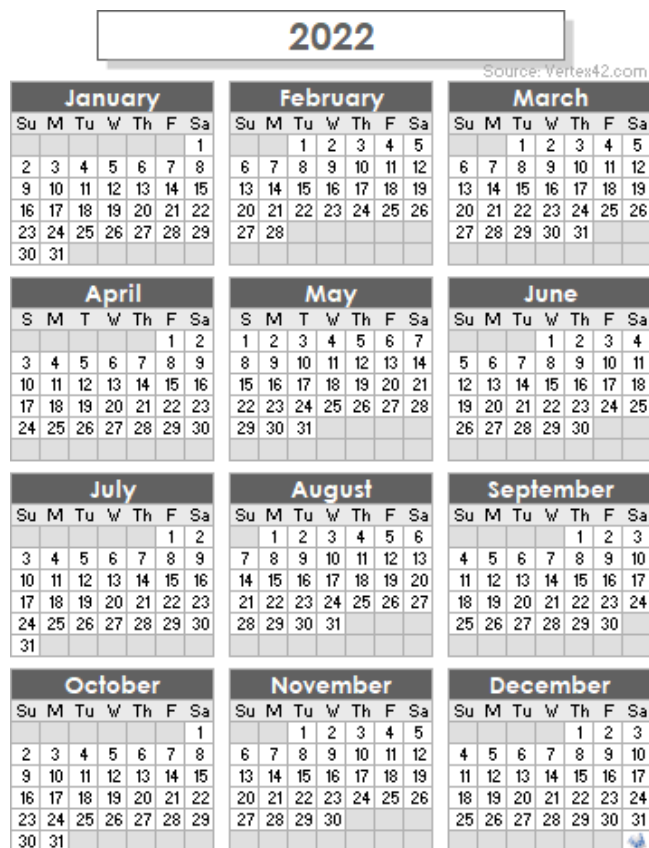
<http://www.brogers.dsl.pipex.com/page2.html>

Time zone information:

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

Encyclopedia of Espionage, Intelligence, and Security

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



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