ENIGMA 2000 NEWSLETTER

http://www.enigma2000.org

Russian Pole-21 electronic countermeasures system

https://www.armyrecognition.com/october_2016_global_defense_security_news_industry/pole-21_electronic_countermeasures_system_to_enter_in_service_with_russian_armed_forces_tass_11310161.html

ISSUE 135
March 2023

www.enigma2000.org

Editorial

Propagation seems to have been kind to us as the upper HF Freqs seem to be more accessible with signals that recently were hard to find.

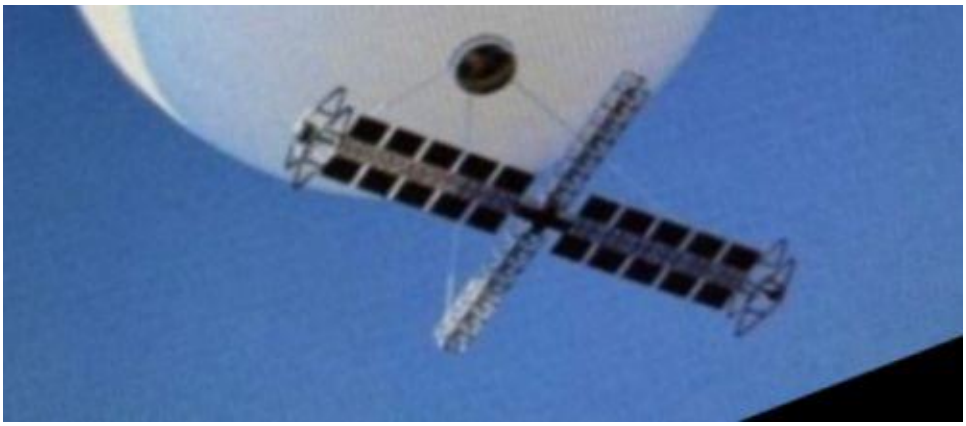
Number station wise things seem to have carried on much as described in the last Newsletter although the surprise change of frequency of V07 as seen in this newsletter was originally thought to have been a closure, with both DanAr and Token searching without success. A surprise when Token posted new frequencies along with a revised schedule. [Thanks to both Token and DanAr here for their obvious work].

The Russian Spy hunt in Europe seems to have stalled for now [?] , perhaps they have other things to do?

One story that has been promoted in the media is that of the Chinese Spy Balloon. It's worth noting of course that apart from the technology used the idea of such activities started with Montgolfier's hot air offering. Using Hydrogen a dangerous precedent was set until the safer use of Helium.

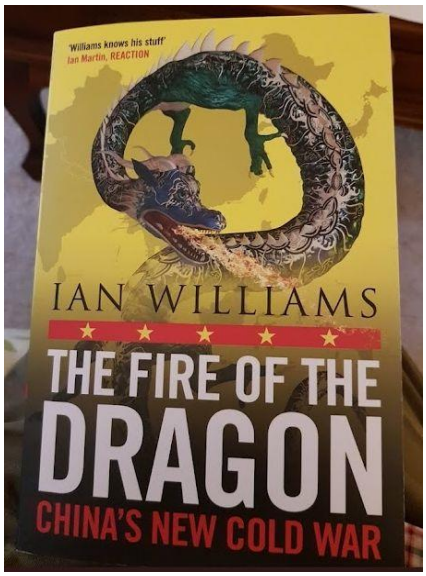
The payload of this Chinese Balloon was never photographically represented clearly. I received the below offering from a well know source and for two members has significance, certain Heddlu vans when on aid returned whence they came bearing the same 'I've Met the Met stickers. A certain police officer, now long retired, had a sticker on the business end of his baton. All a joke of course but not one that could be made today.

So, the joke on the left, the payload, which must be very weighty on the right.



We also welcome two, possibly three new members this time, two having already made significant input…….

Recommended Reading



The Fire of the Dragon, China's New Cold War Ian Williams £15.25

This excellent book is the follow on to Ian Williams' **'Every Breath I Take'** reviewed in En134.

,Under President Xi Jinping, China's global ambitions have taken a dangerous new turn. Bullying and intimidation have replaced diplomacy, and trade, investment, even big-spending tourists and students have been weaponised. Beijing has strengthened its alliance with Vladimir Putin, supporting Russia's aggression in Ukraine, and brooks no criticism of its own flagrant human rights violations against the Uyghur population in western China.

Western leaders say they don't want a cold war with China, but it's a little too late for that. Beijing is already waging a more complex, broader and more dangerous cold war than the old one with the Soviet Union. And it is intensifying.

This thought-provoking and alarming book examines this new cold war's many fronts – from Taiwan and the South China Sea to the Indian frontier, the Arctic and cyberspace. In doing so it proclaims the clear and sobering message that we must open our eyes to the reality of China's rise and its ruthless bid for global dominance.'

Newsrounds:

China

No10 urged to act on Chinese spyware in UK Government cars

https://inews.co.uk/news/iain-duncan-smith-no10-chinese-spyware-government-car-2082315

Senior backbench Tory MP Sir Iain Duncan Smith has pressed the Government on the security of its vehicles after an i investigation revealed a hidden Chinese tracking device was found inside a Government car.

The former leader of the Conservative Party asked what Downing Street is doing to protect MPs and staff from possible security breaches in light of the revelations.

Last week, i revealed a hidden Chinese tracking device was found after intelligence officials stripped back government vehicles in response to growing concerns over spyware.

At least one SIM card capable of transmitting location data was discovered in a sweep of government and diplomatic vehicles which uncovered "disturbing things", a serving security source confirmed.

The geolocating device had been placed into a vehicle inside a sealed part imported from a supplier in China and installed by the vehicle manufacturer, according to the source.

Chinese officials dismissed the revelations as "groundless and sheer rumour", adding: "We are firmly opposed to political manipulation on normal economic and trade cooperation or any smear on Chinese enterprises."

In response to i's report, in a written question submitted to the Cabinet Office, Sir Iain has asked: "What steps (a) 10 Downing Street and (b) other Government departments have taken to ensure Government cars do not contain preinstalled electronic devices that may threaten the security of both the occupants and HM Government."

A number of MPs across the house have called on the Government to give answers around its security against risks of espionage from hostile states such as China.

During a debate in the House of Commons, Chair of the Foreign Affairs Committee Alicia Kearns pushed against Chinese security contracts and warned MPs that hidden tracking devices could allow China to "know where our prime minister is travelling to – they could do it to any of us".

"Any of those individuals could be pinpointed if they drove near a secure site by the Chinese government and then tracked, and the Chinese Communist Party (CCP) will know where they live, how they live their lives, what they do, and they will all become vulnerable."

Increased pressure forced Downing Street to respond, saying the Government takes the security of its MPs and staff "very seriously."

The Prime Minister's spokesperson said: "I can't get into specific claims for security reasons, as you'd expect. I think the Government takes very seriously the issues of security of both Government ministers and for MPs.

"There are dedicated teams that work to both guard against these sorts of things and provide advice to ministers, to MPs, on how to protect themselves, because we are in no doubt that there are groups that seek to find out this sort of information and take action that is not in the interest of the UK."

https://inews.co.uk/news/iain-duncan-smith-no10-chinese-spyware-government-car-2082315 *Courtesy 'D'*

Vivid new photos give you a rare look at the South China Sea islands that a top US commander says China has fully militarized

Michael Peck Dec 26, 2022, 10:37 PM

To see the imagery: https://www.businessinsider.com/photos-show-details-of-chinese-south-china-sea-military-bases-2022-12?

Want to see what China's island bases in the South China Sea look like? Take a look at some of the startling images taken by Getty Images photographer Ezra Acayan in October.

They show airfields, radar installations, and military aircraft and warships stationed in the Spratly Islands, which are about 400 miles from the Chinese coast. Beijing has used both natural and artificial islands to build up its military capabilities in the area.

"The function of those islands is to expand the offensive capability of the PRC beyond their continental shores," Adm. John Aquilino, head of US Indo-Pacific Command, warned in March, referring to the country's official name, the People's Republic of China.

From those bases, Chinese forces "can fly fighters, bombers plus all those offensive capabilities of missile systems," such as anti-ship and anti-aircraft missiles, Aquilino told the Associated Press at the time, calling the islands fully militarized.

Island airbases
Military base on Subi Reef in the Spratly Islands South China Sea
An airfield, buildings, and structures on the artificial island built by China at Subi Reef on October 25. Ezra Acayan/Getty Images
This photo shows an airfield on Subi Reef, which China claimed in 1988 and has built up to create an artificial island large enough to accommodate military installations.

A double runway, hangars, and multi-story administrative buildings are all clearly visible.

Missile boats and anti-ship missiles
Military base on Mischief Reef in the Spratly Islands South China Sea
Buildings and structures on the artificial island built by China at Mischief Reef on October 25. Ezra Acayan/Getty Images
This photo of Mischief Reef shows Chinese Type 022 Houbei-class fast attack boats, which are catamarans armed with YJ-83 anti-ship missiles.

Also visible on shore is what might be covered launchers for land-based missiles. Tom Shugart, a naval expert at the Center for a New American Security, told The Telegraph that garages facing the sea could house "angled cruise missile launchers."

Gun emplacements on Cuarteron Reef
Military base Cuarteron Reef in the Spratly Islands South China Sea
Buildings and structures on the artificial island built by China at Cuarteron Reef on October 25. Ezra Acayan/Getty Images
In 2016, observers detected gun emplacements on Cuarteron Reef. One of Acayan's photos shows these weapons stations in greater detail.

You can see several tiered towers, with what analysts have identified as 76 mm naval guns visible on the lower two levels. Above the guns is what could be a gun director, and above them all is a large dome likely housing some kind of radar.

Chinese airborne radar aircraft on runway
Military base on Fiery Cross Reef Spratly Islands South China Sea
A KJ-500 next to buildings and structures on the artificial island built by China at Fiery Cross Reef on October 25. Ezra Acayan/Getty Images
This photo shows a Chinese KJ-500 airborne early warning aircraft on the runway of Fiery Cross Reef. The KJ-500 is based on the Y-9 transport, China's equivalent to the US's C-130 Hercules.

The presence of a KJ-500 shows the Fiery Cross Reef runways are long enough to handle larger aircraft, while the hangars are big enough to accommodate H-6 bombers.

The KJ-500 "plays a significant role" in China's ability to use long-range weapons, Gen. Kenneth Wilsbach, head of US Pacific Air Forces, said this spring, adding that "some of their very long-range air-to-air missiles are aided by that KJ-500."

Port for Chinese warships
Military base on Fiery Cross Reef Spratly Islands South China Sea
An airfield, buildings, and structures on the artificial island at Fiery Cross Reef on October 25. Ezra Acayan/Getty Images
This photo of Fiery Cross Reef shows the semi-enclosed waters and facilities that make the island a useful naval base.

More than 40 vessels of different types appear to be anchored near Fiery Cross, the Associated Press said in March.

These islands have sports fields
Military base on Fiery Cross Reef Spratly Islands South China Sea
An airfield, buildings, and recreational facilities on the artificial island at Fiery Cross Reef on October 25. Ezra Acayan/Getty Images
What's striking about this photo of Fiery Cross Reef isn't the runway and buildings but rather the sports field, which appears to include a running track and an athletic field.

This suggests a Chinese presence that is significant enough that recreational facilities are needed to maintain troop morale.

The size of the field, which is marked and appears to have light poles, indicates that the garrison is large enough to justify such an amenity.

China's growing reach
Military base at Mischief Reef in Spratly Islands South China Sea
An airfield, buildings, and structures on the artificial island at Mischief Reef on October 25. Ezra Acayan/Getty Images
The Spratly Islands are strategically valuable for China. They enable Beijing to project air and naval power hundreds of miles farther than forces on the Chinese mainland can reach. The bases there also allow China to position forces closer to vital areas, such as the chokepoints between the Indian and Pacific oceans.

China has been willing to use force to maintain control of the Spratlys, which are geographically closer to Vietnam, the Philippines, and Malaysia. In 1988, Chinese forces seized Johnson South Reef after battling Vietnamese ships and troops over the disputed island.

The US isn't the only nation concerned by the Chinese bases. Several countries, including Vietnam, Taiwan, the Philippines, and Malaysia, have made claims in the Spratlys and on other specks of land in the South China Sea. (Vietnam accelerated the expansion of its own outposts in the Spratlys in late 2022, according to the Asia Maritime Transparency Initiative.)

The value of these bases should not be overstated. Their small size, flat and open terrain, and distance from mainland China leaves them vulnerable to bombardment, blockade, or invasion in time of war. Short of war, however, they are a potent reminder of China military reach into one of the world's most important waterways.

To see the imagery: https://www.businessinsider.com/photos-show-details-of-chinese-south-china-sea-military-bases-2022-12?

Military ‘considered shooting down Chinese spy balloon over US’

Alistair Dawber, Washington
Friday February 03 2023, 12.01am, The Times

https://www.thetimes.co.uk/article/military-considered-shooting-down-chinese-spy-balloon-over-us-5dzlwc0v5

The Pentagon has been tracking a suspected Chinese spy balloon flying over the United States and has considered shooting it down, officials said last night.

The announcement was made days before Antony Blinken, the US secretary of state, is due to travel to Beijing for a meeting with President Xi. Tensions between the superpowers have been high for some time, with the US wary of China’s expansionist ambitions and its tacit support for Russia in its war with Ukraine.

China, meanwhile, accuses the US of meddling in what it says are its domestic affairs, notably over Taiwan.

Brigadier General Patrick Ryder, a spokesman for the Pentagon, said: “The balloon is currently travelling at an altitude well above commercial air traffic and does not present a military or physical threat to people on the ground.”

“We are confident that this high-altitude surveillance balloon belongs to the [People’s Republic of China],” he added. “Instances of this activity have been observed over the past several years, including prior to this administration.”

Another official said that the US had been tracking the balloon since it entered the country’s airspace two days ago, including by observing it with manned US military aircraft.

Senior US military leaders considered shooting down the spy balloon over Montana but eventually recommended against it because of the potential safety risk from debris. “Clearly the intent of this balloon is for surveillance,” a senior US defence official said.

The Pentagon said that defence officials had “engaged” Chinese counterparts through multiple channels and communicated the seriousness of the matter. President Biden has been briefed.

The Chinese were angered by Nancy Pelosi’s visit to Taiwan last year when she was Speaker of the House of Representatives.

There has been further irritation from the Chinese government this week at an announcement from the US that it is to establish military bases in the Philippines to guard against China’s claims to strategic islands in the South China Sea.

“Out of self-interest, the United States continues to strengthen its military deployment in the region with a zero-sum mentality, which is exacerbating tension in the region and endangering regional peace and stability,” the Chinese foreign ministry spokeswoman, Mao Ning, said in Beijing on Thursday.

Yet there has been an attempt to thaw relations ahead of Blinken’s visit at the weekend. Janet Yellen, the US treasury secretary, is due to visit this year.

https://www.thetimes.co.uk/article/military-considered-shooting-down-chinese-spy-balloon-over-us-5dzlwc0v5

Europe

Suspected Russian spy arrested in German intelligence agency

Ben Knight
12/22/2022December 22, 2022

https://www.dw.com/en/suspected-russian-spy-arrested-in-german-intelligence-agency/a-64190192

An employee of the German intelligence agency the BND has been arrested after being suspected of sending classified information to Russia.

Federal prosecutors on Wednesday arrested an employee of Germany's foreign intelligence agency, the BND, on suspicion of treason after an internal BND investigation revealed that he had allegedly been leaking classified information to Russia.

Prosecutors said that the suspect was a German national named Carsten L., and that his home and workplace, and that of one other person, had been searched.

In a statement released on Thursday afternoon, the BND said that the employee had been placed in custody and that searches at two BND offices had been carried out.

"After the BND became aware of a possible case of treason within its own ranks in the course of its intelligence work, the BND immediately launched extensive internal investigations," BND President Bruno Kahl said in the statement. "When these substantiated the suspicion, the Federal Attorney General was immediately called in."

Kahl added that the BND was working closely with investigators but would not be releasing any further details.

"Restraint and discretion are very important in this particular case," he added. "With Russia, we are dealing with an actor on the opposite side whose unscrupulousness and willingness to use violence we must reckon with. Every detail of this operation that becomes public means an advantage for this adversary in its intention to harm Germany."

This is the first time that a BND employee has been arrested for suspected treason since 2014, when a spy named Markus R. was accused of leaking information to US intelligence agencies. He was convicted in 2016 and sentenced to eight years in prison.

https://www.dw.com/en/suspected-russian-spy-arrested-in-german-intelligence-agency/a-64190192

Great Britain

Embassy guard spied as Russia planned war

David Brown

16th February 2023

https://www.thetimes.co.uk/article/david-ballantyne-smith-embassy-spy-gathered-secrets-as-putin-prepared-ukraine-invasion-kdvqp8sf0

A British embassy security guard gathered secrets about UK defence staff specialising in Russia as President Putin’s forces prepared to invade Ukraine, a court heard.

David Ballantyne Smith, who has pleaded guilty at the Old Bailey to eight charges under the Official Secrets Act, started copying documents at the embassy in Berlin when his Ukrainian wife returned to her home close to where Russian-backed separatists had seized control of part of the country.

The former RAF serviceman, 58, from Paisley, Renfrewshire, claims he sent only two letters containing documents to the Russian embassy in 2020 because he was lonely when his Russian-speaking wife returned to Ukraine and felt upset at being ignored and bullied at work.

The court heard he had started to collect information in 2018 and to film within the embassy, including taking photographs of the staff's family and friends and the locations of particular offices. The information would have been useful for Russian intelligence to target embassy staff, the court was told.

Among the documents that Smith copied were the "defence engagement strategy" towards Russia, Britain'ssanctions policy towards Russia and a page from the staff directory focused on the Russian section.

Smith said he initially supported the Russian-backed separatists who had seized control of the Donbas region of Ukraine, but became "more neutral" when he visited his wife's town and saw open graves ready for soldiers.

He claimed he had filmed an apparent Russian mole who visited the British embassy because he did not believe the building should be a "listening post and intelligence hub". The visit was an undercover sting operation that led to his arrest in August 2021.

A friend who had served alongside Smith as a steward in the officers' mess at RAF Bentley Priory in north London in the 1980s said he had an interest in Russian militaria and architecture.

The friend said Smith had become depressed after his wife returned to Ukraine and was "fed up with things about the UK".

Smith denied being paid by the Russians for information and claimed eight €100 notes found when he was arrested were the proceeds of a sale of military memorabilia at a flea market.

Alison Morgan, KC, for the prosecution, said Smith had been "motivated by a deliberate intention to harm the United Kingdom".

Matthew Ryder, KC, for the defence, said Smith had been suffering an "emotional and mental health crisis". He had wanted to "embarrass" the UK, but believed the substance of the material was already known. In January 2021 Smith was identified as the "prime candidate" behind an intercepted letter addressed to General Major Sergei Chukhrov, military attaché at the Russian embassy, the court heard. Ryder said there was no evidence Smith had been in further contact with the Russians before his arrest.

Each of the charges he has admitted carries a maximum sentence of 14 years. The hearing continues. Smith will be sentenced tomorrow.

https://www.thetimes.co.uk/article/david-ballantyne-smith-embassy-spy-gathered-secrets-as-putin-prepared-ukraine-invasion-kdvqp8sf0

Sentence given – read last lines:

David Smith: British embassy spy jailed for leaking secrets to Russia

Security guard who sympathised with Putin carried out espionage for three years

David Brown,
Marc Horne
Friday February 17 2023, 12.40pm, The Times

https://www.thetimes.co.uk/article/david-smith-british-embassy-spy-jailed-for-leaking-secrets-to-russia-7dkwqqh69

A British embassy security officer has been jailed for more than 13 years after admitting spying for Russia because he supports President Putin's war in Ukraine.

The case will raise concerns about security vetting and the extent of the leaks after the former RAF serviceman was able to spy for at least three years despite publicly backing Putin.

David Smith, 58, from Paisley, pleaded guilty at the Old Bailey to eight charges under the Official Secrets Act.

Mr Justice Wall, jailing Smith for 13 years and two months, said he had "decidedly anti-British" feelings and gave the impression to colleagues that he was "more sympathetic to Russia, in particular President Putin". The judge added: "You were paid by the Russians for your treachery."

His actions were likened by one legal observer to a John le Carré spy thriller. Smith appeared to be an unlikely traitor. Although he has lost weight during the 18 months in jail since his arrest in Germany, he retains a paunch. He sat in the dock wearing his usual zipped-up top, ill-fitting jeans and trainers.

Smith's Russian social media accounts show he has been supporting Kremlin-backed separatists in Ukraine since at least 2014 and he is even pictured in combat fatigues featuring their insignia.

Friends on VK, the Russian version of Facebook, include Graham Phillips, 44, a Dundee-born social media "journalist" who has been criticised for his favourable coverage of the Russian invasion.

Smith is also linked to Patrick Lancaster, a former United States Navy technician who is a pro-Kremlin social media influencer, and Russell Bentley, a former US soldier who fought alongside the Russian-backed separatists.

Shortly after the separatists seized the city of Donetsk in 2014, Smith posted a photograph of the city flag with a slogan stating it is Russian. The areas under the separatists' control were named Novorossiya by supporters.

He also posted a photograph of himself holding a paper with the words: "Save Donbass People From Ukrainian Nazi Army" along with his British passport. The caption read: "I am a Scotsman living in Germany and this photo is in support of Donbass! F*** the European Union, Glory Novorossiya, Glory Russia."

Within weeks he posed outside the Russian embassy in Berlin, then alongside a Soviet-era tank while wearing a T-shirt with a slogan "Russia". He also posted a photoshopped image of Putin showing his middle finger and the words "F*** NATO" with a link to a Kremlin propaganda website.

The following year his pro-Russian posts included a Soviet cartoon character in military uniform with the slogan: "Ukrops [a derogatory term for Ukrainians], get ready, the time has come." He was photographed wearing the top of FC Dnipro, the football team of his wife's native city in eastern Ukraine, with the slogan "Novorossiya".

Smith was employed as a security officer at the Berlin embassy in 2016. After joining the embassy his social media posts included a photograph of Russia's imperial flag with a tribute to Arsen Sergeyevich Pavlov, the Russian leader of the Sparta battalion, which is fighting the Ukrainian army. He also posted an image of the flag of the so-called Donetsk People's Republic with a slogan reading: "Donetsk-Russia".

Smith said he did not trust the mainstream press so instead followed online conspiracy theorists including David Icke, the former BBC sports presenter, and US radio host Alex Jones. In May 2020 he posted a photograph of himself wearing military fatigues with the emblem of the Somalia battalion, a Russian-backed paramilitary group in Donbas.

At the time of his arrest following an undercover sting operation by MI5 in August 2021, Smith described himself on social media as "Anti Nato. Anti EU. Anti American".

His Ford Fiesta had the registration plate RU1801: the first two letters of "Russia" followed by the year Alexander I became tsar.

Smith lived with his Ukrainian wife, Svetlana Makogonova, in a ground-floor flat in a postwar block in the fashionable Berlin suburb of Potsdam. He had a Russian flag in the corner of their living room, a life-sized rottweiler dog toy wearing a Russian hat, a Soviet-era military cap, various books about young female Russian snipers and a Le Carré novel.

Smith was born in Paisley and lived with his parents in Doonfoot, Ayrshire. He joined the RAF and served for two years as a steward in the officers' mess at Bentley Priory in north London.

He left the RAF briefly but returned to serve a total of 12 years. He was married in 1989 and had a daughter that year. After leaving the RAF he worked at Gatwick airport, including as an air steward for Caledonian airline.

In 2002 Smith married Makogonova. The couple had a home in Crawley, West Sussex, then lived with Smith's mother in Scotland for a short while before moving to Germany. He became a member of the Germany Guard Service and was hired by the Ministry of Defence to patrol the Bielefeld military garrison.

That led to his staff job at the British embassy. His defence for his betrayal was explained by loneliness when his wife returned to Ukraine in 2018, his mistreatment by snobbish diplomats and the seven pints of beer he drank every day.

Despite embassy colleagues saying he expressed anti-British and pro-Putin views he did not come under suspicion until German police intercepted his letter to General Major Sergey Chukhrov, a military attaché at the Russian embassy, in November 2020. This led to a sting operation which included Smith filming the visit of an undercover MI5 agent who was posing as a Russian diplomatic mole.

The full extent of the material he leaked to the Russians will never be known. Smith claimed he only sent two letters, but Wall said the security officer was in "regular contact with someone at the Russian embassy" in 2020.

Smith's role as a security officer gave him access to every part of the embassy, enabling him to copy documents relating to the military strategy, the roles of intelligence officers and the UK's position in trade negotiations.

He also filmed secure areas of the embassy and identified the offices of particular staff, their family and friends, making them easier to target by surveillance. The case highlights Berlin's central role in the intelligence war with Russia, which is at its most intense since the Cold War.

Commander Richard Smith, head of Scotland Yard's counterterrorism command, described Smith's actions as "reckless and dangerous . . . and could have put individuals linked to the embassy at risk".

If Smith agrees to be jailed in the UK he will serve half his sentence but under an extradition deal he could request to be transferred to Germany where he will serve two thirds of it.

https://www.thetimes.co.uk/article/david-smith-british-embassy-spy-jailed-for-leaking-secrets-to-russia-7dkwqqh69

Ham radio tunes in to a new generation

[See page 6, RADCOM March 2023]

Rhys Blakely, Science Correspondent
Saturday January 28 2023, 12.01am GMT, The Times

https://www.thetimes.co.uk/article/ham-radio-tunes-in-to-a-new-generation-sc3ztpgls?
As he sits in a shed on the outskirts of Cambridge, Martin Atherton twists a radio dial and picks up a message being sent in Morse code. The audio dots and dashes, familiar from black-and-white war films, might seem to be relics of a past era.

But more than a century after it was first used, this mode of communication appears to be making a comeback. Since 2006 the number of amateur radio licences, which allow holders to send Morse and voice messages, has increased by almost 60 per cent, according to the Radio Society of Great Britain.

Last year the number of 13 to 44-year-olds viewing the society's online tutorials, which cover topics such as "improving your Morse skills" and how to build your own equipment, more than tripled.

Allowing people to reach out to distant lands on a shoestring budget, the hobby could have been tailor-made for lockdown. The Netflix series Stranger Things, in which a "ham" radio set is used to contact another dimension, has also been linked to an increase in interest.

"Teenagers are picking it up, so are retirees," said Atherton, 69, a member of the Cambridge University Wireless Society.

Nikolas Thatte, 22, another member, adds that amateur radio is many hobbies in one. Some enthusiasts enjoy soldering together homemade circuits. Others specialise in sending signals very long distances by bouncing them off the ionised plasma created high in the atmosphere by meteors, or spend their weekends hiking to mountaintops to contact other continents.

There are also competitions. Nick Totterdell, 63, from Sheffield, will spend this weekend attempting to reach as many people as possible using Morse code, a wavelength of 160 metres and an 18 metre-tall mast he has built in his garden. Thousands of amateurs from around the world will enter the contest.

"People ask why we do it when you can communicate with anybody using the internet," he said. "It's about doing it with your own resources. It's the difference between walking up Mount Snowdon and getting a helicopter to the top."

Professor Cathryn Mitchell, of the University of Bath, has found the amateur radio community helpful for her research into how the upper layers of the atmosphere — used to deflect radio signals around the world — are affected by "space weather", the stream of charged particles emitted by the Sun.

"Their background knowledge is phenomenal," she said.

"There is a sense of courtesy and kindness that I think is incredibly valuable."

https://www.thetimes.co.uk/article/ham-radio-tunes-in-to-a-new-generation-sc3ztpgls?

This piece particularly interesting to me as a past member of the [now defunct?] Imperial College ARS

BBC Arabic radio goes off air after 85 years

The Arabic language radio is among 10 different languages that are ending due to inflation and licensing fees, BBC says.

The corporation said it is cutting hundreds of jobs in its World Service [FIle: Henry Nicholls/Reuters]

Published On 27 Jan 202327 Jan 2023

BBC Arabic Radio has gone off air since Friday after 85 years of broadcasting as part of a plan to cut costs and focus on digital programming.

The corporation said it is cutting hundreds of jobs in its World Service and has been forced to make the cuts because of the United Kingdom government's imposition of a freeze on the license fee money it receives.

At least 382 jobs worldwide will be cut as the corporation focuses on digital content production amid a $35m funding gap.

The BBC announced in September that the Arabic language radio service was among 10 different foreign language services that would cease radio broadcasts, including the Chinese, Hindi and Persian services.

Alastair Campbell, who used to be a strategist and adviser to former British Prime Minister Tony Blair, said the UK government has had to make "very difficult choices" since the weakening of the economy due to Brexit and other factors.

"I think they're very, very sad. I think that people underestimate the impact that the BBC has," Campbell told Al Jazeera, adding that it is an independent broadcaster despite its links to the British government.

"What that meant for many countries around the world is that they see this as a really important, significant source of proper news gathering," Campbell said. "I actually think that the undermining of the BBC is at the heart of the government's strategy."

The Arabic language station launched on January 3, 1938, from Egypt.

Hosam El Sokkari, former head of BBC Arabic, said the radio service was a "lifeline for lots of people in under privileged areas" as they listened to news via small and inexpensive devices.

"Now, they would have to use much more complicated and probably more expensive devices if they want to listen or enjoy the BBC services," El Sokkari told Al Jazeera from Cairo.

"It's quite a sad moment … especially that it was not only a language service, but a service where we had experimented with very early forms of interactions with audiences," he said.

Similarly, former BBC India correspondent Mark Tully described the ending of these radio services as "very sad".

"Radio is a very powerful medium, especially in South Asia," Tully told Al Jazeera.

"I've seen the impact of radio, and it's quite clear that it is probably the most attractive way of communicating news," he said.

Many took to social media to express their sadness and disappointment towards the decision.

"It's very disappointing that the BBC decided to get rid of one of its most listened-to radio services in its history. People in places like Sudan don't have access to modern technology, and they rely on the BBC radio service, particularly the BBC arabic for their daily news," one Twitter user wrote.

It was shocking news for "all Yemeni listeners from all over the country even the rural and remote areas," another Twitter user wrote. "BBC radio was their only connection to the world. That's really sad news."

SOURCE: AL JAZEERA

Losing Forces and Family Favourites whilst in Aden was bad enough and I had a record played one Sunday afternoon [1500 local time, September 1960]!

Satellites open the door to era of British espionage from space

Larisa Brown, Defence Editor
Monday June 13 2022, 12.01am, The Times
CHRISTOPHER

https://www.thetimes.co.uk/article/satellites-open-the-door-to-era-of-british-espionage-from-space-dmr6vl86z

Two miniature satellites due to be launched from Cornwall this summer will carry out surveillance across different regions for years, paving the way for Britain to have its own spying capability from space.

High-quality imagery of the battlefields in Ukraine has highlighted the importance of satellites in providing an accurate picture amid widespread disinformation, Doug Liddle, head of In-Space Missions, said.

Britain has relied on its relationship with the US Department of Defense, which has shared its data, and the imagery from RAF aircraft in the region to analyse Russian troop movements.

However, the UK wants to develop its own sovereign capability by creating a constellation of small intelligence, surveillance and reconnaissance (ISR) satellites that will enable it to gather imagery and electronic intelligence.

One of their functions will be the monitoring of radio signals — a capability that has proved crucial to intercepting conversations between Russian commanders and junior ranks.

The Times was given rare access to the In-Space Missions laboratory in Hampshire, where miniature "CubeSat" satellites are being built in readiness for the launch. The satellites are prototypes and will carry out an initial scoping exercise to see what is possible for the UK in the future.

They are made up of electronics boards, along with bespoke payloads including cameras, at the request of Ministry of Defence scientists. The semiconductors inside them have come from China because of a global shortage.

Weighing 9kg each, the two "cereal box-sized" satellites will operate in low orbit, about 340 miles above the Earth. They will send information to one another while up to 60 miles apart and travelling at 17,000mph.

They will be launched at an estimated cost of $300,000 from Virgin Orbit's Launcher One rocket, which takes off horizontally from a modified Boeing 747 jet named Cosmic Girl.

Unlike normal satellites, each "CubeSat" can have several customers, giving the product its novelty value.

The satellites have a dual use, so in theory they could be listening to a radio frequency signal for one government department while supporting the armed forces by telling them "what somebody is up to on their handheld VHF radio", Liddle said.

In the future, In-Space Missions, part of BAE Systems, wants one satellite to be able to process the data that is being collected by the other satellite so the company does not have to waste time sending raw data to Earth.

The launch will mark the first time satellites have been sent up from the UK. Many countries used to rely on Russia's launch platforms to send small satellites into space; however, companies have been unable to get the necessary export licence since Russia invaded Ukraine.

https://www.thetimes.co.uk/article/satellites-open-the-door-to-era-of-british-espionage-from-space-dmr6vl86z

Virgin Orbit: how the UK's first space launch ended in failure

Kaya Burgess, Science Reporter
Tuesday January 10 2023, 12.00pm, The Times

https://www.thetimes.co.uk/article/uk-first-space-launch-what-went-wrong-ended-disaster-2023-jwfr0bgk3

A 27 per cent chance of failure. Buried in the documents submitted to the Civil Aviation Authority before the first attempt to launch satellites from British soil, a risk analysis laid bare the challenges of getting a rocket into orbit.

Virgin Orbit planned for 17 launches from British soil between 2022 and 2030 and expected four of these to fail, documents show. To the huge disappointment of the UK space sector, it was the historic first attempt that was the first to fail.

With the rocket already in space last night and its second-stage engine due to fire to bring the spacecraft up to the required orbital altitude to deploy its satellites, something went wrong.

First attempt to launch satellites into orbit from British soil ends in 'painful' failure
An "anomaly" in the engine meant that it could not reach its orbit and the rocket, with all nine satellites on board, plunged to a fiery and expensive death in the Earth's atmosphere.

The first phase of the launch, in which a Boeing 747 jet with a rocket fixed under its wing takes off and flies out over the Atlantic before returning to base, came with only a tiny risk of disaster, documents show. It is a fairly routine flight for a jumbo jet and only nine out of every million such flights was expected to result in any kind of failure.

The complications begin at the point when the rocket's engines take over, which is divided into three phases in the risk analysis.

The first phase involves the rocket detaching from the plane to free fall for five seconds, before its first-stage engine ignites and burns for just over three minutes to blast the rocket up into space. This is assessed as the riskiest part of the mission. Out of every 100 missions, the crew expects 13 failures during this stage, documents show.

After the main engine cuts off, the second phase begins. The first-stage engine separates and falls away and the second-stage engine ignites to burn for about six minutes, designed to guide the rocket to the precise orbital altitude required. The covers shielding the satellites then separate and fall away. During this phase, 6.75 out of every 100 missions are expected to fail.

During the final phase, the second-stage engine fires again for about 30 seconds to precisely position the spacecraft. This too has a failure risk of 6.75 out of every 100 missions.

Overall, the documents state that "the potential number of failures for the flight of the LauncherOne rocket after release from Cosmic Girl was estimated at 27 failures for every 100 flights", with an estimate that four out of Virgin Orbit's planned 17 missions would be likely to fail between 2022 and 2030, or about one every two years.

The documents also state: "The propellant type used by the LauncherOne [rocket] is a mixture of a kerosene-based fuel (known as RP-1) and liquid oxygen. In the event of a launch failure, and the LauncherOne rocket impacting the Atlantic Ocean, surface water quality in the ocean may be temporarily affected by the release of unconsumed RP-1 [but it] evaporates quickly when exposed to the air and would completely dissipate within hours or days."

Investigations are now under way to assess what precisely went wrong with the second-stage engine. One theory is that one of the "fairings", the panels that make up two halves of the nose cone that covers the satellites, may have failed to detach properly. This could have left the rocket too heavy to achieve its orbit.

https://www.thetimes.co.uk/article/uk-first-space-launch-what-went-wrong-ended-disaster-2023-jwfr0bgk3

Dirty bomb fears as 'several kilos of URANIUM' is found in cargo at Heathrow: Package 'shipped from Pakistan to UK-based Iranians' is at centre of Met Police anti-terror probe after being discovered when it triggered airport alarms

Shipment of uranium has been seized at Heathrow airport, sparking terror fears
The undeclared material was discovered on December 29 on a passenger flight
It was destined for an Iranian business with a premises in the UK, sources say
The package originated from Pakistan and arrived on a flight via Oman
By DAVID BARRETT HOME AFFAIRS EDITOR FOR THE DAILY MAIL and BRITTANY CHAIN FOR MAILONLINE

PUBLISHED: 22:34, 10 January 2023 | UPDATED: 14:26, 11 January 2023

https://www.dailymail.co.uk/news/article-11620855/Dirty-bomb-fears-URANIUM-cargo-Heathrow.html

A major counter-terrorism investigation has been launched after several kilograms of uranium was seized at Heathrow airport.

The deadly nuclear material - which could potentially be used in a ‘dirty bomb’ - arrived on a flight from Oman, in the Middle East, on December 29.

The shipment was addressed to an Iranian-linked firm in the UK, it is understood.

Sources said the uranium was ‘not weapons-grade’ - and so could not be used to manufacture a thermo-nuclear weapon.

But the security services are understood to be investigating whether the undeclared package could have been destined for an improvised nuclear device, known as a ‘dirty bomb’.

Such a device - which has long been a nightmare scenario for counter-terror experts - combines conventional explosives with nuclear material to disperse a lethal radioactive plume.

The package originated in Pakistan before arriving at Heathrow’s Terminal Four aboard an Oman Air passenger jet from Muscat, sources told The Sun.

A source told the Mail: ‘The package contained kilos of uranium - but it was not weapons-grade.'

Separately, a source told The Sun there is an overwhelming 'concern over what the Iranians living here wanted with non-disclosed nuclear material'.

An unnamed source told the publication: 'The race is on to trace everyone involved with this rogue non-manifested package.

'Security bosses are treating this with the seriousness it deserves. Protocol was not followed and this is now an anti-terror operation.'

Specialist scanners picked up on the undeclared parcel as it was transported to a freight shed.

Border Force agents isolated the shipment in a radioactive room and, upon determining it was uranium, called in counter-terror police.

Met Police told MailOnline: 'We can confirm officers from the Met's Counter Terrorism Command were contacted by Border Force colleagues at Heathrow after a very small amount of contaminated material was identified after routine screening within a package incoming to the UK on 29 December 2022.'

Commander Richard Smith said: 'I want to reassure the public that the amount of contaminated material was extremely small and has been assessed by experts as posing no threat to the public.

'Although our investigation remains ongoing, from our inquiries so far, it does not appear to be linked to any direct threat.

'As the public would expect, however, we will continue to follow up on all available lines of enquiry to ensure this is definitely the case.

'However, it does highlight the excellent capability we and our partners have in place to monitor our ports and borders in order to keep the public safe from any potential threats to their safety and security that might be coming into the UK.'

'No arrests have been made at this time and officers continue to work with partner agencies to fully investigate this matter and ensure there is no risk to the public.

'The material has been identified as being contaminated with uranium.'

Specialist scanners picked up on the undeclared parcel as it was transported to a freight shed. Pictured: A nuclear storage facility

A Home Office spokesman said: ‘We do not comment on live investigations.’

Hamish De Bretton-Gordon, former commander of the UK’s nuclear defence regiment, said: ‘Uranium can give off very high levels of poisonous radiation. It could be used in a dirty bomb.

‘The good news is the system worked and it has been interdicted.’

Forensic teams are understood to still be examining the nuclear material.

As long ago as 2003 the then head of MI5 warned that it was ‘only a matter of time’ before a dirty bomb or chemical weapons attack was launched on a major Western city.

Eliza Manningham-Buller said intelligence reports suggested ‘renegade scientists’ had given terrorist groups the information they needed to create such weapons.

‘My conclusion, based on the intelligence we have received, is that we are faced with a realistic possibility of some form of unconventional attack that could include chemical, biological, radiological or nuclear attack,’ she said.

‘Sadly, given the widespread proliferation of the technical knowledge to construct these weapons, it will be only a matter of time before a crude version of a CBRN is launched on a major western city.’

In 2004 British security services arrested Dhiren Barot, a Muslim convert who planned to assemble and use dirty bombs in the UK and the US to kill members of the public.
Sources said the uranium was ‘not weapons-grade’ - and so could not be used to manufacture a thermo-nuclear weapon

The Home Office-backed ‘ProtectUK’ website, which offers advice on terror threats, currently says: ‘A UK attack plot using a radiological weapon is highly unlikely because there are significant challenges in acquiring suitable radioactive sources, which are subject to controls.’

Last year, Former Washington official Robert Joseph told MailOnline Iran is a nuclear weapons state with enough uranium to build 'one, if not two' bombs.

He said: 'The International Atomic Energy Agency (IAEA) has documented that Iran has 60% of enriched uranium, enough for at least one if not two bombs.

'We have been saying for years 'they're approaching this breakout point and we've really got to negotiate with them.' They're there.'

Joseph was the chief negotiator to Libya in 2003 and is credited with convincing Colonel Muammar Gaddafi to give up his nuclear weapons programme.

MP Matthew Offord said at the time Iran were 'regularly testing ballistic missiles, and they are seeking to get enough uranium that they are able to produce a weapon'.

https://www.dailymail.co.uk/news/article-11620855/Dirty-bomb-fears-URANIUM-cargo-Heathrow.html

UPDATE:

Heathrow uranium: Counterterrorism police arrest British businessman in Cheshire

Package ‘from Pakistan was sent to UK-based Iranians’
Laurence Sleator
Monday January 16 2023, 8.20am, The Times

https://www.thetimes.co.uk/article/counterterrorism-police-arrest-british-citizen-after-heathrow-uranium-find-p83cgqh55

A man has been arrested in Cheshire after a package containing uranium was detected at Heathrow airport last month

A businessman has been arrested on suspicion of terrorism offences after material contaminated with uranium “destined for Iranians in the UK” was discovered at Heathrow airport.

The man, who is in his sixties and is a British citizen, was arrested in Cheshire on Saturday. He was bailed until April.

The arrest comes after a “very small” amount of the radioactive substance was detected by Border Force staff on a parcel that arrived in Britain on December 29. The package, which was said to have originated in Pakistan, arrived at Heathrow’s terminal 4 on a flight from Oman. It was thought to have been sent to British-based Iranians, according to The Sun.

Counterterrorism police said they had so far uncovered no organised plot and that no dangerous material had been found at the address in Cheshire where the arrest took place.

Commander Richard Smith, who leads the counterterrorism command of the Metropolitan Police, said: “I want to be clear that despite making this arrest, and based on what we currently know, this incident still does not appear to be linked to any direct threat to the public. However, detectives are continuing with their inquiries to ensure this is definitely the case.

“The discovery of what was a very small amount of uranium within a package at Heathrow airport is clearly of concern but it shows the effectiveness of the procedures and checks in place with our partners to detect this type of material.

“Our priority since launching our investigation has been to ensure that there is no linked direct threat to the public. To this end we are following every possible line of inquiry available to us, which has led us to making this arrest over the weekend.”

Under section 9 of the Terrorism Act, officers can detain a suspect if they make or have in their possession a “radioactive device” with the intention of “using the device or material in the course of or in connection with the commission or preparation of an act of terrorism or for the purposes of terrorism”.

If found guilty, it can mean a life sentence.

https://www.thetimes.co.uk/article/counterterrorism-police-arrest-british-citizen-after-heathrow-uranium-find-p83cgqh55

I recall when working in the Science Dept of a boy’s school the head of science asked me to acquire some plutonium [!]. I questioned his request and told him it was totally impossible and the bloke argued with me. He never got his plutonium and I eventually left the staff; best thing I ever did.

Experts concerned over silence around government obligation to review UK surveillance laws

The government is required to review the UK’s surveillance law, the Investigatory Powers Act but experts say they are in the dark about its plans. The National Crime Agency’s operation Venetic has highlighted the need for urgent reforms.

Bill Goodwin, Computer Weekly
Published: 14 Jan 2023 22:07
Concerned experts are asking what plans the government has to meet its obligations to review Britain’s extensive surveillance laws.

https://www.computerweekly.com/news/252529191/Experts-concerned-over-silence-around-government-obligation-to-review-UK-surveillance-laws

The Home Office is legally required to review the operation of the Investigatory Powers Act 2016 (IPA), widely known as the snoopers charter after five and half years.

But information security and legal experts say they are concerned that the government has given no indication of what its plans are to revisit the IPA - despite growing concerns over the adequacy of the Act.

Experts say there is an urgent need to reform the Investigatory Powers Act to allow intercept evidence to be made admissible in criminal prosecutions.

They have also called for the use of artificial intelligence in surveillance to be assessed following ground breaking advancements which have enabled more intrusive information gathering.

And there are outstanding questions over whether the IPA complies with legal rulings by the European Court of Human Rights which require end-to-end safeguards for the bulk collection of communications and protections for journalistically privileged information.

Intercept evidence should be admissible in court

Peter Sommer, a computer forensics expert and expert witness advised the Joint Lords and Commons Select Committee carrying out the pre-legislative scrutiny of the draft Investigatory Powers Bill in 2015 and 2016.

He told Computer Weekly there was an obvious need to change the way the IPA treats intercept, which cannot be used as evidence in prosecutions, in the wake of Operation Venetic, the National Crime Agency's biggest investigation into organised crime.

"The most obvious modification now required is to treat intercept evidence in the same way as all other types of evidence and to change the current position whereby warrants can be obtained for intelligence purposes but intercept evidence is inadmissible and cannot be referred to in court," he said.

Prosecutions brought under Operation Venetic, which rely on the contents of millions of messages and photographs obtained by French police in 2020 from the supposedly secure encrypted phone network, EncroChat, have faced legal difficulties over the admissibility of intercepted evidence.

Defence lawyers have issued a series of legal challenges against the National Crime Agency over the admissibility of material intercepted from tens of thousands of Encrochat phones in the UK, in the court of appeal, the European Court of Human Rights and most recently, the UK's Investigatory Powers Tribunal.

"The current status is causing massive problems in the NCA's biggest investigation, Operation Venetic, where there are considerable doubts about the status of acquired EncroChat messages and photos. Are they admissible or not?" said Sommers.

Dr Ian Brown, a specialist in information security, said that there was a need for clarity on whether large scale equipment interference operations similar to the operation against EncroChat were going to be more frequently deployed by law enforcement agencies in the future.

There are questions, he said, whether any data obtained from real-time interception will be admissible in criminal trials as long as it was obtained from digital equipment, rather than from an analogue radio link or telephone wire. "If so, are further safeguards needed?"

Artificial intelligence

Other experts say that the government should review developments in artificial intelligence which have enabled law enforcement and intelligence agencies to conduct more intrusive bulk surveillance since the Investigatory Powers Act came into force.

Eric Kind, an expert in surveillance and legal and public policy, and managing director of AWO, a data rights agency, told Computer Weekly that artificial intelligence and its impact on bulk surveillance powers should be a key priority for any review.

"Artificial intelligence should be one of the top priorities for review, due to the number of ground-breaking advancements since the passing of the IPA. They have the ability to significantly shift the privacy versus intrusion balance throughout the Act, but most prominently with regards to bulk powers," he said.

European court decisions impact IPA

Lawyers and privacy groups also argue the IPA should be re-visited in the light of decisions by the European Court of Human Rights which found serious failings in the UK's earlier surveillance regime, the Regulation of Investigatory Powers Act 2000 (RIPA).

A decision by the European Court of Human Rights in the case of Big Brother Watch and others v the UK in 2020, for example, raises questions whether the Investigatory Powers Act provides adequate privacy safeguards during bulk surveillance operations.

The Home Secretary Suella Braverman was a member of the Joint Select Committee that reviewed the draft Investigatory Powers Bill from November 2015 to February 2016, and is said to have a good understanding of the issues at stake.

Under Section 260 of the Investigatory Powers Act, the government is legally required to review the Investigatory Powers Act 5 years and six months after it received Royal Assent in November 2016, and to present a copy of the review to Parliament.

Bulk interception

Sommer said that in addition with the difficulties posed by the IPA over intercept evidence, there were also difficulties separating legally admissible communications data from inadmissible content in web-based email and social media services.

He said that there was a strong case for Parliaments' Intelligence and Security Committee to review the scope and operation of bulk interception and acquisition warrants.

"Such warrants inevitably collect information from the wholly innocent on the off-chance that they might be guilty of something," he said.

Although the Investigatory Powers Act authorised state hacking as "equipment interference" and allowed evidence obtained in this way to be used as evidence in court, Sommer said that unlike other forms of digital evidence, there were no standard operating procedures "to ensure the integrity and reliability of the results."

Any government review would also be expected to assess the performance of the Office for Data Authorisations (OCDA), a body set up in March 2019 - after the IPA 2016 came into force - to review applications by government bodies to access metadata about individuals' telephone, email and internet use from phone and internet companies.

The OCDA, which was set up to manage 200,000 requests a year from 600 public bodies to access communications data, which includes information such as the sender and recipient of emails, the time they were sent, and the first part of a URL of websites visited.

According to the Investigatory Powers Commissioner's Office (IPCO), the organisation employs around 100 people, at two offices in Manchester and Birmingham, who act as a contact point for government agencies seeking communications data between 7am until 10pm seven days a week.

The Home Office declined to answer questions from Computer Weekly about its legal obligation to review the IPA.

https://www.computerweekly.com/news/252529191/Experts-concerned-over-silence-around-government-obligation-to-review-UK-surveillance-laws

EXCLUSIVE: Tory councillor gave details on Britain and Nato's 'combat alert status' to Communist Czech spies during Cold War

Tory councillor supplied Nato information to Communist spies in the Cold War

Dexter Smith was given cash for information about chemical weapons
Despite being opposed to Communism, he became 'addicted' to cash rewards
Codenamed Slough, he passed on 24 reports during 'clandestine' meetings
By TOM KELLY INVESTIGATIONS EDITOR FOR THE DAILY MAIL

PUBLISHED: 17:33, 13 January 2023 | UPDATED: 17:53, 13 January 2023

https://www.dailymail.co.uk/news/article-11632853/Tory-councillor-gave-details-Britain-Nato-Communist-Czech-spies-Cold-War.html

A Tory councillor supplied information about Britain and Nato's 'combat alert status' to Communist spies for cash during the Cold War.

Dexter Smith, the Conservative group leader for Slough Council, supplemented his salary as a defence journalist in the Eighties by providing details about Nato nuclear planning summits, chemical weapons and the missile defence of Western Europe.

He also used his access to Government and military officials to supply reports on British involvement in the American Star Wars nuclear defence plan, the modernisation of Nato's command and control system and military equipment developments – which were used by enemy intelligence chiefs behind the Iron Curtain.

Despite being opposed to Communism, he became 'addicted' to cash rewards for his information and eventually determined 'to sell every word', according to newly declassified Security Service archives in Prague.

He also enjoyed being 'entertained in style' in high end restaurants by his handler and receiving gifts including cut glass in return for the 'reports and information he provides,' the files said.

Dexter Smith, the Conservative group leader for Slough Council, supplemented his salary as a defence journalist in the Eighties by providing details about Nato nuclear planning summits, chemical weapons and the missile defence of Western Europe

Mr Smith was said to be susceptible to flattery and also cooperated to 'make himself feel good' because he liked to 'show off' his 'knowledge and expertise of military policy'.

Codenamed Slough, after his home town, he passed on 24 reports during 'clandestine' meetings in London and near Windsor Castle.

Mr Smith, who 'fully understood' who he was working for, was 'very careful' when handing over his reports and 'looks around to make sure he is not being watched,' according to the files.

The information he supplied was classed as 'non-public' or 'not easily available' and was to a 'large extent usable' and utilised by intelligence agencies in Czechoslovakia.

His paid cooperation only ended when his handler, Major Bedrich Kramar, an agent for the Czech Military Intelligence Agency who had the cover of air attache at its London embassy, was expelled from the UK for spying in September 1988.

Now retired and living in a semi-detached home outside Slough, Mr Smith accepted the file looked 'damning' but insisted he had done nothing wrong.

The married father of two said he never provided anything confidential and considered the cash he received payments for as 'freelance writing commissions'.

The reports he handed over also helped the West's deterrent by alerting the Communists to the capabilities Nato had without jeopardising them, he said.

Mr Smith also said he had told representatives from the British security services - from an agency he believed to be either MI5 or something similar - about the meetings and provided them all the information he supplied Kramar.

For their part, the Czech spies said in their initial exploration of Mr Smith that 'nothing adverse happened that would suggest the presence of enemy counter-intelligence'.

An analysis following Kramar's expulsion concluded – although it was impossible to rule out – 'we have seen no signs of [Mr Smith] being used as a dangle' by MI5.

Mr Smith's motive for cooperation with the agent and supplying information was 'mainly for financial reasons', the files allege

Soviet state banquet

Mr Smith first met Kramer at a state banquet held at London's Soviet Embassy in September 1986, which was attended by military and civil diplomats and defence journalists. At the time the Czechoslovakian Military Intelligence Agency was a puppet of the KGB.

Mr Smith was living with his parents in Slough and worked as the strategic affairs editor of Defence magazine, which boasted their 'globe-trotting' journalist enjoyed 'unchallenged political access'.

To the Communist spymasters, this made him a valuable asset, as the files explained: 'The contact's job makes it possible for him to obtain and hand over information on the changes in Nato's and GB's armed forces combat alert status.

'He also gets sent as correspondent to closed meetings of Nato bodies and has access to non-public reports from these meetings.'

Following the initial contact, Kramer - referred to by his codename agent 718 in the files – began to make 'covert' contact with Mr Smith.

Amid concerns it might be a 'dangle' by the British secret service, the Czech handler insisted on 'security measures' for the 'clandestine meetings' including ordering Mr Smith to keep them secret, meeting at quiet times in restaurants with 'minimal chance of being overheard' and carefully watching Mr Smith as he arrived to 'make sure he was not being followed'.

Exploration

During an initial nine-month 'suitability assessment', Mr Smith handed over information on a range of defence issues, including Britain's involvement in the US Star Wars nuclear deterrent programme, 'technologies and space weapons' and the modernisation of the US strategic air force.

Another file noted: 'His possibilities as to obtaining this kind of information and his willingness to do so were checked at a meeting on 11 May 1987 when, immediately after receiving information at the British Ministry of Defence (MoD) about the planned meeting of the Group for Nuclear Planning, he taped it for the agent.'

A later file added Mr Smith was 'likely to have close contacts with holders of such confidential information' and once told his handler when set a task relating to a subject he didn't know enough about: 'I will ask around, I have friends in Nato.'

His handler did not detect the 'presence of enemy counter-intelligence' so the spy chiefs approved 'tightening our cooperation' with Mr Smith.

Now retired and living in a semi-detached home outside Slough, Mr Smith accepted the file looked 'damning' but insisted he had done nothing wrong

Cut glass and cash

Mr Smith's motive for cooperation with the agent and supplying information was 'mainly for financial reasons', the files allege.

His first reward in 1987 was a cut glass Bohemian crystal, worth around £100 at the time, which he said would make a nice present for his then girlfriend.

Payments then 'gradually changed to direct financial rewards' which were only given for 'information that was deemed useful' by his handler.

One file noted: 'When receiving envelopes with money in, [Mr Smith] did not seem particularly shy but looked around inconspicuously to make sure he was not being watched.

'He simply considered the money to be a reward for his informational help.'

On one occasion his handler 'tested' whether he was a double agent by offering the money in front of his colleagues during a meeting at his workplace.

Mr Smith looked 'scared' and told the agent 'he would deal with it outside his workplace.'

His handler concluded if he was being directed by the British security services 'he would most likely not been so worried about hiding his side income.'

As time went on there was an 'unwritten rule' that Mr Smith was 'regularly rewarded for supplied information but he never asked [for] information that was of no use to the agent.'

Mr Smith 'gradually got used to a side income' and from November 1986 to March 1988 received just over £1,000 in rewards and hospitality - nearly £3,000 in modern value. At this time he was earning £1,200 a month for his job.

On one occasion when his agent gave him half of what he had expected, Mr Smith was said to be 'not happy' and 'asked for an explanation'. However the following month he showed 'overt joy' when paid retrospectively for the information.

His handler believed this showed his 'growing addiction on financial rewards,' explaining he was counting on the cash and tried to 'sell every word'.

Fine dining and flattery

The files say: '[Mr Smith] liked dining in style and he used to be impressed by the agent's choice of high-class restaurants.

'An additional motive was Smith's self-satisfaction at being able to supply insightful information that did not compromise him in any way.

'He knew he was extremely knowledgeable on the required subject matter and was privy to information that no one else in the editorial office had access to and he made sure everyone else knew it.

'The agent encouraged him in this by making it obvious to him that he respected him as a real authority in his field.'

Source agent

By June 1988, the files note Mr Smith had 'observed security instructions and fulfilled tasks set' by his handler, and spy chiefs proposed his recruitment as a full 'source agent'.

It said that 'based on the reports and information handed over to us in the exploration stage' he had 'already proven his potential' in providing recorded information from closed MoD meetings about planned changes in the armed forces, training exercises and planned reinforcements of Nato's armed forces on the Central-European battleground.

He had also offered information on Nato's military strategy, the 'development and implementation' of new types of weapons, the outcome of Nato's summit meeting with regard to military policy and US influence on Nato's European military policy.

The day after an October 1987 MoD press conference, he supplied information and documents about Nato's planned exercise 'Certain Strike' – a mass practice to prepare for a potential attack on West Germany by the USSR and its Warsaw Pact Allies.

It said: '[Mr Smith] fully understands who he is working for.

'He is keeping his contact with the agent secret, follows the given security instructions, fulfils the set tasks relating to monitoring changes in combat alert status.

The document concluded: 'His cooperation is deliberate and he has been obtaining and supplying the required information relating to Nato's combat alert status on a long-term basis…

'We have not found anything adverse with regards to security that would prevent his recruitment as a source agent.'

Handler expelled

But, in September 1988, his handler Kramar was expelled from the UK for spying.

Apparently after he was told of his deportation - but before he had left the UK - Kramar had a last meeting with Mr Smith.

The files noted: 'We saw no signs suggesting a link between the deportation and the Slough case.

'[Mr Smith] did not show any changes in behaviour during the last regular meeting and agreed to carry on with cooperation with a different agent and supply information in return for money like before.'

Mr Smith said he had no recollection of this meeting and that it did not seem 'plausible'.

The Czechs did initially cut contact with Mr Smith for several months before spy chiefs decided to make approaches via a new agent to see if the journalist was happy to continue the arrangement.

But the tentative plan appeared to have run out of time, with the final dossier on Mr Smith in the Prague security archives dated 28 November 1989 – the date Communist rule in Czechoslovakia officially ended following the Velvet Revolution to overthrow dictatorship.

Professor Anthony Glees, an intelligence and security expert from the University of Buckingham, said it was no surprise that the Communist spies targeted journalists.

He said: 'A journalist is always a very important agent. They are trusted and have licence to ask questions of those in power and senior positions.

'Because it is their brief and subject, they know where to look for and dig out public information which others would not know how to find.'

As a general principle, MI5 will neither confirm nor deny whether someone has worked for or with them, even historically.

MI5 can use whatever lawful means necessary to gather information about a foreign intelligence service operating in the UK.

https://www.dailymail.co.uk/news/article-11632853/Tory-councillor-gave-details-Britain-Nato-Communist-Czech-spies-Cold-War.html

Iran

CNN Exclusive:
A single Iranian attack drone found to contain parts from more than a dozen US companies

By Natasha Bertrand
Updated 1:51 PM EST, Wed January 4, 2023

Read the full piece at: https://edition.cnn.com/2023/01/04/politics/iranian-drone-parts-13-us-companies-ukraine-russia/index.html?s=09

Parts made by more than a dozen US and Western companies were found inside a single Iranian drone downed in Ukraine last fall, according to a Ukrainian intelligence assessment obtained exclusively by CNN.

The assessment, which was shared with US government officials late last year, illustrates the extent of the problem facing the Biden administration, which has vowed to shut down Iran's production of drones that Russia is launching by the hundreds into Ukraine.

CNN reported last month that the White House has created an administration-wide task force to investigate how US and Western-made technology – ranging from smaller equipment like semiconductors and GPS modules to larger parts like engines – has ended up in Iranian drones.

Of the 52 components Ukrainians removed from the Iranian Shahed-136 drone, 40 appear to have been manufactured by 13 different American companies, according to the assessment.

The remaining 12 components were manufactured by companies in Canada, Switzerland, Japan, Taiwan, and China, according to the assessment.

The options for combating the issue are limited. The US has for years imposed tough export control restrictions and sanctions to prevent Iran from obtaining high-end materials. Now US officials are looking at enhanced enforcement of those sanctions, encouraging companies to better monitor their own supply chains and, perhaps most importantly, trying to identify the third-party distributors taking these products and re-selling them to bad actors.

NSC spokesperson Adrienne Watson told CNN in a statement that "We are looking at ways to target Iranian UAV production through sanctions, export controls, and talking to private companies whose parts have been used in the production. We are assessing further steps we can take in terms of export controls to restrict Iran's access to technologies used in drones."

There is no evidence suggesting that any of those companies are running afoul of US sanctions laws and knowingly exporting their technology to be used in the drones. Even with many companies promising increased monitoring, controlling where these highly ubiquitous parts end up in the global market is often very difficult for manufacturers, experts told CNN. Companies may also not know what they are looking for if the US government has not caught up with and sanctioned the actors buying and selling the products for illicit purposes.

And the Ukrainian intelligence assessment is further proof that despite sanctions, Iran is still finding an abundance of commercially available technology. For example, the company that built the downed drone, Iran Aircraft Manufacturing Industries Corporation (HESA), has been under US sanctions since 2008.

A game of whack a mole worth playing

One major issue is that it is far easier for Russian and Iranian officials to set up shell companies to use to purchase the equipment and evade sanctions than it is for Western governments to uncover those front companies, which can sometimes take years, experts said.

“This is a game of Whack-a-Mole. And the United States government needs to get incredibly good at Whack-a- Mole, period,” said former Pentagon official Gregory Allen, who now serves as Director of the Artificial Intelligence Governance Project at the Center for Strategic and International Studies. “This is a core competency of the US national security establishment – or it had better become one.”

Allen, who recently co-authored an investigation into the efficacy of US export controls, said ultimately, “there is no substitute for robust, in-house capabilities in the US government.”

He cautioned that it is not an easy job. The microelectronics industry relies heavily on third party distributors and resellers that are difficult to track, and the microchips and other small devices ending up in so many of the Iranian and Russian drones are not only inexpensive and widely available, they are also easily hidden.

“Why do smugglers like diamonds?” Allen said. “Because they’re small, lightweight, and worth a ton of money. And unfortunately, computer chips have similar properties.” Success won’t necessarily be measured in stopping 100% of transactions, he added, but rather in making it more difficult and expensive for bad actors to get what they need.

‘A prolonged attack’ with Iranian drones

The rush to stop Iran from manufacturing the drones is growing more urgent as Russia continues to deploy them across Ukraine with relentless ferocity, targeting both civilian areas and key infrastructure. Russia is also preparing to establish its own factory to produce them with Iran’s help, according to US officials. On Monday, Ukrainian President Volodymyr Zelensky said that Ukrainian forces had shot down more than 80 Iranian drones in just two days.

Zelensky also said that Ukraine had intelligence that Russia “is planning a prolonged attack with Shaheds,” betting that it will lead to the “exhaustion of our people, our air defense, our energy sector.”

A separate probe of Iranian drones downed in Ukraine, conducted by the UK-based investigative firm Conflict Armament Research, found that 82% of the components had been manufactured by companies based in the US.

Damien Spleeters, the Deputy Director of Operations at Conflict Armament Research, told CNN that sanctions will only be effective if governments continue to monitor what parts are being used and how they got there.

“Iran and Russia are going to try to go around those sanctions and will try to change their acquisition channels,” Spleeters said. “And that’s precisely what we want to focus on: getting in the field and opening up those systems, tracing the components, and monitoring for changes.”

Experts also told CNN that if the US government wants to beef up enforcement of the sanctions, it will need to devote more resources and hire more employees who can be on the ground to track the vendors and resellers of these products.

“Nobody has really thought about investing more in agencies like the Bureau of Industry Security, which were really sleepy parts of the DC national security establishment for a few decades,” Allen, of CSIS, said, referring to a branch of the Commerce Department that deals primarily with export controls enforcement. “And now, suddenly, they’re at the forefront of national security technology competition, and they’re not being resourced remotely in that vein.”

Read the full piece at: https://edition.cnn.com/2023/01/04/politics/iranian-drone-parts-13-us-companies-ukraine-russia/index.html?s=09

Russia

No reports of interest

USA

Looking to Ditch Twitter? Morse Code Is Back
Reviving a 200-year-old system, enthusiasts are putting the digit back in digital communication

Larry Kahaner is an American journalist and author who resides in Bethesda, Maryland.

Read the full article here: https://www.smithsonianmag.com/innovation/morse-code-back-looking-ditch-twitter-180981309/?s=09

January/February 2023

For almost 20 years, Steve Galchutt, a retired graphic designer, has trekked up Colorado mountains accompanied by his pack of goats to contact strangers around the world using a language that is almost two centuries old, and that many people have given up for dead. On his climbs, Galchutt and his herd have scared away a bear grazing on raspberries, escaped from fast-moving forest fires, camped in subfreezing temperatures and teetered across a rickety cable bridge over a swift-moving river where one of his goats, Peanut, fell into the drink and then swam ashore and shook himself dry like a dog. “I know it sounds crazy, risking my life and my goats’ lives, but it gets in your blood,” he tells me by phone from his home in the town of Monument, Colorado. Sending Morse code from a mountaintop—altitude offers ham radios greater range—“is like being a clandestine spy and having your own secret language.”

Worldwide, Galchutt is one of fewer than three million amateur radio operators, called “hams,” who have government-issued licenses allowing them to transmit radio signals on specifically allocated frequencies. While most hams have moved on to more advanced communications modes, like digital messages, a hard-core group is sticking with Morse code, a telecommunications language that dates back to the early 1800s—and that offers a distinct pleasure and even relief to modern devotees.

Strangely enough, while the number of ham operators is declining globally, it’s growing in the United States, as is Morse code, by all accounts. ARRL (formerly the American Radio Relay League), based in Newington, Connecticut, the largest membership association of amateur radio enthusiasts in the world, reports that a

recent worldwide ham radio contest—wherein hams garner points based on how many conversations they complete over the airwaves within a tight time frame—showed Morse code participants up 10 percent in 2021 over the year before.

This jump is remarkable, given that in the early 1990s, the Federal Communications Commission, which licenses all U.S. hams, dropped its requirement that beginner operators be proficient in Morse code; it's also no longer regularly employed by military and maritime users, who had relied on Morse code as their main communications method since the very beginning of radio. Equipment sellers have noticed this trend, too. "The majority of our sales are [equipment for] Morse code," says Scott Robbins, owner of ham radio equipment maker Vibroplex, founded in 1905, which touts itself as the oldest continuously operating business in amateur radio. "In 2021, we had the best year we've ever had … and I can't see how the interest in Morse code tails off."

Amos E. Dolbear patented this telegraph sounder and speaking telephone in 1879. While versatile, it did not become a household fixture. National Museum of American History

Practitioners say they're attracted by the simplicity of Morse code—it's just dots and dashes, and it recalls a low-tech era when conversations moved more slowly. For hams like Thomas Witherspoon of North Carolina, using Morse code transmissions—sometimes abbreviated as CW, for "continuous wave"—offers a rare opportunity to accomplish tasks without high-tech help, like learning a foreign language instead of using a smartphone translator. "A lot of people now look only to tools. They want to purchase their way out of a situation."

Morse code, on the other hand, requires you to use "the filter between your ears," Witherspoon says. "I think a lot of people these days value that." Indeed, some hams say that sending and receiving Morse code builds up neural connections that may not have existed before, much in the way that math or music exercises do. A 2017 study led by researchers from Ruhr University in Bochum, Germany, and from University Medical Center Utrecht in the Netherlands supports the notion that studying Morse code and languages alike boosts neuroplasticity in similar ways.

Read the full article here: https://www.smithsonianmag.com/innovation/morse-code-back-looking-ditch-twitter-180981309/?s=09

Ana Montes, former U.S. intelligence analyst who spied for Cuba, is released

By Leo Sands and Shane Harris
Updated January 8, 2023 at 3:34 p.m. EST|Published January 8, 2023 at 10:10 a.m. EST

https://www.washingtonpost.com/national-security/2023/01/08/ana-montes-spy-cuba-release-prison/

Ana Montes, a U.S. intelligence officer convicted of spying for the Cuban government, was released from prison Friday after more than 20 years, according to the Federal Bureau of Prisons.

Montes, 65, was the top military and political analyst working on Cuban affairs at the Defense Intelligence Agency (DIA) when she was arrested in 2001 as the result of an FBI investigation. She was granted early release from federal prison in Fort Worth, largely on account of good behavior.

For almost 17 years, Montes gathered secret U.S. government information and passed it on to intelligence officers in Havana. She disclosed the identities of at least four U.S. officers covertly operating in Cuba, provided classified photos and documents, and divulged information about eavesdropping technology covertly installed on the island, essentially compromising every method the United States used to surveil the Castro regime, according to current and former U.S. intelligence officials. That makes Montes one of the most damaging spies of her time, they said.

Montes accessed sensitive information in her role as a senior analyst for Cuban affairs at the DIA, the agency responsible for providing military intelligence about foreign countries, where she had worked since 1985. Within seven years, she had been promoted as the agency's top official working on Cuba and was responsible for sharing secret U.S. government information on Havana with other federal agencies.

Unknown to her colleagues, who heralded her the "Queen of Cuba," Montes was feeding that information directly back to Cuban officials.

"Though I knew this day would come, it stings me Montes is now free," said Pete Lapp, a retired FBI special agent who led the investigation with another agent, Steve McCoy, and ultimately arrested Montes. "Having been in the room and helped the FBI build a very solid, prosecutable case that led to a hefty 25-year prison sentence, what we learned after from her in the debriefing shocked me."

The FBI had Montes under surveillance and arrested her 10 days after the Sept. 11 terrorist attacks, as the DIA was preparing to assign her to a team that would have access to information about locations the United States might bomb in Afghanistan.

"Her intent to spy for the Cubans, if not arrested, against our warfighters in Afghanistan after the 9/11 attacks would have risked lives," said Lapp, who co-authored a book about the case, "Queen of Cuba," scheduled to be published in October.

FBI alerted notorious spy for Russia to another working for Cuba

According to federal prosecutors, Montes was motivated by ideology and not financial incentive. She was never paid for anything but expenses, they told the court.

"I obeyed my conscience rather than the law," Montes told the judge who sentenced her in 2002 to 25 years in prison following her conviction for conspiracy to commit espionage. "I believe our government's policy toward Cuba is cruel and unfair, profoundly unneighborly, and I felt morally obligated to help the island defend itself from our efforts to impose our values and our political system upon it," she said.

In a statement ahead of her release, members of Montes's family said she had "committed treason against this country and the people of our nation. We continue to disavow what she did and any statements she has made or may make."

Senior Cuban officials publicly praised Montes after she was caught by the FBI, portraying her as an ideological ally.

According to the FBI, Montes communicated with her Cuban handlers via shortwave radios, computer diskettes and pagers, The Post reported in 2001.

Federal agents obtained court approval in 2001 to enter Montes's apartment, where they discovered a shortwave radio, an earpiece and a laptop. They secretly copied the computer's hard drive and restored deleted text, uncovering evidence that provided foundations to the allegations against Montes, according to an FBI affidavit.

Agents began following Montes and observed her making brief calls on pay phones outside the National Zoo, gas stations and other locations in Northwest Washington and Maryland, apparently sending encrypted messages to pagers, the affidavit said.

Montes was arrested on Sept. 21, 2001, at Bolling Air Force Base, the DIA's head office in Washington, and FBI agents led her out of the building in handcuffs.

"She was just a very efficient spy, quiet, kind of unassuming and devastating to U.S. national security because of that," Jim Popkin, author of a new book on Montes, told Washington Post Live in an interview Thursday, the day before her release.

According to Popkin, Montes kept a low profile at the DIA, rarely removing documents and preferring to commit sensitive intelligence to memory instead.

"Everything was in her head, and so day job would end approximately five o'clock. She'd go home, maybe work out, and she lived in a condo in Cleveland Park on Macomb Street and thus begins her night job, which was typing that classified information into her Toshiba laptop," Popkin said. "Nearly 17 years of classified information she's typing in virtually every day, and then she would take that, put it on disks, and meet, when convenient and when safe, with her handlers in Washington or Cuba."

According to the FBI, authorities were first alerted to Montes in 1996 when one of her DIA colleagues raised suspicions "on gut feeling" that she was acting for Cuban intelligence. Montes was interviewed by a security official, but no action was taken, the FBI said.

Four years later, when the security official learned the FBI was working to identify a suspected Cuban agent believed to be operating in Washington, he contacted the FBI about Montes and prompted its agents to open their investigation into her.

U.S. District Judge Ricardo M. Urbina ruled in 2002 that upon her release, Montes should be placed under supervision for five years, during which time her internet and computer usage would be monitored and unpermitted contact with foreign governments forbidden. Any conditions attached to her release Friday were not immediately clear.

Carol D. Leonnig contributed to this report.

https://www.washingtonpost.com/national-security/2023/01/08/ana-montes-spy-cuba-release-prison/

Finally, an alternative take on this balloon saga:

Bottlecap Balloon Brigade - an Illinois hobby group - claims its $13 weather balloon last pinged near Yukon on February 10 - hours before F-22 brought down UFO in SAME area with $400k missile

Northern Illinois Bottlecap Balloon Brigade reported one of its balloons 'missing in action' around the same time location jets downed an object over Alaska
It's now suspected the object shot down using $400,000 Sidewinder missile may have been the group's balloon
Hobby balloons cost as little as $12 and carry device that transmits their location
By LEWIS PENNOCK FOR DAILYMAIL.COM

https://www.dailymail.co.uk/news/article-11760443/Did-Joe-Biden-shoot-hobbyists-12-balloon-380-000-missile.html

PUBLISHED: 21:52, 16 February 2023 | UPDATED: 00:45, 17 February 2023

A mystery object shot down by U.S. fighter jets amid ongoing hysteria sparked by a Chinese spy balloon may have been a $12 inflatable launched by a hobby group in Illinois.

The Northern Illinois Bottlecap Balloon Brigade (NIBBB) reported one of its balloons 'missing in action' around the same location - and at the time time - a U.S. Air Force jet downed an unidentified object near Alaska using a $400,000 Sidewinder missile.

NIBBB said its 'K9YO' balloon last reported its location shortly before 1am GMT on Saturday, February 11 (8pm EST on February 10), near the coast of southwest Alaska.

Later on Saturday, Canadian Prime Minister Justin Trudeau declared an 'unidentified object' was downed over Canada's Yukon territory, several hundred miles from K9YO's last known location.

Modeling shared by NIBBB shows its balloon was headed in the direction of Yukon before it vanished - and opens up the possibility it was one of the suspicious objects down by the U.S. military.

The hobby balloon's last known location over Alaska came several hours before a fighter jet downed an unknown object several hundred miles away over Canada. A map of the hobby balloon's predicted path indicates it was heading towards the site where the UFO was downed

An unidentified object shot down by U.S. fighter jets using a $400,000 Sidewinder missile could have been a balloon launched by an Illinois-based hobby group. It's been speculated the hobby group could have used the balloon pictured above, which can be bought for under $15

The Chinese spy balloon triggered a diplomatic crisis between Washington and Beijing - and the subsequent hysteria has led to at least three more unidentified objects being shot down

The object shot down by a a U.S. Air Force F-22 fighter jet over Mayo, Yukon, was variously described by officials in Canada and the U.S. as a 'cylindrical', metallic balloon with a payload.

Balloons used by hobby groups like NIBBB often fit the same description. They are usually attached with a small, solar-powered payload that transmits location data back to listening posts on the ground. Typically, these payloads are no larger than a credit card.

NIBBB has not said its balloon was definitely the downed object, but an overview of the circumstantial evidence by Aviation Week leaves the possibility wide open.

Far from posing a military or surveillance threat, the 'pico balloons' launched by hobby groups like NIBBB often do little more than relay location data - or, in some cases, information about the weather.

They float around until they're damaged or brought down by bad weather. K9YO was airborne for 123 days and 18 hours before it stopped reporting its location.

In that time, it circumnavigated the globe six times.

President Joe Biden said on Thursday admitted the Yukon object and two other mysterious aerial objects destroyed by U.S. warplanes since the China balloon incident were not thought to be surveillance vehicles

President Joe Biden on Thursday admitted the Yukon object and two other mysterious aerial objects destroyed by U.S. warplanes since the China balloon incident were not thought to be surveillance vehicles.

'We don't yet know exactly what these three objects were, but nothing nothing right now suggests they were related to China's spy balloon programme, or they were surveillance vehicles from other any other country,' he said.

'The intelligence community's current assessment is that these three objects were most likely balloons tied to private companies, recreation or research institutions, studying weather, or conducting other scientific research.'

Biden came under intense criticism for allowing the balloon to fly all across the U.S. before giving the order to shoot it down once it was off the coast of South Carolina on Feb. 4.

On February 10, an unidentified object was downed over Alaska. The Yukon incident came a day later, then a third UDO was shot down over Lake Huron in the Midwest on February 12.

Military officials and the White House have also not categorically ruled out aliens could be behind the recent UFO incursions.

U.S. Navy sailors assigned to Explosive Ordnance Disposal Group 2 prepare to conduct a search for debris during recovery efforts for the remains of a high-altitude Chinese balloon shot down by the U.S. Air Force off the coast of South Carolina during salvage and investigation operations on February 7, 2023 in this image released by the U.S. Navy in Washington, U.S., February 13, 2023

The White House has announced it is putting together a new UFO task force to study the potential security risks posed by new airborne objects detected in US airspace.

The new group, created on orders from national security adviser Jake Sullivan, will see experts from the Pentagon, the Federal Aviation Administration, the Department of Homeland Security and other government agencies come together to analyze unidentified aerial phenomena (UAPs) and determine whether they are a threat.

National Security Council spokesman John Kirby on Monday said: 'Every element of the government will redouble their efforts to understand and mitigate these events,' adding the task force would examine the 'broader policy implications' related to the detection and analysis of UFOs over mainland US.

The announcement came just one day after a US air force F-16 fighter jet shot down a UFO over the Great Lakes - the third unidentified object to be downed in as many days.

The UFO narrative wasn't helped by Gen. Glen VanHerck, head of NORAD and US Northern Command, who wouldn't say aliens were off the table during a briefing Sunday night.

https://www.dailymail.co.uk/news/article-11760443/Did-Joe-Biden-shoot-hobbyists-12-balloon-380-000-missile.html

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.

Morse - Number Stations

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

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

Jan 2023:

No Reports

Feb2023:

5320	1800z	14 Feb	NRH		BR	TUE
	1800z	16 Feb	'197' 321 30 = = 35813 94761 … 26281 39561 = =	Good, fast. Error grp14 & start. End sequence changed	BR	THU
	1800z	28 Feb	'197' 117 30 = = 12356 12356 … 45667 98756 = =	Good, fast. Added text between grp22-23. End changed	BR	TUE
4490	2000z	16 Feb	'197' 913 30 = = 53591 42815 … 63816 95716 = =	Strong, fast. No errors in msg. End sequence changed	BR/Spectre	THU
	2000z	21 Feb	'197' 630 30 = = 31572 94816 … 38092 06342	Good with QSB, fast. No errors. End sequence changed	BR	TUE
	2000z	23 Feb	'197' 362 30 = = 84763 91881 … 98165 26514 = =	Fair with QSB, fast. Excellent Morse. No errors	BR	THU
	2000z	28 Feb	'197' 424 30 = = 56732 65498 … 43637 58675	Strong, fast. Muddled groups 26 -28. End changed	BR	TUE
5465	0700z	19 Feb	'197' 364 30 = = 46576 14233 … 46533 11223 = =	Weak/Fair with QSB, med-fast. Errors noted	BR	SUN
5810	1500z	11 Feb	'197' 563 30 = = 75893 09176 … 61541 09176 = =	Good, med-fast. One noted error grp11 75647 75656	BR	SAT
	1500z	18 Feb	'197' 305 30 = = 80900 13243 … 49878 46655 = =	Fair/Good with QSB. Excellent Morse with no errors	BR/Spectre	SAT
	1500z	25 Feb	'197' 967 30 = = 86756 23123 … 76645 36546 = =	Good, V.fast. Numerous errors, incomplete repeat grps.	BR	

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.

No Reports

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

14673/13473/12173	0300/20/40z	10 Jan	641 1	(Via SDR Japan)	HFD	TUE
	0300/20/40z	17 Jan	641 000	(Via SDR Japan)	BR	TUE
16253/15953/14453	0010/30/50z	09 Jan	294 1	(Via SDR Japan)	HFD	MON
	0010/30/50z	20 Jan	294 1 (557 116) 46308 45404….	(Via SDR Japan)	BR	FRI
	0010/30/50z	23 Jan	294 1 (204 158) 98379 16565….	(Via SDR Japan)	BR	MON
17437/15937/14537	0300/20/40z	02 Feb	495 1	(Via SDR Japan)	HFD	THU
	0300/20/40z	21 Feb	495 1 (640 166) 42765 99306….	(Via SDR Japan)	BR	TUE
17461/16161/15861	0010/30/50z	10 Feb	418 1 (634 160) 95999 66837….	(Via SDR Japan)	BR/HFD	FRI

European M12 Logs

Jan 2023: New scheds in bold type

5778/6778/8178	2200/20/40z	13 Jan	771 1 (200 98) 53133 73868…	BR/HFD	FRI
	2200/20/40z	14 Jan	771 1 (200 98) 53133 73868…	BR	SAT
	2200/20/40z	20 Jan	771 1 (293 104) 73592 64515….	BR	FRI
	2200/20/40z	21 Jan	771 1 (293 104) 73592 64515….	BR	SAT
	2200/20/40z	28 Jan	771 1 (293 104) 73592 64515….	BR	SAT
5886/6786/7486	0030/0050/0110z	03 Jan	874 1	HFD	TUE
	0030/0050/0110z	10 Jan	874 000	BR	TUE
	0030/0050/0110z	13 Jan	874 000	BR	FRI
	0030/0050/0110z	20 Jan	874 1 (143 184) 04996 32530….	BR	FRI
	0030/0050/0110z	24 Jan	874 1 (143 184) 04996 32530….	BR	TUE
	0030/0050/0110z	27 Jan	874 1 (143 184) 04996 32530 … 03203 87698 000 000	BR/Gert	FRI
6782/5882/ - - -	2000/20/40z	04 Jan	781 000	HFD	WED

11079/10279/9179	2300/20/40z	09 Jan	136 1 (375 127) 78907 43106….	BR/HFD	MON
	2300/20/40z	12 Jan	136 1 (375 127) 78907 43106….	BR	THU
	2300/20/40z	16 Jan	136 000	BR	MON
	2300/20/40z	19 Jan	136 000 V.Weak	BR	THU
	2300/20/40z	23 Jan	136 1 (306 103) 98361 44943….	BR	MON
	2300/20/40z	26 Jan	136 1 (306 103) 98361 44943 … 27959 65152 000 000	BR/Gert	THU
15936/17436/ - - -	0900/20/40z	03 Jan	943 000	HFD	TUE
	0900/20/40z	10 Jan	943 000	BR	TUE
	0900/20/40z	13 Jan	943 000	BR	FRI
	0900/20/40z	17 Jan	943 000	BR	TUE
16357/17457/18357	0800/20/40z	08 Jan	343 1 (383 218) 43640 55229 … 64361 93686 000 000	Gert/HFD	SUN
	0800/20/40z	15 Jan	343 1 (383 218) 43640 55229 … 64361 93686 000 000	Gert	SUN
17418/16318/ - - -	1400/20/40z	23 Jan	439 000	HFD	MON

Feb 2023:

5734/6834/7634	0030/0050/0110z	07 Feb	786 1	HFD	TUE
	0030/0050/0110z	14 Feb	786 1 (278 204) 61213 63502….	BR	TUE
	0030/0050/0110z	28 Feb	786 1 (332 108) 31084 56556….	BR	TUE
5832/6832/7732	2200/20/40z	03 Feb	887 1	BR	FRI
	2200/20/40z	04 Feb	887 1 (141 120) 98963 54961….	BR	SAT
	2200/20/40z	10 Feb	887 1 (141 120) 98963 54961….	BR	FRI
	2200/20/40z	11 Feb	887 1 (141 120) 98963 54961….	BR	SAT
	2200/20/40z	17 Feb	887 1 (213 106) 49740 64763….	BR	FRI
	2200/20/40z	18 Feb	887 1 (213 106) 49740 64763….	BR	SAT
	2000/20/40z	24 Feb	887 1 (213 106) 49740 64763….	BR	FRI
	2000/20/40z	25 Feb	887 1 (213 106) 49740 64763….	BR	SAT
7674/6874/5774	2000/20/40z	01 Feb	687 1 (361 197) 54245 53869….	BR	WED
	2000/20/40z	08 Feb	687 1 (158 201) 53023 91570….	BR	WED
	2000/20/40z	10 Feb	687 1 (158 201) 53023 91570….	BR	FRI
	2000/20/40z	15 Feb	687 1 (8840 97) 90269 07650 … 57064 67426	Gert	WED
9362/8062/7462	2300/20/40z	02 Feb	451 1	HFD	THU
	2300/20/40z	06 Feb	451 1 (111 107) 00886 85626….	BR	MON
	2300/20/40z	09 Feb	451 1 (111 107) 00886 85626….	BR	THU
	2300/20/40z	16 Feb	451 1 (318 131) 73252 05197….	BR	THU
	2300/20/40z	20 Feb	451 000	BR	MON
	2300/20/40z	23 Feb	451 000	BR	THU
	2300/20/40z	27 Feb	451 1 (6767 162) 13542 86084….	BR	MON
11435/10598/9327	1800/20/40z	11 Feb	938 1 (5283 79) 29654 62263….	BR	SAT
	1800/20/40z	18 Feb	938 1 (4676 76) 84916 12807….	BR	SAT
	1800/20/40z	25 Feb	938 1 (2503 75) 47551 00494….	BR	SAT
13386/12189/11491	1110/30/50z	09 Feb	725 1 (1593 91) 98656 63102….	BR	THU
	1110/30/50z	16 Feb	725 1 (3437 90) 41850 99275….	BR	THU
	1110/30/50z	23 Feb	725 1 (3033 93) 22074 63774….	BR	THU
15842/16142/ - - -	0900/20/40z	03 Feb	812 000	AB/HFD	FRI
	0900/20/40z	10 Feb	812 000	BR	FRI
	0900/20/40z	14 Feb	812 000	BR	TUE
	0900/20/40z	24 Feb	812 000	BR	FRI
17415/18215/18715	0800/20/40z	05 Feb	427 1 (Via SDR Russia)	HFD	SUN
	0800/20/40z	08 Feb	427 1 (420 248) 73575 78477 … 33260 38150 000 000	Gert	WED
	0800/20/40z	15 Feb	427 1 (420 248) 73575 78477….	BR	WED
19373/17473/16173	1400/20/40z	02 Feb	341 1 (Via SDR Russia)	HFD	THU
	1400/20/40z	06 Feb	341 1 (7632 97) 57727 66127 … 64168 45317 000 000	Gert	MON
	1400/20/40z	09 Feb	341 1 (7632 97) 57727 66127….	BR	THU
	1400/20/40z	16 Feb	341 000	BR	THU

M12 16357/17457/18357kHz 0800/0820/0840z 08 Jan 2023

343 343 343 1 (R2m) 383 218 383 218

43640 55229 33367 28840 42923 34041 07335 14491 46473 24064
90208 78902 33206 22849 99434 59996 76581 76027 13943 80371
44240 84615 04597 09587 80390 24226 93409 60528 97144 80059
54565 95952 42723 78928 71580 01981 76673 59574 18121 49661
05872 50386 79130 69362 88015 01128 55618 42409 08502 14262
61351 29964 56570 71912 47846 99766 18198 59280 18028 98560
13192 36727 05011 30264 52639 73058 91415 81260 26438 31847
87690 21290 03024 63836 48807 27060 33434 56410 82942 55856
53585 90388 33799 32769 38583 32464 14691 48079 76474 37126
29737 75237 07306 41122 14000 03549 48798 19962 25925 45225
79449 13769 32912 01440 63807 73210 40551 02970 56336 89946
28702 18956 41306 45564 98710 45961 70540 53671 81997 62979
85048 85648 49675 58704 11682 62798 09370 07049 26501 68886
05838 20932 25351 34107 12843 24663 11791 02558 57805 34481
03773 68969 22852 34760 51229 56820 39447 27014 36505 92846
64452 99511 90690 27022 77276 71686 16980 86993 21480 40823
58680 97831 06502 32809 27359 95636 39345 09810 11093 26521
13883 02234 63591 78106 14890 53398 57747 28456 63683 67243
66185 18417 12049 26751 35879 40958 97251 91866 67625 28173
87473 15771 05441 10030 78841 59055 46482 45646 75581 92115
71031 27922 80740 91406 43071 52096 17372 25609 67204 07745
87712 11106 46226 30671 79124 86264 64361 93686 000 000

Courtesy Gert

M12 17415/18215/18715kHz 0800/0820/0840z 08 Feb 2023

427 427 427 1 (R2m) 420 248 420 248

73575 78477 81637 47718 06575 62353 41277 25317 44879 00173
92713 80639 62670 30640 91998 19652 74322 78486 18033 12885
85157 68150 28152 97826 26561 83815 99724 29358 68322 56103
27538 61362 28588 11701 12405 43735 41962 50090 69456 99800
24486 36474 14793 17702 36677 60039 48662 10874 60118 37126
76215 66984 47808 92190 96598 24471 77556 61200 48372 71412
89698 01281 76784 35484 84592 87341 65182 35770 06028 21472
34906 94225 96170 06324 24706 00591 27040 54864 78909 33928
47059 84358 54922 34819 22976 69739 43974 03668 42345 91478
27356 54846 55936 87081 06177 67613 37074 96782 49746 08227
45852 56998 85895 19786 28560 86051 45469 48711 55490 14099
72173 89452 16525 36941 89739 95340 16275 09224 73760 47830
21712 86805 42004 91675 94600 98160 22679 87521 09237 87942
39781 75187 83163 17235 58663 24555 36395 81851 09745 37361
98652 18367 39055 50813 99274 81187 85754 85763 43549 62558
49160 67931 78432 28003 54525 12309 42117 48400 90638 82594
76368 35170 65385 43635 04093 12240 65517 62655 93446 73791
98204 27008 10095 98150 64570 32388 05631 22734 12660 13505
01211 64726 11363 16583 45848 74298 99375 04703 46408 59582
89325 19852 81944 80552 21977 75641 58923 06724 76376 53627
54428 11246 86082 07546 72026 31664 06296 19450 97459 72643
67410 26414 57943 83123 89136 48181 85286 15071 71764 99555
24262 06080 27192 93240 85724 50232 98446 51730 38822 07395
17552 12785 94963 68951 63465 21509 91615 06984 47812 04094
42767 59106 97102 96962 91464 92801 33260 38150 000 000
000 000

Courtesy Gert

M14 IA MCW / ICW Short 0

Jan 2023:

17458 0930z 25 Jan 617 00000 HFD WED

Feb 2023:

No logs

M23 O ICW

After a very active period from mid-November through December 2022, the regular daily transmissions from M23 ceased – The last transmissions being sent on Saturday, 31 December 2022.

Although no further transmissions were heard, the regular hourly 'dits' continued to be sent – Usually an indication that the frequency is still 'live'. However, further monitoring & additional information from Ary, (AB), indicates that these hourly markers are always present.

5345 kHz, 01-02, 0556 UTC. Hourly beep
5345 kHz, 02-02, 0456 UTC. Hourly beep
5345 kHz, 03-02, 0556 UTC. Hourly beep
5345 kHz, 04-02, 0656 UTC. Hourly beep
5345 kHz, 06-02, 0556 UTC. Hourly beep
5345 kHz, 07-02, 1456 UTC. Hourly beep
5345 kHz, 08-02, 0656 UTC. Hourly beep
5345 kHz, 09-02, 0456 UTC. Hourly beep
5345 kHz, 10-02, 0556 UTC. Hourly beep
5345 kHz, 11-02, 0756 UTC. Hourly beep
5345 kHz, 12-02, 0956 UTC. Hourly beep
5345 kHz, 13-02, 0756 UTC. Hourly beep
5345 kHz, 14-02, 0556 UTC. Hourly beep
5345 kHz, 15-02, 0456 UTC. Hourly beep
5345 kHz, 16-02, 0456 UTC. Hourly beep

5345 kHz, 17-02, 0556 UTC. Hourly beep
5345 kHz, 18-02, 0756 UTC. Hourly beep
5345 kHz, 19-02, 0656 UTC. Hourly beep
5345 kHz, 20-02, 0656 UTC. Hourly beep
5345 kHz, 21-02, 0656 UTC. Hourly beep
5345 kHz, 22-02, 0556 UTC. Hourly beep
5345 kHz, 23-02, 0656 UTC. Hourly beep
5345 kHz, 24-02, 0556 UTC. Hourly beep
5345 kHz, 25-02, 0656 UTC. Hourly beep
5345 kHz, 26-02, 0656 UTC. Hourly beep
5345 kHz, 27-02, 0556 UTC. Hourly beep
5345 kHz, 28-02, 0556 UTC. Hourly beep

No other transmissions found

Courtesy AB

In addition, it is clear that M23 apparently does not use DCF77/MSF/internet clocks to adjust the time. In the past months the hourly bleep slowly moved from hh59 to hh56 by the end of January 2023. Thanks to Ary for his continued monitoring & reports.

Morse Stations - Not Number Related

M51 XlX

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

No reports – M51b format in use

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

3881//6825

1230 - 1256z	09 Feb	Jeudi- Leçon	24-2/1 Codé, 24-2/2 Clair, 24-2/3 Codé, 24-2/4 Clair (840 grps/hr)	BR	THU
1230 - 1255z	16 Feb	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	17 Feb	Vendredi- Leçon	05-2/1 Codé, 05-2/2 Clair, 05-2/3 Codé, 05-2/4 Clair (960 grps/hr)	BR	FRI

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

3881//6825

0330z	18 Feb	Non-stop 5-character groups composed of M51a messages	BR	SAT
0048z	28 Feb	Non-stop 5-character groups composed of M51a messages (6825kHz inaudible)	BR	TUE

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).

3500 3801	4190 4253 4423 4466 4659 4699	5077 5163 5279 5425 5617 5821	6986	7877	8060 8500 8847	

New Scheds for Jan / Feb 2023: **From logs submitted from JPL**

4508	New Round Slip & Frequency	First heard 09 Jan	V 9GWQ (x3) DE J2PX (x2)
	New Round Slip & Frequency	First heard 20 Feb	V LHF5 (x3) DE 2EDK (x2) Replaced 9GWQ DE J2PX
7716	New frequency for this Round Slip	First heard 12 Jan	V 9GWQ (x3) DE J2PX (x2)

Chart of M89 Freq & Call signs heard in Jan / Feb 2023 **New Scheds shown in Bold Type** **From logs submitted from JPL**

Freq in KHz	Call Slip
3565//NRH	V BSA5 (x3) DE TP4C (x2)
3565//4718	V BSA5 (x3) DE TP4C (x2)
4508	**V 9GWQ (x3) DE J2PX (x2)** **V LHF5 (x3) DE 2EDK (x2)**
4718	V BSA5 (x3) DE TP4C (x2)
4720//NRH	V WNF(x3) DE FXM (x2) (R5) (Hand sent)
4720//5150	V WNF(x3) DE FXM (x2) (R5) (Hand sent)
4726	V QPL(x3) DE 4WQ (x2) (R5) QSA ? K

Freq in kHz	Call Slip
4860// 6840	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) QSA ? K
5150//NRH	V WNF(x3) DE FXM (x2) (R5) (Hand sent)
6378//7045	V BSA5 (x3) DE TP4C (x2)
7716	**V 9GWQ (x3) DE J2PX (x2)**

Courtesy JPL

3801	1909z (IP) 10 Jan	NR 02.5 CK 90 24 0111 0300 RMKS 369 TO 600R K	(Via SDR Changqing China)	JPL	TUE
5425	1556z (IP) 31 Jan	RMKS 7303 TO 7382 K	(Remote tuner Japan)	JPL	TUE
5821	1606z (IP) 31 Jan	304/XX917/3153/12/11/71/X417A/COMM/3189 AR	(Remote tuner Japan)	JPL	TUE
6378//7045	0727z 20 Jan	V BSA5 (x3) DE TP4C (x2) MSG NR 4024 CK 101 21 0110 1530 RMKS 5498 TO 5494 K	(Remote tuner Khabarovsk)	JPL	FRI
7877	0154z (IP) 18 Feb	NR …CK … RMKS …. TO 8640 K (Unable to copy – weak)	(Via SDR Chongqing China)	JPL	SAT

8060	0007z (IP) 13 Jan	NR 0123/EX 1809 BT	1FK2/3.W6 AR	(Remote tuner Hong Kong)	JPL	FRI
8847	0149z (IP) 18 Feb	NR 8060 CK 99 96 0218 0950 RMKS 2252 TO 2275 BT		(Via SDR Chongqing China)	JPL	SAT

M89 3801kHz 1909 (IP) - 1917z 10 January 2023

N36N NN6T N66U TD46 TN5T DUN5 (IP Cont'd – 1909z)
II II BT UT6N D3TD 6U73 UN36 63DU (Cont'd 1910z)
AR K (1913z)
(Other station N/H on this frequency)
R RPT 2P 25W TO 26 W BT T4U6 35U5 T4U6 35U5 AR K (1915z)
R RPT 2P 24W TO 25 W BT .356 T4U6 AR K (1916z)
R O EEEEE R U MSG GA K (1917z – Other station possibly on 3967)

TT3U AR K (IP – 1928z)
K R MSG K (Other station also on freq – signal distorted)
PSE N.TE C M K
R GA K
NR 02.5 CK 90 24 0111 0300 RMKS 369 TO 600R K (1930z)
R GA K
BT T4D4 T7A3 4UTD (Cont'd – 1930z)
R QSL 0331 K (1931z)
QSL 0332 ?
R VA
VA (Normally sends SK vice VA) (1932z)

M89 6378//7045kHz 0727 (IP) - 0737z 20 January 2023

V BSA5 (x3) DE TP4C (x2) (IP - Cont'd)
R HR MSG GA K (IP – 0734z)
R **MSG NR 4024 CK 101 21 0110 1530 RMKS 5498 TO 5494 K** (0736z)
R BT ADN3 73N6 54D3 35NA 67NT AD46 A43T A63 7346 3NAT 3D7T
4AN7 (Cont'd – 0737z)

Courtesy JPL

M89 5077kHz 1557 (IP) - 1603z 13 January 2023

7D35 NAD7 TA3U 6A47 4D3N 54N6 3ADU (IP – Cont'd – 1557z)
AR K
R RPT 2P 28W K (Both stations on this frequency)
R HR RPT 2P 28 W BA47 6A47 K
R RPT 2P 42W K
R RPT K
R RPT 2P 42K
R HR RPT 2P 42W U367 U367 K (1602z)
R QSL 0901 K
R OK K
R OK (1603z)

5821kHz 1606 (IP) - 1608z 31 January 2022

71/X417A/COMM/3189 AR (IP – 1606z)
HR SVC GA HR SVC GA BT
304/XX917/3153/12/11/71/X417A/COMM/3189 AR
HR WK NR 470 HR WK NR 470 NIL SK NIL SK (1608z)

Courtesy JPL

M95 O XSV, XSV70, XSV85

M95 Morse Logs (Bold type indicates new logging)

3344	**(Message format indicates M95)**					
	1538 (IP) - 1539z	11 Jan	NR 020/CCK CK 100 24 0111 2320 RMKS 2341 TO 1430 K	(Via Chongqing China)	JPL	WED
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)				
3705	**(Message format indicates M95)**					
	1554 (IP) – 1600z	11 Jan	NR 90/CCK CK 81 55 0111 2320 RMKS 4526 TO 4139 BT	(Via Chongqing China)	JPL	WED
4111	1201 (IP) - 1205z	12 Jan	NR 921/CCK CK 141 24 0112 1945 RMKS 3SV9 TO CBT5 K	(Remote tuner Japan)	JPL	THU
4178//NRH	Call Sign S2DJ	Believe this to be new Round Slip and freq for YHXD DE SAQC				
	1906z	17 Jan	V XP5B (x3) DE S2DJ (x2)	(Remote tuner Novosibirsk)	JPL	TUE
	1828z	20 Jan	V XP5B (x3) DE S2DJ (x2)	(Remote tuner Novosibirsk)	JPL	FRI
	2044z	21 Jan	V XP5B (x3) DE S2DJ (x2)	(Remote tuner Novosibirsk)	JPL	SAT
4178//7517	Call Sign S2DJ	Believe this to be new Round Slip and freq for YHXD DE SAQC				
	1736z	22 Jan	V XP5B (x3) DE S2DJ (x2)	(Remote tuner Khabarovsk)	JPL	SUN
	1840z	15 Feb	V XP5B (x3) DE S2DJ (x2)	(Remote tuner Novosibirsk)	JPL	WED
4243//NRH	Message number differs from current XSV70 and XSV85 message numbers.					
	1144 (IP) - 1153z	12 Jan	NR 24 CK 207 35 35 0112 1522 BT	(Remote tuner Japan)	JPL	THU
4243//9054	Message number differs from current XSV70 and XSV85 message numbers.					
	1148 (IP) – 1201z	20 Feb	NR 01 CK 42 49 0218 2100 BT NR 004 CK 49 35 0220 1533 BT NR 40 CK 168 35 0220 1554 BT	(Remote tuner Japan)	JPL	MON
4364//8073	Call Sign XSV85					
	1132 - 1139z	12 Jan	NR 0040 CK 259 35 0112 1600 BT	(Remote tuner Taiwan)	JPL	THU
	0000 - 0007z	13 Jan	NR 0041 CK 099 35 0113 0644 BT	(Remote tuner Hong Kong)	JPL	FRI
	1130 - 1146z	20 Feb	NR 0171 CK 419 35 0220 1538 BT	(Remote tuner Hong Kong)	JPL	MON
5036	1535(IP) – 1537z	13 Jan	NR 10..9/CCK CK 81 12 0113 2330 RMKS 0174 TO 0055 BT	(SDR China)	JPL	FRI

5337	0802 (IP) - 0833z	20 Jan	MSG NR 007/CCK CK 5158 012. .. RMKS 2802 TO 2800 K			
				(Remote tuner Novosibirsk)	JPL	FRI
5651//NRH	Call sign S2DJ					
	2032z	09 Jan	V XP5B (x3) DE S2DJ (x2) (IP - Cont'd)	(Remote tuner Novosibirsk)	JPL	MON
	1158z	12 Jan	V XP5B (x3) DE S2DJ (x2) (IP - Cont'd)	(Remote tuner Japan)	JPL	THU
	1528z	13 Jan	V XP5B (x3) DE S2DJ (x2) (IP - Cont'd)	(Remote tuner Novosibirsk)	JPL	FRI
5651//12039	Call sign S2DJ					
	0802z	20 Jan	V XP5B (x3) DE S2DJ (x2) (IP - Cont'd)	(Remote tuner Novosibirsk)	JPL	FRI
9054	Call sign XSV85					
	(See also 4243//9054kHz listing)					
	2343 (IP) - 2359z	12 Jan	NR 084 CK 23 35 0113 0608 BT NR 085 CK 32 35 0113 0611 BT	(Remote tuner Japan)	JPL	THU
9153	V BNEC (x3) DE XSV70 (x2)					
	0035 (IP) – 0036z	13 Jan	NR 037 CK 122 35 0113 0704	(Remote tuner Japan)	JPL	FRI
9348	0012 (IP) - 0016z	13 Jan	MSG NR 119/CCK CK 95 34 0113 0815 RMKS 3553 TO 3522 BT			
				(Remote tuner Hong Kong)	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

M95 3344kHz 1538z (IP) – 1539z 11 January 2023

R RPT 62W BT 4A6T 4A6T CK (IP – 1538z)
R QSL 2337 K (Both stations on this frequency)
R U 7G GA K
R **NR 020/CCK CK 100 24 0111 2320 RMKS 2341 TO 1430 K**
R GA K (Message format indicates M95)
R BT 3ADT 3N56 D6A3 ATUD N635 .56N 35D6 53D6 35DT 4AND 67UA
NTA3 (Cont'd – 1539z)

M95 9054kHz (//4243 NRH) 2343z (IP) - 2359 12 January 2023

(In Progress at 2343z)
In Chinese digital 4+4 QPSK 75/3000 - LSB 2343z
Switched to CW Handsent 2350z

VV HR MSG TO YR PSE CY (2351z)
NR 084 CK 23 35 0113 0608 BT
UT5 TA3 3U4 7TA TTA TTU TT3 773 4UT 446
34T DUU DND N34 454 TT3 773 34U DND N34
454 DD7 NT6 AR (2353z)
MSG AGN **NR 084 CK 23 35 0113 0608 BT** (Repeats message – 2354z)
AR A HR MSG GA **NR 085 CK 32 35 0113 0611 BT**
UT5 TT3 3U4 3A4 TTA TTU TT3 773 354 373 .4A
N3D 343 4UT 446 34. DUU DND .4 454 TT3 773
34U DND N34 454 4D3 N3D 4T6 3DU N3D 3D6 AR
MSG AGN **NR 085 CK 32 35 0113 0611 BT** (Repeats message – 2359z)

Courtesy JPL

M95 5337kHz 0832z (IP) – 0833z 20 January 2023

MSG NR 007/CCK CK 5158 012. .. RMKS 2802 TO 2800 K
(IP – 0832z)
R RPT 7G NR K (Both stations on this frequency - 0833z)
NR R MSG 01W BT BT BT .TD

M95 4243//9054kHz 1148z (IP) – 1201z 20 February 2023
In Chinese digital 4+4 QPSK 75/3000 - LSB 1148z
Switched to CW Handsent 1151z

VVV HR 7G TO YR PSE CY (1152z)
NR 01 CK 42 49 0218 2100 BT
756 DA.. U3 NN3 DU4 U63 T5D NAN T43 A66 A36
(Cont'd – running characters together – Very fast) (1153z)
AR 7G AGN
NR 01 CK 42 49 0218 2100 BT
756 DAD 3DU 53N N3D U44 U63 6DN ANT 43A 66A
(Cont'd – 1155z)
AR A HR 7G GA
NR 004 CK 49 35 0220 1533 BT
5AA UTT TUT 3A4 5T7 5TD 75U 353 4TA 447 346 N3U
(Cont'd – 1156z)
AR 7G AGN
NR 004 CK 49 35 0220 1533 BT (Repeats message – 1158z)
AR A HR 7G GA
NR 40 CK 168 35 0220 1554 BT
UTU TUT 3U6 3A4 TTU 773 35U N3D 353 4TA (Cont'd – 1201z)

Courtesy JPL

Marker Beacons (MX MXI)

Beacons Make a Reappearance in 80 Metre Amateur Band

We are pleased to welcome Robert, (RB), to ENIGMA 2000 who has reported that some of the Russian Single Letter Cluster Beacons that used to operate within the 80 metre amateur band have recently started to become active again. The following is Robert's reports & logs;

As noted in the loggings below, some stations in the old MX group have reappeared in their former stomping ground on 3594 kHz. I find it very interesting that these supposed propagation beacons are not being operated to a consistent timetable (a propagation beacon that cannot be relied upon to be present is of far more limited value...).

Logs as follows:

01/02/2023: No sign of any cluster beacons whilst routinely monitoring the WSPR segment of the 80 meter band 3594 - 3594.200 kHz. Russian MX beacons have been absent from this segment since C. 2017.

02/02/2023. No observations.

03/02/2023 20:30 Surprised to find Beacon 'D' , Sevastopol, on 3593.700 whilst monitoring WSPR transmissions. 21:00 Beacon 'S', Severomorsk, audible on 3593.900. Both continue into the following morning.
No sign of the other former beacons in this cluster 'P' (Kaliningrad) or 'C' (Moscow).

04/02/2023. Possible SLHFB 'T' on 3597 kHz 18:30, not audible by 20:00. Break in monitoring. 'D' audible at 20:53. Beacon 'S' came on air abruptly at 21:00. 'D' and 'S' continue past 23:00.

05/02/2023. Began monitoring 17:00. 20:57 'D' abruptly starts up on 3593.700, ceases transmission at 21:01 whilst mid-character. No further transmissions noted. "S" weakly audible c. 21:30, much clearer by 22:00. Ceased monitoring 22:00

06/02/2023. No observations.

07/02/23. Began monitoring 18:30. No sigs."D" starts at 20:57.Still running at 22:07. Monitoring ceased. No signals from "S" observed.

08/02/2023. Began monitoring 18:00. No Sigs. "D" starts at 20:56, very poor initial note.

Regarding the MX cluster beacons just below 3594 kHz, Sevastopol (D) has continued to start up shortly before 21:00 UTC with irregular timing. I am firmly of the belief that this transmitter is being manually switched on and allowed to warm up for a few minutes before the service officially commences at 21:00. Its companion Severomorsk (S) has been absent for several days.

Of note was the extended CIS-128 operation on the frequency. I cannot say whether or not these transmissions were naval, but I don't think they are related to the Sevastopol MX transmitter as it continued operation throughout the interference.

09/02/23 Brief check at 20:55 found "D" on the air.

10/02/23 Began monitoring 18:30. No sigs. "D" came on the air at 20:51, starting mid-character. "D" still on air when monitoring ceased at 23:10. No sigs from "S".

11/02/23. Spot check at 03:30 found "D" still in operation, no sigs at 05:00 - whether due to close-down or propagation is uncertain. "D" restarted at 20:51 amidst severe interference from RTTY contesting.
From 22:00 -22:35 regularly obliterated by a 3.1 kHz wide data signal centred on 3593.8 kHz identified as CIS-128 (Russian military). Severe disruption to the signal from RTTY contesting.
Poor Russian frequency co-ordination much in evidence! No sigs from "S". Ceased monitoring at 23:00.

12/02/23. "D" appeared at 20:54, struggling to be heard amidst the ongoing RTTY contest.

No sign of Severomorsk ("S") on 80 meters this week but "D" (Sevastopol) is maintaining its new schedule. The transmitter is being manually powered up and the start time is a little erratic, but the aim appears to have it warmed up and on the air by 21:00 UTC.

13/02/23. "D" appeared at 20:51, starting up mid character on the final 'dit'. Probably mechanically keyed? Or a valved transmitter/PA that requires a few moments to warm up from a cold start? Again no sign of "S" when monitoring ceased at 22:15.

14/02/23. D appeared around 20:48. No sigs from "S".

15/02/23. Extremely crowded band conditions with much RTTY traffic. Start-up not observed but "D" confirmed on the air at 21:00. Clear channel with only WSPR signals for company by 21:45. No sigs from "S".

16/02/23. "D" appeared at 20:52:20. Quiet band conditions.

17/02/23. "D" momentarily appeared at 20:53 for 5 repeats of "-..", starting and stopping mid character. Signal weak. Returned at 20:55, audibly better signal strength. Perhaps a manual aerial change or tune up?

Some odd behaviour from Sevastopol this week. "D" was a no show on 80 meters yesterday. Today its message has changed to "ETTT D D" across all frequencies.

18/02/23. D start-up 20:53.

19/02/23. Start-up not observed, "D" noted on air at 21:30. *[The 'D' beacon clearly audible on Twente SDR at 2138z, Sun 19 Feb. Ed.]*

20/02/23. D not on air at 21:00. No sigs at 22:00.

21/02/23. 17:20 "D" observed on: 5153.7 kHz, 8494.7 kHz, 10871.7 kHz, 13527.7 kHz sending "ETTT DD" repeatedly. All other MX cluster beacons observed to be sending their single letter calls. "D" was the only station active on the 13528 cluster, where it was competing with CODAR radar signals.
"D" on 3594.7 shortly before 21:00. Reception difficult due to HF VARA amateur activity. "ETTT DD" also being sent - all Sevastopol MX beacons would appear to use the same keyer, which is either faulty or has been changed to send a new message.

22/02/23. 3593.7 kHz "D" start-up at 20:53. Beacon has returned to normal keying across all frequencies.

23/02/23. 3593.7 kHz "D" start-up at 20:52. Normal keying.

24/02/23. 3593.7 kHz "D" start-up at 20:47. Normal keying.

25/02/23. 3593.7 kHz "D" start-up at 20:57. Normal keying.

26/02/23. 07:30 "L" marker observed on 8497.8 kHz. Still in operation at 18:00, an unknown location for me. "D", "S" ,"K" , "C" observed on 10872 kHz cluster. "D" and "S" on 13527, battling with CODAR radar. "T" marker observed on 41834 and 41847 kHz (location unknown). "D" 3593.7 started up at 20:56.

27/02/23. "D" start up at 20:53. Normal keying.

28/2/23. 21:00 onwards: D 3593.7 kHz no sigs. "D" active on 5153.7 kHz (The only station active in this cluster). "S" observed on 10871.9 kHz (No other stations in this cluster). Dasher/"T" active on 4183.4 and 4184.7 kHz.

Thanks Robert, for your logs & observations

Beacon Logs:

4557.7	2119z	22 Jan	MXI CW Beacon "D" Sevastopol	Weak	BR	SUN
4557.9	2120z	22 Jan	MXI CW Beacon "S" Severomorsk	Fair	BR	SUN
5153.7	2121z	22 Jan	MXI CW Beacon "D" Sevastopol		BR	SUN
5156.7	0533z	12 Feb	MX CW Beacon "L" with QRM	Moderate	chpa	SUN
	1928z	15 Feb	MX CW Beacon "L"	Good	chpa	WED
7508.7	2123z	22 Jan	MXI CW Beacon "D" Sevastopol		BR	SUN
7508.9	2124z	22 Jan	MXI CW Beacon "S" Severomorsk		BR	SUN
7509.1	2124z	22 Jan	MXI CW Beacon "A" Astrakhan		BR	SUN
8494.7	2125z	22 Jan	MXI CW Beacon "D" Sevastopol		BR	SUN
8494.9	2126z	22 Jan	MXI CW Beacon "S" Severomorsk		BR	SUN
8497.8	2127z	22 Jan	MX CW Beacon "L" St Petersburg (Fast)		BR	SUN
10871.7	1225z	01 Feb	MXI CW Beacon "D" Sevastopol		BR	WED
10871.9	2128z	22 Jan	MXI CW Beacon "S" Severomorsk	V.Weak	BR	SUN
13527.7	1224z	01 Feb	MXI CW Beacon "D" Sevastopol		BR	WED
13527.9	1224z	01 Feb	MXI CW Beacon "S" Severomorsk		BR	WED
16332.0	1222z	01 Feb	MXI CW Beacon "C" Moscow		BR	WED
16332.1	1223z	01 Feb	MXI CW Beacon "A" Astrakhan	Weak	BR	WED
20047.7	1220z	01 Feb	MXI CW Beacon "D" Sevastopol		BR	WED
20047.9	1221z	01 Feb	MXI CW Beacon "S" Severomorsk		BR	WED

Oddities

'The Goose'

3243	1542z	22 Jan	'Goose' Marker – Night Freq	Good	USB	chpa	SUN
	0438z	25 Jan	'Goose' Marker – Night Freq	Good	USB	chpa	WED
	0534z	26 Jan	'Goose' Marker – Night Freq	Excellent	USB	chpa	THU
	0641z	30 Jan	'Goose' Marker – Night Freq	Good	USB	chpa	MON
	0527z	12 Feb	'Goose' Marker – Night Freq	Weak	USB	chpa	SUN
	1923z	15 Feb	'Goose' Marker – Night Freq	Excellent	USB	chpa	WED
	0454z	25 Feb	'Goose' Marker – Night Freq	Excellent	USB	chpa	SAT

'The Air Horn'

4930	1621z	22 Jan	Marker signal (Air Horn)	Good	USB	chpa	SUN
	1806z	24 Jan	Marker signal (Air Horn)	Good	USB	chpa	TUE
	0540z	26 Jan	Marker signal (Air Horn)	Good	USB	chpa	THU
	0501z	25 Feb	Marker signal (Air Horn)	Moderate	USB	chpa	SAT

'The Alarm'

4770	1547z	22 Jan	Marker Signal (The Alarm)		Good	USB	chpa	SUN
	1804z	24 Jan	Marker Signal (The Alarm)		Good	USB	chpa	TUE
	0444z	25 Jan	Marker Signal (The Alarm)		V.Weak	USB	chpa	WED
	0538z	26 Jan	Marker Signal (The Alarm)		Excellent	USB	chpa	THU
	0651z	30 Jan	Marker Signal (The Alarm)		Good	USB	chpa	MON
	0530z	12 Feb	Marker Signal (The Alarm)		Good	USB	chpa	SUN
	1927z	15 Feb	Marker Signal (The Alarm)		Excellent	USB	chpa	WED
	0500z	25 Feb	Marker Signal (The Alarm)		Good	USB	chpa	SAT

S28 **'The Buzzer'**

4625	1546z	22 Jan	S28	'The Buzzer' Marker	Good	USB	chpa	SUN
	1803z	24 Jan	S28	'The Buzzer' Marker	Good	USB	chpa	TUE
	0443z	25 Jan	S28	'The Buzzer' Marker	Moderate	USB	chpa	WED
	0537z	26 Jan	S28	'The Buzzer' Marker	Excellent	USB	chpa	THU
	0651z	30 Jan	S28	'The Buzzer' Marker	Good	USB	chpa	MON
	0529z	12 Feb	S28	'The Buzzer' Marker	Good	USB	chpa	SUN
	1926z	15 Feb	S28	'The Buzzer' Marker	Excellent	USB	chpa	WED
	0459z	25 Feb	S28	'The Buzzer' Marker	Good	USB	chpa	SAT

S30 **'The Pip'**

3756	0441z	25 Jan	S30	'Pip' marker (Night freq)		Good	USB	chpa	WED
	0541z	26 Jan	S30	'Pip' marker (Night freq)	With QRM	Moderate	USB	chpa	THU
	1925z	15 Feb	S30	'Pip' marker (Night freq)		Excellent	USB	chpa	WED
	0456z	25 Feb	S30	'Pip' marker (Night freq)	With QRM	Moderate	USB	chpa	SAT
5448	0534z	12 Feb	S30	'Pip' Marker (Day freq)	With QRM	Weak	USB	chpa	SUN

4182 **'T Marker'**

1544z	22 Jan	Normal sound from the T marker	Moderate	USB	chpa	SUN
1801z	24 Jan	Normal sound from the T marker	Good	USB	chpa	TUE
0535z	26 Jan	Normal sound from the T marker	Excellent	USB	chpa	THU
0652z	30 Jan	Normal sound from the T marker	Good	USB	chpa	MON
0458z	25 Feb	Normal sound from the T marker	Good	USB	chpa	SAT

All logs from chpa Monitored from Stockholm

Contributors: AB, BR, chpa, Gert, HFD, JPL RB, Spectre *Thank you all for your logs.*

Voice, Polytone, Tones, Hybrids and FSK

E06
Jan/Feb log:

Monday (repeats Tuesday) **0210z 9349kHz** **0310z 13413kHz**
09/01 '537' 28 /43 16809…….etc via KiwiSDR J (Thanks HfD)

0210z 10628kHz **0310z 14364kHz**
06/02 '537' 186 47 23735…..etc via KiwiSDR J (Thanks HfD)

Thursday (repeats Friday) **0300z 14918kHz** **0400z 12218kHz** (frequencies may vary slightly)
12/01 '361' 428 39 87826……etc (Thanks HfD)

0300z 15683kHz **0400z 13373kHz**
02/02 '361' 975 42 18861 48795 72142 69185 40642 77588 27951 69459 58214 96755 31766 85761 12502 65182 24382 28889 66549 18385 59818 26133 17823 23751 50278 89851 59826 82362 44024 50593 66467 44594 72101 34458 97618 31662 24845 98386 49308 80321 44110 90061 96973 52894 975 42 00000 (Thanks Spectre)

16/02 '361 '208 44 63026 29273 21381 67691 59932 08905 39094 74242 83687 88046 63503 74059 43011 42798 12582 19382 85995 23060 58071 55134 43283 87195 92546 22966 92049 40696 16489 65401 20481 77290 37576 91018 97412 45927 99361 86599 76849 92081 81535 87192 92017 46808 38957 40023 208 44 00000 (Thanks Spectre)

First /Third Thursday (repeats Friday) **0600z 13945kHz** **0700z 16350kHz**
05/01 '139' 278 52 74286 05657 07194 83572 59962 95873 74799 40802 25349 34181 00824 31550 23139 47972 16940 62680 05276 59740 24458 59958 71659 99328 99323 11783 82612 35025 91356 84117 27308 84449 22411 30058 65340 91152 13153 42462 83627 77886 93136 23083 35835 12465 73872 66647 56505 47164 89562 83306 67080 17591 35209 07912 278 52 00000] 0712z

19/01 '139' 847 52 19804 84605 33983 03941 75158 93797 01724 49879 32723 79456 11671 70293 00210 04039 70623 46719 97977 07700 46123 25728 78195 22832 32928 20042 74171 39494 73874 81621 09556 70145 77335 57668 22085 87142 98431 65470 81573 31427 76215 47034 06826 15835 43986 89443 11157 71481 54947 21870 31228 10641 90375 25191 847 52 00000

0600z 17470khz **0700z 20085kHz**
02/02 '702' 436 58 71337 23473 24657 90652 33735 03250 89347 77423 55560 09179 87672 35780 97697 55126 11200 09767 86393 77482 42639 91718 52245 48830 17923 01406 69666 94047 00490 26214 01539 32301 84965 08297 78717 93341 72429 89635 69100 81563 84438 50953 15920 86253 08026 05405 49972 61465 88824 33000 05454 23964 14543 66677 94105 42672 55940 65980 17334 12906 436 58 00000

16/02 '702' 698 53 56095 17187 68206 85139 74001 39563 99686 17383 93706 51888 37264 19696 50761 31317 38661 15444 10708 24079 02686 11911 51244 00091 61011 52999 94496 58044 22420 34143 50325 85687 92901 96611 56596 04955 20094 43398 27376 56654 35454 43878 44961 04392 92634 19420 56699 62423 25488 27147 62533 77116 74130 84023 04204 698 53 00000

Saturdays **1300z 7377kHz** **1330z 5410kHz**
07/01 '480' 276 45 50135 80378 77662 36926 77384 32258 43795 81190 22191 26184 55053 99625 71339 69531 12708 92028 19160 26665 57696 44576 21605 59812 38872 29052 63405 35848 23128 89060 02032 01790 18411 66539 17503 89817 46338 63102 37871 29829 19860 90023 39302 58963 10418 29009 56318 276 45 00000

14/01 '480' 736 42 49563 01154 35760 43827 70133 41841 91351 23807 46730 26195 36508 65502 07278 88195 63001 89482 40690 02059 14403 02084 54905 99393 82853 77357 69779 24274 23272 32630 13025 36453 01089 48475 62523 89342 52755 47781 00930 72731 53277 31812 31821 27269 736 42 00000

21/01 '480' 657 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 23843 95883 08867 73626 67677 92924 75241 15470 32175 64478 75710 14096 55206 60429 13963 657 43 00000

28/01 '480' 562 44 07508 19628 63724 06734 25603 36908 35835 31904 81080 18356 82599 27984 00991 22483 40842 87266 11525 06955 15699 60998 28445 95628 94444 54398 25550 87174 96541 11914 62207 86428 19913 65944 62410 49307 34365 62450 30569 59042 49937 58202 34394 32536 28093 25141 562 44 00000

1300z 8116kHz **1330z 5410kHz**
04/02 '480' 625 41 27894 00991 22483 40842 87266 07508 19628 63724 25603 06734 36908 35835 31904 81080 18356 82599 11525 06955 15669 60998 34394 32536 28093 25141 87174 96541 11914 62207 86428 28445 95628 94444 54398 25550 19913 65944 62410 49307 34365 62450 30569 625 41 00000

11/02 '480' 675 41 77479 03752 62892 95901 70394 16432 54239 60685 45440 93446 16337 82115 50637 57420 10276 03243 48730 41612 13848 73415 55663 25581 77890 31175 47907 42842 41314 59321 99407 13073 89496 01428 13748 38932 10878 44775 21892 07355 01994 73310 61447 675 41 00000

18/02 '480' 165 44 64950 21574 35374 12960 46909 92803 54055 87610 92227 73252 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 165 44 00000

25/02 '480' 156 44 52066 01630 66200 57401 84853 00773 88198 03406 11905 45671 09335 66502 84676 22763 63948 35169 95824 79412 98651 94441 68080 27822 77305 23843 95883 08867 73626 67677 92924 75241 15470 32175 64478 75710 14096 73995 85328 87650 23576 55716 55206 60429 13963 73321 156 44 00000

Sundays **0930z 9946kHz 1000z 8095kHz**

01/01 ‘480’ 256 41 68128 53518 23246 76308 38133 29892 12160 63004 98610 77027 77900 36871 19030 84327 99556 48826 40681 18838 64157 50440 33147 78759 64791 17214 63791 24926 19009 37664 43254 57917 06973 93248 07056 26795 68612 38242 46045 16619 94601 82040 46795 256 41 00000] 0942z (Thanks Malc)

08/01 ‘480’ 276 45 50135…..etc
15/01 ‘480’ 736 42 49563…..etc
22/01 ‘480’ 657 43 73995…..etc
29/01 ‘480’ 562 44 07508…..etc

0930z 10423khz 1000z 8167kHz

05/02 ‘480’ 625 41 27894….etc
12/02 ‘480’ 675 41 77479.....etc
19/02 ‘480’ 165 44 64950….etc
26/02 ‘480’ 156 44 52066….etc

Friday **1000z 13921kHz 1100z 12167kHz**

27/01 ‘980’ 312 45 55385 64675 43775 19931 07901 37238 43533 93446 15181 05637 42026 12548 34995 30641 18697 78754 58976 89333 52546 49349 34067 33026 25411 82133 61867 55275 48020 43350 29412 87863 48681 45670 33129 42842 80345 90078 93937 54322 19913 12037 43106 74845 66506 52755 75908 312 45 00000 (Thanks Spectre)

From PoSW:

First + Third Thursdays in the Month 0600 + 0700 UTC Schedule:-
5-Jan-23:- Nothing readable from E06 first sending at 0600 UTC on 13960 kHz, frequency from prediction list in En128 of January last year, better results from the second sending:-
0700 UTC, 16350 kHz, call “139”, DK/GC “278 278 52 52”, good signal, ended after 0713 UTC.

6-Jan-23, Friday:- Again, nothing heard at 0600 UTC.
0700 UTC, 16350 kHz, second sending of the repeat of yesterday's message, weaker signal than yesterday.

19-Jan-23:- 0700 UTC, 16350 kHz, call “139”, DK/GC “847 847 52 52”, not too strong.
Nothing heard at 0600 UTC.

20-Jan-23, Friday:- 0700 UTC, 16350 kHz repeat, weak signal, nothing heard at 0600.

2-Feb-23:- Continuing on the same theme, nothing readable from the 0600z sending on predicted frequency 17480 kHz.
0700 UTC, 20085 kHz, very weak, started to become stronger around 0705z, up to S8 by the end at 0714 UTC approx, “436 436 58 58 00000”.

3-Feb-23, Friday:- 0700 UTC, 20085 kHz, “702” and “436 436 58 58”, unusually became weaker as the transmission progressed.

16-Feb-23:- 0700 UTC, 20085 kHz, calling “702”, DK/GC “698 698 53 53”, good signal throughout, ended after 0713z. Nothing readable from the 0600z sending.

17-Feb-23, Friday:- 0606 UTC, 17475 kHz, surprised to find the first sending in progress,
has been too weak to copy for some time, a reasonable 5 to 6 on the S-meter here.
0700 UTC, 20085 kHz, second sending, stronger.

E07

PoSW opens logs with:

Saturday Schedule, 1400 UTC Start:-
7-Jan-23:- 1420 UTC, 9123 kHz, “310 310 310 000”, strong signal, missed 1400z sending which would have been on 10323.

14-Jan-23:- 1400 UTC, 10323 kHz, “310 310 310 000”, weak.
1420 UTC, 9123 kHz, stronger.

21-Jan-23:- 1400 UTC, 10323 kHz and 1420 UTC, 9123 kHz, both strong signals, “310 310 310 000”.

28-Jan-23:- 1400 UTC, 10323 kHz, “310 310 310 000”, weak.
1420 UTC, 9123 kHz, stronger.

4-Feb-23:- 1400 UTC, 11464 kHz, “472 472 472 000”, strong signal.
1420 UTC, 10764 kHz, slightly weaker.

11-Feb-23:- 1400 UTC, 11464 kHz, strong signal and 1420 UTC, 10764 kHz, weaker, “472 472 472 000”.

18-Feb-23:- 1400 UTC, 11464 kHz, “472 472 472 000”, weak signal.
1420 UTC, 10764 kHz, stronger.

25-Feb-23:- 1400 UTC, 11464 kHz and 1420 UTC. 10764 kHz, both strong signals for a change, “472 472 472 000”.
A clear run of “no message” from this schedule in the first two months of this year, compare and contrast with the message having a group count of 277 5F groups heard on three Saturdays in December which took half an hour to transmit.

Sunday Schedule, 0700 UTC Start:-
8-Jan-23:- 0700 UTC, 9326 kHz, “345 345 345 000”.
Nothing readable of second sending at 0720z on 10426, no doubt a very weak signal masked by local QRM.

15-Jan-23:- 0700 UTC, 9326 kHz, “345 345 345 000”, weak.
0720 UTC, 10426 kHz, very weak, only just readable.

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

29-Jan-23:- 0700 UTC, 9326 kHz, “345 345 345 000”, weak.
0720 UTC, 10426 kHz, very weak.

5-Feb-23:- 0700 UTC, 9326 kHz and 0720 UTC, 10426 kHz, same frequencies as in January and both weak signals, “345 345 345 000”.

12-Feb-23:- 0700 UTC, 9326 kHz, “345 345 345 000”, strong enough to be heard over the local RF noise interference.
0720 UTC, 10426 kHz, weaker, difficult copy.
19-Feb-23:- 0700 UTC, 9326 kHz and 0720 UTC, 10426 kHz, both weak, “345 345 345 000”.

26-Feb-23:- 0700 UTC, 9326 kHz very weak and 0720 UTC, 10426 kHz, weak at first then became stronger, “345 345 345 000”.

Thursday + Saturday Schedule, 1410 UTC Start:-
Prediction List in En128 of January last year says 11593 + 10293 + 9293 kHz.
7-Jan-23, Saturday:- 1417 UTC, 11593 kHz, missed start, message in progress, ended with “000 000” before 1420 UTC.
1430 UTC, 10293 kHz, very weak, unreadable.
1450 UTC, 9293 kHz, also very weak and unreadable.

Not much success with this schedule throughout January, everything very weak made worse by local RF noise interference.

21-Jan-23, Saturday:- 1410 UTC, 11593 kHz, a readable signal for a change, “916 916 916 1”, DK/GC “9461 74”, strong enough to be heard above the local noise QRM.
1430 UTC, 10293 kHz, strong enough to be heard.
1450 UTC, 9293 kHz, strongest sending of the three.

26-Jan-23, Thursday:- 1430 UTC, 10293 kHz, missed the 1410z sending, “916 916 916 000”.

28-Jan-23, Saturday:- 1410 UTC, 10293 kHz, very weak, unreadable.
1430 UTC, 10293 kHz, also very weak, could just hear the “000” of a “no message” transmission.

2-Feb-23, Thursday:- En134 predicts 13368 + 12168 + 11168.
1410 UTC, 13368 kHz, “745 745 745 1”, message, DK/GC “121 68” x 2, good signal, much better than anything heard in January from this schedule.
1430 UTC, 12168 kHz, also a good signal.
1450 UTC, 11168 kHz, third sending not so good, weak signal underneath local interference.

4-Feb-23, Saturday:- 1410 UTC, 13368 kHz, “745” and “121 68” again, good signal.
1430 UTC, 12168 kHz, also good.
1450 UTC, 11168 kHz, much weaker, just about readable.

9-Feb-23, Thursday:- 1410 UTC, 13368 kHz and 1430 UTC, 12168 kHz, “745 745 745 000”.

11-Feb-22, Saturday:- 1410 UTC, 13368 kHz, “745 745 745 000”, S6 to S7.
1430 UTC, 12168 kHz, stronger.

16-Feb-23, Thursday:- 1410 UTC, 13368 kHz, “745 745 745 1”, message, DK/GC “7749 82” x 2, not too strong, ended around 1419:20s UTC.
1430 UTC, 12168 kHz, stronger.
1450 UTC, 11168 kHz, weak signal, local RF noise interference, largely unreadable.

18-Feb-23, Saturday:- 1410 UTC, 13368 kHz, “745” and “7749 82” again, good signal, stronger than on the 16th.
1430 UTC, 12168 kHz, slightly weaker signal.
1450 UTC, 11168 kHz, weak, difficult copy.

25-Feb-23, Saturday:- 1410 UTC, 13368 kHz, strong and 1430 UTC, 12168 kHz, slightly weaker, “745 745 745 000”.

Tuesday + Friday Schedule, 1500 UTC Start:-
What appears to be a fairly recent newcomer to the E07 repertoire so some tuning around to be done after 3 o'clock on Tuesday and Friday afternoons.

6-Jan-23, Friday:- 1524 UTC, 12175 kHz, second sending found in progress with a message.
A search for the first sending at 1500z was fruitless. Good signal, ended with “000 000” at approx 1531 UTC.
No sign of the third sending at 1540.

10-Jan-23, Tuesday:- 1520 UTC, 12175 kHz, “313 313 313 1”, weak signal, DK/GC unreadable, much weaker than on the 6th. 313 suggested first sending on 13375 and third sending on 11375 – nothing heard, I was partly right.

13-Jan-23, Friday:- 1500 UTC, 13375 kHz, as expected, “313 313 313 1”, DK/GC “312 118” x 2, good signal.
1520 UTC, 12175 kHz, also good signal. Unable to find the third sending.

17-Jan-23, Tuesday:- 1500 UTC, 13375 kHz and 1520 UTC, 12175 kHz, both strong, “313 313 313 000”, so no third sending.

20-Jan-23, Friday:- 1500 UTC, 13375 kHz, “313 313 313 000”, strong.

1520 UTC, 12175 kHz, also strong.

24-Jan-23, Tuesday:- 1500 UTC, 13375 kHz, “313 313 313 1”, message, DK/GC “347 126” x 2, S5 to S6.
1520 UTC, 12175 kHz, strong.
1540 UTC, 10375 kHz - not 11375 - very weak, only just readable.

27-Jan-23, Friday:- 1500 UTC, 13375 kHz, “313” and “347 126” again, strong.
1520 UTC, 12175 kHz, also strong.
1540 UTC, 10375 kHz, weak, difficult copy.

31-Jan-23, Tuesday:- 1500 UTC, 13375 kHz and 1520 UTC, 12175 kHz, both strong, “313 313 313 000”.

3-Feb-23, Friday:- 1521 UTC - and 50 seconds approx - 14458 kHz, second sending found in progress, just caught “841 841 841 000”. Somewhat higher frequency than the 12175 used in January.

7-Feb-23, Tuesday:- 1500 UTC, 15858 kHz, “841 841 841 1”, message, DK/GC “7207 115”
x 2, good signal, ended approx 1512 UTC.
1520 UTC, 14458 kHz, slightly weaker.
1540 UTC, 12158 kHz, strong, peaking well over S9.

10-Feb-23, Friday:- 1500 UTC, 15858 kHz, “841” and “7207 115” again. Good signal, suddenly vanished at approx 1510z, nothing further heard.
1520 UTC, 14458 kHz, some technical problems today, went off air about one minute into the preamble, nothing further heard.
1540 UTC, 12158 kHz, no problems with the third sending, ran for the expected twelve minutes, “000 000” at 1552 UTC.

14-Feb-23, Tuesday:- 1500 UTC, 15858 kHz, “841 841 841 000”, good signal.
1520 UTC, 14458 kHz, weaker.

17-Feb-23, Friday:- 1500 UTC, 15858 kHz and 1520 UTC, 14458 kHz, “841 841 841 000”.

21-Feb-23, Tuesday:- 1500 UTC, 15858 kHz, “841 841 841 1”, message, DK/GC “183 90” x 2,strong signal.
1520 UTC, 14458 kHz, weaker.
1540 UTC, 12158 kHz, peaking around S8 with fading up and down.

24-Feb-23, Friday:- 1500 UTC, 15858 kHz, “841” and “183 90” again, strong signal.
1520 UTC, 14458 kHz, weaker.
1540 UTC, 12158 kHz, strong.

Onto Others’ Logs:

Sunday/ Saturday

January 2023

0700z	**9326kHz**	**0720z**	**10426kHz**	**0740z**	**11526kHz**	
01/01	345 000				Fair, QRM2	
08/01	345 000				Weak	
22/01	345 000				Weak	
29/01	345 000				Weak	

February 2023

0700z	**9326kHz**	**0720z**	**10426kHz**	**0740z**	**11526kHz**	
05/02	345 000				Weak	
12/02	345 000				Weak	
19/02	345 000				Weak	[Also ‘D’]
26/02	345 000				0700z Weak, 0720z Fair	

Tuesday/Friday

January 2023

1500z	**13375kHz**	**1520z**	**12175kHz**	**1540z**	**10375kHz**	
03/01	313 1 220 104 71320 … 77823 000 000				Ary	TUE

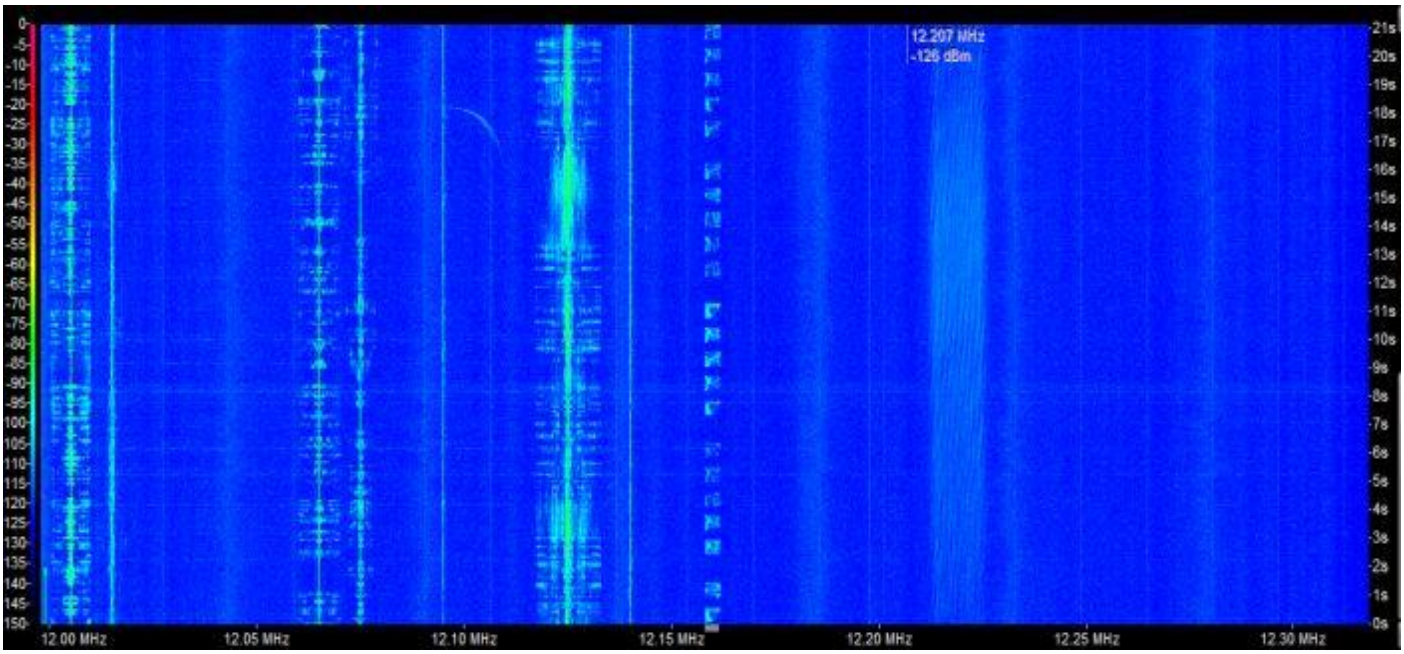
313 313 313 1 220 104 220 104
71320 78217 15774 16768 81563 02107 31165 53946 16551 36732
02370 35174 85713 95355 63042 81997 33352 53629 12732 64382
21317 55446 58832 74026 44408 69556 03132 81647 05654 33270
63351 75741 77739 21941 63155 38384 70367 58214 34454 67275
54637 99634 93884 03235 57632 79906 71781 95917 52369 29685
85397 53902 27480 09464 31424 47227 21900 32465 27832 25005
53028 30649 60322 65439 12771 36365 52673 02715 36525 18669
84364 96661 25932 53150 07671 06297 30431 22351 05358 11383
46862 37457 00455 26183 04776 76397 61919 38308 26545 23812
06325 16420 59573 19417 90808 20473 45470 63715 24534 82526
42465 62081 18912 77823 000 000 *Courtesy Ary*

06/01	313 1 220 104 71320 ... 77823 000 000	1500z Fair, 1520z Strong, 15740z Weak
10/01	313 1 312 118 87661 ... 74410 000 000	Weak
13/01	313 1 312 118 87661 ... 74410 000 000	Strong, 1540z Weak
17/01	313 000	1500z Strong, 1520z Fair
24/01	313 1 347 126 01274 ... 75705 000 000	Weak
27/01	313 1 347 126 01274 ... 75705 000 000	1520z Strong, 1550z Fair, 1500z Weak
31/01	313 000	Fair

February 2023

1500z 15858kHz 1520z 14458kHz 1540z 12158kHz

03/02	841 000	Ary	THU



12158kHz 1540z 07/02 at PLdn [Fair]

07/02	841 1 7207 115 91092 … 67160 000 000	1500z Weak, 1520z Fair, 1540z Strong [fm M8]
10/02	841 1 7207 115 91092 … 67160 000 000	1500z Strong, failed at grp 101, 1520z Fair, failed at start. 1540z Fair
14/02	841 000	Weak
17/02	841 000	1500z Weak, 1520z Fair
21/02	841 1 183 90 62806 ... 00802 000 000	Strong, 1520z Fair
24/02	841 1 183 90 62806 ... 00802 000 000	1520z Fair, rest Strong

841 1 183 90
62806 71009 52979 70407 14470 84114 46501 88729 25366 65658
20096 99374 29370 77533 79244 74569 08323 18181 94597 58647
62857 13533 67821 93999 88552 04913 96706 67633 25020 30728
45648 95786 81896 18625 29750 16655 55217 23904 77861 07555
76893 98271 53557 01530 20060 88974 36400 60159 59400 06054
43259 89912 14508 33315 85703 27344 99712 58372 80726 95880
70375 44340 47777 40667 92275 89664 64531 78129 44245 40590
07871 52283 81963 33878 68952 86092 20502 70280 34569 34446
42475 24887 35273 36013 12661 87056 55472 56272 78425 00802
000 000 *Courtesy Spectre 3000*

28/02	841 000	Strong

Thursday/Saturday

January 2023

1410z	**11593kHz**	**1430z**	**10293kHz**	**1450z**	**9323kHz**	
05/01	916 1 426 86 88238 ... 81219 000 000				Weak	
07/01	916 1 426 86 88238 ... 81219 000 000				Weak	
12/01	916 000				Weak	
14/01	916 000				Weak	
19/01	916 1 9461 74 61233 ... 60219 000 000				Weak	
21/01	916 1 9461 74 61233 ... 60219 000 000				Weak	
26/01	916 000				Weak	
28/01	916 000				Weak	

February 2023

1410z	**13368kHz**	**1430z**	**12168kHz**	**1450z**	**11168kHz**	
02/03	745 1 121 68 17080 …				Weak, 1450z not copied	
04/03	745 1 121 68 17080 … nnnnn 000 000				Weak,	
09/02	745 000				Strong	
11/02	745 000				Strong	[Also ‘D’]
16/02	745 1 7749 82 47385 ... 44890 000 000				Fair	
18/02	745 1 7749 82 47385 ... 44890 000 000				Weak	[Also ‘D’]

745 1 7749 82
47385 05153 75675 40003 55628 46329 50154 58432 70081 63345
06233 93177 61691 48174 54497 47735 86747 92388 61768 48826
28875 08728 70537 73167 82092 01659 29170 93378 11641 19626
27991 47180 06169 09089 55137 35429 92509 78109 64512 81604
28146 98413 51326 63538 62435 40691 03659 86344 07292 85502
95378 80341 87626 95042 93826 71699 27322 37841 69304 73320
79723 69414 12364 66716 05822 82550 34629 50663 72372 68023
04855 04246 63914 65178 35172 87159 37766 47543 20374 74479
37480 44890 000 000 *Courtesy Spectre 3000*

23/02	745 000				Fair	
25/02	745 000				Fair	

Saturday

January 2023

1400z	**10323kHz**	**1420z**	**9123kHz**	**1440z**	**8023kHz**	
07/01	310 000				Strong	
14/01	310 000				Fair	
21/01	310 000				Strong	
28/01	310 000				1440z Weak, rest Strong	

February 2023

1400z	**11464kHz**	**1420z**	**10764kHz**	**1440z**	**9264kHz**	
04/02	472 000				Strong	
11/02	472 000				Strong	[Also ‘D’]
18/02	472 000				1400z Fair, 1420z Strong	[Also ‘D’]
25/02	472 000				Strong	

E11&E11a log Jan/Feb

4505kHz	1910z	04/01 [393/00] Out 1913z S6	Malc	WED
	1910z	07/01 [390/00] Out 1913z S8	Malc, Spectre	SAT
	1910z	11/01 [396/00] Out 1913z S9	Malc	WED
	1910z	14/01 [394/00] Out 1913z S9	Malc	SAT
	1910z	18/01 [394/00] Out 1913z S7	Malc	WED
	1910z	25/01 [394/31 84059…….07535] Out 1920z S9	Malc	WED
	1910z	01/02 [394/34 42125…….19558]	Malc	WED
	1910z	11/02 [394/00] Out 1912z S8	Malc	SAT
	1910z	15/02 [390/00] Out 1913z S9	Malc	WED
	1910z	18/02 [393/00] Out 1913z S9	Malc	SAT
	1910z	22/02 [393/00] Out 1913z S9	Malc	WED
	1910z	25/02 [392/00] Out 1903z S9+10	Malc	SAT
4909kHz	1530z	01/01 [366/00] Out 1533z S3	Malc	SUN
	1300z	02/01 [315/00] Out 1303z S4 (Finnish SDR)	Malc	MON
	1300z	05/01 [316/00] Out 1303z S4 (Finnish SDR)	Malc	THU
	1530z	07/01 [360/00]	Gary H	SAT
	1530z	08/01 [367/00] Out 1533z S4	Malc	SUN
	1300z	09/01 [314/00] Out 1303z S2 (Dutch SDR)	Malc	MON
	1530z	14/01 [365/00]	Gary H, Malc	SAT
	1530z	15/01 [365/00] Out 1533z S3	Malc	SUN
	1300z	16/01 [319/00] Out 1303z S5 (Finnish SDR)	Malc	MON
	1530z	21/01 [364/40 70055 34532 00512 43281 87693 69911 81257.....52209 27922] Out 1541z S3	Gary H, Malc	SAT
	1300z	23/01 [312/38 32890 65802 36912 44291 93539 52699 49216.....55939 93536] Out 1311z S4	Spectre, Malc,	MON
	1530z	28/01 [367/00] Out 1533z S2	Malc, Spectre	SAT
	1530z	29/01 [360/00] Out 1533z S2	Malc, Spectre	SUN
	1300z	30/01 [313/00] Out 1303z S3 (Finnish SDR)	Malc	MON
	1530z	05/02 [364/00] Out 1533z S2	Malc	SUN
	1300z	06/02 [314/00] Out 1303z S2 (Dutch SDR)	Malc	MON
	1300z	09/02 [319/00] Out 1303z S4 (Finnish SDR)	Malc	THU
	1530z	11/02 [367/00] Out 1533z S2	Malc, Spectre	SAT
	1530z	18/02 [365/36 68246 65678 26593 01181 42459 46058 17915……47226 70800] Out 1541z	Spectre, Malc	SAT
	1300z	20/02 [313/00] Out 1303z S2 (Finnish SDR)	Malc	MON
	1300z	23/02 [312/00] Out 1303z S3 (Dutch SDR)	Malc	THU
	1530z	25/02 [367/00] Out 1533z Strong	Spectre	SAT
	1530z	26/02 [369/00] Out 1533z S2	Malc	SUN
	1300z	27/02 [312/00] Out 1303z S3 (Dutch SDR)	Malc	MON
5082kHz	2000z	01/01 [527/00] Weak	RNGB	SUN
	1715z	04/01 [974/31 08415……..92373] Out 1725z S3	Malc	WED
	2000z	05/01 [520/00] Out 2003z S5	Malc	THU
	2000z	08/01 [524/00] Out 2003z S3	Malc	SUN
	2000z	12/01 [522/39 23494……14174] Out 2011z S4	Malc	THU
	1715z	13/01 [974/00] Out 1718z S5	Malc	FRI
	2000z	15/01 [522/39 23494…….14174] Out 2011z S4	Malc	SUN
	1715z	18/01 [975/00] Out 1718z S6	Malc	WED
	2000z	19/01 [524/00] Out 2003z S5	Malc	THU
	2000z	22/01 [524/00] Out 2003z S4	Malc	SUN
	1715z	25/01 [970/00] Strong	RNGB, Malc	WED
	2000z	26/01 [521/00] Out 2003z S3	Malc	THU
	1715z	27/01 [978/00]	Gary H	FRI
	1715z	27/01 [978/00] Out 1718z S9	Malc	FRI
	2000z	29/01 [524/00] Out 2003z S2	Malc	SUN
	1715z	01/02 [977/00] Out 1718z S7	Malc, Gary H	WED
	1715z	03/02 [970/00]	Gary H	FRI
	2000z	05/02 [527/39 15934…….21415] Out 2011z S2	Malc	SUN
	1715z	08/02 [974/00] Out 1718z S4	Malc	WED
	2000z	09/02 [525/00] Out 2003z S3	Malc	THU
	1715z	10/02 [970/00] Out 1718z S5	Malc	FRI
	2000z	12/02 [525/00] Out 2003z Strong	Spectre	SUN
	1715z	15/02 [977/00] Out 1718z S4	Malc	WED
	2000z	16/02 [528/00] Out 2003z S9	Malc, Spectre	THU
	1715z	17/02 [974/00] Out 1718z S4	Malc	FRI
	2000z	19/02 [525/00] Out 2003z S5	Malc	SUN
	1715z	22/02 [976/31 03051 12709 34740 91504 98026 09384 67792 84708……2703317891] Out 1724z	Malc, Gary H	WED
	2000z	23/02 [530/00] Out 2003z S5	Malc	THU
	2000z	26/02 [522/00] Out 2003z S5	Malc	SUN

5149kHz	0820z	05/01 [434/00] Out 0823z S2	Malc	THU
	0820z	06/01 [436/00] Out 0823z S2	Malc	FRI
	0820z	12/01 [430/00] Fair	RNGB, Malc	THU
	0820z	13/01 [431/00] Out 0823z S2	Malc	FRI
	0820z	19/01 [430/40 26632…….78629] Out 0831z S2	Malc	THU
	0820z	26/01 [430/00] Out 0823z S5 (Finnish SDR)	Malc	THU
	0820z	27/01 [431/00] Out 0823z S2 (Dutch SDR)	Malc	FRI
	0820z	10/02 [432/00] Out 0823z S2	Malc	FRI
	0820z	16/02 [439/34 35349 45781 40882 51461 69177 60176 91413 44147 34925……27344 89391] Fair	RNGB, Malc	THU
	0820z	23/02 [434/00] Out 0823z S3 (Dutch SDR)	Malc	THU
	0820z	24/02 [438/00] Out 0823z S3	Malc	FRI
5371kHz	0700z	29/01 [490/40 83613……..35101] Out 0711z S3	Malc	SUN
	0700z	11/02 [495/00] Out 0703z S3	Malc	SAT
	0700z	18/02 [498/40 45654…….57027] OUT 0711z S2	Malc	SAT
	0700z	25/02 [492/00] Out 0703z S3	Malc	SAT
	0700z	26/02 [492/00] Out 0703z S3	Malc	SUN
5409kHz	1530z	05/01 [261/39 06859……53354] Out 1541z S4	Malc	THU
	1530z	12/01 [260/00] Out 1533z S5	Malc	THU
	1530z	19/01 [260/00] Out 1533z S6	Malc	THU
	1530z	26/01 [268/00] Out 1533z S3	Malc	THU
	1530z	02/02 [262/00] Strong	RNGB, Gary H	THU
	1530z	09/02 [269/00] Out 1533z S3	Malc	THU
	1530z	16/02 [267/00] Out 1533z S9	Malc	THU
	1530z	23/02 [266/40 50393…….08208] Out 1541z S5	Malc	THU
5432kHz	1605z	01/01 [230/00] Out 1608z S7	Malc	SUN
	1605z	03/01 [235/00] Out 1608z S5	Malc, Gary H, Spectre	TUE
	1605z	08/01 [230/00] Out 1608z S5	Malc	SUN
	1605z	10/01 [232/32 35077 72086 82133 46362 92832 68694 45847……22766 66015] Out 1615z S6	Malc, Gary H	TUE
	1605z	17/01 [236/00] Out 1608z S5	Malc	TUE
	1605z	22/01 [230/00] Out 1608z S5	Malc	SUN
	1605z	24/01 [232/00] Out 1608z S5	Malc	TUE
	1605z	29/01 [230/00] Out 1608z S4	Malc, Spectre	SUN
	1605z	31/01 [233/00] Out 1608z S3	Malc, Gary H	TUE
	1605z	05/02 [232/00] Out 1608z S3	Malc, dMHz	SUN
	1605z	07/02 [233/30 66980…….56340] Out 1615z S5	Malc	TUE
	1605z	14/02 [231/00] Out 1608z S5	Malc, Spectre	TUE
	1605z	19/02 [230/00] Out 1608z S3	Malc	SUN
	1605z	21/02 [231/00] Out 1608z S4	Malc	TUE
	1605z	26/02 [230/00] Out 1608z S4	Malc	SUN
	1605z	28/02 [233/00] Out 1608z S4	Malc	TUE
5779kHz	1730z	05/01 [410/00] Out 1733z S6	Malc	THU
	1730z	12/01 [413/33 38454 61940 61023 91542 87600 49003 04718 94570.....0807655089] Out 1740z	Gary H, Malc	THU
	1730z	19/01 [413/00] Out 1733z S5	Malc	THU
	1730z	26/01 [410/00] Out 1733z S7	Malc	THU
	1730z	09/02 [413/33 70744…….27559] Out 1740z S5	Malc	THU
	1730z	16/02 [413/00] Out 1733z S7	Malc	THU
	1730z	23/02 [415/00] Out 1733z S6	Malc	THU
6433kHz	1205z	04/01 [460/00] Out 1208z S2 (Dutch SDR)	Malc	WED
	1205z	17/01 [465/00] Out 1208z S2	Malc	TUE
	1205z	24/01 [465/38 33902…….23742] Out 1316z S5 (Finnish SDR)	Malc	TUE
	1205z	31/01 [462/00] Out 1208z S2 (Dutch SDR)	Malc	TUE
	1205z	01/02 [466/00] Out 1208z Weak	Spectre	WED
	1205z	07/02 [466/00] Out 1208z S2	Malc	TUE
	1205z	08/02 [466/00] Out 1208z S3 (Dutch SDR)	Malc	WED
	1205z	14/02 [464/00] Out 1208z S2 (Dutch SDR)	Malc	TUE
	1205z	15/02 [461/00] Out 1208z S3 (Dutch SDR)	Malc,Spectre	WED
	1205z	21/02 [461/30 49792 94146 05271 37435 44302 19182 74480……14933 08045] Out 1215z S3	Spectre, Malc	TUE
	1205z	28/02 [465/00] Out 1208z S3 (Dutch SDR)	Malc	TUE
6804kHz	0700z	03/01 [576/00] Out 0703z S3	Malc	TUE
	0700z	06/01 [576/00] Out 0703z S4	Malc	FRI
	0700z	17/01 [575/00] Out 0703z S3	Malc	TUE
	0700z	20/01 [573/00] Out 0703z S3	Malc	FRI
	0700z	24/01 [571/34 49137…….99398] Out 0710z S2	Malc	TUE
	0700z	31/01 [577/00] Out 0703z S5	Malc	TUE
	0700z	03/02 [577/00] Strong	RNGB	TUE
	0700z	07/02 [576/00] Out 0702z S8	Malc	TUE

	0700z	10/02 [571/00] Out 0703z S6	Malc	FRI
	0700z	14/02 [577/00] Out 0703z S4	Malc	TUE
	0700z	17/02 [574/00] Strong	RNGB, Malc	FRI
	0700z	21/02 [570/33 36574 19351 12276 74406 73410 80317 13682 79294…….34513 31994] Good	RNGB, Malc	TUE
	0700z	28/02 [571/00] Out 0703z S4	Malc	TUE
6849kHz	1815z	01/01 [929/00] Out 1818z S3	Malc	SUN
	1900z	02/01 [641/00] Out 1903z S2	Malc	MON
	1900z	05/01 [643/00] Out 1903z S5	Malc	THU
	1815z	06/01 [920/00] Out 1818z S4	Malc	FRI
	1815z	08/01 [924/00] Out 1818z S4	Malc	SUN
	1900z	09/01 [640/36 42453…….68508] Out 1910z S7 QSB5	Malc	MON
	1815z	13/01 [921/00] Out 1818z S5	Malc	FRI
	1815z	15/01 [925/00] Out 1818z S3	Malc	SUN
	1900z	16/01 [649/00] Out 1903z S3	Malc	MON
	1900z	19/01 [646/00] Out 1903z S4	Malc	THU
	1815z	20/01 [929/32 62334…….01880] Out 1825z S5	Malc	FRI
	1900z	23/01 [640/00] Out 1903z S2	Malc	MON
	1900z	26/01 [644/00] Out 1903z S9	Malc	THU
	1815z	27/01 [925/00] Out 1818z S9	Malc	FRI
	1900z	30/01 [643/00] Out 1903z S9	Malc	MON
	1815z	05/02 [925/31 65732…….76906] Out 1824z S4	Malc	SUN
	1900z	06/02 [644/00] Out 1903z S9	Malc	MON
	1900z	09/02 [649/00] Out 1902z S4	Malc	THU
	1815z	10/02 [922/00] Out 1818z S7	Malc	FRI
	1900z	13/02 [646/36 49896…….89889] Out 1911z S7+QRM	Malc	MON
	1815z	17/02 [927/00] Out 1818z S6	Malc	FRI
	1815z	19/02 [927/00] Out 1818z S5	Malc	SUN
	1900z	20/02 [646/00] Out 1903z S9	Malc	MON
	1900z	23/02 [641/00] Out 1903z S6	Malc	THU
	1815z	24/02 [925/00] Out 1818z S7	Malc	FRI
	1815z	26/02 [921/00] Out 1818z S7	Malc	SUN
	1900z	27/02 [640/00] Out 1903z S6	Malc	MON
7469kHz	0930z	04/01 [271/00] Good	RNGB, Malc	WED
	0930z	05/01 [271/00] Out 0933z S2	Malc	THU
	0930z	11/01 [270/00] Out 0933z S3	Malc	WED
	0930z	12/01 [270/00] Out 0933z S3	Malc	THU
	0930z	18/01 [277/31 37435 89996 43643 45063 87349 23530 86669 95949……51836 33912] Good	RNGB, Malc, Spectre	WED
	0930z	25/01 [277/00] Out 0933z S2	Malc	WED
	0930z	26/01 [279/00] Good	RNGB, Spectre	THU
	0930z	01/02 [278/00] Out 0933z S3	Malc	WED
	0930z	02/02 [271/00] Fair	Spectre	THU
	0930z	08/02 [275/00] Out 0933z S2	Malc	WED
	0930z	09/02 [271/00] Out 0933z S2	Malc	THU
	0930z	15/02 [275/32 58850…….37290] Out 0940z S3	Malc	WED
	0930z	22/02 [273/00] Good	RNGB	WED
	0930z	23/02 [273/00] Out 0933z S2	Malc, Spectre	THU
9079kHz	1000z	03/01 [309/00] Out 1003z S2	Malc, HfD	TUE
	1000z	06/01 [309/00] Out 1003z S2	Malc	FRI
	1000z	10/01 [300/00] Out 1003z S5	Malc	TUE
	1000z	13/01 [309/00] Out 1003z S4	Malc	FRI
	1000z	24/01 [308/00] Out 1003z S3	Malc	TUE
	1000z	27/01 [306/00] Out 1003z S2	Malc, Spectre	FRI
	1000z	31/01 [300/00] Out 1003z S3	Malc	TUE
	1000z	03/02 [306/00] Out 1003z Strong	Spectre	FRI
	1000z	07/02 [309/00] Out 1003z S3	Malc	TUE
	1000z	10/02 [309/00] Out 1003z S3	Malc	FRI
	1000z	14/02 [309/00] Out 1003z S4	Malc, Spectre	TUE
	1000z	17/02 [307/00] Out 1003z S3	Malc, Spectre	FRI
	1000z	21/02 [307/36 71030 39536 78979 42977 35397 60945 10166……55811 38027] Out 1010z	Spectre, Malc	TUE
	1000z	28/02 [305/00] Out 1003z S3	Malc	TUE
9130kHz	0715z	03/01 [630/00] Out 0718z S3	Malc	TUE
	0715z	06/01 [636/00] Strong	RNGB, Malc	FRI
	0715z	10/01 [630/00] Out 0718z S5	Malc	TUE
	0715z	13/01 [636/00] Out 0718z S5	Malc	FRI
	0715z	17/01 [630/34 62195…….35009] Out 0725z S4	Malc	TUE
	0715z	24/01 [639/00] Out 0718z S3	Malc	TUE
	0715z	27/01 [637/00] Out 0718z S4	Malc	FRI
	0715z	31/01 [637/00] Out 0718z S8	Malc	TUE

	0715z	03/02 [636/00] Strong		RNGB	FRI
	0715z	07/02 [639/32 61466…….74015] Out 0725z S5		Malc	TUE
	0715z	14/02 [635/00] Out 0718z S6		Malc	TUE
	0715z	17/02 [637/00] Strong		RNGB, Malc	FRI
	0715z	21/02 [631/00] Out 0718z S6		Malc	TUE
	0715z	24/02 [636/00] Out 0718z S3		Malc, Spectre	FRI
	0715z	28/02 [637/00] Out 0718z S4		Malc	TUE
10213kHz	0745z	02/01 [261/39 06859…….53354] Out 0748z S5		Malc	MON
	0745z	09/01 [267/00] Out 0748z S3		Malc	MON
	0745z	16/01 [261/00] Out 0748z S6		Malc	MON
	0745z	23/01 [269/00] Out 0748z S5		Malc	MON
	0745z	30/01 [260/00] Out 0748z S5		Malc	MON
	0745z	06/02 [262/00] Out 0748z S5		Malc	MON
	0745z	13/02 [266/00] Out 0748z S6		Malc	MON
	0745z	20/02 [266/40 50393…….08208] Out 0755z S7		Malc	MON
	0745z	27/02 [267/00] Out 0748z S7		Malc	MON
10487kHz	1910z	01/01 [617/00] Out 1913z S2	(Finnish SDR)	Malc	SUN
	1910z	13/01 [618/00] Out 1913z S2	(Finnish SDR)	Malc	FRI
	1910z	15/01 [617/00] Out 1913z S2	(Finnish SDR)	Malc	SUN
	1910z	20/01 [613/00] Out 1913z S2	(Finnish SDR)	Malc	FRI
	1910z	22/01 [616/00] Out 1913z S2		Malc	SUN
	1910z	27/01 [612/00] Out 1913z S2	(Finnish SDR)	Malc	FRI
	1910z	29/01 [610/00] Fair		Spectre	SUN
	1910z	05/02 [513/00] Out 1913z S2		Malc	SUN
	1910z	10/02 [617/35 77161…….34765] Out 1913z S3	(Dutch SDR)	Malc	FRI
	1910z	17/02 [616/00] Out 1913z S2		Malc	FRI
	1910z	19/02 [612/00] Out 1913z S5		Malc, Spectre	SUN
	1910z	24/02 [612/00] Out 1913z S9		Malc	FRI
	1910z	26/02 [614/00] Out 1913z S7		Malc	SUN
11092kHz	0900z	02/01 [634/00] Out 0903z S5		Malc	MON
	0900z	04/01 [532/00] Out 0903z S3		Malc	WED
	0900z	09/01 [535/36 19434…….35817] Out 0910z S4		Malc	MON
	0900z	11/01 [535/36 19434….etc] Repeat of Monday		Malc	WED
	0900z	16/01 [537/00] Good		RNGB, Malc	MON
	0900z	18/01 [535/00] Out 0903z S4		Malc	WED
	0900z	23/01 [535/00] Good		RNGB	MON
	0900z	23/01 [535/00] Out 0903z S4		Malc	MON
	0900z	25/01 [533/00] Out 0903z S6		Malc	WED
	0900z	30/01 [538/00] Out 0903z S3		Malc	MON
	0900z	01/02 [538/00] Out 0903z S3		Malc	WED
	0900z	06/02 [530/39 04376…….26211] Out 0910z S3		Malc	MON
	0900z	15/02 [533/00] Out 0903z S3		Malc	WED
	0900z	20/02 [533/00] Out 0903z S4		Malc, Spectre	MON
	0900z	22/02 [534/00] Out 0903z S5		Malc	WED
	0900z	27/02 [534/00] Good		RNGB	MON
11100kHz	1045z	02/01 [691/00] Good		RNGB, Malc	MON
	1045z	04/01 [690/00] Out 1048z S3		Malc	WED
	1045z	09/01 [691/00] Out 1048z S7		Malc	MON
	1045z	11/01 [691/00] Out 1048z S4		Malc	WED
	1045z	16/01 [690/00] Out 1048z S5		Malc	MON
	1045z	18/01 [690/00] Out 1048z S5		Malc	WED
	1045z	23/01 [691/37 61075 03093 41150 96799 68118 34131 65265……19917 17178] Out 1056z S6		Spetcre, Malc	MON
	1045z	01/02 [697/00] Out 1048z S9	(Dutch SDR)	Malc, Spectre	WED
	1045z	06/02 [692/00] Out 1048z S2		Malc	MON
	1045z	08/02 [692/00] Out 1048z S3		Malc	WED
	1045z	13/02 [694/00] Out 1048z S3		Malc, Spectre	MON
	1045z	15/02 [693/00] Out 1048z S3		Malc, Spectre	WED
	1045z	20/02 [696/30 65139 28994 16914 11614 29497 30411 72807……16374 43528] Out 1054z S5		Spectre, Malc	MON
	1045z	27/02 [690/00] Out 1048z S7		Malc	MON
11104kHz	0715z	02/01 [751/32 59791…….05098] Out 0725z S8		Malc	MON
	0715z	09/01 [753/00] Out 0718z S5		Malc	MON
	0715z	11/01 [754/00] Out 0718z S4	(Dutch SDR)	Malc	WED
	0715z	16/01 [759/00] Out 0718z S7		Malc	MON
	0715z	18/01 [751/00] Out 0718z S5		Malc	WED
	0715z	23/01 [753/00] Out 0718z S6		Malc	MON
	0715z	25/01 [759/00] Out 0718z S3		Malc	WED
	0715z	30/01 [753/00] Out 0718z S4		Malc	MON

	0715z	01/02 [750/00] Out 0718z S4	Malc	WED
	0715z	06/02 [754/00] Out 0718z S5	Malc	MON
	0715z	08/02 [755/00] Out 0718z S3	Malc	WED
	0715z	13/02 [750/00] Out 0718z S5	Malc	MON
	0715z	15/02 [757/00] Out 0718z S8	Malc	WED
	0715z	20/02 [750/32 96367 57915 65985 60263 20380 66451 43044……48118 63429] Out 0725z S5	Spectre, Malc	MON
	0715z	27/02 [757/00] Out 0718z S2	Malc	MON
12067kHz	0845z	02/01 [710/00] Out 0848z S4	Malc	MON
	0845z	04/01 [718/00] Strong	RNGB, Malc	WED
	0845z	09/01 [715/00] Out 0848z S4	Malc	MON
	0845z	11/01 [714/00] Out 0848z S3	Malc	WED
	0845z	16/01 [713/00] Good	RNGB, Malc	MON
	0845z	18/01 [710/00] Out 0848z S4	Malc	WED
	0845z	23/01 [715/39 51175…….25925] Out 0856z S3	Malc	MON
	0845z	30/01 [710/00] Strong	RNGB, Malc	MON
	0845z	01/02 [714/00] Out 0848z S6	Malc	WED
	0845z	06/02 [710/00] Out 0848z S5	Malc	MON
	0845z	08/02 [716/00] Out 0848z S5	Malc	WED
	0845z	13/02 [718/00] Out 0848z S5	Malc	MON
	0845z	15/02 [716/00] Out 0848z S7	Malc	WED
	0845z	20/02 [711/34 21449 45042 51079 38998 26014 27535 88408 38818……29206 40053] Good	RNGB, Malc, Spectre	MON
	0845z	27/02 [710/00] Good	RNGB	MON
12924kHz	1745z	08/01 [244/00] Out 1748z S2	Malc	SUN
	1745z	09/01 [248/00] Strong	RNGB	MON
	1745z	09/01 [248/00] Out 1748z S2	Malc	MON
	1745z	15/01 [242/00] Out 1748z S2 (Dutch SDR)	Malc	SUN
	1745z	16/01 [249/00] Out 1748z S2 (Finnish SDR)	Malc	MON
	1745z	22/01 [242/00] Out 1748z S2 (Dutch SDR)	Malc	SUN
	1745z	23/01 [242/30 34837…….51218] Out 1755z S2	Malc	MON
	1745z	30/01 [246/00] Out 1748z S2 (Finnish SDR)	Malc	MON
	1745z	05/02 [246/00] Out 1748z S5	Malc	SUN
	1745z	06/02 [249/00] Out 1748z S9	Malc	MON
	1745z	13/02 [246/00] Out 1748z S5	Malc	MON
	1745z	19/02 [247/00] Out 1748z S6	Malc, Gary H	SUN
	1745z	20/02 [246/37 94232…….66910] Out 1755z S9 QSB7	Malc	MON
	1745z	27/02 [242/00] Out 1748z S2	Malc	MON
13363kHz	1430z	03/01 [910/00] Out 1433z S2	Malc	TUE
	1430z	07/01 [910/00] Out 1433z S3	Malc	SAT
	1430z	14/01 [919/38 63864…….51222] Out 1441z S4	Malc	SAT
	1430z	21/01 [917/00] Out 1433z S6	Malc	SAT
	1430z	24/01 [914/00] Out 1433z S4	Malc	TUE
	1430z	28/01 [917/00] Out 1433z S7	Malc	SAT
	1430z	31/01 [912/00] Out 1433z S5	Malc	TUE
	1430z	07/02 [912/38 24911 61372 72179 27870 43753 52173 64466 86665……43334 56132] Out 1440z	RNGB, Malc	TUE
	1430z	11/02 [912/38 24911…..etc]	Gary H, Malc, Spectre	SAT
	1430z	14/02 [915/00] Out 1433z S7	Malc	TUE
	1430z	18/02 [915/00] Out 1433z S6	Malc, Spectre	SAT
	1430z	25/02 [914/00] Fair	Spectre	SAT
	1430z	28/02 [915/00] Out 1433z S4	Malc	TUE
13908kHz	0745z	03/01 [220/35 55981…….62785] Out 0755z S3 (Dutch SDR)	Malc	TUE
	0745z	10/01 [229/00] Out 0748z S3	Malc	TUE
	0745z	12/01 [227/00] Out 0748z S4	Malc	THU
	0745z	17/01 [220/00] Out 0748z S7	Malc	TUE
	0745z	19/01 [223/00] Out 0718z S4	Malc	THU
	0745z	24/01 [224/00] Out 0748z S3	Malc	TUE
	0745z	26/01 [229/00] Out 0748z S4	Malc	THU
	0745z	31/01 [220/00] Out 0748z S5	Malc	TUE
	0745z	02/02 [223/00] Fair	RNGB	THU
	0745z	07/02 [223/00] Fair	RNGB, Malc	TUE
	0745z	09/02 [223/00] Out 0748z S3	Malc	THU
	0745z	14/02 [225/00] Out 0748z S8	Malc	TUE
	0745z	16/02 [228/00] Fair	RNGB, Malc	THU
	0745z	21/02 [221/39 01997 13347 64321 02655 45155 95899 38466……06468 72820 10960] Fair	RNGB, Spectre	MON
	0745z	28/02 [221/00] Fair	RNGB, Malc	TUE

14611kHz	0820z	03/01 [134/00] Weak		RNGB	TUE
	0820z	04/01 [131/00] Good		RNGB, Malc	WED
	0820z	10/01 [138/00] Out 0823z S5		Malc	TUE
	0820z	11/01 [138/00] Out 0823z S5		Malc	WED
	0820z	17/01 [138/37 35285 51679 64456 45831 77831 20144 41793……26945 18656] Out 0831z		RNGB, Malc	TUE
	0820z	24/01 [135/00] Out 0823z S3		Malc	TUE
	0820z	25/01 [130/00] Out 0823z S4		Malc	WED
	0820z	31/01 [135/00] Out 0823z S9		Malc	TUE
	0820z	01/02 [135/00] Out 0823z S6		Malc	WED
	0820z	07/02 [136/00] Out 0823z S9 QSB4		Malc	TUE
	0820z	08/02 [135/00] Out 0823z S5		Malc	WED
	0820z	14/02 [133/00] Out 0823z S9		Malc	TUE
	0820z	15/02 [135/00] Out 0823z S8		Malc	WED
	0820z	21/02 [131/33 58109…….64123] Out 0830z S9		Malc	TUE
	0820z	28/02 [134/00] Weak		RNGB, Malc	TUE
14940kHz	0830z	02/01 [188/00] Out 0833z S5		Malc	MON
	0830z	06/01 [183/00] Good		RNGB, Malc	FRI
	0830z	09/01 [189/35 00918…….90349] Out 0840z S5		Malc	MON
	0830z	16/01 [189/00] Strong		RNGB, Malc	MON
	0830z	20/01 [184/00] Good		RNGB, Malc	FRI
	0830z	23/01 [189/00] Good		RNGB	MON
	0830z	23/01 [189/00] Out 0833z S4		Malc	MON
	0830z	27/01 [183/00] Out 0833z S6		Malc	FRI
	0830z	30/01 [189/00] Good		RNGB, Malc	MON
	0830z	03/02 [181/00] Strong		RNGB	FRI
	0830z	06/02 [183/00] Good		RNGB	MON
	0830z	06/02 [183/00] Out 0833z S6		Malc	MON
	0830z	10/02 [181/00] Out 0833z S5		Malc	FRI
	0830z	13/02 [182/35 95231 86304 34395 45458 24599 76240 19606 86101……02842 18567] Good		RNGB, Malc	MON
	0830z	20/02 [184/00] Good		RNGB, Malc, Spectre	MON
	0830z	24/02 [183/00] Out 0833z S4		Malc, Spectre	FRI
	0830z	27/02 [181/00] Fair		RNGB	MON
17378kHz	0845z	03/01 [151/00] Weak		RNGB, Malc	TUE
	0745z	04/01 [349/36 03161…….10413] Out 0755z S3	(Dutch SDR)	Malc	WED
	0845z	05/01 [159/00] Fair		RNGB, Malc	THU
	0745z	06/01 [349/36 03161…..etc] Repeat of Wednesday		Malc	FRI
	0845z	10/01 [157/00] Out 0848z S3		Malc	TUE
	0745z	11/01 [346/00] Out 0748z S2	(Dutch SDR)	Malc	WED
	0845z	12/01 [151/00] Out 0848z S8		Malc	THU
	0745z	13/01 [348/00] Out 0748z S5		Malc	FRI
	0845z	17/01 [154/29 38814…….30286] Out 0854z S8		Malc	TUE
	0745z	18/01 [342/00] Out 0748z S6		Malc	WED
	0845z	19/01 [154/29 38814……..30286] Out 0854z S4		Malc	THU
	0745z	20/01 [347/00] Out 0748z S2		Malc	FRI
	0845z	24/01 [150/00] Fair		RNGB, Malc	TUE
	0745z	25/01 [347/00] Out 0748z S5		Malc	WED
	0845z	26/01 [151/00] Out 0748z S7		Malc	THU
	0745z	27/01 [342/00] Out 0748z S4		Malc	FRI
	0845z	31/01 [158/00] Out 0848z S7		Malc	TUE
	0745z	01/02 [342/25 10825…….96149] Out 0755z S3	(Dutch SDR)	Malc	WED
	0845z	02/02 [159/00] Weak		RNGB	THU
	0845z	07/02 [155/00] Out 0848z S9		Malc	TUE
	0845z	09/02 [155/00] Out 0848z S9		Malc	THU
	0845z	10/02 [349/00] Fair		RNGB, Malc	FRI
	0745z	08/02 [344/00] Out 0748z S7		Malc	WED
	0845z	14/02 [150/33 75701…….18665] Out 0855z S9		Malc	TUE
	0745z	15/02 [346/00] Out 0748z S7		Malc	WED
	0845z	16/02 [150/33 81335…….18665] Out 0855z S6		Malc	THU
	0745z	17/02 [340/00] Out 0748z S9		Malc	FRI
	0845z	21/02 [156/00] Out 0848z S9+10		Malc	TUE
	0745z	22/02 [340/00] Out 0748z S9		Malc	WED
	0845z	23/02 [156/00] Out 0848z S9		Malc, Spectre	THU
	0745z	24/02 [343/00] Out 0748z S2		Malc, Spectre	FRI
	0845z	28/02 [154/00] Out 0848z S2		Malc	TUE

S06

Friday 1st & 3rd		**2000z**	**7812khz**	**2100z**	**5743kHz**
06/01	'637' 00000				
20/01	'637' 00000				
		1900z	**7812kHz**	**2000z**	**5743kHz**
03/02	'637' 00000				
17/02	'637' 00000				

Note PoSW's opening comment

S06 RUSSIAN
First + Third Fridays in the Month Schedule, 2000 + 2100 UTC in January, 1900 + 2000 in February:-
Good to see that this, one of the very few remaining S06 schedules, has survived into the New Year. Frequencies in January of 2022 were 7672 and 5457 kHz so it was reasonable to assume that the same parts of the short-wave spectrum would be used in this year.

6-Jan-23:- 2000 UTC, 7812 kHz, "637 637 637 00000", not too strong, pre-transmission warm-up tone had been noted when tuning around at approx 1952 UTC.
2100 UTC, 5743 kHz, second sending, stronger.

20-Jan-23:- 2000 UTC, 7812 kHz, "637 637 637 00000", good signal, S8 or so.
2100 UTC, 5743 kHz, slightly weaker unusually, the second sending is usually the stronger of the two transmissions.

Not entirely unexpectedly moved back by one hour in February:-
3-Feb-23:- 1900 UTC, 7812 kHz, "637 637 637 00000", around S7.
2000 UTC, 5743 kHz, also S7.

17-Feb-23:- 1900 UTC, 7812 kHz and 2000 UTC, 5743 kHz, "637 637 637 00000".

S11a log Jan/Feb

5371kHz	0830z	01/01 [373/00] Konyetz 0833z S2	Malc	SUN
	0830z	07/01 [373/00] Fair	RNGB	SAT
	0830z	08/01 [371/00] Konyetz 0833z S4	Malc	SUN
	0830z	14/01 [379/00] Konyetz 0833z S2	Malc	SAT
	0830z	15/01 [370/00] Konyetz 0833z S2	Malc	SUN
	0830z	21/01 [373/00] Konyetz 0833z S4	Malc	SAT
	0830z	28/01 [376/34 56723…….91449] Konyetz 0841z S6	Malc	SAT
	0830z	05/02 [376/00] Konyetz 0833z S4	Malc	SUN
	0830z	11/02 [371/00] Good	RNGB, Malc	SAT
	0830z	12/02 [371/00] Konyetz 0833z S3	Malc	SUN
	0830z	18/02 [376/34 23395 84049 34975 69870 17453 60262 42861 72917……22669 62103] Fair	RNGB, Malc	SAT
	0830z	25/02 [377/00] Konyetz 0833z S2	Malc	SAT
	0830z	26/02 [376/00] Konyetz 0833z S3	Malc	SUN
6252kHz	0915z	02/01 [484/00] Konyetz 0918z S2	Malc	MON
	1400z	03/01 [427/00] Konyetz1403z S2	Malc	TUE
	0915z	06/01 [486/00] Konyetz 0918z S2	Malc	FRI
	1400z	06/01 [420/00] Konyetz 1403z S2	Malc	FRI
	0915z	09/01 [487/00] Fair	RNGB, Malc	MON
	0915z	13/01 [487/00] Fair	RNGB	FRI
	1400z	13/01 [425/31 03604…….43206] Konyetz 1411z S3	Malc	FRI
	0915z	16/10 [485/00] Fair	RNGB, Malc	MON
	1400z	17/01 [424/00] Konyetz 1403z S2	Malc	TUE
	0915z	20/01 [484/00] Konyetz 0918z S3	Malc	FRI
	0915z	23/01 [481/33 84167 07102 23643 67984 25885 88694 08177 86827……09516 42290] Fair	RNGB	MON
	1400z	24/01 [429/00] Konyetz 1403z S2	Malc	TUE
	1400z	27/01 [422/00] Konyetz 1403z S4 (Dutch SDR)	Malc	FRI
	1400z	31/01 [429/00] Konyetz 1403z S3 (Dutch SDR)	Malc	TUE
	0915z	03/02 [486/00] Good	RNGB	FRI
	0915z	06/02 [483/33 65632…….09798] Konyetz 0926z S3	Malc	MON
	1400z	07/02 [425/31 26480…….67469] Konyetz 1411z S4 (Dutch SDR)	Malc	TUE
	0915z	13/02 [484/00] Good	RNGB, Malc	MON
	1400z	14/02 [424/00] Konyetz 1403z S2	Malc	TUE
	0915z	17/02 [481/00] Konyetz 0918z S2	Malc	FRI
	1400z	17/02 [427/00] Konyetz1403z S3	Malc, Spectre	FRI
	0915z	20/02 [481/00] Konyetz 0918z S3 (Dutch SDR)	Malc	MON

	1400z	21/02 [425/00] Konyetz 1403z S2	Malc	TUE
	0915z	24/07 [482/00] Konyetz 0918z S3	Malc	FRI
	1400z	24/07 [421/00] Konyetz 1403z S3	Malc	FRI
	0915z	27/02 [485/00] Konyetz 0918z S2	Malc	MON
	1400z	28/02 [422/00] Weak	RNGB, Malc	TUE
9050kHz	0700z	12/01 [471/00] Konyetz 0703z S3	Malc	THU
	0700z	19/01 [472/00] Koneytz 0703z S5	Malc	THU
	0700z	23/01 [471/00] Konyetz 0703z S5	Malc	MON
	0700z	26/01 [371/00] Konyetz 0703z S4	Malc	THU
	0700z	30/01 [472/00] Konyetz 0703z S7	Malc	MON
	0700z	06/02 [477/00] Konyetz 0703z S5	Malc	MON
	0700z	09/02 [472/00] Konyetz 0703z S3	Malc	THU
	0700z	16/02 [470/00] Strong	RNGB	THU
	0700z	20/02 [471/37 66451…….32269] Konyetz 0712z S6	Malc	MON
	0700z	27/02 [477/00] Konyetz 0703z S6	Malc	MON
11486kHz	1850z	04/01 [280/00] Konyetz 1853z S2	Malc	WED
	1850z	07/01 [286/00] Konyetz 1853z S4 (Finnish SDR)	Malc	SAT
	1850z	14/01 [286/38…. (too weak to copy msg] Konyetz 1901z S2 (Dutch SDR)	Malc	SAT
	1850z	18/01 [280/00] Konyetz 1853z S2	Malc	WED
	1850z	25/01 [286/00] Konyetz 1853z S2	Malc	WED
	1850z	28/01 [287/00] Konyetz 1853z S2	Malc	SAT
	1850z	01/02 [282/32 21778……. 14262] Konyetz 1901z S2 (Dutch SDR)	Malc	WED
	1850z	11/02 [284/00] Konyetz 1853z S9	Malc	SAT
	1850z	18/02 [285/00] Konyetz 1853z S6	Malc	SAT
	1850z	22/02 [280/00] Konyetz 1853z S4	Malc	WED
	1850z	25/02 [287/00] Konyetz 1853z S9	Malc	SAT

V02 a

Nil Reports

V06

Nil Reports

V07

Sunday

January 2023

0100z 15893kHz 0120z 14963kHz 0140z 13893kHz

Daniel posts from the Argentine:

15893kHz0100z 15/01/23 & 08/01 NRH Dan/AR Sun
14693kHz0120z 15/01/23 & 08/01 NRH Dan/AR Sun
13893kHz0140z 15/01/23 & 08/01 NRH Dan/AR Sun
Looking for other frequencies at home and SDR/Japan and nothing found.
[*Thanks for your efforts Daniel*].

Token writes:I have not seen or heard V07 since the scheduled set of transmissions on 18 December, 2022. So far it appears to have missed 4 weeks of operations (25 Dec 2022, 01 Jan 2023, 08 Jan 2023, and 15 Jan 2023).

In the past V07 has occasionally changed schedules, moving to different time slots and frequencies. So these past 4 weeks I have been looking at other Sunday morning time slots and frequencies in addition to the known times / freqs. I have been recording 10 MHz of spectrum (9000 to 19000 kHz) at the top of each hour from 0000z to 0900z (5 minute recordings). So far no luck. Starting this week I am expanding my scheduled recordings to include the bottom of each hour and other days of the week.

Prior to noticing this Pacific schedule in 2011, V07 had been inactive, or at least unreported, for several years, the last European V07 reports ending several years before that time.

Only time will tell if V07 is gone completely, temporarily paused, or if it has just moved to a new schedule that no one has yet located.

Thanks Token

February 2023

0200z 18217kHz 0220z 16317kHz 0240z 15817kHz **NEW FREQS & TIMES**

Token writes: As of 05 February, 2023, V07 appears to be back on the air, using a new time slot.

18217 kHz 0200z 05/02/2023
16317 kHz 0220z 05/02/2023
15817 kHz 0240z 05/02/2023

I have a recording here https://www.youtube.com/watch?v=Nke4_PMH-L4

I did take SDR recordings from 9000 kHz to 19000 kHz each Sunday in Dec 2022 and Jan 2023, at times 0000/0020/0040, 0100/0120/0140, etc, each hour until 0700. I have already deleted most of the Dec recordings, but I still have all the Jan recordings. I am reviewing those now, to see if I missed V07 the previous time I reviewed the recordings. So far I have not found V07 in any Dec or Jan recordings, even knowing new times are in use. *Thanks Token*

12/02 238 1 452 136 03706 ... 92358 000 000 Weak [*Thanks T! for freqs*]

238 238 238 1
452 136
03706 35865 85623 68269 32544
93525 27376 78683 32267 44627
97188 33167 38501 57678 69195
39262 60559 80031 29738 66060
98314 44523 56813 01844 15656
69917 54776 06048 54337 61319
42498 03477 19675 07575 99428
80112 73769 38647 56662 50104
34466 73566 79453 63484 14045
38841 08769 31655 73300 39457
73831 92992 74311 25753 80252
28395 07890 16052 62168 46277
82132 25101 57501 85005 87069
35129 48374 17143 40747 33736
74036 69760 01636 56408 61872
24212 73666 24623 07882 91779
36803 53415 94471 64588 12565
89005 66307 60891 18650 91574
98423 08648 32913 13502 81212
54790 70372 73559 16104 66286
70495 55859 60544 15534 74851
72405 33237 43050 81577 76689
62239 43919 27057 44693 09890
22663 60589 69828 79590 54063
55160 69431 35856 31332 62894
48446 90482 42281 36224 35706
03931 90913 93434 97531 39691
92358 000 000 *Courtesy DanAR*

19/02 238 1 620 102 28652 ... 50913 000 000 Weak

238 238 238 1
620 102
28652 26082 36878 89026 89065
42560 50850 07084 45328 07335
87430 54687 78362 71678 35084
01333 65877 45308 10161 40044
03270 79427 75987 61367 28502
08145 28587 75035 39122 98335
30771 76409 52390 45648 27347
39819 40893 18654 01172 78988
35509 24786 66105 21031 07770
44637 50436 58468 21486 79967
30364 95152 24516 73905 70078
66017 79253 19248 51511 16090
56218 56285 83127 55879 62501
73089 78335 23235 36790 13480
45850 06795 06091 23232 29006
01220 66517 65007 60543 27588
28612 81034 04833 90325 91014
12530 67423 75239 03088 33452
43950 74236 73382 39685 75243
05896 33793 16272 08408 50913
18780 40475 000 000
Courtesy DanAR

V13 New Star Radio

No logs but a read of Hugh Stegman's column Utility Planet in February 2023 'The Spectrum Monitor' on page 41 you not only have an in-depth discussion on an apparent Selcal expansion but a decent piece concerning V13.

Hugh helpfully posts freqs and the 15890kHz was one I copied a few months back at 1200z without realising the counting was V13 rather than CRI Chinese language school I had tuned down a couple of MHz from! I do recall the signals were very strong with good audio and in AM unless I changed mode. Reading Hugh's column suggests H3E or R3E, so USB was the mode of choice for me.
Bearing in mind all my intercepts are via a shack receiver then propagation would have been exceptional [*there have been a few good lifts too*] and remember as we enter Cycle 25 there have been some decent hours available.

I also read the Chinese language of choice is Mandarin, so perhaps I should have stayed with CRI's Chinese by radio classes.

I took the opportunity to contact Hugh concerning his logs, taken over the last few months. He kindly gave permission for them to be repeated, noting that those from 0500z on were supplied by Ary:

0000z	15250 //	15890				
0100z	16257	18040				
0200z	16257	18040	8169			
0300z	11430	18040				
0400z	9725	15388				
0500z	11430					
0600z	10522	11430				
0700z	7502	8169				
0800z	7502	8169				
1200z	8300	9276	13974			
1300z	7502	7688	9276	10522	11430	13974
1500z	8300					

Hugh generally mentions the number station world in brilliant method and this time he's done himself proud [using SDR in Japan]. Definitely worth a read or subscription.
Thanks Hugh!

Surprise logs from The Spectre 3000:

7688kHz 13/02/2023 1330z [New Star Broadcasting Program #2] 1350z Fair QRN3 QSB2 MON Spectre (Remote KiwiSDR California)
17/02/2023 1301z [New Star Broadcasting Program #2] 1320z Fair QRN3 QSB3 FRI Spectre (Remote KiwiSDR California)
23/02/2023 1330z [New Star Broadcasting Program #2] 1351z Strong QRN3 QSB2 THU Spectre (Remote KiwiSDR California)
24/02/2023 1300z [New Star Broadcasting Program #2] 1321z Strong QRM3 QSB3 FRI Spectre (Remote KiwiSDR California)

8169kHz 29/01/2023 0230z [New Star Broadcasting Program #3] 0255z Fair QRN2 QSB2 SUN Spectre (Remote KiwiSDR Taiwan)
15/02/2023 0230z [New Star Broadcasting Program #3] 0250z Strong QRN2 QSB2 WED Spectre (Remote KiwiSDR Taiwan)

9276kHz 23/02/2023 1200z [New Star Broadcasting Program #2] 1221z Fair BCQRM4 QSB3 THU Spectre (Remnote KiwiSDR California)

11430kHz 18/01/2023 1300z [New Star Broadcasting Program #1] 1320z Fair QRN3 QSB4 WED Spectre (Remote WebSDR Twente Netherlands)
29/02/2023 0300z [New Star Broadcasting Program #3] 0325z Strong QRN2 QSB2 SUN Spectre (Remote KiwiSDR Taiwan)
01/02/2023 1330z [New Star Broadcasting Program #1] 1320z Fair QRN3 QSB4 WED Spectre (Remote WebSDR Twente Netherlands)
15/02/2023 0300z [New Star Broadcasting Program #3] 0320z Strong QRN2 QSB2 WED Spectre (Remote KiwiSDR Taiwan)
15/02/2023 1330z [New Star Broadcasting Program #1] 1350z Strong QRN2 QSB2 WED Spectre (Remote KiwiSDR California)
17/02/2023 1330z [New Star Broadcasting Program #1] 1350z Strong QRN2 QSB2 FRI Spectre (Remote KiwiSDR California)
22/02/2023 1300z [New Star Broadcasting Program #1] 1320z Fair QRN3 QSB3 WED Spectre (Remote KiwiSDR California)
24/02/2023 1300z [New Star Broadcasting Program #2] 1321z Fair QRN3 QSB3 FRI Spectre (Remote KiwiSDR California)

13974kHz 15/02/2023 1300z [New Star Broadcasting Program #1] 1303z Strong QRN2 QSB2 WED Spectre (QSY to 11430kHz at 1303z)

15250kHz 15/02/2023 0000z [New Star Broadcasting Program #2] 0020z Fair QRN3 QSB3 WED Spectre (Remote KiwiSDR California)
19/02/2023 0000z [New Star Broadcasting Program #1] 0050z Weak QRN3 QSB3 SUN Spectre (Remote KiwiSDR California)
26/02/2023 0000z [New Star Broadcasting Program #2] 0050z Fair QRN3 QSB3 SUN Spectre (Remote KiwiSDR Taiwan)

18040kHz 29/01/2023 0100z [New Star Broadcasting Program #2] 0125z Fair QRN2 QSB2 SUN Spectre (Remote KiwiSDR Taiwan)

V15 North Korean Intelligence via Radio Pyongyang

657, 3250, 3320, 6400kHz

V24 South Korean intelligence

Nil Reports

V26

Nil Reports

Polytones

XPA1 Wed/Fri

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

January 2023

1310z	**14852kHz**	**1330z**	**13952kHz**	**1350z**	**11552kHz**	
04/01		895 1 00491 00098 05399 … 77616				1310z Fair, 1330z Weak, 1350z Unworkable
06/01		895 1 00491 00098 05399 … 77616				1330z Weak, rest Fair

895 895 895 1 895 895 895 1 895 895 895 1

00491 00098 05399 95683 34894 22768 47193 35062 99906 85942
22227 52933 33551 62933 35032 37007 66525 95238 86812 52059
88067 40199 00500 08788 84683 48922 98206 39820 16679 97326
54279 78912 63155 27607 83033 06594 12560 20001 02715 25354
51805 70301 79585 69025 01435 88902 07545 56742 97067 10034
13493 20025 38378 97319 56451 09293 53379 90590 81821 43158
79886 48900 02991 14627

45622 81874 22836 63738 77177 39791 07311 19583 22632 46492
47587 42702 34994 08712 86645 20229 40713 30184 97645 15937
72656 63478 11917 68086 17306 15299 52595 18579 65241 63448
65275 98997 76539 61574 35562 96539 77616 *Courtesy PLdn*

11/01		895 1 00491 00098 05399 ... 77616				Weak
13/01		895 1 00491 00098 05399 … 77616				Very strong, 1250z Fair
18/01		895 1 04830 00104 49859 ... 76545				1330z Fair. rest Weak QSB2 throughout

895 895 895 1 895 895 895 1 895 895 895 1

04830 00104 49859 76939 48603 88700 82998 16519 19750 95230
97115 73423 72807 25352 26709 67900 68613 82081 45808 46811
92636 17443 71978 13424 61868 81149 65228 83597 08956 73300
91818 10705 56448 57852 00011 65113 59699 02535 69671 68762
96861 07288 54282 11147 28151 86931 60336 05738 63424 05481
96888 08940 61418 37133 69804 84893 75226 85871 91967 18062
39339 70955 16992 08147

79364 54024 45615 51395 16741 84728 32620 80449 29157 97083
47942 29433 91872 15044 81889 85819 17776 50535 91007 07854
10516 30185 75359 30503 23329 00065 66569 89645 92802 87781
17549 14486 64435 91337 29701 34574 44554 50943 39558 89333
51199 09663 76545 *Courtesy PLdn*

20/01		895 1 04830 00104 49859 ... 76545				Strong, 1350z Weak
25/01		895 1 04830 00104 49859 ... 76545				1310z Fair, 1330z Strong. 1350z Weak
27/01		895 1 04830 00104 49859 ... 76545				Fair, 1350z Unworkable

February 2023

1310z	**14374kHz**	**1330z**	**13374kHz**	**1350z**	**11474kHz**	
01/02		334 1 00225 00120 19752 ... 65332				1310z Strong, 1330z Fair, 1350z MISSED

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

00225 00120 19752 09013 72547 30840 69631 29591 25805 26401
80377 25117 82369 71309 31577 45142 45323 76890 27371 16442
08964 65571 73673 83251 84159 73111 06094 79603 04455 97143
79955 59526 26937 41505 71391 92198 58400 76480 08582 98087
35071 74197 69622 26295 67373 21681 28626 06463 77136 42287
33242 52769 19915 62762 68746 79492 96144 79339 91964 02784
30943 22473 23573 19246

24119 75459 29384 52773 71673 04639 18232 71123 78296 87856
26845 14471 40656 26659 77942 43485 47274 37051 28812 92094
05140 21386 10187 29169 48877 49549 49539 49945 01435 27386
98791 22684 13939 74228 94025 36368 03936 76298 60381 81056
08523 90904 19647 90156 70578 09501 52014 18141 34226 30765
38681 31460 29787 64449 52977 92962 33717 87564 65332.
Courtesy PLdn

03/02		334 1 00225 00120 19752 ... 65332				1330z Strong, rest Weak
08/02		334 1 00225 00120 19752 ... 65332				Weak QSB3, 1310z MISSED
15/02		334 1 06670 00162 56819 ... 00517				1310z Weak, QSB3, 1330z Fair, 1350z Unworkable
17/02		334 1 06670 00162 56819 ... 00517				Fair, 1350z Unworkable

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

06670 00162 56819 48978 46842 54577 07229 90658 23637 83767
52021 60528 51011 31276 26307 31062 02490 17662 39928 15232
86026 17679 51149 39959 82365 03838 28816 31942 94147 95851
15906 69037 42484 50102 03203 28912 94420 85299 31875 72469
13436 76206 88273 25609 16801 66342 81990 68490 50610 89402
51091 06145 18596 45447 12032 36697 78731 91625 92244 43706
97200 67551 60076 91531

32721 64315 47180 22003 41793 15997 67991 08875 14207 05636
81356 00761 09945 84481 51968 91355 73839 24773 95099 16344
99433 70249 61527 30475 09094 61731 81105 63624 16834 12308
35878 29285 54425 50164 21070 06052 82549 68479 70163 99080
03073 75321 37782 93841 94835 03230 94402 98715 80210 75592
01395 85140 01586 20476 47864 34951 16339 13804 01342 01006
13903 51903 19644 40102

03479 28731 78468 53449 92986 26950 12364 85128 30832 29666
32012 74889 97839 58570 07160 28611 55961 30336 57682 66418
43901 95234 34341 82209 72893 01157 28368 24477 20472 05849
96600 76825 89580 80936 36027 33766 00517 *Courtesy PLdn*

22/02	334 1 06670 00162 56819 ... 00517	Strong, 1350z Unworkable
24/02	334 1 06670 00162 56819 ... 00517	1350z Weak, rest Strong

XPA2 m

Sunday/Tuesday

January 2023

1200z	**10921kHz**	**1220z**	**12221kHz**	**1240z**	**13521kHz**
01/01	00290 00212 75173 … 21334				1200z Weak QRM3/4, rest Fair
03/01	04582 00001 00000 … 34664				1200z V.weak, rest Fair
08/01	07953 00001 00000 ... 37264				1240z Very strong, rest Strong
10/01	06991 00218 65489 ... 34151				Fair

06991 00218 65489 14652 57986 71903 90745 44239 32715 85459
41482 01492 70643 21312 87506 93414 59807 49707 11813 42300
35316 29256 93234 78977 07586 95992 29507 28339 52880 58032
36850 61597 13595 17231 71367 79714 65465 11774 85955 64099
23149 81923 87275 30519 76213 40266 58146 80441 72062 51538
47773 10992 28655 98805 34705 09260 72302 15147 01637 68008
47692 82660 23375 06634 82218 02133 03474 30124 67688 80272
27117 06759 36395 24468 79099 84161 84429 89609 79732 19281
29965 02780 92156 95487 02438 05762 51870 69957 42196 21687
47762 13696 27264 52969 97583 80118 91344 03777 65109 02192
55860 96565 90737 11508 35669 29482 25446 56637 36520 85867
12640 28009 31389 93182 03521 69018 26516 47311 95439 95735
56651 73548 54448 99658 39868 98138 66111 12457 23201 99452
54152 35719 06316 80328 32511 96118 70304 10931 94830 74058
86889 41037 32275 45469 77688 07421 24485 79204 86967 47324
02281 18546 20679 22153 31838 37434 12085 15777 02864 72813
29639 39303 21791 60018 13522 85236 61344 64294 94083 52095
42286 88325 81578 29895 18254 84929 99670 62625 08638 65469
74257 99877 89584 50473 17771 82154 66391 17366 64823 84792
04595 04469 45978 59174 23193 10172 58127 00215 76326 28444
21000 65275 32799 65107 94250 02926 86307 42417 75962 25700
48892 66795 67412 01004 83731 32742 01846 43756 61760 49665
34151 *Courtesy PLdn*

15/01	06991 00218 65489 ... 34151	1200z Fair, rest Strong
17/01	00493 00234 66194 ... 65502	1200z Weak, rest Fair

00493 00234 66194 30921 82705 76280 28705 74798 87490 63957
73992 89137 66682 62063 88215 71932 62532 17428 56829 42075
48191 41207 95933 17703 69610 54301 67022 96631 87578 78957
32525 64954 80335 23079 17265 12645 70872 06595 72213 12553
51021 07488 51645 16836 01748 81270 20983 61175 98859 42545
98780 07774 93049 09240 30176 05576 12642 64382 79488 03977
58558 32252 75841 30125 62573 69113 51969 77844 38402 57918
47060 17280 95465 43545 34057 68117 08572 40047 62005 99635
23495 36006 53976 07081 78606 76618 93723 54227 87106 81258
17418 12546 41396 33606 55780 17761 36488 36101 11018 55883
20259 18890 31149 68654 61802 08325 48122 62629 38780 70424
64328 27848 97305 83618 20873 62125 04732 54446 20218 23535
42922 87669 33549 76390 30171 16145 27950 49689 94285 26008
81947 73515 87954 54151 37394 50893 92739 94898 25580 33294
11616 80500 35769 49603 63686 09918 64957 69705 81373 73228
96532 09775 76908 98522 95352 72074 82221 54473 56037 06780
07473 99946 40535 59173 19969 45186 19675 27755 39403 69167
59072 24876 45428 25004 29807 51641 03563 71645 00504 86134
69575 39027 36298 19654 16478 01442 64679 19031 95463 09900
82587 88363 38547 04344 78655 19002 09274 15824 97455 04445
10832 74997 43647 66558 98615 87248 46401 68456 06413 09933
04202 24861 42165 67062 38900 27030 18748 79575 94835 81872
91636 11582 09599 38380 28290 59977 77980 43846 68470 27633
95014 26112 30923 30166 13185 66356 65502 *Courtesy PLdn*

22/01 00493 00234 66194 ... 65502 1200z Fair, rest Strong

24/01 00470 00208 77708 ... 03536 Fair

29/01 00470 00208 77708 ... 03536 1200z Weak QSB3, rest Strong

00470 00208 77708 83873 76005 39553 79808 88915 52823 24121
82222 01413 75449 04137 10534 75016 39265 03886 30365 45788
62284 20125 27130 20425 79635 12938 29672 70128 00127 94528
07702 82529 69310 54815 62749 44467 06672 57979 74006 46913
41340 86533 92270 03702 89261 91897 21510 17008 33904 94379
38444 88265 28390 71218 66753 85098 51367 61861 52711 24205
65941 32706 00566 59772 12917 39848 80383 40569 17792 09302
48450 57791 89917 15554 50682 72090 91875 55068 44681 02836
31686 38573 97627 74090 56864 10390 31913 86857 96587 65436
03974 83092 50381 76854 55493 14263 08723 23950 48827 23511
36991 88771 71266 22921 67276 41680 27763 25971 09531 61053
68105 83504 85272 20401 16975 42506 85681 68744 41346 08595
02202 21435 76658 80239 71996 67107 85674 67277 61092 56202
25227 02780 75839 42405 73540 65046 84996 59559 30381 88975
68111 84438 47288 87306 62228 00572 68318 28779 66017 85380
44152 01882 59639 91058 24500 26309 04236 96808 71938 57016
10971 83975 28956 09229 99306 43538 39456 40593 69022 53973
43956 76120 21802 72703 95834 99569 77992 43343 85968 08375
93516 79875 79480 79565 25830 62055 14106 68549 16902 18803
24138 04503 54578 55124 96976 30739 95142 40956 32335 70738
33489 68591 35630 43429 47065 91290 86765 59819 24749 24885
03536

Courtesy PLdn

31/01 05363 00001 00000 … 34263 1200z Weak, rest Strong

February 2023

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

05/02 07725 00001 00000 ... 37261 Strong

07/02 00378 00216 28004 ... 06545 1200z Weak, rest Strong

00378 00216 28004 69461 34056 99611 70967 04549 03751 90281
84341 53150 92859 00086 26317 73022 94830 00832 01741 57872
11569 91544 93265 76662 52579 54455 09347 90549 77353 72493
13957 21371 23073 69347 12608 65859 27424 97966 85239 12308
03596 91036 78847 43297 56167 53582 09510 03165 28782 43417
39216 38428 19638 54000 29984 70110 00341 53935 59050 31610
05356 59435 70533 90501 21037 36191 34546 56535 95888 42645
67088 76048 29500 25475 58100 34469 57876 77511 41574 15730
08222 49560 32920 56531 57072 45169 36092 02575 82970 30929
86006 16871 35260 72737 41976 06036 14687 96374 89079 74764
41293 61899 90439 95684 72307 63316 82371 86364 99839 65209
37711 51861 91092 77506 61009 83599 48608 08632 80623 94858
58636 03788 34458 68419 12587 08830 56495 78725 14041 36366
16186 72829 93446 95949 93512 28757 68715 96459 16077 01829
30857 02982 61224 21391 91540 39849 48667 36405 24341 73865
28400 14144 91504 53424 87608 83285 88330 20760 38814 98400
43717 17749 51337 39331 67073 91028 88517 35606 20750 48666
23790 11262 69792 08252 99927 18567 44395 65097 72982 41134
16250 78466 43298 08162 22337 51909 74294 67805 93147 88701
31633 73725 69239 13842 68487 94173 31691 58132 41066 09609
11195 65998 34521 74954 89708 63481 53728 69781 41078 42227
83739 15525 75881 41311 39474 50400 88005 64293 06545

Courtesy PLdn

12/02 00378 00216 28004 ... 06545 1240z Strong, rest Fair

14/02 09489 00194 33001 ... 33720 1240z Fair, rest weak. All QSB3

19/02 09489 00194 33001 ... 33720 1200z Weak, 1220z Fair, 1240z Very strong

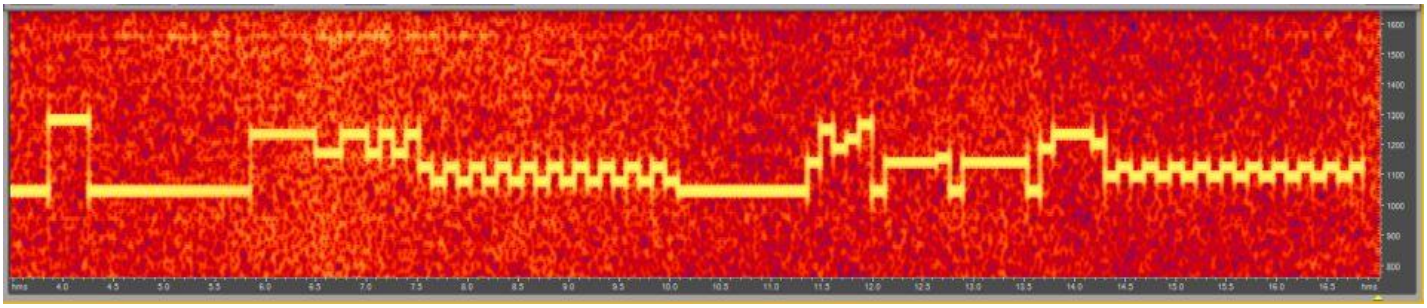
21/02 00526 00186 82027 ... 61674 1200z Fair, rest Strong

00526 00186 82027 85285 22591 53220 27914 52820 30234 68081
02291 34535 12974 55239 94871 26378 50447 77099 06568 34508
43799 86907 76697 37227 91199 21921 45873 44043 50395 63868
09453 21104 13764 64431 23224 92723 86463 05753 65582 47651
69583 57059 01027 50985 92406 06818 92772 94890 03196 73983
35544 83756 27755 28192 87574 66853 25629 98648 13979 23451
97651 54888 38183 60136 66228 85192 02395 34384 69946 07721
96160 38132 47677 00008 03182 95157 51439 46894 66451 50742
91977 02418 77095 51920 41619 94456 24599 41622 00856 07389
04992 08035 56439 87796 21839 95058 66863 40516 08930 65236
96011 31073 88630 70322 93116 40613 05353 36346 63026 89040
14709 66230 13328 32515 67760 58407 48559 10238 25039 40533
13761 82163 95383 91195 44824 72552 49447 73721 40219 40458
07481 83586 45060 20453 56717 41320 06820 20435 24732 20005
01027 14208 75441 11797 65680 92627 18802 34776 57600 92408
89966 14663 21819 66759 78614 65673 46337 25671 85323 30915
82059 03731 33103 74494 45812 25483 44920 96684 26686 34423
33414 30753 84973 21881 24541 16260 55691 96889 88005 13176
12853 76086 63220 44615 38471 00577 55762 06444 61674

Courtesy PLdn

26/02 00526 00186 82027 ... 61674 Strong

28/02 07358 00001 00000 ... 36664 1240z Strong. rest Fair Note image below:



28/02 07358 00001 00000 ... 36664 *Image has relevance to use of double length tones in X06 to repeat numbers*

XPA2 p

Monday/Wednesday

January 2023

0800z	**11493kHz**	**0820z**	**13393kHz**	**0840z**	**13993kHz**

02/01 07255 00001 00000 … 34664 0800z Strong, rest Very strong

04/01 07735 00001 00000 … 37262 0800z Fair, 0820z Very strong, 0840z Strong

09/01 05564 00104 76522 ... 12176 Very strong

05564 00104 76522 77543 04220 75591 46672 33174 04831 59830
07866 20526 56573 99126 94553 28027 64230 94674 33235 24654
32931 20413 67893 34107 01557 69302 22137 22113 25822 75910
10382 67300 44150 44122 88973 25508 99498 12785 90173 14157
48304 57747 87776 88390 75608 38744 42332 81607 19631 33692
21598 67456 97129 60354 57532 29661 08793 36155 40944 78867
22463 59021 74016 67248 23550 02970 64745 56713 99220 96540
96885 33923 61554 71281 07091 78816 35511 57981 67678 67351
12889 50297 95605 76449 16899 64753 62106 16713 82919 13300
84019 76649 95744 97393 26318 37896 54436 13528 22916 74344
17894 04189 82184 74208 37071 57221 12176 *Courtesy PLdn*

11/01 05564 00104 76522 ... 12176 Strong

16/01 05564 00104 76522 ... 12176 Strong

18/01 05564 00104 76522 ... 12176 Very strong

23/01 02034 00001 00000 ... 33255 Strong

25/01 06639 00001 00000 ... 40661 0800z Strong, rest Very strong

30/01 00262 00114 62467 ... 02242 0820z Very strong. rest Strong

00262 00114 62467 25422 30988 27822 75381 22565 51562 45709
61053 14489 23692 66868 39065 38288 53112 06528 65134 89367
31904 38683 01362 50439 53616 98390 54009 43450 60517 58312
54036 46146 35416 23552 35896 96190 84134 98584 96826 19656
70922 17656 90668 30709 32116 86146 43491 09227 05804 64319
06414 88051 09391 00656 58610 30708 71481 96212 11440 75173
26398 36735 58625 75439 41705 19673 09984 77307 98553 23588
67987 63199 82911 48375 64816 29685 54576 24909 50821 42574
85523 09396 04362 59066 47939 94660 97396 77780 15114 97514
26951 62977 85970 97384 83219 73073 17438 04306 49468 84398
37718 31630 16655 89992 95407 16227 22252 34777 32162 77156
58042 19469 05364 21965 70689 56292 02242 *Courtesy PLdn*

February 2023

0800z	**13387kHz**	**0820z**	**13887kHz**	**0840z**	**14787kHz**

01/02 00262 00114 62467 ... 02242 0800z Fair, 0820z Strong, 0840z NRH

06/02 00262 00114 62467 ... 02242 Very strong, 0840z MISSED

08/02 00262 00114 62467 ... 02242 0800z Very strong, rest Strong

13/02 00179 00136 99451 ... 23004 0800z Strong, rest Very strong

00179 00136 99451 07816 30377 83267 35817 68180 45264 50979
09459 98367 01372 64863 68170 57352 90480 23410 64677 64883
46018 57263 90705 13533 04991 81741 01303 87928 52442 29011
04784 38905 34124 16908 27249 69299 52899 53296 86299 32148
51210 12501 39500 86476 69517 71103 58233 89247 06363 51772
09507 71324 40712 55061 17167 41751 33209 54060 50169 57124
29210 21315 45688 67931 78124 73782 48671 92533 20371 91248
44950 03521 54371 53171 18808 85862 60521 29541 94546 31439
16059 14118 39462 38357 78894 62026 18639 99548 41804 97937
66644 07929 32995 35266 51343 23870 41890 73402 83391 43535
11176 24948 55380 29616 98338 75341 97321 51158 91367 97817
62175 80117 65334 02558 64025 02948 10871 67584 13665 64256
01092 04306 26186 53284 33012 49742 34088 45435 62117 39660
74798 54083 23428 52624 11967 79391 14646 65304 23004
Courtesy PLdn

15/02 00179 00136 99451 ... 23004 Very strong

20/02 00179 00136 99451 ... 23004 Strong

22/03 00179 00136 99451 ... 23004 Very strong

27/02 07618 00098 06230 ... 70253 Strong

07618 00098 06230 54644 38926 87255 24562 20726 84915 74684
69774 58961 23644 92469 15286 04428 67800 27557 31448 61964
27236 39265 97455 63695 50733 98108 05773 57460 56467 45547
90084 63007 58202 10722 29545 00579 62589 33812 98975 42727
98242 81902 42794 61974 60985 31482 35089 43324 02454 19510
51777 48383 35103 21514 22521 11905 55529 12955 67858 98965
82050 69691 35180 06870 97883 62487 83851 80829 05231 14578
10722 75912 91801 41965 83612 40510 66550 44395 66610 09853
25550 17342 90569 86462 94287 91828 93875 19779 63483 23646
42224 18999 72508 72484 99950 43517 07881 24922 61591 09738
70253 *Courtesy PLdn*

XPA 2 Wed/Fri

Wednesday/Friday

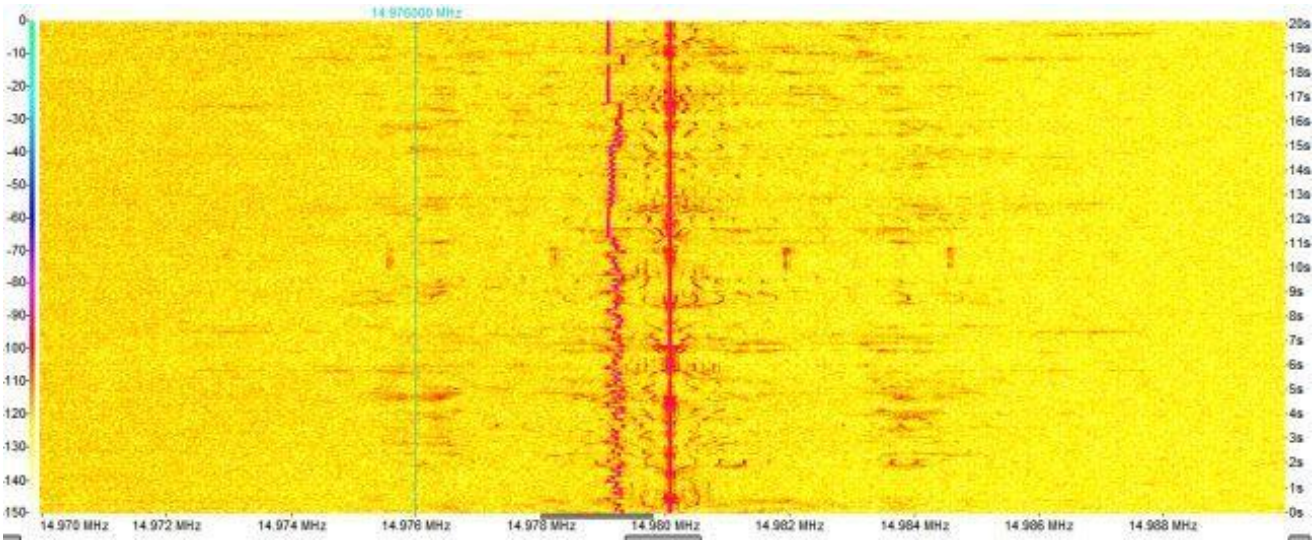
January 2023

1200z 13878kHz 1220z 14978kHz 1240z 16278kHz

04/01 00239 00124 91512 ... 62272 1200z Fair QSB3, 1220z Fair, 1240z Strong

00239 00124 91512 48031 04754 05558 72601 05151 80581 79017
99222 38850 95555 31617 05287 62021 52507 99419 86539 89645
07346 02968 29122 92944 13439 11899 06589 65431 49061 14884
12829 38784 88845 76234 62307 86158 62040 28432 63460 75723
58649 98775 17262 24265 74716 22250 26086 27133 69404 09343
41008 26311 34876 94634 41272 61283 12045 55295 97453 31882
41988 08045 58375 22792 90798 33170 57671 94808 62699 70089
35823 42772 21401 51354 27714 18378 86093 32892 21697 95819
90359 37715 35849 87833 65698 87382 58879 60305 48607 15727
00330 83702 72383 31091 12301 39178 89125 56198 51069 12573
03336 38915 04422 98578 59538 82015 25835 05255 20161 73661
09251 79102 45032 79246 14737 44553 03018 24774 47436 40462
79758 36388 78189 92055 62093 83728 62272 *Courtesy Ary*

06//01 00239 00124 91512 ... 62272 1200z Fair, rest Strong
[1220z QRM2 fm Xi Wang Zhi Sheng BC Stn 14980kHz]



1220z QRM2 fm Xi Wang Zhi Sheng BC Stn 14980kHz

11/01 06795 00148 94794 ... 62511 Very strong, 1240z Strong

06795 00148 94794 89475 14385 57641 27071 85044 12673 70649
13941 79308 56537 67035 27092 35152 94029 53430 04112 37831
02115 54240 85474 41119 40411 56995 65294 36102 68106 69955
46378 63260 36028 76485 56198 07225 75232 41908 18543 48585
21801 99705 51744 04398 02317 14439 79071 30568 71455 61333
96501 23978 08730 86651 57495 25256 13036 64476 25675 86336
64708 21905 57747 24787 02724 08180 70398 26672 21512 27505
55080 92809 02107 02291 54115 61930 59306 61761 50091 63461
74897 40410 83894 25439 64466 70627 14788 35503 99749 32564
67572 87287 78901 12548 04836 62846 38508 23727 32349 68564
01018 59614 71313 65258 41728 14547 78180 45441 85636 11911
36068 12846 90081 69386 21833 29370 41099 07919 37335 20915
30691 19207 93629 92010 16768 45858 16661 05304 39969 22521
47200 88386 12095 87927 74983 36323 64395 07376 11675 59409
24333 05589 86873 34576 09030 43336 79532 70499 63995 96762
62511 *Courtesy PLdn*

13/01 06795 00148 94794 ... 62511 Very strong

18/01 00484 00164 77246 ... 52164 Very strong

20/01 00484 00164 77246 ... 52164 Strong, 1220z BC QRM2

00484 00164 77246 39510 91857 63335 89581 47994 06326 08264
58080 26311 50192 50168 22972 09071 97609 24445 59777 72688
46230 32504 17564 19144 85807 32424 02409 06143 98033 24661
50682 37787 07077 79056 45325 60973 21214 62081 44803 53451
21604 21972 94333 47374 37016 64868 53040 84177 77855 77617
38766 40019 63486 22589 55953 79098 31353 89325 72627 99817
88073 73247 13153 26308 20719 76237 79945 45625 95815 09231
05318 74403 71803 02544 86174 94197 42040 27154 10405 97918
28213 65018 58578 44744 75622 16170 62825 25292 26379 23733
75679 13744 18649 65163 41188 01952 40692 32653 36100 46310
18632 91136 48323 77358 43746 78627 46373 84455 74957 13177
42101 47428 87879 94458 02384 64583 38861 16979 68173 20964
08280 39018 69844 21324 92640 67804 40682 58154 99682 23051
03530 13366 52658 50902 26084 65908 48328 54213 83132 95302
21741 75042 37055 64964 46237 99106 56332 57666 39386 27160
03454 09848 24771 14596 29364 53764 61490 73583 96775 95440
82596 82830 55985 74527 89325 88157 52164 *Courtesy PLdn*

25/01 02318 00198 05717 ... 33774 Very strong

02318 00198 05717 75552 80637 23336 72780 43414 04257 22192
92611 34504 43338 62323 20794 21898 38564 36872 29563 95675
24575 70465 76071 85264 56602 59897 71930 41070 63290 27285
92085 61402 55786 08484 53379 44841 59998 05839 27510 45753
83725 33164 74693 49956 79143 94708 36093 45774 43220 43399
14185 84278 11791 72220 13926 14671 72327 43401 69758 66622
87750 47758 75677 87798 58687 99853 07022 84751 52180 39190
26400 51273 66293 38627 20411 94493 88194 48987 64144 39081
24096 37322 34634 58814 78254 73632 39525 08229 16378 72955
01920 04628 02352 43722 96336 13331 26259 73625 94369 65104
47177 93716 45202 59322 37858 43913 01039 72617 48075 27488
60961 88671 15690 99170 27635 14459 55423 95128 27322 39538
01838 84788 31114 91007 67258 39712 55823 63059 10705 57255
24641 69158 79757 36437 88450 05137 52851 74859 03205 01660
09797 10273 35610 20646 19494 78499 20263 03601 91614 13181
79421 35274 40539 50441 41856 97850 27990 10356 95966 04229
05931 46065 69889 46336 35440 85029 25485 30997 18624 20576
71335 21415 62647 86150 15027 21962 96971 13182 95505 65263
10342 91501 62669 68855 18665 01460 05369 95001 47655 66954
41533 81868 48741 27970 86501 21066 82731 91703 74822 59501
33774 *Courtesy PLdn*

27/01 02318 00198 05717 ... 33774 Fair, 1240z Strong

February 2023

1200z 14956kHz 1220z 16356kHz 1240z 17456kHz

01/02 00462 00144 29973 ... 50063 1200z Not found by PLdn, rest Fair

00462 00144 29973 66423 77442 14728 36520 28751 86641 69542
24128 33523 19625 12576 95508 86903 08973 16175 69740 58666
16002 90939 87253 75859 82973 65788 72954 19445 38446 42224
27419 94582 70085 45157 06362 92783 34345 08390 04164 52213
82699 82200 89916 87462 18983 92964 73547 64518 26763 10985
07712 36157 79068 44412 53596 41026 12829 35122 29686 08650
66052 06756 75621 78044 95847 00893 30795 76424 44272 54296
86449 77150 62786 59433 82146 30059 74004 96563 28835 89368
86037 96927 63295 58158 74093 10577 07352 06036 61867 76822
68824 04274 07215 48586 98453 62138 67381 34968 34539 92738
61983 12045 80311 12219 99192 38293 50119 78995 62078 97637
82168 70540 34262 20942 00925 71501 06449 04262 41078 41136
42307 87375 70251 65956 14058 96358 20448 13942 71519 00960
67636 90578 56211 44444 89721 88073 75996 49655 23773 40359
10619 19363 50130 23771 85935 74571 50063 *Courtesy Ary*

03/02 00462 00144 29973 ... 50063 1200z Very strong, rest Strong

08/03 03985 00086 80795 ... 66056 Very strong, 1220z Strong

03985 00086 80795 49898 79193 12298 49023 90445 09832 84894
09292 98783 11906 01023 62554 97693 82047 91106 99308 90010
78779 02721 65583 03800 18977 27407 75444 96612 31356 12398
96128 65588 68759 59286 24760 36055 99472 88081 73702 49003
34124 69238 73627 01393 94232 12679 85854 14334 75965 92924
17514 48675 56375 40274 81928 94800 48827 03354 90310 72010
18660 15082 50397 81782 53943 53898 24944 40277 09128 44610
28701 94080 14642 26822 23914 08245 49981 03904 29208 18377
54870 02351 62685 63462 62547 74438 49942 80136 66056
Courtesy PLdn

10/03 03985 00086 80795 ... 66056 Very strong, 1220z Strong

15/02 07902 00042 50564 … 14614 1200z Strong, rest Very strong

07902 00042 50564 79895 78437 12290 03211 86926 44174 09801
80957 02668 22487 35734 43835 64293 06080 93446 90390 19315
98808 94435 91854 95860 95086 01263 08172 80853 53000 85276
12868 48761 24538 26726 20536 05603 17663 89350 64301 10299
46195 42359 53604 03158 14614 *Courtesy PLdn*

17/02 07902 00042 50564 … 14614 1200z Fair, rest Strong

22/03 00232 00186 03946 ... 73713 Very strong, 1220z Strong

00232 00186 03946 17915 38314 40838 56809 54715 89507 64556
02011 03876 40156 03310 02268 05808 17574 91547 95821 58424
45121 67114 20846 79666 54160 64132 81145 94176 97657 08093
14045 33968 81132 78860 07956 71972 63618 73795 18148 56234
35071 57300 50037 47090 88333 89039 80320 07324 20916 25444
71574 40906 15005 41732 20021 78425 14783 37326 87427 44138
06463 35746 01622 22527 45336 61826 77256 82548 37673 36676
93664 54309 74684 73879 85136 23431 42732 65206 34758 90708
40576 93849 04771 50159 18556 75491 94504 86143 38880 65765
74995 78342 70024 74119 26306 45181 47315 82661 77128 55064
21773 05763 31042 90560 10988 40516 84105 64024 77759 94647
33540 19998 64460 11439 56910 29548 57934 35418 01769 32783
44587 31569 18707 35911 28383 23456 45578 15760 76786 49627
04481 47604 39790 89031 62073 87902 92565 43244 02346 38656
01057 10056 90016 92888 98379 47168 20869 74606 85158 60065
37403 54882 10892 08821 15608 32494 39321 34451 74765 53707
32904 27308 21488 09589 86219 74392 84755 26841 23564 76627
91273 00172 19246 87149 61155 24504 99096 32179 20026 87530
44749 41708 09877 95329 67925 65142 79040 47264 73713
Courtesy PLdn

Other uncatalogued XPA2 schedules

From H-FD:

1B XPA2

Sun 01.01.2023 0900Z 16327 msg
Sun 01.01.2023 0920Z 18227 msg
Sun 01.01.2023 0940Z 19627 msg

Mon 02.01.2023 1600Z 9317 msg
Mon 02.01.2023 1620Z 8117 msg
Mon 02.01.2023 1640Z 7517 msg

Tue 03.01.2023 0600Z 9382 msg
Tue 03.01.2023 0620Z 10582 msg
Tue 03.01.2023 0640Z 11582 msg

Tue 03.01.2023 1100Z 10231 msg
Tue 03.01.2023 1120Z 9331 msg
Tue 03.01.2023 1140Z 8131 msg

Tue 03.01.2023 1600Z 10465 msg
Tue 03.01.2023 1620Z 9165 msg
Tue 03.01.2023 1640Z 8065 msg

Wed 04.01.2023 1100Z 13384 msg
Wed 04.01.2023 1120Z 12184 msg
Wed 04.01.2023 1140Z 10984 msg

Wed 04.01.2023 1200Z 13878 msg
Wed 04.01.2023 1220Z 14978 msg
Wed 04.01.2023 1240Z 16278 msg

Thu 05.01.2023 0910Z 14794 msg
Thu 05.01.2023 0930Z 13994 msg
Thu 05.01.2023 0950Z 12194 msg

Wed 11.01.2023 0910Z 14977 msg
Wed 11.01.2023 0930Z 13971 msg
Wed 11.01.2023 0950Z 13371 msg

Thu 02.02.2023 0600Z 11126 msg
Thu 02.02.2023 0620Z 12226 msg
Thu 02.02.2023 0640Z 13926 msg

Fri 03.02.2023 0900Z 15835 msg
Fri 03.02.2023 0920Z 17435 msg
Fri 03.02.2023 0940Z 19535 msg

Sat 04.02.2023 0910Z 16146 msg
Sat 04.02.2023 0930Z 15846 msg
Sat 04.02.2023 0950Z 14446 msg

Mon 06.02.2023 0910Z 16102 msg
Mon 06.02.2023 0930Z 14951 msg
Mon 06.02.2023 0950Z 13991 msg

Thu 09.02.2023 1100Z 13967 msg
Thu 09.02.2023 1120Z 13367 msg
Thu 09.02.2023 1140Z 11567 msg

Thu 09.02.2023 1600Z 12173 msg
Thu 09.02.2023 1620Z 10373 msg
Thu 09.02.2023 1640Z 9373 msg

Fri 10.02.2023 1100Z 12147 msg
Fri 10.02.2023 1120Z 10347 msg
Fri 10.02.2023 1140Z 9247 msg

Sat 11.02.2023 1600Z 11461 msg
Sat 11.02.2023 1620Z 10261 msg
Sat 11.02.2023 1640Z 9161 msg

XPB1

Mon/Sat

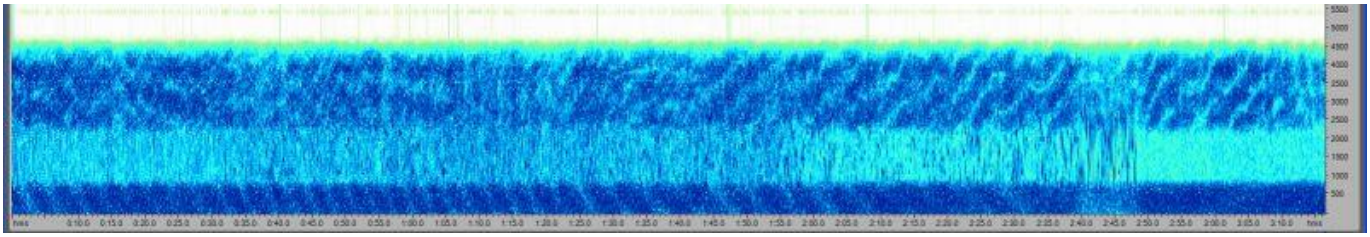
January 2023

14769kHz	1100z	02/01	Fair	2m15s	PLdn	MON
14369kHz	1110z	02/01	Fair	2m15s	PLdn	MON
13969kHz	1120z	02/01	Fair	2m15s	PLdn	MON
13369kHz	1130z	02/01	Weak	2m15s	PLdn	MON
12169kHz	1140z	02/01	Weak	2m15s QSB3	PLdn	MON
11169kHz	1150z	02/01	Weak	2m15s QSB4/5	PLdn	MON
14769kHz	1100z	07/01	Fair	2m15s	PLdn	SAT
14369kHz	1110z	07/01	Fair	2m15s	PLdn	SAT
13969kHz	1120z	07/01	Fair	2m15s	PLdn	SAT
13369kHz	1130z	07/01	Weak	2m15s	PLdn	SAT
12169 kHz	1140z	07/01	Weak	2m15s	PLdn	SAT
11169kHz	1150z	07/01	Weak	2m15s	PLdn	SAT
14769kHz	1100z	09/01	Fair	1m40s	PLdn	MON
14369kHz	1110z	09/01	Weak	1m40s	PLdn	MON
13969kHz	1120z	09/01	Weak	1m40s	PLdn	MON
13369kHz	1130z	09/01	Weak	1m40s	PLdn	MON
12169 kHz	1140z	09/01	Fair	1m40s	PLdn	MON
11169kHz	1150z	09/01	Weak	1m40s	PLdn	MON
14769kHz	1100z	14/01	Weak	1m41s	PLdn	SAT
14369kHz	1110z	14/01	Weak	1m41s	PLdn	SAT
13969kHz	1120z	14/01	Fair	1m41s QRM3	PLdn	SAT
13369kHz	1130z	14/01	Fair	1m41s QRM3	PLdn	SAT
12169 kHz	1140z	14/01	Weak	1m41s	PLdn	SAT
11169kHz	1150z	14/01	Weak	1m41s QRM3	PLdn	SAT
14769kHz	1100z	16/01	NRH		PLdn	MON
14369kHz	1110z	16/01	Strong	4m28s	PLdn	MON
13969kHz	1120z	16/01	Fair	4m28s	PLdn	MON
13369kHz	1130z	16/01	Strong	4m28s	PLdn	MON
12169 kHz	1140z	16/01	Strong	4m28s	PLdn	MON
11169kHz	1150z	16/01	Weak	4m28s QRM4	PLdn	MON

14769kHz	1100z	21/01	Fair	4m28s	PLdn	SAT
14369kHz	1110z	21/01	Fair	4m28s	PLdn	SAT
13969kHz	1120z	21/01	Fair	4m28s	PLdn	SAT
13369kHz	1130z	21/01	Fair	4m28s	PLdn	SAT
12169 kHz	1140z	21/01	Fair	4m28s	PLdn	SAT
11169kHz	1150z	21/01	Weak	4m28s	PLdn	SAT
14769kHz	1100z	23/01	Weak	4m28s	PLdn	MON
14369kHz	1110z	23/01	Fair	4m28s	PLdn	MON
13969kHz	1120z	23/01	Weak	4m28s	PLdn	MON
13369kHz	1130z	23/01	Weak	4m28s	PLdn	MON
12169 kHz	1140z	23/01	Weak	4m28s	PLdn	MON
11169kHz	1150z	23/01	Weak	4m28s	PLdn	MON
14769kHz	1100z	28/01	Weak	4m28s	PLdn	SAT
14369kHz	1110z	28/01	Weak	4m28s	PLdn	SAT
13969kHz	1120z	28/01	Fair	4m28s	PLdn	SAT
13369kHz	1130z	28/01	Fair	4m28s	PLdn	SAT
12169 kHz	1140z	28/01	Weak	4m28s	PLdn	SAT
11169kHz	1150z	28/01	Weak	4m28s QSB4	PLdn	SAT
14769kHz	1100z	30/01	Weak	2m15s	PLdn	MON
14369kHz	1110z	30/01	Fair	2m15s	PLdn	MON
13969kHz	1120z	30/01	Weak	2m15s	PLdn	MON
13369kHz	1130z	30/01	Fair	2m15s	PLdn	MON
12169 kHz	1140z	30/01	Weak	2m15s	PLdn	MON
11169kHz	1150z	30/01	Weak	2m15s	PLdn	MON

February 2023

15814kHz	1100z	04/02	Weak	2m15s	PLdn	SAT
14814kHz	1110z	04/02	Weak	2m15s	PLdn	SAT
14414kHz	1120z	04/02	Weak	2m15s	PLdn	SAT
13914kHz	1130z	04/02	Weak	2m15s	PLdn	SAT
13414kHz	1140z	04/02	Strong	2m15s QRM3	PLdn	SAT
12214kHz	1150z	04/02	Weak	2m15s	PLdn	SAT



13414kHz 1140z 06/02 Weak 2m15s QRM4

15814kHz	1100z	06/02	Weak	2m15s	PLdn	MON
14814kHz	1110z	06/02	Weak	2m15s	PLdn	MON
14414kHz	1120z	06/02	Fair	2m15s	PLdn	MON
13914kHz	1130z	06/02	Fair	2m15s	PLdn	MON
13414kHz	1140z	06/02	Weak	2m15s QRM4 *See above*	PLdn	MON
12214kHz	1150z	06/02	Fair	2m15s	PLdn	MON
15814kHz	1100z	11/02	Fair	2m15s	PLdn	SAT
14814kHz	1110z	11/02	Fair	2m15s	PLdn	SAT
14414kHz	1120z	11/02	Fair	2m15s	PLdn	SAT
13914kHz	1130z	11/02	Fair	2m15s	PLdn	SAT
13414kHz	1140z	11/02	Weak	2m15s QRM4	PLdn	SAT
12214kHz	1150z	11/02	Fair	2m15s	PLdn	SAT
15814kHz	1100z	13/02	Weak	2m15s	PLdn	MON
14814kHz	1110z	13/02	Weak	2m15s	PLdn	MON
14414kHz	1120z	13/02	Weak	2m15s	PLdn	MON
13914kHz	1130z	13/02	Weak	2m15s	PLdn	MON
13414kHz	1140z	13/02	Weak	2m15s QRM4	PLdn	MON
12214kHz	1150z	13/02	Weak	2m15s	PLdn	MON
15814kHz	1100z	18/02	Weak	2m15s	PLdn	SAT
14814kHz	1110z	18/02	Strong	2m15s	PLdn	SAT
14414kHz	1120z	18/02	Weak	2m15s	PLdn	SAT
13914kHz	1130z	18/02	Weak	2m15s	PLdn	SAT
13414kHz	1140z	18/02	Strong	2m15s QRM2	PLdn	SAT
12214kHz	1150z	18/02	Weak	2m15s	PLdn	SAT
15814kHz	1100z	20/02	Weak	2m15s	PLdn	MON
14814kHz	1110z	20/02	Weak	2m15s	PLdn	MON
14414kHz	1120z	20/02	Fair	2m15s	PLdn	MON
13914kHz	1130z	20/02	Fair	2m15s	PLdn	MON
13414kHz	1140z	20/02	Weak	2m15s QRM4	PLdn	MON
12214kHz	1150z	20/02	Fair	2m15s	PLdn	MON

15814kHz	1100z	25/02	Fair	2m15s	PLdn	SAT
14814kHz	1110z	25/02	Fair	2m15s	PLdn	SAT
14414kHz	1120z	25/02	Fair	2m15s	PLdn	SAT
13914kHz	1130z	25/02	Fair	2m15s	PLdn	SAT
13414kHz	1140z	25/02	Fair	2m15s	PLdn	SAT
12214kHz	1150z	25/02	Fair	2m15s	PLdn	SAT
15814kHz	1100z	27/02	Weak	2m15s	PLdn	MON
14814kHz	1110z	27/02	Weak	2m15s	PLdn	MON
14414kHz	1120z	27/02	Fair	2m15s	PLdn	MON
13914kHz	1130z	27/02	Fair	2m15s	PLdn	MON
13414kHz	1140z	27/02	Fair	2m15s	PLdn	MON
12214kHz	1150z	27/02	Weak	2m15s	PLdn	MON

Wed/Sat [Saturday only monitored]

January 2023

15925kHz	1200z	07/01	Fair	4m28s	PLdn	SAT
14825kHz	1210z	07/01	Weak	4m28s	PLdn	SAT
13425kHz	1220z	07/01	Fair	4m28s	PLdn	SAT
12125kHz	1230z	07/01	Weak	4m28s	PLdn	SAT
10425kHz	1240z	07/01	Weak	4m28s	PLdn	SAT
9325kHz	1250z	07/01	Weak	4m28s	PLdn	SAT
15925kHz	1200z	14/01	Fair	4m28s QRM3	PLdn	SAT
14825kHz	1210z	14/01	Fair	4m28s	PLdn	SAT
13425kHz	1220z	14/01	Fair	4m28s	PLdn	SAT
12125kHz	1230z	14/01	Fair	4m28s	PLdn	SAT
10425kHz	1240z	14/01	NRH		PLdn	SAT
9325kHz	1250z	14/01	NRH		PLdn	SAT
15925kHz	1200z	21/01	Fair	4m28s	PLdn	SAT
14825kHz	1210z	21/01	Fair	4m28s	PLdn	SAT
13425kHz	1220z	21/01	Strong	4m28s	PLdn	SAT
12125kHz	1230z	21/01	Strong	4m28s	PLdn	SAT
10425kHz	1240z	21/01	Weak	4m28s	PLdn	SAT
9325kHz	1250z	21/01	Weak	4m28s	PLdn	SAT
15925kHz	1200z	28/01	Weak	4m28s	PLdn	SAT
14825kHz	1210z	28/01	Fair	4m28s	PLdn	SAT
13425kHz	1220z	28/01	Weak	4m28s	PLdn	SAT
12125kHz	1230z	28/01	Fair	4m28s	PLdn	SAT
10425kHz	1240z	28/01	Unworkable		PLdn	SAT
9325kHz	1250z	28/01	Unworkable		PLdn	SAT

February 2022

15814kHz	1100z	04/02	Weak	2m15s	PLdn	SAT
14814kHz	1110z	04/02	Weak	2m15s	PLdn	SAT
14414kHz	1120z	04/02	Weak	2m15s	PLdn	SAT
13914kHz	1130z	04/02	Weak	2m15s	PLdn	SAT
13414kHz	1140z	04/02	Strong	2m15s QRM3	PLdn	SAT
12214kHz	1150z	04/02	Weak	2m15s	PLdn	SAT
14873kHz	1200z	11/02	Fair	4m28s	PLdn	SAT
14373kHz	1210z	11/02	Fair	4m28s	PLdn	SAT
13873kHz	1220z	11/02	Fair	4m28s	PLdn	SAT
13373kHz	1230z	11/02	Fair	4m28s	PLdn	SAT
12173kHz	1240z	11/02	Weak	4m28s	PLdn	SAT
11173kHz	1250z	11/02	Weak	4m28s	PLdn	SAT
14873kHz	1200z	18/02	Weak	4m28s	PLdn	SAT
14373kHz	1210z	18/02	Strong	4m28s	PLdn	SAT
13873kHz	1220z	18/02	Fair	4m28s	PLdn	SAT
13373kHz	1230z	18/02	Strong	4m28s	PLdn	SAT
12173kHz	1240z	18/02	Fair	4m28s	PLdn	SAT
11173kHz	1250z	18/02	Fair	4m28s QSB4	PLdn	SAT
14873kHz	1200z	25/02	Fair	4m28s	PLdn	SAT
14373kHz	1210z	25/02	Fair	4m28s	PLdn	SAT
13873kHz	1220z	25/02	Fair	4m28s	PLdn	SAT
13373kHz	1230z	25/02	Fair	4m28s	PLdn	SAT
12173kHz	1240z	25/02	Fair	4m28s	PLdn	SAT
11173kHz	1250z	25/02	Fair	4m28s QRM2	PLdn	SAT

Other XPB1 [H-FD]

Tue 03.01.2023 0600Z 12187 MFSK-16 1:41
Tue 03.01.2023 0610Z 13387 MFSK-16
Tue 03.01.2023 0620Z 13887 MFSK-16
Tue 03.01.2023 0630Z 14487 MFSK-16
Tue 03.01.2023 0640Z 14987 MFSK-16
Tue 03.01.2023 0650Z 15887 MFSK-16

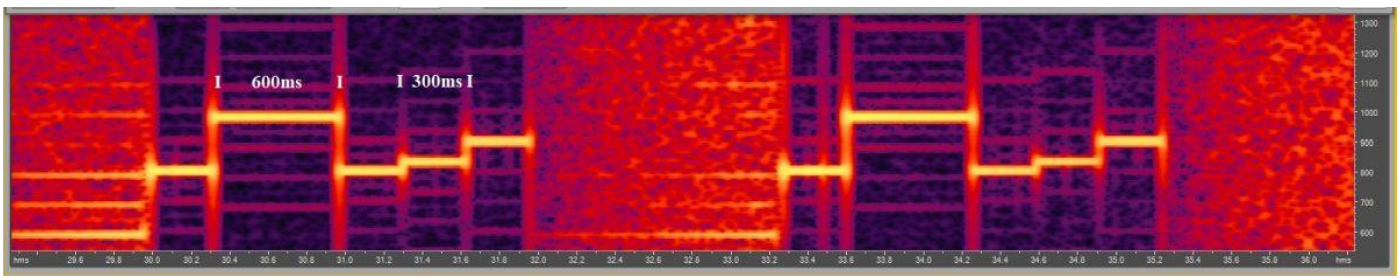
Tue 03.01.2023 1300Z 20069 MFSK-16 7:38
Tue 03.01.2023 1310Z 19369 MFSK-16
Tue 03.01.2023 1330Z 17469 MFSK-16
Tue 03.01.2023 1340Z 18269 MFSK-16
Tue 03.01.2023 1340Z 16269 MFSK-16
Tue 03.01.2023 1350Z 15969 MFSK-16

Wed 04.01.2023 1200Z 15925 MFSK-16 4:29
Wed 04.01.2023 1210Z 14825 MFSK-16
Wed 04.01.2023 1220Z 13425 MFSK-16
Wed 04.01.2023 1230Z 12125 MFSK-16
Wed 04.01.2023 1240Z 10425 MFSK-16
Wed 04.01.2023 1250Z 9325 MFSK-16

Fri 03.02.2023 1300Z 20035 MFSK-16
Fri 03.02.2023 1310Z 19235 MFSK-16
Fri 03.02.2023 1320Z 18335 MFSK-16
Fri 03.02.2023 1330Z 17435 MFSK-16
Fri 03.02.2023 1340Z 16235 MFSK-16
Fri 03.02.2023 1350Z 15835 MFSK-16

Mon 06.02.2023 0600Z 13443 MFSK-16 2:17
Mon 06.02.2023 0620Z 13943 MFSK-16
Mon 06.02.2023 0620Z 14443 MFSK-16
Mon 06.02.2023 0630Z 14943 MFSK-16
Mon 06.02.2023 0640Z 15843 MFSK-16
Mon 06.02.2023 0650Z 16343 MFSK-16

X06 Mazielka (1c) logs section



X06b Use of double length tone to signify double use of number

Date	Day	UTC	Freq	Scale	Monitor	Comments
20230109	Mon	0819-0836	20690	156234	Dave/AU, Spectre	TX to Kampala, G68(8b))
20230109	Mon	0906-0914	13423	421635	Ary, Andrew, Spectre	TX to Oslo, G74(8b))
20230109	Mon	0932-0940	16117	463125	Ary/NL, Dave, Spectre	TX to Rabat, G77(1, 8b))
20230109	Mon	1258-1259	13467	364152	Spectre	TX to New Delhi, G73(8c))
20230110	Tue	1017-1020	20813	216354	Dave,Spectre	TX to Chennai, G388(8c))
20230111	Wed	0751-0753	18177	164253	Ary, Dave, Spectre	TX to Addis Ababa, G395(8b))
20230112	Thu	0830-0833	16153	153624	Spectre	TX to Damascus, G249 (8c))
20230112	Thu	0846-0848	7988	561243	Spectre/UK	TX to Helsinki, G117(8a))
20230116	Mon	0753-0755	13452	165324	Ary, Dave	TX to Vienna, G145
20230116	Mon	0848-0850	14377	432516	Dave,Spectre	TX to Bern, G341(8b))
20230116	Mon	0905-0911	12199	532614	Ary, Andrew, Spectre	TX to Paris, G147(8d))
20230117	Tue	0856-0906	11462	165423	Ary, Dave, Spectre	TX to Brussels, G151(8c))
20230117	Tue	0941-0947	14358	154263	Dave,Spectre	TX to Rome, G148(8b))

```
20230118 Wed 1131-1132 16115 215346 Dave,Spectre TX to Mumbai, G167(8c))
20230119 Thu 1304-1307 16340 1----- Spectre      X06d(8c))
20230120 Fri 1032      14824 625413 Ary          TX to Tel Aviv, G193
20230123 Mon 0824-0829 17475 156234 Dave,Spectre Alert 2 (Kampala, G203) 1(8b))
20230123 Mon 0830-0833 20690 156234 Dave,Spectre 2.2(8c))
20230123 Mon 0928-0932 13423 421635 Dave,Spectre TX to Oslo, G220(8b))
20230123 Mon 1246-1248 12177 364152 Dave,Spectre TX to New Delhi, G73(8c))
20230124 Tue 1012-1015 17470 216354 Spectre      TX to Chennai, G228(8c))
20230125 Wed 0832-0838 11483 412356 Dave,Spectre TX to Budapest, G243(8b))
20230125 Wed 0914-0916 11153 465132 Dave,Spectre TX to Sofia, G246(8c))
20230125 Wed 0956-0957 13441 263145 Dave,Spectre TX to Prague, G435(8b)
20230126 Thu 0813-0827 16153 153624 Dave,Spectre TX to Damascus, G249(8b))
20230127 Fri 0938-0941 12177 356412 Spectre      TX to Berlin, G271(8b))
20230127 Fri 0958-1002 17463 256134 Dave,Spectre TX to Abidjan, G270(8c))
20230201 Wed 1104-1108 14650 215346 Ary, Spectre TX to Mumbai, G25(8c))
20230201 Wed 1255-1257 16103 231654 Ary, Spectre TX to Abuja, G422(2, 8c))
20230202 Thu 1008-1011 11567 1--6-- Spectre      X06b before XPA2(8c))
20230202 Thu 1008-1011 13967 1--6-- Spectre      X06b before XPA2(8c))
20230202 Thu 1328-1337 17468 436512 Ary, Spectre TX to Harare, G44(8b))
20230202 Thu 1329      11168 1--6-- Schorschi    X06b before E07
20230202 Thu 1332      13368 1--6-- Schorschi    X06b before E07
20230203 Fri 1030-1033 14824 625413 Ary, Spectre TX to Tel Aviv, G56(8c))
20230206 Mon 0753-0801 12122 165324 Ary, Spectre TX to Vienna, G1(7, 8e)
20230206 Mon 0832-0840 14377 432516 Ary, Spectre TX to Bern, G6(8c))
20230206 Mon 0929-0936 12199 532614 Ary, Spectre TX to Paris, G4(8c))
20230207 Tue 0805-0811 15989 125643 Spectre      TX to Ulanbatar, G317(8b))
20230207 Tue 0855-0859 11462 165423 Ary, Spectre TX to Brussels, G12(8b)
20230207 Tue 0943-0956 14358 154263 Ary, Spectre TX to Rome, G7(8b))
20230207 Tue 1201-1210 16188 325614 Spectre      TX to Nairobi, G392(8c)
20230208 Wed 0900-0955 11483 412356 Ary          TX to Budapest, i.p., v. long, G97
20230208 Wed 0933-0946 11561 263145 Spectre      TX to Prague, G428(8c))
20230213 Mon 0828-0831 20690 156234 Dave,Spectre TX to Kampala, G68(8b))
20230213 Mon 0906-0909 13423 421635 Ary, Andrew,
                                    Spectre      TX to Oslo, G74(8c))
20230213 Mon 0934-0940 16117 463125 Ary, RX39,
                                    Spectre      TX to Rabat, G77(8c))
20230213 Mon 1300-1304 12177 364152 Dave, RX39,
                                    Spectre      TX to New Delhi, G73(8c))
20230214 Tue 0518      14443 1-6-1- Andrew/SE    X06b before XPB1
20230214 Tue 0800-0804 10767 534216 Ary, Andrew,
                                    Dave,Spectre TX to Bagdad, G87(8b))
20230214 Tue 0817-0831 16257 542136 Ary, Dave,
                                    Spectre      TX to Beijing, G88(3, 8b))
20230214 Tue 1010-1029 16317 612534 Ary, RX39,
                                    Dave,Spectre TX to Ashgabat, G89(8b))
20230214 Tue 1012-1015 14970 216354 Ary, Andrew,
                                    Spectre      TX to Chennai, G388(8c))
20230215 Wed 1100-1141 14650 215346 Ary, RX39,
                                    Spectre      TX to Mumbai, i. p., G167(8c))
20230215 Wed 1228-1234 18245 231654 Ary, RX39,
                                    Spectre      TX to Abuja, G423(8c))
20230216 Thu 0821-0825 17534 351264 Anon00956,
                                    Ary          TX to Abu Dhabi, G435
20230216 Thu 0951-0954 18197 645321 Ary, Spectre TX to Ho Chi Minh City,G417(4,8c))
20230217 Fri 0954-0956  9247 1--6-- Spectre      X06b before XPA2(8f))
20230217 Fri 0954-0956 10347 1--6-- Spectre      X06b before XPA2(8f))
20230217 Fri 0954-0956 12147 1--6-- Spectre      X06b before XPA2(8g))
20230217 Fri 1030-1034 14824 625413 RX39,Spectre TX to Tel Aviv, G193(8f))
20230217 Fri 1111-1114 14956 1--6-- Spectre      X06b before XPA2(8c))
20230217 Fri 1111-1114 16356 1--6-- Spectre      X06b before XPA2(8c))
20230217 Fri 1111-1114 17456 1--6-- Spectre      X06b before XPA2(8c))
20230218 Sat 0759-0801 14446 6161-6 Spectre      X06b before XPA2(8c))
20230218 Sat 0759-0801 15846 6161-6 Spectre      X06b before XPA2(8c))
20230218 Sat 0759-0801 16146 6161-6 Spectre      X06b before XPA2(8c))
20230218 Sat 0801-0802 14446 1--6-- Spectre      X06b before XPA2(8c))
20230218 Sat 0801-0802 15846 1--6-- Spectre      X06b before XPA2(8c))
20230218 Sat 0801-0802 16146 1--6-- Spectre      X06b before XPA2(8c))
20230218 Sat 1003      12214 6161-6 Schorschi    X06b before XPB1
20230218 Sat 1005-1006 12214 6161-6 Spectre      X06b before XPB1(8c))
20230218 Sat 1006-1007 13414 6161-6 Spectre      X06b before XPB1(8e))
20230218 Sat 1008-1009 13914 6161-6 Spectre      X06b before XPB1(8c))
20230218 Sat 1010-1011 14414 6161-6 Spectre      X06b before XPB1(8c))
20230218 Sat 1012      14814 6161-6 Spectre      X06b before XPB1(8c))
20230218 Sat 1013-1014 15814 6161-6 Spectre      X06b before XPB1(8e))
20230218 Sat 1035      11173 6161-6 Spectre      X06b before XPB1(8c))
```

```
20230218 Sat 1035      12173 6161-6 Spectre      X06b before XPB1(8c))
20230218 Sat 1036      13373 6161-6 Spectre      X06b before XPB1(8c))
20230218 Sat 1037      13873 6161-6 Spectre      X06b before XPB1(8c))
20230218 Sat 1037-1038 14373 6161-6 Spectre      X06b before XPB1(8c))
20230218 Sat 1038      11173 1--6-- Spectre      X06b before XPB1(8c))
20230218 Sat 1038      12173 1--6-- Spectre      X06b before XPB1(8c))
20230218 Sat 1038      14873 6161-6 Spectre      X06b before XPB1(8c))
20230218 Sat 1039      13373 1--6-- Spectre      X06b before XPB1(8c))
20230218 Sat 1039      13873 1--6-- Spectre      X06b before XPB1(8c))
20230218 Sat 1040      14373 1--6-- Spectre      X06b before XPB1(8c))
20230218 Sat 1041      14873 1--6-- Spectre      X06b before XPB1(8c))
20230218 Sat 1503       9161 6161-6 Spectre      X06b before XPA2(8b))
20230218 Sat 1503-1504 10261 6161-6 Spectre      X06b before XPA2(8b))
20230218 Sat 1504      11461 6161-6 Spectre      X06b before XPA2(8b))
20230218 Sat 1505       9161 1--6-- Spectre      X06b before XPA2(8b))
20230218 Sat 1505-1506 10261 1--6-- Spectre      X06b before XPA2(8b))
20230218 Sat 1506      11461 1--6-- Spectre      X06b before XPA2(8b))
20230219 Sun 1115&1119 14563 1--6-- Spectre      X06b before XPA2(8b))
20230219 Sun 1117&1120 13363 1--6-- Spectre      X06b before XPA2(8b))
20230219 Sun 1118&1121 11163 1--6-- Spectre      X06b before XPA2(8b))
20230220 Mon 0746-0748 13452 165324 RX39,Spectre TX to Vienna, G145(8c))
20230220 Mon 0855-0859 14377 432516 Ary, RX39,
                                    Spectre      TX to Bern, G341(5, 8c))
20230220 Mon 0934-0937 11438 532614 Ary, Dave,
                                    Spectre      TX to Paris, G147(8c))
20230220 Mon 1503       9161 16-124 RX39,Spectre X06b before XPA2(8g))
20230220 Mon 1503-1504 10261 16-124 RX39,Spectre X06b before XPA2(8c))
20230220 Mon 1504       9161 1--6-- RX39,Spectre X06b before XPA2(8g))
20230220 Mon 1504      11461 16-124 RX39,Spectre X06b before XPA2(8c))
20230220 Mon 1505      10261 1--6-- RX39,Spectre X06b before XPA2(8c))
20230220 Mon 1505      11461 1--6-- RX39,Spectre X06b before XPA2(8c))
20230221 Tue 0756-0759 15989 125643 Ary, Dave,
                                    Spectre      TX to Ulanbatar, G383(8c))
20230221 Tue 0850-0853 13411 165423 Ary, RX39,
                                    Spectre      TX to Brussels, G151(8c))
20230221 Tue 0927-0936 13401 154263 Ary, Dave,
                                    Spectre      Alert 7 (Rome, G148) 1(6, 8c))
20230221 Tue 0936-0946 14358 154263 Ary, RX39,
                                    Spectre      7.2(8c))
20230221 Tue 0947-0953 15687 154263 Ary, Dave,
                                    Spectre      7.3(8c))
20230221 Tue 1000-1006 15687 154263 Dave,Spectre 7.4(8c))
20230221 Tue 1006-1014 13401 154263 Ary, RX39,
                                    Spectre      7.5(8c))
20230221 Tue 1153-1155 17454 325614 Ary, Andrew,
                                    Spectre      TX to Nairobi, G400(8c))
20230222 Wed 1038      17456 134265 RX39,Spectre Alert3 (Tunis, shortie, G90)1(8c)
20230222 Wed 1039      16356 134265 Spectre      3.2(8c))
20230222 Wed 1040      14956 134265 Spectre      3.3(8b)
20230222 Wed 1043      17456 1--6-- Spectre      X06b before XPA2(8c))
20230222 Wed 1044      16356 1--6-- Spectre      X06b before XPA2(8c))
20230222 Wed 1045      14956 1--6-- Spectre      X06b before XPA2(8b))
20230222 Wed 1109      11173 1--2-- Spectre      X06b before XPB1(8b))
20230222 Wed 1109      12173 1—2-- Spectre      X06b before XPB1(8b))
20230222 Wed 1110      13373 1--2-- Spectre      X06b before XPB1(8c))
20230222 Wed 1110      13873 1--2-- Spectre      X06b before XPB1(8c))
20230222 Wed 1111      14373 1--2-- Spectre      X06b before XPB1(8c))
20230222 Wed 1112      14873 1--2-- Spectre      X06b before XPB1(8c))
20230222 Wed 1113      11173 1--6-- Spectre      X06b before XPB1(8b))
20230222 Wed 1113      12173 1--6-- Spectre      X06b before XPB1(8b))
20230222 Wed 1114      13373 1--6-- Spectre      X06b before XPB1(8c))
20230222 Wed 1114      13873 1--6-- Spectre      X06b before XPB1(8c))
20230222 Wed 1115      14373 1--6-- Spectre      X06b before XPB1(8c))
20230222 Wed 1115      14873 1--6-- Spectre      X06b before XPB1(8c))
20230223 Thu 0813&0815 14446 1--6-- Spectre      X06b before XPA2(8b))
20230223 Thu 0814&0816 15846 1--6-- Spectre      X06b before XPA2(8b))
20230223 Thu 0815&0817 16146 1--6-- Spectre      X06b before XPA2(8b))
20230224 Fri 0805&0813 19535 1--6-- Spectre      X06b(8f))
20230224 Fri 0806&0814 17435 1--6-- Spectre      X06b(8j))
20230224 Fri 0807&0815 15835 1--6-- Spectre      X06b(8c))
20230225 Sat 1017&1023 12214 1--6-- Spectre      X06b before XPB1(8b))
20230225 Sat 1018&1024 13414 1--6-- Spectre      X06b before XPB1(8h))
20230225 Sat 1019&1024 13914 1--6-- Spectre      X06b before XPB1(8c))
20230225 Sat 1020&1025 14414 1--6-- Spectre      X06b before XPB1(8c))
20230225 Sat 1021&1026 14814 1--6-- Spectre      X06b before XPB1(8b))
```

```
20230225 Sat 1022&1027 15814 1--6-- Spectre      X06b before XPB1(8i))
20230225 Sat 1049&1051 11173 1--6-- Spectre      X06b before XPB1(8b))
20230225 Sat 1049&1051 12173 1--6-- Spectre      X06b before XPB1(8c))
20230225 Sat 1050&1051 13373 1--6-- Spectre      X06b before XPB1(8c))
20230225 Sat 1050&1051 13873 1--6-- Spectre      X06b before XPB1(8c))
20230225 Sat 1050&1051 14373 1--6-- Spectre      X06b before XPB1(8c))
20230225 Sat 1051&1053 14873 1--6-- Spectre      X06b before XPB1(8c))
20230227 Mon 0841-0843 17475 156234 Ary, Dave    TX to Kampala, G203
20230227 Mon 0907-0911 10127 421635 Ary, Andrew  TX to Oslo, G220
20230227 Mon 0936-0943 13517 463125 Ary, RX39    TX to Rabat, G222
20230227 Mon 1241-1255 12177 364152 Ary, Dave,
                                    RX39         TX to New Delhi, G73
20230228 Tue 1012-1017 16317 612534 Ary, Andrew  TX to Ashgabat, G234
```

1) Missed end, but 0940z is close (Dave)

2) Back at 1258 UTC for 40 secs

3) 0811 UTC: MFSK66 on this freq

4) 0845 UTC: MFSK66 on this freq, 0955 UTC: M42 on 18195 kHz with TX to Ho Chi Minh City

5) Break between 0855 and 0856 UTC

6) 0921-0926 UTC: MFSK66 on this freq

7) Serdolik on top of X06

8 a) Weak QRN2 QSB2 (in UK)

8b) Fair QRN2 QSB2 (in UK)

8c) Strong QRN2 QSB2 (in UK)

8d) Fair QRM3 QSB2 (in UK)

8e) Strong QRM3 QSB2 (in UK)

8f) Weak QRN3 QSB3 (in UK)

8g) Fair QRM3 QSB3 (in UK)

8h)) Fair STANAGQRM4 QSB2

8i) Strong STANAGQRM3 QSB2

8j) Fair PLUTOIIQRM

Many thanks as usual to all contributors.

The Spectre logged also a station, which he called "UNID long dash" and from which we not really know, if it's X06 related. Here are his logs:

UNID Long Dash 6692kHz 16/02/2023 1404z [Long Dash] Weak QRN3 QSB3 THU Spectre

6699kHz 02/01/2023 1336z [Long Dash] Weak QRN2 QSB2 MON Spectre
03/01/2023 1302z [Long Dash] Weak QRN2 QSB2 TUE Spectre
10/02/2023 1635z [Long Dash] Fair QRN2 QSB2 FRI Spectre
11/02/2023 1446z [Long Dash] Fair QRN2 QSB2 SAT Spectre

8988kHz 10/02/2023 1635z [Long Dash] Fair QRN2 QSB2 FRI Spectre

8996kHz 03/01/2023 1301z [Long Dash] Fair QRN2 QSB2 TUE Spectre

8999kHz 02/01/2023 1327z [Long Dash] Fair QRN2 QSB2 MON Spectre
11/02/2023 1447z [Long Dash] Fair QRN2 QSB2 SAT Spectre
16/02/2023 1404z [Long Dash] Fair QRN2 QSB2 THU Spectre

11826kHz 03/01/2023 1304z [Long Dash] Fair QRN2 QSB2 TUE Spectre

11840kHz 02/01/2023 1334z [Long Dash] Fair QRN2 QSB2 MON Spectre

11886kHz 10/02/2023 1636z [Long Dash] Fair BCQRM4 QSB2 FRI Spectre

11956kHz 16/02/2023 1404z [Long Dash] Fair QRN2 QSB2 THU Spectre

11970kHz 11/02/2023 1447z [Long Dash] Fair QRN2 QSB2 SAT Spectre

12494kHz 10/02/2023 1637z [Long Dash] Fair QRN2 QSB2 FRI Spectre

11/02/2023 1448z [Long Dash] Fair QRN2 QSB2 SAT Spectre
16/02/2023 1404z [Long Dash] Fair QRN2 QSB2 THU Spectre

12494kHz 16/02/2023 1404z [Long Dash] Fair QRN2 QSB2 THU Spectre

12499kHz 02/01/2023 1332z [Long Dash] Fair QRN2 QSB2 MON Spectre
03/01/2023 1305z [Long Dash] Fair QRN2 QSB2 TUE Spectre

16178kHz 10/02/2023 1638z [Long Dash] Fair QRN2 QSB2 FRI Spectre

16180kHz 03/01/2023 1306z [Long Dash] Fair QRN2 QSB2 TUE Spectre

16188kHz 02/01/2023 1329z [Long Dash] Fair QRN2 QSB2 MON Spectre

16190kHz 16/02/2023 1404z [Long Dash] Fair QRN2 QSB2 THU Spectre

16199kHz 11/02/2023 1448z [Long Dash] Fair QRN2 QSB2 SAT Spectre

21894kHz 11/02/2023 1450z [Long Dash] Fair QRN2 QSB2 SAT Spectre

21898kHz 16/02/2023 1404z [Long Dash] Fair QRN2 QSB2 THU Spectre

21899kHz 03/01/2023 1309z [Long Dash] Weak QRN2 QSB2 TUE Spectre

27798kHz 16/02/2023 1404z [Long Dash] Weak QRN2 QSB2 THU Spectre

Perhaps we can answer this question in the next edition. Till then I say as usual: Good-bye and please stay healthy

Jochen, the Numbers-, X06 Database and Teamkopf

F01

Wed 01.02.2023 1940Z 8155 FSK 200/500
Wed 01.02.2023 1950Z 6844 FSK 200/500
Wed 01.02.2023 2000Z 4527 FSK 200/500

Fri 03.02.2023 1015Z 12184 FSK 200/500
Fri 03.02.2023 1025Z 10169 FSK 200/500
Fri 03.02.2023 1035Z 8079 FSK 200/500

Tnx H-FD

HM01 MIXED MODE

19715kHz2345z 05/02 (84684 12561 77501 50251 45813 27616) Weak, gd audio DanAR SUN

Excellent work here from Spectre 3000:

9155kHz 19/02/2023 1000z [06259 43138 31575 52272 46336 25537] 1057z Fair BCQRM3 QSB3 SUN Spectre (Remote WebSDR Washington)

9240kHz 20/02/2023 0928z [81101 55651 31576 52273 46337 03251] 0957z Fair QRN4 QSB4 MON Spectre (Remote WebSDR Washington)
10715kHz 19/02/2023 2158z [81101 55651 31576 52273 46337 03251] 2257z Fair QRN4 QSB4 SUN Spectre (Remote WebSDR Washington)
20/02/2023 2228z [81101 55651 31577 52274 46338 03251] 2257z Fair QRN4 QSB4 MON Spectre (Remote KiwiSDR Lubbok TX)
22/02/2023 2158z [81105 55655 12203 52278 67502 03255] 2257z Fair QRN4 QSB3 WED Spectre (Rermote KiwiSDR Washington)

11435kHz 14/02/2023 1558z [27616 84684 12561 70501 50251 45813] 1657z Fair QRN3 QSB3 TUE Spectre (Remote KiwiSDR Florida)

11462kHz 21/02/2023 0858z [81101 55651 31577 52274 46338 03251] 0957z Fair QRN4 QSB4 TUE Spectre (Remote WebSDR Twente Netherlands)

11635kHz 19/02/2023 2128z [81101 55651 31576 52273 46337 03251] 2157z Fair QRN2 QSB4 SUN Spectre (Remote WebSDR Washington)
03/02/2023 0758z [81105 55655 12203 52278 67502 03255] 0857z Strong QRN3 QSB3 THU Spectre (Remote KiwiSDR Washington)

13435kHz 23/02/2023 0728z [81105 55655 12203 52278 67502 03255] 0757z Strong QRN3 QSB3 THU spectre (Remote KiwiSDR Washington)

17480kHz 16/02/2023 2158z [06257 43136 31573 52271 46334 25535] 2257z Weak QRN3 QSB3 THU Spectre (Remote KiwiSDR Lubbok TX)

Chart Section Index

March 2023

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Mar kHz, ID, ...	Apr kHz, ID, ...	Remarks
x	x	x	x	x			0000		F01	01A	17471	17471	
x				x			0010/0030/0050		M12	01B	16284/15984/14784 297	14837/13937/12137 891	
x				x			0025/0035		F01	01A	16023/13555	15820/13405	
	x			x			0030/0050/0110		M12	01B	5863/ 7463/ 8163 841	6854/ 8154/ 9354 813	
x				x			0125/0135		F01	01A	16023/13555	15820/13405	
x	x	x	x	x	x	x	0200		V13	0	15388	15388	
						x	0200/0220/0240		V07	01B	**search**	**search**	
x	x						0210/0310 tue, when msg		E06	01A	11567/14568 537	11454/14456 537	
			x	x			0300/0400		E06	01A	15726/13384 361	15641/13392 361	
x	x	x	x	x	x	x	0300		V13	0	15388	15388	
	x		x				0300/0320/0340		M12	01B	**search**		
		x	x				0315		E11	03	11092 25#	11092 25#	since 01/14, last log 02/23
x	x	x	x	x	x	x	0400		V13	0	15388	15388	
x	x	x	x	x			0400/0420		S06	01A	11616/ 9322 480	11616/ 9322 480	
	x		x				0445		S11A	03	10728 79#	10728 79#	since 05/22, last log 02/23
x							0450		E11	03	5371 41#	5371 41#	since 02/10, last log 02/23 2nd transmission Thu 1730z
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	11430	11430	
	x		x				0500		S11A	03	14769 38#	14769 38#	since 05/14, last log 02/23
x	x						0500/0510/0520 0530/0540/0550		XPB1	01B		13527/13927/14727 14927/15827/16327	
x	x	x	x	x			0500/0520		M14	01A	12211/10243 952	12211/10243 952	
	x		x				0500/0520/0540		XPA2	01B		10249/11449/12149	
			x	x			0500/0600	1/3	E06	01A		15645/17470 951	
x		x					0510		S11A	03	11116 65#	11116 65#	since 08/19, last log 02/23
	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	8680 35#	8680 35#	since 04/15, last log 02/23
x	x	x	x	x	x	x	0600		V13	0	11430	11430	
x	x						0600/0610/0620 0630/0640/0650		XPB1	01B	13562/14362/14862 15962/16262/17462		
						x	0600/0620/0640		E07	01B		9261/10261/11461 224	
	x		x				0600/0620/0640		XPA2	01B	**search**		
			x	x			0600/0700	1/3	E06	01B	16230/19325 864		
	x			x			0620		M01A	14	10233 or 10235 354/458	10233 or 10235 354/458	
		x	x				0620		M01A	14	9421 135	9421 135	
	x			x			0630		M01A	14	9447 143/796	9447 143/796	
		x	x				0630		M01A	14	8111 902/536	8111 902/536	
x		x					0640		E11	03	14865 94#	14865 94#	since 07/17, last log 02/23
	x		x				0645		E11	03	8423 51#	8423 51#	since 07/09, last log 02/23
x		x		x		x	0655		HM01	18	9330	9330	
	x		x		x		0655		HM01	18	13435	13435	
x			x				0700		S11A	03	8597 47#	8597 47#	since 04/10, last log 02/23
	x			x			0700		E11	03	8180 57#	8180 57#	since 01/12, last log 02/23
					x	x	0700		E11	03	9079 49#	9079 49#	since 07/15, last log 02/23
x	x	x	x	x	x	x	0700		V13	0	15250	15250	

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Mar kHz, ID, ...	Apr kHz, ID, ...	Remarks
						x	0700		M01	01B	6510 463	6510 463	
						x	0700/0720/0740		E07	01B	10268/11068/12168 201		
	x		x				0700/0720/0740		M12	01B		10904/10204/ 9304 923, **check**	
x		x					0700/0720/0740		XPA2	01B		11409/12209/13409	XPA2p
	x			x			0710		M01A	14	10651 297/358	10651 297/358	
		x	x				0710		M01A	14	9175 146/208	9175 146/208	
x		x					0715		E11	03	15632 75#	15632 75#	since 06/21, last log 02/23
	x			x			0715		E11	03	9963 63#	9963 63#	since 02/11, last log 02/23
	x			x			0720		M01A	14	9151 728	9151 728	
x							0745		E11	03	10213 26#	10213 26#	since 03/14, last log 02/23 2nd transmission Thu 1530z
	x		x				0745		E11	03	14865 22#	14865 22#	since 01/20, last log 02/23
		x		x			0745		E11	03	17410 34#	17410 34#	since 06/17, last log 02/23
x		x		x		x	0755		HM01	18	9065	9065	
	x		x		x		0755		HM01	18	11365	11365	
x	x	x	x	x	x	x	0800		V13	0	15250	15250	
	x			x			0800/0820/0840		M12	01B		13391/13891/14791 387	
		x				x	0800/0820/0840		M12	01B	15848/17448/19148 841		
		x					0800/0820/0840		XPA2	01B	13931/14831/16131		XPA2p
				x		x	0800/0820/0840		XPA2	01B		**search**	
	x	x					0820		E11	03	19184 13#	19184 13#	since 12/18, last log 02/23
			x	x			0820		E11	03	5941 43#	5941 43#	since 10/09, last log 02/23
x				x			0830		E11	03	15905 18#	15905 18#	since 07/15, last log 02/23
					x	x	0830		S11A	03	6433 37#	6433 37#	since 02/14, last log 02/23
x		x					0845		E11	03	12202 71#	12202 71#	since 09/10, last log 02/23
	x		x				0845		E11	03	13908 15# **check**	13908 15# **check**	since 07/17, last log 02/23
		x		x		x	0855		HM01	18	9240	9240	
	x		x		x		0855		HM01	18	11462	11462	
x		x					0900		E11	03	9968 53#	9968 53#	since 10/05, last log 02/23
	x			x			0900/0920/0940		M12	01B	14427/14927/16327 493		
				x		x	0900/0920/0940		XPA2	01B	**search**		
x		x					0910/0930/0950		XPA2	01B	18333/16345/14838	18038/17474/16286	
			x		x		0910/0930/0950		XPA2	01B	16261/15961/14861	15849/14659/13459	
x				x			0915		S11A	03	6480 48#	6480 48#	since 04/19, last log 02/23
		x	x				0930		E11	03	6940 27#	6940 27#	since 02/14, last log 02/23
x	x	x	x	x	x	x	0930		M14	01A	17438 10.&25. 15965 11.&26. when msg	17438 10.&25. 15965 11.&26. when msg	
						x	0930/1000		E06	01A	12093/10212 480	13945/11128 480	
x		x		x		x	0955		HM01	18	9155	9155	
	x		x		x		0955		HM01	18	12180	12180	
	x			x			1000		E11	03	9951 30#	9951 30#	since 11/16, last log 02/23
	x	x	x	x			1015/1025/1035		F01	01A	10861/ 8076/ 6974	10177/ 9317/ 7572	
x		x					1045		E11	03	10200 69#	10200 69#	since 03/18, last log 02/23
x					x		1100/1110/1110 1130/1140/1150		XPB1	01B	18253/17453/15953 14957/14353/13553		
		x			x		1100/1110/1110 1130/1140/1150		XPB1	01B		13562/12162/11562 11162/10562/10262	
	x			x			1100/1120/1140		XPA2	01B	14639/13539/12139	16341/14841/13941	
		x	x				1100/1120/1140		XPA2	01B	15861/14431/13431	17426/16326/14926	
			x				1110/1130/1150		M12	01B	13386/12189/11491 725	13386/12189/11491 725	
x	x	x	x	x	x	x	1200		V13	0	7688	9276,15890	

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Mar kHz, ID, ...	Apr kHz, ID, ...	Remarks
x					x		1200/1210/1210 1230/1240/1250		XPB1	01B		17474/16274/15974 14974/14374/13874	
		x			x		1200/1210/1210 1230/1240/1250		XPB1	01B	14621/13921/13421 12121/11121/10421		
	x					x	1200/1220/1240		XPA2	01B	13384/13984/14984	14442/15842/16342	XPA2m
		x		x			1200/1220/1240		XPA2	01B	x12139/13539/ 14639 **search**	x14377/14977/ 15977 **search**	
	x	x					1205		E11	03	6923 46#	6923 46#	since 03/10, last log 02/23
		x		x			1210/1230/1250		XPA1	01B		13368/12168/11168	
	x		x				1230		E11	03	12530 33#	12530 33#	since 10/11, last log 10/22 May-Aug at 1645z, Nov-Feb at 0505z
x							1230/1250/1310		M12	01B	12205/13559/14728 973	12205/13559/14728 973	
x			x				1300		E11	03	5371 31#	5371 31#	since 07/14, last log 02/23
x	x	x	x	x	x	x	1300		V13	0	7688	7502	
	x			x			1300/1310/1310 1330/1340/1350		XPB1	01B	**search**	**search**	
					x		1300/1320/1340		E07	01B		12176/11576/10276 512	
					x		1300/1330		E06	01A	10755/ 9073 480	11487/ 9412 480	
		x		x			1310/1330/1350		XPA1	01B	14451/13451/12151 441		
	x			x			1400		S11A	03	6797 42#	6797 42#	since 02/10, last log 02/23
x			x				1400/1420/1440		M12	01B	20849/19449/18249 842	20971/20371/19271 932	
					x		1400/1420/1440		E07	01B	12143/11143/10443 114		
			x		x		1410/1430/1450		E07	01B	16284/14854/13384 328	16331/15831/14831 893	
	x				x		1430		E11	03	14972 91#	14972 91#	since 10/15, last log 02/23
					x		1500		M01	14	6260 463	6260 463	
	x	x	x				1500/1600		S06	01A	14913/10387 387		
	x			x			1500/1520/1540		E07	01B	**search**	**search**	
					x		1500/1520/1540		XPA2	01B		15881/14481/13381	
			x				1530		E11	03	10330 26#	10330 26#	since 06/14, last log 02/23 2nd transmission Mon 0745z
					x	x	1530		E11	03	4505 36#	4505 36#	since 03/14, last log 02/23
x	x	x	x	x	x	x	1555		HM01	18	11435	11435	
		x				**x**	1600/1620/1640		M12	01B		16321/15821/14721 387	
					x		1600/1620/1640		XPA2	01B	12163/10863/ 9363		
	x		x				1600/1620/1640		XPA2	01B	13994/13494/12194	15819/14919/13919	
	x					x	1605		E11	03	5176 23#	5176 23#	since 11/15, last log 02/23
x	x	x	x	x	x	x	1655		HM01	18	11530	11530	
		x		x			1715		E11	03	6923 97#	6923 97#	since 02/15, last log 02/23
			x				1730		E11	03	7864 41#	7864 41#	since 03/10, last log 02/23 2nd transmission Mon 0450z
x						x	1745		E11	03	13470 24#	13470 24#	since 04/18, last log 02/23
x	x	x	x	x	x	x	1755		HM01	18	11635	11635	
	x		x				1800		M01	14	5475 463	5475 463	
					x		1800/1820/1840		M12	01B	11435/10598/ 9227 938	11435/10598/ 9227 938	
				x		x	1815		E11	03	11116 92#	11116 92#	since 05/16, last log 02/23
	x			x			1840/1850/1900	1	F01	01A		12194/10581/ 8112	
		x			x		1850		S11A	03	10213 28#	10213 28#	since 06/17, last log 02/23
x			x				1900		E11	03	7317 64#	7317 64#	since 05/16, last log 02/23
		x					1900/1920/1940		M12	01B	8047/ 6802/ 5788 463	8047/ 6802/ 5788 463	
		x		x			1900/1920/1940		M12	01B		13564/12164/11164 511	
				x			1900/2000	1/3	S06	01A		637 **search**	yearly changing frequencies + id
		x			x		1910		E11	03	4181 39#	4181 39#	since 02/14, last log 02/23

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Mar kHz, ID, ...	Apr kHz, ID, ...	Remarks
				x		x	1910		E11	03	8530 61#	8530 61#	since 04/17, last log 02/23
	x			x			1940/1950/2000	1	F01	01A	10467/ 8094/ 6779		
			x			x	2000		E11	03	5737 52#	5737 52#	since 05/15, last log 02/23

M01 FREQUENCY LIST

Frequencies may vary by a few kHz

JAN FEB NOV DEC M01/1 197

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

MAR APRIL SEPT OCT M01/2 463

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

MAY JUNE JULY AUG M01/3 025

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

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Jan kHz, ID, ...	Feb kHz, ID, ...	Mar kHz, ID, ...	Apr kHz, ID, ...	Remarks
		x	x				0315		E11	03	9052 25#	9052 25#	11092 25#	11092 25#	since 01/14, last log 02/23
	x		x				0445		S11A	03	11559 79#	11559 79#	10728 79#	10728 79#	since 05/22, last log 02/23
x							0450		E11	03	4909 41#	4909 41#	5371 41#	5371 41#	since 02/10, last log 02/23 2nd transmission Thu 1730z
	x		x				0500		S11A	03	12530 38#	12530 38#	14769 38#	14769 38#	since 05/14, last log 02/23
	x		x				0505		E11	03	12153 33#	12153 33#			since 10/11, last log 02/23 Mar/Apr/Sep/Oct at 1230z, Mai-Aug at 1645z
x		x					0510		S11A	03	9057 65#	9057 65#	11116 65#	11116 65#	since 08/19, last log 02/23
				x		x	0600		E11	03	7850 35#	7850 35#	8680 35#	8680 35#	since 04/15, last log 02/23
x		x					0640		E11	03	16005 94#	16005 94#	14865 94#	14865 94#	since 07/17, last log 02/23
	x		x				0645		E11	03	7840 51#	7840 51#	8423 51#	8423 51#	since 07/09, last log 02/23
x			x				0700		S11A	03	9050 47#	9050 47#	8597 47#	8597 47#	since 04/10, last log 02/23
	x			x			0700		E11	03	6804 57#	6804 57#	8180 57#	8180 57#	since 01/12, last log 02/23
					x	x	0700		E11	03	5371 49#	5371 49#	9079 49#	9079 49#	since 07/15, last log 02/23
x		x					0715		E11	03	11104 75#	11104 75#	15632 75#	15632 75#	since 06/21, last log 02/23
	x			x			0715		E11	03	9130 63#	9130 63#	9963 63#	9963 63#	since 02/11, last log 02/23
x							0745		E11	03	10213 26#	10213 26#	10213 26#	10213 26#	since 03/14, last log 02/23 2nd transmission Thu 1530z
	x		x				0745		E11	03	13908 22#	13908 22#	14865 22#	14865 22#	since 01/20, last log 02/23
		x		x			0745		E11	03	17378 34#	17378 34#	17410 34#	17410 34#	since 06/17, last log 02/23
	x	x					0820		E11	03	14611 13#	14611 13#	19184 13#	19184 13#	since 12/18, last log 02/23
			x	x			0820		E11	03	5149 43#	5149 43#	5941 43#	5941 43#	since 10/09, last log 02/23
x				x			0830		E11	03	14940 18#	14940 18#	15905 18#	15905 18#	since 07/15, last log 02/23
					x	x	0830		S11A	03	5371 37#	5371 37#	6433 37#	6433 37#	since 02/14, last log 02/23
x		x					0845		E11	03	12067 71#	12067 71#	12202 71#	12202 71#	since 09/10, last log 02/23
	x		x				0845		E11	03	17378 15#	17378 15#	13908 15# **check**	13908 15# **check**	since 07/17, last log 02/23
x		x					0900		E11	03	11092 53#	11092 53#	9968 53#	9968 53#	since 10/05, last log 02/23
x				x			0915		S11A	03	6252 48#	6252 48#	6480 48#	6480 48#	since 04/19, last log 02/23
		x	x				0930		E11	03	7469 27#	7469 27#	6940 27#	6940 27#	since 02/14, last log 02/23
	x			x			1000		E11	03	9079 30#	9079 30#	9951 30#	9951 30#	since 11/16, last log 02/23
x		x					1045		E11	03	11100 69#	11100 69#	10200 69#	10200 69#	since 03/18, last log 02/23
	x	x					1205		E11	03	6433 46#	6433 46#	6923 46#	6923 46#	since 03/10, last log 02/23
	x		x				1230		E11	03			12530 33#	12530 33#	since 10/11, last log 10/22 May-Aug at 1645z, Nov-Feb at 0505z
x			x				1300		E11	03	4909 31#	4909 31#	5371 31#	5371 31#	since 07/14, last log 02/23
	x			x			1400		S11A	03	6252 42#	6252 42#	6797 42#	6797 42#	since 02/10, last log 02/23
	x				x		1430		E11	03	13363 91#	13363 91#	14972 91#	14972 91#	since 10/15, last log 02/23
			x				1530		E11	03	5409 26#	5409 26#	10330 26#	10330 26#	since 06/14, last log 02/23 2nd transmission Mon 0745z
					x	x	1530		E11	03	4909 36#	4909 36#	4505 36#	4505 36#	since 03/14, last log 02/23
	x					x	1605		E11	03	5432 23#	5432 23#	5176 23#	5176 23#	since 11/15, last log 02/23
	x		x				1645		E11	03					since 10/11, last log 08/22 Mar/Apr/Sep/Oct at 1230z, Nov-Feb at 0505z
		x		x			1715		E11	03	5082 97#	5082 97#	6923 97#	6923 97#	since 02/15, last log 02/23
			x				1730		E11	03	5779 41#	5779 41#	7864 41#	7864 41#	since 03/10, last log 02/23 2nd transmission Mon 0450z
x						x	1745		E11	03	12924 24#	12924 24#	13470 24#	13470 24#	since 04/18, last log 02/23
				x		x	1815		E11	03	6849 92#	6849 92#	11116 92#	11116 92#	since 05/16, last log 02/23
		x			x		1850		S11A	03	11486 28#	11486 28#	10213 28#	10213 28#	since 06/17, last log 02/23
x			x				1900		E11	03	6849 64#	6849 64#	7317 64#	7317 64#	since 05/16, last log 02/23
		x			x		1910		E11	03	4505 39#	4505 39#	4181 39#	4181 39#	since 02/14, last log 02/23
				x		x	1910		E11	03	10487 61#	10487 61#	8530 61#	8530 61#	since 04/17, last log 02/23
			x			x	2000		E11	03	5082 52#	5082 52#	5737 52#	5737 52#	since 05/15, last log 02/23

XPA1 Sched c and XPA2[Sched m & p] Russian Intelligence and/or Diplomatic Multitone Systems [Radiogramma] Transmission Schedules.

Zulu > / Month v	XPA1 Sched c Tuesday/Thursday H+10 H+30 H+50 0710 / 0810z			XPA2 Sched m Sunday/Tuesday H 00 H+20 H+40 1200/2100			XPA2 Sched p 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 > / Month v	XPA1 Wed/Fri Schedule H+10 1210 / 1310z	H+30	H+50	XPA2 Wed/Fri Schedule H 00 1200/2100z	H+20	H+40
						ITALICS UNDER REVIEW
Jan	14852	13952	11552	13878	14978	16278
Feb	14374	13374	11474	14956	16356	17456
Mar	14451	13451	12151	14956	16356	17456
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	13968	15968	17468
Dec	13465	12165	10265	14841	16241	18241

SPECIAL MATTERS

Thanks to all our contributors:
Ary, BR, CC, DanAr, E, F5, HH, HJH, JkC, Jochen, KW, Malc, MaleAnon, PoSW, PLdn, RNGB,
Apologies to anyone missed.

MESSAGES:

E: Tnx yr i/p. I found Gt Yarmouth much quieter electrically just before Xmas…enjoy

RELEVANT WEBSITES

ENIGMA 2000 Website:	http://www.enigma2000.org
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.faqs.org/espionage/