ENIGMA 2000 NEWSLETTER

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Little Sai Wan RAF Wireless Intercept Station Hong Kong

Thank you to the owner of these images [more inside] who gave a talk on his National Service to our local radio club and who gave his permission for his images to be used

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REMINDER: IN KEEPING WITH OUR ANNOUNCEMENT IN OUR RECENT NEWSLETTERS ENIGMA2000 WILL NOT DISCUSS THE RUSSIAN/UKRAINE MATTER BEYOND TECHNICAL MATTERS

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

Editorial

The propagation has been poor to variable in the mid bands, generally poor from 80 to 20m and good from 17 to 10m. Excellent for DX chasers as well as general listeners but not a lot of good for those number station listeners who follow fixed schedules held in poor propagation zones from the sending location.
Use SDR is the answer; for die hards like me and a few others there is only one way to do it and we've been reasonably successful, with some failures too.

I wonder how propagation influenced the intercept operators of the 50's and 60's? Antennas pointing in the right direction and much nearer to the target stations?

Those perusing the logs will notice missed schedules due to lightning. The worst I have experienced was in Guyana in 2006; I had been handed a piece of paper after being escorted into a local carriers office by an armed guard that gave notice of the absolute travel carnage brought on by the 'Ducks in a Row' terror plot to down a load of US bound passenger planes by smuggling small drink containers containing the volatile mixture and using batteries and flash bulbs from throwaway cameras to initiate the reaction. Receiving a cellphone call at that moment telling me what had been heard on BBC World Service I made my way back to the house I was staying in West Bank Demerara. Not getting all I wished to know I took out the little Sony Rx I carry and had a tune around on the 49m band. Interesting discussion was made but that was cut short by a sharp roll of thunder. I immediately disconnected the long wire [and its still there to this day, I'm told] just before the crack of some very serious lightning arced across the sky. I have always been very wary of this due to having received a massive shock induced into a feeder I was working on.
Peter of Saffron Waldon writes further interesting commentary and certainly makes it clear that we in Crystal Palace are not the only ops plagued with this rather powerful event of nature; Peter writes:
Just a quick comment on the editorial in the last newsletter regarding the lightening in May:- we had some of that around here in the first week of that month including on the 5th when there was a particularly lively storm in the late morning with one very loud bang
which caused a momentary dip in the mains electricity and was probably the one that did some damage to a several properties as was reported in our weekly newspaper, the Walden Local of May 11 which said, "Thunder and lightning brought chaos to Saffron Walden on Friday morning and cost local residents and businesses thousands of pounds."
The owner of a dining establishment was particularly badly hit, as one of the staff said, 'The thunder clap was so loud it sounded like a bomb. Our staff, including the head chef who works downstairs in the kitchen, all jumped with fright.
It knocked out the internet and most of our printers. We don't think the shop was actually hit but it certainly did some damage. We were unable to use the internet which prevented us from taking card payments... Our printers were burnt out which meant we had to order brand new ones.'
It is believed that the tower of St Mary's Church way have been struck by lightening. The Rector said: 'The lightening conductor on the tower ensured there was no damage of the building although a number of electronic items were affected and needed to be replaced'."

So there we are then; when thunder storms are incoming unplug the radio and disconnect the antenna - I think the advice at one time was to ground it at the far end.

Operations wise Polytones have had more than their fair share of null messages to date; more changes afoot? Who knows. Lots of interest in M23 too.

Talking of antennas in intercept stations:

View of antennas at Little Sai Wan Hong Kong [© retained by owner]

Dielectric Walls

We recently received an enquiry about our mention on dielectric walls; in conjunction of signals intercept. It is an easy explanation without all the physics that can go with it and Brian explained simply and very well.

Thanking the matter slightly further here we have an excellent example of dielectric material and in common use:

For me its either special fried rice and shredded beef or Indian food, except the tandoori offerings, having an allergy to the additive used for the colouring.

Many a US Embassy uses dielectric material as was made public by Der Spiegel when they used IR to show the heat of the intercept equipment behind the material walls of it Berlin installation. There's no secret the British Embassy has/had a cylindrical construction on its roof for intercept [it stood behind the Hotel Albion's signage].

Many US Embassy buildings have a white compartment atop their rooves, also dielectric material. Radomes are also made of something similar.

The Russian Embassy up the road from the US and GB buildings bristles with antennae too.

For good insight the following website is a good source of technical information:

https://www.techtarget.com/whatis/definition/dielectric-material

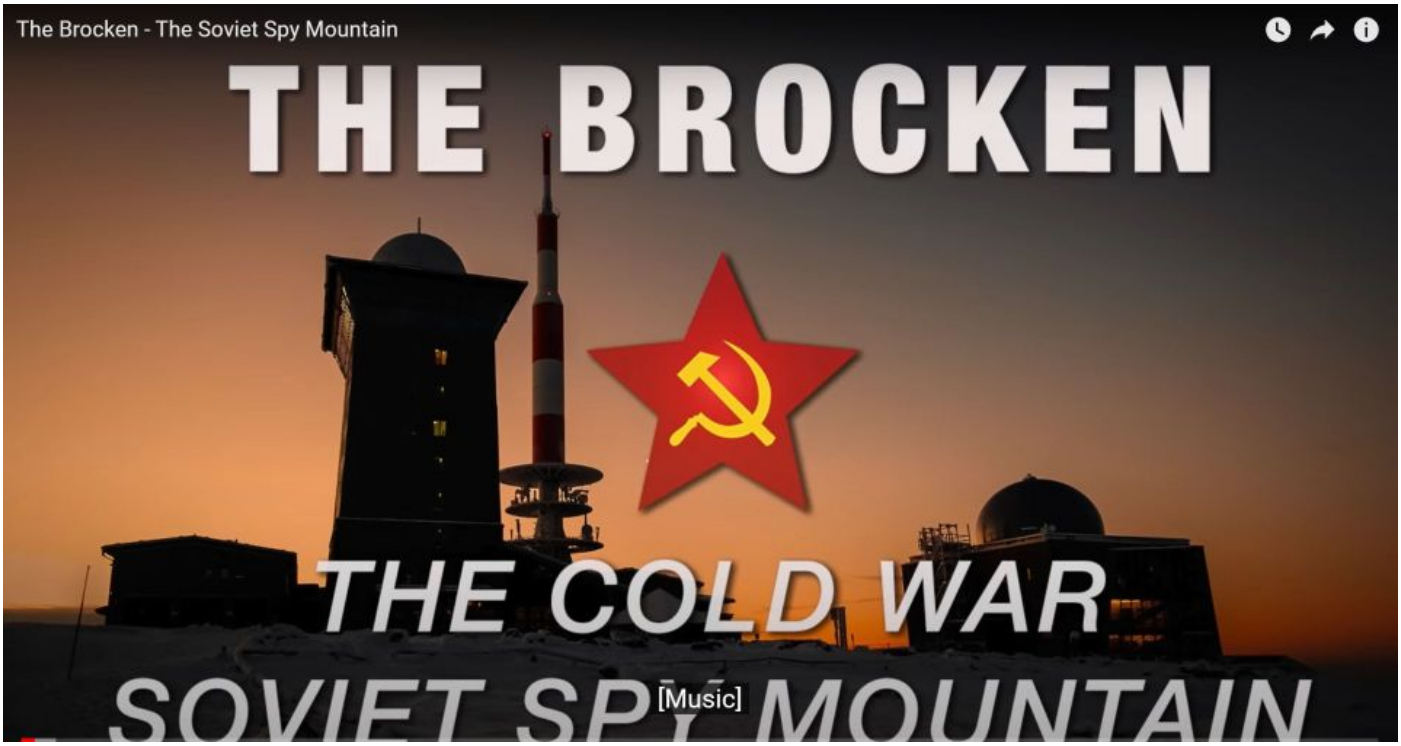
However, an investigative insight can be had from Duncan Campbell's site that's packed with appropriate information: https://www.duncancampbell.org/ Particularly Britain's 'secret listening post in the heart of Berlin.'

Der Brocken

Much with the subject of intercept in our minds we were heartnened to receive a URL leading to an excellent and interesting documentry of 'Der Brocken.'

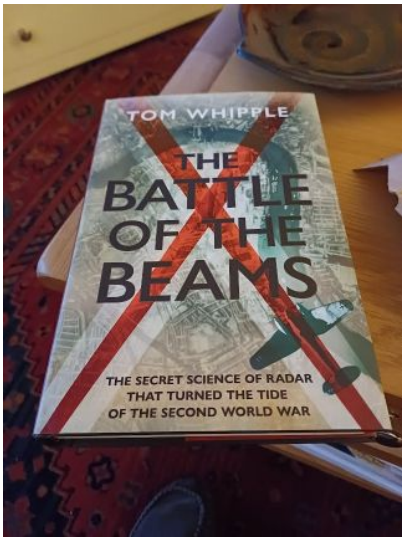
https://www.youtube.com/watch?v=w7F1gImYAbg&ab_channel=AndyMcloone

It's well worth watching and thanks to male Anon for posting to us.



https://www.youtube.com/watch?v=w7F1gImYAbg&ab_channel=AndyMcloone

Recommended Reading



The Battle of the Beams, Tom Whipple

Tom Whipple is The Times Science Editor so you'd expect a few technicalities in the book. Here Mr Whipple is telling RV Jones tale of Knickenbein, X-Gerat and British countermeasures again, but in my estimation his approach is better. Since WW2 and RVJ's account, probably hobbled by OSA and 50years records limitations etc, more information has become available from both sides of the English Channel and it is this, I suspect, that has allowed Tom Whipple to include the persons and indeed their personas in the story, making it such an interesting read. The book was lent to a friend and E2k member who thoroughly enjoyed it:

"I found it very readable and although the much more technical approach taken by RVJ was very interesting, I think Whipple told a better story and did a very good job in involving the multitudinous aspects of the topic and especially being able to highlight, at such a long time after the event of course, how much further advanced the Germans were in radar especially in the earlier years of the war."

Reading the book prompted a long discussion, during Cricket, about the use of diathermy machines as a powerful signal source for freqs around 30MHz. On research we discovered nowadays much lower freqs are in use around the 500/1000kHz ranges and wondered why? It seems the use these devices can be used for a variety of medical activities and selection of frequency allows a finer application and probably limits cell disruption.

So, Battle of the Beams? MUCH RECOMMENDED

Number Stations or not?

RNGB sent this interesting piece and it really is worth watching. 52m long there's food for thought……

The link below is about Whales, and in particular the illegal whaling by the USSR in the late fifties and early sixties.

https://www.bbc.co.uk/iplayer/episode/m001mwfg/the-witness-is-a-whale

The number slaughtered is quite staggering. Well worth watching.
Interestingly though is a Russian sailor stating that many Russian ships were disguised and the captains given a set of codes which changed daily.
These were to decode messages from the KGB who seemed to control their illegal whaling.
Guess they must have used HF? So a possible use of some of the Russian number stations in the past.

Thanks for sending

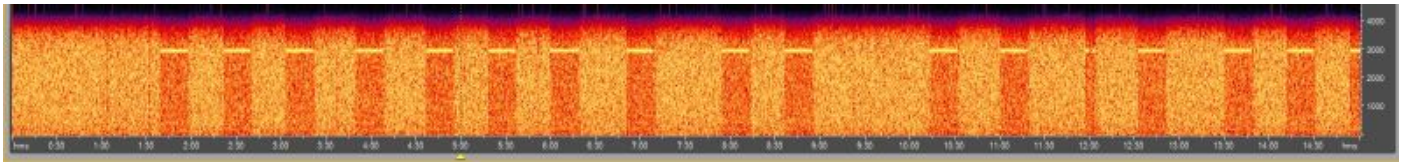
We do not show favour for any participants within the UKR/RUS dispute, however we state Technical stuff is ok. This FT VDO is an excellent piece showing inventiveness of war and worth viewing [as spoken of at Bletchley Park]:

https://youtu.be/voPCPhzmL10

New QRM at detected at G7VAK

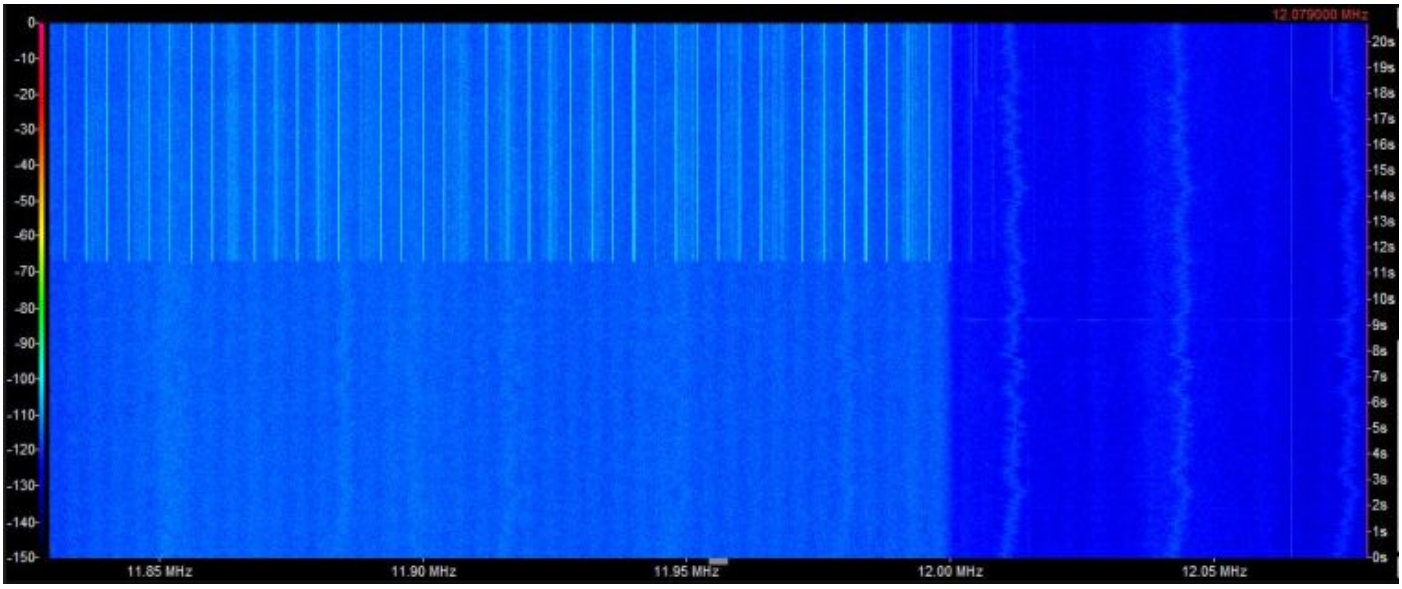
Expecting to hear a routine fair to strong 224 000 on the Sunday E07 0600z 03/09/2023 I was surprised to hear no E07 but 18s bleeps. I had previously seen a hint of it on XPB1 for both the Saturday schedules at 1100 and 1200z on the 10 and 11MHz freqs where used but discounted it as crud.

Well the sound file for E07 10261kHz 0620z 03/09 looks like this [the 9261kHz 0600z file looked the same too:



It needs no explanation.

A quick look across 7 to 30MHz revealed a structure between circa 8500kHz to 12000kHz:



That stretch of frequencies often appearing in RadCom [RSGB] in discussion of Broadband, ADSL or whatever its all called this week. Well, I suspect this new stuff is something to do with the latest innovation from BT/Open Reach or whatever they're trading as nowadays. A numbers colleague said to me "Less QRM if it goes to fibre….." I hope my reply then of, "We'll see, don't count your chickens…" doesn't ring true.

However, my Yupiteru 7100 and its trusty homebrewed RDF antenna pointed in two directions: Both towards distribution cabinets with a very low detection towards the telegraph pole outside my home.

Quite why its 18s on/off and then 45s in between cycles is any one's guess. Here's hoping for a temporary appearance. Wonder if Bletchley Park, Cheltenham and Digby have to suffer all this crud?

Whilst we talk of Bletchley Park, here's yours truly in the National Radio Centre doing my duty.

Newsround

Britain

Some of the membership will be aware that ex-Det Sgt John Symonds was a friend of mine [PLdn]. He had ended up in Folkestone, Kent with his Bulgarian wife Nelly Genkova [she was *Never a spy – and I have a copy of the letter written to John from someone in Granchester*]. He suffered with dementia and died January 2017 aged 81.
He was a forthright character, sometimes fiery but he also had a very good sense of humour. John wrote his story and I have a copy of the manuscript; it's a good read, but not overly a biographical piece. [*Missed that chance Rupert, John being too canny*].

I discovered purely by accident, when I was contacted about Op Countryman for someone wishing to trace a family member who may well have been a subject of investigation, about John's passing.

Well, it's all too long ago now. Most of those involved, if not all, are now long gone. I used to come in from work and my wife handed me the landline and John was on the other end, "Hello you old bugger, how's it going?"

That was a curtain opener to a long conversation where we discussed old times and contacts, most of whom I have now forgotten with *tempus fugit*, but we also used to laugh at events. Once he told me of his court experience where he defended himself in court; I'm sure it was embellished as one does with mates and I asked him how long he got, expecting him to explode because I mocked him. "Just a year" and no bad feelings whatsoever.

Strangely, in later life I met in passing an ex-Det Ch.Insp who working on Op Countryman and having lost Symonds when he fled these shores, went after his partner Det Constable Alan 'Taffy' Holmes. "Never caught him either, he saw to that in his shed." Taffy was a likeable fellow; liked a drink and would easily turn from affable to stern. In his garden shed in the summer of 1987 he took his life with his shotgun.
I liked Taffy as a person, always good for a laugh and none better when I saw him in the Parade Room at ZN and later often in passing at ZA
At the end of Shirley Church Road, near to the late diminutive comedian Ronnie Corbett's home were permanent traffic restrictions, fitted at the demand of Corbett who was being awoken during the night by boy racers whacking it up and down Spout Hill [1:6] and sounding their hooters. These restrictions were invariable dented and pushed over at a crazy angle; the joke amongst his colleagues being stated 'Taff''s been through here again ….' Obviously referring to Taffy's legendary liking for a pint.
The murder of Daniel Morgan, a private investigator with Southern Investigations, their offices at 53 High Street Thornton Heath, was allegedly due to his investigation into police corruption, some media suggests. Interestingly, Taff was allegedly an acquaintance of Daniel Morgan, found dead in The Golden Lion Pub with an axe embedded in his skull.

So, good luck John, where ever you are today. Hope that stick of dynamite, you know the one with the dabs on, is safely stowed away.
John Alexander Symonds, ex-Artillery Officer, ex- Detective Sergeant [METPOL] ex KGB Romeo Spy and decent bloke to me.
Rest in Peace.

Read on:

Britain betrayed Monday, 13 September, 1999, 15:53 GMT 16:53 UK
The 'Romeo' spy

http://news.bbc.co.uk/1/hi/special_report/1999/09/99/britain_betrayed/446221.stm

John Symonds: Former policeman who worked for the KGB
John Symonds is a former Scotland Yard detective sergeant. [*actually Division*]

Britain Betrayed

He is also a former KGB spy, ordered by his Soviet masters to seduce women working in Western embassies in order to obtain secrets.
Mr Symonds left the UK in 1969 under suspicion of corruption. He was approached by agents while in Morocco and eventually recruited in Bulgaria.

Honey trap

Given the code name Scot, he carried out his undercover operations between 1972 and 1980, missions for which he received special training.
"I was taught how to be a better lover," he told the BBC.
"Perhaps I wasn't a very good one before, I don't know. But it was very pleasant. I was taught by two extremely beautiful girls. That was quite an interesting part," he said.

As well as the information he gleaned from his conquests, Mr Symonds said the KGB was particularly interested in Scotland Yard officers who were corrupt or could be corrupted.
Mr Symonds said he gave his Soviet interrogators about 150 names.

Treachery confession 'ignored'

My Symonds, now aged 63, returned to Britain in 1980, gave himself up and served a two-year sentence for corruption.
One reason for his return was that the KGB had grown suspicious because Mr Symonds' actions were being completely ignored by the British security services.
Vasili Mitrokhin

Vasili Mitrokhin: Spy who came in from the cold
He was only recently revealed as a spy in the same documents which exposed great-grandmother Melita Norwood as one of the USSR's top Cold War spies.
The "Mitrokhin archive", smuggled to the UK by Russian dissident Vasili Mitrokhin in 1992, consists of several years' worth of KGB files.
But some time before British intelligence received the files, Mr Symonds admitted his treachery - and said that no-one seemed to care.
In an interview in 1985 with the Daily Express newspaper, he said the intelligence services had shown no interest in talking to him about his allegations.

The British authorities had apparently dismissed his story as a fantasy - unaware that it would be confirmed by a spy who would come in from the cold seven years later.

John Alexander SYMONDS (born 13 July 1935, died January 2017) *My life was enriched to have known him [PLdn]*

http://news.bbc.co.uk/1/hi/special_report/1999/09/99/britain_betrayed/446221.st

MI6 boss urges Russians to defect and spy for Britain
Join hands with us to end the war in Ukraine, says Sir Richard Moore

Fiona Hamilton, Security Editor, Prague
Wednesday July 19 2023, 1.25pm, The Times

https://www.thetimes.co.uk/article/8f42b978-2618-11ee-9959-3da1f328ac3c?shareToken=fff73a34dc804b14766193c352b16ed0

The head of MI6 has called on Russians to "join hands with us" by defecting and spying for Britain.

Sir Richard Moore, the head of the Secret Intelligence Service, who is codenamed C, said: "You know the right address — come and talk to us."

Moore, who said President Putin could regain stability in Moscow only by withdrawing troops from Ukraine, added that many Russians were appalled by their armed forces "pulverising" cities there.

•Do Russians still support Putin's war in Ukraine?

They could help end the bloodshed by spying for Britain, he said. "I invite them to do what others have already done this past 18 months and join hands with us. Our door is always open.

"We will handle their offers of help with the discretion and professionalism for which my service is famed. Their secrets will always be safe with us and together we will work to bring the bloodshed to an end."

Moore stated MI6's principle that "our loyalty to our agents is lifelong and our gratitude eternal". He emphasised that point with a poignant anecdote, revealing that one of his earliest acts as C was to repatriate the ashes of a woman who had penetrated German intelligence in Lisbon in 1944 and died over the age of 100.

•The glamorous agent Ecclesiastic, and how she tricked her Nazi lover

He and other intelligence officers had gathered in honour of the woman, codenamed Ecclesiastic, to scatter her ashes in the English Channel, within sight of where the Allies had sailed from Portsmouth to liberate Europe.

"In the same way, today's ruinous war will only truly end when a sovereign Ukraine lives in freedom," he said.

Moore was speaking at the residence of Matt Field, the ambassador to the Czech Republic, at the British embassy in Prague.

He noted the parallels between the Soviet Union's suppression of the Prague Spring in 1968 that resulted in horrified citizens defecting to Britain and passing intelligence. He urged Russians today to do the same.

In a wide-ranging speech, in which he insisted that artificial intelligence would not replace human beings as spies, Moore also said that the attempted coup by the mercenary Yevgeny Prigozhin, leader of the Wagner group, had "exposed the inexorable decay of the unstable autocracy over which Putin presides".

He said Putin was "misruling" his nation, which was causing great instability and "the answer is clear . . . remove troops from Ukraine".

Moore said: "No one wants an unstable nuclear state. No one wants an unstable Russia. The route is clear: pull out your troops and end the war."
nd the war."

https://www.thetimes.co.uk/article/8f42b978-2618-11ee-9959-3da1f328ac3c?shareToken=fff73a34dc804b14766193c352b16ed0

China

UK orders China to close secret police stations in Britain
Security minister says that secret police intimidated Chinese who moved to UK to seek freedom

Billy Kenber, Matt Dathan
Tuesday June 06 2023, 7.55pm, The Times

https://www.thetimes.co.uk/article/uk-orders-china-to-close-secret-police-stations-in-britain-rr55ghknf

The Chinese embassy was told to close four unofficial police stations, including one in Croydon, that it claims were set up to help Chinese citizens with basic administrative tasks

The Chinese embassy has been forced to close several unofficial police stations operating in the UK after a government investigation into their "unacceptable" presence.

The security minister Tom Tugendhat told MPs that officials had completed an inquiry into four sites secretly set up in Glasgow, Belfast, Croydon and Hendon, north London.

He said the investigation, which began late last year, had not revealed any illegal activity but suggested that press coverage and a police inquiry "had a suppressive impact" on China's intended use of the sites.

Tugendhat said the Chinese embassy had not sought permission to establish the stations and that their presence "will have worried and intimidated those who have left China and sought safety and freedom in the UK".

"The Foreign Commonwealth and Development Office has told the Chinese embassy that any functions related to such 'police service stations' in the UK are unacceptable and that they must not operate in any form," he told MPs in a written statement.

"The Chinese embassy has subsequently responded that all such stations have closed permanently."

The presence of dozens of secret Chinese police stations around the world was first publicised in a report by Safeguard Defenders, a Spanish non-profit human rights organisation, in September last year.

It claimed that the sites were linked to the harassment and intimidation of Chinese dissidents, including efforts to force them to return to China.

The Chinese embassy has maintained that the UK sites were set up to assist Chinese citizens with basic administrative tasks, such as renewing their driving licences, and said the venues were "provided by local overseas Chinese communities who want to be helpful".

Ministers and officials are confident that the British sites would have pursued more sinister functions that would have had the "effect of intimidating" Chinese communities in the UK had they not been uncovered soon after opening.

The failure of the Chinese to seek permission to establish administrative offices in the UK also led the Home Office to assume that they were designed for more than just administrative tasks.

Tugendhat said "any attempt by any foreign power to intimidate, harass or harm individuals or communities in the UK will not be tolerated" and described such behaviour as an "insidious threat to our democracy and fundamental human rights".

In the United States, prosecutors have charged two men with conspiring to act as Chinese agents by establishing an "undeclared police station" in New York. A police investigation into the UK police stations is continuing.

Earlier this year The Times revealed that a businessman, linked to an alleged Chinese police station in south London, had organised Tory fundraising dinners and been photographed with party leaders, as well as attending Chinese Communist Party political conferences in China.

Ruiyou Lin, who runs a takeaway ordering business from the address in Croydon has worked in organisations with links to officials overseeing China's "united front" influence strategy. He has also been photographed at fundraising dinners with senior Conservative Party politicians, including Boris Johnson and Theresa May when they were prime ministers.

Lin has denied working for the Chinese government and said the service he hosted was purely to help Chinese citizens with administrative tasks.

A new law going through parliament will give police and the security services the power to take action against intimidatory behaviour by states. Tugendhat said the National Security Bill, which is in its final stages in the House of Lords, will cover "coercive" activities such as those carried out by Chinese secret police stations in the US.

It will, for the first time, make those who seek to coerce or threaten violence on behalf of a foreign state liable to criminal prosecution. Anyone convicted would face a maximum of 14 years in prison.

Luke de Pulford, from the Inter-Parliamentary Alliance on China, said the minister's statement was encouraging. "Not only do we have a clear position on the unlawful nature of these police stations but an assurance that they've all been closed," he said.

"We now need a full inquiry into the breadth of the activity of [China's] United Front Work Department in the UK, which extends well beyond these stations and is a clear threat not just to the security of the United Kingdom but the hundreds of thousands of Chinese diaspora living here."

https://www.thetimes.co.uk/article/uk-orders-china-to-close-secret-police-stations-in-britain-rr55ghknf

Interesting to note that ordering a Chinese meal, 2x No15, No36, 2x 6 No41 and 1 bott Cola to mix with my Whiskey the delivery bloke cautioned me and told me I was bailed to appear at the Win Wah Tong at 6.30pm. "You better not be rate!"

Hong Kong offers £100,000 bounties for activists in exile
Surrender or be pursued for life, democrats in Britain told

Catherine Philp, Diplomatic Correspondent
Tuesday July 04 2023, 8.50am, The Times

https://www.thetimes.co.uk/article/hong-kong-offers-100-000-bounties-for-activists-in-exile-j2j2bhz93

Hong Kong police have offered bounties of £100,000 for information leading to the capture of eight pro-democracy activists based overseas, including three in Britain, as they announced new arrest warrants under the territory's draconian national security law.

Nathan Law, 29, one of the activists in Britain, called the bounty a "staggering idea" and said that the message from Beijing was clear: "As long as you are opposing Chinese regime's ruling, no matter where you are in the political spectrum, they will put you on the wanted list."

It is the first time Hong Kong officials have issued warrants for activists who fled into exile to avoid arrest on charges of "collusion with foreign forces" against the pro-Beijing government. The national security law, which was introduced amid a violent crackdown on dissent three years ago, claimed extra-territorial jurisdiction over anyone in the world who broke its articles. The law gave officials broad powers against pro-democracy activists, framing the mildest acts of dissent as subversion, secession and terrorism.

John Lee, Hong Kong's chief executive and a former policeman, said on Tuesday that he supported the bounties. "The only way to end their destiny of being an absconder, who will be pursued for life, is to surrender," he said, adding that activists would otherwise "spend their days in fear".

Asked about the criticism abroad, Lee replied that the city was not unique in having an internationally enforceable national security law. "I'm not afraid of any political pressure that is put on us, because we do what we believe is right," he said.

Law said the bounty was characteristic of China's way of doing politics, which he described as full of intimidation, white terror and symbolic gestures.

Alongside Law two others named in the arrest warrants — Christopher Mung and Finn Lau — are in Britain. The others — the former MPs Ted Hui and Dennis Kwok, and the activists Anna Kwok, Elmer Yuen, and Kevin Yam, a barrister — are in the US and Australia.

Beijing called for "the relevant British politicians to stop interfering in China's internal affairs and Hong Kong's matters, and stop using these anti-China Hong Kong disruptors to jeopardise China's sovereignty and security."

“The people of China oppose foreign interference. Their resolve to protect their own interests is firm as a rock, and will not waver!”

Steve Li, chief superintendent of Hong Kong’s national security police, said the eight had “seriously violated the national security offences, called for sanctions against local officials and schemed for foreign countries to undermine Hong Kong’s financial status”. He suggested the bounties could help officials to locate the activists and arrest them should they return. “Of course, you may say that now they are overseas, that will not be useful,” he said. “But you never know, maybe someday they come back to Hong Kong through other illegal means.”

Mung called the charges “groundless and ridiculous”, adding: “Nevertheless, I am not surprised at the arrest warrant as that becomes the usual way that the regime suppresses the dissidents.”

Lau said that “the risk of abduction” by agents of Beijing had now soared, along with “other non-legal ways to catch us”.

The Inter-Parliamentary Alliance on China, which includes MPs from all the western countries sheltering activists, called the announcement “a dangerous escalation in Beijing’s global war on dissent”.

https://www.thetimes.co.uk/article/hong-kong-offers-100-000-bounties-for-activists-in-exile-j2j2bhz93

Germany

Former Stasi Cryptographers Now Develop Technology for NATO

After the fall of the Berlin Wall, the West Germans were desperate to prevent the Stasi's top codebreakers from falling into the wrong hands and set up a company to hire the East German cryptographers. Now the former Stasi scientists develop technology used by Angela Merkel and NATO.
Von Marcel Rosenbach und Holger Stark
27.09.2010, 11.23 Uhr

https://www.spiegel.de/international/germany/recruited-by-west-germany-former-stasi-cryptographers-now-develop-technology-for-nato-a-719726.html?sara_ref=re-so-tw-sh

Every morning, while going to his office in Berlin's Adlershof district, Ralph W. passes a reminder of his own past, a small museum that occupies a room on the ground floor of the building. The museum could easily double as a command center run by the class enemy in an old James Bond film. A display of coding devices from various decades includes the T-310, a green metal machine roughly the size of a huge refrigerator, which East German officials used to encode their telex messages.

The device was the pride of the Stasi, the feared East German secret police, which was W.'s former employer. Today he works as a cryptologist with Rohde & Schwarz SIT GmbH (SIT), a subsidiary of Rohde & Schwarz, a Munich-based company specializing in testing equipment, broadcasting and secure communications. W. and his colleagues encode sensitive information to ensure that it can only be read or heard by authorized individuals. Their most important customers are NATO and the German government.

Rohde & Schwarz is something of an unofficial supplier of choice to the German government. Among other things, the company develops bugproof mobile phones for official use. Since 2004, its Berlin-based subsidiary SIT, which specializes in encryption solutions, has been classified as a "security partner" to the German Interior Ministry, which recently ordered a few thousand encoding devices for mobile phones, at about €1,250 ($1,675) apiece. Even German Chancellor Angela Merkel has used phones equipped with SIT's encryption technology. In other words, the Stasi's former cryptographers are now Merkel's cryptographers.

Secret Operation

The transfer of Ralph W. and other cryptologists from the East German Ministry for State Security, as the Stasi was officially known, to West Germany was handled both seamlessly and discreetly. West German officials were determined to make sure that no one would find out about the integration of East Germany's top cryptologists into the west. The operation was so secret, in fact, that it has remained unknown to this day.

Only a handful of officials were involved in the operation, which was planned at the West German Interior Ministry in Bonn. In January 1991, Rohde & Schwarz SIT GmbH was founded. The company was established primarily to provide employment for particularly talented Stasi cryptologists that the Bonn government wanted to keep in key positions.

Ralph W. is one of those specialists. W., who holds a doctorate in mathematics, signed a declaration of commitment to the Stasi on Sept. 1, 1982. By the end of his time with the Stasi, he was making 22,550 East German marks a year -- an excellent salary by East German standards. And when he was promoted to the rank of captain in June 1987, his superior characterized W. as one of the "most capable comrades in the collective." While with the Stasi, W. worked in Department XI, which also boasted the name "Central Cryptology Agency" (ZCO).

Looking for the Top Performers

The story begins during the heady days of the East German revolution in 1990. Officially, the East German government, under its last communist premier, Hans Modrow, had established a government committee to dissolve the Ministry for State Security which reported to the new East German interior minister, Peter-Michael Diestel. In reality, the West German government was already playing a key role in particularly sensitive matters. Then-West German Interior Minister Wolfgang Schäuble (who is the current German finance minister) had instructed two senior Interior Ministry officials, Hans Neusel and Eckart Werthebach, to take care of the most politically sensitive remnants of the 40-year intelligence war between the two Germanys.

The government of then-Chancellor Helmut Kohl was interested in more than just the politically explosive material contained in some of the Stasi's files. It also had its eye on the top performers in the former East German spy agency. The cryptologists were of particular interest to the Kohl government, which recognized that experts capable of developing good codes would also be adept at breaking them. The Stasi cryptologists were proven experts in both fields.

Documents from the Stasi records department indicate that the one of the Stasi cryptologists' achievements was to break Vericrypt and Cryptophon standards that had been used until the 1980s. This meant that they were capable of decoding encrypted radio transmissions by the two main West German intelligence agencies -- the Office for the Protection of the Constitution and the Federal Intelligence Service (BND) -- and the West German border police. The East Germans even managed to decode the BND's orders to members of the clandestine "Gladio" group, which was intended to continue anti-communist operations in the event of a Warsaw Pact invasion of Western Europe.

The West German government was determined to prevent these highly trained East German experts from entering the free market. The idea that specialists who had spent decades working with West German encryption methods and had successfully cracked West German intelligence's codes could defect to Middle Eastern

countries like Syria was a nightmare. Until then, the BND had had no difficulties listening in on intelligence communications in the Middle East, an ability the potential defection of Stasi experts would likely have compromised. Bonn also hoped to use their skills to break into regions where its own agents were making no headway. All of this meant that the Stasi experts had to be brought on board in the West -- even if it involved unconventional methods.

Cherrypicking the Stasi's Top Brains

The government officials in Bonn turned to an expert for advice: Otto Leiberich, a cryptologist and mathematician who had headed the Central Office for Cryptology, the equivalent of the Stasi's ZCO at the West German BND, until the mid-1970s. Leiberich's task, after he was brought in as a member of the secret operation, was to evaluate the professional abilities of the Stasi experts.

Leiberich still has vivid memories of his first official trip to the town of Hoppegarten, next to Berlin. One of the East German cryptologists at the meeting greeted the members of the West German delegation as "comrades," Leiberich recalls. He was impressed by the East Germans' expertise, says Leiberich. "They were excellent mathematicians who were not personally guilty of any misconduct."

Leiberich says he would have liked to hire them, particularly the Stasi's then "chief decoder," the ZCO department head, Horst M. A gaunt chain-smoker who wore horn-rimmed glasses, M. was born in 1937 and had earned a degree in mathematics at East Berlin's Humboldt University. But the West was also interested in younger people, in the expectation that they would be of greater value in the nascent computer age.

A Free-Market Solution

Leiberich could have used the extra manpower, especially after 1990, when the West German Central Office for Cryptology was spun off from the BND and a law was enacted to form the new Federal Office for Information Security (BSI). Leiberich, who was named the BSI's first president, headed a team consisting mainly of former intelligence colleagues.

But Neusel, the senior official from the West German Interior Ministry, dismissed the idea as too precarious. Firstly, the government had decided not to integrate former Stasi officials, because of their past activities, into the bureaucracy of a unified Germany. Additionally, as one person involved in the operation recalls, concerns about potential traitors gave rise to a "sacred principle," namely that "no one from the Stasi was to be transferred to the West German intelligence agencies."

It also didn't help that the Stasi's Central Cryptology Agency had been hastily spun off into the East German Interior Ministry, because the West German cabinet had decided not to allow any members of the East German Interior Ministry to work in federal agencies.

But the free market was not restricted by any government resolutions. A creative solution was needed, and no one was better suited for coming up with the necessary fix than Hermann Schwarz, one of the two founders of Rohde & Schwarz.

A Soft Spot for the East

Founded in 1933, the company, a provider of radio, measuring and security technology, was dependent on government contracts and was a reliable supplier to the West German intelligence agencies. Besides, Schwarz had a soft spot for the East. He had earned his doctorate in 1931 in the eastern city of Jena, where he had also met his eventual business partner, Lothar Rohde.

But to Schwarz, who was already elderly at the time and has since died, allowing his company's name to be used as a cover for a Stasi connection seemed too risky. According to someone familiar with the operation, the West Germans must have applied a bit of soft pressure on Schwarz, who was "extremely worried that it would be made public one day."

But the officials eventually did manage to convince Schwarz to play along. His change of heart was probably due in part to the prospect of additional research and federal contracts, which were in fact showered on his company.

In the end, BSI head Leiberich and a senior Interior Ministry official decided which former Stasi experts were to be transferred to the front company. Former Stasi department head Horst M. was seamlessly integrated into the market economy at SIT, where his wife also began working as a secretary. Ralph W., who was in his 30s at the time and had been with the Stasi for eight years, also fitted the desired profile, as did his colleagues Wolfgang K. and Volker S. In total, about a dozen former Stasi employees, most of them mathematicians, were given the chance to embark on a second cryptology career in post-reunification Germany.

The federal government provided whatever assistance it could, but only with the utmost discretion. SIT was initially headquartered in the town of Grünheide in the eastern state of Brandenburg, in a former Stasi children's home.

'Cosmic Top Secret'

An episode from the 1990s shows how conspiratorially the operation was handled, even within the West German intelligence community. When the BND needed a "D-channel filter" -- a precursor to today's firewalls -- to protect communications networks, it contacted the Federal Office for Information Security (BSI). But BND officials pricked up their ears when they discovered that the work was being done by SIT. A private company protecting the computers of Germany's foreign intelligence agency? Nevertheless, the BND officials were told that it was "totally OK," and that the BSI would take responsibility for SIT.

For the parent company Rohde & Schwarz, the former problem child in Brandenburg soon became a success story. SIT took over the cryptology division of German engineering giant Siemens, and the company now employs about 150 mathematicians, engineers and computer scientists at its three locations. SIT, which proudly refers to itself as the "preferred supplier of high-security cryptography" for NATO, even includes in its product line devices classified as "Cosmic Top Secret," NATO's highest secrecy level. SIT's Elcrodat solution, standard equipment on NATO submarines, frigates and military helicopters, has provided the company with orders worth millions for years.

When approached by SPIEGEL, Rohde & Schwarz declined to comment on this previously unknown part of its company history.

To show its gratitude for the company's efforts, the federal government did more than just provide it with lucrative contracts. Eckart Werthebach, the Interior Ministry official, awarded the former managing director of SIT, a senior Rohde & Schwarz executive originally from West Germany, the Order of Merit of the Federal Republic of Germany for his services. The executive received the decoration in a formal ceremony at Villa Hammerschmidt in Bonn, the former official residence of the German president.

https://www.spiegel.de/international/germany/recruited-by-west-germany-former-stasi-cryptographers-now-develop-technology-for-nato-a-719726.html?sara_ref=re-so-tw-sh

Many thanks to the above contributing member

India

Indian Spy Agency RAW Is The New Mossad; Ex-Officials Talk About Crack Team's Ops In Terrorizing Terrorists

By EurAsian Times Desk -July 11, 2023
By: Neeraj Rajput

https://www.eurasiantimes.com/indian-spy-agency-raw-is-the-new-mossad-ex-officials-talk/

"India doesn't send commandos to foreign countries to eliminate enemies; there are already people who are always ready to work for us for whatever the reasons or lure," reveals an ex-spy who has long worked for India's 'dreaded' intelligence agency RAW (Research and Analysis Wing).

There are reasons for RAW to be termed 'dreaded' after a series of suspicious deaths and killings of terrorists, separatists, and enemies who had long been involved in anti-India activities or responsible for unrest in India in some way or other. "See the list and count the numbers of such killings (or attempts), right from Pakistan to the UK, Canada, and even the US," the ex-spy told EurAsian Times on the condition of anonymity.

Hardeep Singh Nijjar, Canada-based chief of the banned Khalistan Tiger Force (KTF), was shot dead outside a gurdwara in British Columbia (Canada) on June 19. Canadian law enforcement authorities are yet to arrest the perpetrators.

Canada has been in the news since recently for organizing Khalistan-related anti-India rallies. KTF has long been a votary of Khalistan, a separate nation on the basis of religion (Sikhism) to be carved out from India's Punjab state (province). Punjab had suffered home-grown insurgency and Pakistan-sponsored terrorism for almost two decades, from the early 80s until the 90s.

Another Khalistan supporter and Chief of the banned Khalistan Liberation Force, Avtar Singh Khanda, died due to suspected poisoning in a hospital in UK's Birmingham on June 16.

Known in the files of intelligence agencies as a 'bomb expert,' he was responsible for attacking and removing the tricolor from the Indian High Commission complex in London.

But what caused a flurry in the world of espionage and assassination when a Khalistani terrorist and chief of the banned Khalistan Commando Force, Paramjit Singh Panjwar, was shot dead in Pakistan on May 6 this year.

Does it mean RAW also has deep assets in enemy countries that an inimical element is being neutralized in sensational daylight murder?

"These are not normal deaths or law and order issues," says Ex RAW officer R K Yadav speaking to EurAsian Times. "But don't ask much; such things are not talked about in media," Yadav, who is vocal on issues related to the Indian intelligence apparatus and has even authored a book 'Mission RAW,' was quick to add.

"I can only say that NSA Ajit Doval is not a person who can sit quietly watching the Indian flag being taken down from the Indian High Commission premises in London," Yadav added.

Earlier this year, on March 19, some pro-Khalistani people had attempted to take down the Indian tricolor from the High Commission premises in London and had tried to put the yellow flag of the Khalistani movement there. But Indian security personnel posted at the High Commission thwarted the Khalistani supporter.

India's premier investigating agency, NIA (National Investigation Agency), has registered a criminal complaint under relevant sections of the Indian Penal Code, the Unlawful Activities (Prevention) Act, and the Prevention of Damage to Public Property Act in this incident. NIA also released CCTV footage of the incident to identify people involved in the attack on the High Commission.

Khanda was among three accused who were named as the mastermind by NIA in the FIR (First Information Report) regarding the attack on the High Commission and had sought information about the accused from the public.

Exactly two days after naming him, Khanda was found dead due to unknown causes in a UK hospital. Some media reports suggested Khanda died due to poisoning, while some said he had blood cancer.

There has been no official word on these killings and suspicious deaths–for that matter, in the history of spying and espionage, such confirmation never comes from 'official channels.'

But what has caught everybody's fancy is the new age avatar of Indian spy agencies who, like Israel's Mossad or CIA (US intelligence agency), have been eliminating enemies like Hollywood movies or some James Bond flicks.

Another such news (though later turned out to be fake) that made Indians jubilant was the alleged elimination of another bete-noire, US-based Gurpatwant Singh Pannu, in a 'road accident' in California.

Pannu has been running a banned outfit, 'Sikhs For Justice' overseas, in support of Khalistan for the past couple of years. Pictures of a road accident on a California highway with a truck rammed into a car had also gone viral, claiming Pannu had been hit. But Pannu himself emerged on social media with a video message countering the news as incorrect (or he had escaped in the accident).

India had not even retaliated against one of the worst terror attacks on the country, the 26/11, on the commercial capital Mumbai in 2008, even though it was clear that terrorist organizations and functionaries were operating from Pakistani soil.

Not much was done or heard about any counterattack or covert operation by the 'Crack Team' of Indian intelligence agencies. So what exactly has changed?

"What do you think…Indian agencies didn't have such capability (of cover operations) earlier. Of Course, it was there. What has changed now is the emergence of India as a powerful nation and go-ahead from the Government in power", explains Former RAW officer N K Sood while speaking to EurAsian Times.

"There was a time when even the phone call from the US Ambassador to our (Indian) Prime Minister had reversed major decisions which were much needed or desired as a nation-state," says Sood. "But see now, there has been jostling among US Congressmen to take autographs of our PM (Narendra Modi)," quips Sood on the recent state visit of PM Modi to America and his address at the US Congress.

But Khalistani separatists and terrorists are not the only ones on the 'hit list.' Those responsible for terrorism and unrest in India's Jammu and Kashmir and even involved in plane hijackings as old as '85, let alone IC-814, have been neutralized in the past year or so.

Last year in March (2022), Zahoor Mistry, who was involved in the infamous IC-814 hijacking of an Indian Airlines plane from Kathmandu airport (1999), was shot dead in Karachi by unknown gunmen.

NSA Doval was then the Joint Director of the Intelligence Bureau (IB), the internal intelligence agency of India.

The hijacking had not only exposed the fault lines in the Indian security system but also the weakness of the then Government by releasing three dreaded terrorists from the Indian jails in lieu of releasing the plane and the passengers.

Another wanted person Ripudaman Singh Malik, who was involved in the 1985 Air India bombing, was shot dead in Surrey (UK) in July last year.

Harvinder Singh Sandhu, accused of the 2021 RPG attack on the Punjab police HQ in Mohali, died of a drug overdose at a hospital in Pakistan. Bashir Ahmad Peer, Hizbul Mujahideen (HM) Commander, was shot dead in the Rawalpindi area of Pakistan on February 20 this year.

Bashir Ahmed was a native of the Kupwara area of Indian J&K and was responsible for operations of banned HM in Pakistan, including arranging the training of newly recruited terrorists as well as cross-over on LoC (Line of Control) to the Indian side.

Syed Khalid Raza, Commander of another banned terrorist organization Al Badr was shot dead outside his house in Karachi on February 27 this year. The list is long and even includes 'hits' in neighboring Nepal too.

"India can do such covert operations because now we wield more power in the world, more than even the UK and Canada," says Sood, who had long served 'Pakistan desk' during his career in RAW.

"India is now dictating terms and doesn't need to fire a bullet to eliminate its enemies ruthlessly," Sood adds.

https://www.eurasiantimes.com/indian-spy-agency-raw-is-the-new-mossad-ex-officials-talk/

Moldova

Moldova expels 45 Russian diplomats and embassy staff
Tensions escalate after accusations of spying and President Sandu's claim that Moscow is plotting to overthrow her

Marc Bennetts
Thursday July 27 2023, 12.01am, The Times

https://www.thetimes.co.uk/article/571a084c-2bce-11ee-aede-28bc53acbdb8?shareToken=9bbb92a1b396dc2a1898914a014bec03

Moldova has expelled 45 Russian diplomats and embassy staff over allegations that they were trying to destabilise the former Soviet state as it seeks closer ties with the West.

Tensions have been growing between Moldova and Russia since February, when Maia Sandu, the Moldovan president, accused Moscow of plotting to overthrow her. Sandu has condemned the Kremlin's invasion of neighbouring Ukraine and wants her country to be admitted into the European Union.

Moldova's foreign ministry said that the Russians would have to leave the country by August 15 and that they were being kicked out "over numerous unfriendly actions".

Nicu Popescu, the Moldovan foreign minister, said that their expulsion would mean "there will be fewer individuals who are trying to destabilise the situation in our country". The number of Russian embassy personnel will be reduced to 25, including service staff, after the move.

The expulsions came after reports that 28 antennas had been installed at Russia's embassy in Chisinau, the Moldovan capital, that could be used for spying. Members of President Putin's intelligence services have also been seen on the embassy rooftop, according to a joint investigation by The Insider, a Russian opposition website, and Jurnal TV, the Moldovan television channel.

The Kremlin accused Moldova of "deliberately driving our relations into a very miserable state". Maria Zakharova, the Russian foreign ministry spokeswoman, described the spying allegations as a "fantasy which has nothing to do with reality". She said that Russia would retaliate.

Moldova, a country of 2.6 million people, is located between Ukraine and Romania. There are about 1,500 Russian "peacekeepers" based in Transnistria, a Moscow-backed breakaway region of Moldova on the border with Ukraine.

Oleg Horgan, an opposition politician in Transnistria, was found dead at his home last week, apparently after being struck by a heavy object. Horgan, a communist, was in favour of reconciliation with Moldova's government. Officials in Chisinau alleged that his death was a political assassination.

Vadim Krasnoselsky, the pro-Kremlin leader of Transnistria, vowed to take "personal control" of the investigation.

https://www.thetimes.co.uk/article/571a084c-2bce-11ee-aede-28bc53acbdb8?shareToken=9bbb92a1b396dc2a1898914a014bec03

Northern Ireland

Catastrophic PSNI blunder identifies every serving police officer and civilian staff, prompting security nightmare
Monumental data breach offers a gold mine to terrorists, with some of the most sensitive details of PSNI officers published online – by the PSNI

https://m.belfasttelegraph.co.uk/news/northern-ireland/catastrophic-psni-blunder-identifies-every-serving-police-officer-and-civilian-staff-prompting-security-nightmare/a1823676448.html?=123

The PSNI is tonight desperately attempting to contact its officers after a massive police data breach meant the force mistakenly published the names, ranks, locations and other personal data of every serving police officer and many civilian employees.
The data from the PSNI's ultra-confidential human resources system is a gold mine for terrorists, offering details of officers working in intelligence and other highly sensitive areas.

The material was wrongly published on the internet today by the PSNI in what appears to be human error involving spreadsheet fields.

The spreadsheet in question contained standard statistical information on the strength of the PSNI, with details of how many officers it has at each rank.

However, a second tab in the spreadsheet contained tens of thousands of entries in relation to more than 10,000 individuals.

The spreadsheet, which has been seen by the Belfast Telegraph after we were alerted to it by a relative of a serving officer, includes each officer's service number, their status, their gender, their contract type, their last name and initials, details of how much of the week they work, and their rank.

When contacted by this newspaper, the PSNI was already aware of the problem.

The database includes the location where each individual is based (but not their home address), their duty type (from chief constable to detective, intelligence officer and so on), details of their unit (such as the anti-corruption unit or the vetting department), their branch and department, and other technical information about their employment.

There are 10,799 entries in the database. There are 9,276 police officers and police staff. It is not yet clear if the additional entries relate to employees with different contracts or are duplicate entries.

The data has been removed from the internet, but it is not yet clear how long it was available online.

One former senior PSNI officer told the Belfast Telegraph that it was "astonishing" and a "huge operational security breach" which will call into question the Chief Constable's position.

"This is the biggest data breach I can recall in the PSNI," he said.

"Many officers from Catholic communities don't tell their families, friends and ex-school colleagues - I worked with many who never did even in recent times. That is a huge issue when that community is still underrepresented and the PSNI is trying to encourage applicants."

He said that the system on which such sensitive data is stored "is highly regulated internally because of that fact, so even if this information is compromised only internally it's still big".

He added: "This is freely circulating on WhatApp groups, including retired officers. It is in essence 'out there' and can never be retrieved; the operating assumption must be it will be outside of the police family."

The former officer said that "a data breach so catastrophic can't be blamed on a single member of staff, it's a systemic failure, it shouldn't be possible this can happen by a 'slip of a pen' so to speak".

The PSNI has been contacted for a response.

UUP leader Doug Beattie said such a serious breach of data and staff security was "unbelievable".

"It cannot be any more serious than this and hard to fathom how such a breach could happen accidentally," he tweeted.

https://m.belfasttelegraph.co.uk/news/northern-ireland/catastrophic-psni-blunder-identifies-every-serving-police-officer-and-civilian-staff-prompting-security-nightmare/a1823676448.html?=123

Russia

Cracking Down on Dissent, Russia Seeds a Surveillance Supply Chain
Russia is incubating a cottage industry of new digital surveillance tools to suppress domestic opposition to the war in Ukraine. The tech may also be sold overseas.

By Aaron Krolik, Paul Mozur and Adam Satariano
Aaron Krolik, Paul Mozur and Adam Satariano have investigated Russia's use of surveillance and censorship technology for the past two years.

July 3, 2023

https://www.nytimes.com/2023/07/03/technology/russia-ukraine-surveillance-tech.html?smid=nytcore-ios-share&referringSource=articleShare

As the war in Ukraine unfolded last year, Russia's best digital spies turned to new tools to fight an enemy on another front: those inside its own borders who opposed the war.

To aid an internal crackdown, Russian authorities had amassed an arsenal of technologies to track the online lives of citizens. After it invaded Ukraine, its demand grew for more surveillance tools. That helped stoke a cottage industry of tech contractors, which built products that have become a powerful — and novel — means of digital surveillance.

The technologies have given the police and Russia's Federal Security Service, better known as the F.S.B., access to a buffet of snooping capabilities focused on the day-to-day use of phones and websites. The tools offer ways to track certain kinds of activity on encrypted apps like WhatsApp and Signal, monitor the locations of phones, identify anonymous social media users and break into people's accounts, according to documents from Russian surveillance providers obtained by The New York Times, as well as security experts, digital activists and a person involved with the country's digital surveillance operations.

President Vladimir V. Putin is leaning more on technology to wield political power as Russia faces military setbacks in Ukraine, bruising economic sanctions and leadership challenges after an uprising led by Yevgeny V. Prigozhin, the commander of the Wagner paramilitary group. In doing so, Russia — which once lagged authoritarian regimes like China and Iran in using modern technology to exert control — is quickly catching up.

A large tan building. In the foreground are red decorations marking the anniversary of Russia's victory over Germany in World War II.
The Federal Security Service building on Lubyanka Square in Moscow in May. The F.S.B. and other Russian authorities want stronger technologies to track the online lives of citizens.Credit...Maxim Shemetov/Reuters

"It's made people very paranoid, because if you communicate with anyone in Russia, you can't be sure whether it's secure or not. They are monitoring traffic very actively," said Alena Popova, a Russian opposition political figure and digital rights activist. "It used to be only for activists. Now they have expanded it to anyone who disagrees with the war."

The effort has fed the coffers of a constellation of relatively unknown Russian technology firms. Many are owned by Citadel Group, a business once partially controlled by Alisher Usmanov, who was a target of European Union sanctions as one of Mr. Putin's "favorite oligarchs." Some of the companies are trying to expand overseas, raising the risk that the technologies do not remain inside Russia.

The firms — with names like MFI Soft, Vas Experts and Protei — generally got their start building pieces of Russia's invasive telecom wiretapping system before producing more advanced tools for the country's intelligence services.

Simple-to-use software that plugs directly into the telecommunications infrastructure now provides a Swiss-army knife of spying possibilities, according to the documents, which include engineering schematics, emails and screen shots. The Times obtained hundreds of files from a person with access to the internal records, about 40 of which detailed the surveillance tools.

One program outlined in the materials can identify when people make voice calls or send files on encrypted chat apps such as Telegram, Signal and WhatsApp. The software cannot intercept specific messages, but can determine whether someone is using multiple phones, map their relationship network by tracking communications with others, and triangulate what phones have been in certain locations on a given day. Another product can collect passwords entered on unencrypted websites.

They add up to the beginnings of an off-the-shelf tool kit for autocrats who wish to gain control of what is said and done online. One document outlining the capabilities of various tech providers referred to a "wiretap market," a supply chain of equipment and software that pushes the limits of digital mass surveillance.

The authorities are "essentially incubating a new cohort of Russian companies that have sprung up as a result of the state's repressive interests," said Adrian Shahbaz, a vice president of research and analysis at the pro-democracy advocacy group Freedom House, who studies online oppression. "The spillover effects will be felt first in the surrounding region, then potentially the world."

Beyond the 'Wiretap Market'
Over the past two decades, Russian leaders struggled to control the internet. To remedy that, they ordered up systems to eavesdrop on phone calls and unencrypted text messages. Then they demanded that providers of internet services store records of all internet traffic.

The expanding program — formally known as the System for Operative Investigative Activities, or SORM — was an imperfect means of surveillance. Russia's telecom providers often incompletely installed and updated the technologies, meaning the system did not always work properly. The volume of data pouring in could be overwhelming and unusable.

At first, the technology was used against political rivals like supporters of Aleksei A. Navalny, the jailed opposition leader. Demand for the tools increased after the invasion of Ukraine, digital rights experts said. Russian authorities turned to local tech companies that built the old surveillance systems and asked for more.

The push benefited companies like Citadel, which had bought many of Russia's biggest makers of digital wiretapping equipment and controls about 60 to 80 percent of the market for telecommunications monitoring technology, according to the U.S. State Department. The United States announced sanctions against Citadel and its current owner, Anton Cherepennikov, in February.

"Sectors connected to the military and communications are getting a lot of funding right now as they adapt to new demands," said Ksenia Ermoshina, a senior researcher who studies Russian surveillance companies with Citizen Lab, a research institute at the University of Toronto.

The new technologies give Russia's security services a granular view of the internet. A tracking system from one Citadel subsidiary, MFI Soft, helps display information about telecom subscribers, along with statistical breakdowns of their internet traffic, on a specialized control panel for use by regional F.S.B. officers, according to one chart.

Another MFI Soft tool, NetBeholder, can map the locations of two phones over the course of the day to discern whether they simultaneously ran into each other, indicating a potential meeting between people.

A different feature, which uses location tracking to check whether several phones are frequently in the same area, deduces whether someone might be using two or more phones. With full access to telecom network subscriber information, NetBeholder's system can also pinpoint the region in Russia each user is from or what country a foreigner comes from.

Protei, another company, offers products that provide voice-to-text transcription for intercepted phone calls and tools for identifying "suspicious behavior," according to one document.

Russia's enormous data collection and the new tools make for a "killer combo," said Ms. Ermoshina, who added that such capabilities are increasingly widespread across the country.

Citadel and Protei did not respond to requests for comment. A spokesman for Mr. Usmanov said he "has not participated in any management decisions for several years" involving the parent company, called USM, that owned Citadel until 2022. The spokesman said Mr. Usmanov owns 49 percent of USM, which sold Citadel because surveillance technology was never within the firm's "sphere of interest."

VAS Experts said the need for its tools had “increased due to the complex geopolitical situation” and volume of threats inside Russia. It said it “develops telecom products which include tools for lawful interception and which are used by F.S.B. officers who fight against terrorism,” adding that if the technology “will save at least one life and people well-being then we work for a reason.”

No Way to Mask
As the authorities have clamped down, some citizens have turned to encrypted messaging apps to communicate. Yet security services have also found a way to track those conversations, according to files reviewed by The Times.

One feature of NetBeholder harnesses a technique known as deep-packet inspection, which is used by telecom service providers to analyze where their traffic is going. Akin to mapping the currents of water in a stream, the software cannot intercept the contents of messages but can identify what data is flowing where.

That means it can pinpoint when someone sends a file or connects on a voice call on encrypted apps like WhatsApp, Signal or Telegram. This gives the F.S.B. access to important metadata, which is the general information about a communication such as who is talking to whom, when and where, as well as if a file is attached to a message.

To obtain such information in the past, governments were forced to request it from the app makers like Meta, which owns WhatsApp. Those companies then decided whether to provide it.

The new tools have alarmed security experts and the makers of the encrypted services. While many knew such products were theoretically possible, it was not known that they were now being made by Russian contractors, security experts said.

Some of the encrypted app tools and other surveillance technologies have begun spreading beyond Russia. Marketing documents show efforts to sell the products in Eastern Europe and Central Asia, as well as Africa, the Middle East and South America. In January, Citizen Lab reported that Protei equipment was used by an Iranian telecom company for logging internet usage and blocking websites. Ms. Ermoshina said the systems have also been seen in Russian-occupied areas of Ukraine.

For the makers of Signal, Telegram and WhatsApp, there are few defenses against such tracking. That’s because the authorities are capturing data from internet service providers with a bird’s-eye view of the network. Encryption can mask the specific messages being shared, but cannot block the record of the exchange.

“Signal wasn’t designed to hide the fact that you’re using Signal from your own internet service provider,” Meredith Whittaker, the president of the Signal Foundation, said in a statement. She called for people worried about such tracking to use a feature that sends traffic through a different server to obfuscate its origin and destination.

In a statement, Telegram, which does not use end-to-end encryption on all messages by default, also said nothing could be done to mask traffic going to and from the chat apps, but said people could use features it had created to make Telegram traffic harder to identify and follow. WhatsApp said in a statement that the surveillance tools were a “pressing threat to people’s privacy globally” and that it would continue protecting private conversations.

The new tools will likely shift the best practices of those who wish to disguise their online behavior. In Russia, the existence of a digital exchange between a suspicious person and someone else can trigger a deeper investigation or even arrest, people familiar with the process said.

Mr. Shahbaz, the Freedom House researcher, said he expected the Russian firms to eventually become rivals to the usual purveyors of surveillance tools.

“China is the pinnacle of digital authoritarianism,” he said. “But there has been a concerted effort in Russia to overhaul the country’s internet regulations to more closely resemble China. Russia will emerge as a competitor to Chinese companies.”

https://www.nytimes.com/2023/07/03/technology/russia-ukraine-surveillance-tech.html?smid=nytcore-ios-share&referringSource=articleShare

Russia’s vast telecom surveillance system crippled by withdrawal of Western tech, report says

https://therecord.media/russia-telecommunications-sorm-surveillance-western-technology

The hardware and software required for the Russian telecommunications sector to maintain the country’s electronic surveillance system, known as the System for Operative Investigative Activities (SORM), are increasingly unavailable, significantly undermining the Russian government’s Orwellian domestic spying system, according to a new report.

Western sanctions and export controls put in place after Russia’s invasion of Ukraine have succeeded at blocking the Russian government from purchasing the technology it needs to prop up its sweeping surveillance of internet traffic and phone calls — a devastating blow since Russia- and China-produced tech isn't sophisticated enough to maintain SORM, the paper from a researcher at Carnegie Endowment for International Peace (CEIP) argues.

SORM dates to 1995 and is an intercept system under which the Russian Federal Security Services (FSB) can obtain telecommunications’ data, including call logs, the content of phone calls, web traffic and emails.

In March 2022 the Finnish company Nokia stopped selling its equipment to Russia, but failed to disclose it had previously outfitted the sprawling SORM system, according to the New York Times.

SORM has been used to monitor supporters of Russian opposition leaders like Aleksei A. Navalny and to intercept phone calls of an enemy of the state who was later killed, the Times reported, noting that the system has also likely been used to repress Russian activists who oppose the Ukraine war.

Russia has intensified its grip on domestic internet service providers (ISPs) in the wake of the invasion, and by summer 2022 the Russian Digital Ministry moved beyond fines and began stripping ISPs of their operating licenses if they were found to be out of compliance, says the paper, written by CEIP senior fellow Gavin Wilde.

The SORM system also has had a profound impact on Russians’ ability to get unbiased information about the Ukraine war.

Russian authorities “began piggybacking on SORM infrastructure to block traffic from, and access to, thousands of Western websites and services,” the paper says. “In practice, the standard for digital communications in Russia — for which SORM is a centerpiece — is now ‘that which cannot be surveilled or censored will not be transmitted.’”

However, the longer the sanctions endure the less effective SORM becomes, Wilde argues.

Tough to upgrade
Tech companies likely make up about 20% of the Western entities that withdrew from Russia in the wake of the war, the paper says, asserting that, among other things, the withdrawal killed the Russian Digital Ministry's plans for a 5G rollout due to the lack of Western equipment.

"SORM can really only be as good and powerful as the [Russian] telecommunications providers can be and right now the telecommunications providers are in pretty dire straits," Wilde said in an interview with Recorded Future News. "That is because of the war and the inability to get Western technology into the country."

Wilde said that while equipment from Nokia and Ericsson is already in place, it can't be serviced and updated, making it increasingly ineffective. While Nokia and Ericsson have said they will no longer install their equipment in Russia, Wilde said it is possible they could license their products to Russia to be manufactured in house.

"I'm giving them the benefit of the doubt," Wilde said of that possibility. "Now that particularly Finland is in NATO and Sweden is likely to join, I wonder how much these companies are willing to say, 'Look, we will have absolutely nothing to do in any way, shape or form with the Russian telecommunications sector.'"

Nokia and Ericsson together had serviced nearly half of the total cellular base stations in Russia, Wilde said.

"If they turn off that spigot so now you can't get serviced and you can't update it, if you're the Russian telecommunications sector you're on a shot clock as far as when it breaks and when it gets outdated, much less updating to 5G," Wilde said. "SORM is now beset by a potentially crippling web of dependencies."

https://therecord.media/russia-telecommunications-sorm-surveillance-western-technology

United States of America

2 US Navy sailors arrested for allegedly spying for China
Both are accused of passing along national defense info in exchange for cash.

ByLuis Martinez and Alex Stone
August 3, 2023, 10:20 PM

https://abcnews.go.com/US/2-us-navy-sailors-arrested-allegedly-spying-china/story?id=101990144

Two U.S. Navy sailors have been arrested on charges related to allegedly spying for China, federal prosecutors announced on Thursday.

Both are accused of having passed along national defense information to Chinese intelligence officials in return for cash payments, though their cases are separate.

Jinchao "Patrick" Wei, a 22-year-old petty officer 2nd class, was arrested Wednesday and charged with espionage -- more specifically, conspiracy to and committing the communication of defense information to aid a foreign government.

According to officials, citing the indictment against him, Wei served as a machinist's mate aboard the amphibious ship USS Essex, which is currently receiving maintenance at Naval Base San Diego.

Petty Officer Wenheng Zhao, of Monterey Park, California, was also arrested Wednesday, by FBI and NCIS agents, and is charged with conspiracy and receipt of a bribe by a public official, officials said, according to Zhao's indictment.

Zhao, 26, worked at the Naval Base Ventura County in Port Hueneme and had an active U.S. security clearance who had access to classified information, officials said.

His indictment states he had access to material classified as secret, as did Wei, who was born in China and became a U.S. citizen in 2022 as he was allegedly also sending information to his handler.

"Through the alleged crimes committed by these defendants, sensitive military information ended up in the hands of the People's Republic of China," Matthew Olsen, the Justice Department's assistant attorney general for national security, said at a press conference in San Diego.

"The charges demonstrate [China's] determination to obtain information that is critical to our national defense by any means so it can be used to their advantage," Olsen continued. "The alleged conduct also represents a violation of the solemn obligation of members of our military to defend our country to safeguard our secrets and to protect their fellow service members."

It was not immediately clear if either Wei or Zhao had retained attorneys who could comment on their behalf. They have not yet entered pleas.

Both Wei and Zhao had their initial court appearances later on Thursday: Wei was in San Diego and Zhao was in Los Angeles. They are set to return before the judges in their cases for detention hearings next week.

China has not commented.

Wei and Zhao are alleged in their indictments to have each worked with Chinese intelligence officers to whom they passed along sensitive information related to the technologies they worked with and about upcoming Navy operations, including international military exercises.

Officials said Wei allegedly began communicating with an intelligence officer from China's government in February 2022 who tasked him with passing photos, videos and documents concerning U.S. Navy ships and their systems.

As part of his job, Wei had to have access to parts of his ship and "access to sensitive national defense information ... including information about U.S. Navy ships' weapons, propulsion, and desalination systems," his indictment states.

Wei and his handler agreed to hide their communications by deleting records of their conversations and using encrypted methods of communications, officials claim in the indictment.

Around February 2022, the same month he is accused of beginning his illicit activity, Wei also told another sailor "that he had been asked to spy for the [Chinese]," according to his indictment.

Wei is alleged to have passed along imagery of the USS Essex, provided the locations of various Navy ships and provided dozens of technical and manual for systems aboard his ship and other Navy ships.

PHOTO: The Wasp-class amphibious assault ship USS Essex (LHD 2) transits the Arabian Gulf on Oct. 9, 2015.
The Wasp-class amphibious assault ship USS Essex (LHD 2) transits the Arabian Gulf on Oct. 9, 2015.
U.S. Navy Photo/Mass Communication Specialist 2nd Class Bradley J. Gee
In June 2022, Wei was paid $5,000 by the Chinese intelligence official after having passed along the initial batch of those manuals, officials alleged.

Throughout their interactions, the intelligence official allegedly instructed Wei to gather U.S. military information that was not public and warned him not to discuss their relationship and to destroy evidence of their relationship and activities.

Randy Grossman, the U.S. attorney for the Southern District of California, said at Thursday's press conference that to his knowledge the espionage charge Wei is facing has never been brought in the district and has only been charged five times in the last six years across the U.S.

"The fact that we've charged it in this case in San Diego is a reflection of the seriousness of Wei's alleged conduct," Grossman said.

If convicted, Wei could face 20 years to life in prison.

Zhao is alleged to have begun working with a Chinese intelligence official in August 2021 and continuing to do so through at least May of this year, according to his indictment. He worked as a construction electrician.

He passed along photos and videos, blueprints for a radar system in Okinawa and operational plans for a "large-scale" U.S. military exercise in the Pacific Ocean, officials claim in the indictment.

In exchange for this information, the indictment against Zhao alleges that he received around $14,866 in payments from the Chinese intelligence officer.

Martin Estrada, the U.S. attorney for the Central District of California, said Thursday that Zhao "betrayed his sacred oath to defend our country" and "sold out his colleagues at the U.S. Navy."

"The case against Mr. Zhao is part of a larger national strategy to combat criminal efforts from nation state actors to steal our nation sensitive military information," Estrada said.

If convicted, Zhao could fact a maximum sentence of 20 years in federal prison.

A Navy spokesperson said in a statement, of Wei and Zhao, that "we take allegations of misconduct seriously, and the Navy is cooperating with the Department of Justice." The spokesperson referred other questions to prosecutors.

The sailors' arrests "sends another clear message of the persistent and enduring threat of Chinese intelligence operations against the United States," according to an outside national security expert.

"Chinese intelligence officers or their proxies carefully spotted, assessed and recruited these two individuals most likely because of their Chinese-American heritage, interest in or current status with the U.S. Navy and access to sensitive information about U.S. naval operations or associated technology," Javed Ali, former senior counterterrorism director on the National Security Council, told ABC News.

Ali, who is now a professor at the University of Michigan, said the range of incidents over the past year ranges from "sophisticated BER-enabled digital reconnaissance against U.S. military bases or critical infrastructure to these more traditional forms of human operations that look to target Americans with access to information that China deems vital to its national security interests."

ABC News' Luke Barr, Adam Carlson, Alexandra Hutzler, Amanda Morris and Maria Villalobos contributed to this report.

https://abcnews.go.com/US/2-us-navy-sailors-arrested-allegedly-spying-china/story?id=101990144

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

All frequencies listed in kHz. Freqs are generally +- 1k
This is a representative sample of the logs received, giving an indication of station behaviour and the range of times/freqs heard. These need to be read in conjunction with any other articles/charts/comments appended to this issue.

UNID CW

4915	2000z	08 - 14 Aug	Continuous 5-Letter groups – JUOCA IGBIP TOVAN ZJUMN ASTBI …. etc.	BR	TUE-MON

First logged on 08 August. Mainly fair or weak signals in UK and much of Europe. Running 24 hours. Slower than M51 transmissions & using no number or punctuation groups. Also, no Cyrillic characters used. Auto-sent. Military DF exercise or Morse training?

Transmitted continuously from discovery on Tue 08 August until Mon, 14 August. Heard late on 14 August but missing from the morning of 15 August.

From direction finding attempts by Ary, (AB), this would seem to originate from Eastern Europe in the general area of Slovakia / Czech Republic.

Morse - Number Stations

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

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

July 2023:

4903	2000z	04 Jul	'025' 864 30 = = 09121 98232 … 19090 10909 = =	Strong, fast. Numerous errors. Six dots spaced ending	BR	TUE
	2000z	06 Jul	'025' 736 30 = = ... … 71635 71836 = =	Strong, fast. (I missed the first two grps.) Good CW	BR	THU
	2000z	11 Jul	'025' 709 30 = = 89023 45690 … 15245 07315 = =	Good, fast. Excellent Morse. Perfect with no errors	BR	TUE
	2000z	13 Jul	'025' 649 30 = = 13579 95791 … 74046 14900 = =	Good, med-fast Grp12 sent as 8648 (x2) 4-fig grp	BR	THU
	2000z	18 Jul	'025' 418 30 = = 69789 13243 … 37786 09956 = =	Fair/Good. Med-fast. Excellent Morse. No errors	BR	TUE
	2000z	20 Jul	'025' 908 30 = = 09121 08121 … 93515 98717 = =	Fair, fast. Excellent Morse. Error grp16 90515 90151	BR	THU
	2000z	25 Jul	'025' 352 30 = = 46576 13223 … 1099 109 91 = =	Fair. Fast. Grps01-11 good. Then muddled grps & figs	BR	TUE
5280	1800z	04 Jul	NRH		BR	TUE
	1800z	11 Jul	Extremely weak – No useful copy		BR	TUE
	1800z	13 Jul	'025' 124 30 = = 64617 61905 … 92032 82751	Weak, med-fast. End sequence sent as 124 30 = = 000	BR	THU
	1800z	18 Jul	'025' 365 30 = = ... … 68798 15342 = =	V.Weak with QSB. Med-fast. Very poor copy	BR	TUE
	1800z	20 Jul	'025' 097 30 = = 12090 13090 … 42090 43090 = =	Weak/Fair, fast. Excellent Morse. Interesting Grps!	BR	THU
	1800z	25 Jul	'025' 325 30 = = 46576 13243 … 97889 46576 = =	Weak, fast. Difficult copy in places. Errors noted	BR	TUE
6435	1500z	01 Jul	'025' 745 30 = = 46576 36547 … 11776 48766 = =	Weak/Fair, fast. Difficult copy in placed due to QSB	BR	SAT
	1500z	08 Jul	'025' 536 30 = = 12090 23090 … 05868 90838 = =	Weak/Fair, fast. First 9 grps end 090, six more end 121	BR	SAT
	1500z	29 Jul	'025' 955 30 = = 62380 82751 … 81196 00561 = =	Weak, fast. Difficult copy in places. Excellent Morse	BR	SAT

Some interesting groups on 20 July & 29 August messages. spot the sequences!

M01/3 5280kHz 1800z 20 July 2023 Thursday

'025' (R4m) 097 097 30 30 = =

12090 13090 14090 15090 16090 17090 18090 19090 21090 22090
23090 24090 25090 26090 27090 28090 20909 31090 31030 33090
34090 35090 36090 37090 38090 39090 30909 41090 42090 43090
= =

097 097 30 30 000

Courtesy BR

M01/3 4903kHz 2090z 29 August 2023 Tuesday

'025' (R4m) 378 378 30 30 = =

12090 22090 23090 33090 34090 44090 45090 55090 56090 66090
67090 77090 78090 88090 89090 99090 21909 24090 72030 12090
09090 99090 98090 88090 87090 77090 76909 66090 65090
= =

378 378 30 30 000 *(Only 29 groups sent)*

Courtesy BR

August 2023:

4903	2000z	03 Aug	'025' 236 30 = = 58867 13243 … 58769 60989 = =	Fair with QSB, fast. Good Morse, no errors	BR	THU
	2000z	08 Aug	'025' 793 30 = = 89345 90678 … 90456 23901 = =	Good, fast. Excellent Morse – No errors	BR	TUE
	2000z	10 Aug	'025' 365 30 = = 73000 82841 … 81942 00073 = =	Good, fast. Excellent Morse. Error in grp05	BR	THU
	2000z	22 Aug	'025' 191 30 = = 91955 55382 … 91964 08950 = =	Strong, fast. Corrected error starting DK, otherwise good	BR	TUE
	2000z	29 Aug	'025' 378 30 = = 12090 22090 … 66121 65121 = =	Good, fast. Excellent Morse. No errors. Interesting grps!	BR	TUE
5280	1800z	08 Aug	'025' 412 30 = = 89034 78912 … 36485 61504 = =	Weak with QSB, fast. Excellent Morse – No errors	BR	TUE
6435	1500z	05 Aug	'025' Extremely weak – No useful copy		BR	SAT
	1500z	12 Aug	'025' 569 30 = = 12567 45623 … 89432 90234 = =	Fair/Good with QSB, fast. One error noted grp02	BR	SAT
	1500z	19 Aug	'025' 328 30 = = 22881 34567 … 12122 09876 = =	Fair, fast. Grp02 34567, Grp09 98765, grp27 12345	BR	SAT
	15**03**z	26 Aug	'025' 863 30 = = 91742 91942 … 81300 55000 = =	Fair, fast. Late start. Many 91, 92 93, 81,82,83 & 00	BR	SAT
6780	0700z	20 Aug	NRH – Nothing audible under very strong wide-band OTHR signal		BR	SUN

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

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

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

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

15881/14781/13481	0210/30/50z	10 Jul	874 1	(Via SDR Japan)	HFD	MON
16272/14912/13972	0300/20/40z	11 Jul	299 1	(Via SDR Japan)	HFD	TUE

12163/11163/ - - -	0210/30/50z	07 Aug	114 000		(Via SDR Japan)	HFD	MON
14975/13875/13475	0300/20/40z	01 Aug	984 1 (Like June)		(Via SDR Japan)	HFD	TUE

European M12 Logs

July 2023: **New scheds in bold type**

7475/8075/9275	0030/0050/0110z	11 Jul	402 1 (8945 128)	99559 54105 … 54985 60220 000 000	Gert/HFD	TUE
	0030/0050/0110z	14 Jul	402 1 (8945 128)	99559 54105 … 54985 60220 000 000	Gert	THU
	0030/0050/0110z	18 Jul	402 000		Gert	TUE
	0030/0050/0110z	20 Jul	402 000		Gert	THU
10371/11471/12171	0600/20/40z	01 Jul	341 000		HFD	SAT
	0600/20/40z	05 Jul	341 1		HFD	WED
	0600/20/40z	15 Jul	341 000		Gert	SAT
10767/10167/9267	2100/20/40z	01 Jul	712 1 (3002 88)	03044 83876….	BR/HFD	SAT
	2100/20/40z	07 Jul	712 1 (310 120)	77158 20700….	BR	FRI
	2100/20/40z	08 Jul	712 1 (310 120)	77158 20700….	BR	SAT
	2100/20/40z	14 Jul	712 1 (310 120)	77158 20700….	BR	FRI
	2100/20/40z	15 Jul	712 1 (310 120)	77158 20700….	BR	SAT
	2100/20/40z	21 Jul	712 1 (223 135)	64185 72071….	BR	FRI
	2100/20/40z	29 Jul	712 1 (3850 120)	97121 00807….	BR	SAT
11435/10598/9327	1800/20/40z	15 Jul	938 1 (4295 76)	50994 66059….	BR	SAT
	1800/20/40z	22 Jul	938 1 (3618 74)	52526 47862….	BR	SAT
	1800/20/40z	29 Jul	938 1 (7036 70)	08878 39382….	BR	SAT
12217/10817/9317	2000/20/40z	03 Jul	617 1 (3495 103)	07235 74589….	BR/HFD	MON
	2000/20/40z	06 Jul	617 1 (3495 103)	07235 74589….	BR	THU
	2000/20/40z	10 Jul	617 000		BR	MON
	2000/20/40z	17 Jul	617 1 (4994 133)	65362 99223….	BR	MON
	2000/20/40z	20 Jul	617 1 (4994 133)	65362 99223….	BR/Renato	THU
	2000/20/40z	24 Jul	617 1 (516 115)	96485 76278….	BR	MON
	2000/20/40z	27 Jul	617 1 (516 115)	96485 76278….	BR	THU
13386/12189/11491	1110/30/50z	06 Jul	725 1 (4841 95)	63069 91719….	BR	THU
	1110/30/50z	13 Jul	725 1 (5471 96)	26275 94054….	BR	THU
	1110/30/50z	20 Jul	725 1 (6815 92)	22580 34981….	BR	THU
	1110/30/50z	27 Jul	725 1 (5946 99)	77127 65387….	BR	THU
13979/13379/12179	1600/20/40z	02 Jul	931 000		HFD	SUN
	1600/20/40z	16 Jul	931 1 (7497 208)	76762 89252….	BR	SUN
	1600/20/40z	30 Jul	931 000		BR	SUN
14968/14468/13368	1900/20/40z	05 Jul	943 1 (4877 31)	03353 42417….	BR	WED
	1900/20/40z	07 Jul	943 1 (4877 31)	03353 42417….	BR/HFD	FRI
	1900/20/40z	12 Jul	943 000		BR	WED
	1900/20/40z	19 Jul	943 1 (397 49)	62767 87262….	BR	WED
	1900/20/40z	21 Jul	943 1 (397 49)	62767 87262….	BR	FRI
16284/14984/14384	1600/20/40z	03 Jul	293 1 (615 56)	83079 15278….	BR/HFD	MON
	1600/20/40z	13 Jul	293 1 (6458 72)	67117 92902….	BR	THU
	1600/20/40z	17 Jul	293 000		BR	MON
	1600/20/40z	20 Jul	293 000		BR	THU
	1600/20/40z	24 Jul	293 1 (5368 28)	14386 00972….	BR	MON
	1600/20/40z	31 Jul	293 000		BR	MON

August 2023:

6784/8184/ - - -	0030/0050/0110z	11 Aug	713 000		HFD	FRI
	0030/0050/0110z	18 Aug	713 000		BR	FRI
10429/11429/12129	0600/20/40z	02 Aug	441 000		HFD	WED
	0600/20/40z	09 Aug	441 1		HFD	WED
10314/9114/ - - -	2100/20/40z	04 Aug	310 000		BR	FRI
	2100/20/40z	05 Aug	310 000		Gert	SAT
	2100/20/40z	11 Aug	310 000		HFD	FRI
	2100/20/40z	12 Aug	310 000		BR	SAT
	2100/20/40z	18 Aug	310 000		BR	FRI
	2100/20/40z	19 Aug	310 000		BR	SAT
	2100/20/40z	25 Aug	310 000		BR	FRI
	2100/20/40z	26 Aug	310 000		BR	SAT
11435/10598/9317	1800/20/40z	05 Aug	938 1 (3499 76)	12116 05471….	BR	SAT
	1800/20/40z	19 Aug	938 1 (5210 70)	92508 96148….	BR	SAT
	1800/20/40z	26 Aug	938 1 (2988 78)	20763 93310….	BR	SAT

12148/10648/9148	2000/20/40z	03 Aug	374 000		HFD	THU
	2000/20/40z	10 Aug	374 1 (313 97)	80479 16132….	BR	THU
	2000/20/40z	14 Aug	374 1 (7251 141)	80717 38924….	BR	MON
	2000/20/40z	17 Aug	374 1 (7251 141)	80717 38924….	BR	THU
	2000/20/40z	31 Aug	374 1 (6066 129)	92636 10677….	BR	THU
13386/12189/11491	1110/30/50z	03 Aug	725 1 (6261 99)	49577 98965….	BR	THU
	1110/30/50z	10 Aug	725 1 (5116 97)	97051 33536….	BR	THU
	1110/30/50z	31 Aug	725 1 (6692 92)	69511 54840….	BR	THU
14681/13881/13381	1600/20/40z	02 Aug	683 000		HFD	WED
	1600/20/40z	16 Aug	683 1 (4089 194)	99155 73019….	BR	WED
	1600/20/40z	27 Aug	683 000		BR	SUN
15931/14831/13531	1900/20/40z	02 Aug	985 1 (7591 47)	51546 54574….	BR/HFD	WED
	1900/20/40z	04 Aug	985 1 (7591 47)	51546 54574….	BR	FRI
	1900/20/40z	11 Aug	985 000		BR	FRI
	1900/20/40z	16 Aug	985 1 (297 61)	11696 57065….	BR	WED
	1900/20/40z	18 Aug	985 1 (297 61)	11696 57065….	BR	FRI
	1900/20/40z	23 Aug	985 000		BR	WED
	190020/40z	30 Aug	985 1 (6422 65)	75800 59281….	BR	WED
16251/14951/14451	1600/20/40z	03 Aug	294 000		HFD	THU
	1600/20/40z	07 Aug	294 1 (5193 105)	17581 31300….	BR	MON
	1600/20/40z	10 Aug	294 1 (5193 105)	17581 31300….	BR	THU
	1600/20/40z	17 Aug	294 1 (6345 64)	35317 29383….	BR	THU
	1600/20/40z	24 Aug	294 1 (430 88)	90155 09839….	BR	THU
	1600/20/40z	28 Aug	294 000		BR	MON

M14 IA MCW / ICW Short 0

16347	0930z	25 Jul	617 617 617 00000 (R4m)	RNGB	TUE

M23 O ICW

M23 was last heard on Monday, 22 May with the marathon 'SET' ending a sequence of schedules heard over two months.

Nothing further was heard or reported until Ary, (AB), once again gave us the 'heads-up' on Friday, 07 July, that the station was active. This appearance was short lived however, as was a further appearance on Wednesday, 19 July.

5345	1437 – 1452z	07 Jul	OS3 (R15m) *(Letter O)*		AB	FRI
5345	1337 – 1352z	08 Jul	OS3 (R15m) *(Letter O)*		AB/BR	SAT
	1437 – 1452z	08 Jul	OS3 (R15m) *(Letter O)*		AB/BR	SAT
5345	1337 – 1352z	09 Jul	OS3 (R15m) *(Letter O)*		AB	SUN
	1437 – 1452z	09 Jul	OS3 (R15m) *(Letter O)*		AB	SUN
5345	1005 - 1025z*	19 Jul	0ET (R20m) *(Number zero)*	Weak/Fair with QSB	BR	WED
5345	1212 – 1252z*	19 Jul	1SO (R50m) *(Letter O)*	Weak/Fair with QSB	BR	WED

* Times are believed correct but due to poor signal strength start times not confirmed.

'MY' Sequence & other oddities

5345	0945z	25 Jul	MY	(Sent once only – repeating every 15 minutes)	BR	TUE

On Tuesday, 25 July the strange output from this station took a further turn towards the bizarre. The characters MY were observed being sent, just once – but repeating every 15 minutes. First logged at 0945z, this continued for the rest of the day, then through the night becoming a continuous schedule that continued for the remainder of July & throughout August.

Time Creep

Observation showed that the series of transmissions every 15 minutes over the day suffered from the usual problem with M23 in that their clocks, most probably PC based, are not locked to a time standard & as a result were gaining two to three minutes over the course of twelve hours. Occasionally, this would be reset only to gain the same amount of time over the day. This time slip is faster than has been observed with previous schedules.

Missing Slots

Although these transmissions were continuous every 15 minutes, it was also noted that that occasionally some 15 minute slots were missing. The reason for these omissions is not known. Although there was a gap when the clocks were being reset this doesn't account for the other odd missing slots that appear to occur without any discernible pattern.

Additional Schedules Discovered

Ary, (AB), discovered a daily schedule noting that the ST3 schedule was on time each day, while the MY schedule was still running fast.

5345	0157z	29 Jul	ST3 (R20m)	(Daily schedule)	AB	FRI

Hourly 'Beep'

To add to the confusion, the hourly 'beep', also a feature of M23 transmissions appeared daily in the early hours from Monday, 31 July. First logged by Ary, (AB), at 0257z, 0357z & 0457z.

Further Schedules Discovered
Following a tip from fellow DXers Ary was able to find previously unknown schedules on other frequencies. Here is the full list;

Frequency	Time	Date discovered	Call + Duration	Schedule	Found by	Day Discovered
4822	1957z	27 Jul	S1S (R15m)	Daily	Priyom via AB	THU
5345	0157z	29 Jul	ST3 (R20m)	Daily	AB	SAT
6937	1757z	26 Jul	S1S (R15m)	Daily	AB + Anon	WED
10381	0557z	27 Jul	ST3 (R20m)	Daily	AB + Anon	THU
11530	1357z	31 Jul	OSS (R20m)	Daily	AB + Anon	MON
20456	0957z	26 Jul	ST3 (R20m)	Daily	AB + Anon	WED

Peter, (PoSW), was also monitoring M23 activity on 5345kHz. Peter monitors from the UK. Here is his report;

M23 CW on 5345 kHz was heard briefly in early July having previously been active in May sending "SET", last logged on the 22nd of that month. In July was heard as follows:-

> 07-July-23, Friday:- 1344 UTC, slow CW sending "OS3", very weak no doubt due to propagation on this relatively low frequency in the daytime in summer. Had gone when checked again just before 1400 UTC.
>
> 08-July-23, Saturday:- 1339 UTC, in progress with "OS3", weak, often sinking into the noise becoming unreadable, appeared to stop shortly before 1353z.
>
> 09-July-23, Sunday, 1337 UTC, appeared to start at this time, very weak, stopped before 1353z. No activity observed at any other time on this frequency and this was the last occasion OS3 was heard. Perhaps it had been running for some time, it would be easy to miss a signal as weak as this.

There was activity of a different kind in August:-

> 01-Aug-23, Tuesday:- with a receiver running on 5345 kHz became vaguely aware that there was something coming from the loudspeaker every once in a while:- 1855 UTC approx:- the letters "MY" heard, sent just once and not over a period of time as is usual with M23. Also heard at 1910, 1925, 1940 and 1955 UTC, rounded off to the nearest minute.

Further investigation:-

> 02-Aug-23, Wednesday:- "MY" heard just before 1830, 1900, 1930, 1945, 2000, 2015, 2045 and 2100 UTC. Looks like sent once every fifteen minutes, probably missed 1845, 1915 and 2030z transmissions.

Subsequent observations confirms "MY" sent daily roughly every fifteen minutes, appears to be round the clock, - "roughly" fifteen minutes, not exactly, does not appear at precise quarter hour intervals. On a few occasions with reference to an MSF controlled clock observed as follows:-

> 07-Aug-23, Monday:- 1824:18s, 1839:21s, 1854:21s, 1909:26s, 1924:28s, 1939:31s.
>
> 15-Aug-23, Tuesday:- 1919:23s, 1934:26s, 1949:30s, 2004:33s.

"MY" was heard on 5345 when monitored for perhaps an hour or so mainly in the late evenings and/or early mornings on most days throughout August, including:-

> 22-Aug-23, Tuesday:- "MY" heard at 1939:30s, 1954:31s and 2009:35s UTC.
>
> 26-Aug-23, Saturday:- "MY" heard at 1944:25s, 1959:28s, 2014:31s and 2029:34s.

Thank you Peter for your detailed logs & observations.

So more strange activity from this enigmatic station. Certainly one of the most intriguing stations we monitor!

Many thanks to those monitoring this station AB, BR, HFD, Jochen, PoSW, RNGB & especially Ary, (AB) & his DXers for filling many of the gaps we otherwise would have missed.

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

1130 - 1214z	21 Aug	Lundi-Leçon	01-2/1 Codé	01-2/2 Clair,	01-2/3 Codé,	01-2/4 Clair (420 grps/hr)	BR	MON
1130 - 1201z	15 Aug	Mardi-Leçon	22-2/1 Codé	22-2/2 Clair,	22-2/3 Codé,	22-2/4 Clair (600 grps/hr)	BR	TUE
1130z	17 Aug	NRH					BR	THU
1130 - 1204z	18 Aug	Vendredi- Leçon	25-2/1 Codé,	25-2/2 Clair,	25-2/3 Codé,	25-2/4 Clair (960 grps/hr)	BR	FRI

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

3881//6825

2138z	14 Aug	Non-stop 5-character groups composed of M51a messages	BR	MON

M89 O

This is a summary of activity from the M89 stations.

Traffic & Operator Chat from M89
Traffic & Op. chat reported on the following freqs. (All in kHz).

4375 4567	5622	6405 6822 6878	9036	10714 10810	11011 11091 11350

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

Freq in KHz	Call Slip
3565//4718	V BSA5 (x3) DE TP4C (x2)
3565//6378	V BSA5 (x3) DE TP4C (x2)
4860// 6840	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) QSA ? K
6378//7045	V BSA5 (x3) DE TP4C (x2)
7620//8350	V WNF(x3) DE FXM (x2) (R5) (Hand Sent)

Courtesy JPL

4375	1907z (IP) 31 Aug	NR 3157/EX 0306 BT 48O/JZ2 AR (Remote tuner Taiwan)	JPL	THU
6378/7045	2231z (IP) 28 Aug	V BSA5 (x3) DE TP4C (x2) MSG NR 4143/MZ 0630 RMKS 0666 TO 0616 0366 0136 BT (From Round Slip – 2232z) 1001 2273 2229 2228 2228 2897 2828 2828 2085 2273 8674 2989 1837 2273 2286 2221 AR	JPL	TUE
6405	1213z (IP) 01 Aug	RMKS 5020 TO 5091 BT K R BT BT A547 736T N43N 37A4 (Remote tuner South Korea)	JPL	TUE
6875	1126z (IP) 24 Jul	MSG NR 5.. ck 6.1 64 0725 RMKS 39.2 TO 3.94 K (Remote tuner Hong Kong)	JPL	MON
11011	1210z (IP) 03 Jul	MSG NR 9021 CK 76 36 0703 2000 RMKS 2135690 TO 2135608 BT (Remote Novosibirsk)	JPL	MON
11350	1206z (IP) 03 Jul	MSG NR 1021 CK 6.2 .. 0703 ..00 RMKS 2135940 TO 213.948… (Remote tuner Novosibirsk)	JPL	MON

M89 11011kHz 1210 (IP) - 1215z 03 July 2023

R HR MSG GA **MSG NR 9021 CK 76 36 0703 2000 RMKS 2135690 TO 2135608 BT** (IP – 1210z)
435A 5U6T 67TU 46N7 367U 375D DU67 AT4U ADUN A45N 35A4 U67A 7TUA (Cont'd – 1211z)
AR QSL ? K (1214z)
R OK U MSG GA K (Checked 11350 to see if this was other end, but N/H – 1215z)

M89 7045kHz 2231 (IP) - 2234z 28 August 2023

V BSA5 (x3) DE TP4C (x2)

MSG NR 4143/MZ 0630 RMKS 0666 TO 0616 0366 0136 BT (From Round Slip – 2232z)
1001 2273 2229 2228 2228 2897 2828 2828 2085 2273 8674 2989 1837 2273 2286 2221 AR
MSG NR 4143/MZ 0630 RMKS 0666 TO 0616 0366 0136 BT (Repeats msg – 2233z)
AR (Return to Round Slip – 2234z)

M89 4375kHz 1907 (IP) - 1908z 31 August 2023

NR 3157/EX 0306 BT (IP – 1907z)
48O/JZ2 AR
NR 3157/EX 0305 BT
U8O/JZ2 AR QSY 04 QSY 04 VVV (1908z)

Courtesy JPL

M95 O XSV, XSV70, XSV85

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

3642//NRH Call Sign 3A7D (Active daily - only first marker log has been included)

3642//7602	Call Sign 3A7D	(Active daily - only first marker log has been included)				
4178//7517	Call Sign S2DJ	Believe this to be new Round Slip and freq for YHXD DE SAQC				
	1927z	16 Jul	V XP5B (x3) DE S2DJ (x2)	(Remote tuner Novosibirsk)	JPL	SUN
	1515z	30 Jul	V XP5B (x3) DE S2DJ (x2)	(Remote tuner Novosibirsk)	JPL	SUN
	1612z	01 Aug	V XP5B (x3) DE S2DJ (x2)	(Remote tuner Novosibirsk)	JPL	TUE
	1725z	11 Aug	V XP5B (x3) DE S2DJ (x2)	(Remote tuner Novosibirsk)	JPL	FRI
	2215z	28 Aug	V XP5B (x3) DE S2DJ (x2)	(Remote tuner Novosibirsk)	JPL	MON
4243//NRH	Message number differs from current XSV70 and XSV85 message numbers.					
4243//9054	Message number differs from current XSV70 and XSV85 message numbers.					
	1140 - 1156z	03 Jul	NR 072 CK 39 35 0703 1502 BT	(Remote tuner South Korea)	JPL	MON
	1154 (IP) - 1155z	24 Jul	NR 48 CK 151 35 0724 1529 BT	(Remote tuner Japan)	JPL	MON
	1140 - 1153z	11 Aug	NR 22 CK 187 35 0811 1520 BT	(Remote tuner Japan)	JPL	FRI
	1140 - 1150z	31 Aug	NR 62 CK 128 35 0831 1540 BT	(Remote tuner Japan)	JPL	THU
4364//8073	Call Sign XSV85					
	1130 - 1139z	03 Jul	NR 0486 CK 136 35 0703 1612 BT	(Remote tuner Hong Kong)	JPL	MON
	1130 - 1148z	24 Jul	NR …. CK 46 35 0724 1620 BT (No MSG NR sent)	(Remote tuner Hong Kong)	JPL	MON
4690						
	1515 (IP) - 1511z	30 Jul	MSG NR 2305... CK.. U 81 54 070 2300 RMKS SQI681 TO 8324 BT MSG NR 236/CCK CK (Message format indicates M95 family)	(Remote tuner Novosibirsk)	JPL	SUN
5651//12039	Call sign S2DJ					
	1203z	03 Jul	V XP5B (x3) DE S2DJ (x2) (IP - Cont'd)	(Remote tuner Novosibirsk)	JPL	MON
	1158z	24 Jul	V XP5B (x3) DE S2DJ (x2) (IP - Cont'd)	(Remote tuner Novosibirsk)	JPL	MON
	1152z	31 Aug	V XP5B (x3) DE S2DJ (x2) (IP - Cont'd)	(Remote tuner Japan)	JPL	THU
8073	Call sign XSV85 Usual format is Initial call-up in voice USB, then to digital 4+4 mode LSB, finally, switching to CW					
	1132 - 1139z	11 Aug	NR 0609 CK 213 35 0811 1604 BT	(Remote tuner Japan)	JPL	FRI
10180	Call Sign 3A7D	(Active daily - only first marker log has been included)				
10722//NRH	Call Sign 3A7D					
	1048z	01 May	YHXD (x3) DE SAQC (x2)	(Remote tuner Khabarovsk)	JPL	FRI
11212	(Message format indicates M95)			(Remote tuner Novosibirsk)	JPL	MON
	1220 - 1226z	03 Jul	NR003/CCK CK 5123 0703 1845 RMKS ..96 TO 9793 TO 930. TO 9420 TO 9912 TO 9933 TO 9939 TO 9983 TO 9902 TO 9906 TO BT			

M95 4364//8073kHz 1130z 03 July 2023
BNGC DE XSV85

Into voice USB Chinese Male 1130z
Switched to Chinese digital 4+4 QPSK 75/3000 LSB 1131z
Switched to CW Handsent 1136z
V BNGC (x3) DE XSV85 (x2) (Cont'd – 1136z)
HR MSGS GA PSE CY
(1134z)
NR 0486 CK 136 35 0703 1612 BT
TT3 3U6 3AN 3U7 TAU 773 756 356 AAN N34 463 (Cont'd – 1139z)

M95 4243//9054kHz 11402z (IP) 03 July 2023
Into voice USB Chinese Female Robot
Switched to Chinese digital 4+4 QPSK 75/3000 LSB 1143z
Switched to CW Handsent 1148z
VVV HR 7G TO YR PSE CY (1150z)
NR 072 CK 39 35 0703 1502 BT
5AA UTT TT3 3U6 3A4 5T7 5TD 75U 354 365
4T7 33U 34A N3D 4A5 445 3DA 4D3 365 N54
4DU 5TN 5AA 75U 354 365 4TN 445 3DA 33U
34A N3U 446 467 3DU 4D3 365 N54 4DU AR
MSG AGN **NR 072 CK 39 35 0703 1502 BT** (Repeats msg 1152z)
AR AHR MSG GA NR 06 CK 183 35 0703 1525 BT
UTU TT3 3U6 3A4 TTU 773 353 N3D 354 336 (Cont'd – 1156z)

M95 4243//9054kHz 11402z 11 Aug 2023
Into voice USB Chinese Female Robot 1140z
Switched to Chinese digital 4+4 QPSK 75/3000 LSB 1143z
Switched to CW Handsent 1152z
VVV HR 7G TO YR PSE CY (1152z)
NR 22 CK 187 35 0811 1520 BT
UTU TAA 3U6 3A4 TTU 773 353 N3D 354 336 N3U N35 374
(Cont'd – 1153z)
Courtesy JPL

M95 11212kHz 1220z (IP) 03 July 2023
R BT 6197 AR K (Weak/fading – 1220z)
R HR 7G GA K
R GA K (Both stations on this frequency)
R **NR 003/CCK CK 5123 0703 1845 RMKS ..96 TO 9793 TO 930. TO 9420 TO 9912 TO 9933 TO 9939 TO 9983 TO 99.2 TO 9907 TO EEEE** (Message format indicates M95)
RMKS 9796 TO 9793 TO 903 TO 9420 TO 9912 TO 9933 TO 9939 TO 9983 TO 9902 TO 99.6 BT
795 UTO 996 BT
R GA K
R BT 5.4D .ANT TA.. (Cont'd – fading – 1222z)
R QSL 0944 K
R HR WK NR 410 K (1225z)
NR 33 K
R NIL SK
R NIL SK GB (1226z)

M95 4690kHz 1515z (IP) 30 July 2023
7474 3A56 U4T4 (Very noisy/QRN Cont'd 1505z)
AR K (1506z)
NR RPT 26W U R 26W 3246 K
NR PT 31W U 4N1N K
IR31W 3919K
IR RPT 63W U R63W 3558 3558 K
RPT 68W U R68W 8192 K
IRPT 41W U IRPT 41W UR41W 5967 K
R QSL 2309 A EEEE QSL 2309 K RU 7G GA K
R MSG GA MSG NW
MSG NR 2305... CK.. U 81 54 070 2300 RMKS SQI681 TO 8324 BT
NUUN UR7 47D (Cont'd – 1510z)
R **MSG NR 236/CCK CK** (Message format indicates M95 family)
R GA K
11W GA BT 47T5 7D5T (Cont'd – 1511z)
Courtesy JPL

Marker Beacons (MX MXI)

4557.7	2104z	15 Aug	MXI CW Beacon "D" Sevastopol	BR	TUE
4557.9	2104z	15 Aug	MXI CW Beacon "S" Severomorsk	BR	TUE
5153.7	1838z	27 Aug	MXI CW Beacon "D" Sevastopol	BR	SUN
5153.9	1839z	27 Aug	MXI CW Beacon "S" Severomorsk	BR	SUN
5154.1	1839z	27 Aug	MXI CW Beacon "A" Astrakhan	BR	SUN
5156.7	2105z	15 Aug	MX CW Beacon "L" St Petersburg	BR	TUE
7508.9	2107z	15 Aug	MXI CW Beacon "S" Severomorsk	BR	TUE
7509	2107z	15 Aug	MXI CW Beacon "C" Moscow	BR	TUE
	0825z	19 Aug	MXI CW Beacon "C" Moscow	BR	SAT
8494.7	1842z	27 Aug	MXI CW Beacon "D" Sevastopol	BR	SUN
8494.9	2110z	15 Aug	MXI CW Beacon "S" Severomorsk	BR	TUE
8495	2110z	15 Aug	MXI CW Beacon "C" Moscow	BR	TUE
8495.1	1843z	30 Mar	MXI CW Beacon "A" Astrakhan	BR	SUN
8497.8	2111z	15 Aug	MX CW Beacon "L" St Petersburg	BR	TUE
	0827z	19 Aug	MX CW Beacon "L" St Petersburg	BR	SAT
10871.7	2112z	15 Aug	MXI CW Beacon "D" Sevastopol	BR	TUE
	0828z	19 Aug	MXI CW Beacon "D" Sevastopol	BR	SAT
10871.9	2112z	15 Aug	MXI CW Beacon "S" Severomorsk	BR	TUE
	0828z	19 Aug	MXI CW Beacon "S" Severomorsk	BR	SAT
10872.1	2113z	15 Aug	MXI CW Beacon "A" Astrakhan	BR	TUE
13527.7	2114z	15 Aug	MXI CW Beacon "D" Sevastopol	BR	TUE
13527.9	2114z	15 Aug	MXI CW Beacon "S" Severomorsk	BR	TUE
13528.1	2115z	15 Aug	MXI CW Beacon "A" Astrakhan	BR	TUE
16331.7	0829z	19 Aug	MXI CW Beacon "D" Sevastopol	BR	SAT
16331.9	1238z	04 Jul	MXI CW Beacon "S" Severomorsk	Gary	TUE
	2116z	15 Aug	MXI CW Beacon "S" Severomorsk	BR	TUE
16332.1	1845z	27 Aug	MXI CW Beacon "A" Astrakhan	BR	SUN

Oddities

Mystery Pulsing Signal Monitored by PoSW

Strange, unidentified short-wave transmission:- Trawling around the short-wave bands we hear all sorts of strange transmissions with weird noises the purposes of which can only be guessed at. One was heard in August which was weirder than most:-

11-Aug-23, Friday:-
1842 UTC, 5320 kHz, very strong signal, at first appeared to be a plain carrier but quickly heard it was modulated by a pulse or beat of about one per second. There is usually not much going on in this part of the spectrum, especially in the summer months, just a couple of SSB VOLMET stations and some 60 metre amateur activity, certainly not heard anything like this not here or anywhere else. Went off around 1846z, came back on at 1849, Went off and on several times ending at approx. 1902z, but had not gone away, merely changed frequency - as it did throughout the evening:-

1907 UTC, 5350 kHz, QSY up 30 kHz, carrier with 1-second pulse as before, went off then returned with a different modus operandi, a quick key-down “dit”, about one every three seconds. Went off then returned with the carrier plus 1-second routine, went off after 1915z.

1926 UTC, 5335 kHz, QSY again, 1-second pulse then into “dit” mode then back to pulse-mode, went off around 1952z.

1955 UTC, 5365 kHz, new frequency, pulse mode then “dit”, stopped at 2010z.

2014 UTC, 5395 kHz, appears to like shifting by 30 or 35 kHz, 1-second pulse followed by “dit”, stopped at 2034z. My attention now divided by this and “The Return of Count Yorga” on Talking Pictures TV.

2037 UTC, 5425 kHz, alternating between the two modes, in for the long haul this time, still going strong – very strong - when checked at 2130 UTC,

10.30 pm here, gave up on it.

It was also heard on the following evening but not quite so busy:-

12-Aug-23, Saturday:-
1851 UTC, 5320 kHz, switching between the two modes as heard yesterday. Went back to the radio about half an hour later and several times during the evening but was not found again.

Has not been heard since.

Thank you for the interesting & detailed report, Peter.

Regular Oddities

'The Goose'

3243	0002z	18 Aug	'Goose' Marker – Night Freq	Fair	USB	BR	FRI
	0244z	28 Aug	'Goose' Marker	Good	USB	chpa	MON

'The Alarm'

4770	2354z	17 Aug	Marker Signal (The Alarm)	Good	USB	BR	THU
	0255z	28 Aug	Marker Signal (The Alarm)	Good	USB	chpa	MON

S28 'The Buzzer'

4625	2355z	17 Aug	S28	'The Buzzer' Marker	Strong	USB	BR	THU
	0249z	28 Aug	S28	'The Buzzer' Marker	Good	USB	chpa	MON

S30 'The Pip'

3756	2357z	17 Aug	S30	'Pip' marker (Night freq)		USB	BR	THU
	0253z	28 Aug	S30	'Pip' marker	Weak	USB	chpa	MON

4182 'T Marker'

	0246z	28 Aug	Normal sound from the T Marker	Good	USB	chpa	MON

4183.7/4184
'T Marker'

0000z	18 Aug	T Marker	Strong		BR	FRI

All logs from chpa Monitored from Stockholm. All logs from BR monitored from UK.

Contributors: AB, BR, chpa, Gary, Gert, HFD, Jochen-KOBWW, JPL, PoSW, Renato – Brazil, RNGB *Thank you all for your logs.*

Voice stations, Polytones and Hybrids

E06

July/Aug log:

Monday	**(repeats Tuesday)**	**0210z**	**11632kHz**	**0310z**	**13830kHz**	(frequencies may vary slightly)	
10/07	'537' 860 47 #8847……etc	(via KiwiSDR J)	Thanks HfD				
		0210z	11472kHz	0310z	13584khz		
07/08	'537' 689 31 79765……etc	(via KiwiSDR J)	Thanks HfD				
Thursday	**(repeats Friday)**	**0300z**	**14845kHz**	**0400z**	**12189kHz**	(frequencies may vary slightly)	
27/07	'361' 285 46 06259…….etc	Thanks HfD					
		0300z	**14648kHz**	**0400z**	**12084kHz**		
10/08	'361' 572 48 30644…....etc	Thanks HfD					

First /Third Thursday (repeats Friday) **0500z** **13825kHz** **0600z** **15615kHz**

06/07 '679' 312 54 13995 57227 24567 89731 48990 74923 30056 19529 93175 04079 53214 03359 58277 88165 10582 95093 42522 42608 75752 20008 33781 89259 45460 74142 49138 72989 16300 76684 40575 08852 14294 86523 21451 33247 44464 18889 93473 57528 52624 23032 78851 47493 16554 06876 87299 77178 08767 19581 72600 30424 98039 27954 58409 48614 312 54 00000

20/07 '679' 841 50 97003 78801 52178 37129 57692 92859 19993 85967 61669 65626 19222 14075 36912 89886 53319 11338 71064 69658 46353 92993 89801 55757 39583 76252 08730 49035 26413 48814 44754 00992 74165 71483 97862 66418 06103 82039 39251 87802 42149 92569 66742 16139 21731 97451 13418 97866 57190 34154 20415 82598 841 50 00000

0500z 13540kHz 0600z 16115kHz

03/08 ‘210’ 489 53 24473 57319 16444 45937 84722 70327 56601 03863 67777 91237 82204 01481 25667 38571 52722 45491 13657 72414 62413 51297 04351 08698 30453 87411 78459 16770 07570 02371 28164 79966 97619 26372 34010 23849 17544 64792 01282 41806 44135 25800 66783 72717 21068 49223 11966 10336 24614 28891 43342 49114 11484 45603 26123 489 53 00000

17/08 ‘210’ 496 53 13765 03107 52045 57306 58662 26633 27271 33428 99267 29961 46861 53463 46488 84391 26185 63573 52687 34534 77231 43406 89611 81675 94197 77793 25629 63727 21990 42997 75724 98946 43571 87200 22684 85613 47089 09921 32909 74850 58740 70030 15296 58775 52275 77089 96623 41175 71120 45658 11876 82888 72461 92421 62841 496 53 00000

Peter comments on E06:

First + Third Thursdays in the Month 0500 + 0600 UTC Schedule, Repeated on the Following Day:-
6-July-23:- 0500 UTC, 13825 kHz, calling “679”, weak signal, largely unreadable.
0600 UTC, 15615 kHz, stronger, DK/GC “312 312 54 54”.

7-July-23, Friday:- 0500 UTC, 13825 kHz, very weak.
0600 UTC, 15615 kHz, strong signal, stronger than yesterday.

20-July-23:- 0500 UTC, 13825 kHz, “679”, DK/GC “841 841 50 50”, good signal.
0600 UTC, 15615 kHz, weak at first, became stronger.

21-July-23, Friday:- 0500 UTC, 13825 kHz, weak at first then became stronger.
0600 UTC, 15615 kHz, weak.

3-Aug-23:- 0500 UTC, 13540 kHz, call “210”, DK/GC “489 489 53 53”, good signal.
0600 UTC, 16115 kHz, strong.

4-Aug-23, Friday:- 0500 UTC, 13450 kHz, slightly weaker than 24 hours earlier.
0600 UTC, 16115 kHz, strong.

17-Aug-23:- 0500 UTC, 13540 kHz, “210”, DK/GC “496 496 53 53”, good signal.
0600 UTC, 16115 kHz, strong, ended just after 0613z.

18-Aug-23, Friday:- 0500 UTC, 13540 kHz, good signal.
0600 UTC, 16115 kHz, weaker than yesterday.

From H-FD

Thu 03.08.2023 0500Z 13540 210-489/53=24473
Thu 03.08.2023 0600Z 16115 210
Tue 08.08.2023 0210Z 11472 537-689/31=79765 via KiwiSDR J
Tue 08.08.2023 0310Z 13584 537 via KiwiSDR J
Thu 10.08.2023 0300Z 14648 361-572/48=30644
Thu 10.08.2023 0400Z 12084 361

July/Aug log:
E07

Of E07 Peter writes:

Saturday Schedule, 1300 UTC Start:-
1-July-23:- 1300 UTC, 12176 kHz, “152 152 152 000”, strong signal.
1320 UTC, 11576 kHz, also strong.

8-July-23:- 1300 UTC, 12176 kHz and 1320 UTC, 11576 kHz, both strong, “152 152 152 000”.

15-July-23:- 1300 UTC, 12176 kHz, weaker than usual and 1320 UTC, stronger, “152 152 152 000”.

21-July-23:- 1300 UTC, 12176 kHz, “152 152 152 000”.
1320 UTC, 11576 kHz, weak.

5-Aug-23:- 1300 UTC, 12176 kHz, “152 152 152 000”, good signal.
1320 UTC, 11576 kHz, also a good signal.

12-Aug-23:- 1300 UTC, 12176 kHz and 1320 UTC, 11576 kHz, both good signals, “152 152 152 000”.

26-Aug-23:- 1300 UTC, 12176 kHz, “152 152 152 000”, good signal.
1320 UTC, 11576 kHz, slightly weaker.

Sunday Schedule, 0600 UTC Start:-
2-July-23:- 0600 UTC, 10317 kHz, very weak, local interference, unreadable.
0620 UTC, 11117 kHz, strong enough to over-ride the local QRM, “312 312 312 000”.

9-July-23:- 0600 UTC, 10317 kHz, very weak, could just hear “000”.
0620 UTC, 11117 kHz, stronger, “312 312 312 000”.

16-July-23:- 0620 UTC, 11117 kHz, “312 312 312 000”, weak but readable, nothing audible from the 0600z sending.

23-July-23:- 0600 UTC, 10317 kHz and 0620 UTC, 11117 kHz, both stronger than on past few Sundays, “312 312 312 000”.

6-Aug-23:- 0600 UTC, 9261 kHz, predicted frequency for the first sending, very weak, unreadable.
0620 UTC, 10261 kHz, also very weak,could just make out the “000” of the expected “no message” transmission.

20-Aug-23:- 0600 UTC, 9261 kHz, “224 224 224 000”, weak but readable.
0620 UTC, 10261 kHz, also weak but strong enough to be heard over local interference.

27-Aug-23:- 0600 UTC, 9261 kHz and 0620 UTC, 10261 kHz, both stronger than usual, “224 224 224 000”.

Saturday + Thursday Schedule, 1410 UTC Start:-
1-July-23, Saturday:- 1410 UTC, 13562 kHz, “441 441 441 000”, weak, clear signal.
1430 UTC, 14862 kHz, also weak.

6-July-23, Thursday:- 1410 UTC, 13562 kHz, “441 441 441 1”, message, very weak, unreadable.
1430 UTC, 14862 kHz, stronger, DK/GC “4904 72” x 2.
1450 UTC, 16162 kHz, strong signal, by far the best copy of the three transmissions.

8-July-23, Saturday:- 1410 UTC, 13562 kHz, “441” and “4904 72” again, weak.
1430 UTC, 14862 kHz, stronger.
1450 UTC, 16162 kHz, strongest.

13-July-23, Thursday:- 1410 UTC, 13562 kHz, “441 441 441 000”, stronger than usual.
1430 UTC, 14862 kHz, also stronger than usual.

15-July-23, Saturday:- 1410 UTC, 13562 kHz, “441 441 441 000”, weak, clear.
1430 UTC, 14862 kHz, stronger.

22-July-23, Saturday:- 1410 UTC, 13562 kHz, “441 441 441 1”, message, DK/GC “5907 56” x 2, around a 6 on the S-meter.
1430 UTC, 14862 kHz, stronger.
1450 UTC, 16162 kHz, back down to S6.

3-Aug-23, Thursday:- 1410 UTC, 13519 kHz, “288 288 288 1”, DK/GC “2286 83” x 2, weak signal.
1430 UTC, 14819 kHz, also weak.
1450 UTC, 15919 kHz, much stronger signal,

5-Aug-23, Saturday:- 1410 UTC, 13519 kHz, “288” and “2286 83” again, weak.
1430 UTC, 14819 kHz, signal strength up and down.
1450 UTC, 15919 kHz, strongest signal of the three.

12-Aug-23, Saturday:- 1410 UTC, 13519 kHz, S7, “288 288 288 000”.
1430 UTC, 14819 kHz, weaker.

17-Aug-23, Thursday:- 1410 UTC, 13519 kHz, “288 288 288 1”, message, weak signal, unable to make out the DK/GC, became stronger around 1415z.
1430 UTC, 14819 kHz, very weak, unreadable.
1450 UTC, 15919 kHz, strong signal in contrast with the first two transmissions, DK/GC “307 73” x 2.

24-Aug-23, Thursday:- 1410 UTC, 13519 kHz, “288 288 288 000”, good signal.
1430 UTC, 14819 kHz, weaker.

26-Aug-23, Saturday:- 1410 UTC, 13519 kHz, “288 288 288 000”, good signal.
1430 UTC, 14819 kHz, also good.

Tuesday + Friday Schedule, 1500 UTC Start:-
Took a while to find in July but found straight away in August:-
18-July-23, Tuesday:- 1501 UTC, 16232 kHz, found with about 30 seconds of the preamble
to run, “231 231 231 1”, DK/GC “303 72” x 2, strong signal at first but became weaker, ended just before 1508:30s UTC.
1520 UTC, 18332 kHz, presumed to be the frequency for the second sending, either that or 17332, very weak signal, unreadable.
1540 UTC, 19132 kHz, weak, became slightly stronger after a few minutes.

21-July-23, Friday:- 1500 UTC, 16232 kHz, “231” and “303 72” again, S6 to S7
1520 UTC, 18332 kHz, very weak, unreadable.
1540 UTC, 19132 kHz, also very weak.

25-July-23, Tuesday:- 1500 UTC, 16232 kHz, “231 231 231 000”, good signal.
1520 UTC, 18332 kHz, good signal, much stronger than on previous two occasions.

1-Aug-23, Tuesday:- 1504 UTC, 17453 kHz, first sending in progress, surprised to be able to find it so quickly, strong signal, ended at approx 1513:35s UTC.
Unable to find the second sending at 1520 UTC.
1546 UTC, 19253 kHz, third sending in progress, S4 to S5, became over a 9 on the S-meter by 1551z, interference from an FSK signal on a close frequency.

4-Aug-23, Friday:- 1500 UTC, 17453 kHz, “432 432 432 1”, DK/GC “3412 134” x 2, good signal, occasionally fading down.
1520 UTC, 18353 kHz, second sending (?), very weak signal of some kind, too weak to confirm as E07.
1540 UTC, 19252 kHz, very weak, E07 voice only occasionally readable.

11-Aug-23, Friday:- 1500 UTC, 17453 kHz, “432 432 432 000”, peaking S8 with fading up and down.
1520 UTC, 18353 kHz, very weak.

15-Aug-23, Tuesday:- 1500 UTC, 17453 kHz, “432 432 432 1”, message, DK/GC “6982 97”
x 2, good signal with some fading up and down, ended around 1510:30s UTC.
1520 UTC, 18353 kHz, second sending and unlike on all previous occasions this month a strong, even very strong, signal.
1540 UTC, 19253 kHz, signal strength up and down.

18-Aug-23, Friday:- 1500 UTC, 17453 kHz, “432” and “6982 97” again, signal strength up and down.
1520 UTC, 18353 kHz, weak.
1540 UTC, 19253 kHz, in contrast with the first two transmissions very strong, S-meter well over the 9.

22-Aug-23, Tuesday:- 1500 UTC, 17453 kHz, “432 432 432 000”, good signal.
1520 UTC, 18353 kHz, weaker.

29-Aug-23, Tuesday:- 1500 UTC, 17453 kHz, “432 432 432 1”, message, DK/GC “9220 56”,
wide variation in signal strength from strong to almost too weak to copy.
1520 UTC, 18353 kHz, again signal up and down.
1540 UTC, 19253 kHz, strong signal, best sending of the three.

Which all fits in nicely with others’ logs:

Sunday

July 2023

0600z	**10317kHz**	**0620z**	**11117kHz**	**0640z**	**12217kHz**
02/07	Not Monitored				
09/07	312 000				0600z Weak, 0620z Fair
16/07	312 000				0600z Weak, 0620z Strong
23/07	312 000				0600z Weak, 0620z Fair
30/07	312 000				0600z Weak, 0620z Fair

August 2023

0600z	**9261kHz**	**0620z**	**10261kHz**	**0640z**	**11461kHz**
06/08	224 000				Weak, 0600z NOT MONITORED
13/08	224 000				Weak
20/08	224 000				0600z Fair, 0620z Weak
27/08	224 000				Weak

Tuesday/Friday

July 2023

1500z	**16232kHz**	**1520z**	**18332kHz**	**1540z**	**19132kHz**
04/07	231 231 231 1 (R) 1 4 (restart) 231 231 231 1 1500z faded, too weak to copy; rest too Weak [via Ary; M8 unable to hear]				
11/07	231 000				1500z Fair, 1520z Weak
14/07	231 000				Weak
18/07	231 1 303 72 92700 ... 86993 000 000				Weak, 1520/1540z Dutch SDR
21/07	231 1 303 72 92700 ... 86993 000 000				1500z Fair, rest Weak via Finnish SDR
25/07	231 000				Weak
28/07	231 000				Weak 1500z QRM

August 2023

1500z	**17453kHz**	**1520z**	**18353kHz**	**1540z**	**19253kHz**
	Tue 01.08.2023 1500Z 17453 432:1-3412/134= 33625 weak via KiwiSDR KWT H-FD Tue 01.08.2023 1520Z 18353 432:1 strong via KiwiSDR KWT H-FD Tue 01.08.2023 1540Z 19253 432:1 strong via KiwiSDR KWT H-FD				
04/08	432 1 3412 134 33625 ... 60027 000 000				Weak, 1520z via Dutch SDR, 1540z via Finnish SDR..

08/08	432 000	Weak, 1520z via Dutch SDR
11/08	432 000	Weak, via Dutch SDR [Pldn:, Weak, 1520z NRH]
15/08	432 1 6982 97 97335 ... 68856 000 000	Weak
18/08	432 1 6982 97 97335 ... 68856 000 000 1500z: grp87 then 432 x 3 restart grp88 to 68856 000 000	Strong, 1520z Weak
22/08	432 000	1500z Fair, 1520z Weak
25/08	432 000	Weak
29/08	432 1 9220 56 05778 ... 87345 000 000	Weak

Thursday/Saturday

July 2023

1410z	**13562kHz**	**1430z**	**14862kHz**	**1450z**	**16162kHz**
06/07	441 1 4904 72 43105 ... 13136 000 000				Weak
08/07	441 1 4904 72 43105 ... 13136 000 000				Weak
13/07	441 000				Weak
15/07	441 000				Weak
20/07	441 1 5907 56 71292 ... 77451 000 000				Weak [Extrememly weak with PLdn]
22/07	441 1 5907 56 71292 ... 77451 000 000				Weak
27/07	441 000				1410z Weak, 1430z Fair
29/07	441 000				Weak

August 2023

1410z	**13519kHz**	**1430z**	**14819kHz**	**1450z**	**15919kHz**
03/08	288 1 2286 83 59839 ... 97420 000 000				1450z Fair, rest Weak, 1410z QRM
05/08	288 1 2286 83 59839 ... 97420 000 000				Weak, 1450z QRM
10/08	288 000				Weak 1410z via Dutch SDR
12/08	288 000				Weak
19/08	288 1 307 73 91785 ... 62343 000 000				Weak, 1450z QRM
24/08	288 000				Weak
31/08	288 1 115 92 57427 ... 81600 000 000				1450z Fair, rest Weak

Saturday

July 2023

1300z	**12176kHz**	**1320z**	**11576kHz**	**1340z**	**10276kHz**
08/07	152 000				Weak
15/07	152 000				1300z Weak, 1320z Fair
22/07	152 000				Weak
29/07	152 000				Fair

August 2023

1300z	**12176kHz**	**1320z**	**11576kHz**	**1340z**	**10276kHz**
05/08	152 000				Fair, 1320z QRM3
12/08	152 000				1300z Strong, 1320z Fair
19/08	152 000				Weak
26/08	152 000				1300z Strong, 1320z Fair

E11 & E11a log July/August

From RNGB:

4783kHz	1910z	08/07 [393/00] Out 1913z S9+10	Malc	SAT
	1910z	12/07 [390/35 50992…….30602] Out 1920z S5+QRM	Malc	WED
	1910z	19/07 [395/00] Out 1913z S3+QRM	Malc	WED
	1910z	22/07 [391/00] Out 1913z S9	Malc	SAT
	1910z	26/07 [393/00] Out 1913z S9	Malc	WED
	1910z	29/07 [393/00] Out 1913z S9	Malc	SAT
	1910z	02/08 [391/34 54607…….44552] Out 1920z S7	Malc	WED
	1910z	09/08 [396/00] Out 1913z S9	Malc,Brixmis	WED
	1910z	12/08 [391/00] Out 1913z S9	Malc	SAT
	1910z	16/08 [391/00] Out 1913z S9	Malc	WED
	1910z	19/08 [396/00] Out 1913z S9+20	Malc	SAT
	1910z	23/08 [395/00] Out 1913z S9	Malc	WED
	1910z	26/08 [396/00] Out 1913z S9	Brixmis	SAT
	1910z	30/08 [390/00] Out 1913z S7	Malc	WED
4909kHz	0820z	13/07 [431/00] Out 0823z S4 (Finnish SDR)	Malc	THU
	0820z	14/07 [434/00] Out 0823z S4 (Finnish SDR)	Malc	FRI
	0820z	21/07 [431/36 48497…….02125] Out 0831z S5 (Finnish SDR)	Malc	FRI
	0820z	28/07 [436/00] Out 0823z S2 (Dutch SDR)	Malc	FRI
	0820z	03/08 [431/00] Out 0823z S3 (Finnish SDR)	Malc	THU
	0820z	04/08 [430/00] Out 0823z S5 (Finnish SDR)	Malc	FRI
5082kHz	1530z	16/07 [360/00] Out 1533z S3 (Dutch SDR)	Malc	SUN
	1530z	22/07 [367/00] Out 1533z S4 (Finnish SDR)	Malc	SAT
	1530z	23/07 [360/00] Out 1533z S3 (Dutch SDR)	Malc	SUN
	1530z	30/07 [368/00] Out 1533z S4 (Dutch SDR)	Malc	SUN
	1530z	05/08 [360/00] Out 1533z S3 (Dutch SDR)	Malc	SAT
	1530z	06/08 [360/00] Out 1533z S5 (Dutch SDR)	Malc	SUN
	1530z	12/08 [368/31 94068…….70007] Out 1539z S2	Malc	SAT
	1530z	19/08 [366/00] Out 1533z S4 (Dutch SDR)	Malc	SAT
5231kHz	1605z	04/07 [233/00] Out 1608z S3+QRM (Finnish SDR)	Malc	TUE
	1605z	11/07 [232/00] Out 1608z S2 (Dutch SDR)	Malc	TUE
	1605z	16/07 [235/00] Out 1608z S3 (Dutch SDR)	Malc	SUN
	1605z	18/07 [235/00] Out 1608z S3 (Dutch SDR)	Malc	TUE
	1605z	23/07 [235/00] Out 1608z S3 (Dutch SDR)	Malc	SUN
	1605z	25/07 [233/36 52048…….62257] Out 1615z S5	Malc	TUE
	1605z	01/08 [233/00] Out 1608z S4 (Finnish SDR)	Malc, dMHz	TUE
	1605z	06/08 [233/00] Strong	dMHz, Malc	SUN
	1605z	08/08 [23?/37 68135…….68135] Out 1616z S3 (Dutch SDR)	Malc	TUE
	1605z	13/08 [233/33 94109…….85170] Out 1615z	Malc	SUN
	1605z	15/08 [232/00] Out 1608z S3 (Finnish SDR)	Malc	TUE
	1605z	22/08 [237/00] Out 1608z S3	Malc	TUE
	1605z	29/08 [237/00] Out 1608z S5 (Dutch SDR)	Malc	TUE
5409kHz	2000z	06/07 [520/39 42915…….44770] Out 2011z S6	Malc	THU
	2000z	16/07 [525/00] Out 2003z S5	Malc	SUN
	2000z	23/07 [528/00] Out 2003z S6	Malc	SUN
	2000z	20/07 [525/00] Out 2003z S5	Malc	THU
	2000z	27/07 [522/00] Out 2003z S9	Malc	THU
	2000z	30/07 [528/00] Out 2003z S5	Malc	SUN
	2000z	03/08 [525/00] Out 2003z S5	Malc	THU
	2000z	06/08 [527/00] Out 2003z S8	Brixmis	SUN
	2000z	10/08 [521/35 15348…….87015] Out 2010z S5	Malc	THU
	2000z	17/08 [521/00] Out 2003z S5	Malc	THU
	2000z	20/08 [524/00] Out 2003z S9	Brixmis	SUN
	2000z	24/08 [527/00] Out 2003z S4	Malc	THU
	2000z	31/08 [524/00] Out 2003z S5	Malc, Brixmis	THU
5737kHz	1300z	03/07 [313/00] Out 1303z S4 (Finnish SDR)	Malc	MON
	1300z	06/07 [311/00] Out 1303z S4 (Finnish SDR)	Malc	THU
	1300z	10/07 [314/00] Out 1303z S4 (Dutch SDR)	Malc	MON
	1300z	13/07 [311/00] Out 1303z S4 (Finnish SDR)	Malc	THU
	1300z	17/07 [316/00] Out 1303z S3 (Dutch SDR)	Malc	MON
	1300z	20/07 [312/00] Out 1303z S9 (Finnish SDR)	Malc	THU
	1300z	27/07 [319/32 91692…….28738] Out 1310z S4 (Finnish SDR)	Malc	THU
	1300z	31/07 [311/00] Out 1303z S3 (Dutch SDR)	Malc	MON
	1300z	07/08 [316/00] Out 1303z S4 (Finnish SDR)	Malc	MON
	1300z	10/08 [315/00] Out 1303z S2 (Dutch SDR)	Malc	THU
	1300z	14/08 [311/00] Out 1303z S5 (Finnish SDR)	Malc	MON
	1300z	21/08 [316/00] Out 1308z S5 (Finnish SDR)	Malc	MON
	1300z	24/08 [310/00] Out 1303z S3 (Dutch SDR)	Malc	THU
	1300z	28/08 [319/36 77101…….54052] Out 1310z S3 (Dutch SDR)	Malc	MON
6304kHz	1205z	04/07 [462/00] Out 1208z S5 (Finnish SDR)	Malc	TUE
	1205z	05/07 [460/00] Out 1208z S9 (Finnish SDR)	Malc	WED
	1205z	11/07 [464/00] Out 1208z S4 (Dutch SDR)	Malc	TUE
	1205z	18/07 [461/00] Out 1208z S4 (Finnish SDR)	Malc	TUE

	1205z	19/07 [466/00] Out 1206z S4	(Finnish SDR)		Malc	WED
	1205z	25/07 [466/38 43188……..21410] Out 1216z S5			Malc	TUE
	1205z	01/08 [469/00] Out 1208z S3	(Dutch SDR)		Malc	TUE
	1205z	02/08 [469/00] Out 1208z S2	(Dutch SDR)		Malc	WED
	1205z	08/08 [461/00] Out 1303z S2	(Dutch SDR)		Malc	TUE
	1205z	09/08 [464/00] Out 1208z S5	(Finnish SDR)		Malc	WED
	1205z	15/08 [466/30 94023…….03143] Out 1215z S5		(Finnish SDR)	Malc	TUE
	1205z	29/09 [465/00] Out 1208z S7	(Finnish SDR)		Malc	TUE
	1205z	30/08 [463/00] Out 1208z S3	(Dutch SDR)		Malc	WED
6923kHz	0930z	05/07 [270/37 27978…….07432] Out 0941z S3		(Finnish SDR)	Malc	WED
	0930z	12/07 [276/00] Out 0933z S2	(Dutch SDR)		Malc	WED
	0933z	13/07 [278/00] Out 0933z S4	(Dutch SDR)		Malc	THU
	0930z	20/07 [275/00] Out 0933z S2			Malc	THU
	0930z	26/07 [270/00] Out 0933z S3	(Finnish SDR)		Malc	WED
	0930z	27/07 [270/00] Out 0933z S4	(Dutch SDR)		Malc	THU
	0930z	02/08 [271/00] Out 0933z			dMHz	WED
	0930z	03/08 [271/00] Out 0933z S2			Malc	THU
	0930z	09/08 [279/00] Out 0933z S2			Malc	WED
	0930z	17/08 [277/34 84438……..00452] Out 0940z S4		(Dutch SDR)	Malc	THU
	0930z	23/08 [275/00] Out 0933z S4	(Dutch SDR)		Malc	WED
	0930z	24/08 [271/00] Out 0933z S2	(Dutch SDR)		Malc	THU
	0930z	30/08 [277/00] Out 0933z S3	(Dutch SDR)		Malc	WED
	0930z	31/08 [276/00] Out 0933z S5	(Dutch SDR)		Malc	THU
7377kHz	0700z	08/07 [495/32 49466…….77490] Out 0709z S4		(Dutch SDR)	Malc	SAT
	0700z	15/07 [495/00] Out 0703z S3			Malc	SAT
	0700z	16/07 [495/00] Out 0703z S2			Malc	SUN
	0700z	22/07 [492/00] Out 0703z S2			Malc	SAT
	0700z	23/07 [496/00] Out 0703z S2			Malc	SUN
	0700z	29/07 [492/00] Out 0703z S2			Malc	SAT
	0700z	30/07 [490/00] Out 0703z S7			Malc	SUN
	0700z	06/08 [495/31 05522 25171 11397 05473 54097 44681 58112 21227……32744 12885]		Good	RNGB	SUN
	0700z	12/08 [491/00] Out 0703z S2			Malc	SAT
	0700z	13/08 [497/00] Out 0703z S3			Malc	SUN
	0700z	19/08 [497/00] Out 0703z S3			Malc	SAT
7391khz	0820z	24/08 [436/00] Out 0823z S2	(New frequency)		Malc	THU
	0820z	25/08 [434/00] Out 0823z			Malc	FRI
	0820z	31/08 [436/00] Out 0823z S3			Malc	THU
7600kHz	1900z	03/07 [640/32 48261…….28745] Out 1910z S5			Malc	MON
	1900z	10/07 [641/00] Out 1903z S6			Malc	MON
	1900z	17/07 [647/00] Out 1903z S5			Malc	MON
	1900z	20/07 [647/00] Out 1903z S6+QRM			Malc	THU
	1900z	24/07 [649/00] Out 1903z S7			Malc	MON
	1900z	27/07 [644/00] Out 1903z S4			Malc	THU
	1900z	31/07 [646/00] Out 1903z S3			Malc	MON
	1900z	03/08 [647/00] Out 1903z S7			Malc	THU
	1900z	07/08 [647/00] Out 1903z S8			Brixmis	MON
	1900z	10/08 [643/00] Out 1903z S5			Malc	THU
	1900z	14/08 [646/32 99317……..…10878] Out 1910z S3+QRM			Malc	MON
	1900z	17/08 [646/32 99317……..10878] Out 1910z S3			Malc	THU
	1900z	28/08 [643/00] Out 1903z S9 QSB5			Malc, Brixmis	MON
	1900z	31/08 [640/00] Out 1903z S6			Malc, Brixmis	THU
7863kHz	1715z	12/07 [970/00] Out 1718z S5			Malc	WED
	1715z	14/07 [970/00] Out 0718z S5			Malc	FRI
	1715z	19/07 [978/35 47948…….51736] Out 1726z S3			Malc	WED
	1715z	26/07 [970/00] Out 1718z S3			Malc	WED
	1715z	28/07 [970/00] Out 1718z S3			Malc	FRI
	1715z	02/08 [972/32 30768…….34750] Out 1725z S3			Malc	WED
	1715z	09/08 [976/00] Out 1718z S5			Malc	WED
	1715z	11/08 [972/00] Out 1718z S6			Malc	FRI
	1715z	16/08 [970/00] Out 1718z S3			Malc	WED
	1715z	18/08 [970/00] Out 1718z S4			Malc	FRI
	1715z	23/08 [972/00] Out 1718z S3			Malc	WED
	1715z	25/08 [970/00] Out 1718z S6			Malc	FRI
8088kHz	1730z	06/07 [412/00] Out 1733z			Malc	THU
	1730z	13/07 [413/39 17658…….25375] Out 1741z S4			Malc	THU
	1730z	27/07 [412/00] Out 1733z S4			Malc	THU
	1730z	03/08 [416/00] Out 1733z S6			Malc	THU
	1730z	10/08 [411/00] Out 1733z S3			Malc	THU
	1730z	17/08 [415/00] Out 1733z S4			Malc	THU
	1730z	24/08 [410/38 03481…….14830] Out 1741z S5			Malc	THU
	1730z	31/08 [414/00] Out 1903z S4			Malc	THU
8091kHz	0645z	04/07 [512/00] Out 0648z S5			Malc	TUE
	0645z	06/07 [511/00] Fair			RNGB, Malc	THU
	0645z	11/07 [510/00] Out 0648z S3			Malc	TUE
	0645z	13/07 [519/00] Out 0648z S2			Malc	THU

	0645z	18/07 [517/00] Fair with QRM	RNGB, Malc	TUE
	0645z	20/07 [518/00] Out 0648z S2+QRM	Malc	THU
	0645z	25/07 [512/38 82983…….49482] Out 0656z S3	Malc	TUE
	0645z	01/08 [514/00] Out 0648z S2	Malc	TUE
	0645z	03/08 [511/00] Out 0648z S3	Malc	THU
	0645z	08/08 [515/00] Good	RNGB, Malc	TUE
	0645z	10/08 [517/00] Out 0648z S2	Malc	THU
	0645z	15/08 [518/00] Out 0648z S2+QRM	Malc	TUE
	0645z	17/08 [517/00] Out 0648z S3	Malc	THU
	0645z	22/08 [514/00] Out 0648z S2+QRM	Malc	TUE
	0645z	24/08 [511/00] Out 0648z S2	Malc	THU
	0645z	29/08 [510/34 08330 01100 50669 84926 56050 66354 92194 34356…….00499 53878] Good	RNGB	TUE
8680kHz	0700z	04/07 [570/00] Good	RNGB, Malc	TUE
	0700z	07/07 [570/00] Good	RNGB	FRI
	0700z	11/07 [576/00] Good	RNGB, Malc	TUE
	0700z	14/07 [574/00] Out 0703z S3	Malc	FRI
	0700z	18/07 [577/37 65292 75991 37362 58824 95939 74566 99075 41045…….86947 13023] Good	RNGB	TUE
	0700z	25/07 [574/00] Good	RNGB, Malc	TUE
	0700z	28/07 [574/00] Out 0703z S4	Malc	FRI
	0700z	01/08 [579/00] Fair	RNGB, Malc	TUE
	0700z	04/08 [571/00] Fair	RNGB, Malc	FRI
	0700z	08/08 [570/00] Good	RNGB, Malc	TUE
	0700z	11/08 [579/00] Out 0703z S3	Malc	FRI
	0700z	15/08 [571/00] Out 0703z S4	Malc	TUE
	0700z	18/08 [571/00] Out 0703z S4	Malc	FRI
	0700z	22/08 [576/31 89874…….17974] Out 0709z S3	Malc	TUE
	0700z	29/08 [577/00] Good	RNGB, Malc	TUE
9052kHz	0900z	03/07 [530/00] Out 0903z S2	Malc	MON
	0900z	05/07 [538/00] Out 0903z S3	Malc	WED
	0900z	10/07 [538/00] Out 0900Z S3	Malc	MON
	0900z	12/07 [533/00] Out 0903z S2	Malc	WED
	0900z	17/07 [538/35 33523…….06230] Out 0910z	Malc	MON
	0900z	24/07 [538/00] Out 0903z S3	Malc	MON
	0900z	26/07 [536/00] Out 0903z S3	Malc	WED
	0900z	31/07 [534/00] Out 0903z S2	Malc	MON
	0900z	02/08 [535/00] Out 0903z S3	Malc	WED
	0900z	07/08 [532/00] Out 0903z S2	Malc	MON
	0900z	09/08 [436/00] Out 0903z S3	Malc	WED
	0900z	14/08 [535/00] Out 0903z S4	Malc	MON
	0900z	16/08 [538/00] Out 0903z S3	Malc	WED
	0900z	21/08 [537/37 34792……77502] Out 0911z S6	Malc	MON
	0900z	28/08 [534/00] Out 0903z S3	Malc	MON
	0900z	30/08 [537/00] Out 0903z S5	Malc	WED
9150kHz	0600z	09/07 [352/00] Out 0603z S2	Malc	SUN
	0600z	16/07 [351/00] Out 0602z S5	Malc	SUN
	0600z	23/07 [358/35 91688…….12250] Out 0610z S5	Malc	SUN
	0600z	30/07 [359/00] Out 0603z S4	Malc	SUN
	0600z	04/08 [350/34 15969 16166 10449 64279 62132 19981 07184 18913……00338 21701] Good	RNGB, Malc	FRI
	0600z	13/08 [352/00] OUT 0603z S3	Malc	SUN
9610kHz	0745z	03/07 [261/31 17625…….25981] Out 0755z S5	Malc	MON
	1910z	09/07 [610/00] Out 1913z S5+QRM	Malc	SUN
	0745z	10/07 [266/00] Out 0748z S3	Malc	MON
	1910z	14/07 [616/35 08525……..39453] Out 1920z S6+QRM	Malc	FRI
	0745z	17/07 [269/00] Out 0748z S7	Malc	MON
	1910z	21/07 [612/00] Out 1913z S5+QRM	Malc	FRI
	1910z	23/07 [612/00] Out 1913z S4+QRM	Malc	SUN
	0745z	24/07 [261/00] Out 0748z S3	Malc	MON
	1910z	28/07 [611/00] Out 1913z S5+QRM	Malc	FRI
	1910z	30/07 [610/00] Out 1913z S6+QRM	Malc	SUN
	0745z	31/07 [261/00] Out 0748z S5	Malc	MON
	1910z	04/08 [610/00] Out 1813z S7	Malc	FRI
	1910z	06/08 [614/00] Out 1913z S5	Malc, Brixmis	SUN
	0745z	07/08 [260/00] Out 0748z S5	Malc	MON
	1910z	11/08 [610/00] Out 1913z S8	Malc	FRI
	1910z	13/08 [616/00] Out 1913z S7	Malc	SUN
	0745z	14/08 [260/00] Out 0748z S4	Malc	MON
	1910z	18/08 [612/39 85532 59110 39804 60656 66103 80321 47482.....08845 77748] Out 1921z S6	Brixmis, Malc	FRI
	0745z	21/08 [266/37 37680 98177 95720 939 91178 72549 75211 46620…….87771] Out 0756z S5	Brixmis, Malc	MON
	1910z	25/08 [613/00] Out 1913z S9	Malc	FRI
	0745z	28/08 [269/00] Out 0748z S6	Malc	MON
10356kHz	1530z	06/07 [261/31 17625……...25981] Out 1538z S4	Malc	THU
	1530z	13/07 [264/00] Out 1533z S5	Malc	THU
	1530z	20/07 [261/00] Out 1533z S3	Malc	THU
	1530z	27/07 [267/00] Out 1533z S3	Malc	THU
	1530z	03/08 [266/00] Out 1533z S3	Malc	THU
	1530z	10/08 [261/00] Out 1533z S5	Malc	THU
	1530z	17/08 [269/00] Out 1533z S5	Malc	THU
	1530z	24/08 [266/37 37680 98177 95720 93639 91178 72549 75211 46620……99785 87771]	Gary H	THU

	1530z	31/08 [266/00] Out 1533z S5	Malc	THU
10429kHz	0715z	04/07 [636/00] Good	RNGB, Malc	TUE
	0715z	11/07 [636/00] Good	RNGB, Malc	TUE
	0715z	14/07 [633/00] Out 0718z S2	Malc	FRI
	0715z	18/07 [635/30 78378…….38887] Out 0724z S2	Malc	TUE
	0715z	25/07 [631/00] Out 0718z S3	Malc	TUE
	0715z	28/07 [631/00] Out 0718z S3	Malc	FRI
	0715z	01/08 [633/00] Good	RNGB, Malc	TUE
	0715z	04/08 [631/00] Good	RNGB, Malc	FRI
	0715z	08/08 [634/00] Good	RNGB, Malc	TUE
	0715z	11/08 [637/00] Out 0718z S4	Malc	FRI
	0715z	15/08 [630/38 61387…….05433] Out 0726z S2	Malc	TUE
	0715z	25/08 [633/00] Good	RNGB	FRI
	0715z	22/08 [630/00] Out 0718z S4	Malc	TUE
	0715z	25/08 [633/00] Out 0718z S3	Malc	FRI
	0715z	29/08 [637/00] Out 0718z S4	Malc	TUE
12089kHz	1045z	03/07 [693/00] Out 1048z S9	Malc	MON
	1045z	05/07 [696/00] Out 1048z S6	Malc	WED
	1045z	10/07 [691/00] Out 1048z S3	Malc	MON
	1045z	12/07 [698/00] Out 1048z S3	Malc, dMHz	WED
	1045z	17/07 [697/00] Out 1048z S3	Malc	MON
	1045z	19/07 [694/00] Out 1048z S9	Malc	WED
	1045z	24/07 [694/34 33860…….03462] Out 1055z S6	Malc	MON
	1045z	31/07 [692/00] Out 1048z S6	Malc	MON
	1045z	02/08 [692/00] Out 1048z	dMHz	WED
	1045z	09/08 [694/00] Out 1048z S7	Malc	WED
	1045z	14/08 [692/00] Out 1048z S2	Malc	MON
	1045z	16/08 [691/00] Out 1048z S3	Malc	WED
	1045z	21/08 [692/22 53085…….69642] Out 1053z S7	Malc	MON
	1045z	28/08 [691/00] Out 1048z S7	Malc	MON
	1045z	30/08 [697/00] Out 1048z S5	Malc	WED
12153kHz	1000z	04/07 [304/00] Out 1003z S3	Malc	TUE
	1000z	11/07 [302/00] Out 1103z S5	Malc	TUE
	1000z	14/07 [305/00] Out 1003z S4	Malc	FRI
	1000z	18/07 [309/00] Out 1003z S5	Malc	TUE
	1000z	21/07 [309/00] Out 1003z S3	Malc	FRI
	1000z	25/07 [307/33 71855…….52104] Out 1010z S5	Malc	TUE
	1000z	01/08 [302/00] Out 1003z S3	Malc	TUE
	1000z	04/08 [309/00] Out 1003z S4+QRM	Malc	FRI
	1000z	08/08 [306/00] Out 1003z S3	Malc	TUE
	1000z	11/08 [306/00] Out 1003z S3	Malc	FRI
	1000z	15/08 [309/00] Out 1003z S3	Malc	TUE
	1000z	18/08 [307/00] Out 1003z S5	Malc	FRI
	1000z	25/08 [306/40 84439…….97333] Out 1011z S4	Malc	FRI
	1000z	29/08 [305/00] Out 1003z S4	Malc	TUE
12229kHz	1815z	09/07 [929/00] Out 1818z S8	Malc	SUN
	1815z	14/07 [925/31 98712…….15088] Out 1818z S9	Malc	FRI
	1815z	16/07 [925/31 98712…..etc] Repeat of Friday	Malc	SUN
	1815z	21/07 [920/00] Out 1818z S9	Malc	FRI
	1815z	23/07 [920/00] Out 1818z S4	Malc	SUN
	1815z	28/07 [925/00] Out 1818z S4	Malc	FRI
	1815z	30/07 [926/00] Out 1818z S8	Malc	SUN
	1815z	04/08 [921/00] Out 1818z S6	Malc	FRI
	1815z	06/08 [920/00] Out 1818z S5	Malc , Brixmis	SUN
	1815z	11/08 [925/34 51179…….65435] Out 1818z S6	Malc	FRI
	1815z	18/08 [929/00] Out 1818z S9	Malc	FRI
	1815z	20/08 [922/00] Out 1818z S6	Brixmis	SUN
	1815z	25/08 [927/00] Out 1818z S5	Malc	FRI
12815kHz	0845z	03/07 [710/38 24097…….51143] Out 0856z S3	Malc	MON
	0845z	10/07 [715/00] Out 0848z S2	Malc	MON
	0845z	12/07 [715/00] Out 0848z S3	Malc	WED
	0845z	17/07 [718/00] Out 0848z S3	Malc	MON
	0845z	19/07 [711/00] Out 0848z S5	Malc	WED
	0845z	24/07 [718/00] Out 0848z S3	Malc	MON
	0845z	26/07 [715/00] Out 0848z S4	Malc	WED
	0845z	31/07 [718/00] Out 0848z S2	Malc	MON
	0845z	02/08 [713/00] Out 0848z S3	Malc	WED
	0845z	07/08 [719/00] Out 0848z S2	Malc	MON
	0845z	09/08 [718/00] Out 0848z S2	Malc	WED
	0845z	14/08 [719/00] Out 0848z S5	Malc	MON
	0845z	16/08 [713/00] Out 0848z S4	Malc	WED
	0845z	21/08 [714/00] Out 0848z SS4	Malc	MON
	0845z	23/08 [718/00] Out 0848z S3	Malc	WED
	0845z	28/08 [710/38 15797…….47899] Out 0856z S5	Malc	MON
12984kHz	1430z	04/07 [914/36 99678…….76702] Out 1441z S5	Malc	TUE
	1430z	11/07 [917/00] Out 1433z S3	Malc	TUE
	1430z	18/07 [917/00] Out 13433z S4	Malc	TUE

	1430z	22/07 [911/00] Out 1433z S3	Malc	SAT
	1430z	25/07 [911/00] Out 1433z S3	Malc	TUE
	1430z	29/07 [919/00] Out 1433z S4	Malc	SAT
	1430z	01/08 [911/00] Out 1433z S4	Malc, dMHz	TUE
	1430z	05/08 [918/00] Out 1433z S4+QRM	Malc	SAT
	1430z	08/08 [919/40 73328…….82017] Out 1441z S3	Malc	TUE
	1430z	15/08 [919/00] Out 1433z S4	Malc, Brixmis, Gary H	TUE
	1430z	19/08 [915/00] Out 1433z S3	Malc	SAT
	1430z	29/08 [917/00] Out 1433z S5	Malc	TUE
14410kHz	1745z	03/07 [242/00] Out 1748z S5	Malc	MON
	1745z	09/07 [248/00] Out 1748z S5+QRM	Malc	SUN
	1745z	10/07 [344/00] Out 1748z S7	Malc	MON
	1745z	16/07 [246/00] Out 1748z SS4+QRM	Malc	SUN
	1745z	17/07 [249/33 45539…….80081] Out 1755	Malc	MON
	1745z	24/07 [348/00] Out 1748z S4	Malc	MON
	1745z	30/07 [244/00] Out 1648z S6	Malc	SUN
	1745z	31/07 [248/00] Out 1748z S3	Malc	MON
	1745z	06/08 [249/00] Out 1748z S5	Malc	SUN
	1745z	07/08 [245/00] Out 1748z S6	Brixmis	MON
	1745z	13/08 [249/00] Out 1755z S6	Malc, Brixmis	SUN
	1745z	14/08 [245/40 08291…….58488] Out 1756z S4+QRM	Malc	MON
	1745z	21/08 [248/00] Out 1748z S9	Malc	MON
	1745z	28/08 [245/00] Out 1748z S5	Malc, Brixmis	MON
14575kHz	1645z	04/07 [332/00] Out 1648z S2 (Dutch SDR)	Malc	THU
	1645z	11/07 [338/36 24847…….85676] Out 1655z S2	Malc	TUE
	1645z	18/07 [333/00] Out 1648z S3	Malc	TUE
	1645z	25/07 [337/00] Out 1648z S3	Malc	TUE
	1645z	27/07 [335/00] Out 1648z S3	Malc	THU
	1645z	01/08 [338/34 71362…….26201] Out 1655z S7	Malc	TUE
	1645z	08/08 [334/00] Out 1648z S2	Malc	TUE
	1645z	10/08 [333/00] Out 1648z S4	Malc	THU
	1645z	15/08 [338/00] Out 1648z S3	Malc	TUE
	1645z	17/08 [334/00] Out 1648z S6	Malc	THU
	1645z	22/08 [335/00] Out 1648z S6	Malc	TUE
	1645z	24/08 [338/00] Out 1648z S5	Malc	THU
	1645z	29/08 [334/00] Out 1648z S9 QSB7	Malc	TUE
	1645z	31/08 [338/00] Out 1648z S5+QRM	Malc, Brixmis	THU
14940kHz	0745z	04/07 [223/33 34320 74512 48500 33043 78142 53947 82757 71848…….59984 53998] Fair	RNGB, Malc	TUE
	0745z	11/07 [220/00] Out 0748z S5	Malc	TUE
	0745z	13/07 [225/00] Out 0748z S5	Malc	THU
	0745z	18/07 [228/00] Good	RNGB	TUE
	0745z	20/07 [229/00] Good	RNGB	THU
	0745z	18/07 [228/00] Out 0748z S4	Malc	TUE
	0745z	20/07 [229/00] Out 0748z S5	Malc	THU
	0745z	25/07 [220/00] Out 0748z S7	Malc	TUE
	0745z	27/07 [221/00] Fair	RNGB, Malc	THU
	0745z	01/08 [228/00] Out 0748z S4+QRM	Malc	TUE
	0745z	03/08 [227/00] Out 0748z S8	Malc	THU
	0745z	08/08 [223/00] Out 0748z S4	Malc	TUE
	0745z	10/08 [229/00] Out 0748z S7	Malc	THU
	0745z	15/08 [225/32 29549…….42605] Out 0755z S3	Malc	TUE
	0745z	24/08 [227/00] Out 0748z S8	Malc	THU
	0745z	29/08 [228/00] Good	RNGB	TUE
	0745z	29/08 [228/00] Out 0748z S5	Malc	TUE
	0745z	31/08 [221/00] Out 0748z S4	Malc	THU
14972kHz	0315z	24/07 [250/00]	HfD	MON
	0315z	14/08 [253/00]	HfD	MON
15720kHz	0745z	05/07 [347/32 24056 48951 47552 32835 21663 56813 35036 16084……88874 09167] Good	RNGB, Malc	WED
	0745z	12/07 [348/00] Out 0748z S4	Malc	WED
	0745z	14/07 [348/00] Out 0748z S4	Malc	FRI
	0745z	19/07 [343/00] Out 0748z S3	Malc	WED
	0745z	21/07 [348/00] Out 0748z S3	Malc	FRI
	0745z	26/07 [344/00] Out 0748z S4	Malc	WED
	0745z	28/07 [344/00] Out 0748z S4	Malc	FRI
	0745z	02/08 [346/00] Out 0748z S4	Malc	WED
	0745z	04/08 [342/00] Good	RNGB, Malc	FRI
	0745z	09/08 [342/00] Out 0748z S4	Malc	WED
	0745z	11/08 [346/00] Out 0748z S3	Malc	FRI
	0745z	16/08 [347/33 82561…….11916] Out 0755z S3 QSB2	Malc	WED
	0745z	23/08 [340/00] Out 0748z S3	Malc	WED
	0745z	25/08 [343/00] Out 0748z S3	Malc	FRI
	0745z	30/08 [347/00] Out 0748z S5	Malc	WED
16335kHz	0830z	03/07 [188/00] Out 0833z S3	Malc	MON
	0830z	10/07 [180/00] Out 0833z S5	Malc	MON
	0830z	14/07 [184/00] Out 0833z S7	Malc	FRI
	0830z	17/07 [182/00] Out 0833z S5	Malc	MON
	0830z	21/07 [181/00] Out 0833z S4	Malc	FRI

	0830z	24/07 [184/32 11740 33552 97236 49556 20920 31834 15681 88401……02912 10189 00439]		RNGB, Malc	MON
	0830z	31/07 [181/00] Out 0833z S5		Malc	MON
	0830z	04/08 [189/00] Out 0833z S6		Malc	FRI
	0830z	07/08 [180/40 98407…….56759] Out 0718z S4+QSB2		Malc	MON
	0830z	14/08 [184/00] Good		RNGB, Malc	MON
	0830z	18/08 [182/00] Out 0833z S2		Malc	FRI
	0830z	21/08 [185/00] Out 0833z S6		Malc	MON
	0830z	25/08 [182/00] Out 0833z S4		Malc	FRI
	0830z	28/08 [188/00] Out 0833z S3		Malc	MON
17378kHz	0820z	04/07 [134/31 47586…….21559] Out 0830z S3		Malc	TUE
	0820z	11/07 [130/00] Out 0823z S5		Malc	TUE
	0820z	12/07 [133/00] Out 0823z S3		Malc, dMHz	WED
	0820z	18/07 [135/00] Out 0823z S4		Malc	TUE
	0820z	19/07 [131/00] Out 0823z S3		Malc	WED
	0820z	25/07 [136/00] Good		RNGB, Malc	TUE
	0820z	26/07 [132/00] Out 0823z S5		Malc	WED
	0820z	01/08 [131/00] Out 0823z S3		Malc	TUE
	0820z	02/08 [136/00] Out 0823z S3		Malc	WED
	0820z	08/08 [131/00] Out 0823z S3		Malc	TUE
	0820z	09/08 [131/00] Out 0823z S5		Malc	WED
	0820z	15/08 [133/00] Out 0823z S2		Malc	TUE
	0820z	16/08 [131/00] Out 0823z S5		Malc	WED
	0820z	23/08 [138/00] Out 0823z S2		Malc	WED
	0820z	29/08 [131/38 48806…….31191] Out 0931z S3	(Dutch SDR)	Malc	TUE
18030khz	0715z	05/07 [759/00] Weak with heavy QRM		RNGB, Malc	WED
	0715z	10/07 [751/00] Out 0718z S3		Malc	MON
	0715z	12/07 [753/00] Weak		RNGB, Malc	WED
	0715z	17/07 [751/00] Out 0718z S2		Malc	MON
	0715z	19/07 [754/00] Out 0718z S4		Malc	WED
	0715z	24/07 [752/34 70408…….18181] Out 0725z S5		Malc	MON
	0715z	31/07 [754/00] Out 0718z S4		Malc	MON
	0715z	02/08 [757/00] Out 0718z S3		Malc	WED
	0715z	07/08 [751/00] Out 0718z S3		Malc	MON
	0715z	09/08 [752/00] Out 0718z S3		Malc	WED
	0715z	14/08 [751/00] Out 0718z S4		Malc	MON
	0715z	16/08 [752/00] Weak		RNGB	WED
	0715z	21/08 [754/00] Out 0718z S2		Malc, Brixmis	MON
	0715z	23/08 [759/00] Out 0718z S2		Malc	WED
	0715z	28/08 [757/31 76240 40659 28063 49794 10728 51756 38719……75144] Out 0724z S6		RNGB, Malc	MON
19184kHz	0845z	04/07 [154/30 39739…….55962] Out 0855z S8	(Finnish SDR)	Malc	TUE
	0845z	11/07 [159/00] Out 0848z S3		Malc	TUE
	0845z	13/07 [154/00] Out 0848z S2		Malc	THU
	0845z	18/07 [157/00] Out 0848z S3		Malc	TUE
	0845z	20/07 [151/00] Out 0848z S4		Malc	THU
	0845z	25/07 [151/00] Out 0848z S3		Malc	TUE
	0845z	27/07 [154/00] Out 0848z S9	(Finnish SDR)	Malc	THU
	0845z	01/08 [151/00] Out 0848z S2		Malc	TUE
	0845z	08/08 [151/00] Out 0848z S2		Malc	TUE
	0845z	10/08 [154/00] Out 0848z S4		Malc	THU
	0845z	15/08 [152/00] Out 0848z S4	(Dutch SDR)	Malc	TUE
	0845z	22/08 [156/31 97254…….13445] Out 0954z S2	(Dutch SDR)	Malc	TUE
	0845z	29/08 [152/00] Out 0848z S2		Malc	TUE

From Peter we have:

Some of the stronger E11 transmissions - and at convenient times for monitoring - of the past two months. As usual, mostly of the "oblique zero zero", "no message" format lasting just over three minutes.

4783 kHz:-
This one is often afflicted with interference, a very strong burst of noise lasting a few seconds , several times a minute. It was also noted in the summer months of last year so is obviously a long-term resident of this frequency.
1-July-23, Sat:- 1910 UTC, "391/00", no sign of interference.
8-July-23, Sat:- 1910 UTC, "393/00", no interference.
12-July-23, Wed:- 1910 UTC, "390/35", message, with the interference described above.
15-July-23, Sat:- 1910 UTC, "390/35" again, with interference.
19-July-23, Wed:- 1910 UTC, "395/002, with interference.
22-July-23, Sat:- 1910 UTC, "391/00", with interference.
26-July-23, Wed:- 1910 UTC, "393/00", no interference.
2-Aug-23, Wed:- 1910 UTC, "391/34", the interference seems to have left the building, "Out" just after 1920z.
5-Aug-23, Sat:- 1910 UTC, "391/34" again.
12-Aug-23, Sat:- 1910 UTC "391/00", and the interference is back – strongly.
16-Aug-23, Wed:- 1910 UTC, "391/00" with interference.
23-Aug-23, Wed:- 1910 UTC, "395/00", interference very strong.
26-Aug-23, Sat:- 1910 UTC, "396/00", with interference.

5409 kHz:-
20-July-23, Thu:- 2000 UTC, “525/00”.
3-Aug-23, Thu:- 2000 UTC, “525/00”.
17-Aug-23, Thu:- 2000 UTC, “525/00”.
24-Aug-23, Thu:- 2000 UTC, “527/00”.
27-Aug-23, Sun:- 2000 UTC, “521/00”.

7600 kHz:-
This frequency was also used in May and June and as was the case then is on the same frequency as a weaker broadcast station.
6-July-23, Thu:- 1900 UTC, “640/32”, message, “Out” at 1909:35s UTC approx.
13-July-23, Thu:- 1900 UTC, “643/00”.
17-July-23, Mon:- 1900 UTC, “647/00”
20-July-23, Thu:- 1900 UTC, “647/00”.
3-Aug-23, Thu:- 1900 UTC, “647/00”.
7-Aug-23, Mon:- 1900 UTC, “647/00”.
17-Aug-23, Thu:- 1900 UTC, “646/32”, message, the broadcast station on this frequency somewhat stronger than usual.
21-Aug-23, Mon:- 1900 UTC, “644/00”.
24-Aug-23, Thu:- 1900 UTC, “646/00”.

12984 kHz:-
1-July-23, Sat:- 1430 UTC, “917/00”.
4-July-23, Tue:- 1430 UTC, “914/36”, message, “Out” at approx 1440:35s UTC.
8-July-23, Sat:- 1430 UTC, “914/36” again.
15-July-23, Sat:- 1430 UTC, “911/00”.
22-July-23, Sat:- 1430 UTC, “911/00”.
5-Aug-23, Sat:- 1430 UTC, “916/00”.
12-Aug-23, Sat:- 1430 UTC, “919/40”, somewhat higher group count than is usual with E11, “Out” at 1441:152 UTC.
26-Aug-23, Sat:- 1430 UTC, “915/36”, message, “Out” at 1440:30s UTC approx.

14940 kHz:-
13-July-23, Thu:- 0745 UTC, “225/00”.
18-July-23, Tue:- 0745 UTC, “228/00”.
25-July-23, Tue:- 0745 UTC, “220/00”.
15-Aug-23, Tue:- 0745 UTC, “225/32”, message, “Out” at 0754;45s approx.
17-Aug-23, Thu:- 0745 UTC, “225/32” again.
22-Aug-23, Tue:- 0745 UTC, “229/002.
29-Aug-23, Tue:- 0745 UTC, “228/00”.

15720 kHz:-
5-July-23, Wed:- 0745 UTC, “347/32”, message.
7-July-23, Fri:- 0745 UTC, “347/32” again.
12-July-23, Wed:- 0745 UTC, “348/00”.
19-July-23, Wed:- 0745 UTC, “343/00”.
21-July-23, Fri:- 0745 UTC, “348/00”.
26-July-23, Wed:- 0745 UTC, “344/00”.
28-July-23, Fri:- 0745 UTC, “344/00”.
2-Aug-23, Wed:- 0745 UTC, “346/00”.
4-Aug-23, Fri:- 0745 UTC, “342/00”.
9-Aug-23, Fri:- 0745 UTC, “342/00”.
11-Aug-23, Fri:- 0745 UTC, “346/00”. Left the receiver on this frequency and upon returning at around 0925 UTC there was a strong broadcast station with traditional Middle Eastern music.
16-Aug-23, Wed:- 0745 UTC, “347/33”, message – for a change.
18-Aug-23, Fri:- 0745 UTC, “347/33” again.
23-Aug-23, Wed:- 0745 UTC, “340/00”/

17378 kHz:-
25-July-23, Tue:- 0820 UTC, “136/00”.
26-July-23, Wed:- 0820 UTC, “132/00”.
16-Aug-23, Wed:- 0820 UTC, “131/00”.

S06

Some analysis from Peter:

First + Third Fridays in the Month Schedule:-
7-July-23:- 2000 UTC, 10286 kHz, very weak signal, unreadable, frequency used for the first sending in May and June.
2100 UTC, 8037 kHz, much better, strong signal, “637 637 637 00000”. Also a weak SSB
signal heard underneath, English, OM voice, said “one two” a couple of times and “ridiculous”.

21-July-23:- 2000 UTC, 10286 kHz, very weak and local RF noise interference, unreadable.
2100 UTC, 8037 kHz, strong, “637 637 637 00000”.

Moved back by one hour in August:-
4-Aug-23:- 1900 UTC, 10286 kHz, “637 637 637 00000”, much stronger signal than in July.
2000 UTC, 8037 kHz, good signal with some kind of buzzing noise interference underneath.

18-Aug-23:- 1900 UTC, 10826 kHz, “637 637 637 000”, strong enough to over-ride local interference.
2000 UTC, 8037 kHz, strong signal.
From RNGB, matching PoSW:

S06 log July/August

Friday 1st & 3rd		**2000z**	**10286khz**	**2100z**	**8037kHz**	
21/07	'637' 00000					
		1900z	**10286kHz**	**2000z**	**8037kHz**	
04/08	'637' 00000					
18/08	'637' 00000					

S06c

12/07	0922z	18697kHz	'11753'	with acknowledgement to 'DE2TRF' via 'Drew"	Twente SDR

Little to be had S06 wise, it seems?

S11a log July/August

5149kHz	0830z	09/07 [372/00] Konyetz 0833z S2	(Dutch SDR)	Malc	SUN
	0830z	15/07 [372/00] Konyetz 0833z S3	(Dutch SDR)	Malc	SAT
	0830z	16/07 [379/00] Konyetz 0833z S2	(Dutch SDR)	Malc	SUN
	0830z	22/07 [370/00] Konyetz 0833z S2		Malc	SAT
	0830z	23/07 [377/00] Konyetz 0833z S3	(Dutch SDR)	Malc	SUN
	0830z	29/07 [372/36 75379 96960 13558 98102 20561 23204 47526…...43645 10334] Konyetz 0842z S5		RNGB, Malc	SAT
	0830z	05/08 [376/00] Konyetz 0833z S2	(Dutch SDR)	Malc	SAT
	0830z	06/08 [379/00] Konyetz 0833s S4	(Finnish SDR)	Malc	SUN
	0830z	12/08 [376/00] Konyetz 0833z S2		Malc	SAT
	0830z	13/08 [378/00] Fair		RNGB	SUN
	0830z	19/08 [372/38 15152 68786 88731 93897 42599 26368 36914……42674 85216] Konyetz 0842z		RNGB, Malc	SAT
6814kHz	0915z	10/07 [480/00] Konyetz 0918z S3		Malc	MON
	0915z	14/07 [487/00] Konyetz 0918z S2		Malc	FRI
	0915z	17/07 [481/00] Konyetz 0918z S2		Malc	MON
	0915z	21/07 [482/00]] Konyetz 0918z S2		Malc	FRI
	0915z	24/07 [487/40 60473…….10674] Konyetz 0918z S5 (Finnish SDR)		Malc	MON
	0915z	31/07 [484/00] Konyetz 0918z S3	(Finnish SDR)	Malc	MON
	0915z	04/08 [480/00] Konyetz 0918z S3		Malc	FRI
	0915z	11/08 [484/00] Konyetz 0918z S2		Malc	FRI
	0915z	14/08 [486/39 72485…….78145] Konyetz 0928z S4 (Dutch SDR)		Malc	MON
	0915z	18/08 [486/39 72485…….78145] Konyetz 0928z		Malc	FRI
	0915z	21/08 [481/00] Konyezt 0918z S5	(Dutch SDR)	Malc	MON
	0915z	25/08 [480/00] Konyetz 0918z S7	(Dutch SDR)	Malc	FRI
	0915z	28/08 [480/00] Konyetz 0918z S3		Malc	MON
9339kHz	0700z	03/07 [479/39 66727…….31530] Konyetz 0711z S3		Malc	MON
	0700z	10/07 [479/00] Konyetz 0703z S2		Malc	MON
	0700z	13/07 [475/00] Konyetz 0703z S3		Malc	THU
	0700z	17/07 [470/00] Konyetz 0703z S3		Malc	MON
	0700z	20/07 [477/00] Good		RNGB, Malc	THU
	0700z	24/07 [475/00] Konyetz 0703z S3		Malc	MON
	0700z	27/07 [478/00] Konyetz 0703z S3		Malc	THU
	0700z	31/07 [472/00] Konyetz 0703z S3		Malc	MON
	0700z	03/08 [471/00] Konyetz 0703z S2		Malc	THU
	0700z	07/08 [472/00] Strong		RNGB, Malc	MON
	0700z	10/08 [470/00] Konyetz 0703z S3		Malc	THU
	0700z	14/08 [476/39 30256 86102 47376 98331 16392 74388 57753 64598……63365 51124] Strong		RNGB	MON
	0700z	21/08 [470/00] Konyetz 0703z S3		Malc	MON
	0700z	24/08 [471/00] Konyetz 0703z S3		Malc	THU
	0700z	28/08 [472/00] Konyetz 0703z S3		Malc	MON
	0700z	31/08 [479/00] Konyetz 0703z S3		Malc	THU
9448kHz	1400z	04/07 [420/00] Konyetz 1403z S2		Malc	TUE
	1400z	11/07 [422/40 56399……. 50720] Konyetz 1411z S5 (Dutch SDR)		Malc	TUE
	1400z	18/07 [421/00] Konyetz 1403z S2		Malc	TUE
	1400z	25/07 [426/00] Konyetz 1403z S3		Malc	TUE
	1400z	28/07 [426/00] Konyetz 1403z S2		Malc	FRI
	1400z	01/08 [424/00] Konyetz 1403z S4	(Dutch SDR)	Malc	TUE
	1400z	04/08 [420/00] Konyetz 1403z S2		Malc	FRI
	1400z	08/08 [420/00] Konyetz 1403z S2		Malc	TUE
	1400z	11/08 [427/00] Konyetz 1403z S4	(Dutch SDR)	Malc	FRI
	1400z	15/08 [429/38 60905…….69352] Konyetz 1412z S2		Malc	TUE
	1400z	22/08 [424/00] Konyetz 1403z S3		Malc	TUE
	1400z	25/08 [425/00] Konyetz 1403z S4	(Dutch SDR)	Malc	FRI
	1400z	29/08 [427/00] Konyetz 1403z S3		Malc	TUE

12457kHz	1850z	08/07 [284/00] Konyetz 1853z S7	Malc	SAT
	1850z	12/07 [284/32 47606…….32051] Konyetz 1901z S7	Malc	WED
	1850z	19/07 [485/00] Konyetz 1853z S4+QRM	Malc	WED
	1850z	22/01 [285/00] Konyetz 1853z S9	Malc	SAT
	1850z	26/07 [286/00] Konyetz 1853z S3	Malc	WED
	1850z	29/07 [285/00] Konyetz 1853z S9	Malc	SAT
	1850z	05/08 [284/00] Konyetz 1853z S2 (Dutch SDR)	Malc	SAT
	1850z	09/08 [284/36 23938……96526] Konyetz 1902z S9	Malc	WED
	1850z	19/08 [288/00] Konyetz 1853z S9	Malc	SAT
	1850z	30/08 [281/00] Konyetz 1853z S7	Malc	WED
20905kHz	0725z	05/07 [382/00] Weak	RNGB, Malc	WED
	0725z	12/07 [380/00] Konyetz 0728z S7	Malc	WED
	0725z	14/07 [385/00] Konyetz 0728z S7 (Finnish SDR)	Malc, HfD	FRI
	0725z	19/07 [381/33 26457…….47589] Koneytz 0736z S3 (German SDR}	Malc	WED
	0725z	26/07 [383/00] Weak (Polish SDR)	RNGB	WED
	0725z	28/07 [384/00] Konyetz 0718z S3	Malc	FRI
	0725z	02/08 [380/00] Konyetz 0728z S4	Malc	WED
	0725z	04/08 [381/00] Konyetz 0728z S6	Malc	FRI
	0725z	09/08 [387/00] Konyetz 0728z S6	Malc	WED
	0725z	11/08 [385/00] Konyetz 0728z S4	Malc	FRI
	0725z	18/08 [382/00] Konyetz 0728z S2 (Dutch SDR)	Malc	FRI
	0725z	23/08 [389/35 61971 70751 02205 21829 86490 94717 15913……53761 11727]	RNGB, Malc	WED
	0725z	30/08 [387/00] Konyetz 0728z S3	Malc	WED

V07

Sunday

July 2023

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

Sun 23.07.2023 0700Z 13978 931:1-830/111= 12629 via KiwiSDR USA — H-FD — SUN
Sun 23.07.2023 0720Z 13378 931:1 via KiwiSDR USA
Sun 23.07.2023 0740Z 12178 931:1 via KiwiSDR USA

09/07 — 931 1 132 65 26447 ... 55879 000 000 — Ary — SUN

931 931 931 1 132 65 132 65
26447 70391 63414 74022 97094 99019 59694 97895 18613 78090
99758 69004 80051 84105 03075 31204 32909 80924 02005 90908
60903 77952 95410 63706 32516 90560 84540 12562 82701 23977
33966 43818 11327 22473 40081 86909 02550 04090 83327 95269
79035 81470 28773 03879 69900 72578 37132 56694 66683 49755
70862 78067 38488 04156 04967 99693 40784 42163 08039 69506
28702 51043 94793 63452 55879 000 000 *Courtesy Ary*

30/07 — 931 931 931 000 000 — 13978kHz only — QSA3 — DanAR — SUN

August 2023

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

13/08 — 425 1 105 116 84656 ... 38161 000 000 — 13408kHz 0700z only — DanAR — SUN

425 425 425 1
105 116
84656 99473 28598 17435 46212
16153 10539 91403 33545 23143
76038 76366 72361 83069 49015
12836 88191 51257 29437 78028
54829 01814 60215 11870 37085
01949 97684 74630 61203 69389
80169 90573 85626 10389 58553
36504 16842 69672 55422 84744
91924 12451 87296 00252 52088
24693 38364 74657 88950 25719
96777 05306 38869 43306 34224
58622 08700 44948 35957 54580
26442 58805 61839 92030 38629
23684 14620 33935 40191 28130
42470 16772 36582 78469 89436
71491 12075 03017 47830 94813
90441 55627 95148 77530 04035
90559 78384 01434 32020 17642
54754 76827 66779 29368 40433
94030 28427 29563 19493 75735
97509 49617 91368 86989 20263
93190 85413 46734 13789 79429
11100 86064 78789 13807 04893
38161 000 000 *Courtesy DanAR*

20/08	425 1 7800 114 92103 ... 08672 000 000	0700z 13408z	Weak	DanAR	SUN

425 425 425 1
7800 114
92103 80826 27754 24424 55906
63772 85154 79670 35742 13090
95072 61039 68660 69047 91474
97628 62914 11403 08734 99924
07384 46087 75084 48767 03873
30766 06294 83620 27716 40591
02450 27189 87513 44561 51122
53831 74861 63842 22304 36265
89544 48375 09441 02539 19113
97918 45104 44686 93900 88849
29510 44397 69150 33028 23121
94717 57495 19168 41754 02275
59886 93457 07236 67158 57073
58670 92185 54342 85800 44981
45952 64224 79284 51655 30486
04126 38755 34599 76444 02260
33955 81705 00925 16282 92935
89392 97429 34627 78127 13703
02204 03762 94286 99820 85721
92440 29029 19933 16985 70094
69308 55426 67878 19909 93007
92031 76140 64971 54868 78636
60944 69975 06861 08672
000 000 *Courtesy DanAR*

27/08	425 1 404 73 07289... 84164 000 000	0700z 13408kHz	Weak	DanAR	SUN

425 425 425 1
404 73
07289 75361 73701 11818 89901
02951 83416 48940 97378 70311
78234 39425 55427 66293 76690
38459 52887 67848 20701 71794
94773 06351 80861 86410 46671
34609 22919 36741 87882 90804
78484 16591 51871 27969 04793
44165 36414 15515 57247 55206
11423 97501 52934 61831 09403
57095 22106 49053 83516 85591
68038 16977 66044 69075 19425
92565 30693 21013 76022 39084
45369 16933 63650 62129 27505
96284 05536 21790 30815 39506
34143 57820 84164 000 000
Courtesy DanAR

V13

Nil Reports

V15

Nil Reports

North Korea Spy Numbers Broadcasting via Pyongyang BS

V24

Nil Reports

South Korean Intelligence.

V26

Nil Reports

Polytones

XPA1 Wed/Fri

Wed/Fri

July 2023

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

05/07 Unworkable, 1210z QRM5 rest Weak, unworkable in Crystal Palace, but see below:

Wed 05.07.2023 1210Z 13368 msg From H-FD
Wed 05.07.2023 1230Z 12168 msg
Wed 05.07.2023 1250Z 11168 msg

07/07 NOT MONITORED

12/07 NOT MONITORED

14/07 311 000 08546 0001 00000 ... 36664 1210z Weak, rest NRH

19/07 311 1 01356 00110 18187 … 63616 From Ary

311 311 311 1 311 311 311 1 311 311 311 1
01356 00110 18187 24170 77231 27927 94351 79284 05647 48211
02794 28563 49778 32314 84820 31501 41871 67882 02378 92682
15477 06605 65643 03043 20582 80765 11655 79897 33989 21641
09576 29782 30299 81997 51602 85665 86180 02969 66133 21779
53157 58391 18649 07275 93901 61860 48090 42220 60971 01741
85388 72123 45374 50281 97958 65239 06588 26955 60818 26256
00301 58224 59930 73440 82489 33807 02598 89290 65566 60431
38930 40276 02760 58721 03206 08008 36255 30778 97096 72063
17182 15435 90084 14909 39882 86507 67774 33225 06383 45078
00048 56434 52071 85245 87226 14401 11877 50684 30503 30139
18161 19260 23272 54932 49214 21702 80921 66794 68627 70297
85914 55202 63616 *Courtesy Ary*

21/07 311 1 01356 00110 18187 … 63616 Weak QSB3, 1250z NRH

26/07 311 000 09663 00001 00000 ... 35667 1250z Unworkable, rest Weak

28/07 Null Message Umworkable, poor condx
From Ary: 311 311 311 000 02226 00001 00000 35254

August 2023

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

02/08 416 416 416 000 03170 00001 00000 31662 Ary WED

04/08 416 000 03065 00001 00000 ... 33661 Fair, 1250z NRH

09/08 416 000 08696 00001 00000 ... 37271 Unworkable, unsure figs

11/08 Null Msg, deep QSB 1250z NRH

16/08 416 000 06232 00001 00000 ... 33261 Weak, 1210z QRM3, 1250z Unworkable QSB5

18/08 411 000 02600 00001 00000 ... 34252 Weak, 1250z NRH

23/08 416 1 04640 00100 48430 ... 45141 Fair, 1210z PulseQRM2, 1250z Unworkable

416 416 416 1 416 416 416 1 416 416 416 1

04640 00100 48430 31474 54449 78440 15832 83376 03415 89098
90771 13832 45878 02223 67442 97591 15973 64950 58614 94509
33726 42467 25681 79116 13266 70882 00502 97224 86055 79653
50790 67727 36142 05482 20216 64676 89414 22849 31167 00108
40103 00827 79852 83931 90425 67146 46246 79770 76707 58061
45173 61510 61392 03655 07894 52797 60010 19404 24831 30719
83946 25335 00983 65515

89039 78484 90404 67063 57252 91157 51652 76894 94601 78303
57015 25154 22177 33416 81187 95556 09177 03617 21248 23108
42408 67972 60188 82896 75794 27845 05991 37623 50292 40873
92229 02916 23235 98301 68207 55223 88500 10176 45141
Courtesy PLdn

25/08 416 1 04640 00100 48430 ... 45141 1210z Fair, 1230z Weak, 1250z NRH

30/08 416 1 04640 00100 48430 ... 45141 1230z Fair, rest Unworkable

XPA2 m

Sunday/Tuesday

July 2023

2100z	13394kHz	2120z	12194kHz	2140z	10794kHz	
02/07		04063 00001 00000 ... 32662				Strong
04/07		07450 00064 95237 ... 04360				Very strong

07450 00064 95237 88971 79932 25223 97030 11062 18374 59567
11379 90710 09855 09073 89924 53517 94209 30304 22780 89787
82838 32006 96056 85173 98159 57974 41934 24661 94231 69176
48975 29924 35853 06355 93447 61094 83597 38639 18829 14653
91372 65412 73638 46939 16911 02123 02332 93283 01765 96705
17541 91228 12820 91971 02855 98449 60563 73260 80633 45505
92412 72335 12481 83837 79384 74043 04360 *Courtesy PLdn*

09/07		07450 00064 95237 ... 04360				Very strong
11/07		NOT MONITORED				
16/07		03172 00001 00000 ... 32662				Fair
18/07		00157 00088 84072 ... 43463				Very strong

00157 00088 84072 69159 02349 73412 35286 04443 72118 15942
11064 98550 53018 02988 91222 11234 18776 00297 32111 59295
70992 68516 93814 22695 43227 72478 50022 35173 40357 49292
12396 16409 55499 89328 52931 60756 07193 44525 78145 91283
84414 53211 47089 89798 93532 46632 47233 13012 91335 47687
44778 98595 27647 04574 60173 67228 04147 11594 32972 66208
47203 95060 89936 60960 74608 50414 19547 70180 32250 79746
95850 92667 18524 05112 61831 59017 75687 35473 19735 73163
31035 71917 36907 85773 96292 49468 64342 34613 49071 59901
43463 *Courtesy PLdn*

23/07		00157 00088 84072 ... 43463				2100z Weak, rest Strong
25/07		08636 00001 00000 ... 37263				2100z Fair, rest Strong
30/07		07411 00001 00000 ... 33660				Very strong, 2140z QRM2

August 2023

2100z	12159kHz	2120z	11559kHz	2140z	10559kHz	
01/08		00346 00095 21106 ... 23307				Very strong, 2120z NRH

00346 00095 21106 68510 77667 11261 25165 17319 00635 29205
34466 00439 14157 77742 75457 39580 99291 81459 02211 40994
32113 84119 27370 84389 10067 20880 64563 77294 48813 44014
67839 53282 96976 80235 45137 01320 52312 02172 78891 99742
05532 85429 75964 32422 15443 45619 33187 17529 96580 62695
04961 75490 77127 41330 46437 10660 37851 41416 84981 01337
10531 31782 12359 94152 49982 65028 71291 40777 42595 56027
00679 92233 67894 34421 98345 57956 09187 37524 92471 11858
69981 50002 32359 04970 58991 41891 62710 23942 31520 76479
30516 16909 53303 14018 45346 89752 04391 23307
Courtesy PLdn

06/08		00346 00095 21106 ... 23307				Strong, 2100z QRM2, 2120z MISSED
08/08		07300 00001 00000 ... 32657				Strong
13/08		08996 00001 00000 ... 40671				Very strong
15/08		06051 00072 48506 ... 54027				Very strong

06051 00072 48506 18554 77173 99629 87178 31575 88278 19311
43496 02831 59745 92717 13492 15861 09446 26293 12360 16537
94237 38288 71924 19356 93298 52311 70623 17069 02096 75767
95330 67142 56656 82261 00652 68524 88219 19374 18549 28432
14537 23786 05668 46290 93339 18274 05330 61605 70893 65326
71098 45758 71686 52837 62438 41780 89453 94179 81538 22623
87838 96997 68033 21634 12441 89574 58919 47386 39526 59524
73798 50215 26582 21169 54027 *Courtesy PLdn*

20/08		06051 00072 48506 ... 54027				2100z Very strong, rest Strong

06051 00072 48506 18554 77173 99629 87178 31575 88278 19311
43496 02831 59745 92717 13492 15861 09446 26293 12360 16537
94237 38288 71924 19356 93298 52311 70623 17069 02096 75767
95330 67142 56656 82261 00652 68524 88219 19374 18549 28432
14537 23786 05668 46290 93339 18274 05330 61605 70893 65326
71098 45758 71686 52837 62438 41780 89453 94179 81538 22623
87838 96997 68033 21634 12441 89574 58919 47396 39526 59524
73798 50215 06582 21169 54027 *Courtesy PLdn*

22/08		01046 00001 00000 ... 34255				Very strong, 2140z Strong

27/08 08744 00001 00000 … 36664 Strong

29/08 00289 00069 20949 ... 47156 2100z Very strong, 2140z Fair. 2120z Not monitored

00289 00069 20949 95304 08487 01680 68979 47259 40956 32395
08387 98525 32510 03139 44152 78952 94488 48315 40965 94601
63974 63128 54140 47493 56954 20371 17016 56000 11654 95021
73576 22351 58976 38459 81906 44037 70304 17216 55772 86891
81939 72857 59587 88058 49772 36980 18917 36202 52506 86588
74504 91788 34517 93648 24504 00119 94370 36702 06764 64687
93627 28253 42940 93811 69077 45635 62633 71873 77141 70618
62279 47156 *Courtesy PLdn*

XPA2 p

Monday/Wednesday

July 2023

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

03/07 00275 00110 39161 ... 40102 Weak, 0720z QSB3

00275 00110 39161 38164 21842 37982 42308 58348 21570 16263
69215 86716 80868 88681 68013 95693 03717 48144 22533 29221
16183 13296 25366 49302 54546 32745 33690 33013 93498 67895
19131 10139 44862 06629 91216 57030 75208 51183 69901 60521
63392 37950 84581 53197 16122 94150 49437 71603 86287 30648
67846 12636 75735 31373 42045 56347 51883 38154 34607 27038
55658 73085 61118 45354 04382 88543 49501 38615 90429 68674
72529 43745 35269 23769 74006 47395 86331 76402 50835 83092
34678 91859 82355 20457 14266 75867 13876 59558 93663 73336
95670 52922 22113 85455 67967 53218 48704 41450 90965 00124
48774 07011 28404 56049 19963 29158 12137 54150 60401 25870
51109 28633 40102 *Courtesy PLdn*

05/07 00275 00110 39161 ... 40102 Fair, 0720z QRM2

10/07 08200 00001 00000 ... 32260 Weak

12/07 NOT MONITORED

17/07 00423 00120 80903 ... 77277 0700z Weak, rest Strong

00423 00120 80903 25184 70687 14744 99010 02234 43251 16280
59083 35909 87980 41703 61605 53795 29873 57473 48037 21697
32459 35538 75513 30425 93645 09954 87559 69456 29125 15207
15516 55703 47798 88611 05506 05442 12960 17420 00375 01892
80921 34903 27985 02601 41204 86331 80073 82841 92824 26535
38538 69421 44798 48097 85770 63801 66300 91587 56129 39786
47530 43527 09672 86487 17515 43329 13720 50188 14148 73747
58619 41061 25772 16636 29551 85605 70856 29787 07703 10617
75988 79914 94521 68542 79549 99753 61127 74824 13063 95619
18423 36129 70446 21904 62446 59226 00669 87382 57751 29525
80217 87985 25886 19064 74348 80782 39536 78654 61750 30188
45667 22319 58658 61391 64547 16435 91742 78271 84838 77243
72475 75857 77277 *Courtesy PLdn*

19/07 00423 00120 80903 ... 77277 0700z Fair, rest Weak

24/07 02985 00001 00000 ... 40262 0740z Unworkable, rest Weak

26/07 07993 00001 00000 ... 37270 0700z Fair, rest Weak

31/07 04889 00001 00000 ... 41664 Fair, 0700z Unworkable: QRM5

August 2023

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

02/08 06677 00001 00000 ... 37665 Very strong, 0700z Fair

07/08 04949 00001 00000 ... 42260 Fair

09/08 09535 00001 00000 ... 36264 Fair, 0720z Strong

14/08 04787 00001 00000 ... 40264 Strong

16/08 07704 00001 00000 ... 36657 Strong

21/08	01629 00120 86749 ... 20724	0700z Very strong, rest Strong

01629 00120 86749 43834 68515 03136 06444 70512 31710 97536
60277 51804 78110 40024 15077 09141 30834 52981 39152 26976
40439 29647 76227 62693 08701 13302 43320 83239 38126 77260
29005 94846 73692 85897 80615 10476 81072 24523 80406 99940
31125 41779 51665 52729 09132 44294 12732 43934 33168 75064
80687 21827 43393 79541 29309 46694 43513 70580 41338 08862
24346 54072 51727 36872 82633 61137 77566 11599 27110 71957
27585 06696 58464 12780 65033 61897 17218 64476 55237 39261
59056 78882 91993 24089 00519 14585 35301 12110 03398 64948
03412 97288 39411 26807 95987 59075 63709 02663 29198 61088
15613 76857 31377 22578 39754 11359 76460 17145 08888 53619
79145 63118 47286 13855 59805 68374 59012 48359 97164 92552
65049 60826 20724 *Courtesy PLdn*

23/08	01629 00120 86749 ... 20724	Very strong
28/08	01629 00120 86749 ... 20724	0720z Fair, rest Strong, all QRM2
30/08	01629 00120 86749 ... 20724	Strong

Other XPA2

From Ary

11431 19-07-2023 0830 XPA2 MFSK-16/20Bd
12158 19-07-2023 0850 XPA2 MFSK-16/20Bd
00854 01229 30003 11983 19251 56119 46977 83072 73150 09777
71004 77637 28288 12051 49029 44034 85078 92711 94332 62510
36299 63225 02564 90633 88359 20183 05180 88116 89862 39318
12879 14853 39351 14862 60376 41478 98994 87916 38971 55766
81578 26868 67430 04253 84006 02780 53804 01351 50550 19657
94098 86649 33972 33539 06003 55118 57367 39368 23623 99067
50939 58859 93209 33831 96897 56151 38285 13426 51674 07550
45039 97160 53739 38566 80931 09431 95793 98309 06626 85579
66378 03828 37566 70204 45219 26228 80880 05812 08859 05257
84110 59625 64293 39903 04827 22718 33657 33598 07355 27855
64493 40377 49676 42999 74617 96936 32909 95404 52607 96571
59323 59056 32742 38043 32688 47110 21293 23004 88611 70668
75269 32473 04567 46416 23439 85412 32866 13836 33739 58212
75772 62195 90954 78769 21085 26000 54151 94565 95585 48281
93318 85475 53204 12286 45933 25053 26883 26250 07214 57715
01425 10652 44986 36685 52585 32019 35810 03259 19560 89204
64070 19072 61665 94393 20799 97127 68100 53971 16957 06687
92957 26726 27418 40329 77349 89793 79268 92279 00483 98384
58528 06616 06621 76022 56787 65119 17208 54269 26184 89064
90189 50892 75004 06381 84210 74245 23809 58809 91486 48805
56952 72911 09292 00527 64756 74697 83233 04656 59334 62791
52750 43530 02775 21175 30675 57453 12451 85641 37606 55678
79918 13831 27786 27892 16496 42065 51721 21037 56118 03103
65983 20458 00792 51677 41432 85616 97323 06094 11265 82088
81884 12552 94933 63392 36314 46659 48116 53828 75704 26757
61794 38167 21202 35808 68886 43120 45124 81399 84029 22691
22976 62196 48537 56230 96806 32291 42737 51097 79742 45057
60128 06356 74375 55517 73793 67365 18897 64393 91576 69836
93948 97891 45331 29361 41308 27816 99255 64983 82789 98310
40491 15924 22064 88573 59112 19688 64013 38702 66584 04022
03921 97017 74085 30646 66627 55437 63790 65684 62013 01520
24223 80730 89821 14192 28742 25083 16865 19176 14922 68990
33035 77753 68306 81431 04565 44204 84291 85801 96404 54105
03351 80193 97807 87554 65914 96929 23806 14684 62732 85869
64024 33570 02969 81269 74087 59760 26102 07871 59831 34028
02822 44837 23780 97593 70986 26167 28710 92652 26081 22423
71145 77988 69279 07908 98167 44028 82922 02266 48277 31812
01277 02180 56442 29051 04966 99463 74784 87036 07344 44804
18102 76419 25969 62375 51282 58513 56413 00213 16567 39747
68218 31152 88602 40309 14723 86034 64290 95059 83101 30058
76837 23835 59593 28019 32751 00641 88393 94727 92626 71521
51381 41673 85308 81275 04320 94724 52018 06903 56625 39654
87614 82708 85697 08529 63592 70123 13577 16133 14327 18930
35173 79723 03935 77285 67966 94266 16826 97949 29624 50640
70118 61684 07585 45045 88364 26545 45842 07326 35988 19998
34015 57386 38433 43447 42442 94127 38136 51064 64425 62626
87063 72260 80400 73696 36347 71657 37738 08023 13309 10053
77898 54068 77278 05985 69534 25930 75122 40652 20163 37047
24281 06250 80143 94328 84914 77786 41289 60487 34842 73837
56129 65761 33523 66996 63575 97857 81283 33888 08697 16707
88805 37818 94016 25934 42098 79946 80106 32448 73911 16511
19004 97482 30900 27378 38345 80812 92115 86070 88780 58560
30367 77250 73180 39470 53922 12137 20544 10281 42408 71675
44645 41233 31954 03455 48240 86461 12233 54208 52229 04967
97678 08841 86574 18330 54832 58646 34860 06145 28650 82762
05742 95212 45106 50136 86339 11555 64637 54546 72010 29961
59402 69824 90038 02236 71865 77770 65527 27445 79137 51883
68579 37906 33840 83813 60881 21525 90675 54849 84636 95275

77275 14398 81630 59645 65933 49432 96126 81817 17114 36684
21823 57685 82197 22268 45564 27853 18801 84337 46464 77061
93117 07415 27007 76766 14182 67834 61371 61292 89253 64814
20879 09788 69909 76734 52684 45003 88193 30393 36301 22432
81643 83708 10330 42452 30059 10893 55708 11571 38248 33027
02723 06337 08384 07574 02158 69860 87390 04863 45462 98097
88060 34833 92563 52299 15805 12035 87775 05463 69582 00561
39658 88407 48035 24032 95417 09408 97083 84553 46706 03288
12126 49799 23044 56226 62090 14542 01403 62334 74575 82823
57611 83329 84929 38203 34371 46809 91144 58030 26647 18024
23117 50245 41987 37687 93367 14315 58300 84351 12155 92748
72775 02836 58156 42173 85971 38260 11789 36336 90207 01262
10631 25440 30886 86758 42948 56327 03477 09832 89660 48608
18262 39053 57906 28681 80170 61880 07811 85356 62857 47774
56240 17050 50179 81825 10047 54774 25173 42756 52230 96109
35020 54807 67821 25384 07392 97675 19358 55228 94737 37040
10838 48467 94690 63546 74486 33722 44929 29474 62002 24091
30448 26432 73478 42433 45020 93579 75260 49059 76710 88172
31154 60719 57601 93549 13587 63453 71231 32521 21288 82493
42521 52582 90617 25817 36935 07773 22359 86632 07339 76324
09845 95697 80752 28139 65660 08588 81328 25387 80362 13812
22415 70298 78516 06565 05885 50118 90865 01140 49958 11032
62490 12407 08185 79507 81569 77865 35813 47661 05497 37247
71220 88627 41720 00385 78327 35455 79965 29461 27889 04999
82124 45843 52158 07476 60078 72221 74064 84052 19931 86816
16906 21219 36673 96305 13834 97436 87511 01245 46568 87794
72773 33666 19889 43114 42591 33786 28577 78130 28236 70429
70151 61403 73250 44958 28907 16646 60248 00709 19429 09347
03800 51760 27729 18680 20341 50000 51953 45413 86550 80889
47942 78720 82891 40093 32225 48457 25953 09043 64884 26291
43643 95932 55815 49501 16665 55501 47967 91713 67397 97186
37187 86802 81815 37221 83993 21012 05936 01209 22773 92589
81832 83162 91579 47345 22486 91429 78510 33156 12733 80449
90692 51205 35823 93136 65702 07866 95944 78227 02015 64838
02032 60238 78015 89362 43702 61138 96903 45670 56098 11212
42520 24743 86268 72294 44458 60480 04353 08469 27014 25234
76989 14811 78980 86947 06494 85981 50979 88677 71517 76127
25067 27708 99193 57933 90556 21593 05147 02217 03643 61346
94524 32840 77057 01520 37928 65948 64935 63528 48678 05222
03513 87474 51212 76779 87847 87220 81257 91066 82867 57720
10159 08226 74151 79970 86143 14812 25549 28335 81736 22865
55332 02136 04826 65666 30708 44149 37753 77459 49018 40544
21045 87450 39999 66295 72613 37592 76494 22413 70084 03335
40334 14079 19348 45922 51187 86298 58687 97085 15375 23116
40399 36600 81790 25813 49889 01377 82647 85544 46071 43698
49467 03798 42048 42323 36674 22708 68225 07856 07357 48551
38316 03135 58249 78400 82529 41252 82786 58902 14479 44408
85460 40666 62083 25902 00144 84444 05659 14186 16406 71236
54943 90948 76341 26386 53867 36536 72030 77023 09248 28479
18073 50831 89728 66823 84798 37264 78349 03389 43282 08636
18589 23745 71065 01662 58236 08800 41713 16145 42178 52228
17048 54039 91449 36119 93607 47367 26792 31863 24533 45992
69221 05763 49654 85998 26335 34629 50937 95259 41103 62878
06095 02270 70902 07769 52647 31198 19882 74679 68148 45066
94822 55885 34844 57018 11431 64032 59381 53608 73215 37430
10472 46485 78854 97289 39414 12825 74089 85066 75326 23607
57862 46453 75040 79299 46133 14778 83136 83679 83471 62408
27484 52111 63714 79466 51169 13335 70917 92635 74567 62301
75247 97328 22044 03672 52406 59608 23414 73612 68354 39821
57107 34815 99351 44540 87202 48369 80843 55544 10885 96651
80895 75700 70135 10806 09946 58359 82770 99387 46119 26078
41907 81453 10498 13024 48359 60533 24408 71368 26893 86523
91363 09524 15324 43650 05300 92667 52759 19173 92262 02800
32491 15373 81749 77914 81405 99545 27192 11238 93725 94045
76836 24025 27492 42276 97912 75653 24316 86327 96180 26669
23960 42623 *Courtesy Ary*

10643 19-07-2023 0915 XPA2 MFSK-16/20Bd
00180 01222 41817 44861 05864 31411 29971 22097 00886 28144
21491 48874 02250 33897 36534 29829 56804 87834 33016 71570
61360 77288 30884 34065 85581 69021 01655 25804 52188 90215
73879 96195 12254 13542 86385 02684 96735 56590 84247 62356
69613 00474 07998 63733 41776 09441 16296 99018 26888 39827
87794 59583 74301 09870 09304 96823 14557 07752 59278 36842
29755 04166 69907 10670 54264 25294 36619 88707 47510 33850
33093 00214 03587 70659 01957 60886 69290 67150 92287 76140
52725 02636 98915 12361 02420 14295 21894 02383 04238 89560
88125 88983 97310 47404 32600 65446 30565 97326 09468 16481
72820 27588 51507 93037 06733 87580 55996 03641 07913 48416
27533 47406 15463 83137 84116 27118 05250 57546 08249 39968
03400 34235 84468 57949 45723 44109 02902 56181 38058 36509

30321 71963 57681 75805 03319 25137 51128 05877 05627 14839
58298 18252 94469 55820 62027 40718 73519 14172 63287 05482
60196 73018 89076 69499 13081 38584 43118 93557 47313 62623
84677 99813 65582 71403 18095 55569 89723 39657 79818 58979
75989 99371 51918 93408 81669 85146 39765 28648 95920 05004
70588 88728 92893 32576 76311 57301 82885 88181 62723 64734
82017 57570 58562 43003 30160 58484 52669 23065 37724 06458
50994 33862 34353 04308 29491 60823 21099 95666 87828 27934
98817 14470 97635 42309 92033 95948 06919 33005 95090 60793
72682 01541 76932 15084 76960 18419 40809 08914 63247 23184
32476 16699 90922 89462 54009 36726 54374 88585 03084 15487
36201 87217 00352 34789 65915 67547 59934 16253 50968 34211
51565 19664 27973 76930 33774 49452 56928 19269 27346 11072
20014 12184 32419 64644 95456 82117 23546 08172 88298 55307
41573 18332 29920 79603 24591 85464 01189 42142 49167 09412
58483 24556 57945 29036 71618 12812 88724 13992 55688 04557
79797 35105 61238 92011 95472 24016 54798 35707 39332 83796
44001 51761 27953 95660 92636 33232 89742 48369 52339 48308
48263 14786 70100 17934 52587 95457 54238 03382 93024 82643
93392 09553 52482 83741 75509 06468 57092 37908 84129 00574
30665 65480 02809 65370 65410 06722 96601 62284 36398 38386
23069 40355 61652 07379 56293 65010 65003 43304 39424 00015
69777 51415 42681 56687 90403 34447 99278 44211 20151 86168
76138 51834 64239 51764 17643 82781 11976 04729 52522 45865
98854 91953 66982 54638 59574 53036 47900 45102 27447 10498
41463 13787 98482 84114 30795 79249 22798 46121 74966 30962
07442 52389 42133 50229 62246 71234 76115 09887 89735 73510
53034 60274 90780 93557 01159 77823 84431 88042 97112 37366
86546 54175 16764 09652 44704 62350 53350 80123 20968 38392
59982 65854 29762 21560 38422 46465 49819 16753 92390 88339
76920 38012 55366 53936 57462 81188 23005 04925 82954 52971
94816 34755 49007 37600 44415 53266 35625 32480 05524 99895
17883 95990 88918 51342 13527 87179 30511 69220 55135 54692
28003 67678 95651 08773 60444 48533 98807 62826 52189 63515
39344 48425 97168 67995 43575 25227 16846 92161 77143 85155
10840 17339 11228 92494 70455 80929 49093 04023 40408 70282
50676 53784 49788 28261 24968 27137 39102 40233 77154 95880
54457 72797 80289 42008 60550 69457 98820 20922 07766 88299
70332 38349 92075 69978 43852 10663 56449 03156 38317 79514
99439 94784 22418 81906 12838 85559 98635 68906 43027 16437
86123 76612 15006 81261 30697 38041 37048 69218 31944 00998
82107 28171 96255 52108 99948 12326 61707 79808 84407 14304
70687 35946 01916 97639 96440 59672 50378 98382 29170 74989
70820 29914 77893 91328 02175 93719 23342 10814 39281 05810
73614 87229 71211 37319 97405 71268 98527 70309 81956 00511
23851 18826 84497 28723 45749 50177 74695 17366 84820 71024
87662 38665 40048 56953 30176 52193 50276 04927 49932 06229
88983 50893 40527 78597 40689 83456 64733 64596 00233 25172
61144 80068 16426 28658 51138 51994 45415 49170 45578 51996
19023 05976 25993 68255 18147 34948 47180 14258 07142 45212
20991 93599 20376 75727 11527 72957 78298 05900 88032 62291
85442 10099 17133 59647 09880 07593 22238 11390 05815 78181
06777 01106 59347 97934 87205 83007 24900 72270 60449 05740
36275 50475 57453 55020 04181 67543 59691 40698 17131 78179
73695 39515 61136 83286 66553 08924 88841 66344 58375 10553
12710 35790 08443 28960 38434 19885 34251 22440 88520 28519
48057 06027 45449 82292 26015 34966 52644 62111 55465 42335
47901 81539 94257 27634 04486 67261 39968 76060 31381 78280
94164 58554 13895 49895 93029 00485 42032 28493 16586 84295
33292 37250 52176 88611 30122 67667 94064 78843 57270 31586
56278 26730 10878 16039 62651 31169 41531 80807 24474 71171
79915 58189 91058 10239 34353 89501 92130 95553 89261 25530
92933 24151 45525 71169 09043 10650 29363 05646 97511 36817
73196 61123 18790 99794 22002 67433 47675 97854 87243 61859
58952 61223 04018 45413 04379 75101 46191 41936 54257 40619
75536 98509 89580 31740 38651 32127 81204 39707 06996 52001
01806 35884 83294 87656 97974 18791 39399 91262 88236 66919
41826 94274 08310 27402 66576 31709 20132 00111 66790 33941
64457 87425 51388 56892 61279 74685 71541 87048 61142 89873
86228 07967 90858 35242 60053 23067 77928 16361 47438 85586
35701 54927 53698 87336 98791 81260 90199 62178 65162 06942
11995 81093 72916 73054 87542 14379 84495 26402 26376 23288
47249 52350 30120 98361 80690 33858 03416 73067 67347 43508
53780 03770 52671 81203 98238 09530 33727 64050 58099 80018
84485 09362 21886 54200 77878 05134 35050 17803 47698 45673
38571 51525 89984 24149 38337 83350 24807 55335 06646 64932
77843 17132 94830 21654 53160 08224 28421 91712 74814 78011
80651 20444 68301 46356 38802 37886 30463 75919 20483 75555
98807 85612 25368 21673 04936 02254 13785 28522 42865 14887
84722 78390 57403 93165 02175 67352 14531 00231 01039 69654
76712 43336 42987 69686 65021 18127 83222 43628 85346 00450
52886 48886 34852 31090 66124 92230 91763 73156 16717 50906
94438 99898 48846 59927 93288 02261 63039 75134 44181 71448

23354 30231 74880 50827 98841 55471 42624 55681 56651 86808
19030 70155 43174 42414 62000 35835 43537 26313 27041 09943
75588 41374 83513 50132 75214 76813 94488 83059 76396 62760
55086 08088 99446 13897 77095 22654 74005 84024 32247 10653
49605 36081 16504 29907 31875 24282 56723 06431 97925 57453
58723 36726 48093 34237 95859 81979 46717 24748 75612 22028
60981 59563 79284 93890 31722 10942 70708 29277 65318 39345
61829 59511 94065 16388 60337 39506 24869 53605 18256 50932
20089 88056 85133 18942 04037 18360 59993 65209 18037 95115
75936 49256 08412 10218 49670 90041 56796 22613 98184 20932
53572 27446 41112 58579 95623 99210 42660 31705 73899 56352
57109 93110 06491 24680 01939 72923 74429 60341 89852 13362
50947 05499 11240 70202 63408 12572 51099 83846 66716 70294
82709 02255 55420 97323 97358 92642 46944 26553 23318 04826
75698 28288 91308 61683 38005 82824 42765 83730 08279 76746
15611 96454 32759 84822 69983 48073 16205 70909 95170 83050
48110 58812 64987 03604 73642 54853 37690 09166 27321 09295
25978 47876 37022 85026 37662 22659 14189 49555 32196 80583
69805 67368 75567 89968 54683 86253 69495 70597 27339 49284
76436 76034 31381 40266 56715 16886 63299 87704 88040 83150
45134 33598 56409 98982 50768 67734 59431 47731 47159 47324
33883 66649 38712 14587 13245 80741 83244 75018 48920 87387
85357 67092 81826 78035 32857 49943 16494 96755 28311 20776
59358 26484 61513 49044 35448 36206 10958 76583 39200 86947
26822 21763 23437 80014 15401 09787 37322 16794 27021 75973
33640 88280 38784 00653 97792 78040 51771 78373 66124 00825
51239 62675 19420 26383 76644 *Courtesy Ary*

XPA2

15884 02-08-2023 1800 XPA2
14684 02-08-2023 1820 XPA2
13484 02-08-2023 1840 XPA2

00622 00112 82618 75725 61469 53892 51761 21406 79397 89942
48528 74924 02155 39582 71886 50296 66077 99396 85911 26075
70419 43959 76146 54106 12394 02603 01992 20155 67626 05610
46861 71582 92758 57306 59145 17438 72084 35165 15407 50704
52222 70927 02374 69742 88946 71226 30215 89195 87850 68759
20589 18998 67836 25799 21079 83535 15176 29516 84599 25452
33619 89623 98879 48012 86793 02121 06588 52452 26267 77897
85023 23492 75664 18614 62725 75670 02753 98117 89944 56878
39684 92023 57213 46089 97382 91790 19199 12616 66814 96511
27034 54268 59222 01424 15025 89456 81454 14139 48328 93081
25755 17770 30570 07902 08787 14557 65227 45624 76684 05955
52107 61431 97600 86222 56306 *Courtesy Ary*

Other XPA2 from H-FD

1B XPA2 Sat 01.07.2023 0910Z 13445 nrh
Sat 01.07.2023 0930Z 12145 msg
Sat 01.07.2023 0950Z 11545 msg

Sun 02.07.2023 0800Z 13391 msg
Sun 02.07.2023 0820Z 13891 msg
Sun 02.07.2023 0840Z 14891 msg

Mon 03.07.2023 0910Z 16296 msg
Mon 03.07.2023 0930Z 14981 msg
Mon 03.07.2023 0950Z 13953 msg

Mon 03.07.2023 1500Z 13954 msg
Mon 03.07.2023 1520Z 12154 msg
Mon 03.07.2023 1540Z 11454 msg

Tue 04.07.2023 0500Z 10243 msg
Tue 04.07.2023 0520Z 11143 msg
Tue 04.07.2023 0540Z 12145 msg

Tue 04.07.2023 1100Z 14958 msh
Tue 04.07.2023 1120Z 13958 msg
Tue 04.07.2023 1140Z 12158 msg

Tue 04.07.2023 1600Z 13538 msg
Tue 04.07.2023 1620Z 14438 msg
Tue 04.07.2023 1640Z 14938 msg

Thu 06.07.2023 1100Z 17435 msg
Thu 06.07.2023 1120Z 16235 msg
Thu 06.07.2023 1140Z 14935 msg

Fri 14.07.2023 1800Z 17474 msg
Fri 14.07.2023 1820Z 16274 msg
Fri 14.07.2023 1840Z 14574 msg

Fri 21.07.2023 1100Z 14958 msg
Fri 21.07.2023 1120Z 13958 msg
Fri 21.07.2023 1140Z 12158 msg

Additional XPA2 from Ary

10427 29-08-2023 0800 XPA2 MFSK-16/20Bd
11574 29-08-2023 0810 XPA2 MFSK-16/20Bd
13432 29-08-2023 0820 XPA2 MFSK-16/20Bd
09686 00280 08837 79017 12969 19404 58692 24313 18812 88176
85197 49739 72615 38618 32231 13180 51519 18820 21554 78700
24409 72298 22445 54926 56580 46825 82928 64454 90698 23124
74203 21466 00949 06745 68662 45769 99411 64699 80873 80980
95233 81279 51462 92242 44444 79505 90050 75082 96738 54908
01512 95689 22920 78127 88377 56701 57718 53909 22436 66142
36475 94236 33613 95687 13972 63730 48789 65870 69954 86460
13767 86818 37946 40573 83465 43129 20835 30202 10482 77073
56774 07845 67714 35790 21611 78513 98545 22821 18366 11961
88050 45501 42262 14730 44504 00996 47665 55774 78269 80712
30715 24180 05128 10277 41140 14693 57742 82346 94660 45248
35865 27516 43427 45362 09368 28630 26522 97822 74075 35458
65184 25968 47503 57993 98409 68264 44555 23216 96067 82468
95462 65060 51931 29768 46357 32594 02717 57436 94649 06918
20770 16198 28159 73117 76094 60533 02074 96899 05361 15874
74473 49842 81697 42811 15528 04746 76675 47133 11867 72874
70136 34526 86278 12192 49784 70803 75584 13658 99003 76773
25912 69084 03172 67157 14687 48985 97808 74385 81897 37875
66190 47655 17854 80192 07994 45619 83361 09120 14239 41610
55917 55582 45569 21774 36780 86242 29919 15966 23332 05291
84948 88415 97894 28587 89960 05389 46669 14540 28123 66542
06937 02290 65235 73990 06684 22481 16671 06085 04198 04165
87441 66463 99417 57392 20855 70329 23515 81397 30377 28443
19065 81841 51052 76606 52926 77773 49759 89266 90230 02604
98948 68821 80995 47696 34673 53627 90345 71577 15090 14299
69570 23833 11768 19167 17848 18484 88996 40502 07731 19631
81873 65271 84161 99678 47476 25094 51237 88628 21064 28909
72720 27404 15853 01593 05215 18619 85467 51721 22719 67227
79982 51936 37120

10427 29-08-2023 0840 XPA2 MFSK-16/20Bd
11574 29-08-2023 0850 XPA2 MFSK-16/20Bd
13432 29-08-2023 0900 XPA2 MFSK-16/20Bd
05771 00236 96615 15126 78258 95094 03221 71867 60739 50228
90431 74000 11754 46388 96106 39204 69689 86680 22177 38593
59892 67050 85999 25292 11642 91540 38643 81862 53336 26103
16582 32055 49638 42075 78335 55542 11746 41591 94466 72964
77386 62529 64412 56546 67743 86226 98109 70348 05786 88226
44844 29775 25000 27413 40984 44263 50748 71322 03484 86716
56450 21357 18531 34636 33645 58376 24362 69677 68051 40563
27457 28098 92212 49211 61205 97362 02637 29453 57548 25414
93430 68294 76075 65108 81257 86805 07055 22224 01091 34072
04794 40423 38107 07749 16514 56028 43998 29776 22900 09367
61863 28431 02296 65221 60769 16746 37562 75788 66206 43621
41625 21295 13774 78068 93285 88155 45281 53421 53377 46839
51320 02137 68585 33979 35769 87032 89989 84463 32697 05177
53363 72860 06552 48180 63550 64998 65998 10853 04338 64511
49243 31266 56016 57469 92446 83498 26648 60037 14462 28357
10747 90576 76397 76060 58045 59726 59844 68316 29452 73735
26755 53098 43090 61029 90256 68763 14742 65592 14518 28287
22157 34427 49082 88864 97594 20054 46119 11116 41531 52269
60384 29951 70000 04339 94429 62786 96462 30491 90134 03823
05153 97680 81400 30602 37756 96144 88174 94986 67211 23683
68755 61055 45519 86174 06200 76319 41493 87531 78465 37990
13606 48728 26784 77181 13351 96802 83096 38751 66599 27470
72300 84250 75457 10694 23134 24475 53025 18480 51108 01449
31879 51132 43903 17848 83512 99328 84431 83825 10507

10427 29-08-2023 0920 XPA2 MFSK-16/20Bd
11574 29-08-2023 0930 XPA2 MFSK-16/20Bd
13432 29-08-2023 0940 XPA2 MFSK-16/20Bd
03583 00223 52026 88583 00583 03358 70472 20030 73720 58738
05056 07383 08813 37287 63073 03876 83370 08028 72680 36865
35337 22684 16263 08220 33526 60327 33046 36333 60072 80633
14846 57366 80802 03856 00382 30048 65806 72838 26685 05588
56066 38868 50060 72683 05583 83386 03068 08380 00657 42717
40283 06003 60835 60068 30077 34685 07386 33806 55056 50256
80200 25038 58056 80866 31683 36688 06380 04866 35803 33023

38068 20522 82232 66081 68686 85356 62522 33568 02626 50028
36058 05765 35675 08355 30350 08852 86528 28733 63778 66685
22663 20888 06682 66538 25387 30838 80820 58082 39900 57903
66915 08302 72475 77531 93646 08770 33870 93642 80380 33608
62060 63806 30278 03828 03087 63333 88360 30600 50526 22830
50058 86735 31086 68207 00360 26068 03630 05683 30803 36838
03535 03330 03678 33723 83202 38856 43288 58042 23707 22678
75880 02886 38363 08058 03523 58855 80608 02863 63330 60830
32365 30208 07656 06868 06745 80078 66204 83266 66060 66477
05030 28075 50837 33530 30082 47830 60026 86554 21704 64240
20055 30307 04883 16837 36848 38260 38362 23026 73683 50603
36548 80865 31153 80860 05362 63305 06683 86708 37877 03033
72630 50020 80070 58228 07638 36775 50047 03830 88876 56680
88727 83063 80038 08200 38786 00056 23223 78807 70008 58472
30807 33088 08582 05465 19928 24074 95920 70875 28058 55866
41147 73408 58577 18680 81588 36260

10427 29-08-2023 1000 XPA2 MFSK-16/20Bd
11574 29-08-2023 1010 XPA2 MFSK-16/20Bd
13432 29-08-2023 1020 XPA2 MFSK-16/20Bd
04671 00240 75371 99392 12947 77191 63446 69102 57759 13709
29067 49919 66821 41344 33431 40197 25565 85865 73396 73517
51043 39200 13235 03711 22235 56185 69437 57865 13909 90047
02324 97398 24773 92386 37811 69287 61591 58474 77859 78879
34306 13628 08707 40655 57992 71016 38225 19180 11352 18379
87858 54673 30427 79392 85955 27999 27630 71659 77157 56761
07754 05580 55193 67711 11384 31668 25145 74434 03513 64143
78605 67090 08006 94515 39210 37414 30492 72579 45718 51217
17959 50256 46513 95529 02188 47650 66971 45380 06430 09832
41656 89930 81315 21097 71125 28726 58434 40995 29270 26323
45871 63789 15666 47207 39773 20768 46667 35910 40181 48541
97505 55050 25941 25939 38801 57496 59065 59663 65522 63733
64696 79764 68004 93680 22486 88673 85773 86907 23390 10484
78979 89496 43309 19394 05346 54168 34590 99304 55755 81419
00983 31060 05198 57888 12325 86605 63989 55376 82295 13628
69659 98770 75471 65535 61626 66106 95784 21985 24721 51098
34993 59758 12520 29697 69560 08008 11741 06546 20593 84631
22906 59759 03907 84102 62750 33636 74566 10116 81354 35880
24684 30397 04612 09761 40823 80207 14025 77772 57767 39239
58383 12604 74583 04657 46426 41223 18539 75499 88326 04317
74864 57443 34783 97662 90721 09899 94863 91367 02785 27989
91538 85668 40629 88840 26414 04596 55146 02758 88873 89352
93982 33967 48777 81352 26248 10301 85175 99248 37676 21526
15096 99066 21788 77037 61014 67240 95612 06948 19039 30923
85343 22656 60375

10427 29-08-2023 1100 XPA2 MFSK-16/20Bd
11574 29-08-2023 1110 XPA2 MFSK-16/20Bd
13432 29-08-2023 1120 XPA2 MFSK-16/20Bd
08479 00283 09950 58095 49454 18437 39017 23233 28658 03688
76820 45945 34248 73273 45698 05738 85495 83901 38007 99020
46451 19325 96581 80962 86045 86598 87900 63231 33803 43889
96887 57844 04060 44249 78718 84932 19340 82973 13232 16397
82671 99248 00227 45882 27712 46196 93290 66252 89852 32030
04504 87044 83554 28908 42665 59510 86584 28987 72048 62855
30536 75784 89428 84768 06800 18976 41885 89997 94553 60764
86396 02521 70668 21610 16348 47201 19098 50698 53249 39849
93306 21647 73378 01773 39385 09843 73289 75151 01584 19208
98347 90351 10924 50376 85859 06886 09819 15458 39081 08736
04311 03292 71698 29087 45632 01982 16375 62944 12559 95462
40412 35885 75736 32199 69548 08888 02406 87655 45382 96956
45685 66733 88413 75345 62415 96044 91595 20292 35749 09462
37381 03639 11617 44513 35537 90013 49948 44290 56140 37402
93466 10345 62591 06120 78794 62462 14615 78724 80827 76970
04480 22163 70075 42123 63049 37577 14878 96351 66671 49587
10385 96081 27194 03097 58080 36773 24268 31223 96661 79533
58939 58114 31514 07980 03489 35340 04141 82292 96549 99951
81428 12871 39464 58777 04981 15217 33563 69492 81462 97958
75135 53595 77618 06553 27016 97384 83149 59493 48038 42021
38194 83390 82062 01293 18031 46365 90648 62095 38634 27709
33435 32584 99801 66718 68157 97513 56617 68416 98114 42863
03210 54774 49759 98701 04398 05343 80494 24961 80962 06104
52190 44647 34254 54528 61757 98036 30807 38170 40745 58615
24568 71467 30857 53753 64523 42550 53793 10900 38394 29502
40766 14732 61377 05175 38811 83418 33631 83360 96893 12687
65869 65686 81131 32530 75517 88787 98329 45272 04960 70119
66705 18446 27670 39499 18294 31742 23916 96005 34177 61846
51549 69594 86565 51459 65336 73631

10427 29-08-2023 1140 XPA2 MFSK-16/20Bd
11574 29-08-2023 1150 XPA2 MFSK-16/20Bd
13432 29-08-2023 1200 XPA2 MFSK-16/20Bd
04030 00233 88413 38781 94591 36338 43483 77244 96931 76604
89246 01583 36484 69805 13792 99672 88390 46791 94818 46720
99921 50882 71456 27119 05047 72106 80552 14732 62682 75773
72149 55652 82751 02321 38533 05678 45024 28041 89357 52344
98598 04400 89114 22534 29294 94160 65400 91278 93649 93877
81808 51492 49667 13977 07264 42491 62294 61294 33734 22484
55784 28750 14561 21157 04455 33593 18831 34163 31272 08114
54648 60349 57432 42474 48121 95521 61767 48922 97823 10885
06706 89273 21082 68804 93964 20656 05985 68773 95056 96040
43382 83729 94305 66873 96559 69847 89837 67956 18079 95699
75328 31236 60005 85534 39228 21459 94058 07192 65854 11741
80722 13372 63469 22848 15777 66509 07668 45756 27192 83797
27607 50057 39105 35231 64731 70918 66042 90558 45914 78273
05684 93810 30842 02123 35556 75468 29267 35546 29575 72505
26597 98792 02918 83314 15317 30009 20259 71456 51095 30049
62179 44080 40763 34281 68091 25271 92130 24774 20803 68309
55415 03500 61277 87580 06057 86911 82529 61345 87291 40308
37242 72120 16181 54686 57199 28814 47138 55790 19913 34722
50658 94584 39463 15864 16093 61602 53046 96560 34030 10284
83337 04492 14743 61264 17089 23097 37514 15336 77257 28405
47478 58912 84164 10787 92805 90058 27898 86076 77080 39277
78131 36340 04861 86079 17651 60829 64035 45413 71487 44453
33865 85968 27315 77006 56969 32749 57377 54916 37596 34102
91299 31801 78532 91506 87242 54455

10427 29-08-2023 1220 XPA2 MFSK-16/20Bd
11574 29-08-20231230 XPA2 MFSK-16/20Bd
13432 29-08-20231240 XPA2 MFSK-16/20Bd
05108 00245 27658 01980 64533 75128 78035 84638 93973 24634
29980 86122 46961 39489 84133 38952 49494 79106 61519 74569
35801 72513 49555 43604 40790 77560 19994 57334 36678 20909
34423 52377 55271 11909 47535 15484 43150 64917 53538 30483
85934 63228 57846 89464 59518 99678 83418 22936 90153 24034
33144 43625 05704 77417 88666 63480 96171 84052 61189 86972
55133 20700 47959 73064 90210 77601 30850 35051 91953 68649
95801 84575 25568 31036 88634 72571 14666 60090 84084 41110
94141 97056 67180 12644 87763 90796 46672 77853 23242 84053
19312 59096 03728 66565 75348 65233 15268 84781 99253 81916
68827 48366 30982 21503 28232 48568 18056 74667 88781 16095
48814 36081 99966 20078 92829 58075 53519 35315 85299 99412
30929 52996 11809 07899 49337 36704 80846 59002 55687 23400
57302 29884 60835 02168 72282 45775 66074 45676 84410 39195
72739 72003 89070 07147 35239 83229 59128 83649 73734 17272
11714 79952 99481 99840 50986 15831 36557 23082 72165 91527
67720 59053 18980 65380 58791 18930 75244 97797 47794 47054
92000 07842 50904 46103 26672 58924 63924 04661 72659 66106
77574 97196 85266 38414 11686 77349 30401 60994 51181 56451
09218 42992 73509 92882 71474 13686 53023 23689 48354 16309
07985 61329 35854 26680 25270 03872 29047 53377 73168 92061
51905 31895 50421 06059 13952 70523 73785 80564 53694 81441
88527 14250 46616 91342 37836 49008 34331 58020 74628 12985
05900 40234 56305 56350 58120 16244 61341 58586 13144 07814
48301 77023 87824 59119 04545 77321 92569 25337

See more on Group, [Thanks Ary]!

XPB1

Monday/Saturday

July 2023

1st July 2023 NOT MONITORED

15876kHz 1200z	03/07	Fair	4m30s	PLdn	MON
14876kHz 1210z	03/07	NRH		PLdn	MON
14376kHz 1220z	03/07	Weak	4m30s	PLdn	MON
13976kHz 1230z	03/07	Weak	4m30s	PLdn	MON
13376kHz 1240z	03/07	Weak	4m30s	PLdn	MON
12176kHz 1250z	03/07	Fair	4m30s	PLdn	MON
15876kHz 1200z	08/07		NOT MONITORED	PLdn	SAT
14876kHz 1210z	08/07		NOT MONITORED	PLdn	SAT
14376kHz 1220z	08/07		NOT MONITORED	PLdn	SAT
13976kHz 1230z	08/07		NOT MONITORED	PLdn	SAT
13376kHz 1240z	08/07		NOT MONITORED	PLdn	SAT
12176kHz 1250z	08/07		NOT MONITORED	PLdn	SAT
15876kHz 1200z	10/07	Weak	1m30s	PLdn	MON
14876kHz 1210z	10/07	Weak	1m30s	PLdn	MON
14376kHz 1220z	10/07	Weak	1m30s	PLdn	MON
13976kHz 1230z	10/07	Weak	1m30s	PLdn	MON
13376kHz 1240z	10/07	Weak	1m30s	PLdn	MON
12176kHz 1250z	10/07	Weak	1m30s	PLdn	MON
15876kHz 1200z	15/07		NOT MONITORED	PLdn	SAT
14876kHz 1210z	15/07		NOT MONITORED	PLdn	SAT
14376kHz 1220z	15/07		NOT MONITORED	PLdn	SAT
13976kHz 1230z	15/07		NOT MONITORED	PLdn	SAT
13376kHz 1240z	15/07		NOT MONITORED	PLdn	SAT
12176kHz 1250z	15/07		NOT MONITORED	PLdn	SAT
15876kHz 1200z	17/07	Weak	4m28s	PLdn	MON
14876kHz 1210z	17/07	Weak	4m28s	PLdn	MON
14376kHz 1220z	17/07	Weak	4m28s	PLdn	MON
13976kHz 1230z	17/07	Weak	4m28s	PLdn	MON
13376kHz 1240z	17/07	Weak	4m28s	PLdn	MON
12176kHz 1250z	17/07	NRH		PLdn	MON
15876kHz 1200z	22/07	Fair	4m28s	PLdn	SAT
14876kHz 1210z	22/07	Weak	4m28s	PLdn	SAT
14376kHz 1220z	22/07	Weak	4m28s	PLdn	SAT
13976kHz 1230z	22/07	Weak	4m28s	PLdn	SAT
13376kHz 1240z	22/07	Weak	4m28s	PLdn	SAT
12176kHz 1250z	22/07	Weak	4m28s	PLdn	SAT
15876kHz 1200z	24/07	Weak	1m30s	PLdn	MON
14876kHz 1210z	24/07	Weak	1m30s	PLdn	MON
14376kHz 1220z	24/07	Weak	1m30s	PLdn	MON
13976kHz 1230z	24/07	Weak	1m30s	PLdn	MON
13376kHz 1240z	24/07	Weak	1m30s	PLdn	MON
12176kHz 1250z	24/07	Weak	1m30s	PLdn	MON
15876kHz 1200z	29/07	Fair	1m28s	PLdn	SAT
14876kHz 1210z	29/07	Weak	1m28s	PLdn	SAT
14376kHz 1220z	29/07	Weak	1m28s	PLdn	SAT
13976kHz 1230z	29/07	Weak	1m28s	PLdn	SAT
13376kHz 1240z	29/07	Weak	1m28s	PLdn	SAT
12176kHz 1250z	29/07	Weak	1m28s	PLdn	SAT
15876kHz 1200z	31/07	Weak	4m29s	PLdn	MON
14876kHz 1210z	31/07	Weak	4m29s	PLdn	MON
14376kHz 1220z	31/07	Weak	4m29s	PLdn	MON
13976kHz 1230z	31/07	Weak	4m29s	PLdn	MON
13376kHz 1240z	31/07	Weak	4m29s	PLdn	MON
12176kHz 1250z	31/07	Weak	4m29s	PLdn	MON

Monday/Saturday

August 2023

15876kHz 1200z	05/08	Weak	4m28s	PLdn	SAT
14876kHz 1210z	05/08	Weak	4m28s	PLdn	SAT
14376kHz 1220z	05/08	Weak	4m28s	PLdn	SAT
13976kHz 1230z	05/08	NRH		PLdn	SAT
13376kHz 1240z	05/08	NRH		PLdn	SAT
12176kHz 1250z	05/08	NRH		PLdn	SAT

15876kHz 1200z	07/08	Weak	1m42s	PLdn	MON	
14876kHz 1210z	07/08	Weak	1m42s	PLdn	MON	
14376kHz 1220z	07/08	Weak	1m42s	PLdn	MON	
13976kHz 1230z	07/08	Weak	1m42s	PLdn	MON	
13376kHz 1240z	07/08	NRH		PLdn	MON	
12176kHz 1250z	07/08	Weak	1m42s	PLdn	MON	
15876kHz 1200z	12/08	Fair	1m38s	PLdn	SAT	
14876kHz 1210z	12/08	Weak	1m38s	PLdn	SAT	
14376kHz 1220z	12/08	Weak	1m38s	PLdn	SAT	
13976kHz 1230z	12/08	Weak	1m38s	PLdn	SAT	
13376kHz 1240z	12/08	Weak	1m38s	PLdn	SAT	
12176kHz 1250z	12/08	Weak	1m38s	PLdn	SAT	
15876kHz 1200z	14/08	Weak	4m28s	PLdn	MON	
14876kHz 1210z	14/08	Weak	4m28s	PLdn	MON	
14376kHz 1220z	14/08	Weak	4m28s	PLdn	MON	
13976kHz 1230z	14/08	NRH		PLdn	MON	
13376kHz 1240z	14/08	Weak	4m28s	PLdn	MON	
12176kHz 1250z	14/08	Weak	4m28s	PLdn	MON	
15876kHz 1200z	19/08		NOT MONITORED	PLdn	SAT	
14876kHz 1200z	19/08		NOT MONITORED	PLdn	SAT	
14376kHz 1200z	19/08		NOT MONITORED	PLdn	SAT	
13976kHz 1200z	19/08		NOT MONITORED	PLdn	SAT	
13376kHz 1200z	19/08		NOT MONITORED	PLdn	SAT	
12176kHz 1200z	19/08		NOT MONITORED	PLdn	SAT	
15876kHz 1200z	21/08	Weak	1m40s	PLdn	MON	
14876kHz 1200z	21/08	Weak	1m40s	PLdn	MON	
14376kHz 1200z	21/08	Weak	1m40s	PLdn	MON	
13976kHz 1200z	21/08	Weak	1m40s	PLdn	MON	
13376kHz 1200z	21/08	Weak	1m40s	PLdn	MON	
12176kHz 1200z	21/08	Weak	1m40s	PLdn	MON	
15876kHz 1200z	26/08		NOT MONITORED, Lightning	PLdn	SAT	Antenna disconnected
14876kHz 1200z	26/08		NOT MONITORED, Lightning	PLdn	SAT	
14376kHz 1200z	26/08		NOT MONITORED, Lightning	PLdn	SAT	
13976kHz 1200z	26/08		NOT MONITORED, Lightning	PLdn	SAT	
13376kHz 1200z	26/08		NOT MONITORED, Lightning	PLdn	SAT	
12176kHz 1200z	26/08		NOT MONITORED, Lightning	PLdn	SAT	
15876kHz 1200z	28/08	Weak	4m28s	PLdn	MON	
14876kHz 1200z	28/08	Weak	4m28s	PLdn	MON	
14376kHz 1200z	28/08	Weak	4m28s	PLdn	MON	
13976kHz 1200z	28/08	Weak	4m28s	PLdn	MON	
13376kHz 1200z	28/08	Fair	4m28s	PLdn	MON	
12176kHz 1200z	28/08	Fair	4m28s	PLdn	MON	

Wednesday/Saturday

July 2023

1st July 2023		NOT MONITORED			SAT	
13884kHz 1100z	05/07	Weak	4m30s	PLdn	WED	
13384kHz 1110z	05/07	Weak	4m30s	PLdn	WED	
12184kHz 1120z	05/07	Weak	4m30s	PLdn	WED	
11584kHz 1130z	05/07	Weak	4m30s	PLdn	WED	
11084kHz 1140z	05/07	NRH		PLdn	WED	
10584kHz 1150z	05/07	NRH		PLdn	WED	
13384kHz 1100z	08/07		NOT MONITORED	PLdn	SAT	
12184kHz 1110z	08/07		NOT MONITORED	PLdn	SAT	
11584kHz 1120z	08/07		NOT MONITORED	PLdn	SAT	
11084kHz 1130z	08/07		NOT MONITORED	PLdn	SAT	
10584kHz 1140z	08/07		NOT MONITORED	PLdn	SAT	
13884kHz 1150z	08/07		NOT MONITORED	PLdn	SAT	
13884kHz 1100z	12/07		NOT MONITORED	PLdn	WED	
13384kHz 1110z	12/07		NOT MONITORED	PLdn	WED	
12184kHz 1120z	12/07		NOT MONITORED	PLdn	WED	
11584kHz 1130z	12/07		NOT MONITORED	PLdn	WED	
11084kHz 1140z	12/07		NOT MONITORED	PLdn	WED	
10584kHz 1150z	12/07		NOT MONITORED	PLdn	WED	
13384kHz 1100z	15/07		NOT MONITORED	PLdn	SAT	
12184kHz 1110z	15/07		NOT MONITORED	PLdn	SAT	
11584kHz 1120z	15/07		NOT MONITORED	PLdn	SAT	
11084kHz 1130z	15/07		NOT MONITORED	PLdn	SAT	
10584kHz 1140z	15/07		NOT MONITORED	PLdn	SAT	
13884kHz 1150z	15/07		NOT MONITORED	PLdn	SAT	

13884kHz 1100z	19/07		NRH	PLdn	WED
13384kHz 1110z	19/07	Weak	4m29s	PLdn	WED
12184kHz 1120z	19/07	Weak	4m29s	PLdn	WED
11584kHz 1130z	19/07	Weak	4m29s	PLdn	WED
11084kHz 1140z	19/07	Weak	4m29s	PLdn	WED
10584kHz 1150z	19/07	Weak	4m29s	PLdn	WED
13384kHz 1100z	22/07	Strong	4m28s	PLdn	SAT
12184kHz 1110z	22/07	Fair	4m28s	PLdn	SAT
11584kHz 1120z	22/07	Weak	4m28s	PLdn	SAT
11084kHz 1130z	22/07	Weak	4m28s	PLdn	SAT
10584kHz 1140z	22/07	Weak	4m28s	PLdn	SAT
13884kHz 1150z	22/07	Weak	4m28s	PLdn	SAT
13884kHz 1100z	26/07	Weak	4m29s	PLdn	WED
13384kHz 1110z	26/07	Weak	4m29s	PLdn	WED
12184kHz 1120z	26/07	Weak	4m29s	PLdn	WED
11584kHz 1130z	26/07	Weak	4m29s	PLdn	WED
11084kHz 1140z	26/07	NRH		PLdn	WED
10584kHz 1150z	26/07	NRH		PLdn	WED
13384kHz 1100z	29/07	Weak	4m29s	PLdn	SAT
12184kHz 1110z	29/07	Weak	4m29s	PLdn	SAT
11584kHz 1120z	29/07	Weak	4m29s	PLdn	SAT
11084kHz 1130z	29/07	Weak	4m29s	PLdn	SAT
10584kHz 1140z	29/07	Weak	4m29s	PLdn	SAT
13884kHz 1150z	29/07	Weak	4m29s	PLdn	SAT

Wednesday/Saturday

August 2023

13567kHz 1100z	02/08		NOT MONITORED	PLdn	WED
13367kHz 1110z	02/08		NOT MONITORED	PLdn	WED
12167kHz 1120z	02/08		NOT MONITORED	PLdn	WED
11567kHz 1130z	02/08		NOT MONITORED	PLdn	WED
11067kHz 1140z	02/08		NOT MONITORED	PLdn	WED
10567kHz 1150z	02/08		NOT MONITORED	PLdn	WED
13567kHz 1100z	05/08	Weak	4m28s	PLdn	SAT
13367kHz 1110z	05/08	Weak	4m28s	PLdn	SAT
12167kHz 1120z	05/08	Weak	4m28s	PLdn	SAT
11567kHz 1130z	05/08	NRH		PLdn	SAT
11067kHz 1140z	05/08	NRH		PLdn	SAT
10567kHz 1150z	05/08	Weak	4m28s	PLdn	SAT
13567kHz 1100z	09/08	Weak	4m28s	PLdn	WED
13367kHz 1110z	09/08	Weak	4m28s	PLdn	WED
12167kHz 1120z	09/08	Weak	4m28s	PLdn	WED
11567kHz 1130z	09/08	Weak	4m28s	PLdn	WED
11067kHz 1140z	09/08	V.weak	4m28s	PLdn	WED
10567kHz 1150z	09/08	Weak	4m28s	PLdn	WED
13567kHz 1100z	12/08	Strong	4m28s	PLdn	SAT
13367kHz 1110z	12/08	Fair	4m28s	PLdn	SAT
12167kHz 1120z	12/08	Weak	4m28s	PLdn	SAT
11567kHz 1130z	12/08	Weak	4m28s	PLdn	SAT
11067kHz 1140z	12/08	NRH		PLdn	SAT
10567kHz 1150z	12/08	NRH		PLdn	SAT
13567kHz 1100z	16/08	Weak	4m28s	PLdn	WED
13367kHz 1110z	16/08	Weak	4m28s	PLdn	WED
12167kHz 1120z	16/08	Weak	4m28s QRM2	PLdn	WED
11567kHz 1130z	16/08	Weak	4m28s	PLdn	WED
11067kHz 1140z	16/08	Weak	4m28s	PLdn	WED
10567kHz 1150z	16/08	Weak	4m28s	PLdn	WED
13567kHz 1100z	19/08		NOT MONITORED	PLdn	SAT
13367kHz 1110z	19/08		NOT MONITORED	PLdn	SAT
12167kHz 1120z	19/08		NOT MONITORED	PLdn	SAT
11567kHz 1130z	19/08		NOT MONITORED	PLdn	SAT
11067kHz 1140z	19/08		NOT MONITORED	PLdn	SAT
10567kHz 1150z	19/08		NOT MONITORED	PLdn	SAT
13567kHz 1100z	23/08	Fair	3m07s	PLdn	WED
13367kHz 1110z	23/08	Fair	3m07s	PLdn	WED
12167kHz 1120z	23/08	Fair	3m07s	PLdn	WED
11567kHz 1130z	23/08	Weak	3m07s	PLdn	WED
11067kHz 1140z	23/08	NRH		PLdn	WED
10567kHz 1150z	23/08	NRH		PLdn	WED

13567kHz 1100z	26/08	Fair	3m07s				PLdn	SAT	
13367kHz 1110z	26/08	Fair	3m07s				PLdn	SAT	
12167kHz 1120z	26/08	Weak	3m07s				PLdn	SAT	
11567kHz 1130z	26/08	Weak	3m07s				PLdn	SAT	
11067kHz 1140z	26/08	Weak	3m07s				PLdn	SAT	
10567kHz 1150z	26/08	Weak	3m07s	QRN3	Lightning		PLdn	SAT	Antenna disconnected
13567kHz 1100z	30/08	Strong	3m07s				PLdn	WED	
13367kHz 1110z	30/08	Strong	3m07s				PLdn	WED	
12167kHz 1120z	30/08	Strong	3m07s				PLdn	WED	
11567kHz 1130z	30/08	Weak	3m07s				PLdn	WED	
11067kHz 1140z	30/08	NRH					PLdn	WED	
10567kHz 1150z	30/08	NRH					PLdn	WED	

Other XPB1 from H-FD

Mon 03.07.2023 0500Z 11169 MFSK-16 4:30
Mon 03.07.2023 0510Z 11469 MFSK-16
Mon 03.07.2023 0520Z 12169 MFSK-16
Mon 03.07.2023 0530Z 13369 MFSK-16
Mon 03.07.2023 0540Z 13969 MFSK-16
Mon 03.07.2023 0550Z 14569 MFSK-16

Fri 21.07.2023 1300Z 20024 MFSK-16 1:40
Fri 21.07.2023 1310Z 19224 MFSK-16
Fri 21.07.2023 1320Z 18324 MFSK-16
Fri 21.07.2023 1330Z 17424 MFSK-16
Fri 21.07.2023 1340Z 16324 MFSK-16
Fri 21.07.2023 1350Z 15824 MFSK-16

Other XPB1 [Mon from Ary]

???? 0700 14-08 14-08 XPB1
9339 0710 14/08 14-08 XPB1
10643 0720 14/08 14-08 XPB1
11431 0730 14/08 14-08 XPB1
12158 0740 14/08 14-08 XPB1
13526 0750 14/08 14-08 XPB1

9339 14-08-2023 0820 XPB1
10643 14-08-2023 0830 XPB1
11431 14-08-2023 0840 XPB1
12158 14-08-2023 0850 XPB1
13526 14-08-2023 0900 XPB1

9339 14-08-2023 0930 XPB1
10643 14-08-2023 0940 XPB1
11431 14-08-2023 0950 XPB1
12158 14-08-2023 1000 XPB1
13526 14-08-2023 1010 XPB1

X06 Mazeilka

X06 Mazielka (1c) logs section

Date Day UTC Freq Scale Monitor Comments
20230703 Mon 0807-0813 11438 532614 Ary/NL, Andrew TX to Paris, G4(1)
20230703 Mon 0922-0929 20675 641523 Andrew/SE TX to Lusaka, G5
20230704 Tue 0833-0841 12149 154263 RX39 TX to Rome, G7
20230704 Tue 1154 15782 325614 Andrew TX to Nairobi, G392
20230704 Tue 1500 14933 1--6-- HFD X06b
20230705 Wed 0817-0824 14631 362154 Andrew TX to Athens, G32
20230705 Wed 1116-1126 13979 215346 Andrew, RX39 TX to Mumbai, G25
20230706 Thu 0727-0737 15973 162543 Andrew TX to Nikosia, G39
20230706 Thu 0748-0806 16132 352416 Ary, Andrew TX to Dar es Salaam, G43
20230706 Thu 0920-0927 16103 645321 Ary, RX39 TX to Ho Chi Minh City, G410
20230707 Fri 0830-0839 14570 324615 Ary, Andrew TX to Madrid, G52
20230709 Sun 1044-1050 14414 145632 Dave TX to Algiers, G135
20230710 Mon 1242-1246 12177 364152 Schorschi,RX39 TX to New Delhi, G73
20230711 Tue 0801-0812 13420 534216 Ary, Andrew Alert 7 (TX to Bagdad, G87) 1
20230711 Tue 0832-0844 11545 534216 Ary, Andrew 7.2
20230711 Tue 0843-0849 13420 534216 Ary, Andrew 7.3
20230712 Wed 0719-0732 10814 412356 Ary, Andrew TX to Budapest, G97
20230712 Wed 0720-0728 20950 435621 Ary, Andrew TX to Maputo, G98

20230712 Wed 1159 11153 465132 Andrew TX to Sofia, G100
20230712 Wed 0807 20334 164253 Andrew TX to Addis Ababa,G395(2)
20230713 Thu 0824-0826 16153 153624 Andrew TX to Damascus, G249
20230718 Tue 0823-0830 13401 154263 Ary, RX39 TX to Rome, G148(3)
20230718 Tue 1143-1146 18523 325614 RX39 TX to Nairobi, G400
20230719 Wed 0636-0642 14405 256341 Andrew TX to Beirut, G169
20230719 Wed 1110-1126 14650 215346 Andrew TX to Mumbai, G167
20230719 Wed 1234-1243 18245 231654 Dave, RX39 TX to Abuja, G423
20230720 Thu 0729 19511 314265 Andrew TX to Antananarivo, G178(2)
20230720 Thu 0744-0747 18575 352416 Andrew TX to Dar es Salaam, G179
20230720 Thu 0816-0819 17534 351264 Andrew, Ary TX to Abu Dhabi, G434
20230720 Thu 0916-0929 18197 645321 Ary, RX39 TX to Ho Chi Minh City, G417(4)
20230721 Fri 0821-0828 13954 213546 Ary, Andrew TX to Islamabad, G390
20230723 Sun 1047-1050 15810 145632 RX39 TX to Algiers, G284
20230724 Mon 0931-0941 16117 463125 Dave TX to Rabat, G222
20230727 Thu 0810-0815 14550 153624 RX39 TX to Damascus, G249
20230728 Fri 0640 13427 341265 VSh R
20230803 Thu 0736-0741 15973 162543 Andrew TX to Nikosia, G39(5)
20230803 Thu 0948-0950 18197 645321 Dave TX to Ho Chi Minh City, G410
20230803 Thu 1354-1356 16277 436512 Andrew TX to Harare, G44
20230803 Thu 1359-1401 18575 352416 Andrew TX to Dar es Salaam, G43
20230807 Mon 0657-0702 11638 165324 Andrew TX to Vienna, G1
20230807 Mon 0741-0742 12152 432516 Andrew Alert 2 (TX to Bern, G6) 1
20230807 Mon 0742-0745 11562 432516 Andrew 2.2
20230807 Mon 0924-0929 20675 641523 Andrew, Ary TX to Lusaka, G5
20230808 Tue 0822 14861 542136 Ary, Andrew,
RX39 TX to Beijing, G88
20230808 Tue 0830-0833 13420 534216 Ary, Andrew TX to Bagdad, G87
20230808 Tue 1015-1019 17470 216354 RX39, Ary TX to Chennai, G388
20230808 Tue 1016-1020 14675 612534 Ary, RX39 TX to Ashgabat, G89
20230809 Wed 0726-0736 20950 435621 Andrew, Ary TX to Maputo, G98
20230809 Wed 0749-0753 18177 164253 Andrew, Ary TX to Addis Ababa, G395
20230809 Wed 0752-0800 11483 412356 Ary, Andrew TX to Budapest, G97
20230809 Wed 0757-0805 11153 465132 Andrew, Ary TX to Sofia, G100
20230809 Wed 0808-0814 14812 263145 Ary, Andrew TX to Prague, G428
20230810 Thu 0835-0843 16153 153624 Ary, Andrew TX to Damascus, G249
20230813 Sun 1044-1046 12114 145632 Andrew, Dave Alert 2 (TX to Algiers, G135) 1
20230813 Sun 1048-1049 14414 145632 Dave 2.2(6)
20230814 Mon 0827-0838 17475 156234 Ary, Andrew Alert 2 (TX to Kampala, G68) 1
20230814 Mon 0828 17422 156234 Ary 2.2: weak, probably sporadic
20230814 Mon 0927 13517 463125 Ary, Andrew TX to Rabat, G77
20230814 Mon 1244-1249 10452 364152 Andrew TX to New Delhi, G73
20230815 Tue 0854-0858 13401 154263 Andrew TX to Rome, G148(7)
20230815 Tue 1210-1216 16188 325614 Ary, Dave TX to Nairobi, G400
20230815 Tue 1755 17421 246531 RadiotehnikaT TX to Accra, G153(8)
20230816 Wed 1235-1239 18245 231654 Andrew TX to Abuja, G423
20230817 Thu 0745-0750 19405 352416 Andrew TX to Dar es Salaam, G179
20230817 Thu 0758-0805 17534 351264 Ary, Andrew TX to Abu Dhabi, G434
20230817 Thu 0923-0943 18197 645321 Ary, Andrew TX to Ho Chi Minh City, G417
20230817 Thu 1322-1323 20627 436512 Dave TX to Harare, G180
20230818 Fri 1008-1033 13954 213546 Anon06018, Ary Alert 2 (TX to Islamabad, G390)1
20230818 Fri 1022-1026 14824 625413 Ary, Andrew TX to Tel Aviv, G193
20230818 Fri 1121 12191 1--6-- Schorschi X06b before XPA1
20230818 Fri 1033-1039 11430 213546 Ary, tiNG 2.2
20230820 Sun 0736-0740 14595 452163 Andrew TX to Kabul, G403
20230821 Mon 0727 12152 432516 Ary TX to Bern, G341
20230821 Mon 0816-0822 11438 532614 Ary, Andrew TX to Paris, G147
20230821 Mon 0921-0929 20675 641523 Andrew TX to Lusaka, G337
20230822 Tue 0823-0844 17523 542136 Ary, Andrew TX to Beijing, G88
20230822 Tue 1004-1008 13510 612534 Ary, Anon05102,
Dave TX to Ashgabat, G234
20230822 Tue 1037 20813 216354 Dave TX to Chennai, G228
20230823 Wed 0730-0733 11483 412356 RX39 TX to Budapest, G243
20230823 Wed 0750-0752 18177 164253 RX39 TX to Addis Abbaba, G402
20230823 Wed 0759-0801 13419 465132 RX39 TX to Sofia, G246
20230823 Wed 0803-0804 14812 263145 RX39 TX to Prague, G435
20230824 Thu 0704-0712 13854 521634 Ary, Andrew TX to Bucharest, G261
20230825 Fri 0502-0508 13510 216435 Ary, Andrew TX to Dhaka, G336
20230825 Fri 1000 15828 256134 Ary TX to Abidjan, G270
20230827 Sun 1053-1056 14414 145632 Dave TX to Algiers, G284
20230828 Mon 0827-0829 17475 156234 Andrew TX to Kampala, G203
20230828 Mon 0932-0937 16117 463125 Andrew TX to Rabat, G222

1) Carrier out at 0815 UTC
2) Tail end
3) With break of 40 secs at 0825 UTC – 0819-0822: MFSK66
4) 0926 UTC: MFSK-66 (right over X06)
5) Carrier up until 0744
6) CW at 1041-43 and 1044-47 UTC
7) Lots of splatter
8) Stopped as well as link on 17490, carrier out at 1802

Many thanks to all contributors as usual. Till next time: Good-bye and please stay safe!

Jochen Schäfer, Numbers-, X06 Database and Teamkopf

PS: In early October, a German journalist will come to me for an interview about Russian numbers stations for a podcast with the focus on M12 and XPA1b, cause in October 2011 a couple of Russian origin was arrested here in Marburg during listening to one of these stations (see EN67). Of course, I will mention E2K. More you'll find in the next issue.

Thanks Jochen!

Hybrids
HM01

Some HM01 analysis from Peter. He has done an excellent job, like Ary, tracking this station both pushing my miserable efforts, hampered by little time to commit, out of sight:

The Mixed Mode station from Cuba was noted in May active on Tuesdays, Thursdays and Saturdays starting up some time after 0557 UTC on 14375 kHz and 0658 UTC on 13435.
Carried on into June, was certainly on the air on the 20th of that month, a Tuesday, but then appeared to go quiet, was not heard during the remainder of June. Even if propagation was extremely poor it ought to have been possible to detect the carrier of a very weak signal with the receiver in SSB mode, but nothing found with any receiver and antenna combination at my disposal. Nothing heard as we moved into July, monitoring on the above days, times and frequencies then monitoring reduced somewhat and nothing heard in August until the third week of that month when the YL from Cuba was heard again:-

22-Aug-23, Tuesday:- 0608 UTC, 14375 kHz, decided to check this frequency to see if anything was around, carrier, no audio heard. A few seconds of the Cuban YL heard at around 0623z.
0634 UTC:- transmission in progress, audio low and indistinct but definitely the HM01 voice Gone when checked at 0656z.
0700 UTC approx, 13435 kHz, weak signal, low audio, difficult copy, 5F groups, sounded like "28146 06041 25802 55471" all "query" were in there somewhere.

24-Aug-23, Thursday:- 0659 UTC, 14375 kHz, starting up, weak signal, would probably have been readable but for interference from a strong wide-band buzz/pulse signal extending about 10 kHz either side, Russian "Container" over-the-horizon radar, perhaps? Was still there at 0645z.
0657 UTC approx, 13435 kHz, starting up, "28148 15044 06043 55182 25804 55473".
Good signal, peaking over S9 at times although frequently dipping down for a few seconds and then recovering. By far the best reception of HM01 for a couple of months.

26-Aug-23, Saturday:- 0558 UTC, 14375 kHz, weak carrier, voice heard after 0600z, difficult copy, stronger when checked about half an hour later:-
0632 UTC, in progress with preamble/call routine, presumably after the break, "27881 15046
06045 55184 25805 55475", data sounds just after 0635z.
0658 UTC, still on 14375, carrier until approx 0703:30s then started up with 5Fs as earlier
data sounds about three minutes later. Went off suddenly just before 0710 UTC.
0712 UTC, 13435 kHz, weak signal, too weak to copy.

29-Aug-23, Tuesday:- Nothing heard at 0557 UTC on 14375, listened for some time something heard a few minutes in, may have been the HM01 YL and data noises but was very brief and not heard again.
Nothing heard after 0657 UTC on 13435.

Ary also reported the reappearance of HM01:

10345 kHz 23-08 0627z i.p.

Groups
28147 15043 05042 55181 25803 55472

Files
07352814.TXT
50821504.F1C
34620604.TXT
36275518.F1G
00232580.TXT
60785547.TXT

It was also briefly heard by a fellow dxer on 10860 kHz 23-08 0601z off at 0608z Thanks Ary.

Ary then follows on with:

14375 24-08-2023 0600 HM01 AM/WinDRM
13435 24-08-2023 0658 HM01 AM/WinDRM
11635 24-08-2023 0758 HM01 AM/WinDRM
11462 24-08-2023 0900 HM01 AM/WinDRM
12180 24-08-2023 1000 HM01 AM/WinDRM
11435 24-08-2023 1630 HM01 AM/WinDRM

Groups 28148 15044 06043 55182 25804 55473
Files 07352814.TXT 50821504.F1C 34620604.TXT 36275518.F1G 00232580.TXT 60785547.TXT
Callsign QWERTY01

More antennas at Little Sai Wan

Radio receiver used in RAF intercept stations set rooms, sometimes one atop another; Marconi 1475 [credit unknown]

Chart Section Index

Predictions

M01 Schedule

Family III

Polytones, XPA1, XPA2

En138
September 2023

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Sep kHz, ID, ...	Oct kHz, ID, ...
x	x	x	x	x			0000		F01	01A	17471	17471
x	x	x	x	x	x	x	0000		V13	0	15890	18040
x				x			0010/0030/0050		M12	01B	14942/13942/12142 991	17429/16229/15929 429
x				x			0025/0035		F01	01A	15672/13892	14434/11439
	x			x			0030/0050/0110		M12	01B	6942/ 8142/ 9242 912	6837/ 8037/ 9237 802
x	x	x	x	x	x	x	0100		V13	0	15890	
x				x			0125/0135		F01	01A	15672/13892	14434/11439
x	x	x	x	x	x	x	0200		V13	0	search (15388?)	search (15388?)
x	x						0210/0310 tue, when msg		E06	01A	11426/14477 537	11528/14613 537
			x	x			0300/0400		E06	01A	13557/11521 361	16219/13545 361
x	x	x	x	x	x	x	0300		V13	0	search (15388?)	search (15388?)
	x		x				0300/0320/0340		M12	01B	**search**	17437/15937/14537 495
x		x					0315		E11	03	x11581 25# **check**	x11581 25#
x	x	x	x	x	x	x	0400		V13	0	11430	15388
x	x	x	x	x			0400/0420		S06	01A	11616/ 9322 480	11616/ 9322 480
	x		x				0445		S11A	03	**10728** 79#	10728 79#
x							0450		E11	03	5371 41#	5371 41#
x		x		x		x	0455		HM01	18	10860	10860
	x		x		x		0455		HM01	18	11462	11462
x	x	x	x	x	x	x	0500		V13	0	18040, 15388	15388, 11430
x	x						0500/0510/0520 0530/0540/0550		XPB1	01B	13435/13935/14435 14835/15935/16225	13471/14771/15871 16271/17471/18271
x	x	x	x	x			0500/0520		M14	01A	12211/10243 952	12211/10243 952
	x		x				0500/0520/0540		XPA2	01B	10221/11121/12221	10238/11138/12138
			x	x			0500/0600	1/3	E06	01A	14370/16265 354	
x		x					0510		S11A	03	11116 65#	11116 65#
	x			x			0530		M01A	14	9441 751	9441 751
		x	x				0530		M01A	14	9129 or 9192 498	9129 or 9192 498
		x	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#
x	x	x	x	x	x	x	0600		V13	0	16134, 11430	15388, 11430
						x	0600/0620/0640		E07	01B	9261/10261/11461 224	10317/11117/12217 312
		x			x		0600/0620/0640		M12	01B	**search**	**search**
			x	x			0600/0700	1/3	E06	01B		18425/20230 186

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Sep kHz, ID, ...	Oct kHz, ID, ...
	x			x			0620		M01A	14	10233 or 10235 354/458	10233 or 10235 354/458
		x	x				0620		M01A	14	9421 135	9421 135
	x			x			0630		M01A	14	9447 143/796	9447 143/796
		x	x				0630		M01A	14	8111 902/536	8111 902/536
	x		x				0645		E11	03	8423 51#	8423 51#
x		x		x		x	0655		HM01	18	9330	9330
	x		x		x		0655		HM01	18	13435	13435
x			x				0700		S11A	03	8597 47#	8597 47#
	x			x			0700		E11	03	8180 57#	8180 57#
					x	x	0700		E11	03	9079 49#	9079 49#
x	x	x	x	x	x	x	0700		V13	0	8169	8169
						x	0700		M01	01B	6510 463	6510 463
x		x					0700/0720/0740		XPA2	01B	12152/13552/13952	13372/14672/15872
						x	0700/0720/0740		V07	01B	**search**	**search**
	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#
	x			x			0715		E11	03	9963 63#	9963 63#
	x			x			0720		M01A	14	9151 728	9151 728
		x		x			0725		S11A	03	**search**	**search**
x							0745		E11	03	10213 26#	10213 26#
	x		x				0745		E11	03	14865 22#	14865 22#
		x		x			0745		E11	03	17410 34#	17410 34#
x		x		x		x	0755		HM01	18	9065	9065
	x		x		x		0755		HM01	18	11365	11365
x	x	x	x	x	x	x	0800		V13	0	8169	8169
		x				x	0800/0820/0840		M12	01B		17441/18641/19241 462
				x		x	0800/0820/0840		XPA2	01B	14374/14974/16274	15958/17458/18758
	x	x					0820		E11	03	19184 13#	19184 13#
			x	x			0820		E11	03	5941 43#	5941 43#
x				x			0830		E11	03	20170 18#	20170 18#

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Sep kHz, ID, ...	Oct kHz, ID, ...
					x	x	0830		S11A	03	6433 37#, check	6433 37#
x		x					0845		E11	03	12202 71#	12202 71#
	x		x				0845		E11	03	18168 15#	18168 15#
		x		x		x	0855		HM01	18	9240	9240
	x		x		x		0855		HM01	18	11462	11462
x		x					0900		E11	03	9968 53#	9968 53#
		x					0900/1000		S06	01A	**search**	**search**
x		x					0910/0930/0950		XPA2	01B	18206/16329/15824	17471/16149/14406
			x		x		0910/0930/0950		XPA2	01B	15859/14659/13459	17438/16338/15938
x				x			0915		S11A	03	6480 48#	6480 48#
		x	x				0930		E11	03	6940 27#	6940 27#
x	x	x	x	x	x	x	0930		M14	01A	16347 10.&25. 14878 11.&26. when msg	17438 10.&25. 15965 11.&26. when msg
x		x		x		x	0955		HM01	18	9155	9155
	x		x		x		0955		HM01	18	12180	12180
	x			x			1000		E11	03	9951 30#	9951 30#
	x	x	x	x			1015/1025/1035		F01	01A	9128/ 7546/ 5113	11129/ 9082/ 7344
x		x					1045		E11	03	10200 69#	10200 69#
		x			x		1100/1110/1110 1130/1140/1150		XPB1	01B	13521/13421/12221 11521/11021/10521	16245/15825/14925 13525/12125/11425
	x			x			1100/1120/1140		XPA2	01B	13431/12131/11431	14537/13437/10737
		x	x				1100/1120/1140		XPA2	01B	16117/14917/13517	14672/13472/12172
			x				1110/1130/1150		M12	01B	13386/12189/11491 725	13386/12189/11491 725
x	x	x	x	x	x	x	1200		V13	0	9276, 13974	9276, 13974
x					x		1200/1210/1210 1230/1240/1250		XPB1	01B	14462/13962/13462 12162/11562/10962	14462/13962/13462 12162/11562/10962
	x					x	1200/1220/1240		XPA2	01B	13914/15814/16314	14469/16169/17469
		x		x			1200/1220/1240		XPA2	01B		**search**
	x	x					1205		E11	03	6923 46#	6923 46#
		x		x			1210/1230/1250		XPA1	01B	12137/11137/10237	14564/13564/11464
	x		x				1230		E11	03	12530 33#	12530 33#
x			x				1300		E11	03	5371 31#	5371 31#
x	x	x	x	x	x	x	1300		V13	0	7688, 11430	7688, 11430
	x			x			1300/1310/1310 1330/1340/1350		XPB1	01B	**search**	20075/19575/18175 17475/16275/14975
					x		1300/1320/1340		E07	01B	12176/11576/10276 512	12176/11576/10276 512
	x			x			1400		S11A	03	11420 42#	11420 42#

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Sep kHz, ID, ...	Oct kHz, ID, ...
x			x				1400/1420/1440		M12	01B		20168/19468/16268 142
			x		x		1410/1430/1450		E07	01B	16228/15928/14928 594	15849/14849/13449 746
	x				x		1430		E11	03	14972 91#	14972 91#
					x		1500		M01	14	6260 463	6260 463
	x	x	x				1500/1600		S06	01A	13896/10381 387	
	x			x			1500/1520/1540		E07	01B	17452/16272/14875 428	17461/16161/14361 413
					x		1500/1520/1540		XPA2	01B	14373/13373/11573	13906/12106/10906
			x				1530		E11	03	10330 26#	10330 26#
					x	x	1530		E11	03	4505 36#	4505 36#
x	x	x	x	x	x	x	1555		HM01	18	11435	11435
x			x				1600/1620/1640		M12	01B	19546/18446/13346 543	
		x				**x**	1600/1620/1640		M12	01B	14927/13927/12227 992	
	x		x				1600/1620/1640		XPA2	01B	13887/13387/11587	13542/12142/11442
	x					x	1605		E11	03	5176 23#	5176 23#
x	x	x	x	x	x	x	1655		HM01	18	11530	11530
		x		x			1715		E11	03	6923 97#	6923 97#
			x				1730		E11	03	7864 41#	7864 41#
x						x	1745		E11	03	13470 24#	13470 24#
x	x	x	x	x	x	x	1755		HM01	18	11635	11635
	x		x				1800		M01	14	5475 463	5475 463
		x		x			1800/1820/1840		XPA2	01B	**search**	
					x		1800/1820/1840		M12	01B	11435/10598/ 9227 938	11435/10598/ 9227 938
				x		x	1815		E11	03	11116 92#	11116 92#
	x			x			1840/1850/1900	1	F01	01A	13467/11084/ 9052	11136/ 9074/ 7723
		x			x		1850		S11A	03	10213 28#	10213 28#
x			x				1900		E11	03	7317 64#	7317 64#
		x					1900/1920/1940		M12	01B	8047/ 6802/ 5788 463	8047/ 6802/ 5788 463
		x		x			1900/1920/1940		M12	01B	13367/12167/10567 315	11135/10235/ 9235 122
			x				1900/1920/1940		M12	01B	11435/10598/ 9227 938	11435/10598/ 9227 938
				x			1900/2000	1/3	S06	01A	9412/ 6985 637	

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Sep kHz, ID, ...	Oct kHz, ID, ...
		x			x		1910		E11	03	4181 39#	4181 39#
				x		x	1910		E11	03	8530 61#	8530 61#
			x			x	2000		E11	03	5737 52#	5737 52#
	x		x				2000		M01	14	5020 463	5020 463
x			x				2000/2020/2040		M12	01B	11109/10309/ 9209 385	10318/ 9218/ 8118 178
				x			2000/2100	1/3	S06	01A		9412/ 6985 637
x		x		x		x	2055		HM01	18	11635	11635
	x		x		x		2055		HM01	18	16180	16180
				x	x		2100/2120/2140		M12	01B	7961/ 6861/ 5861 988	5794/ 6794/ 8094 770
x		x		x		x	2155		HM01	18	10715	10715
	x		x		x		2155		HM01	18	17480	17480
					x		2230/2240		F01	01A	20618/18048	20966/18954
					x		2330/2340		F01	01A	20618/18048	20966/18954

M01 FREQUENCY LIST

Frequencies may vary by a few kHz

JAN FEB NOV DEC M01/1 197

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

MAR APRIL SEPT OCT M01/2 463

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

MAY JUNE JULY AUG M01/3 025

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

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Jul kHz, ID, ...	Aug kHz, ID, ...	Sep kHz, ID, ...	Oct kHz, ID, ...	Remarks
x		x					0315		E11	03	14972 25#	14972 25#	x11581 25# **check**	x11581 25#	since 01/14, last log 08/23
	x		x				0445		S11A	03	9968 79#	9968 79#	**10728** 79#	10728 79#	since 05/22, last log 08/23
x							0450		E11	03	7469 41#	7469 41#	5371 41#	5371 41#	since 02/10, last log 08/23 2nd transmission Thu 1730z
	x		x				0505		E11	03					since 10/11, last log 02/23 Mar/Apr/Sep/Oct at 1230z, Mai-Aug at 1645z
x		x					0510		S11A	03	13537 65#	13537 65#	11116 65#	11116 65#	since 08/19, last log 08/23
				x		x	0600		E11	03	9150 35#	9150 35#	8680 35#	8680 35#	since 04/15, last log 08/23
	x		x				0645		E11	03	8091 51#	8091 51#	8423 51#	8423 51#	since 07/09, last log 08/23
x			x				0700		S11A	03	9339 47#	9339 47#	8597 47#	8597 47#	since 04/10, last log 08/23
	x			x			0700		E11	03	8680 57#	8680 57#	8180 57#	8180 57#	since 01/12, last log 08/23
					x	x	0700		E11	03	7377 49#	7377 49#	9079 49#	9079 49#	since 07/15, last log 08/23
x		x					0715		E11	03	18030 75#	18030 75#	15632 75#	15632 75#	since 06/21, last log 08/23
	x			x			0715		E11	03	10429 63#	10429 63#	9963 63#	9963 63#	since 02/11, last log 08/23
		x		x			0725		S11A	03	20905 38#	20905 38#	**search**	**search**	since 05/14, last log 08/23
x							0745		E11	03	9610 26#	9610 26#	10213 26#	10213 26#	since 03/14, last log 08/23 2nd transmission Thu 1530z
	x		x				0745		E11	03	14940 22#	14940 22#	14865 22#	14865 22#	since 01/20, last log 08/23
		x		x			0745		E11	03	15720 34#	15720 34#	17410 34#	17410 34#	since 06/17, last log 08/23
	x	x					0820		E11	03	17378 13#	17378 13#	19184 13#	19184 13#	since 12/18, last log 08/23
			x	x			0820		E11	03	4909 43#	4909 43#	5941 43#	5941 43#	since 10/09, last log 08/23
x				x			0830		E11	03	16335 18#	16335 18#	20170 18#	20170 18#	since 07/15, last log 08/23
					x	x	0830		S11A	03	5149 37#	5149 37#	6433 37#, check	6433 37#	since 02/14, last log 08/23
x		x					0845		E11	03	12815 71#	12815 71#	12202 71#	12202 71#	since 09/10, last log 08/23
	x		x				0845		E11	03	19184 15#	19184 15#	18168 15#	18168 15#	since 07/17, last log 08/23
x		x					0900		E11	03	9052 53#	9052 53#	9968 53#	9968 53#	since 10/05, last log 08/23
x				x			0915		S11A	03	6814 48#	6814 48#	6480 48#	6480 48#	since 04/19, last log 08/23
		x	x				0930		E11	03	6923 27#	6923 27#	6940 27#	6940 27#	since 02/14, last log 08/23
	x			x			1000		E11	03	12153 30#	12153 30#	9951 30#	9951 30#	since 11/16, last log 08/23
x		x					1045		E11	03	12089 69#	12089 69#	10200 69#	10200 69#	since 03/18, last log 08/23
	x	x					1205		E11	03	6304 46#	6304 46#	6923 46#	6923 46#	since 03/10, last log 08/23
	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	5737 31#	5737 31#	5371 31#	5371 31#	since 07/14, last log 08/23
	x			x			1400		S11A	03	9448 42#	9448 42#	11420 42#	11420 42#	since 02/10, last log 08/23
	x				x		1430		E11	03	12984 91#	12984 91#	14972 91#	14972 91#	since 10/15, last log 08/23
			x				1530		E11	03	10356 26#	10356 26#	10330 26#	10330 26#	since 06/14, last log 08/23 2nd transmission Mon 0745z
					x	x	1530		E11	03	5082 36#	5082 36#	4505 36#	4505 36#	since 03/14, last log 08/23
	x					x	1605		E11	03	5231 23#	5231 23#	5176 23#	5176 23#	since 11/15, last log 08/23
	x		x				1645		E11	03	14575 33#	14575 33#			since 10/11, last log 08/22 Mar/Apr/Sep/Oct at 1230z, Nov-Feb at 0505z
		x		x			1715		E11	03	7863 97#	7863 97#	6923 97#	6923 97#	since 02/15, last log 08/23
			x				1730		E11	03	8088 41#	8088 41#	7864 41#	7864 41#	since 03/10, last log 08/23 2nd transmission Mon 0450z
x						x	1745		E11	03	14410 24#	14410 24#	13470 24#	13470 24#	since 04/18, last log 08/23
				x		x	1815		E11	03	12229 92#	12229 92#	11116 92#	11116 92#	since 05/16, last log 08/23
		x			x		1850		S11A	03	12457 28#	12457 28#	10213 28#	10213 28#	since 06/17, last log 08/23
x			x				1900		E11	03	7600 64#	7600 64#	7317 64#	7317 64#	since 05/16, last log 08/23
		x			x		1910		E11	03	4783 39#	4783 39#	4181 39#	4181 39#	since 02/14, last log 08/23
				x		x	1910		E11	03	9610 61#	9610 61#	8530 61#	8530 61#	since 04/17, last log 08/23
			x			x	2000		E11	03	5409 52#	5409 52#	5737 52#	5737 52#	since 05/15, last log 08/23

XPA1 Wednesday/Friday schedule

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

XPA2[Sched m & p] Russian Intelligence and/or Diplomatic Multitone Systems [Radiogramma] Transmission Schedules.

Zulu > / Month v	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	10921	12221	13521	11493	13393	13993
Feb	11163	13363	14563	13387	13887	14787
Mar	13384	13984	14984	13931	14831	16131
Apr	14442	15842	16342	11409	12209	13409
May	13376	11576	10776	12148	13448	13948
June	13427	12227	10827	12148	13448	13948
July	13394	12194	10794	12148	13448	13948
Aug	12159	11559	10559	12152	13552	13952
Sept	13914	15814	16314	12152	13552	13952
Oct	14469	16169	17469	13372	14672	15872
Nov	14783	13883	12183	11529	13429	13929
Dec	10807	12207	13507	11493	13393	13993

Gizza Job

'E' kindly sent in this almost enigmatic job vacancy…. Looks like course leading, or is it?

Attention former Police Officers seeking an outstanding opportunity!

PREMIER PARTNERSHIP are currently recruiting Facilitators for a prestigious London-based project, with excellent day rates.

Position: **Facilitator for London-based Project**
Location: **London, United Kingdom**
Duration: **18 weeks (starting from 10th July)**

Requirements:

- **Recent employment as a police officer within the last 18 months is mandatory.**
- **Current or recent Vetting**

If you have the necessary experience and qualifications, we want to hear from you! Join our dynamic team and make a significant impact in this exciting project. Don't miss out on this incredible opportunity!

To apply, please send your updated CV and a cover letter to **suppliers@premier-partnership.co.uk**

ONLY SHORTLISTED CANDIDATES WILL BE CONTACTED.

premier PARTNERSHIP

Note: This position is open to former police officers who meet the specified requirements.
(Please note that this advertisement is from the recruiting organisation, not the client.)

We looked at the Premier Partnership webpages to discover they work with:

- Blue Light
- Government
- Local Authority
- NHS
- Universities
- Private Sector

No surprises, then!

SPECIAL MATTERS

Thanks to all our contributors:
Ary, BR, Brixmis, DanAR, 'DE2TRF' via 'Drew', dMHz, H-FD, Jochen, Malc, PLdn, PoSW, RNGB
Apologies to anyone missed.

MESSAGES:

E: Thanks for the ad and other stuff. Hpe your recup goes well. Yes, Hansen gone and Montes paroled.
We'll not be accepting a membership request from her anytime now!
Hope your new set soon sorted. Imagery next issue, thanks.

RELEVANT WEBSITES

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