

# Horndean & District Amateur Radio Club Journal

Volume 5

Number 5

December 2020 & January 2021



# Zoom



Join us on a Tuesday 8 pm

Horndean & District Amateur Radio Club  
Founded in 1975

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Articles, letters of interest, photographs are always needed and should be sent to the Editor :-

I use Microsoft Publisher to produce the journal so am happy to accept articles/photographs via email. A Word document or Picture attachment. Just use Journal article or Journal picture as the subject matter.

Opinions expressed in the journal are not necessarily those of the HDARC. The editor has the right to reproduce the articles for our affiliated club journals/newsletters. The Editor decision is always final.

**Closing date for next journal is : Jan 1st**

## Editorial



Dear reader

Well it looks like we are all going to be in the grip of this pandemic for some time to come ,well we wont be beaten, the get togethers are going well with zoom being the system of choice, its simplicity itself just click on the link in the e-mail Stuart sends out at the advertised date and time and wait for Bill to let you in, no software to download, nothing else to do

Well here's hoping to see you all on a Tuesday  
Thanks, Ralph 2E0HES

### Club Clothing

**Sweatshirts      Polo-Shirts      T-Shirts      Fleece**

**Sizes:** Small = 36 - 38" - Medium = 38 - 40" - Large = 40 - 42" - XL = 42 - 44"

Available with club logo only or logo, name & callsign

**Cap - One Size only:** with adjustable strap - Stitching in Yellow

Available with callsign only or callsign and/or name

Some items available in various colours, see **Stuart G0FYX** for details

All articles appreciated



Any articles you think you have that will entertain your co- members then please send them in to Ralph at [landscape@sky.com](mailto:landscape@sky.com)



Not  
for  
the  
BOYZ  
?



### **Humble beginnings**

I first started doing cross stitch about 3 years ago because my daughter gave me a tiny kit to do when we were on holiday in our caravan. The finished circular picture measured just 7cms in diameter. However, it seemed a jolly good idea. It took up very little space (in our 9ft long 'van, that was important!), and it was something I could pick up and put down easily.

### **The bug takes hold**

I then became a Great Aunt and did a baby sampler. I deliberately chose an easy one but enjoyed doing it. Some of the kits are quite expensive though, and I'm sure you all know by now that we don't like spending loads of money, so I looked in charity shops and found some there. And there it was: a huge kit, unopened, everything included, for a bargain price. I could not refuse! The finished article would measure a massive 42cms square!

### **Getting started**

Before even starting I knew I wanted to do something different in the middle, rather than the design in the kit. That meant leaving it blank until I decided what to do. The rule in cross stitch is to start from the centre, so for me that meant doing the inner square first. Add 80-odd stitches each way it involved a lot of counting, and then unpicking as I had counted wrong!

### **Lockdown**

By now I was really getting into it, but it was good to go walking as a break from it, as sitting for too long is definitely not a good idea. The weather of course was fantastic so the light levels for sewing were ideal. As I progressed around, I realised that the design for the Spitfire was a bit strange. Each cross stitch is like a pixel, and with only 40 pixels square for each little picture, getting a plane looking right was a bit of a challenge. I got various friends involved, and with the use of the internet, printers and squared paper I eventually got something that I was happy with. I'm sure some people will point out that the wings aren't quite right, but I have 2 excuses: firstly there is the constraint of 40 stitches; secondly, there were many versions of the Spitfire, with several different wing designs!



## Where are the women?

Another area I wanted to change was where the names are in the inner square. A radio net and a quiz Zoom meeting soon gave me more than enough names to play with, including people of colour. It's a shame I could not include more.

## Finally

The time came when I had to make a final decision about the centre. Mike suggested a picture of the coronavirus, but I thought that as this work was about achievements, that was hardly appropriate! So I thought an NHS design would do nicely. Fortunately several designs are freely available on-line, although my preferred one was only on Facebook, which we don't do. I got my daughter to forward it to me, and although the quality of the picture was not perfect, I was able to make sense of it.

## What now?

So I now had a huge piece of artwork, what to do with it? I thought a cushion would make it useful. First I had to find a 50cm cushion pad (most are 40cm). Then fabric to form the basis of the cushion cover. Fortunately I keep all kinds of fabric (like Mike I find it hard to throw these things away), and I remembered I had a pillowcase bought with a duvet set in France. French pillows are square, not rectangular like ours. Find some piping and a zip, line it all up (not easy), and sew everything together. Phew! Finished! Where's the next one??

73/88 M0CAA and M0BOZ.

# Nuggets from the net

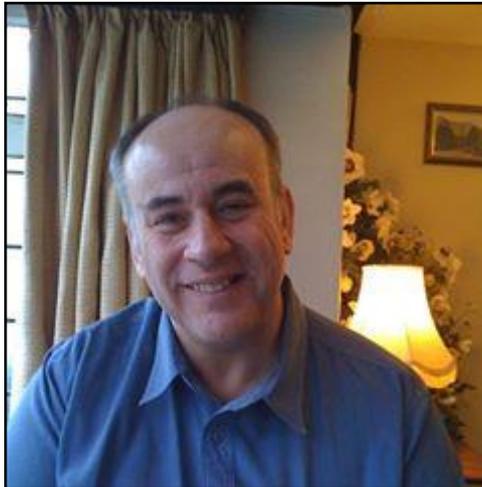


# Puns

## A few laughs for these difficult times

1. I've always wondered if chickens communicated using foul language. Maybe only when they're egg cited.
2. An invisible man married an invisible woman. The kids were nothing to look at either.
3. I didn't think the chiropractor would improve my posture. But I stand corrected.
4. I took my new girlfriend out on our first date to the ice rink, and entry was half price. She called me a cheap skate.
5. Studies show cows produce more milk when the farmer talks to them. It's a case of in one ear and out the udder.
6. I used to date a girl with one leg who worked at a brewery. She was in charge of the hops.
7. My cross-eyed wife and I just got a divorce. I found out she was seeing someone on the side.
8. My wife claims I'm the cheapest person she's ever met. I'm not buying it.
9. Did you know that a raven has 17 rigid feathers called pinions, while a crow has only 16. The difference between a raven and a crow is just a matter of a pinion.
10. I told my carpenter I didn't want carpeted steps. He gave me a blank stair.
11. What did the surgeon say to the patient who insisted on closing up on closing up his own incision? Suture self.

## Getting to know you Bill Kenway 2E0WGK



What is your marital status and age

Age 63. married since 2002.

At what age did you get into radio and what got your attention

There are two parts to the answer to this question; With a bit of history. I can remember reading a book. Until today, I was sure it was the Ladybird book on Computers but doing a bit of research for this article has made me wonder. Anyhow, I read the book, and knew that I wanted one of those computer things to play with – I was probably about 10 or 12. I had a dear friend who reminded me of Professor Magnus Pyke, extremely intelligent and into everything. He acquired a couple of old army sets. When we started playing with them, we didn't realise we were breaking the law, and then we found out, it came to a stop and we started looking into becoming licensed. The problem we had was that we couldn't afford the course or the cost of travelling from Wareham to Bournemouth every week, so amateur radio got put on the back shelf and we started playing with computers. SCMP from Elector was my first machine, it had 256 bytes (not a mistype) of RAM.

With hindsight, I was very stupid not to get my licence whilst I was in the RAF, but for some reason it never figured. Then around 2016 I bought a scanner one of the first things I heard was GB3IW and that started me off. I realised that the route into amateur radio had changed significantly and so I went to HDARC and here I am.

## What is your favourite part of the hobby

Clearly the that main part of the hobby is interacting with people. To that end, I now run the Isle of Wight Radio Society's Thursday Night Net (GB3IW, 2000-2100ish), I've been running it for pretty much two years now (blimey, really?). This year, that was recognised by the IOWRS when they made me an associate member – an act which delighted me no end. Then there is the other activity in which I am quite actively involved; RAYNET. Of course, Covid-19 has had a significant impact on RAYNET activities this year, but event organisers are finding ways to do things safely, which means that late September, I was able to support the New Forest Marathon, not run this year in the New Forest, but on private land near Wimborne St Giles. Several factors come in to play here, chief is the support given to community activities, I really like doing that. Second is the opportunity to visit parts of the country that you might not normally go. Hence this year, I visited a Henge near Wimborne St Giles; Knowlton Henge, built roughly 2,500BC, later a church was built there roughly in the 12<sup>th</sup> Century. Absolutely fascinating. Another Goal achieved was to go to the top of Butser Hill. RAYNET has achieved that for me three years on the trot now, for the Butser Hill Challenge. You get to go to some lovely places, and help people. What more could you ask for?

It's been an honour to be the treasurer for our club. It is sad that I've had to tell the committee that this year will be my last in the role. Our expectation is that we will be moving to Dorset in the 2 – 3 years when I retire. It's necessary that the club appoints a new treasurer at the end of the 2020-2021 club year so that there is time for me to provide support to the new treasurer before we move away.



Knowlton Henge

I am about to start exploring data modes, wondering if I can break through the Gosport noise (S9 across all bands – which everybody here complains about, but some people have defeated). I do have to do a noise audit, the problem is convincing the Station Manager that I really do have to turn everything off!

### What set up do you have at home

Antenna-wise, on top of a 12 foot pole over one corner of the roof, I have dual band white stick 2m/70cm, Hanging off a pulley mechanism, I have a 12m/20/40m off-centre-fed dipole, the long leg running N/S-ish, the right leg E/W – I'm wondering if it would be better if the ends were higher.

### What is your current set up

Radio-wise, I have Yaesu kit, an FT-950 for HF – that hasn't been used much, but it will be my main set for exploring data modes.

I normally use an FTM-100 which I normally use, but it's broken at the moment – It started jumping off frequency (it goes to 144.000) and then returns after a couple of seconds, it also happens when I press the PTT. I've tried doing an upgrade, and I think I've broken the switch, and also now, it won't turn on – so it has to go back to Yaesu I think.

In the meantime, I'm using mainly an FT8900 or a Leixen VV898S. When I'm out walking with the #Breakfastclub (GB3IW 0615-0700(ish) Mon – Fri) I use a Baofeng GT-3TP.

### If you could have any radio which one would it be

I haven't made my mind up on that yet.

### Where do you see the hobby going in the next 5 years

Has Covid-19 changed the outlook for the hobby? It seems that there has been significant uptake since lockdown. Having gained their licences, people really do need to start using the radios.

That I'm not currently on HF, means I'm not seeing that – is it happening? Definitely greater integration with the Internet, and hopefully an increase in voice usage, digital modes will increase, it's difficult to think of an area that won't be affected by technology or interest.

Thank you Bill.

## “But It’s not really radio!” by Jon Dunster M0XUE

### The marmite problem

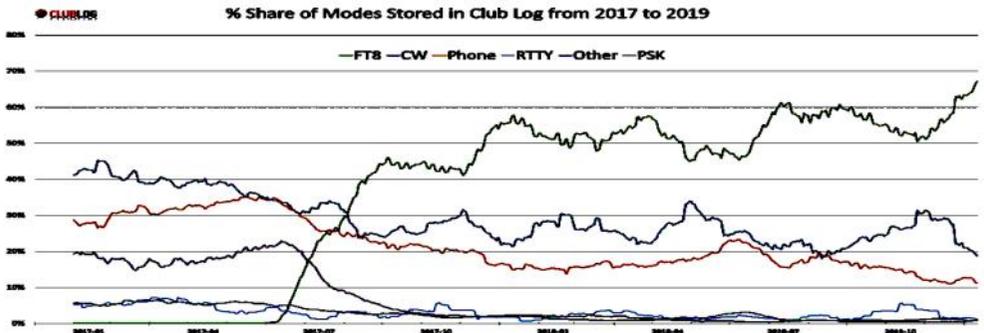
Use of data modes has been a part of many amateur’s life for a very long time (think RTTY, FSK, Packet radio) so how did FT8 become the ‘marmite mode’?



Many suggest that FT8 is a conversation between two computers, not two amateurs. Others snipe at FT8 users achieving awards such as DXCC or WAS in a fraction of the time of someone working Phone or CW (the DXCC record is about 7 days!) They are not real QSO’s say the HAMs with thousands of “59” rubber stamp calls in their logs (at least you get a real signal report with FT8!) “It’s boring”. “It’s not real radio!”.

But what is amateur radio about? Ofcom tells us it is “both a hobby and a service that uses various types of radio equipment, allowing communication with other radio amateurs for the purpose of self-training, recreation and public service.” (Ofcom, 2020). Surely a relatively new data mode that allows anyone to communicate around the globe in the decidedly dodgy band conditions we are experiencing at the moment is worth a try?

Like it or loath it, FT8 is here to stay and has seen huge growth since its introduction in 2017:



In this article I hope to cover a little background to FT8, an outline of how it works, what you need to get going and how I operate FT8. I will also provide some web links for the more technically minded to get the full details.

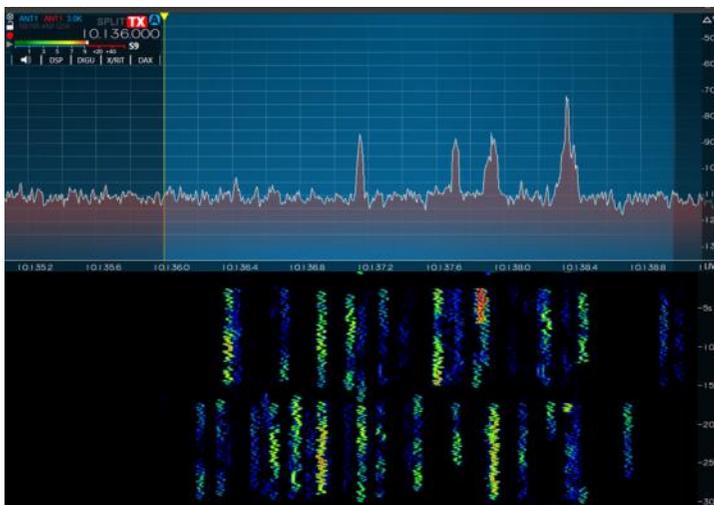
### What is it all about?

FT8 was introduced in mid-2017 as part of the WSJT-X project which includes a number of modes designed “for making confirmed QSOs under extreme weak-signal conditions.” (Taylor, 2017) It was the result of a collaboration between Joe Taylor (K1JT) and Steve Franke (K9AN). They wanted a mode to use for 6m VHF DX that could catch multi-hop sporadic E layer propagation that was typically short-lived and subject to considerable QSB.

<i>Weak-signal S/N limits</i>	
Mode	dB
SSB	~+10
MSK144	-8
CW “ear and brain”	-15
FT4	-16
FT8	-21
JT4	-23
JT65	-25
JT9	-27
WSPR	-31

(Taylor, 2019)

FT8 is designed to pick out 50Hz wide data transmissions with sensitivity of s/n -21db within a pass band of 2500Hz. The pass band has no defined channels, and the decoder can often decode overlapping signals.



FT8 transmissions as they show on the waterfall (*Things to note: the 15s cycle time, a station with bad clock sync right in the middle, some overlapping transmissions and the FSK nature of the signals*).

Messages are 174 bits long with 77 information bits, 14 bit CRC, forward ECC and repetitions each taking 12.64s to transmit over the 15 second cycle time (Taylor, 2019). Theoretically this means about 60 QSO's an hour. Messages are transmitted at 6.25 baud using 8 FSK tones. Tight synchronisation of stations is vital with the FT8 decoder requiring sub 0.02 second accuracy and the message having its own sync signal using a '7x7 Costas array' (Hasselbeck, 2019) Communication is structured, typically 4-6 messages making a full QSO which includes exchange of grid location and an accurate signal report.

Remote (K1JT)	Local (MOXUE)
CQ K1JT FN20	
	K1JT MOXUE IO90
MOXUE K1JT -20	
	K1JT MOXUE R-18
MOXUE K1JT RR73	
	K1JT MOXUE 73

In WSJT-X

190245	-1	0.3	2064	~	CQ	WW1WW	FN43
190300	Tx		2124	~	WW1WW	MOXUE	IO90
190315	2	0.4	2064	~	MOXUE	WW1WW	-01
190330	Tx		2124	~	WW1WW	MOXUE	R+02
190345	0	0.4	2064	~	MOXUE	WW1WW	RR73
190400	Tx		2124	~	WW1WW	MOXUE	73

### FT8 structured QSO

*(there are some variations, but this is the most common form)*

It is not a conversational mode with the QSO being largely automated. It is also *not a QRP mode*, it is a weak signal mode designed to pick out those weak signals from the other side of the world. A common question is 'what power should I used' and the answer is often 'whatever is required to make the contact', however too much power can cause distortion and problems for other amateurs in the locality.

### Starting up with FT8

What you will need:

A computer

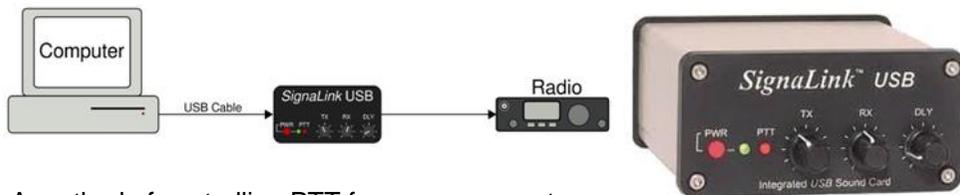
FT8 is supported by a variety of Ham Radio software programs however the most popular is WSJT-X which is available on Windows (7/8/10), Linux and MacOS operating systems. For the brave amongst you WSJT-X is open source and you can compile it yourself on other platforms. My personal choice is Windows 10 since there is a lot of supporting software available and it is the platform I am most familiar with.

A fully working radio setup (see next page) .....

I usually use my Flexradio 6400, but I have also used an Icom 7300, Icom 706MK2G and a Yaesu 817ND – all connect slightly differently!

### **A method of interconnecting the radio and the computer audio**

WSJT-X will need a sound-connection to your radio. Many of the modern radios have a built-in USB connected sound card meaning that they will appear on your computer as sound-devices after the loading appropriate drivers. For radios without USB the Signalink and an appropriate radio-cable/jumper pack is an easy option:



A method of controlling PTT from your computer

WSJT-X needs to be able to put your radio into transmit. There are several ways of doing this including Serial CAT control (CAT commands via a serial interface to the radio) or serial control via DTR/CTS lines (either a real serial or an emulated one via USB). The Signalink has a built-in VOX-like PTT setup which works well if your radio supports PTT on the interconnection cable.

### **Accurate time synchronisation**

If your clock is more than 0.5 seconds off then you are likely to have problems decoding.

Make sure that your clock is synchronised to an NTP source, GPS or similar. I use Meinberg NTP daemon rather than the inbuilt Windows one for a little more control.

Setting up the computer to work with WSJT-X can be decidedly 'non-trivial' but Google and YouTube are the best sources of information. There are many video step-by-step guides of how to connect many types of radio to your computer. ALC settings can also be critical on some radios.

## Operating FT8

1 Once you have a functional FT8 setup the operation is straightforward if a little repetitive:  
Start your FT8 client. Choose your band.

The screenshot shows the WSJT-X v2.2.2 interface. The top section displays two waterfall plots: 'Band Activity' on the left and 'Rx Frequency' on the right. The 'Band Activity' plot shows a list of stations with columns for UTC, dB, DT, Freq, and Message. The 'Rx Frequency' plot shows a list of received stations with similar columns. Below the waterfalls is a control panel with various buttons and settings. The 'Tx even/1st' checkbox is checked, and the 'Hold Tx Freq' checkbox is also checked. The TX frequency is set to 14.074 000. The 'Generate Std Msgs' section shows a list of messages, with 'CQ MOXUE IO90' selected. The bottom status bar shows 'Tx: WW1WW MOXUE 73', 'FT8', 'Last Tx: WW1WW MOXUE R+02', and '15'.

2. Tick the Hold TX frequency box (please!) – this is good FT8 practice for contacting DX station

3 Look on the WSJT-X waterfall, wait a few cycles watching for an unoccupied area. Click on the frequency, up arrow sets the TX frequency.

The screenshot shows the WSJT-X Wide Graph interface. The main display is a waterfall plot showing the frequency spectrum from 500 to 2500 kHz. The plot is filled with various colored spots representing different stations. A red arrow points to a specific frequency on the plot. The bottom control panel includes settings for 'Band/Panel', 'Start Hz', 'Palette', 'Adjust...', 'Flattn', 'Ref Spec', 'Spec 20 %', and 'Smooth 1'.

- 4 Either send a CQ (select TX6 and enable TX) or wait for CQ messages to appear in the 'band activity' window and double click on them.
- 5 Allow the QSO to take place
- 6 Repeat as many times as necessary keeping an eye on the waterfall!
- 7 Upload logs, claim DXCC! (joke...)

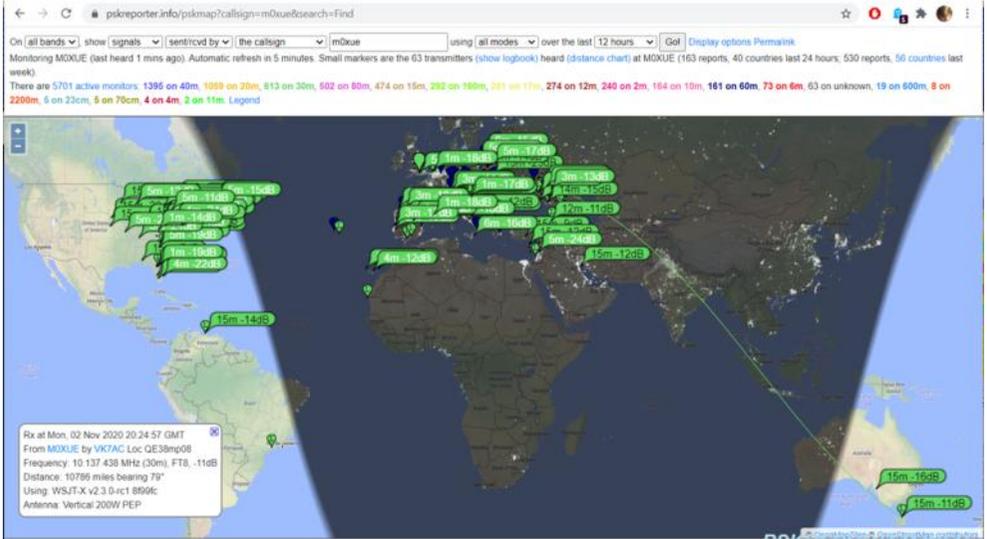
## GridTracker

GridTracker interfaces with WSJT-X and various logging platforms (LoTW, QRZ, Clublog etc.) and gives you a visual representation of grids and awards. A feed of stations heard by WSJT-X can be filtered by required entities and many other criteria. Other information is also presented on the map like PSKReporter hits and the grey line meaning you can optimise who you choose to work. Thoroughly recommended.

## PSKReporter (<https://pskreporter.info>)

Within seconds of your transmission, listening stations will have sent a spot through to the PSKReporter website. This is a great test of band conditions, your antenna, TX power and general setup of your FT8 station. Moreover it allows you to target remote stations on the basis of your signal they receive; if you can hear them and they can hear you then you can give it a try by typing their callsign into the DX Call box, clicking 'Generate Std Msgs' and enabling TX. It can be extraordinary how far away the signal can be heard!



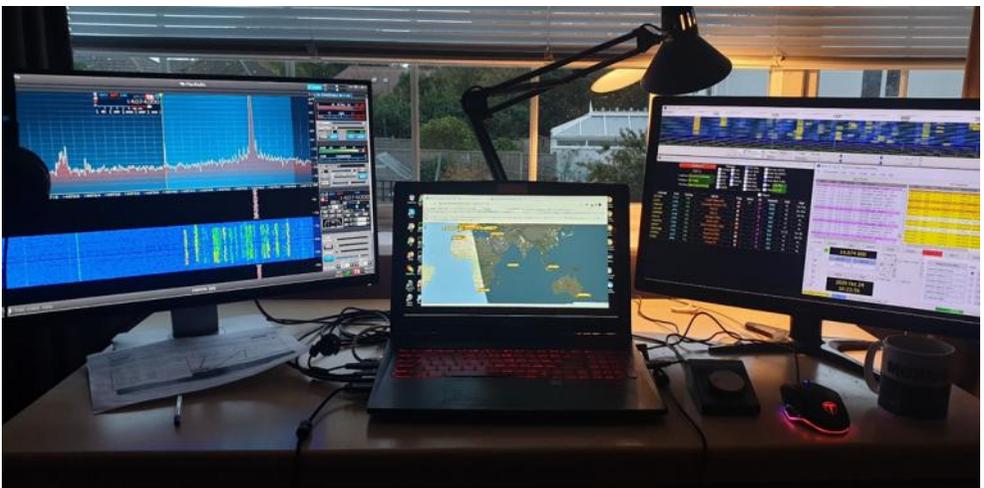


## DXpedition Fox & Hound

DXpedition mode is a special operating mode that can allow FT8 QSOs at very high rates (up to 500 per hour in ideal conditions!) I have never used it in practice and use is reserved for “rare-entity DXpeditions” where they are expecting more than 100 QSOs per hour.

### My station

Flexradio 6400 on the other side of the house connected to a Sigma HF360 vertical with ‘plus pack’. Windows 10 laptop in the operating position with extra monitors. Hard wired network between the radio and the laptop keeps latency and packet loss to a minimum.



WSJT-X home & download	<a href="https://www.physics.princeton.edu/pulsar/k1jt/wsjsx.html">https://www.physics.princeton.edu/pulsar/k1jt/wsjsx.html</a>
Synchronisation in FT8 (what the heck is a Costas Array?)	<a href="http://www.sportscliche.com/wb2fko/TechFest_2019_WB2FKO_revised.pdf">http://www.sportscliche.com/wb2fko/TechFest_2019_WB2FKO_revised.pdf</a>
Amateur Radio Digital Communication Mode FT8	<a href="http://site.ieee.org/msn/files/2019/04/FT8-KA9SWE.pdf">http://site.ieee.org/msn/files/2019/04/FT8-KA9SWE.pdf</a>
Dr. Taylor - FT8 & Beyond	<a href="https://www.youtube.com/watch?v=2Pd7zB40xdY">https://www.youtube.com/watch?v=2Pd7zB40xdY</a>
Dr. Joe Taylor Presents More on FT8's Future	<a href="https://www.youtube.com/watch?v=0edSacXsSco">https://www.youtube.com/watch?v=0edSacXsSco</a>
Meinberg NTP	<a href="https://www.meinbergglobal.com/english/sw/ntp.htm">https://www.meinbergglobal.com/english/sw/ntp.htm</a>
FT8 A new, robust and highly versatile digital mode for HF	<a href="https://www.ab4oj.com/dl/misc/ft8.pdf">https://www.ab4oj.com/dl/misc/ft8.pdf</a>
FT8 Digital Mode Club (competitions, awards)	<a href="https://www.ft8dmc.eu/">https://www.ft8dmc.eu/</a>
JT65, JT9, FT8 SNR Explained (signal reports & the math behind them)	<a href="http://www.arrl.org/forum/topics/view/1957">http://www.arrl.org/forum/topics/view/1957</a>
An introduction to JS8CALL	<a href="https://www.m0spn.co.uk/2020/06/16/an-introduction-to-js8call/">https://www.m0spn.co.uk/2020/06/16/an-introduction-to-js8call/</a>
JS8Call by KN4CRD	<a href="http://js8call.com/">http://js8call.com/</a>

FT8 is a work-in-progress. There are regular releases introducing new features. It pays to keep it up to date. Introduced in early 2019 with version 2.1 of WSJTX, FT4 is designed for contesting and operates on a much faster transmit time of 6s, 2.5x faster than FT8. The message format and encoding are like FT8 but use 4 tone FSK at 23.4 baud and a reduced sensitivity of -16db. Originally called FT8CALL, JS8CALL is based on FT8 technology but takes it to a far higher level of functionality allowing keyboard to keyboard conversation as well as automated responder functions, message store and forward and a lot more (it even supports APRS over HF!). There are people who actually like Marmite out there – try it, you might like it!

Jon MOXUE

# CAA's Pressing need for an Iron!



## A Tale of Two Irons

When I first started doing electronics I bought an Antex mains 25W soldering iron. It's a good iron and even after 45+ years I still use it when away camping. However it takes ages to warm up and if left on, the tip overheats and becomes pitted. For big stuff I have a Wolf 150W iron which takes even longer to heat up but would melt a polar ice cap! 40 years ago, at work, we used Weller temperature controlled 'Magnastat' solder stations which had a range of interchangeable bits for different temperatures. These have a 50W element which heat up fast and then idle until the iron is used. One day the health and safety man said the lead on mine was frayed and insisted on replacing it, putting the old one in the bin. Later that evening a very similar iron with a slightly shorter lead appeared on my bench at home! It has been an absolute work horse for 40 years and seen me through countless projects.

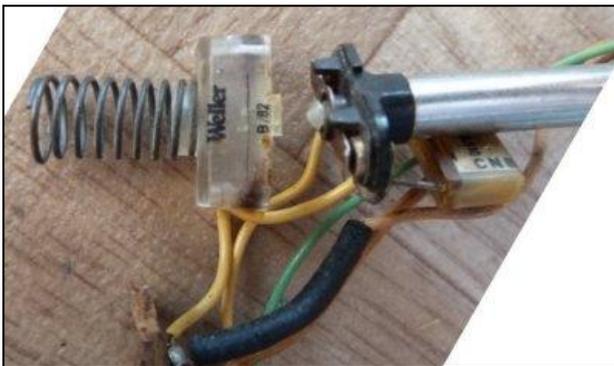


### **Reluctant Magnetism**

Weller started making these type of irons in the 1940s, so how was it possible to do temperature control without modern electronics? The answer is very cunning physics. We all know that there are materials that a magnet will stick to and some it won't. What you may not know is the 'Curie effect' discovered by Pierre Curie in 1895, which basically says that at a certain temperature a magnet will lose its magnetism. Weller figured out that if you put a magnet near the soldering tip and used it to operate a switch, then when the tip got too hot the magnetic field collapses, causing the heater to turn off until it cools down and the magnetism comes back. Wow so simple, how clever is that?

### **Back at the Shaggy Dog Story**

Well OK, like 'Trigger's broom' mine had 3 new elements and 2 new temperature switches but now I've run out of spare parts. Recently my last temperature switch went intermittent and whilst trying to fix it I broke the element. A replacement Weller soldering pencil is over £100, so as I've probably not got 40 years left, I looked for a cheaper alternative.



## Eastern Promise?

Looking on the interweb I found you could buy incredibly cheap handheld soldering pencils (£3), controller PCBs (£4) and set of copper tips (£3). These are a cheap copy of the excellent Hakka units. Well I already had the Weller base with transformer, springy stand and sponge, so it had to be worth a punt. I "soldered" on with the old Antex and a couple of weeks later packages arrived full of Eastern promise.

Well my low expectations and skepticism weren't disappointed. The controller, pictured as a unit with face plate and connector, was just a populated PCB and the pencil unit was pretty flimsy but **still £3!!** I managed to find a suitable 5 pin connector in the junk box and a case from an old project. It took a bit of digging to find any information on the connections and that's when things started to go wrong. It turns out there are 2 different types of soldering pencil. One uses a NTC thermistor bead and the other type a thermo couple.

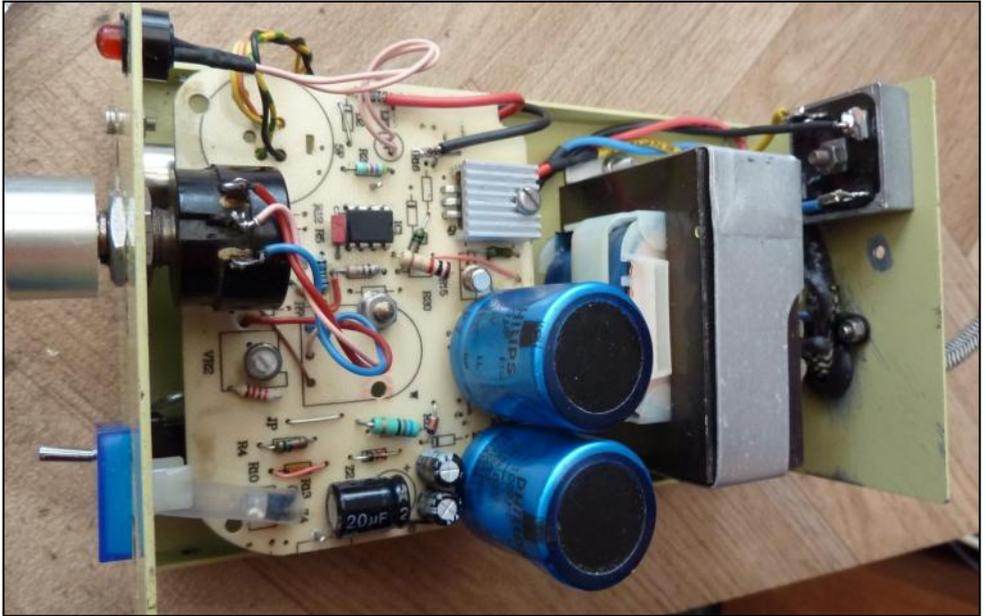
## A Thermo What?

OK a quick explanation; An NTC thermistor bead is a type of resistor, manufactured with a material (sintered metal oxides) that as its temperature increases, its resistance decreases (hence negative temperature coefficient - NTC). The resistance for a given temperature can be accurately calculated so these devices are often used in digital thermometers. However at high temperatures cheap (non glass coated) ones are prone to failure. A thermocouple is a junction of two dissimilar metals junction (Thomas Seebeck, 1821). As the junction is heated a thermo-electric current occurs which causes an potential difference across the connections. This voltage is proportional to the temperature. These device are used in furnaces up to 1700C.

## Meanwhile...

Well it turns out the controller PCB was designed for a thermistor but the Soldering iron pencil had a thermocouple in it. So when connected up the heater came on and never went off - oh bum. Not being one to give up I sketched out the circuit, which is actually quite simple, once you've worked out an apprentice was given a huge box of very cheap bits and asked to design something. A stabilized DC supply is obtained from the AC transformer.





## Any Good?

It works a treat and copes with normal PCB work very well, although not quite as good as the Weller on very big joints on valve chassis, but then 20 Volts and 12 Ohms is only 33 Watts, not 50W!

I had to hack the sponge holder from the old Weller unit but it works well bolted to the new enclosure. I added a 22k resistor between the metal of the tip and the mains earth connection to remove any static charge.

The pencil unit is a bit flimsy and I needed a jubilee clip round the handle to stop the tip part moving when wrestling with valve equipment. But with copper tips at £3 a set it should be good for a while.

73/88 M0CAA and M0BOZ.

## ***Horndean & District A.R.C Information.***



**Club Call signs**    ***G4FBS (Held by MØKTT); G6RST (Held by G4WQZ)***

**Club Website**        **<http://www.hdarc.co.uk>**  
*(Maintained by Neil 2E0LNX )*

**Club Groups.io site** *Administrator is Stuart GØFYX*

**Club Facebook Page**    **<https://www.facebook.com/hdarc1975/>**

**Club Twitter Account**        **@HorndeanARC**

**Club Meetings**        *Held at Deverell Hall, 84 London Rd, Purbrook,  
Waterlooville, Hants. PO7 5JU, on the 1st and  
3rd Friday of each month. Commencing at 1900.*

**Club Nets**                ***All times are local and frequencies plus/minus QRM.***

**Sunday**                    *0900 CW until about 0930 then SSB on 1950 kHz.  
Net controller:- Stuart GØFYX*

*2000 FM 433.450 MHz  
Net controller:- John G4WQZ*

**Monday**                    *1930 SSB 1950kHz  
Net controller:- Stuart GØFYX*

**Wednesday & Friday**  
*1930 FM 145.375 MHz  
Net controller:- John G4WQZ*

### **Club Membership**

***Joining fee £2 . Annual fee £26. Those aged 10-18 pay half this rate, and under 10's have free junior membership. For Europe and rest of the World fees please contact the Membership Secretary. All annual fees payable on November 1st. If fees not paid by the following January 31st, membership is ended.***

## **News of club members**

Another reminder about the HDARC 2m nets, now Wednesday and Friday on 145.375 MHz at 1930 local time. An ideal chance to keep in touch with other club members. Please give it a go, and all are welcome.

## **Diary**

Tuesday December 1st    Club Zoom meeting at 2000.

Tuesday December 8th    Club Zoom meeting at 2000.

also December 15th, 22nd, 29th, then January 5th, 12th, 19th and 26th.

The link for all the club zoom meetings is:

[https://us04web.zoom.us/](https://us04web.zoom.us/j/77825040776pwd=eHpreHVCVkVRMWs5RG9SaTFtMTF5UT09)

[j/77825040776pwd=eHpreHVCVkVRMWs5RG9SaTFtMTF5UT09](https://us04web.zoom.us/j/77825040776pwd=eHpreHVCVkVRMWs5RG9SaTFtMTF5UT09)

Meeting ID: 77825040776

Passcode: dU2Px2

But you shouldn't need either of these if you click on the link above.

## **This 'n' that**

A few of us are now getting into FT8/FT4. If you are, then let us know how you are getting on, and your chance to boast about significant contacts, hi!. Just put a message on the Club's io forum. <https://hdarc.groups.io/g/main/topics>

Need CW practice? - contact John MØHTE via [john.taylor177@ntlworld.com](mailto:john.taylor177@ntlworld.com) , or check out the many free CW training programs available on the internet. At present, the Fareham club (with Neil G4EMM overseeing) are running a Saturday morning CW training session starting around 0930, on 28.350 MHz with talkback on 145.475 MHz. All are welcome to take part.

For club clothing enquiries and RSGB book orders, please contact me (Stuart GØFYX).

As you may have heard, Rob MØRZF, who runs the SDR used by club members (and many others worldwide) is well on the way in adding 2m capability to the SDR.

The sunspot cycle 25 is underway, and at the time of writing this, the Solar Flux is up at 90 the highest for quite a while. The next predicted maximum is July 2025.

# TOP WINTER CHOICES

and a little extra discount for you as a club member!  
Call or email us for your club discount code

...and fast Friendly service you can trust



NOW  
IN STOCK!

## Icom IC-705

VHF, UHF, HF, D-Star all mode 10W QRP  
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• LC192 Optional Carrying Case.....£156.00



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PART X

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The Boss's choice!

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PART X

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GENEROUS  
PART X

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£90  
YAESU  
CASHBACK

## Yaesu FTdx-101MP

New 200W version

Cashbacks valid until 31 December 2020

Price after cashback ~~£4199.95~~ £4109.95



£90  
YAESU  
CASHBACK

## Yaesu FTdx-101D

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Cashbacks valid until 31 December 2020

Price after cashback ~~£3149.95~~ £3059.95



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YAESU  
CASHBACK

## Yaesu FT-991A

Full coverage HF/VHF/UHF Transceiver

Cashbacks valid until 31 December 2020

Price after cashback ~~£1239.95~~ £1149.95



£35  
YAESU  
CASHBACK

with FREE  
SSM-BT10

## Yaesu FTM300DE

Dual Band Digital/FM Transceiver. Latest updated version!

Cashbacks valid until 31 December 2020

Price after cashback ~~£399.95~~ £364.95

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