

Connacht Regional News

Servientes Traditiones et Spiritus Experimentalis Radio

Editor: *Steve Wright EI5DD*

wright14@gmail.com

Vol. 2 Issue 01

January 2023

Happy
New Year!

2023

In This Issue

Forthcoming Events - the 49:1 UnUn - The 5 MHz Band
The ICOM IC-705 - Linux in the Hamshack - Amateur Radio and 3D Printing
End Fed Wire Antennas - The T2FD Antenna - Club Activities

Welcome to the
Eleventh Edition of
the Connacht Regional
News Magazine

The Connacht Regional News Magazine is 100% *inclusive, unbiased,* and primarily written for the local Clubs and Groups in Connacht although there is a wealth of information that is of interest to all radio operators. More recently we have decided to include all aspects of Radio Communications and associated Groups. *Please Note: We are totally freelance and in absolutely no way, tied into, or affiliated to, any one National Society. This enables us to report activities of ALL Radio Groups and Clubs in Ireland who wish to supply news items of interest.*

It should be noted that, by taking a freelance stance, we are not favouring any Club Group or Society. If there is an absence of material from a Society or Club, it is because they did not supply material, *naturally beyond our control.*

We are fortunate that the West of Ireland has seven Radio Clubs within Connacht all of which are very active, as can be seen from their activities in our publication.

We do repeat forthcoming activities in several editions to give advanced notice of the event and to enable clubs and groups to prepare for them.

We promote >>ALL<< radio activities that are due to occur rather than report those that have happened. If you have an item of interest, please feel free to forward it to Steve. EI5DD, who will include it in the following newsletter.

Due to the overwhelming success and readership of the Connacht Regional news, now going viral, we will produce a publication MONTHLY.

A link may be found on the Galway VHF Group Web Page for the most recent copy of the Publication.

**We Welcome Feedback
so if you enjoyed this
publication please mail
Steve EI5DD:
wright14@gmail.com**

Contents

January 2023

News and Events

Forthcoming events 2

Features

49:1 UnUn Construction 6

The 5 Mhz Band 8

The ICOM IC-705 10

Amateur Radio and 3D Printing 15

End Fed Wires 16

The T2FD Antenna 17

NRSI Radio Award Announcement 31

News From Our Clubs

Galway Radio Club 20

Hillwalking Radio Group 21

Shannon Basin Radio Club News..... 22

Northern Ireland Radio Clubs 25

Submitting Items To This Magazine

We are always delighted to receive any radio related material for this magazine.

Please E-mail us in advance of submission so that space can be allocated.



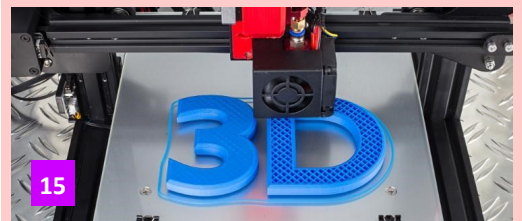
6



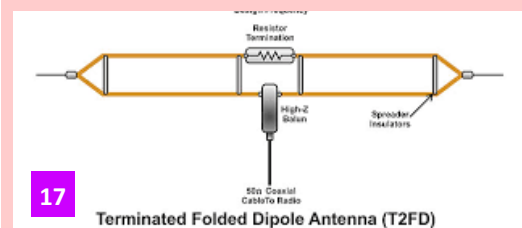
8



10



15



17

Terminated Folded Dipole Antenna (T2FD)



Views expressed in this publication do not necessarily reflect the views of the Editor, those of the Carrion Press or the Galway VHF Group

We may all sell the same products but the service from ML&S is in a different league.

Don't take our word for it;

I am new to Ham Radio and needed setup advice

I am new to Ham Radio and was looking for specific setup advice. I visited Martin Lynch and Sons in Staines and got exactly what I wanted. The sales assistant, John Jenkins spent over an hour with me going over every detail, drew helpful diagrams and even soldered the connections in place. All this along with friendly and useful chat. I cannot remember ever being so well treated with a technical purchase - with the possible exception of the Apple store in Regent Street. I strongly recommend this company to novices and experts alike Mr. Romer.

Date of experience:
30 August 2022

Excellent Service

Very helpful staff when I got in touch with them, the items which I purchased was a quick and easy transaction. Pleasure to do business with. 10/10.

Anne Christian
Date of experience:
03 August 2022

I purchased an item on-line

I purchased an item on-line and needed to return it. They received the item back and refunded me without any delay and without any stress. The sign of a remarkable and well-managed company with integrity. They can be trusted and I will be back.

I rarely have to return items, but another part of my big plan - the items needed to be returned within the "cooling off" period

and they (a competitor of Martin Lynch) have been a nightmare to deal with and refuse to simply comply with the law. It's dishonest and it looks like a money claim. I'm so sorry that the items I needed were out of stock at ML&S and I was forced to buy elsewhere.

This is why I'm taking the trouble to endorse Hamradio and Martin Lynch and wish that more companies in this industry were like them.

Many thanks. Much appreciated.
Date of experience:
02 September 2022

I have nothing but 100% praise for ML&S

I have nothing but praise for Martin Lynch & Sons. I sent two well packaged Radios for a trade in, they were worth a considerable sum of money, but both went missing. ML&S went out of their way to sort it with the courier with one radio found 13 days later and I was more than happy with the outcome through this company. Trust me, ML&S goes the extra mile for customers and I am very happy to recommend them 100%.

Special thanks are due to Richard and Paul in particular. Fantastic company. MM3GQT

Date of experience:
17 August 2022

Just what I wanted

Just what I wanted, super quick delivery thanks very much.

Andrew Ward
Date of experience:
23 August 2022

I Recently I purchased a radio that...

I Recently I purchased a radio that developed a fault under warranty. I contacted ML&S who arranged for the radio to go back to them, repaired and returned to me. The whole experience was organised and painless for me, the staff were helpful and cared about my problem. Good old fashion customer care. Would recommend them most highly and will purchase again.

Robert
Date of experience:
07 September 2022

Have used ML&S for years and can never fault their service

Have used ML&S for years and can never fault the service, be it telephone support or order processing and delivery. Highly recommended.

Graham McCusker
Date of experience:
05 September 2022

What can I say but carry on as the service is first rate by a mile

What can I say. Repeat business is always a pleasure with Martin Lynch and Sons and the team. First rate goods be they new or old . Delivery first class. Support first class. I shall be looking in late September for a new shack in a box .Yaesu Ft 991A and some accessories. All the best from Julia Merton, G7LJL

Date of experience:
05 September 2022

Just a top ham radio shop good website

Just a top ham radio shop good website fast postal service super safe way to pay like PayPal just keep up the good work

Date of experience:
18 August 2022

Delighted

The Orion 2 roofing filter arrived well packaged in immaculate condition, as represented. It functions perfectly.

I've been trying to acquire one for years. I was especially impressed with the professionalism of the entire transaction.

Jack Preston
Date of experience:
07 September 2022

Why shop anywhere else?

New to the hobby or seasoned operator, you'll get the same welcoming and professional greeting every time. I wouldn't have placed my name on the company if we didn't.

Martin Lynch & his Sons Ltd. Established 1990.

MARTIN LYNCH & SONS LTD. THE WORLD'S FAVOURITE HAMSTORE

ML&S
www.HamRadio.co.uk
SAFE ONLINE SHOPPING. E&OE

0345 2300 599


Wessex House, Drake Avenue, Staines, Middlesex TW18 2AP

E-mail: sales@hamradio.co.uk

Opening Hours: Mon - Fri: 8.30am to 5pm. Sat: 9am to 4.30pm.

International Tel: +44 1932 567 333

Have you watched ML&S TV yet?
Every week there's something new. One simple URL

 www.MLandS.TV You  Tube

FOLLOW US ON TWITTER AND FACEBOOK



HamRadioUK



News and Forthcoming Events



TDOTA is an opportunity for the members of Girlguiding from the youngest Rainbow to the oldest Trefoil Guild member to talk to other members of the World Association of Girl Guides and Girl Scouts all over the world via Amateur Radio. .

The **22nd February 2023 is Thinking Day** because it was the birthday of Lord Robert Baden-Powell, the founder of the Scout and Guide movements, and his wife Olave, who was the first World Chief Guide..

On this day each year members of WAGGGS (World Association of Girl Guides and Girl Scouts) remember the founders of the movement and take part in various activities to think about their sisters throughout the world.

WRTC 2023 AWARD

This is a WRTC 2023 AWARD for anybody who wants to have fun in radio chasing and looking for WRTC Special event stations all over the world and promoting the real WRTC 2022 event. The



activity runs from the 1st – 31st of January. New year, new rules, more stations, concentrated in one month. We are sure that you will have fun looking for all these stations on all bands and modes, earn your Award and participate to the ranking. It will be amazing!

1) Not only Italians, but more than 30 callsigns from all over the world will be Special Event Stations (SES) making the Award more fair and attractive. (check in the Award rules)

2) According to WRTC 2022 event itself, the activity will be only on WRTC frequencies and modes: SSB and CW on 10,15,20,40 and 80m.

We have registered around 400 activators for at least 44 special callsigns in Hamaward platform, since now, and it is not ended yet. You will be able to follow each SES log in real time on qrz.com page. That makes easy, fast and attractive this Award. As far as we know there never have been such a big event in radio, for so long time including so many Special Callsigns, and operators. More information from: <https://www.wrtc2022.it/en/wrtc-2023-award-31.asp>

HAARP Chirps Asteroid

In an announcement published on the 21st of December, by the University of Alaska, Fairbanks, an experiment to bounce a radio signal off an asteroid on the 27th of December will serve as a test for probing a larger asteroid that in 2029 will pass closer to Earth than the many geostationary satellites that orbit our planet.

The High-frequency Active Auroral Research Program research site in Gakona will transmit radio signals to asteroid 2010 XC15, which could be about 500 feet across.

The University of New Mexico Long Wavelength Array near Socorro, New Mexico, and the Owens Valley Radio Observatory Long Wavelength Array near Bishop, California, will receive the signal.

By firing a “chirp” radio signal in two-second intervals, astronomers with HAARP sought to learn about the interior of asteroid 2010 XC15. It’s an Aten-family asteroid, a class of Near-Earth Asteroids (NEAs) that crosses our planet’s orbit but chiefly dwell closer to the Sun. While 2010 XC15 doesn’t pose a risk to Earth, HAARP wanted to learn about this rock’s interior. The information could show how long wavelength radio signals can probe the inside of an asteroid, which can improve models of rocks that could be dangerous. In 2029, with preparations in hand, HAARP will observe a more-concerning asteroid named Apophis.

“What’s new and what we are trying to do is probe asteroid interiors with long wavelength radars and radio telescopes from the ground, Mark Haynes, HAARP lead investigator and a radar systems engineer at NASA’s Jet Propulsion Laboratory in Southern California, says in the statement. “Longer wavelengths can penetrate the interior of an object much better than the radio wavelengths used for communication.” this approach contrasts existing radar-imaging programs, where astronomers bounce short wavelengths off an asteroid and learn about its surface. The idea is that having a comprehensive view of an asteroid will lead to stronger models about how to deflect one. NASA slammed a spacecraft into the tiny moonlet of asteroid Didymos in September and altered its motion, marking the first-time humanity had intentionally changed the orbit of a space object.

HAARP may be the way forward to tackling bigger rocks. The moonlet, Dimorphos, was 525 feet in diameter in size, just slightly larger than HAARP’s target. Apophis, however, is twice as big.

Amateur radio users around the world tuned in to HAARP’s Tuesday experiment, which transmitted a signal to the asteroid at 9.6 megahertz. This was the first use of HAARP to probe an asteroid, the University of Alaska Fairbanks. On Twitter, ham radio users published audio and video of the experiment from the High-frequency Active Auroral Research Program, or HAARP.

Irish Net

Active not only on Sundays, but most weekdays starting at around 16:00 UTC, the informal gathering on 14.156 MHz frequently suffers from QRM during contests and DXers unaware of this long standing net of North American operators with an Irish connection. In a recent contact on 20m with WI1DP, QTH Tuscon Arizona, operator Jerry confirmed that the net now also uses the 17m band operating on 18.114 MHz, avoiding the increased QRM on 20m and taking advantage of improved propagation conditions



News and Forthcoming Events

Solar Cycle 25 Ramps Up

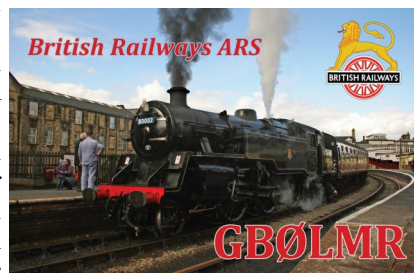
We're now in Solar Cycle 25, which began in December 2019 when, in retrospect, solar scientists were able to tell the moment of solar minimum. Not surprisingly, solar maximum is predicted to occur midway through Solar Cycle 25, so between November 2024 and March 2026 - and most likely July 2025. "The Sun's activity has quickly ramped up and even though we haven't reached peak levels in this cycle, the Sun's activity is already exceeding predictions," said Nicola Fox, Director of NASA's Heliophysics Division. "Solar events will continue to increase as we near solar maximum in 2025, and our lives and technology on Earth, as well as satellites and astronauts in space, will be impacted." This space weather, when directed at Earth, can mean interruptions to radio signals, surges in electricity grids, damage to GPS satellites and risks to spacecraft and astronauts on the International Space Station. However, exactly how many sunspots there will be during solar maximum and, therefore, how active our Sun will get during the peak of this current cycle is unknown.

Swiss Amateurs Granted Access To 4 Metre Band

From the first of January, hams in Switzerland will be allowed to operate on the 4m band using all commonplace simplex modes. The Swiss amateur radio association USKA reported recently that their communications authorities have granted approval to hams holding HB9 licenses for a maximum operating power of 25 watts ERP. Hams may operate only on frequencies between 70 MHz and 70.0375 MHz. They also have permission for the range between 70.1125 and 70.5000MHz. Relays and Echolink gateways will not be permitted on the band and any stations being operated via remote-control must get permission from the regulator, OFCOM-CH.

55 Years Since The Withdrawal Of Steam On British Railways

During 2023 we will be marking 55 years since the withdrawal (in 1968) of steam from British Railways. The callsigns in use during the year will be the Special Event Station **GBØLMR** and the club call **GX4LMR**. The station will be located in Preston and mainly operated by BRARS member Mark G1PIE. QSLs will be via the Bureau or E-qsls or direct to [Pam 2E1HQY](mailto:Pam2E1HQY) (QTHR G1PIE) enclosing a SAE please. More info on QRZ.com



New Over the Horizon Radar Construction on the Island of Palau

Construction of a new shortwave radar for the US Air Force is currently beginning on the Pacific Island of Palau. This was announced by the US Ministry of Defence (MoD) at the end of December 2022. OTHRs already top the list of reported intruders on our exclusive HF amateur radio bands. The long-range radar, called Tactical Mobile Over-the-Horizon Radar (TACMOR), could play a special role in monitoring Chinese activities in the Pacific and the South China Sea. The client for the project is the Naval Facilities Engineering Systems Command Pacific, and the work is to be completed by June 2026, as "The War Zone" reports. According to "The War Zone", the Palau OTHR will consist of a remote-controlled transmitting site and a separate receiving site consisting of 128 dual-monopole antenna elements. Signal processing will then take place in real time already at the receiving site. The data will then be forwarded to the American and allied forces via an external operational control centre. OTHRs already top the list of reported intruders on our exclusive amateur radio bands. This is evidenced by the extensive surveys conducted by the IARU Monitoring System (IARUMS). As can be seen from the [latest Region 1 statistics](#), Over-the-Horizon Radars were again the most reported in November, followed by transmissions in various MIL modes. It is these types of transmissions that have the greatest interference potential in our HF amateur radio bands.



We Have a Facebook Page
The Connacht Regional
News Magazine



<https://www.facebook.com/groups/1437072523434876>

Would You Like to Promote Your Club and its Activities?

Is your club planning an event in the next month?

Are you planning a club activity?

Are you setting up a new Repeater or Gateway?

Drop us a line or two and we will include your item in the Connacht Regional Newsletter

News and Forthcoming Events

TJREVERB was deployed from the ISS on December 29, 2022



TJREVERB, an APRS digipeater 2U cubesat on 145.825 MHz, built by students at the Thomas Jefferson High School for Science & Technology was deployed on December 29, 2022 by NanoRacks from the International Space Station. TJREVERB was launched on November 22 from Kennedy Space Centre, Florida as part of the SpaceX-26 Commercial Resupply Service Mission en route to the International Space Station. The launch is the culmination of seven years of hard work for TJ Space. Led by Robotics lab director Kristen Kucko, many students from Thomas Jefferson High School for Science and Technology have had a hand in this historic launch. A statement and description of the mission by Michael Roth and Kristen Kucko of Thomas Jefferson High School states: "TJ REVERB is significant because the CubeSat was designed, built, coded and integrated entirely by high school students," said Kucko. "The students did not use a satellite kit, nor did they have an industry or university partnership to assist them. Building satellites is not an easy task. According to Col. Nick Hague, Astronaut, (some) countries have not been able to build CubeSats. The students in TJ Space should be proud of their accomplishments." Additional information about the project may be found at: <https://tjhsst.fcps.edu/features/launch-tjreverb-culmination-seven-year-project-tj-space> Kirsten Kucko, the teacher sponsoring the TJ Space team wrote, "TJ Space received crowdsourced reports that there is an APRS unit digipeating within the vicinity of the ISS. The spacecraft has the orbital characteristics of one of the satellites launched during the NRCSD 24 mission." Since TJREVEB is the only CubeSat using APRS in that vicinity, TJREVERB could very well be that spacecraft. It is TJ Space's assertion that something went critically wrong with TJREVERB's implementation of the Iridium radio and Iridium did not receive power to turn on. The APRS radio powered on as the backup radio and started digipeating. TJ Space continues to search for confirmation that this spacecraft is indeed TJREVERB. Any help from the community would be greatly appreciated.

January DXpeditions

Bouvet Island is one of the most remote islands and most difficult DXCC entities in the world to activate. The 3Y0J team plan to depart from Port Stanley on the 13th of January for the journey to Bouvet and then to be active for 22 days on the Island using 8 stations on CW/SSB with some RTTY on 14, 18, and 21 MHz. In addition, there will be four stations dedicated to only See (Fox?Hound Mode) on 7 – 28MHz. More information from <https://www.3y0j.no/>

The Czech DXpedition group will be active from Congo from the 7th to 20th of January. This is the group that operated as TU5PCT from Côte d'Ivoire last year as S90K from São Tomé in 2021. They will be on SSB, CW, RTTY, FT8, FT4 and PSK on all bands from 1.8 – 50 MHz with several stations on air simultaneously. Expect strong signals and some slick operating from this experienced group. More information from <https://www.cdpx.cz/>

OSCAR number assigned for CAS-10



On November 12, 2022, the XW-4 (CAS-10) satellite was launched to the Chinese Space Station aboard the Tianzhou-5 spacecraft, by the Long March-7 Y6 launch vehicle from the Wenchang Launch Center in Hainan, China. On December 18, the XW-4 (CAS-10) satellite was separated from the station. The Chinese Amateur Satellite Group (CAMSAT) built and operates the satellite, in cooperation with a Chinese government space contractor and Macau University of Science and Technology, to serve radio amateurs around the world and educate students in space and radio communication science and technology. This satellite is also known as Macao Student Science Popularization Satellite No. 1, and is the first satellite from the Macao Special Administrative Region. The satellite carries a V/u linear transponder, and CW and GMSK telemetry beacons for amateur radio use. At the request of CAMSAT and the XW-4 (CAS-10) team, AMSAT hereby designates the satellite as Hope-OSCAR 119 (HO-119). We congratulate all the involved teams, thank them for their contribution to the amateur satellite community, and wish them continued success on this and future projects.

Lost In Space

The OMOTENASHI satellite, built by the ham radio club at the Japanese Space Agency and launched to the moon by NASA's Artemis-1 mission, is missing in action but controllers hope to find and re-establish contact with it in March. According to the club's website, controllers were initially able to communicate with the satellite but determined that its solar panels were facing away from the sun and it was spinning very quickly. Attempts to stabilise it appears to have worked but the batteries apparently died before they could re-orient the solar panels. They then lost contact with the satellite but hope it will move into sunlight by March, at which time they will try and locate it and re-establish control. Its original mission of landing on the moon will no longer be viable, but the new hope is to demonstrate with a CUBESAT beyond Earth orbit

KW Days 2023

KW Days, is a celebration of the UK's largest specialist, amateur radio manufacturing company. Although stations will be operating throughout the month, the main activity takes place over the weekend of the 7th and 8th of January 2023. All lubs are encouraged to take place in this annual winter warmer valve event. GB8KW will be active from the Cray Valley Radio Club's HQ in Eltham, showcasing a range of equipment and accessories made in Dartford from the 1950s to the 1970s.

In addition, GB5KW, GB4KW, GB2KW and GB0KWD call signs will be active from other locations throughout the UK. Overseas owners will also be taking part. The extensive range of KW products has, through the support of KW-Radio@groups.io, become increasingly appreciated. This active group of collectors and employees continues to provide help and support to those undertaking restorations with an extensive archive of materials, circuits and associated material. For more information, visit KW-Radios@groups.io

49:1 "Technically a Bumble Bee Can't Fly"

I had not long held my class B licence but had been on a number of operations with "The Group" and a privilege to be able to gain a bit more wisdom every time the stations were set up and taken down. I found that the amount of knowledge and information to be just floating around is amazing when it comes to antennas and which is "BEST", everyone has their own ideas and opinions. With all the different antennas on the market there seems to be a competition as to who can design "THE BEST" and in some cases, the "STRANGEST LOOKING" ones. But, at the end of the day, the phrase that keeps popping up is "all you need is 100 watts and a wire".

My first railways on the air was at the Suir Valley railway at Kilmeaden, Co. Waterford, which is part of the Greenway. EI6GVB set up an inverted Vee length of wire with a "magical box" at the end of it, so you can transmit 100 watts on all bands and the best part is you don't need a tuner. So, to my way of thinking at that moment was "ha ha ha ha", utter nonsense as all I have learnt so far is "one band one length" and if you want more bands, you add more lengths such as the fan dipole.

The antenna was connected to an SWR meter before being connected to the transmitter. Low power was used and the band of choice was 80m and the swr was checked. 1.8:1 in the cw portion and falling to 1:1 at 3.650 and then going up again to 2:1 at the higher end, so no antenna tuner necessary but easily bought to a 1:1 with any radios internal tuner. 40m and a flat 1:1 across the band. 20m again an SWR of 1:1 across the band. As we went up the bands the SWR went up slightly but again any radios internal tuner would make this 1:1.

How could this be? How is this even possible? What kind of magic is this? My mind is now blown as this is a one wire on all bands. This goes against all I have been taught and heard from other hams. Now I have to go and google this to try and figure out what is going on.

Google is a great source of knowledge mixed with lots of emotions. Some people praise this 49:1 EFHW antenna and others think its an instrument of the devil, so it is with great care that I pick my way through the information that I could find over the many months of research. I have looked at different ways of winding and different ways of

EFHW UNUN Construction

For 100W+, I recommend at least 2 toroids for better efficiency, higher primary inductance, and splitting power between toroids

Number of turns = number inside the toroid stack. Crossover counts as one turn

49:1 Transformer

Primary 2 Turns.
Secondary 14 turns (Total turns)

Parts List

Toroid Core:
Mouser Part #623-5943003801
240-43 Toroid 12.7mm x 61mm

*Use 1, 2 or 3 cores depending on transmitter output to be used.

Capacitor:
Mouser Part #81-DHR4E4C221K2BB
100 - 110 pF. You can use TWD 220 pF @ 15 kV in series.

Antenna:
80m - 10m use a 134' wire.
40m - 10m use a 67' wire, etc.

Wire:
14 gauge enameled wire **

** When using 3 toroid cores start with a Primary wire of ~13" and Secondary of ~80" long. 1 & 2 cores will use less wire.

Revised: 07/14/2017 - K1TA

I recommend 2 type 43 material for less than ~250 watts for lower cost, Fair Rite P/N 5943003801

3 type 52 material for ~500-1000W higher efficiency and higher temperature capable. Fair Rite P/N 5952003801

building, even the antenna wire lengths were all different as well as components and different ways of erecting. For every "Yes do it this way" there was a "No you can't because...."

So back to my train of thought and "Technically a Bumble Bee can't fly". We are in this hobby as experimenters, some with only the best shop bought equipment so they can get perfect results already made for them, and others whom trial and error will strive to get there in the end. I for one like this hobby for all that can be made, so here we go.

I managed to acquire all the items that seemed to be necessary to make the 49:1 EFHW antenna. I used a 240-43 mix fair-rite toroid and some 1.2mm enameled copper wire with a 100pF ceramic capacitor rated at 3kV, an SO239 chassis mount connection and one 6mm bolt. I used a wiring diagram from the internet that seems to be used a lot in discussions and then I sat at the kitchen table and looked at everything laid out in front of me. I

made a cup of tea and sat back down and looked some more. it looks so complicated when you stare at all the pieces and start thinking. So, after my tea I went and watched some TV then off to bed.

This went on for several days then eventually I plucked up the courage to pick up my wire cutters and make the first cut of the enameled copper wire.

The first cut is always the hardest step to take. That's it now the first step has been taken so on we go. I did as all "Googlers" had done before and I twisted the two pieces of enameled copper wire together by hand. It was



**1 Toroid for up to 100W, 2 Toroids for > 100 W
and 3 Toroids for 500W - 1 KW**

not perfect but hey "if it looks stupid and works...it isn't stupid" if it doesn't work I can always try again. I then then proceeded to twist the toroid as

49:1 "Technically a Bumble Bee Can't Fly"

the diagram shows. First turn and my hands were shaking as I kept looking at the diagram to see if I was going in the right direction. One twist done and another 13 to go. I kept looking at the diagram and recounting every turn to make sure it was right. With each turn around the toroid my confidence grew. I could now do two turns around the toroid without looking at the diagram.

Eventually all the turns were on the toroid and long tails at each end. I had indeed cut the enamelled copper wire too long, but its always "better to be looking at it than looking for it" That was all the excitement I could handle for today. Another day and the build was looking easier to complete so after trimming the excess tails so that i can connect to the SO239 and crimping then soldering a ring terminal onto "the antenna end".

The capacitor was soldered across the tails on the SO239 as shown in the diagram. It was all mounted in a plastic box that was getting thrown out at work. Now to get some wire for the antenna and connect it to a radio for testing.

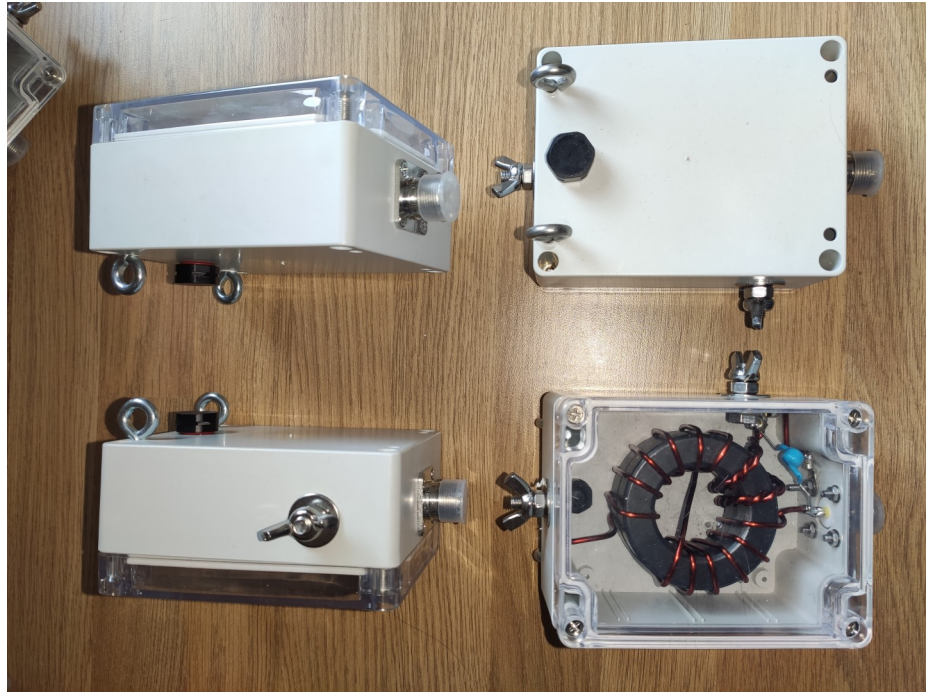
I called upon Alex, an SWL, to help out with the testing and off we went to set it up. we had an FT857 connected to an SWR meter then about 12ft of LMR400 coax to the 49:1 EFHW to be tested. the box was on the ground and the antenna wire went straight up 16ft and then horizontally at the 16ft height using my trusty ESB fibreglass poles.

A quick check on low power and the SWR on the 80m band showed that the wire was slightly too long but the other bands were fairly ok and tuneable with a tuner. So my first thoughts... OMG its useable WOW, I made this. The wire was then shortened a small bit at a time until we had the SWR on the 80m band at a very good point. More jumping around with joy as the weather started to get bad we packed up and went home extremely excited.

We used this antenna on the next group activation and BOOM australia on 100 watts. BOOM Canada 100 watts. BOOM Europe 100 watts. OMG! I made this.

There is no better feeling in the world than making something and it works. I'm not one to talk much about these antennas, but they really must be tried. They aren't perfect by all means, but as an all-round antenna they work surprisingly well.

Since the making of my first 49:1 EFHW i kept searching google and



The Completed 49:1 UnUn

talking to other hams and EI2ILB suggested a coil on the antenna wire 6ft from the box with just 6 turns on it will help the higher bands become more aligned for a more useable frequency. I tried this and it does work. So there is always room for improvement. I now use 2mm enamelled copper wire as I had read somewhere that the thicker the wire the better the band width, this seems to work well. I also use 15kV ceramic capacitors if only to give me peace of mind. I have made numerous of these for licenced and unlicenced people and so far, they are all working very well. It has been mentioned to me on occasion that I should fill the box with epoxy and don't use a clear lid so that it can't be seen, and no one can copy what I have done. Well, in my opinion, you can't put the Mona Lisa on show with a sheet covering it and saying it's a work of art, and all the information to make one of these is freely available on the internet. If you want to build one it's easy to find the information and I am very willing to part with any knowledge? have found along my way. If you would prefer to just buy one then that doesn't make you any less a ham operator. I take pride in every single one i make to a point that I really don't like to part with them but sure, I can't use them all. I do have a few getting power tested at the moment as again with google it is hard to know what the actual power

rating is so i should be able to give rough power ratings soon. I will be making some to take to the IRTS AGM radio rally if anyone is interested.



A few Spares for the next Rally

One of the advantages of the end fed half wave antenna is that it operates at both odd and even multiples of a half wavelength. A voltage point is present at all odd and even half wavelengths. This does not hold true for a half wave dipole - this is fed at a current maximum and this only occurs at the centre of the dipole for odd multiples of a half wavelength.

Wayne Lewis - EI7HKB

The 5 MHz Band

Irish Radio Amateurs first received permission to operate, experimentally, on specific spot frequencies located within the 5MHz band in October 2008 on a secondary-user basis. The allocations are 3kHz wide channels centred on 5280, 5400, 5405 and 5290kHz; the latter being restricted to beacon usage, in the UK, and therefore on a listen-only basis.

In early January ComReg announced that those who had already taken out the special 5MHz permission, and new applicants, could also apply for an additional three 3kHz wide spot frequencies centred on 5300, 5400 and 5348 kHz. The Modes of operation allowed on this band are A1A (CW), J3E (SSB) and G1B (Phased Modulation – PSK), with a maximum power of 200 watts P.E.P. (23dBW).

The 5MHz allocation is issued on an annual basis by application to ComReg at a charge of €30.00 per annum using the application form “Additional Authorisation (Frequency and Power) ComReg 09/45(d)”. It should be noted that if one wants to continue the use of the 5MHz band for more than one year, the renewal fee of €30.00 should be sent before the expiry date, otherwise a new application will be required.

These spot frequencies are issued on a secondary and noninterference basis to the primary users of the bands which are Military and Aviation. Whilst the UK stations may communicate with Military Cadet Stations, Irish Stations may communicate only with licensed amateur radio operators.

Following the World Radio Communication Conference held in 2015 a secondary allocation to the Amateur Radio Service, and subsequently by ComReg, was allocated in the band from 5351.5 – 5388.5 KHz on a secondary basis with a 15W maximum e.i.r.p. ≤ 15W (12 dBW) A1A, A2A, A3E, R3E, H3E, J3E, F1B, F2B, F3E All modes – including digimodes.

IARU Region 1 Band Plan

5351.5 - 5354.0 KHz CW
5354.0 - 5358.0 KHz All modes
5358.0 - 5362.0 KHz All modes
5366.0 - 5366.5 KHz	. Weak Sig. modes

As radio amateurs are secondary users on 5MHz there is no formal band plan for the use of spot frequencies, due to the fact that each country appears to have its own specific allocation of channels. Strong debate on this subject has often been noted on the UK 5MHz Yahoo group as well as being overheard on the airwaves and yet very much confined to UK operators.

UK operators have been issued 11 “bandlets” which encompass some of the Irish allocations.

Operating on 5 MHz.

Many transceivers can transmit on the 5MHz band whilst others may be modified to operate on this band by opening or closing a link or “cutting the red wire”. These transceivers generally have the appropriate filtering in the P.A.

As the spot frequencies allocated to Irish operators are only 3 kHz wide, as shown in Fig.1, it is essential that one sets up the transceiver correctly to ensure that their transmission occupies the allocated 3Kz wide spot frequency.

Only USB is utilised on the 5MHz allocation. It is essential that the SSB filter is not wider than 2.5kHz. The transmission should be set 1.5kHz below the centre of the channel frequency and, with a typical voice band-pass of 300Hz to 2800Hz, the signal will just fit in the channel allocation as shown in Fig.1.

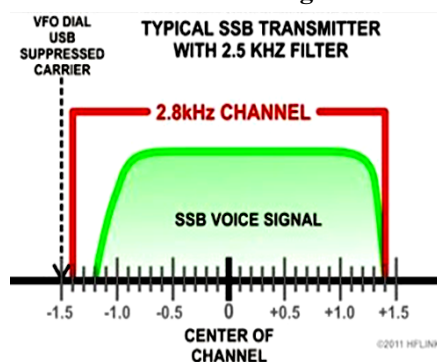


Fig. 1 Centring the SSB transmission

The table shown in Fig.2 illustrates the centre frequency of the channel and the appropriate carrier frequency and the dial frequency (VFO) required. The dial frequency for the Clansman PRC320 is also shown as it differs. It is probably best to place the TX/RX dial frequencies in memory and select them as required. Do remember to have USB programmed in as well.

Centre Freq	Carrier Freq	TX/RX Dial
5280 KHz	5278.5 KHz	5278.5 KHz
5300 KHz	5298.5 KHz	5298.5 KHz
5332 KHz	5330.5 KHz	5330.5 KHz
5348 KHz	5346.5 KHz	5346.5 KHz
5400 KHz	5398.5 KHz	5398.5 KHz
5405 KHz	5403.5 KHz	5403.5 KHz

Fig. 2 Centre Frequency vs TX/RX Dial

If setting up for PSK transmission, the VFO dial frequency should be set up exactly the same as for USB voice and the PSK audio centre frequency should be 1500Hz exactly – see Fig.3. Operators should also monitor USB voice to avoid interference.

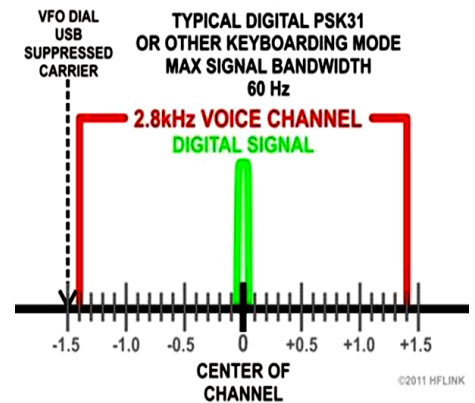


Fig. 3 Centring the PSK transmission

CW should be transmitted at the centre of the channel only, see Fig.4. CW operators should also monitor USB voice to avoid interference to other users.

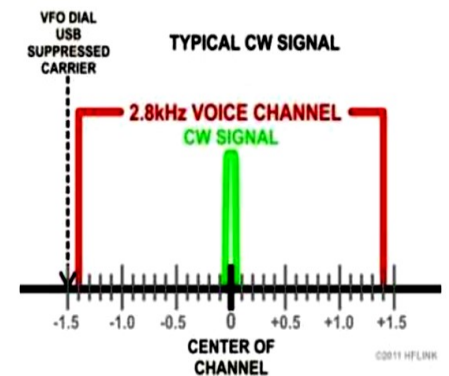


Fig. 4 Centring the CW transmission

It should be noted that amateurs are secondary users of the 5MHz allocation and must QSY if a primary user station (Military or Government Agency) appears on channel. In the interest of consideration to other users, one should avoid longwinded ragchews during peak evening hours when activity is high, and propagation is open for wider regional communication on 5MHz.

The 5 MHz Band

Useful operating techniques for the 5MHz channels

1. Before transmitting, check your transceiver frequency calibration. Lock the VFO dial and lock the microphone Up/Down switch and keypad.
2. Use RIT or receive clarifier to tune in other stations as they may be slightly off frequency. Do not change your own VFO dial or transmit frequency unless you discover that you are out of calibration.
3. Listen on channel for at least 3 minutes. If it is vacant just say CQ and your own callsign once and listen for a response. If no reply results, give short CQ calls.
4. If there is a high noise level at your QTH, be cautious about transmitting least you interfere with a primary user.
5. Try to co-exist peacefully and share the channel with other Amateur signals in the background. 5 MHz is channelized and very limited. This can be difficult at times especially with the self-appointed band police lurking in the background!
6. Ensure that your full callsign is given at regular intervals along with the station you are working.
7. Be receptive to other stations calling each other between gaps in your QSO.

Typical antennas for the 5MHz band.

The dipole shown in Fig. 5 is probably the easiest option for 5MHz and by stringing it at a lower height one can make use of NVIS (Near Vertical Incidence Sky-wave) techniques during daylight hours. Placing it at a greater height will

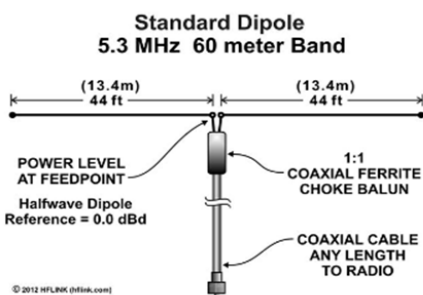


Fig.5 A 5MHz Dipole

enable DX operation at night.

A full-wave loop antenna at approximately 25ft above ground will make an excellent NVIS antenna for 5 MHz. also, being a loop it will receive in all directions and will also

minimise the reception of noise. The loop should be cut to a circumference 189ft 7ins. The loop should be fed with 450 Ohm openwire feeder and tuned with a balanced ATU. Do not use a balun with this system just use the ATU.

Propagation

Lying approximately halfway between 80 m (3.5 MHz) and 40 m (7 MHz), the 60-meter (5 MHz) band forms a communication bridge when propagation effects make use of 80 or 40 m impossible for local-to-medium distance communications (usually between 0–650 km (0–400 miles))

During Daylight hours, the D-Layer rapidly forms and will absorb lower frequency signals. Having used QRSS, a low power beacon mode, it can be demonstrated that the signal disappears almost immediately after sunrise. As the day progresses towards mid-day the effect becomes stronger. 80m becomes a more difficult band to communicate over distances beyond ground-wave due to the level of absorption by the D-Layer. In the meantime, the level of ionisation of the E and F-Layers increases to a maximum towards solar noon.

As the desired frequency is increased to 5MHz it is possible for the signal to pass through the D-Layer and become refracted back down to earth by the F-Layers. By the same token the 7MHz band may be yielding further distances, with openings into the UK and beyond at this time.

As the intensity of the F-Layers increases towards solar noon, 7MHz will also be a good choice for NVIS communication. This will be short-lived once solar noon is passed and, as the ionisation of the F-Layers slowly decreases, the 7MHz band will gradually open towards Europe.

Progressing towards evening, a more favourable condition for DX occurs as evening transits towards night time. As the ionisation of the D-Layer decreases, towards sunset, the 80m band will become suitable for NVIS communication and the 5MHz band will tend to open over longer distances in a similar fashion to 7MHz.

The 5MHz band has predictable propagation characteristics that combine the best aspects of both 80 and 40 metres. In areas above 35 degrees latitude, 5MHz is the best or

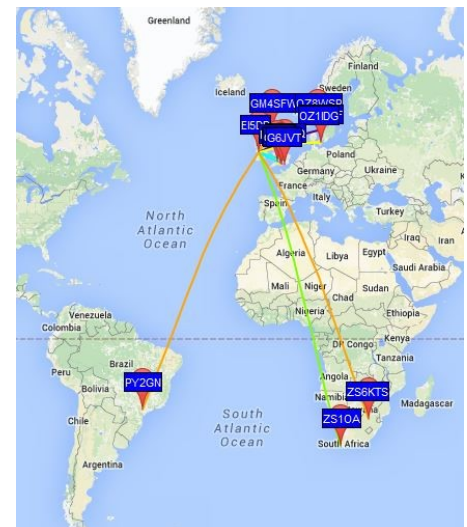
only NVIS band during daylight hours. In the more equatorial latitudes, 5MHz provides constant NVIS communication during twilight and hours of darkness. In short, 5MHz will always be open to somewhere. In many cases it is un-necessary to run high power levels to achieve communications over a given path.

Naturally there is a difference in conditions in the summer months as compared to the winter months.

The D-Layer tends to take longer to ionise and is some times only weakly ionised coming up to midday. Allowing 80 metres to display NVIS characteristics.

At the time of writing this article the Ionogram above clearly indicated that 80m NVIS communication was possible. From the E-Layer and the FoF2 was around 7.3 MHz allowing NVIS communication between Ireland and the majority of the UK on 7 MHz.

Having received WSPR transmissions over a 24 hour period, it has been noted that the 5MHz band can open up to distant parts in the winter months after 10 pm.



The South American and South African stations were noted at around 3:30 UTC. On other occasions, Canada and the USA came in around 11 pm.

Naturally listening for the Shannon VOLMET will give a clear indication of the state of the band in Ireland and it can vary in strength during the daytime. There is a complete list of VOLMET frequencies at this link: <https://www.dxinfocentre.com/volmet.htm>

5MHz is an interesting band and continues to exhibit new challenges. As an area for experimentation this band worth investigating.

The ICOM 705

I had often read about the new ICOM IC-705 and casually admired it to the point of mentioning it in conversations. My Downfall! In a conversation with a Mayo operator, it just happened that there was an ICOM IC-705, hardly used, in brand new condition going for sale. To make matters worse, there were loads of accessories including the backpack, an AH-705 tuner, and an Alex Loop. A complete kit no less! After a considerable “tug-of-war” and crisis of conscience, the IC-705 won! I hopped in the car, drove to Mayo, and bought it.

There were some sane reasons for purchasing this item in the form of driving transverters for the SHF bands, QRP operation off the beaten track from hilly locations, it had VHF and UHF bands and not forgetting D-Star. I operated from ICOM batteries used with the ID-52 handheld and so those could be used in addition to the two that came with it. The backpack was light and accommodated everything needed for a trek into the hills or even a trip to the UK.

Now QRP operation has never really been my forte, A little like wearing a hair shirt and metal cilice. A little more effort and dedication required to make that elusive contact. All I knew was that I could be the last one in the pile up to make a contact, would probably have a weak watery signal whilst everyone was booming in at “20 over 9” but then, could one hump a car battery up a hill and run 100 Watts into an antenna in the middle of nowhere without the aid of a form of transport.? This radio runs 10 watts from a 12v Supply and 5 watts with the ICOM clip on batteries.

If you really want inspiration, then watch the YouTube videos made by Julian ON8STN who is famous for his off-grid operation and use of solar power supplies etc. SOTABEAMS carries a lot of items suited for backpack operation and they are not expensive. They also supply 100m reels of lightweight wire and winders to prevent the antenna from tangling. Several antenna options come to mind.

Firstly, with low power it is wise to use a resonant antenna and, where possible to use a matching unit to minimise losses. Short runs of coax are a must. In the past a kite antenna has been used with great success and a 40-metre quarter wave vertical worked well. Even 80 metre quarter wave antenna was good during the later part of the afternoon/early evening. An



Icom IC-705 powered by a 12v 5A Power Supply

End Fed Half Wave antenna would work well provided that it was properly cut and tuned beforehand. An End Fed Random Wire could be used with the AH-705 tuner although this would not be the first choice as it really is not a resonant antenna.

The compromise options would be the use of the Alex Loop, an MP1 Super antenna, a Buddipole or maybe something like the Mydel VH-6, 80 - 10 metre portable antenna. These antennas require a tapping on a coil and the extension or retraction of the antenna element to fine tune for minimum SWR. Undoubtedly, with a bit of hard graft, these would be fine to make a contact and they are lightweight options.

Naturally a good quarter wave vertical for 20 metres could be taped to a lightweight fibreglass pole. An 80 metre Inverted Vee antenna, with the apex at 25ft above ground works well for the 80m counties contest. My antenna is a 40-metre Inverted Vee dipole with extensions across the insulators at the end of the wire to make it into a dipole for 80 metres. The antenna resonates perfectly on 40 metres, and with the extension selected it will resonate well on 80 metres. SOTABEAMS actually sells the same type on antenna, and it can include the 20-metre band as well. Probably about the most useful and effective portable antenna.

My first use of the IC-705 was during my current trip to Southeast London. I had the full pack kit minus any portable antennas. I had lightweight wire and an LDG 9:1 UnUn. An End Fed Random wire should not be resonant on any of the desired bands otherwise the

impedance will be too high to tune. It requires a counterpoise or good earth. The idea behind it is that the SWR encountered at the tuner end is low enough to be tuned out by the radio's internal tuner or by an external tuner; typically, 2 -3:1 SWR.



53ft of wire from the 9:1 UnUn with the counterpoise earthed to the copper water pipe

The antenna was 53ft which was almost the length of the garden. The earth connection from the UnUn was connected to the copper water pipe in the hot press. With the AH-705 tuner connected in line, a brief press of the tune from the menu brought a perfect

The ICOM IC-705



The AH-705 Auto Tuner powered by internal batteries

match according to the 705's SWR meter.

My first contact was on 40 metres with G8MNY located about 3 miles away. There was hill in the way and a good attenuation of the groundwave signal. Nevertheless, the contact was possible, and we had a good QSO although I think my signal was not a lot above the noise at G8MNY's end. Well, it was not a great start, but it was a success. A little more ambitious was a strong station in Cornwall good two-way exchanges resulted from this contact which was obviously enhanced by NVIS. Most of my contacts on 40 metres were via the NVIS paths. At a later stage in the day, it was possible to contact PA22XMAS with a good 56 signal report from my little 10-watt transmission.

One evening I was monitoring the Shannon Basin Net on 3775 KHz with Peter EI2IU as net controller. I put a call in and was given a 59 report. I had the opportunity to work EI2IAB, EI9CUB, and EI9DX all with a good 2-way exchange. This radio was beginning to appeal to me much more. Knowing the limitations, it is possible to pick and choose the stations who will most likely hear you. Just calling CQ will obviously be a better idea as the ones that can hear you will reply. I seldom had to call for too long.

Both Peter, EI2IU, and Mike, EI0CL, were undoubtedly the strongest stations heard from Ireland but then they both have stations appropriately equipped for DX operation.

My other aim was to have a QSO with G7ODG, an old school friend, who would have been located approximately 4 miles away as the crow flies. There were at least three hills between our locations. Initial contact was not possible with his Sigma HF 360 antenna on 80-metres, but he switched in a second antenna and a 5 9 signal exchange was possible. Again, ground wave was severely attenuated by the obstacles. High power would have made life easier.

Whilst having heard Mike operating on the top end of 80 metres, on numerous occasions, I happened to hear him on the 40-metre band. A quick call at the end of his QSO was successful. Judging by the band conditions at the time, I was confident that the QRP signal would make it through. A brief chat ensued, and it was time to QSY. I was delighted to Galway!



The LC-92 backpack

Ok so what about the Radio? The antenna connection is via a BNC connector although there are numerous adaptors to suit all needs. If using the radio for VHF operation, it is no harm to get a right-angle BNC connector and bracket to hold it vertical otherwise the antenna tends to flop to a diagonal plane. These adaptors are cheap enough. I recommend the Mydel mount.

The waterfall display is a nice feature which appears to be the norm on most radios nowadays. Setting up the audio was fast. The ICOM twin band-pass filtering is very effective. The Noise blanker and reduction is also excellent. The notch filter allows the elimination of long-term

interference from adjacent carriers. In all the radio is quite sensitive. I look forward to working it in a totally noise free environment if that is possible to find!

Naturally the touch screen assess to menu items is more comfortable to use than perhaps the ICOM 7200. At all times it was possible to work stations that were of reasonable signal strengths, despite a high local noise on some of the bands. Basically, the receiver performance is excellent.

Complimentary reports are always received concerning the transmitted audio. This is surprising as the supplied microphone as a crappy looking item. The audio out of the radio is a bit on the "toppy" side but sounds ok through headphones or on a larger external speaker. Compared with any other radio with a small speaker, I am only nit-picking.

The AH-705 tuner is an expensive accessory but works extremely well. No problems connecting it up either. A shame it was not a built-in tuner, but this would have increased the size of the radio. Tune up is rapid with this tuner. It always resulted in a minimal SWR.

The VHF and UHF side has not had a lot of use to date mainly because it is hard enough to get a local contact on 2 metres or 70cms in Galway City.



Ample room in the backpack for connectors, spare antennas and batteries

The ICOM IC-705

Undoubtedly, the use on higher ground will provide much needed information about the VHF and UHF capabilities. I have an Arrow satellite antenna which is lightweight and ideal for operation from hilltops.

D-Star has been used via a local Hotspot and the reception of how to has been very clear and R2D2 free. It is possible to work point to point D-Star in the DV mode. Better still, it is possible to use D-Star on the HF bands in the appropriate slot of the band allocated to Digital Voice. The quality of D-Star on the VHF/UHF bands is excellent having transmitted to and received audio from the ICOM ID-52. D-Star operation was possible via the local repeater although something better than a rubber duck antenna would have made a huge difference.

5 MHz operation is possible on this unit without any modification. If one really needs to allow operation on other bands such as the 27 MHz area, this can be achieved. I have seen YouTube videos on modifications. Receive on 27 MHz is possible and

yielded some local FM activity.

There are many linear amplifiers that this radio can drive up to 100Watts. I have a 100W Tokyo High Power Amplifier that I used with an FT817 this will give me plenty of output from 80 - 50 MHz with just 5 watts input. Of course, there are many more that will do the same job. Naturally the ICOM linear is expensive. Maybe this would be handy to operate from home but I have other radios that do the job well but, nevertheless, the portable kit could include a linear.

The receive side is continuous and it is possible to listen to the AM broadcast bands from Long-wave upwards. The FM broadcast band is also accessible as is the Airband. Reception of an AM transmission is good and clear. One can monitor 40 and 70 MHz but, sadly, there is no transmit on these bands.

There are a number of accessories which include the backpack, battery packs, various mounts for antennas and stands to stabilise the radio on a surface. You will undoubtedly find

many more extras if searching on EBay. One has to draw a line eventually!

Conclusion

I am not sorry I went down this avenue. This has facilitated operation in the UK without a huge burden of equipment. This will, undoubtedly, complement my existing HF and VHF/UHF activities, including 5 MHz, and will encourage a little more activity from the great outdoors and in the fresh air. I have already made up several wire antennas ready for use.

CW is undoubtedly the modus operandi for QRP operation, and this radio has all the requisite filtering. Whilst my CW is not really op-to-scratch, I have time on my hands, and it is time to finally make a that new year's resolution. Hopefully the weather will be reasonable in 2023 and may summer come early.

Steve Wright - E15DD/G4GFC

wright14@gmail.com

Benefits of NRSI Membership :

Did you know that you can get Free EURAO membership (and coverage by an insurance policy) if you are already a member of NRSI*



* Terms and conditions apply.
For more information visit www.nrsi.ie and contact the society secretary



Individual and Family Membership Application Form

National Radio Society of Ireland
NRSI – www.nrsi.ie

By submission of this form you hereby apply for membership of "National Radio Society of Ireland" (NRSI) and one of its Provincial Clubs.

NRSI aims to be an open, transparent and fair organisation. Our main goal is to promote and support radio as a hobby within Ireland with a positive modern-focused outlook. Our Provincial Clubs endeavour to make all of our radio enthusiasts feel supported, recognised, valued and respected on a regional level.

By

Join the NRSI today

Membership application form available for download from www.nrsi.ie

Some of the Many

- Can attend NRSI AGM and various other events
- Free membership of a Provincial Radio Club (with voting rights within that club) ¹
- Family NRSI membership (no extra charge) ¹
- Receive regular NRSI news
- QSL Bureau / Irish EuroBureau QSL - Cards distributed quarterly ²
- Membership/Technical Support Services
- Free membership of EURAO
- Special Combined Membership Package Deals (eg. AMSAT Ireland)
- Access to additional services
- Invitation to apply to join IECRO (emergency communications) ³

National Radio Society of Ireland and Provincial Clubs
Individual and Family Membership Application Form (Version 2) Published: 5th September 2021
Important: For further information, see endnotes on final page of this form Page 1

Linux in the Hamshack

Most Hams use either Windows, MacOS or Linux for their main PC in the Ham Shack. I've used all three for a long period of time so I can make a judgement on the most efficient for my needs. My first logging program was MacLoggerDX for the Mac and I used it successfully on my 27" iMac for a couple of years. Apple then changed the goalposts for some hardware and software that I used on a daily basis so I decided to give Windows 10 and HRD a chance. I personally found HRD very sluggish and although it was slow it did the job well. After a couple of years with HRD I got fed up with the subscription plan of about \$50 a year including their discounts. For contesting I used SD by Paul O'Kane EI5DI and it was excellent. One of the most annoying facts were the updates for Windows 10. Whilst Windows was updating I couldn't use the PC and it would decide to update at the most inconvenient time. One memory was waking up early to do the IOTA contest and when I fired up the PC, it had an update to do and it took over an hour to complete so my mind was made up to find a solution.

In 1995 I was introduced to Linux and it worked well on my 386 Intel based machine. It was Slackware Linux and came with about 15 floppies to install it. Windows 3.11 was the common OS then with Windows 95 just being released. AX25 and Packet Radio was very common at that time and Linux had support in the kernel for AX25 and more importantly Tcp/IP. With Windows 3.11 you needed Trumpet Winsock to give you the TCP/IP stack to access the internet were it was built into Linux. Since then I've tried many flavours of Linux, from Mandrake, Red Hat, Debian, Suse and Ubuntu. Ubuntu is now my daily driver and I haven't looked back since.

Whilst doing a Google search I found CQRLOG by OK2CQR. It controls my rig, rotator and CW keyer. It has a great interface and cluster support. It also has a link to the reverse beacon network which is invaluable when working CW.

My daily workflow is as follows. Load the program and check to make sure I the correct log open. CQRLOG automatically connects to the DX cluster and I type SH/DX in the cluster to show recent DX spots and it fills the band map. I then connect to the Reverse Beacon Network. Unworked countries show up as red and countries that I have already worked show up as blue. I have a quick look

at the propagation window and decide which band I'm going to work. I set the rotator to the desired direction, e.g. 280 degrees if I want to work USA, then I find a free frequency and send QRL? A couple of times. If all goes well I call CQ a few times. I look at the RBN to see what stations can hear me, I also look at the world map to see where I'm being heard. Yellow dots mean low signal and red means they can hear me quite strongly. It's great to see the map as it gives a visual representation of stations that hear me and I know I'm pointing in the right direction. If I get a reply I check their bearing and if it's way off I click on short or long path to move the antenna to the desired direction. If I've worked them before it gives all the details of the previous QSO's. It will also tell me if they use LOTW and if a QSL is required. When I'm finished my session, I upload the new QSO's to LOTW and EQL. I then backup my log and using the resulting adi file I upload to qrz.com for my online logbook. My logbook is on my PC and after I close the program it saves the log into Onedrive and is also backed up to my Synology NAS, LOTW and qrz.com, so I have multiple copies in case of disaster.

For QSL cards I have a Brother QL Label printer. I export my QSL's as a CSV file and load it in a program called Glabls. I then print out all my labels and attach them onto my QSL cards. The great advantage to CQRLOG is that it's open source and free to use although if you like it I would encourage you to make a donation to help the programmers.

To my delight I also found that Paul O'Kane's famous contest logger SD is supported in Linux using wineconsole. I'm a part-time contester and use SD as my contest logger. It supports rig control and winkeyer. It will even use the voice keyer on my FT-2000 and FT-950.

Overall my experience of Linux in the Ham Shack is positive. You can use it as your daily driver as well as your main shack PC. I run three monitors of my shack PC as can be seen in the picture below and the screenshot shows you what I have on each monitor. On the left is my Chrome browser, in the centre is the main log screen with memory keys at the bottom and rig and rotor control and also propagation. The band map shows the activity on each band. On the right screen I have the cluster, the reverse beacon network and the greyline map

8pm 9th of January 2023 -Radio & Rucksack

Ben will briefly explain the definition of portable operating and give reasons why portable operating has its benefits. He'll go on to explain a little about his adventures which mainly include SOTA, working DX and contesting...all by operating portable. Ben will run through everything that is packed away in his rucksack to enable a successful activation and he'll also share some of his adventures with everyone, with time for questions at the end.

About Ben

Ben is 38 and has been licensed for three years, having held his Full licence for just over a year. He works in the electronics industry, looking after customers and accounts globally. As well as enjoying walking the mountains, calling out 'CQ SOTA', Ben is a keen rally driver (when he has the time!)

See more at: <http://rsgb.org/.../9-january-2023-radio-and-rucksack-by.../#hamr>



NATIONAL RADIO SOCIETY OF IRELAND

Promoting
and Supporting
Radio Enthusiasts
in Ireland

Annual
General
Meeting

AGM
2023

All are
welcome
to attend

Sunday
19th Feb

11:00 UTC
Hosted in Mullingar and via
multiple online platforms

Mark Bannon
President/Chairperson

For more information please visit www.nrsi.ie

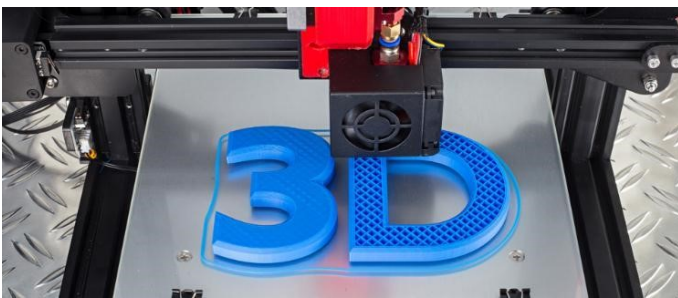
Amateur Radio And 3D Printing - Lez Ferguson EI4GEB

I have been using 3D printers for many years now and teach engineers how to program and use them. They have become an especially important part of engineering life across the world. With this in mind, we as radio armatures can now take this system and use it to our benefit.

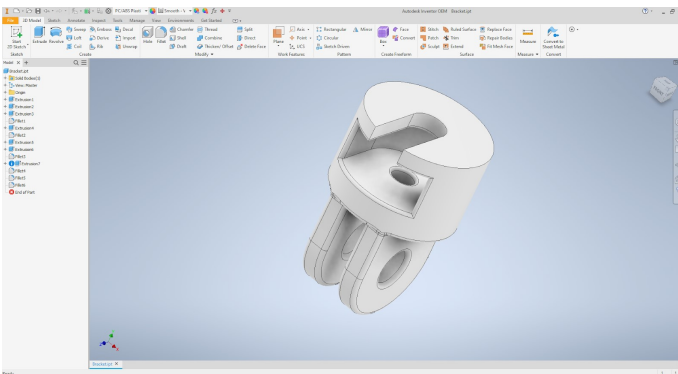
WHAT IS A 3D PRINTER?

A 3D printer is a device that can fabricate three dimensional objects. Just as you can print an article from a document file using a standard printer, so you can 'print out' an object by sending a 3D file to a 3D printer. The printer described here uses a reel of plastic filament (PLA) as the building material. Instead of printing ink on paper, it melts the filament producing a thin thread that it uses to build

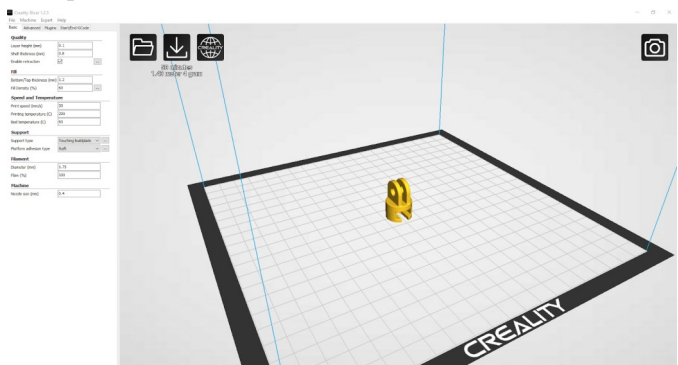
DESIGNING SOMETHING FOR AMATEUR RADIO IN 3D.



Let us look at the design process so you can see how we might make something useful for amateur radio. I use SolidWorks or Inventor to design the part I need to print. up, layer upon layer, the 'printed' object.



The above part was designed on Inventor 2022 and is a part for my car window bracket to hold my Yaesu FTM 400 XDR remote head. After the part was designed and saved. It was opened in another piece of software (Creality Slicer) that will write the program using G-CODE. See next photo.



This then takes the solid model and slices it into many layers, so that it can be printed. It parts takes about 58 mins, but larger parts many take more time. Below is the finished part, plus another part I printed for my Hex Beam.



FINAL THOUGHTS.

I have chosen the above examples because I found them to be useful and fun to make. There are of course all sorts of other possibilities for 3D printing in amateur radio, including microphone holders, front panels for projects, e.g., bezels, boom supports for Yagi antenna elements, replacing broken knobs on radio equipment, custom made fittings for old and foreign parts etc.

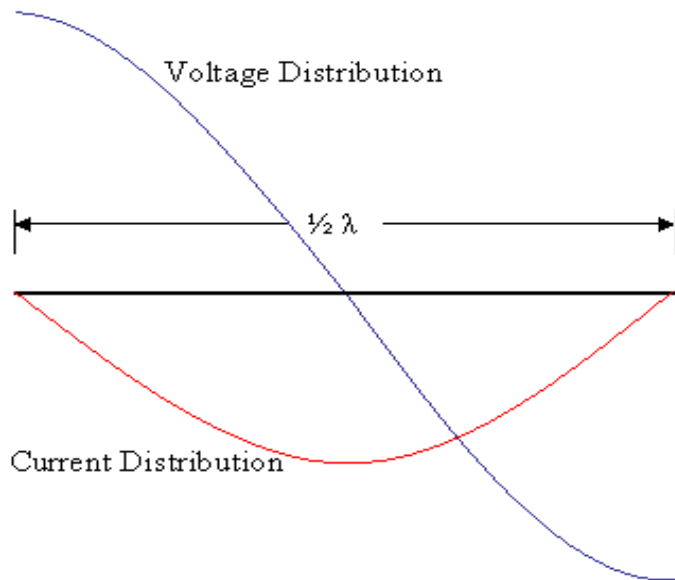
Printers start at around €200 for a basic one. So, get printing, the possibilities are endless.

Visit the **WESCOM Radio Shop**
<https://wescom.ie/>

End Fed Wires

The End Fed Half Wave Antenna

The most common method of feeding energy to this type of antenna is at the centre where the current is maximum, and the voltage is minimum. Consequently, the impedance at this point is low and on the order of 72 ohms. This makes it convenient to feed the antenna directly with low impedance 50-ohm coax cable.



To minimize the chance of common mode currents on the coax that can cause the coax to become part of the antenna a Balun is sometimes used.

Energy can be applied anywhere along its length and the impedance will increase as the feed point moves away from the centre (more voltage, less current). Taking this to the extreme is to feed the half wavelength antenna at its end. Is a counterpoise required? Many would say no but others recommend a 0.05λ counterpoise be added.

If you want a high performance monoband EFHW antenna you should always go with the 49:1 UNUN and cut the aerial to half-wave resonance and almost all your power into it gets out since it acts exactly as a traditional dipole, with the exception of being fed at the end.

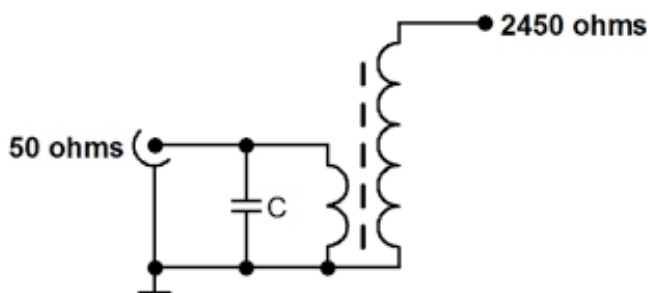


Diagram of a 49:1 UnUn

Generally an EFHW will be in the range of 2,000 to 5,000 ohms at the very end of the dipole when resonant. Therefore, the use of a 49:1 Un Un as described on page 6 of this magazine will suit this antenna.

The advantage of such an antenna, is that it will operate with a good match on harmonically related frequencies also the End Fed Half Wave antenna is that it will work on odd and even multiples

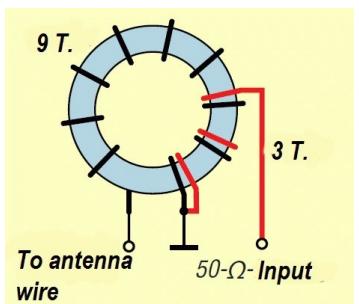
Example of multiband operation of an End Fed Half Wave Antenna

Harmonic of Fundamental	Frequency (MHz)	Comments
1	3.55	Fundamental operation at bottom end of 80 metres
2	7.1	Between CW and phone sections of 40 metres
3	10.65	Would need Antenna tuner to operate between 10.1 and 10.15
4	14.2	
5	17.75	Would need antenna tuner to operate between 18.068 and 18.168
6	21.3	Within SSB portion of 15 metres
7	24.85	Not far from 24.89 and 24.990 12 metre band
8	28.4	Within SSB section of 10 metres.

End Fed Long Wire

The random wire is probably the cheapest and easiest antennas to use if you have a tuner and don't want to spend time working out the ideal length. The down side is that the SWR will be all over the place and more often than not the tuner will not do its job. Generally one can get it to tune on one or two bands but the rest will not cooperate. One of the problems is that the impedance of an End Fed Wire measuring a half wavelength is high and the tuner may not be able to tune it to a 50 Ω load. Generally, if the End Fed wire is not resonant, the impedance at the majority of frequencies will be in the order of a few hundred ohms. This will obviously present a different value for each band in use.

By adding in a 9:1 UnUn is possible to lower the impedance presented to the tuner which will be more within the impedance matching range of the tuner. The main point to remember is that if used over a wide range of frequencies, one should ensure that the antenna is not a resonant half wave on any band in use.



Obviously, this will suit rigs with an internal tuner and rigs with an external auto-tuner to facilitate a quick match. It important to connect a counterpoise as there will be common mode currents on the coax from this system. A Counterpoise system of 0.05λ for each band in use would be ideal and a precaution of a 1:1 UnUn between the radio and the 9:1 Un Un will remove RF from the coax.

A search on the internet reveals that ideal lengths for a Random wire are 29, 35.5, 41, 58, 71, 84, 107, 148, 203, 220, 347, 407, and 423ft. In fact there is a commecrically available long wire antenna on the market approximately 82ft long.

49:1 UnUn, 9:1 UnUn and 1:1 UnUns are available from all radio equipment suppliers although these are easy enough to make if you have time to send away for the parts.

I have used an LDG 9:1 UnUn with 53ft of wire and it tuned perfectly using the IC-705 plus AH-705 tuner. I hadn't enough coax to connect from the shack to a dipole so this system solved the problem.

The T2FD Antenna

Whilst tuning around on the Hack Green SDR receiver I noted one EI operator who stood out with a strong signal on 40 metres calling into the news. EI6DP, from the Limerick was the strongest station at the time on 40 metres. His signal was enhanced by NVIS which is ideal for a desired range within Ireland and the UK. The Antenna in use was a T2FD.

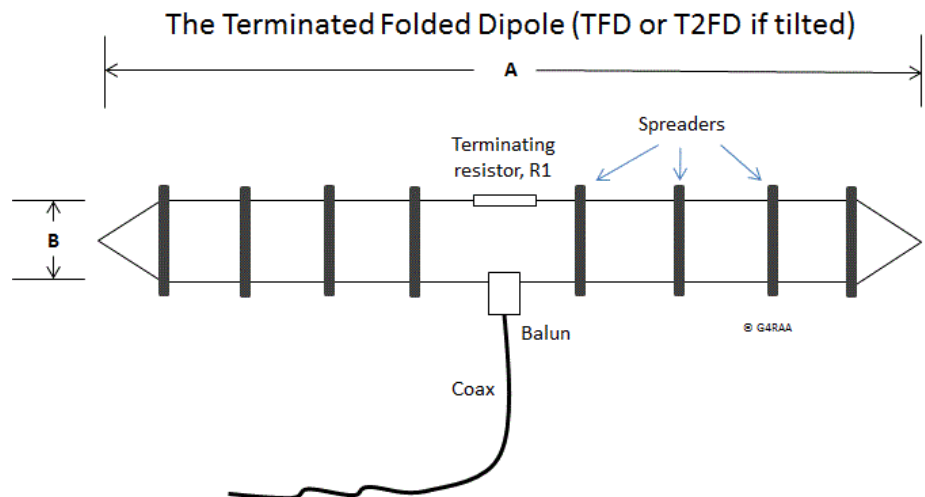
The Tilted Terminated Folded Dipole (T2FD) or Balanced Termination, Folded Dipole (BTFD) was a general-purpose shortwave antenna developed in the late 1940s. It performs reasonably well over a wide frequency range, without marked deadspots in terms of frequency, direction, or angle of radiation above the horizon.

Since the late 1980s, amateur radio operators and hobby shortwave listeners have 'rediscovered' this antenna, especially for broadcast receiving and for amateur two-way modes such as Morse code and PSK31 where crude signal strength is not as important as a 'steady' signal.

There have also been disputed claims that this antenna is comparatively insensitive to man-made radio interference; if true, that would make the design useful in urban environments, where a low noise floor is often more beneficial than high received signal strength. The T2FD is useful for hidden indoor systems, or where several optimized frequency-specific antennas cannot be accommodated. For example, an indoor antenna only 24 feet long will allow operation on all amateur HF bands above 14 MHz on transmit, and down to 7 MHz on receive.

Some say the T2FD is a "squashed rhombic" antenna. It does bear some design similarities to the non-resonant rhombic, but theoretically it is admittedly inferior. However, the T2FD performs well in a modest amount of space, while a rhombic antenna can be immense - virtually impractical - at all but the highest SWBC bands.

The T2FD is essentially a closed loop design with the element ends



folded back and joined by a non-inductive resistor (see figure below). The feed line can be 300 to 600 ohm twin lead or open line.

Because twin lead and open line can be affected by nearby metallic objects (downspouts, metal window frames etc.), a better feed line is coaxial cable connected to an impedance transformer (balun).

The T2FD has a characteristic 5 or 6 to 1 frequency ratio, which means that it works effectively from its low-end design frequency up to 5 or 6 times that frequency.

Performance

The United States Navy conducted extensive transmitting and receiving tests of a single T2FD antenna in the late 1940s at Long Beach, California. They employed a Model TCC Navy I kW transmitter, with a frequency range from 2.0 to 18.0 MHz. After a year of use on all frequencies the T2FD was found to be superior to individual antennas on the various bands. The other antennas were removed from the Long Beach site after the tests.

Similar results during the same period were experienced by the Kyushu Electric Communications Bureau of Japan. Their experiments indicated that the terminated tilted folded dipole was superior to the "zepp" and halfwave dipole types previously used. They noted wideband characteristics, and the T2FD gave a 4 to 8 dB signal increase at their various receiver sites.

T2FD is a non-resonant, traveling wave antenna, which is rather immune to local wide band noise. T2FD is an extremely quiet RX antenna with very high S/N ratio... worth to try with PSK... The antenna

works like standard dipole. Radiation pattern is similar to a dipole with the similar dimensions. If you use vertical wire loop and a flat top dipole assembly with high altitude (15-20m), you get pattern similar to half wave dipole, with low take-off angle.

Construction

M0MLk's website provides a useful T2FD Calculator which may be downloaded from <https://www.m0lmk.co.uk/2018/10/16/t2fd-calculator/>

This calculator will provide dimensions for a $1/2\lambda$, $1/3\lambda$ and $1/4\lambda$ versions of this antenna.

Whilst the $1/2 \lambda$ version would be ideal, it does need a large bit of real estate to accommodate it. The $1/3\lambda$ version is more popular with a total length of approximately 90 ft. This version is most widely described.

Based on dimensions obtained from UN4UNR's site the following dimensions would be ideal for use from 80 metres - 10 metres based on the 80m frequency of 3650KHz. This is, in fact, the $1/3$ wave version

See Diagram above.

Here are the calculations:

$$A = 100/3.65 = 27.4\text{m and}$$

$$B = 3/3.65 = 0.8\text{m}$$

Balun 1:4

R1 - 330 ohms

A T2FD takes more hardware to construct than a typical dipole. Maintaining a uniform spacing between the parallel wires, as well as sturdiness, are the primary considerations. Reasonable heavy duty stranded wire is recommended. The spacers or spreader bars can be fashioned from 5/8" (minimum)

The T2FD Antenna

diameter wood dowels, fibreglass rods, or PVC pipe. Drill appropriately sized holes at each end of the spreader bar for the wire to pass through. The spreaders should be secured to the wires so that they do not slide; one method is to "jumper" each spreader end with a short piece of stiff wire and solder to the antenna wire. Four or five spreaders in each leg would make the antenna sturdy.



Spreader attached to the wires of each leg of the antenna

Different terminating resistors could be used in which case a 500 Ohm terminating resistor would allow the use of a 9:1 Balun.

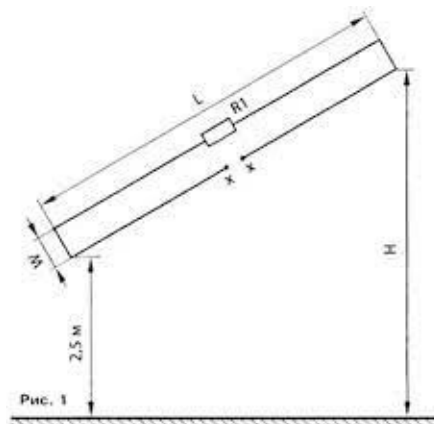
It should be stressed that the terminating resistor be non inductive for obvious reasons at RF.



The terminating resistor should be weather proof. The terminating resistor illustrated above is available from Palomar Electronics in the USA, however it would be no harm to contact WESCOM who have a wide range of items for experimental antennas including Baluns and UnUns. A surf on Google will bring up a number of UK suppliers.

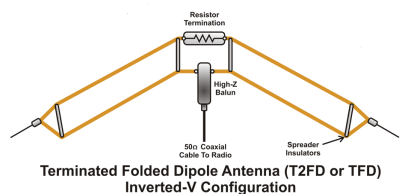
Of course, having read to this point and decided that building such an antenna is too much hassle, it is possible to purchase commercially made T2FD antennas. These range from £170.00 - £240.00. There is no satisfaction to buying off the shelf as we are supposed to be Experimenters!

Sloping T2FD Antenna

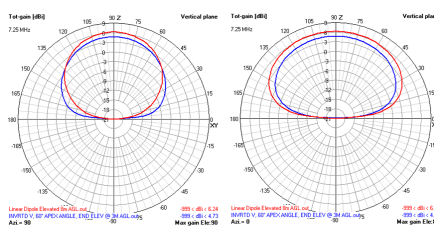


Setting the antenna up as a sloping antenna will result in a directional radiation pattern with a large NVIS component.

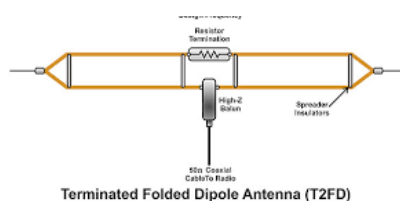
The Inverted Vee T2FD Antenna



The Inverted Vee configuration is ideal for many users but, as with all Inverted Vee antennas, they are cloud burners but are perfectly suited for NVIS operation. It is still possible to work DX on an inverted Vee antenna depending on the magnitude of the slope of each leg. Obviously the idea is to get the apex as high as possible and reduce the angle of the Vee where possible.



The Dipole T2FD Antenna



The Dipole configuration is the most ideal arrangement. Where possible,

hoist the dipole to a minimum of $1/4\lambda$ above ground at the lowest operating frequency where possible.

By lowering the height of the dipole NVIS operation is possible which may suit under certain circumstances.

Pros and Cons

The T2FD antenna is relatively easy to build with the right materials at hand.

The antenna has a wide frequency coverage with low SWR on the amateur bands - typically 2:1 at the worst case.

Whilst the antenna corresponds to a Dipole at its lowest frequency, it tends to lose out slightly at its lowest frequency.

The slight reduction in efficiency over a dipole is offset by the broad coverage of the Amateur HF Spectrum. This antenna is ideally suited to ALE Operation and also multiband switched WSPR applications.

In most situations, the T2FD is unsuitable for DX due to its high angle of radiation, however, configured as a dipole at sufficient height, its radiation pattern will become more shallow. Much of this will depend on the ability to string the antenna in a horizontal plane.

Having cut the antenna to the correct length at the lowest frequency, the SWR will remain lowish on all amateur bands, although may require a small amount of tuning.

This antenna has a low signal to noise ratio on reception.

The radiation pattern is almost omnidirectional in the horizontal plane.

Probably the only disadvantages are that there is a percentage of the applied power to the antenna lost due to the heating of the resistor and in most cases this antenna is more suited to NVIS operation rather than DX.

In contest however, how many operators have antennas at the the correct height for DX operation. Unless the 80 metre or 40 metre antennas are hoisted to a minimum of a $1/4\lambda$ above ground they will be cloud burners anyway.

EI6DP, uses a T2FD and may often be heard on the Sunday Morning News Services and would be a good comparison to other antennas in use on the bands.

Steve Wright - EI5DD/G4GFC
wright14@gmail.com



AMSAT IRELAND

www.AMSAT.ie

Advancing Science,
Communication, Space
Education and Technology

For over 50 years Amateur Satellite Service organisations have existed throughout the world which have provided a critical platform for further development of the Amateur Radio hobby.

AMSAT® is a protected trademark.

Galway Radio Experimenter's Club

On the 5th of December, and we are already talking about our Christmas Dinner - not the one on Christmas Day, but rather the club one on 14-January-2023. This is our way of beating any January Blues - have another Christmas party!! Again, we are having this in the Menlo Park Hotel who (if you have not noticed this from earlier) always does a great job for us and really looks after us!!

We are also planning the Maamturks challenge in April 2023 and have selected one out of 4 possible dates for the event. A challenge here is trying to support the challenge as well as deal with 2 Bank Holiday weekends in April as well as the IRTS AGM (hosted by the Shannon Basin Radio Club) and NUIG Student exams. Marconi is also coming up in April 2023 and so we want to support that as well.

It turned out that both Aoife (EI8HOB) and Aengus (EI4ABB) purchased a uBITX (they couldn't wait !!) and Aoife gave a nice presentation on her uBITX, including its assembly along with how she was using it for FT-8 receiving. She included pictures of the various steps of her assembly and her antenna setup. She was very happy with how it was receiving for FT8 and the next step was to see what it was like for transmitting. Aengus also showed us his uBITX in its originally received form - the main board actually looks bigger than what you see on the website. Given that there are no group discounts, and getting in bulk would be expensive on any individual, it was decided that everyone looks after getting their one uBITX.

Steve gave a great demonstration on portable work, and

in particular all the various equipment needed. He brought quite a varying amount of antenna and the "jewel in the crown" his ICOM IC-705 backpack - including the ICOM IC-705. It was a little like the Late Late Toy Show where some of the items went together quite well whereas others were not behaving themselves in hte time allotted. There was a lot of things that Steve showed and there should be reference to it in the January 2023 edition of the Connacht Regional News.

Aengus and Tom also brought their Morserino-32 kits which were fully assembled and they were used for a "Morse Code" shoot out - with both devices set for LoRa communications. It was great to see how these kits can be used together to help with learning Morse and this might be something worth considering after club nights in the future - spending 10-15 minutes with some morserino's "doing real morse"!!!

Commentary: I ordered my uBITX on 07-Dec, it was shipped on 13-Dec and I had it in my paws on 17-Dec - 10 days all the way from India - very impressive!!!

Overall, 2022 has been a good year, with the club members getting out more than in previous years. Because of the way that we have changed how we "manage" the club, we now have a club night that is primarily related to doing "fun stuff" like demo's, presentations etc. and the "formal and boring stuff" is not for the committee only. I think this has been a good move for us, and it has proven to be more fun on those Monday Club nights.

Wishing everyone a safe and sane 2023



Handmade Ham Radio Gadgets



**Contact : 0877775249
EI9GWB Arek**

Hillwalking Radio Group

The parish of Galbally straddles both the border of Tipperary and Limerick near the foot of the Galtee mountains. Since our Club moved here the community has really embraced us with open arms and made us so welcome. This winter we decided to show our appreciation giving something back in return. We organised two fundraising Starlight Walks on Wednesday 28th of December.

Walk A was a family friendly walk through the village park with our retirement walk group, The Morning Ramblers.

Walk B was a two-hour hike to a megalithic tomb better known as Darby's Bed with spectacular views of the night sky and surrounding villages. One of our Team Pat Boland acted as leader and the sweeper was

Ann Cummins with a first responder Denny O'Dwyer in centre position among the hikers. All three used 163mhz VHF to keep in touch. Stewards on



the corners used license free 446mhz to stay in contact. We had planned on using 4 meters to send data messages, but conditions changed as we were pelted with driving rain.

We had no registration fee but a voluntary donation for the Circle of Friends Cancer Support Service in Tipperary was well supported. In total we raised over €500. We had 61 participants; some found the hike emotional but fulfilling especially for anyone who may have lost a close friend to cancer in recent times. Our Rescue Car was called out twice to help return those who struggled a bit and bring them safely back to the Community centre for a hot snack.



We are so appreciative to all who donated buns cakes and tea brack Our off shoot The Morning Ramblers provided refreshments and assisted with the catering. Going forward in to 2023 we will continue to train people up in E-comm radio skills, CPR and basic land search techniques. Assets available to us: Limerick Land Search Team, Tipperary Civil Defence.

We would like to wish all our other radio friends whether Licensed Amateurs, CB or Short Wave listeners best wishes for 2023 and to thank Steve and the people behind CRN News for their support and advice. Slan agus Beanacht from the Hillwalking Radio Club.

Shannon Basin Radio Club News



1:From back (l to r): Anthony Dolan EI6GGB, Owen O'Reilly EI4GGB, Tom Nevin EI4HCB, Cyril Moriarty EI4AGB, Andy McCarthy EI7IOB, Marty Grady EI2IAB. Seated in front (l-r): Patrick O'Connor EI9HX, Enda Broderick EI2II, Larry McGriskin EI9CN (IRTS President)

Shannon Basin Radio Club AGM 2022

The club held its 2022 AGM on Friday, December 9th in the Abbey Road Artists Studios in Athlone. We were delighted to host Larry McGriskin EI9CN, President of the Irish Radio Transmitters Society as our guest of honour. The club's officers are Patrick O'Connor EI9HX (Chair), Owen O'Reilly EI4GGB (Secretary), Anthony Dolan EI6GGB (Treasurer), Keith Nolan EI5IN (PRO), Marty Grady EI2IAB (Youth Officer), and Tom Nevin EI4HCB (Safety Officer). Bad weather and road conditions on the night meant that many of our members couldn't attend. However, the night was enjoyable with a lot of topics covered and plans for 2023 discussed.

Anyone interested in the hobby and Shannon Basin Radio Club are more than welcome to contact the club and learn more at www.sbrc.ie. Further information about the national society for Ireland may also be found at www.irts.ie

2023 IRTS AGM Weekend

The 2023 IRTS AGM weekend will take place over the weekend of Saturday April 29th and Sunday April 30th, 2023. The venue is the Shearwater Hotel in Ballinasloe, Co. Galway. Tickets for the gala dinner are available for sale for €35 each. A ticket is required to attend the gala dinner. They must be prebooked from Anthony EI6GGB via www.sbrc.ie. A limited number of hotel rooms are still available using the special negotiated rates. Room bookings have been swift this year, so it is advisable that you contact the hotel as soon as possible to avoid disappointment.

As the host club, Shannon Basin Radio Club, we are seeking submissions for short talks that will take place on Saturday April 29th. In addition, we would be delighted to hear from other clubs, traders, and interested parties wishing to reserve tables or booth space as part of the radio rally taking place on Sunday April 30th.

Contact information and further details are available on www.irts.ie as well as the dedicated website for the event at <https://www.sbrc.ie/agmweekend>

Club Nets

Shannon Basin Radio Club's SSB nets recommence in January. The topband 160m net is on Monday nights on 1.847MHz. The 80m net on Thursday evenings on 3.775MHz. The start time may change to the earlier time of 8pm due to propagation conditions monitored over the past several weeks. Interested operators are advised to monitor the club's social media channels for updated information about any time change.

EI2SBC SSB NETS

160M NET MONDAY 9PM
1.847MHZ ± QRM

80M NET THURSDAY 9PM
3.775MHZ ± QRM

SHANNON BASIN RADIO CLUB

ALL welcome!

DX, LOCAL, PORTABLE, MOBILE, NEWLY LICENSED

Radio Club's News



Welcome To EI3CC

What ever your interest in radio is then maybe we can help you.
Our aim is operating stations outdoors and getting involved with as many groups as possible. Scouting, youth clubs etc are all welcome. So come join us and enjoy the world of
Collective Communication



**2M REPEATER
EI2SBR**

**OUTPUT: 145.775MHZ
INPUT: 145.175MHZ
CTCSS TONE: 77HZ**



INTERNATIONAL EMERGENCY COMMUNICATIONS
REGISTRY OF OPERATORS (IECRO)

VOLUNTEERS NEEDED!



For just 15 Euro Membership you can get an individual AXA Public Liability Insurance Cover of €9,000,000. This is applicable to all Member states of the EU. Why not affiliate your club also and obtain cover for all club events. This organisation does not require you to declare your membership for their DATABASE!

Interested in joining us?

We are always looking for new members and volunteers. For more information about IECRO please visit our website...

WWW.IECRO.COM

AREAS OF INTEREST:

- Aeronautical
- Civic Planning
- Defence Forces
- Telecommunications and Infrastructure/Utilities
- Technology Development
- Search and Rescue

An Cogar
the whisper

<https://www.facebook.com/groups/4129048310546031>

WESCOM RADIO SHOP

<https://wescom.ie/>

MFJ

Luca Clary
MFJ's brands Ambassador for Europe & Italy

+39 327 23 911 40

ambassadorsult@mfjenterprises.com

www.mfjenterprises.com
The world leaders in Ham Radio Accessories!

IRISH RADIO TRANSMITTERS SOCIETY'S 90TH AGM WEEKEND



SAT 29TH & SUN 30TH
APRIL 2023



SHEARWATER HOTEL
BALLINASLOE
CO. GALWAY H53 F5P9

**GALA DINNER
TICKETS**

On sale now!

€35
each

HOSTED BY SHANNON BASIN RADIO CLUB

WWW.IRTS.IE

WWW.SBRC.IE/AGMWEEKEND

Northern Ireland Radio Club Meetings

The Strangford High Frequency Enthusiasts Group is accepting UK-wide enrolments for the next UK Full licence training programme. They also use Google Meets on Monday evenings. It is completely free, email GI0VKP@gmail.com for details or see the QRZ.com entry for GI0VKP.

On Tuesdays Carrickfergus Amateur Radio Group meets in the Elim church, North Road, Carrickfergus from 7pm. All visitors are welcome. Info from gi0usx@yahoo.co.uk

Bushvalley Amateur Radio Club has a club net on Tuesdays at 8.30pm on 145.300MHz. On Thursday, the club meets at The United Services Club, Roemill Road, Limavady. Contact Jason, MI3UIW, via email to Bushvalleyarc@gmail.com

West Tyrone ARC holds regular monthly meetings on 2nd Wednesday each month at 19:30 in Strathroy Community Centre, Omagh, BT79 7XE. Contact: info@wtarc.org.uk for more information

Lough Erne Amateur Radio Club normally meets at 7:30pm on the first Monday of each month at the Share Centre, Lisnaskea. More information from: <https://lougherneradioclub.co.uk/>

160M SSB NET
MONDAY 9PM
1.847MHZ ± QRM
CALLING AS EI2SBC

SHANNON BASIN RADIO CLUB
 All welcome!
 DX, LOCAL, PORTABLE, MOBILE, NEWLY-LICENCED

Drop by our Online SolderSmoke Store



<https://>

www.cafepress.com/soldersmoke

80M SSB NET
THURSDAY 9PM
3.775MHZ ± QRM
CALLING AS EI2SBC

SHANNON BASIN RADIO CLUB
 All welcome!
 DX, LOCAL, PORTABLE, MOBILE, NEWLY-LICENCED

DV SCOTLAND PHOENIX WEEKLY NETS



MONDAY NIGHT NET
8PM TILL 9.30PM UK

SATURDAY NIGHT
COAST TO COAST NET
9PM TILL 10PM

STATIC ON TG 23555 & 23556

HAMSHACK HOTLINE : 94110
HAMS OVER IP : 25001



SolderSmoke
 Global Adventures in Wireless Electronics

Bill Meara

NEW AWARDS

by the the National Radio Society of Ireland

A wide selection of awards are available...

For more information contact the awards manager by email awards@nrsi.ie

CAUS
Confirm All American States

Sample Award

NRSI
National Radio Society of Ireland
First Class Certificate Awards

National Radio Society of Ireland

THIS CERTIFIES THAT
John Brown
contacted **50** American States

For Sale - Antenna Tilt Plates

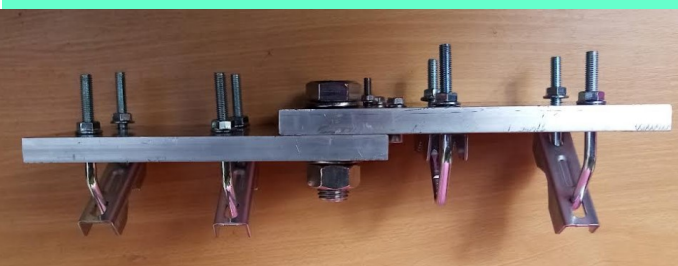


Antenna tilt plates for sale 160 Euro shipped via DPD within EI suitable for Hex, Cobweb and Yagi antennas that are on a tilt mast to make maintenance and repair easier. Overall 30mm thick aluminium plate design, each side of the plate being 15mm. With 30mm on its overlap with stainless steel pivot and nyloc nut hardware for added flexibility. With a set of dual heavy duty V clamps on the upper and

lower plate allow for universal mounting onto a variety of masts and antenna stub masts which can accommodate mast and stub poles up to 50mm in diameter which are then secured into the V clamps by its clamp and Jaw hardware.

These are new and are handmade and never been used.

Contact: Charlie Carolan
087 6265418
or
charlie.carolan@gmail.com



RSGB Radio News Services From GI

10:00 3640KHz LSB Dungiven

12:00 TG2354 Time Slot 2 BM Network

19:30 TG 880 Time Slot 2 Phoenix Network

Shannon Basin's Automated Stations

Sliabh Bán Repeater O/P: 145.775 ,I/P :145.175, CTCSS 77Hz

Roscommon Multimode Digital Gateway EI2BED 144.8625 MHz

Current Systems Active in Galway

70cm DMR Repeaters

EI7RHD	I/P 430.450	O/P 439.450	CC1
EI7LRD	I/P 430.475	O/P 439.475	CC1
EI7AKR	I/P 438.425	O/P 430.825	CC1
EJ7IBD	I/P 430.500	O/P 439.500	CC1

Yaesu Fusion Repeater

EI2KMR I/P 145.025 O/P 145.625 Wires -X

Gateways

EI2SHD	144.8125	Wires-X Gateway
EI2GCD	145.850	P25 Gateway
EI4GCG	70.425	ALLSTAR node

What is Waiting in the Wings?

1 x 70cm D-Star Repeater

1 x 70cm DMR Repeater completing the network to the South East.

Radio Society of Great Britain
Advancing amateur radio since 1913

ARE YOU A MEMBER OF THE RSGB YET?

ARE YOU MISSING THE BEST AMATEUR RADIO MAGAZINE EVERY MONTH?

RadCom RadCom RadCom

www.rsgb.org



Visit the WESCOM Radio Shop
<https://wescom.ie/>

SolderSmoke Daily News

Serving the worldwide community of radio-electronic homebrewers.
<http://soldersmoke.blogspot.com/>
Providing blog support to the Solder Smoke podcast: <http://soldersmoke.com>



UK Six Metre Group
Dedicated to promoting 50MHz activity around the world



An Amateur Radio publication for the Microwave Enthusiast

scatterpoint

Published by the UK Microwave Group



ARRL
The National Association for
Amateur Radio®
<http://www.arrl.org/>



<https://www.eurao.org/en/welcome>

Dates for the Diary

- WRTC 2023 Award - 1st January - 31st January
- NRSI AGM Sunday the 19th of February
- Guides Thinking Day On The Air - 22nd February
- 16 - 18th March St Patrick's Day Awards Activity
- RSGB 2023 AGM - 15th April 2023
- International Marconi Day - Saturday 23rd April 2023

RSGB



The Radio Society of Great Britain (RSGB) is the national membership organisation of amateur radio enthusiasts. The society was founded in 1913 and incorporated in 1926. The Society is dedicated to the development of the science and practice of amateur radio. It works to increase awareness and understanding of amateur radio and to make the hobby accessible to everyone. Amateur radio licences were issued to the first UK radio amateurs in 1934. The RSGB represents the interests of UK licensed radio amateurs and is a not-for-profit organization that:

- Promotes the general advancement of the science and practice of radio communication or other relevant subjects.
- Facilitates the exchange of information and ideas on these subjects among its members.

The RSGB aims to obtain the maximum liberty of action consistent with safeguarding the interests of all concerned. RSGB membership is open to all who have an interest in radio communications. The national governing body (The Board) is elected nationally. The regional governing body (The Regional Council) is elected on a regional basis. The day-to-day management of the society is under the control of a small team of full-time employees who are based at the society's head office in Bedford. *RSGB Membership is just £59.00 and this includes 12 monthly technical magazines.* Affiliate your club and get the opportunity for all members to log in and read the online publication of RADCOM, RADCOM Basics and RADCOM Plus as well as receiving a hard copy of the Magazine for the Club. Apply here: <https://rsgb.org/main/join-us/join-the-rsgb/>

Why join NRSI?

WE MAY BE A NEW SOCIETY, ONLY ESTABLISHED IN 2020, HOWEVER ALREADY WE OFFER SOME AMAZING SERVICES

We want everyone to be able to ENJOY their Hobby...

Watch out for our many exciting events planned during 2022, you will not regret getting involved...

NRSI aims to be friendly and supportive towards all fellow radio enthusiasts

NRSI encourages an open forum method of management - We aim to allow our members to have their voices heard and respected in a fair transparent process



Let's work together for a brighter future



AMSAT Ireland

Promoting Space-Based Operations in Ireland
www.amsat.ie

WESCOM RADIO SHOP

<https://wescom.ie/>

AVIONIC – EXPERIMENTER / AMATEUR – MARINE RADIO



Full Range of ICOM Experimental/Amateur Radio Equipment



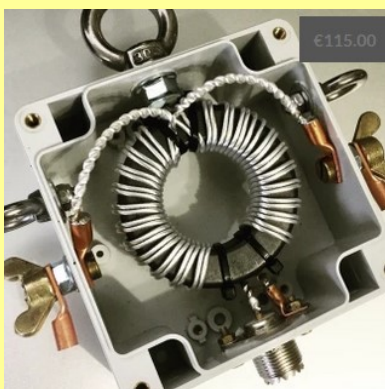
Tennadyne World Class Antenna systems



Spid Rotators



ACOM Linear Amplifiers



Baluns and UNUNs to suit all applications



ICOM Marine Radio



Spiderbeam, Poles and Accessories

Check out our Clearance Section on the Website

Contact Us
00 353 (0)87 2552578
wescomradio@gmail.com
Deerpark, Oranmore,
Co. Galway, H91 X2YH