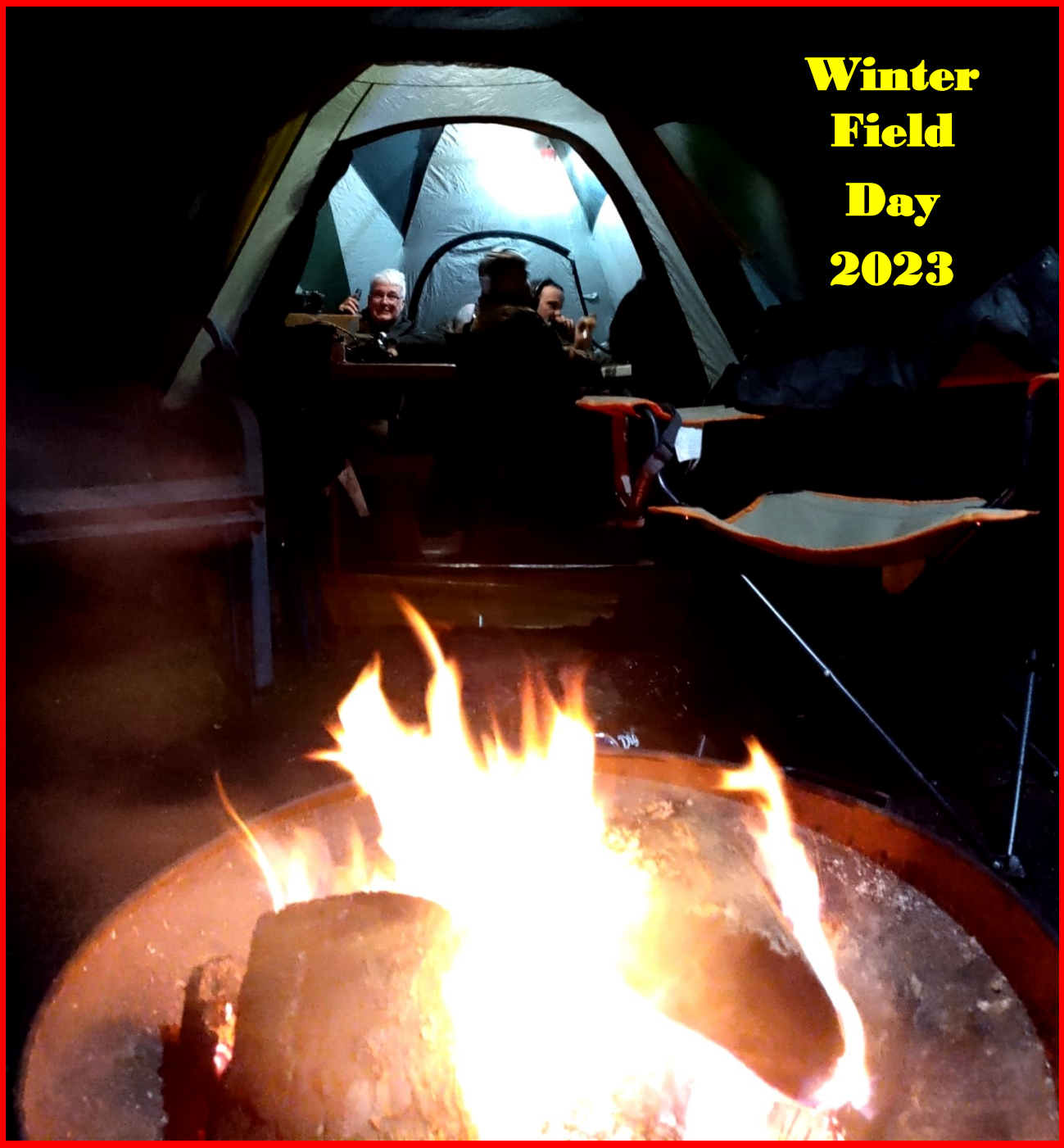
Connacht Regional News

Servientes Traditiones et Spiritus Experimentalis Radio

Editor: *Steve Wright EI5DD* *wright14@gmail.com* Vol. 2 Issue 03 March 2023



In This Issue

Welcome to the thirteenth Edition of the Connacht Regional News Magazine

The Connacht Regional News Magazine has evolved to its current format over the last year.

We are the only freelance Experimental Radio journal in Ireland. As we are not tied to any National Society or club, we can reamain inclusive and unbiased in our content. We can report all activities both North and South of the Border and are delighted to provide a platform to publicise activities or events from all Radio Clubs.

We are fortunate that there are seven radio clubs in Connacht, all of which are very active as can be seen in the club's section of this Magazine.

We repeat forthcoming events in our News Section right up to their date of operation. In this way we hope to encourage as many groups or club to take part.

We promote >>ALL<< radio activities, Special Events and Rallies. If you have anything planned do feel free to send us the deatials and we will promote it for you.

We welcome any articles submitted for publication and encourage those who have never written for a magazine before to give it a go.

We publish Home-Brew Projects, Technical Articles, Hints for the Shack, QRP Activities, Current technology and so much more.

Due to the overwhelming success and readership of the Connacht Regional Newsl Magazine now going viral we produce a MONTHLY magazine published on the !st day of every month.

We welcome Feedback
If you enjoyed this publication please email
Steve EI5DD
wright14@gmail.com

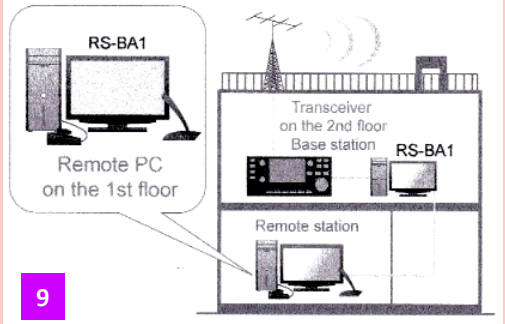
Contents

March 2023

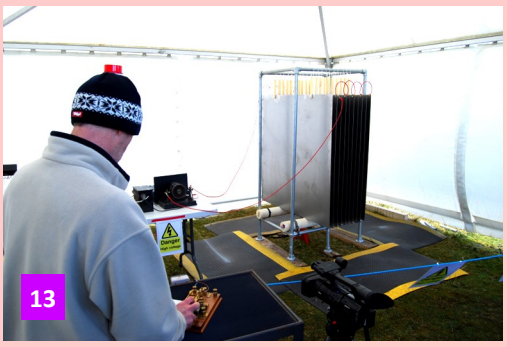
Submitting Items To This Magazine

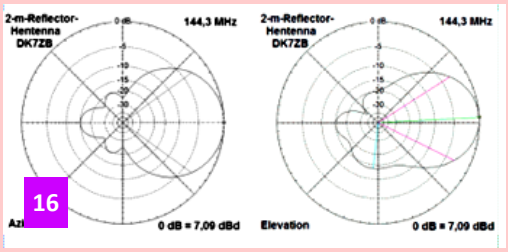
We are always delighted to receive any radio related material for this magazine.

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

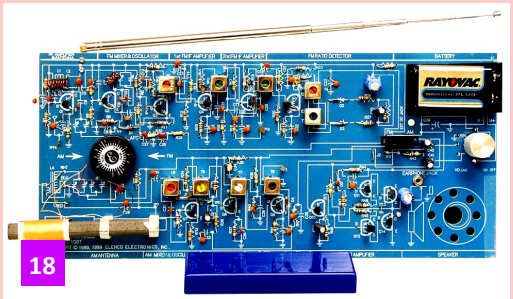


9

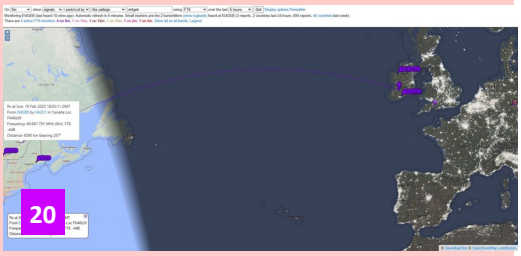

13



16



18

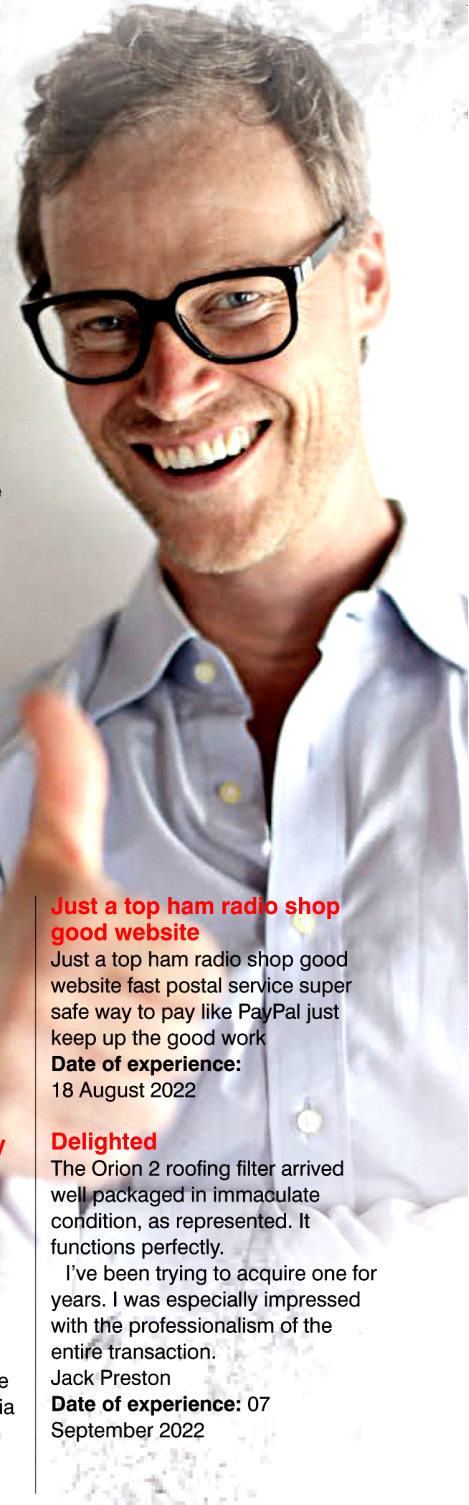

20

Cover Image

East Leinster Radio Club operating from Collon, Co. Westmeath during the Winter Field Day event 2023

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.

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Opening Hours: Mon - Fri: 8.30am to 5pm. Sat: 9am to 4.30pm.
International Tel: +44 1932 567 333

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Every week there's something new. One simple URL
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News and Forthcoming Events Planning 2023

St Patrick's Day Activity and Awards

Many people worldwide, annually celebrate St Patrick's Day by going green, with many amateurs running Special Event stations as part of the festivities. This year's event will take place from the **16th – 18th of March 2023**.

St Patrick's Day is a celebration of a legendary Irish saint and a national holiday that is about fun and celebration. We encourage you to get on the air with friends and family through this fun event, to show and enjoy all the benefits of amateur radio.

Anyone can participate, whether in Ireland or overseas, licensed Experimenters/Amateurs or shortwave listers. In the course of operating you might like to pass your details such as county, WAI or WAB square.

If you wish to become a registered St Patricks Day Station apply at this location and fill in the details in the online application form here https://www.stpatricksaward.com/register-a-station

There are several categories:

1) SPS Station award for the participating registered St Patricks day Station
2) Fixed Portable Station Award for making a minimum of 10 contacts with registered stations
3) Digital Station Award for contacting a minimum of 20 SPD registered stations
4) Mobile Station Award for making a minimum of 5 contacts with registered SPD stations
5) Short Wave Listener Award for logging 2 way contacts between a minimum of 10 SPD Stations

Full details of the event and awards may be found at https://www.stpatricksaward.com/

British Amateur Radio Teledata Group

Welcome to BARTG, the British Amateur Radio Teledata Group**.** BARTG was founded in 1959 with the aim of promoting the use of teleprinters (RTTY) within amateur radio. Amateur radio has changed a lot since 1959. RTTY is now only one mode (albeit a distinguished and prominent one) in the gamut of datacoms modes in use in amateur radio.

BARTG's main activities these days are its contests, its awards and sponsorship of DX-peditions that meet its sponsorship criteria.

All data modes are encouraged, but the main ones in use are RTTY and PSK. The JT modes have become extremely popular in the last couple of years too, especially FT8.

BARTG run four contests per annum. The Sprint is a 24 hour period test and the HF is the major 48 hour event of the year which is run from the 18th – 20th of March 2023 .

There is one four-hour 75 Baud contest, held in April. The final contest is a four-hour Sprint PSK63 that is held in September. Our Contest Manager is Ian G0FCT.

BARTG run an awards scheme open to both licenced operators and shortwave listeners.

More Info from: https://bartg.org.uk/wp/

World Amateur Radio Day - April 18th 2023

Every April 18th, radio amateurs worldwide take to the airwaves in celebration of World Amateur Radio Day. It was on this day in 1925 that the International Amateur Radio Union was formed in Paris.

Amateur Radio experimenters were the first to discover that the short wave spectrum, far from being a wasteland, could support worldwide propagation. In the rush to use these shorter wavelengths, Amateur Radio was "in grave danger of being pushed aside," the IARU's history has noted. Amateur Radio pioneers met in Paris in 1925 and created the IARU to support Amateur Radio worldwide.

Two years later, at the International Radiotelegraph Conference, Amateur Radio gained the allocations still recognized today — 160, 80, 40, 20, and 10 meters. Since its founding, the IARU has worked tirelessly to defend and expand the frequency allocations for Amateur Radio.

Thanks to the support of enlightened administrations in every part of the globe, radio amateurs are now able to experiment and communicate in frequency bands strategically located throughout the radio spectrum. From the 25 countries that formed the IARU in 1925, the IARU has grown to include 160 member-societies in three regions. IARU Region 1 includes Europe, Africa, the Middle East, and Northern Asia. Region 2 covers the Americas, and Region 3 is comprised of Australia, New Zealand, the Pacific island nations, and most of Asia.

The International Telecommunication Union (ITU) has recognized the IARU as representing the interests of Amateur Radio.Today, Amateur Radio is more popular than ever, with more than 3,000,000 licensed operators! More information at https://www.iaru.org/on-the-air/world-amateur-radio-day/

News and Forthcoming Events Planning 2023

International Marconi Day April 22nd 2023

IMD is a 24-hour amateur radio event that is held annually to celebrate the birth of Marconi on the 25th of April 1874. The event is usually held on the Saturday closest to Marconi's birthday and in 2023 it will be held on 22nd April. On this occasion the period of operartion will be from **00:00 – 23:59 UTC on the 22nd of April**

The purpose of the day is for amateur radio enthusiasts from around the world to contact **Historic Marconi Sites** using communication techniques similar to those used by Marconi himself.

To become a registered Marconi Station, you must operate from a site which has a connection with Guglielmo Marconi himself. This must be a location somewhere Guglielmo Marconi has personally operated from, lived or set up experimental stations.

To register your station please email crac.imd@gmail.com All official stations must be registered by midnight on April the 21st and no later.

There are two categories for contacting Registered Marconi Stations.

TRANSMITTING AMATEUR

To establish direct two-way communication with 15 different official Award Stations, mixed modes are permitted in the log (mixed modes CW, voice, data)

SHORTWAVE LISTENERS

To log two-way communications made by 15 different official Award Stations, mixed modes are permitted in the log (mixed modes CW, voice, data)
Please note the following:
Only one radio contact with each IMD Special Event Station (Official Participating Station) will count towards the Award.

The Award is NOT cumulative, ie contacts made in previous or subsequent years with an IMD station WILL NOT count towards the Award. The required number of Award Stations must be worked during the SAME 24 hour period.

Qualifying Bands

All bands now allowed HF, VHF & UHF

Modes Permitted

CW, SSB, FM, AM and available Data Modes i.e RTTY, PSK, JT, SSTV, FT

More information about the award and how to claim it from http://gx4crc.com/imd-award/

SOS Radio Week is one month of fun, operating, an opportunity for amateur radio to celebrate the work of the Royal National Lifeboat Institution and to raise much needed awareness and funds for them. Any licensed Amateur Radio operator, or Amateur Radio club, based within the United Kingdom, Ireland, Guernsey, Jersey and the Isle of Man can register to run an official SOS Radio Week station. All you need to do is let us know what callsign you will be using during the event, together with your location, and you will become an official Registered SOS Radio Week Station, promoting the work of the RNLI and NCI throughout the event.
SOS Radio Week takes place during the month of May every year to coincide with the (RNLI's) own Mayday fund -raising event. It starts at **00:00 on the 1st May and ends at 23:59 on the 31st May 2023**. Basically you can elect to operate your station any time withing the month of May
Registered SOS will be on the air at various times during the event.will be on the air at various times during the event. There is always a large number of stations on the air supporting this event and a list of these may be found at https://www.sosradioweek.org.uk/registered-stations/sos-radio-week-stations/ it is possible to register your station at https://www.sosradioweek.org.uk/about/sos-radio-week-registration/ basically it remains to promote your part in the event and where possible raise funds for the lifeboat organisation.

News and Forthcoming Events Planning 2023

In June 2023 a team will land on Rockall Island, more than 200 nautical miles from the West Coast of Scotland, and the nearest civilisation. Their intention is to survive on the tiny island for one week battling winds and waves in order to raise £50,000 for charity.

The expedition team is made up of a number of highly experienced radio operators who will be running 24×7 transmissions on SSB CW and FT8 for 1 week, with two radios transmitting simultaneously. More details will be posted here soon! Rockall is an uninhabitable granite islet situated in the North Atlantic Ocean. The nearest permanently inhabited place is North Uist, an island in the Outer Hebrides of Scotland, 200NM to the east.

The UK claimed Rockall on the 18th of September 1955 when "Two Royal Marines and a civilian naturalist, led by Royal Navy officer Lieutenant Commander Desmond Scott, raised a Union flag on the islet and cemented a plaque into the rock".

Rockall stands at 17.15m above sea level at it's tallest point, covering an area of just 784.3 m^2 it is ;located at 57° 35'28.79" N 13°41'11.39" W. more information from: https://www.rockallexped.com/

British Railways Amateur Radio Society

During 2023, the British Railways Amateur Radio Society will be marking 55years since the withdrawal of steam from British Railways in 1968. Special Event Callsigns GB0LMR and the Club call GX4LMR will be active throughout the year operated by Mark G1PIE active from Preston. QSLs via the Bureau, eQSL, or direct to Pam, 2E1HQY enclosing a SAE. More information from https://www.qrz.com/

RSGB News Services

For your weekly fix of GB2RS, from 80m to DMR. Full schedule available from rsgb.org.uk/gb2rsschedule.

09:30 145.5250 FM
10:00 3.6400 LSB
12:00 DMR BM TG2354
19:30 DMR Phoenix TG880

GB2AA Active for Worldwide Autism Awareness Week

John, M0HEM will be using the Special Event callsign ***GB2AA from 25th of March to the 2nd of April*** during the World Autism Awareness Week. John had nominated 2E0HPI for outstanding performance in Parks on the air activities and Jim W2TM contacted John asking whether he would consider taking part. Go to https://www.qrz.com/db/W2A for more details and at the bottom of the page, you will find a list of operators taking part.

Check out https://www.qrz.com/db/M0HEM for more information about John. John has dedicated many hours to operating special event callsigns for the Helicopter Emergency Services

International Museums on the Air Weekends 2023

International Museums Weekend

Museums on the Air takes place over the weekends of the 17th – 18th and 24th - 25th of JuneThe intention of the event is to set up amateur radio special event stations at as many of the museums as possible throughout the whole of the world on HF, VHF and, if at all possible, a Ui-View (APRS) packet station to be set up at each museum site, but the scope of your station is entirely up to you. The choice of museum is also left very much up to you, however, aim for the largest and/or most unusual site you can find.

The museums taking part over the years have included ships, castles, air museums, Napoleonic forts, pumping stations, wireless museums, racing museums and many others. For the purposes of the event, the word 'museum' is loosely interpreted. There really is no shortage of venues in which such an event can be staged, no matter where in the world you might live.

The event has proven itself to be extremely popular and well supported special event particularly amongst the UK radio amateur population. It also went down very well at the museums which were used as the venues for the event, and invitations have again been extended for the coming June. It has shown itself to be a tremendous public relations exercise, as well as all of us having lots of fun over the IMW weekends.

At least part of the intention for this event, is to present modern amateur radio to members of the public and to help us loose some of the stuffy anorak image. What better place to do this than in the very public and well visited areas of the many museums which can be found in most parts of the world?

Those clubs and museums which do decide to take part, should please use the free on-site 'Registration' facility. The 'Registration' is simply to assist us in administration of the event and provide those taking part with an indication of how many and exactly where the museums taking part are located. We also send out a participation award to all stations that register. More information and registration details at https://www.radio-amateur-events.org/IMW/index.htm

News and Forthcoming Events Planning 2023

HAM RADIO serves as a platform where radio enthusiasts can get together and exchange information and experience.

As one of the largest amateur radio exhibitions in the world, alongside the Hamvention Dayton/Ohio, USA and the Ham Fair in Tokyo/Japan, HAM RADIO attracts exhibitors and visitors from more than 52 countries all round the world to Friedrichshafen.

A special feature of HAM is the combination of commercial exhibitors, worldwide networked associations and Europe's largest radio flea market with over 300 participants from 16 countries.

International Lighthouse/Lightship Weekend

The ILLW weekend takes place over the weekend of August commencing from **00:00 19th to 23:59 on the 20th of August 2023**. August seems to have become the international weekend for lighthouses. Countries all over the world have become involved in one for or another of lighthouse activity. Some years ago the United States Congress declared August 7th as their National Lighthouse Day and during that first week in August amateur radio operators in America set up portable stations at lighthouses and endeavour to make contact with each other. This event is known as the US National Lighthouse Week.

In Britain the Association of Lighthouse Keepers, ALK, conducts International Lighthouse Heritage Weekend on the same weekend as the ILLW in August. Their objective is to encourage Lighthouse managers, keepers and owners to open their lighthouse or light station and related visitors' centres to the public with a view to raising the profile of lighthouses, lightvessels and other navigational aids, and preserving our maritime heritage.

The ILLW usually takes place on the 3rd full weekend in August each year and attracts over 500 lighthouse entries located in over 40 countries. It is one of the most popular international amateur radio events in existence probably because there are very few rules and it is not the usual contest type event.

RSGB AGM

The RSGB's 96th AGM will take place on Saturday, 15 April 2023.

Full details of the AGM, the voting process and the calling notice will appear in the April 2023 issue of *RadCom*.

In the coming weeks, the Society will publish details of the roles that will form part of the elections, and how you can get involved.

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 WI1IDP, 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

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

We Have a Facebook Page

The Connacht Regional News Magazine

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

News and Forthcoming Events Planning 2023

OR100RCBE Commemorative station

Commemorative station celebrating the 100th anniversary of the "**R**adio **C**lub **B**elge de l'**E**st" created in Verviers in 1922. Almost certainly the first amateur radio club in Belgium.

The club Was formed with 10 members during a meeting held on Sunday March 26th, 1922 on the second floor of the café de l'émulation, at number 5 place des martyrs in Verviers by Mr. Laurent Henrotay (B4QS) who became the president as well as by Mr. R. Niederprun the treasurer. Other well-known members who were very active in radio broadcasting were André Courtois (B4YZ) the vice-president and René Pirotte (B4RS) the secretary. Other people were soon added, for example Léon Sneepers (B4AS) and René Toussaint (B4US). The inaugural meeting of the R.C.B.E. radio club took place on 9th August 1922. The premises were located on the 2nd floor of the house known as "de la Mutuelle", a house situated in the Rue Tranchée at number 50 (now rue Pelzer de Clermont).

The callsign **OR100RCBE** will only be active from **March 1st to December 31st 2022**.

FOC - First Class CW Operator's QSO Party

The FOC QSO party is scheduled twice a year. Many members have reported this as their favourite operating event. The idea behind the FOCQP is to offer a stress-free opportunity for members to meet and greet both other members and non-members. The basic concept is to work as many stations as possible in 24 hours. All contacts made during FOCQPs count towards the FOC awards, The exchange is RST, Name, and FOC number, Non-members just send RST and Name. the 2023 FOCQP dates are the 25th of March and the 9th of September 2023

The Fate of Amateur Radio Balloon Experiements

Questions are being raised about the whereabouts of an amateur radio balloon with the callsign K9YO-15 launched last October by a group known as the Northern Illinois Bottlecap Balloon Brigade.

Unconfirmed reports say the 32-inch sphere carrying a 10-gram payload may be the same one that was shot down over the Canadian Yukon. Lightweight and relatively inexpensive to build, its payload, with a solar panel package and a tracker in the middle, transmitted APRS telemetry on HF at very low power.

Cary Willis, KD9ITO, a member of the group, said the balloon has been declared missing in action and is considered lost. According to a post on the website RTL-SDR.COM, a memo from the US Pentagon said an object was shot down over Canada that appeared to be a "small metallic balloon with a tethered payload." The description closely fits that of K9YO-15. This Balloon has circled the earth six times prior to its demise.

Auroras across the USA and Europe

The Earth's magnetic files was reverberating from the impact of a CME on the 26th of February. Its Arrival brought a gust of solar wind blowing faster than 800km/s which was the highest value in years. It Triggered a strong G3 Class geomagnetic storm triggering multiple episodes of storming in northern Europe and north America. Further G3-class geomagnetic storms were predicted for the 27th and 28th of February.

Subscription to Spaceweather Alerts are available by subscription from https://www.spaceweatheralerts.com/ where instantaneous notifications via SMS text and Email Messages regarding strong solar flares, CMEs bearing down on Earth, Geomagnetic Storms and more.

Lough Erne Rally

7th May

Share Centre
Lisnaskea Co. Fermanagh
BT92 0EQ

Doors Open 11:30 am
Entry £5.00 or €5.00

Free tables for trade, Special Interest, Shack Clearance etc.

RSGB Sales Stall

Bar, Food Café, Cooked Lunch
Free Parking

Book tables via
argault91@gmail.com

GNØLEC

RSGB Presidential Election - Unopposed Nomination
John McCullagh MBE, GI4BWM

It is with great pleasure that we report that John McCullagh MBE, GI4BWM was nominated, unopposed and elected for a two year term of office.

John was licenced as GI4BWM in 1973. He is continuously active on the VHF and UHF bands and has been involved with the repeater scene in the late 1970s when he constructed the first repeater in northern Ireland.

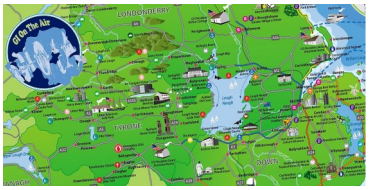
He Was appointed Chairman of he RSGB Repeater Management Committee (latterly the ETCC), he served for 12 years until 2017. He was subsequently co-opted to the RSGB Board in October 2022. John was a communications professional in the Emergency Services in Northern Ireland. He retired after almost 40 years as chief engineer to the service and then worked overseas as an independent communications consultant.

John has been a member of the RSGB for many years and served at committee chair level for 12 years, giving him the opportunity to meet many fellow Amateurs and learn of their problems and aspirations. More recently he was co-opted to the Board, giving him further insight into the structure and organisation of the RSGB. Whilst amateur radio is at a crossroads, he believes that three is a necessity for a strong and vibrant Society with good leadership to take us forward.

RSGB Region 8 Representative - Unopposed Nomination
Micheal Na bPiob MI0HOZ / EI2IE

We are delighted to announce the election of Micheal Na bPiob, MIOHOZ to the position of RSGB Region 8 Regional Representative.

Michael was first licenced in 1994 in Dublin as EI2IE. He took a break to run a computer shop for a few years and then became MI0HOZ when he returned to the Hobby. Michael has been an active member of West Tyrone Amateur Radio Club until the pandemic. As things returned to normal he became secretary of the North West Group Amateur Radio Club. Michael is a keen and prolific CW operator, RAYNET Member, DMR News Reader and a prolific writer for the Connacht Regional Newsletter and has written an article for the G-QRP Club Magazine SPRAT. Micheal plans to visit every club in Region 8 and encourage more to join the RSGB.



RSGB Special Interest Group Manager
Philip Hosey MI0MSO

Philip Hosey, MI0MSO continues his appointment as the RSGB's Special Interest Group Manager. The primary role of the Honorary Officer for Affiliated National Societies and Special Interest Groups is to champion their interests and to develop a closer relationship between them and the RSGB, and the amateurs they represent.

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://loughterneradioclub.co.uk/

The Mid Ulster Amateur Radio Club (MUARC) has been active since 1965, our Club call sign is **MN0VFW.** Please take time to look through our website, where you will find information on our club, activities, events and members as well as a great gallery full of images of our latest activities. Our Club currently meets on the **second Sunday** of each month at Tandragee Golf Club.
For those of you who have been following along our videos from the clubs Tuesday Night Lecture Series it has not got a lot easier. You can go to www.youtube.com/muarcmedia and that will bring you to our YoutTube channel with all our previous lecture videos and much more content in the pipeline.
More Information from: muarc.secretary@yahoo.co.uk

Remoting An ICOM Station

To operate almost any ICOM radio manufactured in the last 10 years is relatively straight forward but any radio being operated in this manner and not equipped with its own internal server. It needs the help from an associated PC; we use the Intel NUC range in the cases (black box).

Those equipped with a server are a far easier and more economical solution as no associated PC is required at the radio location.

The ICOM RS-BA I System is the ideal companion software and the associated RC-28 VFO module is desirable though not strictly necessary.

In the simplest remote operation over the LAN in your own house-office etc, you can easily remove the radio at its location so long as you have an ethernet connection between the PC and the Radio.

The radios used at the EI0MRG station are the IC-7610,s and we use these in the example. All the connecting information is contained in the Advanced Manual for the RS-BA1 V2 software.

It is easier to use the PC control over the LAN than to use the radio directly as the menus open out more easily and multi-function buttons are not an issue, so it is incredibly easy to learn and operate the radio very quickly & intuitively.

On a cold winter's day, there is no need to keep the radio station area above a reasonable temperature as you do not need to be present at the radio position itself. In the Maritime Mobile situation, the same applies, the radio can be mounted conveniently to the ATU-Antenna-Power source and operate for the other end of the ship.

Think of the LAN cable as an extended, by cable, multifunction remote microphone.

Consider RF may get into the LAN and take the usual steps to avoid this occurrence.

Good grounding is absolutely essential, especially if there is to be an associated Linear Amplifier. Amplifiers can also be used remotely. In our case, we use the ACOM 1200S-2020S & 2000A all readily remoted. The ACOM 700S can also be used like this.

The system can be operated as follows:

A. Via Cable

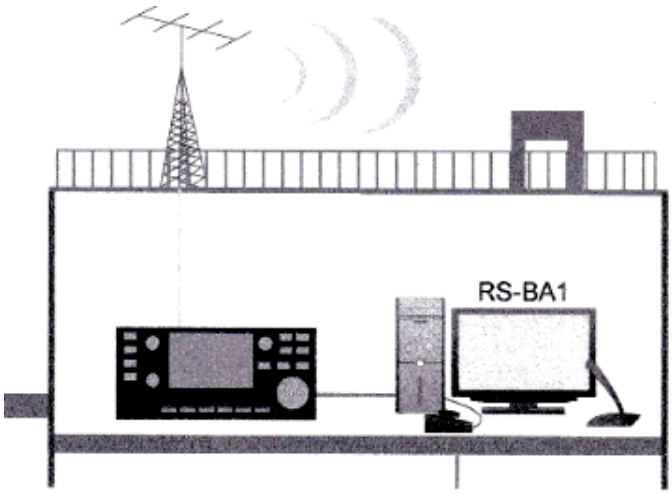
B. Via LAN

C. Via Internet

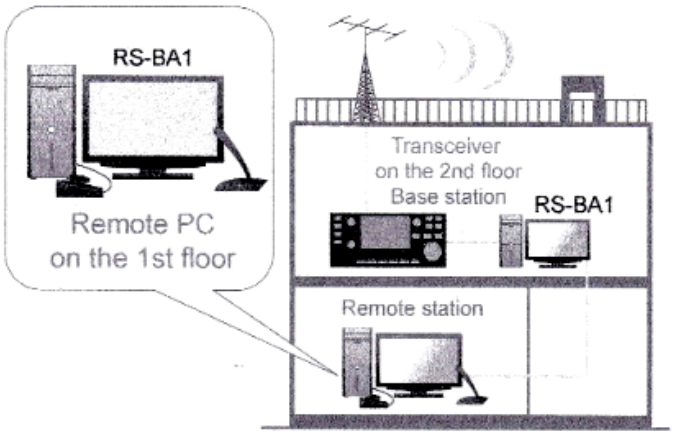
See the diagrams in the adjacent column.

Consult the Advanced Manual to carry out the configuration desired.

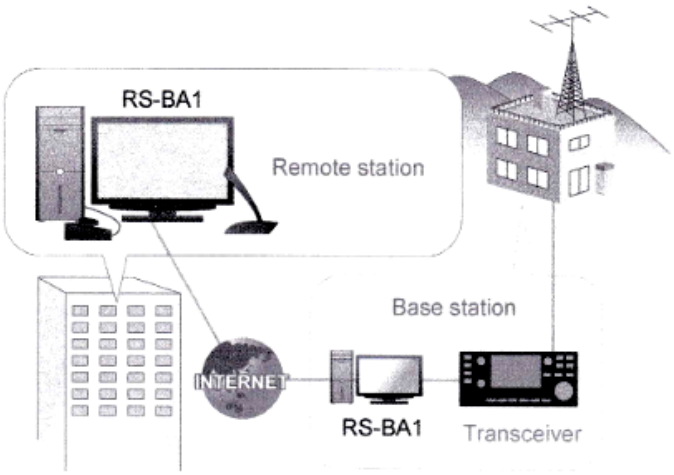
Remote Connection Using the RS-BA1 Software



Connection by Cable



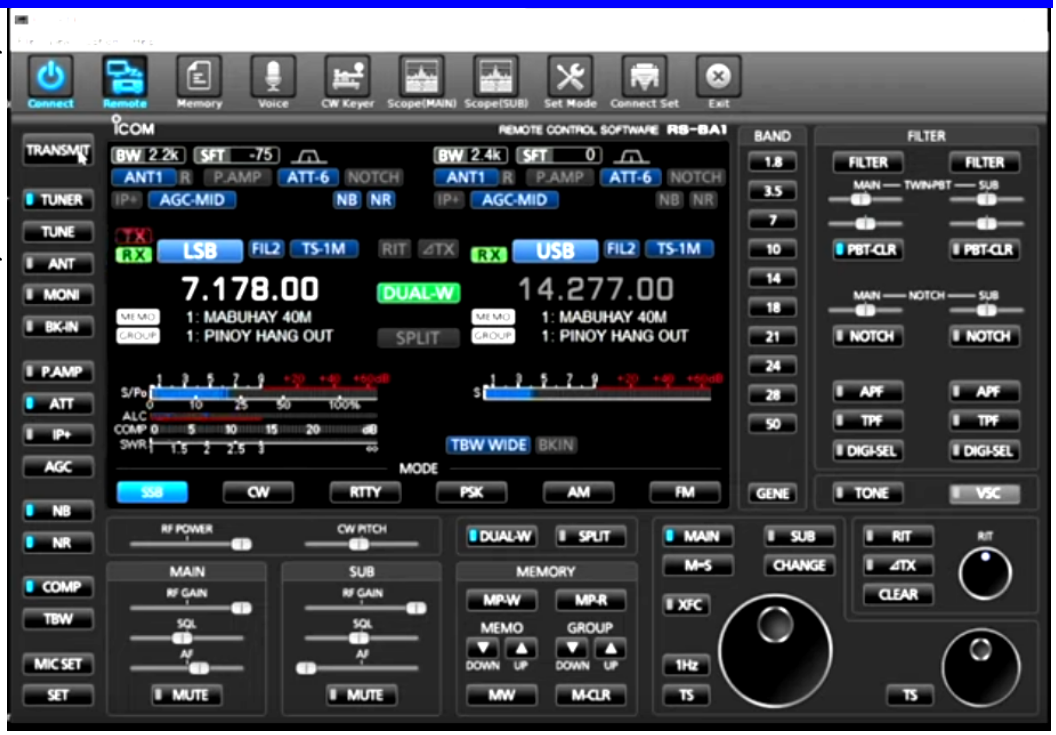
Connection by LAN



Connection by Internet

Remoting An ICOM Station

For Internet Connection a VPN or knowledge of accessing your router from say your office or remote location is required-much info is supplied in the Advanced manual & also you will need to consult the manual of your router, of course, you could call in the services of your friendly I T Guy and let him/her/ they help you on this one.



Laptop display of remotely controlled radio

Operation

Very straightforward -first the radio is always ON but goes into SLEEP mode when shut down minimizing any current consumption. Similarly, the Linear Amplifiers also shut down to sleep mode in the case of the 700, 1200 and the 2020S and the A2000 goes to standby with valved no longer heating; this in the case a longer warm-up time.

Volume controls are set remotely as needed. The controls on the physical radio can be at a minimum as the remote will override the settings.

Frequency changing is via the RC-28 or mouse.

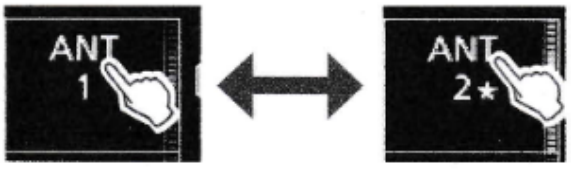
Band Switching is automatic and the Linear follows the Transceiver either, via RF sniff, or via CIV control. We use CIV.

Power levels are adjusted and the linear power out, if enabled, is displayed on your PC screen.

All controls as receiver gain and audio gain are adjustable RX/TX and all filtering dual watch etc.

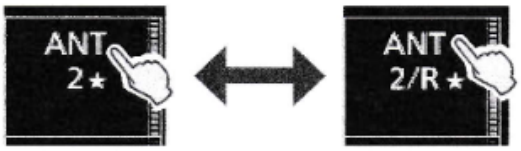
One item not remoted is Antenna No 1 or No 2 as a safety measure. However, should you wish, as we do, to use a different receiving antenna to the TX antenna this is accomplished via the settings in the IC-7610 which can be configured in advance as follows:

1. Select Main Band or Sub Band
2. Select operating band
3. Touch [ANT] in the multifunction key Group to set to ANT1 or ANT2



While ANT1 is selected, Touch [ANT] for 1 second to set the antenna that is connected to ANT1 for transmitting, and the antenna connected to [RX-ANT IN} for receiving.

While ANT2 is selected, touch [ANT] for 1 second to set the antenna that is connected to ANT2 for transmitting, and the antenna connected to [RX-ANT IN] for receiving.



The star symbol is displayed if you temporarily select an antenna that is different from the one saved in memory. Touch [ANT MW] for 1 second to save the temporary selection into memory and then the star symbol will disappear.

A remote antenna switch ,such as the ACOM 10-way SW2000, does this job remotely operated and closed to the ground when shut down.

It should be noted that the station can be turned on and off completely by remote control.

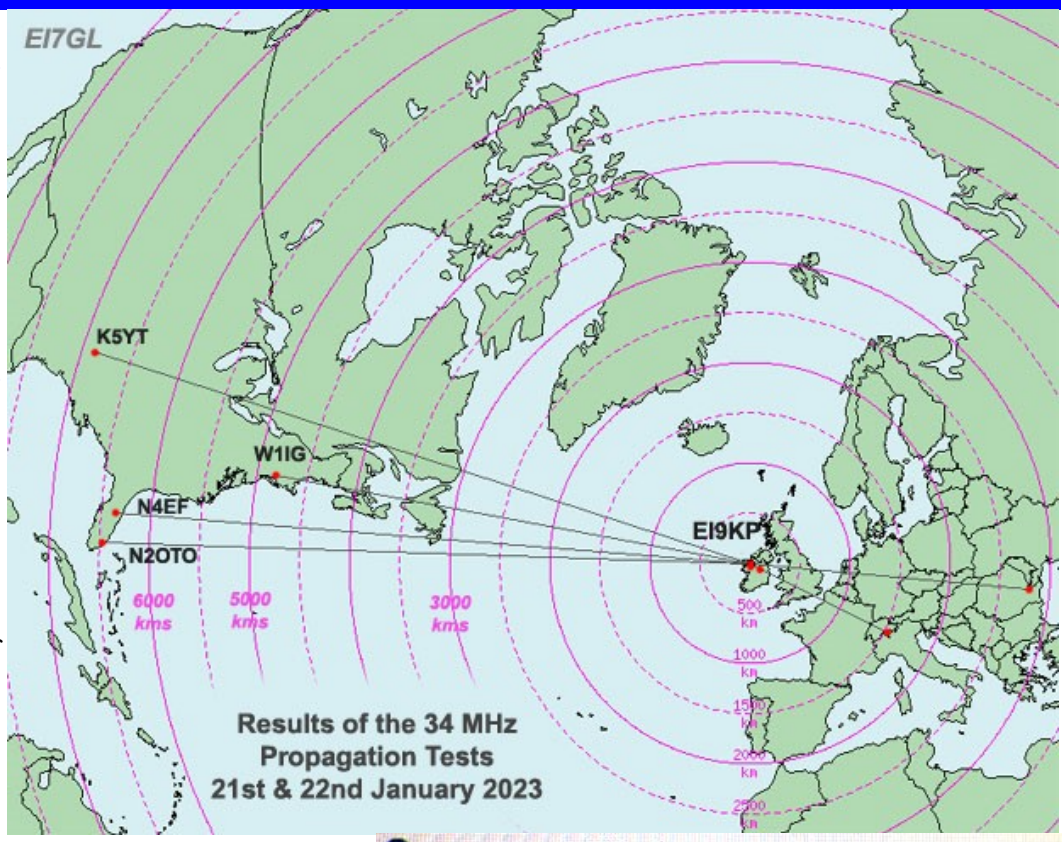
A further article will cover remoting the Alpha SPID Rotator Series & Remote Receivers such as the KIWI for your own station use.

Marconi Radio Group - EI0MRG

wescomradio@gmail.com

Results of 34 MHz Propagation Tests 25th & 26th of February

On Saturday the 25th and Sunday the 26th of February 2023, Phil EI9KP conducted some propagation tests on the 9m band in the low-VHF part of the spectrum. He operated a supervised beacon on 34.013 MHz for most of the daylight hours running 1-watt into a vertical dipole with capacitive loading.



This was the second weekend of tests on the 34 MHz band and the results of the January 2023 tests can be seen in the March Edition of the Newsletter.

EI9KP reports... "*I have collated the information below from my 34MHz beacon test on 25/26 February 2023. The beacon 1W transmitter and the dipole in vertical polarisation worked without technical problems.*

***On Saturday,** I got a few reception reports from the USA. On Sunday, propagation conditions were generally poor with maximum usable frequency (MUF) reaching only 26 MHz by late afternoon, and I received no reception reports. There was an absence of tropo over Ireland and the UK and no Sporadic-E was reported.*

Also, there were no reception reports from the east, conditions were not right. It was positive that HAMs and SWLs were listening out, I have a few new names in the log."

Report: As compiled by Phil with a few additions from John, EI7GL

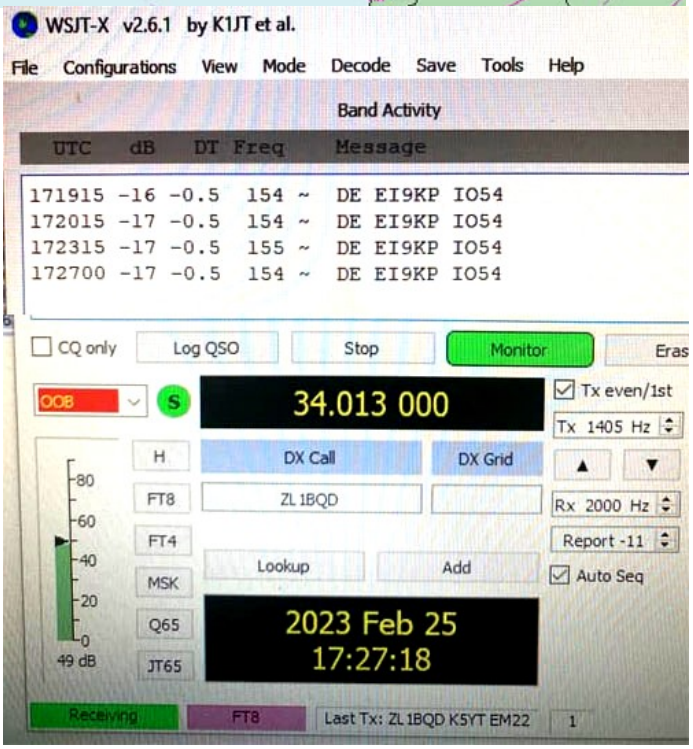
Saturday 25th February 2023:

SF-index: 164 A-index: 6 Kp-index: 2
Absence of tropo conditions over EI/GB/Europe. **Beacon on at 07:12, beacon off at 18:43.**

13:47 UTC. Reception report from **SWL W1-7897** Bill in Douglas, MA, USA. He was using a 5 element beam for the 50 MHz band and a Yaesu FT-847 transceiver.

17:30 UTC. **SWL** David in Indian River City, FL, USA. He was using an Airspy R2 with a non-resonant OmniX airband antenna on the side of Rohn tower 14 metres above ground level.

17:31 UTC. **K5YT** Ed in Texas, USA, reported that he received the FT8 at -17dB SNR but could not hear the CW part. He was using a 2 el. tribander Hygain TH2-MK3 and an Icom IC-7300.



Reception of EI9KP by Ed, K5YT on Saturday 25th February

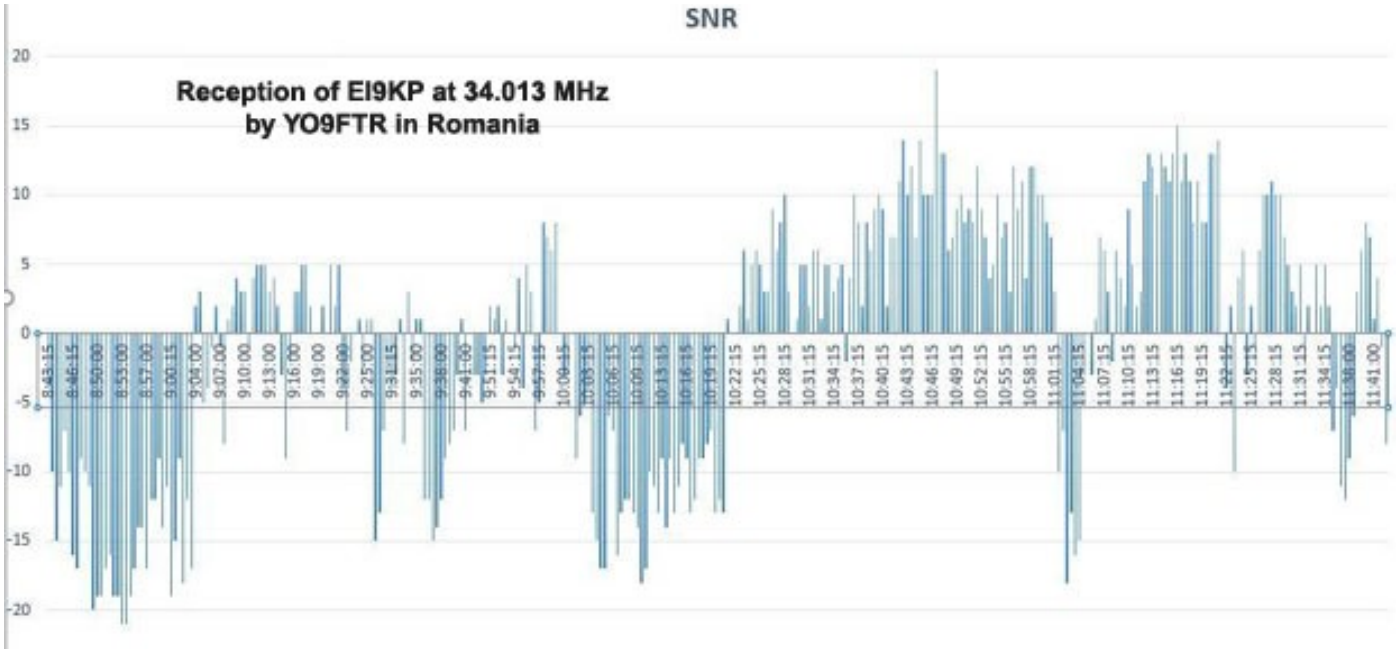
Edward Johnson, K5YT writes... "*I copied EI9KP on 02/25/2023 for 4 decodes using a Hygain TH2-MK3 @ 100' and a IC7300 de K5YT EM22*"

The following were listening but nothing received:

DJ0MEW Bert in Germany - JN68IE. He was using an ICOM IC-7300 and an OCF dipole 40m long.

EI8DJ Don South of Cork City on the South Coasrt of Ireland - IO51UT

Results of 34 MHz Propagation Tests 25th & 26th of February



EI7GL - Just to add, I live a few Kms from EI8DJ and I also heard nothing via tropo or F2 backscatter. EI9KP is about 250 KMs from my location

Franz van Velzen, OE3FVU in Austria writes... "*I am monitoring here (since 7.30 UTC) with 3 receivers and antennas: IC7300 with tuned SteppIr; IC-R8600 with 3 ele 6m beam and FT-847 with Gap Titan plus Tuner. Not ideal, but perhaps I copy on one of them. All report to PSK reporter: with OE3FVU/3, OE3FVU/RX and OE3FVU respectively. At this moment (08:35 UTC) no signal has been received yet.*"

Kees Smit in the Netherlands writes... "*I am also monitoring with 3 radio's. Elad FDM DUO SDR with HM dipole for 40 Mhz. 8 mtr. in the attic. Yaesu FT991A with Hyendfed short version 15,6 mtr. for 10/20/40 & 80 mtr. Directional west. Kenwood TS690SAT with Wellbrook ALA1530 LNP in the garden below sea level. 2 fake decoded and nothing else at the moment but still waiting on a signal.*"

Sunday 26th February 2023:

SF-index: 152 A-index: 10 Kp-index: 3
Absence of tropo conditions over EI/GB/Europe. Beacon on at 0730, beacon off at 1814.
No reception reports
All morning a 'wedge' in the MUF over Ireland, England to France. Low MUF at 18-21MHz.

The following were listening but nothing received:

DB6LL Ham in JO43VP (near Hamburg), he was using a Yaesu FTDX101MP and a non-resonant 5/8 lambda vertical antenna for 10 metres. Decoding was on JTDX.

K5YT Ed in TX, USA.

Analysis: In contrast to the January tests, conditions for the February 2023 tests were very much subdued. The was a large aurora later on the evening of the 26th of February which shows how disturbed conditions were.

Most of the stations listening in Europe were well inside the F2-layer skip zone and it's possible that a repeat of the test during the summer Sporadic-E season would yield much better results. The path to the stations in the USA was likely due to two or more hops off the F2 layer in the ionosphere.

John, EI7GL, runs "A Diary of Amateur Radio Activity" reporting on Radio Science Experiments on a blog found at https://ei7gl.blogspot.com/.

A wealth of information may be found here primarily covering 28 MHz and upwards to the Microwave bands. Digital communications is another topic that will be found on this site.

As we move towards the Sporadic-E season, and not forgetting the meteor showers, it is well worth checking out the EI7GL blog for achievements reported on a worldwide basis.

Special thank to both John and Phil for the articles which reflect the true spirit of Experimental Radio and Radio Science.

Tests Performed by Phil EI9KP
Report and results compiled by John EI7GL

Join the G-QRP-Club

The G-QRP-Club is an organisation run entirely by volunteers to promote Low Power Radio (QRP)

The quarterly magazine, SPRAT, provides interesting reading. Articles covering Teat gear, Transmitters and Receivers of varying complexity. More information: https://www.gqrp.com/index.htm

Clifden Marconi Radio - BBC Coast Documentary

The BBC Coast Group

BBC TV run a documentary called Coast, which features the coastal areas of Britain and Ireland. The programme focuses on areas like archaeology, history, geology, environment and subjects of engineering interest, which are all based in coastal areas.

In April 2009, with the assistance of renowned archaeologist Michael Gibbons, BBC Coast identified the old Marconi Radio station in Clifden, built in 1907, on the west coast of Ireland as an area of vintage industrial engineering interest, and decided to produce a documentary on its history. BBC researchers initially contacted the Marconi Centre in Poldhu for technical help and spoke to Keith Matthews, a leading authority on Marconi. Keith had been on a previous visit to Clifden, met GREC and visited Galway Institute College, GMIT, as he was a physics teacher. He therefore directed BBC to contact GREC and GMIT. They asked if we could help with technical assistance in the programme presentation and we were more than happy to assist.

A replica of a spark transmitter was built, the equipment was brought out to the Marconi Station in Clifden and duly demonstrated for the programme.

All went well and even though we were not allowed to attach an aerial, we produced sparks across the rotary gap and a large air-spaced condenser, which radiated to about 100 meters. The entire demonstration was filmed plus an interview on the history of the Marconi Station and the programme screened in early 2010.

The original Marconi Station in 1907 consisted of a large Power House which placed 20,000 volts across a condenser, which in turn was discharged by a large Rotary Spark Gap. The power was keyed by a Morse Key and the energy was induced into an aerial array.

Our equipment used consisted of a rotary spark gap, an 8kV high voltage transformer and a four foot square multiplate air spaced condenser. A replica of an original morse key in Clifden Radio was used to key the spark. The morse key, rotary gap and transformer was provided by Bob Smallbone from the UK and the condenser was built in GMIT with the help of Tom Frawley EI3ER, Frank McCurry and John-Owen Jones EI1EM.

The principle behind a spark transmitter is to place a high voltage across a capacitor and discharge its energy using a rotary spark gap into an aerial. This was what Marconi placed in Clifden, albeit on a more gigantic scale.

The capacitor/condenser in the original Clifden facility was not small. The building in which the condenser was housed measured 350 feet in length and 75 feet wide, and

The BBC Film Crew

the height of the building 33 feet. The condenser itself which was of a value 1.8uF, consisted of 1,800 galvanised steel sheets, each measuring 30 feet by 12 feet, suspended from the roof ties of the building by porcelain rod insulators. The power plant was equally as large, it had six steam engines to drive a generator of 20kVolts. So, nothing small.

Our idea was to key a high voltage transformer, place the air spaced capacitor across the secondary and use a rotary spark gap to discharge the energy stored in the capacitor

Condenser - Capacitor

Both words mean the same thing, the original word for capacitor was condenser.

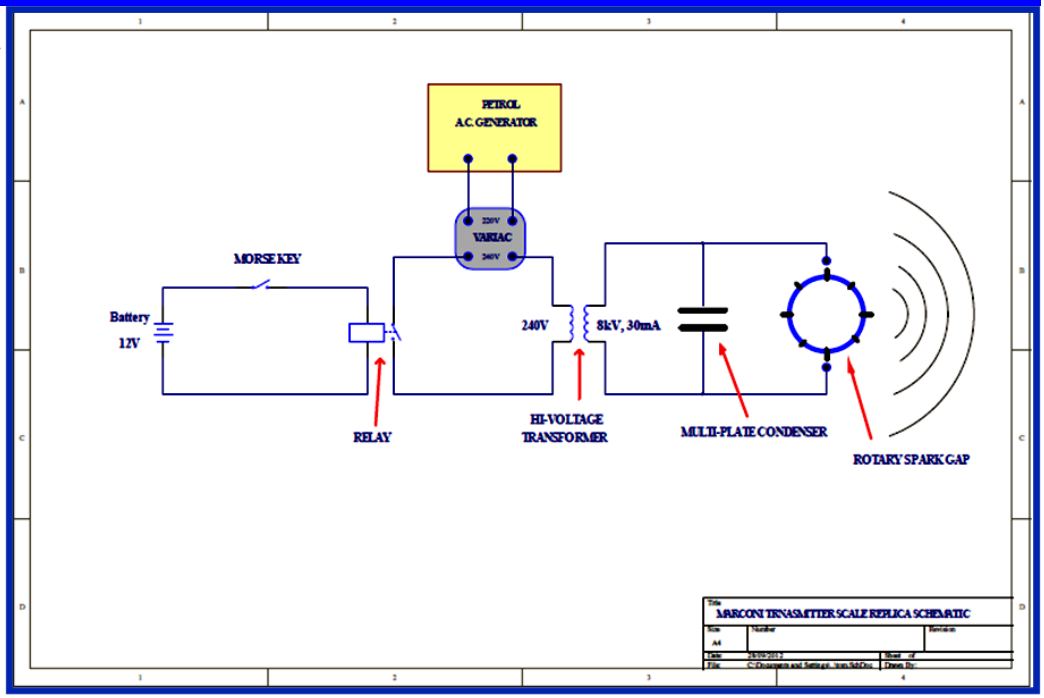


Diagram of Equipment Used To Replicate The Marconi Station

1 They store electrical energy
2 Charge up rapidly
3 Discharge rapidly using a rotary spark gap
4 Marconi used them to discharge energy into an aerial
5 This energy was radiated as a radio wave.

The Morse Key, High Voltage transformer and Rotary Spark Gap were supplied by Bob Smallbone, a vintage radio engineer collector from the UK. GMIT College built the multiplate capacitor. This capacitor would resemble the large Condenser house and the high voltage transformer resemble the Power House. For filming purposes, the station was built by Irish Naval personnel from Haulbowline, Co. Cork.

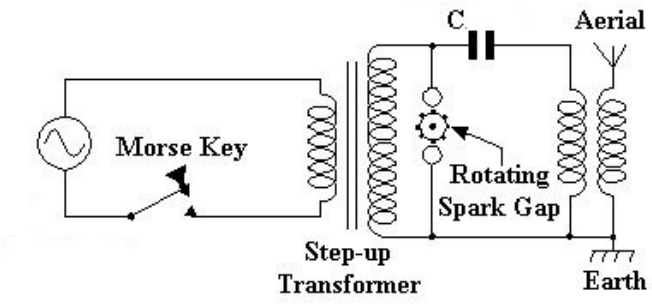
When designing our multiplate, air spaced capacitor, we had to be careful not to exceed the rated 30mA secondary current.

Our High Voltage Transformer had exact specifications of 240v primary, secondary 8kV rms with 11.4kV peak, at 30mA

The limit of reactance of the Capacitor would give us a max value of C capacitance that we could use. Using the capacitance multiplate formula, we calculated that the max capacitance we could build was ten nano farads (nF), without damaging the transformer.

The Replicated Capacitor

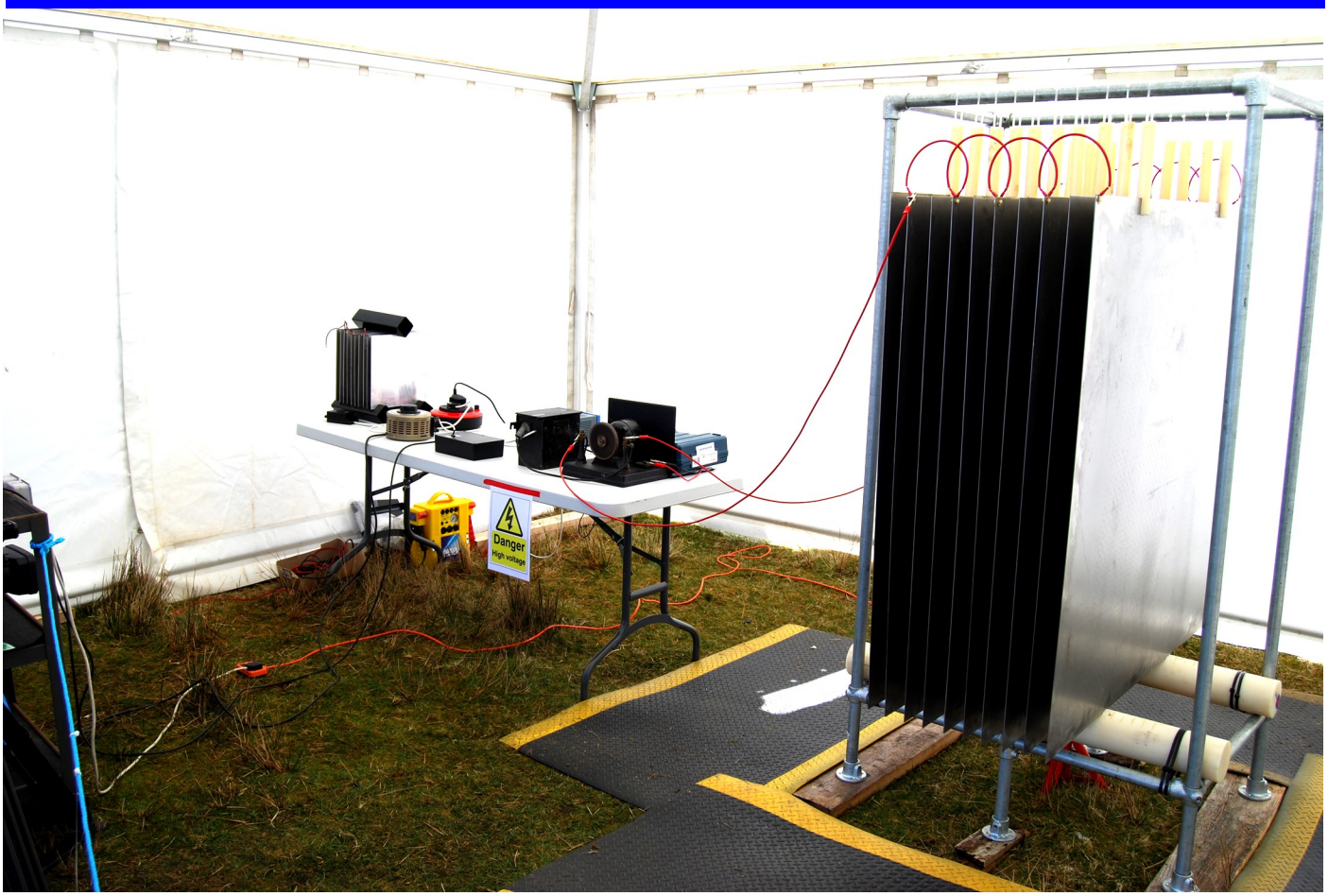
Number of air spaced plates - 10
Capacitor plates designed - 4ft (120cms) square and 2 ins (5cms) apart
Capacitor value theoretical designed value was 2.329nF. When built, it measured 2.31nF, well below the 10nF maximum.



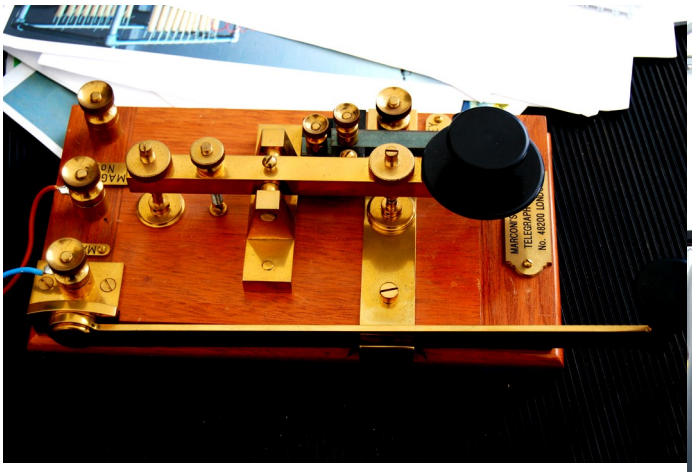
Circuit of the Spark Transmitter

Marconi Transmitter on Display at the Computer and Communications Museum in Galway. Four items from the original Marconi Station in Clifden

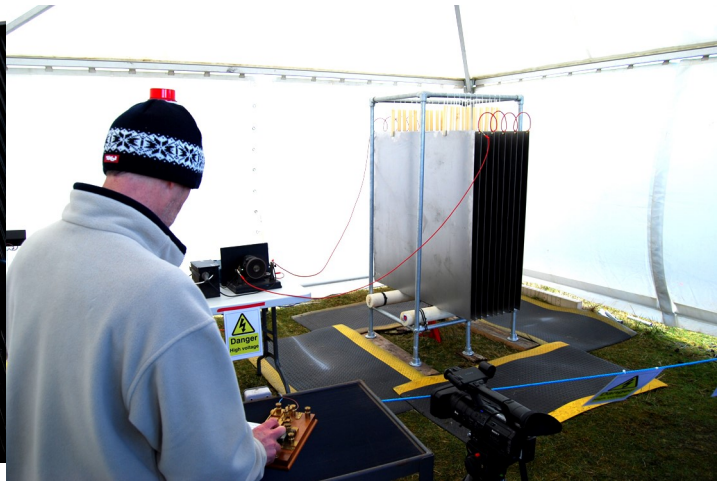
Clifden Marconi Radio - BBC Coast Documentary



The Completed Replica of the Marconi Transmitter situated in a tent to protect it from the Rain



Replica of the Clifden Morse Key



Tom, EI3ER Keying the Transmitter During the Filming

Our radio spark equipment was to be demonstrated and filmed on the original site of the Marconi station, which is now a bog field in the ruins of the station. We therefore needed external power from a generator, supplied by GREC. The output from the generator was fed to a Variac voltage controller as 240 volts primary was required to the transformer. This 240v would now be keyed through a safety relay using 12v from our Morse Key. The output secondary of 8kV would be switched across our multiplate capacitor and its stored energy discharged by the rotary spark gap.

For filming, the station was housed in a tent as a protection from rain, strict safety procedures were adhered to, as we were dealing with 8 to 10 thousand volts across the capacitor when keyed. Initial testing ensured that all was well and thus the filming and demonstration was a complete success. Even though we did not attach an aerial, signals were heard using a small transistor radio up to a 100 meters from the transmitter and the BBC team were more than happy with the endeavour.

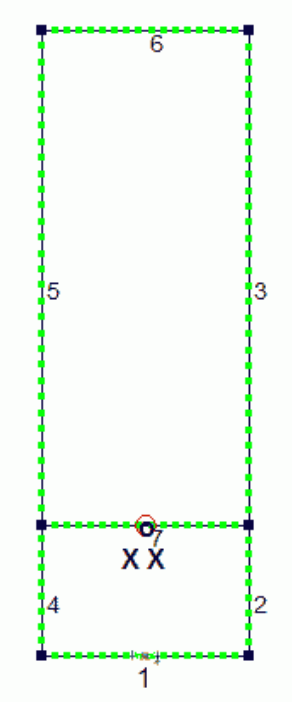
Other work concerning Spark Gap transmission can be found at the Computer and Communications Museum in Galway. A transmitter and receiver using a coherer has been built and is on display at the museum. The museum is located on the Newcastle Road, IDA Business Park, Lower Dangan, Galway.

Tom Frawley - EI3ER

The Hentenna - Part 2

Last month we covered the construction of the Hentenna. The transmission from this antenna was horizontally polarised and radiated bi directional and broadside from the antenna with a low angle of radiation.

Whilst researching the antenna, there was an interesting modification changing the Bidirectional characteristics to an efficient directional antenna by adding two reflector elements. *Martin, DK7ZB* produced some interesting ideas for a 2 metre, 6 metre and 4 metre directional Henetenna.



The Basic Henetnna Loop

The basic construction of the Hentenna loop is as follows:

1, 6, & 7 : 0.15λ

2 & 4 : 0.1λ

3 &5 : 0.5λ

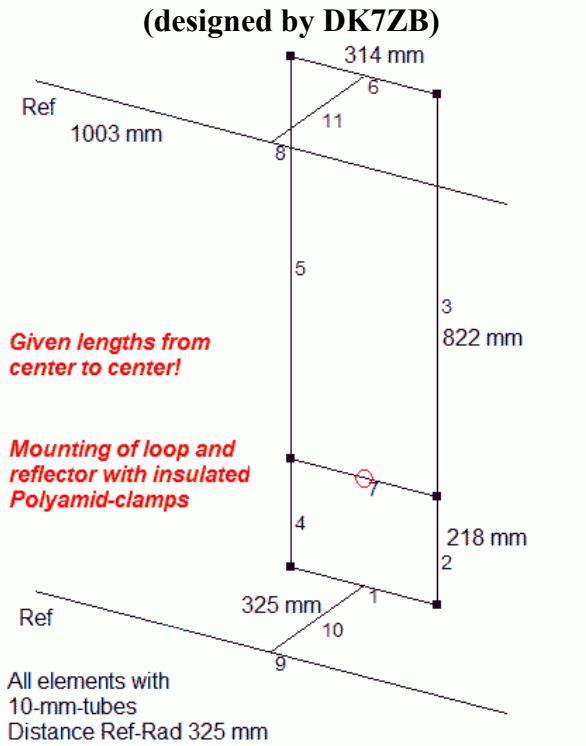
Specifications

Gain 3.05 dBd

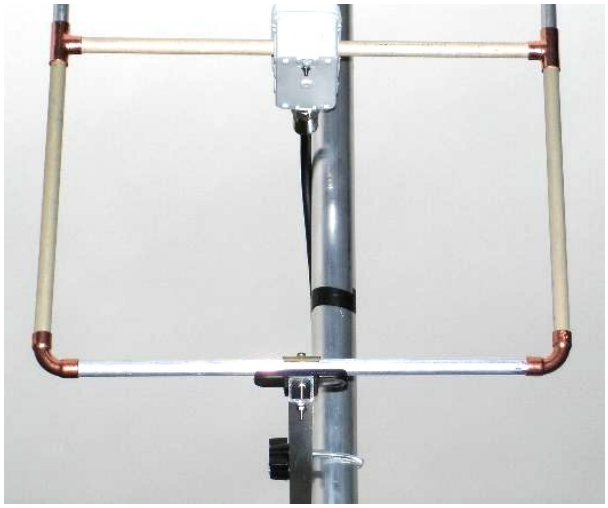
3-dB azimuth angle 88.2°

3-dB elevation angle 69.5°

The 144MHz Reflector Hentenna (designed by DK7ZB)



The DK7ZB Hentenna is illustrated below. The construction of the main loop of the Hentenna was using 10mm or 12mm aluminium tube elements



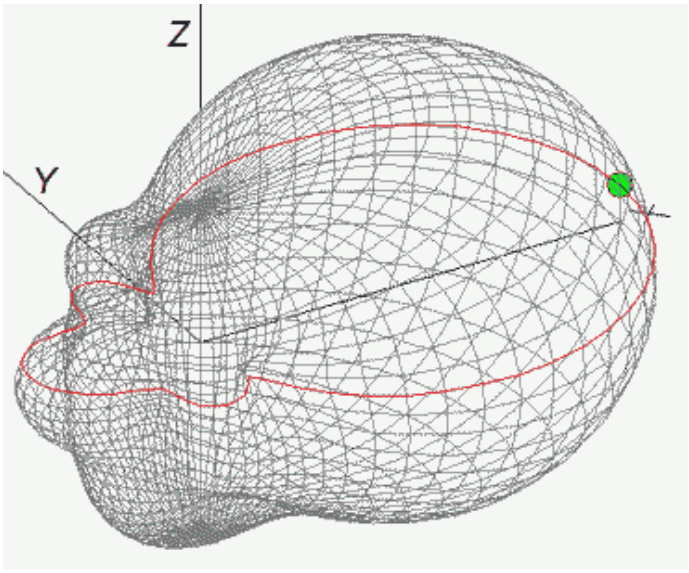
Segments	Lengths 12mm	Lengths 10mm
1, 6, 7 Horizontal	314 mm	314 mm
2,5 Vertical	624 mm	822 mm
2, 4 Vertical	219mm	218 mm
8,9 Reflectors	1006 mm	1003 mm
Distance Rad-REF	320mm	325 mm

The Hentenna - Part 2

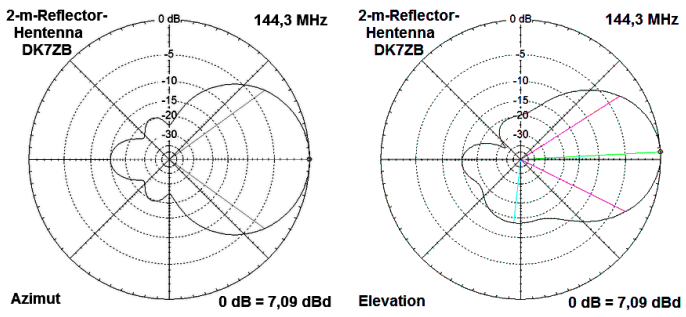
The 50Ω feed point of the antenna with a 50 Ω coax choke

It is possible to achieve a < 1.5:1 SWR over a full 1 MHz of bandwidth on 2m

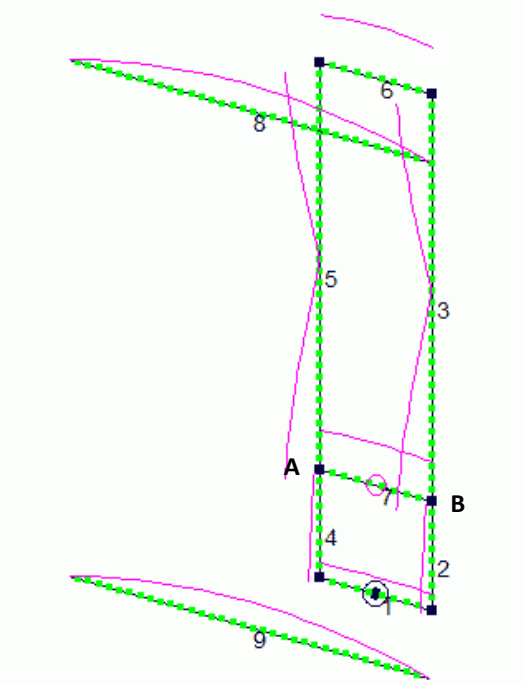
With the Addition of the two reflector elements as significant change to the radiation pattern of the original design occurs. See below



The forward Gain of the antenna is 7dBd with a front to back ratio of 15dB.



From the antenna model of this antenna the radiation patterns above can be derived the diagram on the left shows the radiation patter if viewed from above the antenna. In the diagram to the right the radiation pattern is viewed from the side of the antenna. By the addition of just two reflector elements the forward gain is significantly improved.



Current Distribution Throughout the Hentenna

Dimensions for a 50Mhz Directional Hentenna assuming use of 12mm aluminium tubing.

Segments	Length
1, 6, 7 Horizontal	900 mm
3, 5 Vertical	2423 mm
2, 4 Vertical	625 mm
8, 9 Reflector	2900 mm
Distance Ref - Loop	975 mm

Dimensions for a 70Mhz Directional Hentenna assuming use of 12mm aluminium tubing.

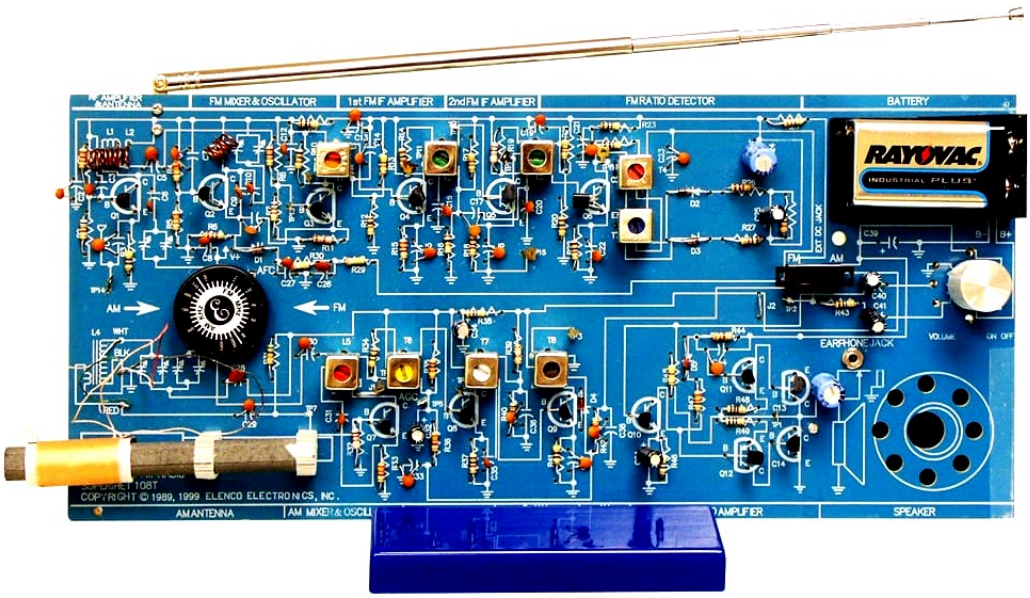
Segments	Length
1, 6, 7 Horizontal	645 mm
3, 5 Vertical	1679 mm
2, 4 Vertical	448 mm
8, 9 Reflector	2072 mm
Distance Ref - Loop	680 mm

Fine tuning, should it be necessary may be achieved by the feed point at 7 up or down slightly at points A and B whilst observing changes on a VNA or Antenna Analyser.

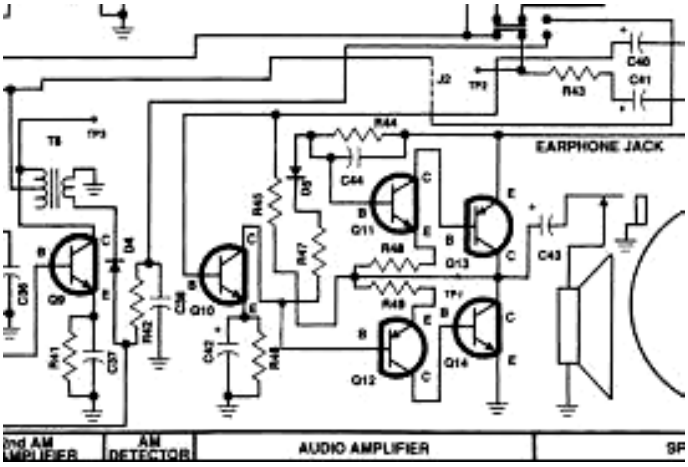
References https://www.qsl.net/dk7zb/Quadlong/Hentenna.htm

The Elenco AM/FM Receiver Kit

The sad part about the teaching of "Amateur Radio" is that it only focuses on a question pool. Nowadays, there is a race to put candidates through classes as quickly as possible and boast about those who passed. It is important to focus on the practical side of experimentation and the understanding circuitry and not simply passing an exam with minimal knowledge to become a radio operator. In the days of the essay questions one was required to describe, in detail, the block diagram of a Superheterodyne Radio and the workings of each block. The Elenco AM/FM Radio kit does just that. A small group of us, in Galway, purchased this kit and built it stage by stage, much like a Heathkit project, and performed a series of tests on each stage.



The circuit board of the Elenco kit has the schematic drawing screen printed on the upper side with the copper tracks printed on the underside. This allows the placement of components over their corresponding circuit symbol on the surface of the printed circuit board during assembly. Each stage is clearly marked as in the diagram below.



The components used in the kit are commonly used parts and spares can be procured easily if required. The function of each stage is discussed and a clear description of the function of each component in the stage is given. Class A and Class B amplification is described in detail complete with graphs showing the function of each transistor in the amplifier. On completion of the individual stage, as set of tests are performed to illustrate the function of the completed circuit. There is a sheet to record the results for future reference.

Basic test equipment is required to perform the tests and in the case of the Audio Frequency Amplifier, a Volt/Ohm Meter, an audio signal generator and a basic oscilloscope are required.

Class A and Class B amplification is described in detail. Test points are clearly marked on the board with posts allowing test leads to be clipped to them. In other cases the probe of the meter or oscilloscope may be touched off a component lead. Each test is clearly described with the reasoning behind it

In the case of the AF Amplifier the following tests are performed:

Static Measurements

1) Power consumption
2) Output Bias Test
3) Transistor Bias Test

Dynamic Measurements

1) DC Gain
2) AC Gain
3) AC Bandwidth
4) Distortion
5) Maximum Power Output
6) Efficiency

By performing each of these tests a far better understanding of what each stage is attempting to achieve is possible.

Construction details

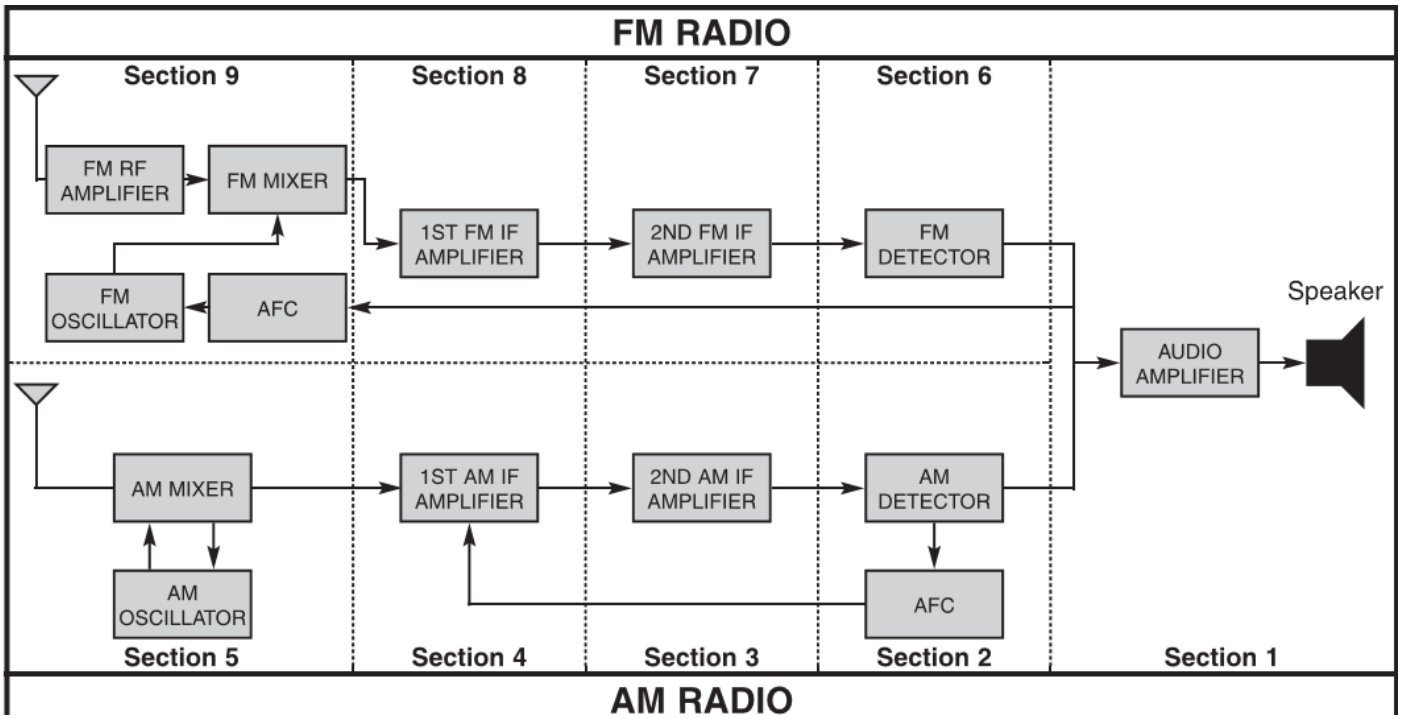
Soldering techniques are described in detail, illustrating a good solder connection and also several types of bad connections as a result of insufficient heat, insufficient solder, excessive solder and the bridging of PCB tracks.

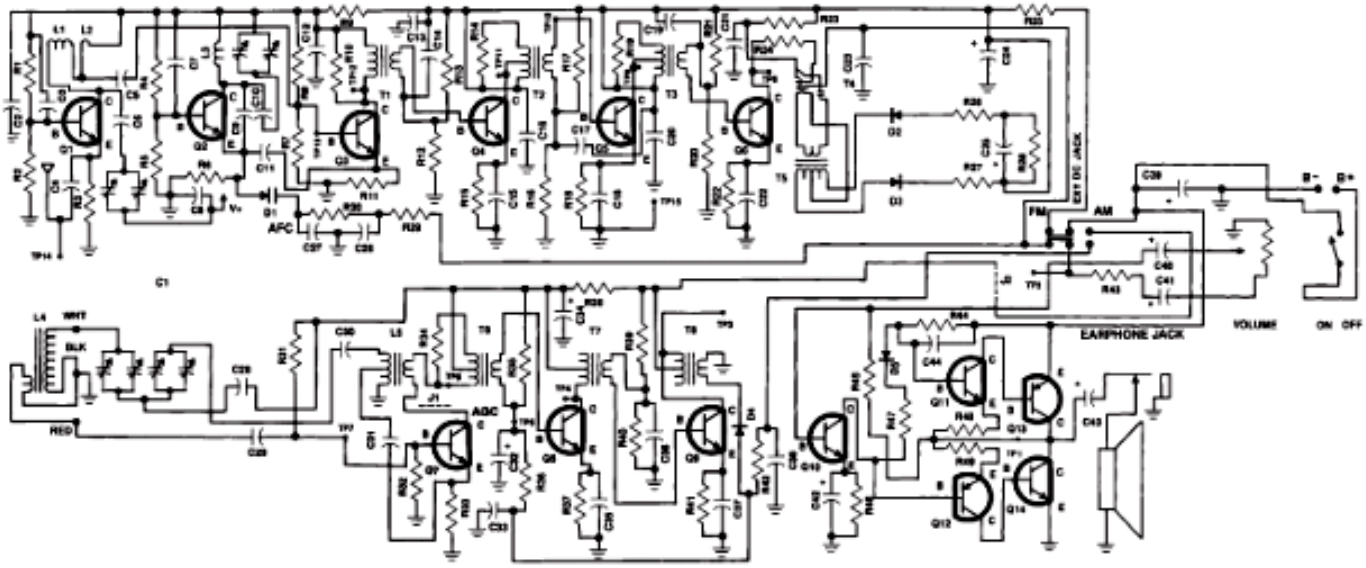
Components

Each component is clearly identified. Basic transistor testing is described and the testing of diodes is covered in the manual. The method for identifying a NPN transistor and a PNP transistor is included

In constructing one stage at a time and carrying out the tests, a full understanding of their function is possible. All of this is in preparation for the final alignment of both the AM and FM receivers.

The Elenco AM/FM Receiver Kit



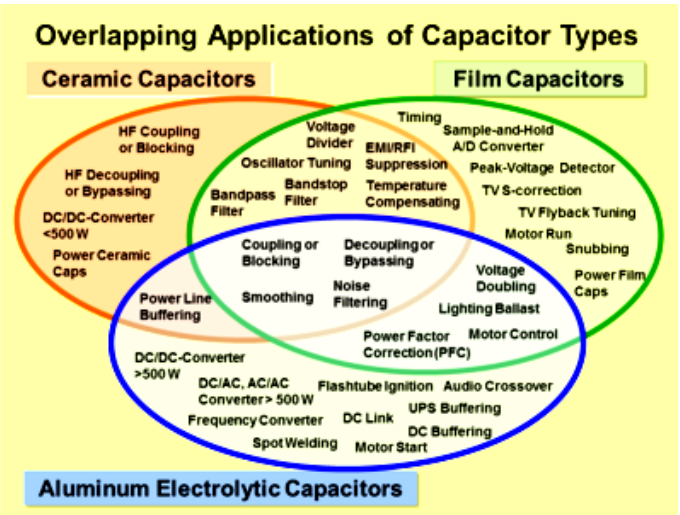


The diagram at the top of the page is the layout of each block of the FM and AM sections of the receiver and below is the corresponding circuit diagram also printed on the top side of the PCB.

By breaking the circuit down into individual stages it will be possible to obtain a clearer understanding of the Superheterodyne receiver.

Over the next few issues we will use basic test equipment perform the tests on the receiver stage by stage and finally perform a complete alignment of the receiver.

Perhaps following on from this article we will build a Top band (160m) receiver from scratch with components gathered over the years and describe the alignment process. Following this, it might be interesting to build a matching 10 Watt transmitter to finish off the project.



Steve Wright - EI5DD - G4GFC

A Trip into the 8 Metre Band

I have been interested in the 8m band since I had a troll through EI7G7 brilliant blog (EI7GL....A diary of amateur radio activity) It's a hive of information on many of the bands we use,

I practically became interested in his 8m experiments and decided to follow in his footsteps with my own experiments on this new band. The part f the band open to us a armatures is from 40 - 45mHz with some areas of the band off limits.

I started of using my Yaesu FT991A and FT DX 10 on receive to hear what was going on. Both transceivers are excellent on this band. I could hear ft8, beacons, and some SSB. But as I had not the right antenna, yet I thought I could do better.

A Little History

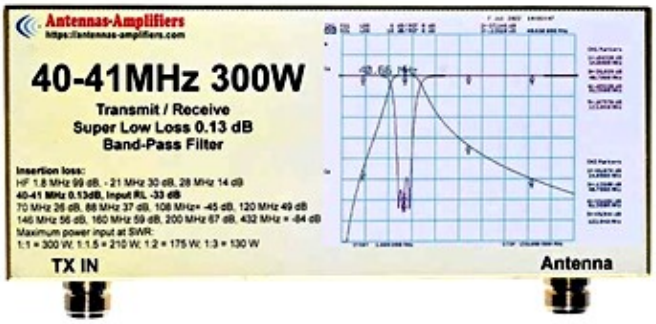
The 8-meter band shares many characteristics with the neighbouring 6-meter band and the 10-meter band. However, as it is somewhat lower in frequency it does display the better propagation mechanisms via the F2 ionospheric layer normally seen at high frequency (HF) which occasionally appear in 6 meters. However, Sporadic E propagation, whereby radio signals bounce off ionized clouds in the lower E region of the ionosphere, is common on the band in summer, so its going to be a great band during the upcoming Sun cycle 25.

In April 2018: Ireland (EI) allocated much of the low VHF spectrum to Irish radio amateurs including 40 MHz.

The Antenna

And so began the next level of my 8-meter trip. I decided to purchase an antenna for 8- meters. Had a look around the net and found a Sigma GP 43 Vertical that came be tuned for 8-meters.

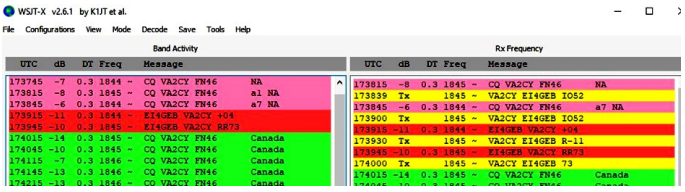
I have the antenna placed up about thirteen meters above ground, clear of the house on an aluminium pole. Next, I purchased a band pass filter for the 8-meter band, this filter is pretty narrow, but it will do the job for now. I have a special filter on order to cover the full 8-meter. It is important to have a filter here, as the third harmonic could interfere with the aircraft bands.

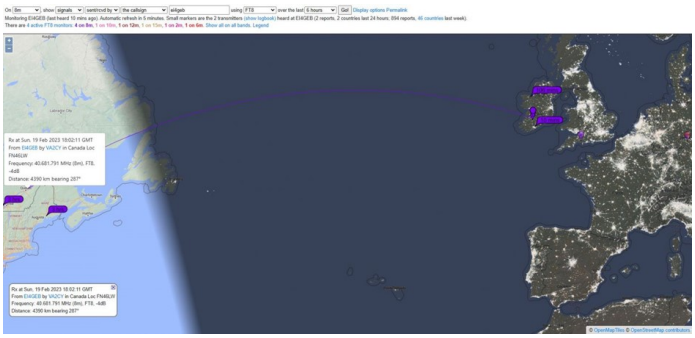


With some help from Yaesu I was able to use a special startup of the FT991A to get it to transmit on the 8-meter band. Update: The Yaesu FT DX 10 also can transmit with a special startup on 8-meters.

The First Contact

I started on FT8 in the middle of February and with some great luck I made my first contact on 8-meters with VA2CY in Canada.





Both radios prove they came transmit on the 8-meter band, and of course there are other radios which can do the same. It will be interesting to see where this band will go over the next few months and we draw closer to the summer. And it will be also interesting to see how this band compares to the 6-meter and 10-meters bands.

In conclusion I have put my big toe into the water of the 8-meter band and look forward to doing many experiments over the near future. So why don't you fellow armatures dip your toes in and lets make this a band to love.

Remember use it or lose it.

Lez Ferguson EI4GEB

Near Vertical Incidence Skywave Operation

Near Vertical Incidence Sky -Wave operation Near vertical incidence skywave, or NVIS, is a skywave radio-wave propagation path that provides usable signals in the distances range - usually 0—650 km (0 - 400 miles). It is used for military communications, broadcasting, especially in the tropics, and by radio amateurs for nearby contacts circumventing line-of-sight barriers. The radio waves travel near-vertically upwards into the ionosphere, where they are refracted back down and can be received within a circular region up to 650 km (400 miles) from the transmitter.

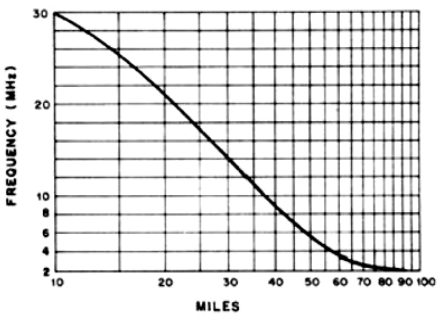
Basic Radio Wave propagation

Line of Sight

Where a radio waves travel directly from the transmitting antenna to the receiving antenna. It does not necessarily require a clear line of sight path as lower frequencies can pass through buildings and other obstructions. Generally used for VHF and above.

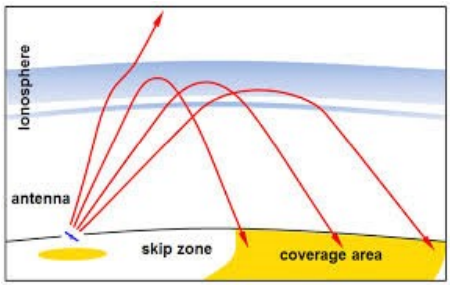
Surface Modes

At lower frequencies vertically polarised radio waves can travel as surface waves following the contour of the Earth - this is referred to as ground wave propagation. Since the ground is not a perfect conductor the ground wave becomes attenuated over distance. Attenuation is proportional to frequency. This would mean that lower frequency wave would travel a further distance. The graph below shows the relationship of frequency vs distance travelled.



Ionospheric Propagation (Skywave)

At medium and shortwave frequencies radio frequencies can refract from a layer of charged particles (ions) high in the atmosphere, the ionosphere. This means that radio waves transmitted at an angle towards the ionosphere will return to Earth beyond the horizon and over great distances. The lower the angle the greater the distance. At too high of an angle the radio wave may pass through the ionosphere.



Factors that determine the refraction of the signal back to Earth would be the density of the Ionosphere and the frequency of the signal. The level of ionisation will vary at different times of day and seasonal cycle.

Critical Frequency

As the frequency is increased a point is reached where the radio signal will pass through the ionospheric layer and into space. This is the critical frequency.

Maximum Usable Frequency

The highest radio frequency that can be used for transmission between two points via reflection from the ionosphere at a specific time of day.

Lowest Usable Frequency

This is the frequency below which communication cannot be maintained between two stations over a given distance. The lower the frequency the greater the absorption of the signal. The reason why 80 metre does not offer the opportunity for DX during the daytime.

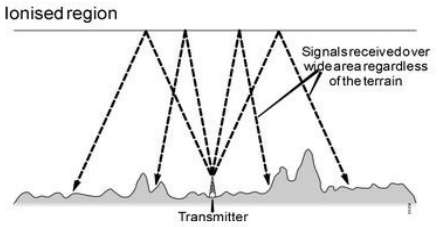
Why NVIS Propagation

The point at which ground wave fades out to obscurity and the signal returns to Earth may be a considerable distance and this area is known as the skip zone. No signal is received in this area. This may be an area of some 400 - 500 miles. NVIS propagation is particularly useful where radio communications coverage is required in regions where the ground is mountainous, falls within the skip or dead zone, and impossible to reach via VHF.

What is NVIS Propagation

NVIS propagation requires a high angle or near vertical signal to be transmitted towards the ionosphere. This must be at a frequency that is below the critical frequency, i.e. the maximum frequency at which a vertically incident signal is "reflected" by the ionosphere. Typically it is just below the critical frequency for the ionospheric layer or region that is to be used.

The critical frequency varies according to ionisation density in the relevant ionospheric layer or region which in itself is dependent upon the radiation received from the Sun. Accordingly it is dependent upon the sunspot cycle, time of day, season and a variety of other factors.



Near Vertical Incidence Skywave, NVIS propagation

When a signal is radiated at a high angle the near vertical incident signal is reflected by the ionosphere and returned to Earth over an area of many miles either side of the transmitter. Unlike the idea for DX chasing, NVIS relies totally on an antenna capable of transmitting High angle radiation rather than low angles.

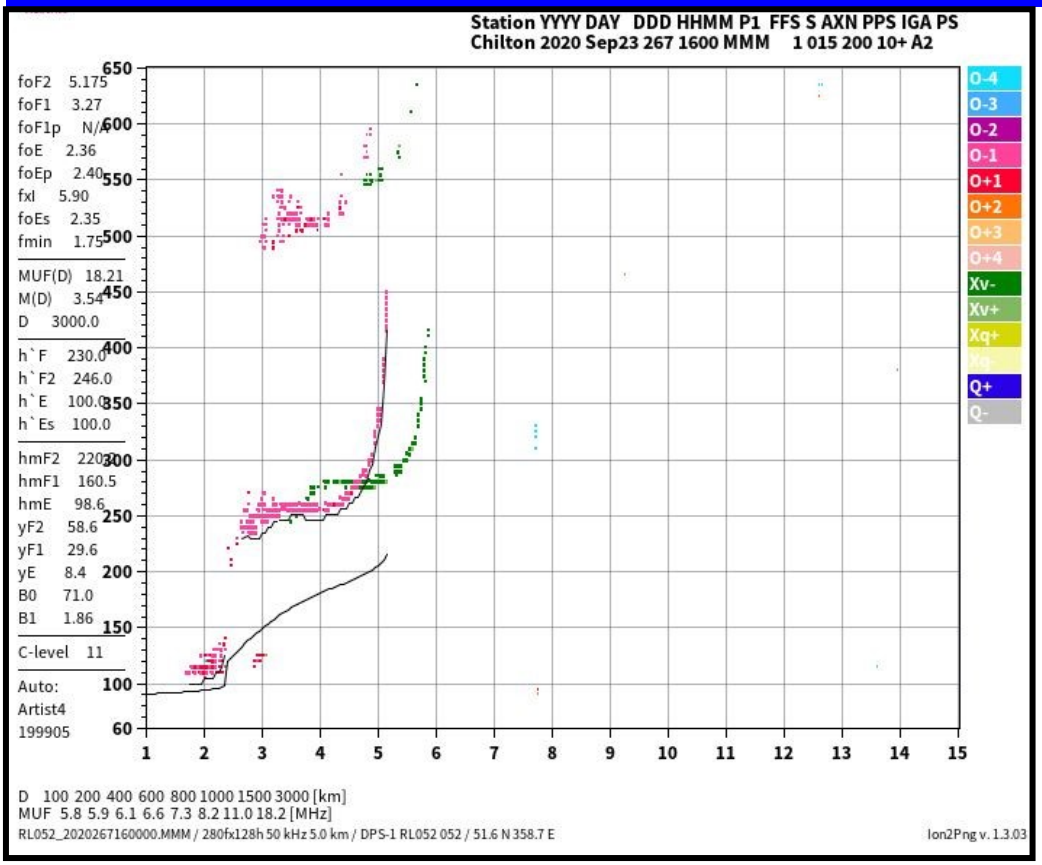
Try squirting water at varying angles at a ceiling. The higher the angle, the more localised the water return from the ceiling will be. Try several different angles from vertical and it will be noted that the shallower the angle the greater distance from the return to ground

From the experiment, anything from vertical to 75 degrees will give the ideal coverage area. From this we deduce that a high angle radiation from the antenna is essential. Any shallower angle will result in longer distances covered and be only good for DX operation.

Frequency consideration

The frequency selection is normally a balance between reducing D-Layer losses and achieving a high angle of

Near Vertical Incidence Skywave Operation



radiation. Too low a frequency may result in greater D-Layer attenuation and too high a frequency will result in the signal passing through the F-Layer. NVIS generally occurs between 2 and 10 MHz although during Sunspot Maxima frequencies may be limited to between 5 and 7MHz. By using these frequencies the D-region losses can be overcome and the higher layers are still able to reflect the signals without them passing through the ionosphere.

During the daytime, 40 metres is the highest frequency band used, by afternoon and evening a middle band such as 60 metres, and a lower frequency such as 80 metres would be used at night. 160 metres could be used in the winter months during the night. The Critical Frequency, Fo, is the key to the successful operation of NVIS. Ideally, a frequency of 10% than the Critical Frequency should be used. The Ionogram can be checked for a suitable choice of Frequency. The FoF2 should be noted (Critical frequency of the F2 Layer).

Looking at the Ionogram, the figures on the bottom row reveal the possible distance D for a given MUF. In this Ionogram above, the use of 5MHz will give approximately 200 Km but using 7 MHz it would be possible to cover approximately 600 Km. There is plenty of information here. D-layer Absorption is present from 1MHz to 2MHz. E-Layer MUF is 2.36 MHz and the MUF of the F2 Layer is 5.175MHz, s far as NVIS is concerned, our natural choice of band would be 5MHz for NVIS. Using a lower angle of radiation, the MUF would be 18.2MHz for a path around 1,500 Km. Taking a look at the Ionogram everyday will reveal the state of the Ionosphere. Forget the gimmicky Ham-clocks and other Ham-Prop programs. The Ionogram is what the professionals use!

Choice of Antenna

The antenna can be a dipole, an Inverted Vee, or a pair of phased dipoles (Shirley Antenna) located at no more than 1/4 wavelength above ground. Better again try the G4 HOL Loop antenna featured in the 2019 Journal. All of the above will work well and can be enhanced with a counterpoise of 5% longer placed beneath them if the Earth conductivity is poor.

Dipole

A dipole can be useful if positioned 0.1 to 0.25 wavelengths above ground. As the dipole is brought close to the ground the angle of radiation increases at the expense of lower angle radiation.

Inverted Vee

The inverted vee is a handy antennas it is easy to support and can be suspended from a lower height if the apex is kept to 120 degrees or greater it will work for NVIS communications.

Counterpoises

The high angle of radiation may be enhanced by placing a counterpoise beneath the antenna. The length of the counterpoise should be 5% longer than the antenna and ideally distance is 0.15 of a wavelength beneath the antenna.

Mobile operation

The military often mount a resonant antenna drawn diagonally across the roof of the vehicle which tends to increase the angle of radiation.

Barrett Communications supply an interesting roof rack mounted antenna which tunes across a wide band of frequencies. The roof rack itself provides the Earth plane. The Barrett antenna is priced at around £2000.00 so one would really want to be enthusiastic on HF mobile operation. Many overseas aid convoys utilise the Barret system for communication over a wide localised area to maintain communications with their bases.

Conclusion

It is plain to see why the operator with the high antenna gets the DX, whilst the operator with the antenna strung close to ground is getting into the IRTS news way better. Naturally, NVIS is the only way to get a HF signal efficiently around the country.

For Emergency operations, on a national basis 5Mhz is the band of choice for NVIS operation, since it is always above the D-Layer absorption frequency regardless of location. during the daytime, whilst 80 metres is chosen after darkness as the D-Layer rapidly diminishes shortly after sunset.

Ionosonde data maybe found here: https://digisonde.oma.be/ionogif/latest.html

Steve Wright , EI5DD

wright14@gmail.com

NanoVNA-H A High Performance Low Cost VNA

NanoVNA is a handheld Vector Network Analyser (VNA) with small outline, originally designed by edy555. It is a low cost yet high performance (at its price point) vector network analyser (VNA), with LCD display, and can be powered from a 3.7V Li-ion battery. As known by most hobbyists, NanoVNA has become the most popular VNA and antenna analyser project in the community since its release in 2019.

I've owned the NanoVNA for nearly 4 years now and I've recently upgraded to the NanoVNA-H. It now covers 10KHz – 1.5 GHz which is good enough for most Hams, although there is also a version that goes all the way up to 6 GHz.

Let's rewind a little and explain what a VNA is and why you need one. Back in the day most Hams had very little test equipment and when constructing an antenna you would cut to the required length and away you go. Then in about the 1970's, SWR meters started becoming popular. The drawback here was it only showed the reflected power on one frequency, don't get me wrong, it was a great help to the radio experimenter and you could install and test an antenna. Around 1950, Rhode & Schwarz introduced the first impedance measuring device that could warrant the term "network analyser" in 1950 but it was hideously expensive and out of the question for experimenters. Fast forward to the 1990's and MFJ introduced the Antenna Analyser which was a huge success. Nearly every ham I know either owns one or has used one.

For the first time hams had a portable analyser that would measure SWR without a transmitter. I would also measure impedence, reactance, cable length and measure DTF (distance to fault) for short or open circuit. It really was a game changer, but the MFJ Antenna Analyser was bulky and sore on batteries.

In 2012 the Mini VNA by Mini Radio solutions was released. It was a really nice piece of equipment and although relatively cheap at €415 it was still a significant amount of money. It also required an Android phone or tablet to work as it didn't have a display. It worked with Bluetooth and a piece of software called BlueVNA. For the first time experimenters had access to smith charts and a decent piece of test equipment. I still use the MiniVNA Pro to this day as it really is a nice piece of equipment but 4 years ago the NanoVNA was released and it was only €50 so I had to try it.

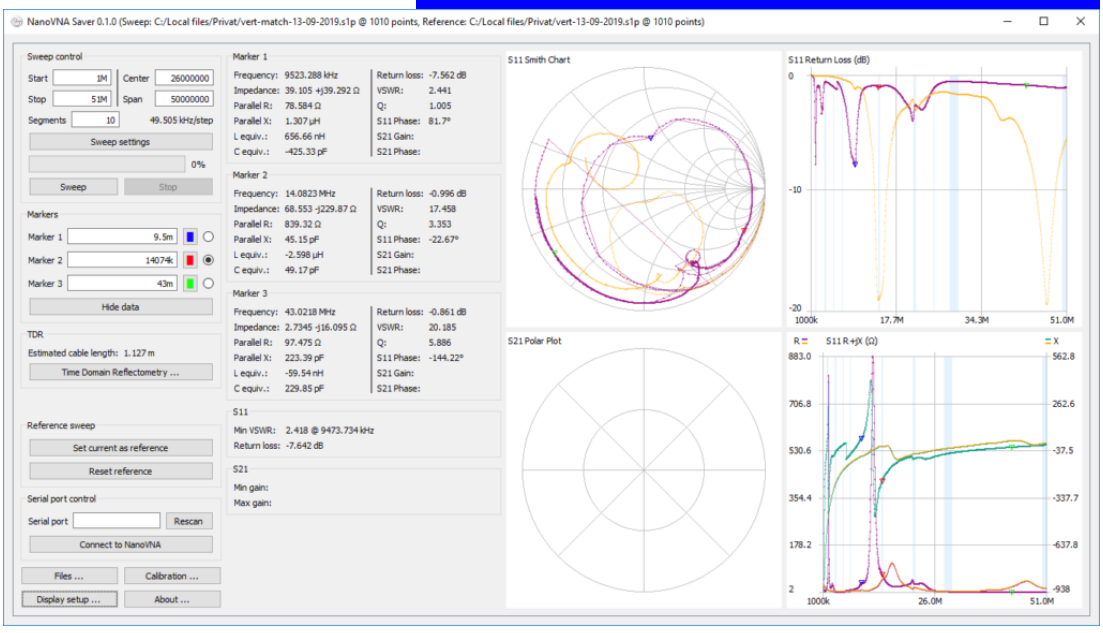
The NanoVNA came with a 2.8" touchscreen, calibration standards and a built in battery. It didn't come with a case but I easily printed one with my 3D printer. I used the NanoVNA for all my antenna projects from HF right the way up to 1080MHz.

The NanoVNA-H has 101 data points so when testing an antenna it's best to calibrate each band to get accurate results. Calibration is easy, first set the bottom and top frequency or span and enter the calibration menu. In turn it will ask you to attach the open, short and load connectors to the DUT port (Device Under Test) and follow the instructions. The antenna under test is also connected to the DUT port.

Battery life is good and is easily charged using the supplied USB-C cable. Overall this is a nice piece of equipment and you won't be disappointed. Every shack should have one and at around €50 you really have no excuse not to own one. The touch screen works well with the attached "guitar pick" and the screen is good enough even when you're outside. You do need to be careful and do your research before you buy as there are counterfeit VNA's for sale.

Micheal Na bPoib - MI0HOZ

mick.conaghan@gmail.com



Lagan Valley Amateur Radio Society

Annual Rally

4th March 2023

Hillsborough Village Centre,

7 Ballynahinch Road,

Hillsborough,

BT26 6AR

Doors open at 10:30 (note the earlier time) and the rally finishes at 13:00.

Entry fee is £4.00 or €5.00

Traders Attending

P&D Peter Mi0CIB – Radios, Antenna, Cable, Connectors and accessories.

JG Electronics John Gi4UXR – Radios and accessories.

Stacks Colin – Aerial mounting hardware, Wall Brackets, Clamps etc Cables, Connectors and accessories

Billy Goat Stuff Alan Gi7GSB – Radio and electronic sundry.

Brian Gi4KEQ – Test equipment.

David Gi4XIR – Radio and electronic sundry.

Jim-Bob Mi0JBT – Radio and electronic sundry.

Dave Gi8LCJ – Dave is bring his PDP for the FM1100 which will allow minor adjustments.

Harry Gi4JTF & Richard Gi4DOH - QSL cards and RSGB books.

Meet your RSGB Regional and District representatives.

Bring & Buy – Sell that bit of equipment that has been sitting on the shelf or pick up a bargain.

If you would like to book a table at the rally, email - rally@lvars.uk

East Leinster Amateur Radio Club Winter Field Day Report

With portable operations being the main focus area for the East Leinster Amateur Radio Club (ELARC), partaking in the Winter Field Day is not a surprise.

We set out to establish at least three stations at the Irish Military Museum and Park. Access to the vast camping area was a factor in our success. Located on the north facing side of a hill outside Collon, just inside the Co Meath border. With good take-off for HF DX to the North, East and West.

Our setup consisted of several radio systems in the communications tent. We could operate on the 160/80/40/20 metre bands. We used homebrew, dipoles, linked dipoles, EFHW , and a Clansman military dipole for the 160m band.

80m and 160m antennas were deployed in NVIS fashion. Where the 40m and 20m were a bit higher relative to the wavelength. Our wires were supported by a 10m telescopic mast, a couple of fishing rods and local vegetation.

Radios were a standard HAM issue Yaesu FT-857D and FT-891. In total we were able to operate 4 bands at the same time. We did not seem to have too many issues with mutual interference.

Michael EI6IRB deserves a special mention for successfully operating top band on his modified Clansman PRC 320. All the radios were battery powered from the batteryand operated for approximately 12 hours with a duty cycle of about Tx30% and Rx70%.

We had a visit from a friendly HAM Tomasz EI9IDB to whom we are grateful for helping us with the setup. After we established the camp Tom EI5IEB served us with his legendary chilli dish. We fueled up on coffee and at 19:00 Saturday 29th January we began to operate. John EI6IZB kept us warm with a cosy fire pit. When we were exhausted from operating he would welcome us at the fire with a hot cup of coffee. Frank EI8HIB had an excellent time operating on the 80m band. He made the most contacts during the weekend. Michael EI6IRB got himself into a net on top band. The participants of that net became very interested in his military radio equipment. Johnny EI8IPB operated in tandem with Tom EI5IEB on 20m. Vic EI5IYB entered the activity using Online Amateur Radio Club callsign EI2OARC and worked 40m.

We operated till early hours on Sunday. In the morning the smell of the fry-up got all of us out of the sleeping bags. Tom was at it again! Coffee, chats and we were operating again.

We stayed until the 40m and 80m IRTS news bulletin to which we called. Later Stefan EI4KU helped Michael with top band experiments.

A successful Winter Field Day concluded, with the club having operated various stations for over 24 hours off grid, in a field, in winter, fuelled by coffee and LiFePo batteries.

Before we left we had a tour of the Irish Military Museum and Park. It was too short! There is so much to see. There is so much to see. We would like to thank William for letting us use this most excellent facility. Great fun was had by all and we will be back!

Hillwalking Radio Group

The Hillwalking Radio Club were on duty for the Glen of Aherlow Winter Walking Festival on both the 28th and 29th of January. We put in a total of 17 hours over two days supported by our partners The Galtee Walking Club.

The Club provided excellent leaders and sweepers who were very proficient in using radios and some for the first time using 163mhz handheld radios and that made our tasking much easier. Saturday was very testing with walk leaders calling in Status Red on a regular basic. This means something serious and on this occasion weather conditions had deteriorated with freezing fog and very poor visibility. The sweepers were calling for our rescue car to bring a number of people off the mountain. On Sunday, conditions were more favourable with some nice sunshine and a more relaxed pace. There was no status call all day, so we resorted to asking for signal reports.

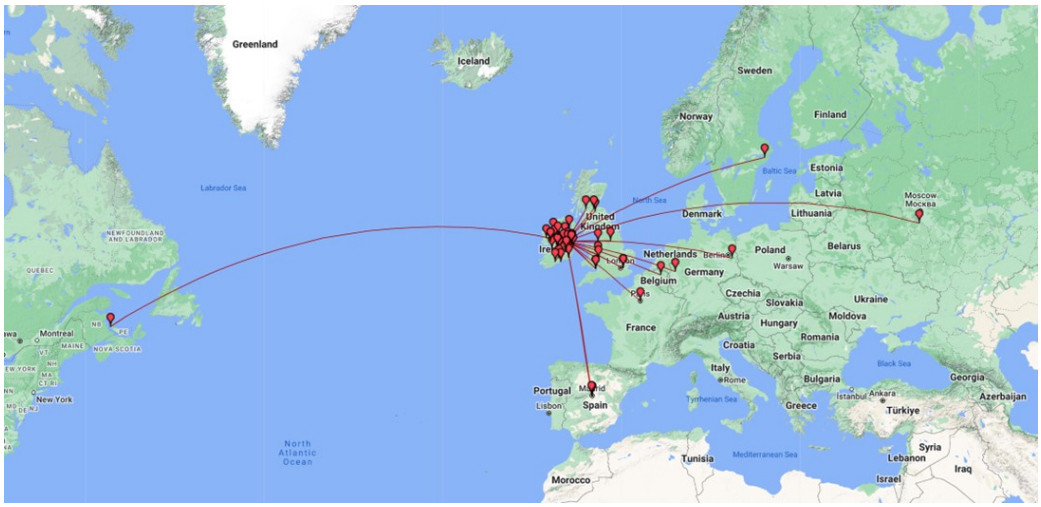
Approximately 250 hillwalkers took part in the event and all the weary souls were glad of hot soup and sandwiches at the end of the evening. VHF worked very well with no loss of signal at any stage. Licence free 446mhz was used between our Radio Controller and Event organiser who was based inside Aherlow House Hotel. A big thank you to all those who came over to our Support unit to say hello!

HILLWALKING RADIO GROUP

Shannon Basin Radio Club

Weekly SSB nets

Our weekly SSB nets are proving to be very popular with operators from Ireland, wider European area, and as far as Canada. The 80m net on Thursday evenings on 3.775MHz or thereabouts. For the second half of February, conditions on the 80m band were particularly good and the net controllers had pile-ups on occasion. Over 50 unique calls were logged and the furthest contact made was with Bob VY2NX in Prince Edward Island, Canada. The topband 160m net continues on Monday nights on 1.847MHz. All are very welcome to join the nets even if you just have a few spare minutes to call in and give a report. They are intended to be relaxed enjoyable breaks in the week to try some radio and experiment with various antenna deployments. The club appreciates everyone who joins in and especially the large number of SWLs. SWL reports are very welcome via SMS to +353-86-1802821



Over 50 unique calls joined our last two 80m net nights. The furthest contact was Bob VY2NX in Prince Edward Island

Forthcoming Events

The 2023 IRTS AGM weekend will be held on April 29th and 30th. The venue is the Shearwater Hotel in Ballinasloe, Co. Galway. It is being hosted by the Shannon Basin Radio Club who are looking forward to warmly welcoming everyone to the event.

The plans for the weekend's short talks and radio rally are being finalised. Further details will be issued in due course. Please note that the deadline for applications for trader and club tables at the radio rally is Thursday March 16th. If you wish to secure a table at the rally, contact Keith EI5IN via email at admin@sbrc.ie for details as soon as possible and before this deadline expires.

The rally will appeal to anyone with an interest in radio and electronics. It will also feature the popular monster raffle. We are delighted to announce that so far, Long Communications, MFJ Enterprises, Icom UK, Wescom Ireland Ltd., Messi & Paoloni, and Airmast are among the companies that are very kindly sponsoring prizes for this.

If booking hotel accommodation using the reference 'SBRC', please note that it only works for bookings made over the phone.

Tickets are required for the gala dinner on Saturday April 29th. They are €35 each and selling fast. Gala dinner ticket purchasing details, as well as accommodation information for the AGM weekend are available on www.sbrc.ie/agmweekend

Joining Shannon Basin Radio Club

Shannon Basin Radio Club membership continues to grow. If interested in learning more about the club or becoming a member, you can contact the club by email to admin@sbrc.ie or find more information on the club's website at www.sbrc.ie. You can also find information and updates about the club via Facebook, Twitter, and Instagram.

Galway Radio Experimenters' Radio Club

Our Club Monthly Meetings

The Galway Radio Club met in the Menlo Park Hotel for the monthly club night. It is generally held on the first Monday of every month, except if it is a Bank Holiday in which case, we meet on the second Monday of the month. We also support a virtual presence via. Jitsi (https://jitsi.org/).

It is generally a well-attended night with members being both physically and virtually present.

Focus

The focus of our monthly club night is, as a rule, all things Ham Radio is about – learning about new things, sharing information on what works (or doesn't work), showing new (or old) pieces of equipment and giving presentations/ demo's where we can. Any "club administration" is handled separately by our committee and only bring to the Monday night meeting anything that the club members need to be made aware of. Of course, Monday night club members can also raise questions/concerns/issues etc. to the committee.

Last Club Night

Last club night (13-February), we covered several topics including the events in early along with 3 very good demos.

Upcoming Events

There are quite a number of upcoming local events that we want to participate in, namely:

Date	Event
04-March	Kinvara Rock and Road
17-March	Saint Patricks Day
01-April	Maamturk Challenge
22-April	Marconi Weekend

Most of the discussion centred around how we might play a role in the event, what was required to do so, and who would be available to support the who events.

Demo – Aoife Hegarty (EI8HOB)

Aoife gave a presentation on Antenna Analysis, comparing the Club Owned RigExpert Stick PRO and her own NanoVNA-H. The antenna in question was a "Double Bazooka Antenna" for the 10m band. There were some differences seen between the two analysers – for example:

EZNEC Antenna Software by W7EL which is available from https://eznec.com/

MMANA-GAL which is available at http://gal-ana.de/basicmm/en/

But not all questions were answered which means more investigation and experimentation.

Scenario	RigExpert Stick PRO SWL	NanoVNA-H SWR
Single mast with drain pipe	1.58	1.44
2 Masts	1.23	1.133

Demo – Tom Frawely (EI3ER)

Tom presented a set of slides on how to use the Morserino-32 which turned in to a working sessions as a number of people in attendance had brought there devices.

Tom started with the assumption that the device has already been assembled and went thru' the steps of powering on as well as charging it (it has to be powered on to charge). From there, Tom stepped thru' various menu options to enable the paddles for CW along with how to adjust speed and volume etc.

Tom then went on to explore some of the other options and how to enable them including the use of LoRa to enable communications between devices that are in the same room.

What was interesting here was that this did turn in to a working session, with Tom going around to the different members if they were having trouble enabling/disabling the different functions etc. This was a great way for people to learn how to use the device and it was great to hear people using CW at the end of the demo to communicate across the room.

Demo – Aengus Cullinan (EI4ABB)

Aengus brought in what he called his "Battery Pack Projects" which are a set of rechargeable batteries from Lidl that can be used mainly for portable radio work. Naturally there are some challenges:

The voltage of the batteries is generally higher than required – this is solved by using a converter which Aengus demoed – the converter was able to vary the voltage via. a small potentiometer. Care is required to make sure the correct voltage is set before connecting the battery to the radio equipment

The connections between the battery and the radio equipment are non-standard. Aengus solved this by use of the plastic lid of a spray can, some wires, glue and ingenuity.

This was interesting as the batteries and chargers in Lidl are very good value and Aengus has been using them for quite awhile now with no problems. They are the same batteries used for tools such as drills etc. so they are of a solid and durable design able to deal with a high load.

AOB

At the end of the night, we briefly discussed Bletchley Park and that this would be an interesting trip. We found out that if you are a member of the RSGB, then entry to Bletchley Park is free and this also includes admission to the National Radio Centre.

Paul O'Connor EI5IPB

Mayo Radio Experimenters

Next Club Meeting:

The Mayo Radio Experimenters Network will hold their next club meeting on Wednesday evening March1st @ 9.00pm in the Breaffy House Hotel, Breaffy.

Everyone is welcome to come along in the evening.

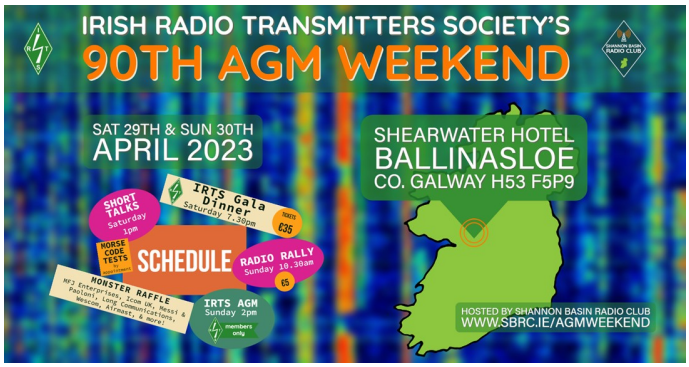
The members of the Committee elected for 2023 are :

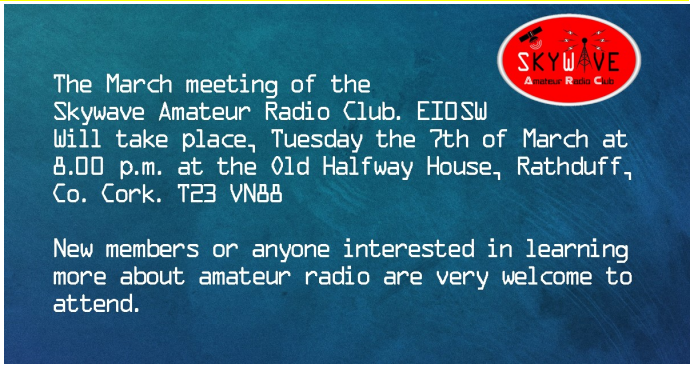
Chairperson: Tom Moran **EI4KY**

Secretary: John McDonnell **EI6IR**

Treasurer: Padraic Baynes **EI9JA**

QSL Manager club Rep: Brendan Minish **EI6IZ**





SKYWAVE
Amateur Radio Club

COTA Activation

Sunday 5th March

To mark Engineers Week 2023

10am - 4pm

Blackrock Castle Observatory

Castle Ref: EI-00055

Demonstration

Of

HF operations with the COTA station

SSTV 2m FM,

ADS-B Aircraft Tracking

and

more

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!

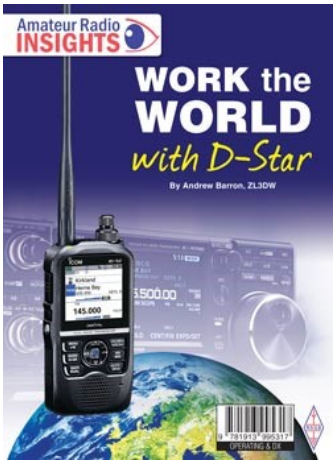
€35 each

HOSTED BY SHANNON BASIN RADIO CLUB

WWW.IRTS.IE

WWW.SBRC.IE/AGMWEEKEND

Latest Titles in the RSGB Book Shop



Work the World With D-Star

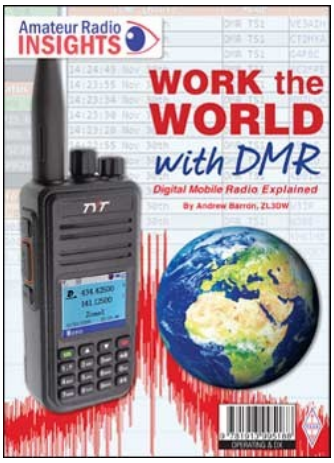
By Andrew Barron, ZL3DW

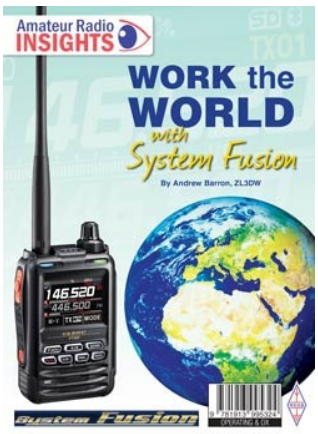
Work the World with D-Star is a practical guide that explains the steps that you need to follow to make your new D-Star radio work through your local repeater or hotspot. There are terms to discover, including dashboards, reflectors, gateways, hotspots, and Echo. Also, acronyms like AMBE+2, DR, DV, CS, and MMDVM. The book covers how to link to a reflector and what to say when you are making your first calls. If you are using a hotspot you can link to a reflector using the hotspot's Pi-Star dashboard or using the functions on the radio. Or you can use PC software or a phone app. There is guidance on MMDVM (multi-mode digital voice modem) 'hotspots' and step-by-step instructions for configuring the Pi-Star modem. Information on the D-Star data structure and the advantages and disadvantages of digital voice technology over FM, and other digital voice modes such as System Fusion, DMR, and P25 is also discussed. Work the World with D-Star even includes programming instructions for some popular Icom D-Star radios such as the ID-52A, ID-51A +2, IC-705, and IC-9700. As always, not forgotten is Andrew's guide thoughts on "which is best," and "what should I buy?".

Work the World with DMR

By Andrew Barron, ZL3DW

The Work the World with DMR practical approach explains the steps that you need to follow to make your new DMR radio work on your local repeater or hotspot, and for worldwide contacts. Amateur Radio DMR is not as simple as entering a couple of frequencies and setting a CTCSS tone the way you would for an FM radio. So, you can expect a steep learning curve but of course that's where this book will be the most helpful. You will discover lots of new terms including dashboards, zones, receive groups, colour codes, code plugs, hotspots, Parrot, talk groups, and time slots. Also, acronyms like MMDVM, CPS, IPSC2, DMR-MARC, TGIF, and DMR+. MMDVM (multi-mode digital voice modem) 'hotspots' are very popular accessories and there is information here about their uses and configuration. You will also find coverage of duplex hotspots and the perhaps more familiar simplex hotspots, including a section on how to assemble a hotspot from a kit, a Raspberry Pi, and an SD card. There is even step by step instructions for configuring the Pi-Star hotspot operating system.





Work the World With System Fusion

By Andrew Barron, ZL3DW

System Fusion and Wires-X are exclusive to Yaesu. Although you have to use a Yaesu radio to access Yaesu Wires-X 'rooms' anyone can access thousands of YSF and FCS reflectors using a hotspot, a DV dongle, or a non-Yaesu repeater. Many of these reflectors are in turn linked to DMR talk groups, D-Star reflectors, Wires-X rooms, and other digital voice modes.

As usual Andrew explains in Work the World with System Fusion the base technology from the C4FM (continuous 4-state frequency modulation) which is similar to the 4FSK modulation used by DMR and the GMSK modulation used for D-Star. The DN digital narrow mode and what happens when you press the Wires-X button. For example, if you are connected to a genuine Yaesu repeater or a PDN or HRI-200 Wires-X node, the search function on the radio will list the available Wires-X rooms. If you are using a hotspot, multi-mode repeater, DV dongle, or non -Yaesu repeater, the search function will list YSF and FCS reflectors. A powerful set of features indeed. There is much more besides in this book, with using the various reflectors explained, alongside Hotspots, Troubleshooting and there is even advice on 'What should you buy'.

DV SCOTLAND PHOENIX WEEKLY NETS

MONDAY NIGHT NET
8PM TILL 9.30PM UK

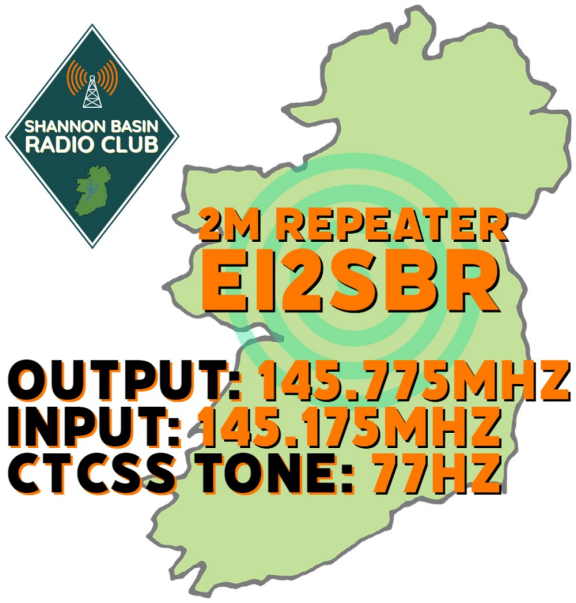
SATURDAY NIGHT
COAST TO COAST NET
9PM TILL 10PM

STATIC ON TG 23555 & 23556

HAMSHACK HOTLINE : 94110
HAMS OVER IP : 25001

EchoLink · DMR · D-STAR · Fusion · DV Scotland Ham Radio Peanut · AllStar Link

SHANNON BASIN RADIO CLUB



Handmade Ham Radio Gadgets

Contact : 0877775249
EI9GWB Arek

Drop by our Online SolderSmoke Store

https://www.cafepress.com/soldersmoke

If you know stuff... you can do stuff.
IBEW
soldersmoke.blogspot.com

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Serving the world-wide community of radio and electronic homebrewers

Host - Bill N2CQR

Co Host - Pete N6QW

https://soldersmoke.blogspot.com/

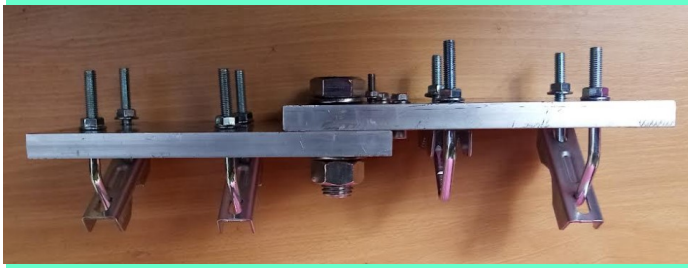
For just 15 Euro Membership you can get an individual AXA Public Liability Insurance Cover of €9,000,000. This is applicable to all Member states of the EU.
Why not affiliate your club also and obtain cover for all club events. This organisation does not require you to declare your membership for their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

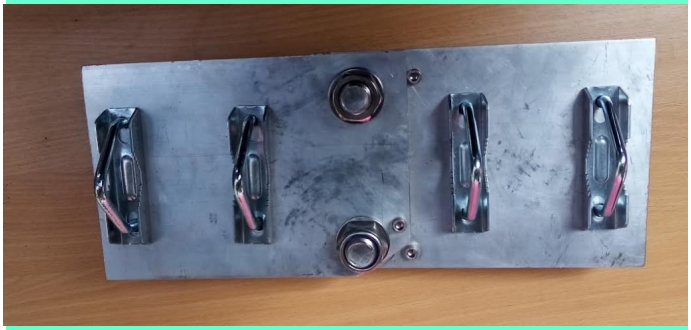
For Sale - Antenna Tilt Plates

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.

wescom IRELAND LTD

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

50MHz UKSMG

UK Six Metre Group

Dedicated to promoting 50MHz activity around the world

An Amateur Radio publication for the Microwave Enthusiast

UKuG **scatterpoint**

Published by the UK Microwave Group

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

EURA
EUROPEAN RADIO AMATEURS' ORGANIZATION
https://www.eurao.org/en/welcome

Dates for the Diary

Lagan Valley ARS Rally - Saturday 4th March

COTA activation by Skywave - Sunday 5th March

St Patricks Day Activity and Awards 16th - 18th March

Worldwide Autism Awareness Week 25th March - 2nd April

RSGB 2023 AGM - 15th April 2023

International Marconi Day - Saturday 23rd April 2023

SOS Radio Week 1st - 31st May

Lough Erne Radio club Rally 7th May

International Lighthouses on the air 19th—20th Aug

UK National HamFest Peterborough 6th - 7th October

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/

collective Communication

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.
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