



RNARS

Newsletter



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RNARS Publications
Summer 2023

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- N type connector (7392).....£6.95
- BNC type connector (7391).....£5.25

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Front Cover: Ian M0LIH operating /P

Back Cover: Kite aerial used by Ian M0LIH and Dave M7CJD

RNARS CONTACT NUMBER – 01329 717627 (ANSWER PHONE)

FROM THE EDITOR



Joe Kirk
g3zdf@btinternet.com

Welcome to the Summer edition of the *RNARS Newsletter*. As David our regular Editor is currently in hospital and unable to produce the Newsletter I have stepped into the breach to make sure the sequence of Newsletters is continued and we do not miss an issue. The style and layout may differ from David's as I could not get access to his library of templates nor his layout styles but I hope members still enjoy reading it. Apologies as well if you sent some material to David for publishing, I'm sure he will get round to publishing it in a future issue. We send our best wishes for a speedy recovery to David.

I hope this reaches you before 1st July otherwise the item below about the Open Day will be redundant.

As always we depend on articles from you our members so please keep them coming in.

Joe G3ZDF

HMS COLLINGWOOD OPEN DAY

[HMS Collingwood Open Day](#) will be held on 1st July this year. We will be running a selection of activities in and around the HQ Shack. Why not come along and catch up with some old friends, maybe operate our top of the range gear using GB6COD, grab a cup of tea or coffee or maybe just rest your weary bones and then watch the Field Gun Competition? We'll also be commemorating the Tot Time tradition.



RNARS OFFICERS & COMMITTEE

Patron: Admiral Sir Philip Jones GCB DL		
President: Commodore Paul Sutermeister DL RN		
Chairman	David Firth	chair-RNARS@mail.com 078999 86469
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Ex-Officio	Vacant	
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Call list	Contact Joe G3ZDF	
RNARS Overseas Representatives		
Australia	Vacant	
Canada	Vacant	
USA	Mike Rioux W1USN	

MEMBERSHIP MATTERS

Membership Changes since Spring 2023 Newsletter



New Members		
Duncan Fisken	G3WZD/M3F	5161
Tony Cartwright	G6ABF	5162
Ed Pearse	SWL	5163
Fraser Lees	OZ1JKU	5164
Flt Lt Jonathan Spence RAF*	2E0KZN	5165
Re-joiners		
Bob New	G0BSJ	2427
Changes		
Resigned		
Harald Joorman	DL5XI	3695
Silent Key		
Peter Leybourne	MM5PSL	4813
Alan Dale	G4JFO	1352
Ray Noble	G4UYR	2532
Bert Hearn (was life member)	G4BOI	0297
John Wheatley (was life member)	G0JSC	1702
John Alley (was life member)	W1DMD	1347
Awards		

* Jonathan is Chairman of RAFARS

Members whose Newsletter delivery has bounced and who do not have or have not responded to email or telephone contact. If you have any information about any of these members please pass it to Joe G3ZDF Membership Secretary

David Pilley	VK2AYD	0013
Len Franklin	G0JKV	0306
Bill Stephenson	G3AQB	0486
Reg Rubins	G4HAB	0790
Dronz Arigho	G3VNM	0878
Henry Shields	G3GB	1199
Hans van den Berg	PA0HIS	1242
Ian Coombe	VA3ICC	1673
Roland Freshwater	G6CNK	1984
Bill Bailey	G2CHI	2531
Dennis Evans	GW4VEK	2550
John Finch	G4YVB	2594

Sid Dunn	GOKHN	2884
Ray Evans	G0FQT	3139

MEMBERSHIP NUMBERS

Type Of Membership	Current	Free	Life	Suspended	Under25	Total
Affiliate	13	4				17
Associate	121	1	9	2		133
Corporate	312	3	51	12	4	382
Family	5					5
Honorary		2				2
TOTAL						539

Joe G3ZDF

OBITUARY OF BERTIE HEARN G4BOI #0297

Born 26th May 1923 in Lambeth London Bertie Hearn was one of seven children.

Shortly after war broke out in 1939 he attended Radio Training School to become a signaller / radio operator in the Royal Navy.

As an accomplished boxer he was chosen to box in an Army & Navy tournament in front of King George VI

Bertie's Royal Navy service included training at HMS Royal Arthur shore establishment and operating on HMS Implacable.

Surviving WW2 he set upon a successful career in the British Film Industry, all the while maintaining his membership and passion for RNARS.

With wife Jean they had three children and is survived today by his two boys, eight grandchildren and great grandchildren.

So very close to his 100th birthday, we sadly had to say farewell to Bertie on 29th March 2023 who we hope is sailing in heaven.

Dan Hearn

MEMBERSHIP CORNER - ANNUAL SUBS & HOW TO PAY THEM

**PLEASE CHECK THAT YOUR SUBS ARRIVE ON TIME
ON OR BEFORE THE FIRST OF APRIL EVERY YEAR.**

Please ensure your name and RNARS number appears on all transactions. **UK:** £15 or £5 per year **due on the first of April** and to be sent to the Membership Secretary. Cheques and postal orders to be made payable to "Royal Naval Amateur Radio Society"; bankers orders are available from the treasurer.

Subscriptions can be made via **PayPal**. The email of the Society's PayPal account is rnars.treas@gmail.com.

Payment can also be made through our website <http://www.rnars.org.uk/PaySubsByPayPal.html>

Overseas members:

Subscriptions via PayPal is the preferred option, see above for details.

Newsletter by e-mail: If you want to receive email Newsletters contact the Membership Secretary for details making sure you include your email address.

The society banks with Lloyds

272 London Road, Waterlooville, PO7 7HN. Sort code: 30 99 20 - Account number: 00022643 - IBAN: GB92 LOYD 3099 2000 0226 43 & BIC: LOYDGB21271.

If you are 25 years of age or under then you are exempt from paying subs.

GDPR/A: Your details will be held on the society's database by the Membership Secretary. The committee requires your permission with regards to the release of your personal information held on the database to be used only by the Society.

RNARS-Newsletter - THE Royal Naval Amateur Radio Society's MEMBERS JOURNAL

Editorial: David Firth, M0SLL

Distribution: Joe Kirk, G3ZDF

Proof readers: Joe Kirk, G3ZDF, Mike Moore, M6POY

Envelope Stuffers: HQ Shack members / Joe Kirk

Publishing dates and deadlines

Spring: 22nd March, Summer: 22nd June, Autumn: 22nd September, Winter: 22nd of December.

Our deadline is usually 3 weeks beforehand. Contributions for the Newsletter are preferred in A5 page sized Word format set with narrow margins all round and with header and footer, using Arial 10pt text, and is a colour document printed on white matt paper inside a gloss cover, converted to a PDF document for printing. Please ensure that your images are sharply focussed. Please send your contributions to the RNARS Newsletter editor via email to M0SLL@mail.com. Personal items sent by post cannot be returned unless accompanied by a SAE.

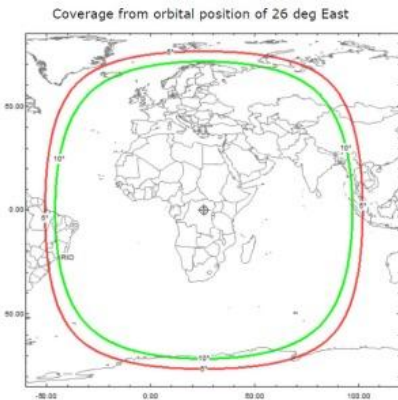
The RNARS Newsletter is published by the Royal Naval Amateur Radio Society as its official journal to all members of the Society. The expression of views within this newsletter do not necessarily represent the views of the RNARS. The RNARS is affiliated to the RSGB.

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NEWS FROM THE HQ SHACK

As can be seen further down we are in the process of building and fitting a set of band pass filters on the HF Bays to enable multi-operator HF working which will be particularly useful on Collingwood Open Day. The work is being designed and implemented by Tony G7ETW and Neil G4EMM.

Ian M0LIH and Dave M7CJD have completed the installation of a 3rd dish for satellite working. Ian is in the final stages of completing the wide-band transmitter which will enable ATV (amateur TV) QSOs via the Oscar-100 satellite. Qatar OSCAR-100¹ is the first geostationary amateur radio transponder, a joint project between the [Qatar Satellite Company \(Es'hailSat\)](#), the [Qatar Amateur Radio Society \(QARS\)](#), and [AMSAT Deutschland \(AMSAT-DL\)](#) which provided the technical lead.



The satellite covers all of Europe, Africa and the Middle East.

A number of narrow band QSOs have already taken place with an earlier version of the hardware.

Ian is also in the process of making a short video about the RNARS which will be used on satellite QSOs to explain who we are and what we do.

The Shack now has a HF multi-band vertical to complement the other horizontal aerials. First results are promising.



The east end of the HQ Shack showing the satellite dishes and the new multi-band vertical aerial.

¹ <https://amsat-uk.org/tag/qatar-oscar-100/>



The Newsletter Despatch Team hard at work on the Spring 2023 issue fuelled by the doughnuts in the centre of activities.

Left to right: Dave M7CJD, Neil G4EMM, Neil M7BXZ, Mike M6POY, Tony G7ETW and Edwin 2E0LLD



The HQ Shack hosted a visit by members of the Rustington Amateur Radio Group on 23rd March organised by Howard Felstead M0HJF. The group consisted of Jim M0RUX, Peter G3TZ, Mike G8FNH, Chris G0GMC and Howard M0HJF.

Ian MOLIHL and Martin MOEHL have formed a new SOTA² (Summits on the Air) group with the intention/expectation/hope of activating as many summits as possible including the highest peaks in each of the home countries. They are looking for volunteers to join them. They realise that many of us are not exactly in the first flush of youth/have dodgy knees/can't climb the stairs so they suggest volunteers could help at the base camp on any of the summits (the support team) or be available for a QSO when the team get to a summit (the chasers). This was their proposal which was endorsed by the Committee

UK Highest Peaks SOTA Activation Expedition – Proposal

Introduction

During one of a numerous amount of rag-chewing sessions, two of our members, Martin (MOEHL) and myself (Ian MOLIHL) mulled the idea of performing a SOTA activation and in usual style an idea formed, namely that we could scale the highest peak of every RSGB region and activate the summit for the SOTA scheme. This would be performed as a sponsored charity event to be attempted over a number of weekends.

SOTA (Summits on the Air) is an award scheme for radio amateurs that encourages portable operation in mountainous areas. To successfully activate a summit the radio amateur must scale a summit with a prominence of at least 150 meters, set up their portable equipment (on a band of their choosing) and achieve at least 4 contacts.

To activate a SOTA summit, the operating position must be within the “Activation Zone”. The Activation Zone is defined within a closed contour line at 25m Vertical Distance below the summit. Operations must not be in, or in close vicinity of a motor vehicle. All equipment must be carried to the site by the activation team and all equipment must be operated from a portable power source, with no installed power sources or fossil-fuel generators of any kind. QSOs must comprise of an exchange of callsigns and signal reports; it is strongly recommended that the summit identifiers be given during each contact.

The summits in question are as follows;

² <https://www.sota.org.uk>

Region	Identifier	Peak Name	Peak Height	SOTA ID	Point Value
England	E	Scafell Pike	978m	G/LD-001	10
Northern Ireland	I	Slieve Donard	850m	GI/MM-001	10
Scotland	M	Ben Nevis	1345m	GM/WS-001	10
Wales	W	Snowdon	1085m	GW/NW-001	10
Isle of Man	D	Snaefell	621m	GD/GD-001	8
Guernsey	U	Le Moulin	114m	GU/GU-001	1
Jersey	J	Les Platons	136m	GJ/JE-001	1

My proposal breaks down into seven parts;

- Programme of activities
- Team 1 – The climbers
- Team 2 – The support party
- Team 3 – The “Chasers”
- Applicable Awards
- Public awareness campaign
- Charitable element

Programme of Activities

The two travelling teams (Team 1 – The climbers & Team 2 – The support party, as discussed later in this proposal) will travel to the location of the highest peak for each region over a number of weekends (as opposed to weekdays due to the work patterns of the amateurs in question). Whilst on location a SOTA activation attempt will be made. Both of these teams will need to travel to and accommodate in the local area in order to make the attempt. Roles for all amateurs, regardless of physical ability, are being considered.

Team 1 – The climbers

The amateurs who wish to attempt the summit will scale the peak. As a suggestion this may be better suited to the more physically able amateurs, however anyone who does not present a clearly high risk will be considered (some peaks are a lot more difficult than others). Any amateurs who wish to attempt the summit will be expected to provide their own clothing and equipment suitable to the task. This team will be expected to carry portable radio equipment and hiking equipment to the summit. During the ascent the team will remain available on either 2m or 70cm to talk to Team 2. At the summit Team 1 will set up their equipment, make the necessary contacts, pause for PR photography, interviews or other activity as necessary and then pack up and descend, returning to the base of the hill/mountain in question.

Team 2 – The support party

It is very much recognised that not all amateurs will be able to attempt the summit. However this should not exclude anyone from taking part in the activity. In this part of the proposal I suggest a “support party”. This party will travel to the base of the hill/mountain and set up a field station in a suitable location (pub garden/car park). During the ascent they will keep an open line of communications with Team 1 and maintain an open dialogue, potentially using Yagi antennae pointed toward them if necessary. This team will provide the initial contact necessary to satisfy the activation requirements. Where suitable this team may also open a field station in order to allow amateurs, both from Team 3 and other interested parties, to get “dialled in” to the location (aiming of beams, propagation of frequencies etc). It is suggested that this team may be even higher profile than Team 1, especially if situated in a public area, so suitable PR material and advertising should be made available at this station. This could also serve as an opportunity for RNARS members from the areas local to the activation to congregate and re-connect with the society.

Team 3 – The “chasers”

It is the initial intention for Team 1 to carry portable HF equipment. SOTA offer a separate award from their website for “Chasers”. A chaser is a ham radio operator or a short wave listener (SWL) who tries to find an activator transmitting from a summit. I suggest a “chasers” day being organised at HQ Shack on any day the SOTA team is activating a summit. The shack can be open to members who are not necessarily able to or interested in travelling to the summit sites. The shack should hold information of what the Teams involved are doing and the summit they are attempting, possibly supplemented with SOTA information or journals of previous attempts. Possibly a Barbeque, Pizza Day/Night, Fish Supper or Pie and Peas type event could be looked at to give the event a sense of occasion. Furthermore, for those further away from HQ Shack, details of the activation can be provided to allow for members to call in from home.

Applicable awards

SOTA offer a number of awards for both activation of summits and chasing summits. Activation of / chasing the summits in question will reach the half-way mark in the first of the SOTA awards. However I propose (if applicable) a separate award to be initiated by the RNARS for the activation and chasing of the RNARS expedition. Details to be discussed at a later date.

Public awareness campaign

This expedition should be utilised by the RNARS to its fullest opportunity for public awareness and recognition of both the RNARS and the charities involved, furthermore it should be used to promote SOTA to other amateurs. The magnitude of the task involved should also be recognised, as summiting these peaks alone will be a significant undertaking. HMS COLLINGWOOD / Navy News could also be involved.

Charitable element

Sponsorship for this expedition could and should be the primary aim. Intention is to raise money for Royal Navy and Royal Marines Charity (RNRMC) and Blind Veterans UK Amateur Radio Society.

Conclusion

This expedition provides an exciting opportunity for the RNARS to take part in a new amateur radio activity with the possibility of a few interesting trips to parts of the United Kingdom seldom visited by the Society. For the members attempting the summit it will present a challenge, both physically (in terms of navigating and scaling the peaks) and technically (in terms of portable and QRP operation). For any members willing to travel to the summit sites and take part in the support team it will afford the opportunity for an impromptu field day and the chance for a trip out with the society. For members who choose to take part from the HQ shack or at home it will provide the opportunity to partake in the SOTA chasers scheme and to partake in a new challenge of trying to direct their equipment toward a given target. For the society as a whole it will provide public exposure and PR opportunities in terms of Physical Challenge and Charitable Activities. For the nominated charities the funds raised will help them to continue their vital work.

The SOTA Proposal was discussed by the Committee and endorsed by them with the condition that any expenditure would have to be approved by the Committee

NEWS FROM THE COMMITTEE

- Dave M7CJD has been co-opted onto the Committee with the role of Assistant Secretary for those times when Martin our usual Secretary is unable to carry out his role due to service commitments
- Simon M0OXME has been chairing recent meetings and standing in for David who is still in hospital
- Proposals for recipients of our annual awards should be sent to Martin, M0EHL our Secretary
- The Committee invites applications for the posts of Membership Secretary and Website Manager when Joe G3ZDF steps down at the next AGM – details further down

30TH ANNIVERSARY CELEBRATIONS



This year is the 30th anniversary of the move of the HQ Shack from HMS Mercury to HMS Collingwood and we will be celebrating the occasion on 28th July with some events in and around the Shack and with a series of specially designed commodities and mementoes. Among the mementoes are the Challenge Coins which I have to say were new to me. According to Wikipedia³ “A **challenge coin** is a small [coin](#) or [medallion](#), bearing an organization's insignia or [emblem](#) and carried by the organization's members.”

The first part of the celebrations will start at 11.30 and we will be serving drinks and nibbles in the Shack. All members are invited but I would ask for confirmation of attendance at the latest by 14th July.

There will be a more relaxed and informal gathering in the evening where we will have a pay bar, music and some food and again open to all members.

ITEM		PRICE	PERSONALISED WITH CALLSIGN	P&P*
Mug		£13.00	£19.00	£5.00
Challenge coin		£12.00	-	1 - £3.00 2 - £4.50

³ https://en.wikipedia.org/wiki/Challenge_coin

ITEM		PRICE	PERSONALISED WITH CALLSIGN	P&P*
				
Lanyard		£4.50	-	£2.00
Cap		£15.00	£20.00	£4.50
Package of all 4 items		£37.50	£42.50	£7.00
Challenge Coins holder**		£2.50		

*UK P&P prices. Contact Mike for P&P for outside the UK

**Designed and printed by Ed 2E0LLD

BAND PASS FILTERS

Tony G7ETW & Neil G4EMM

On Tuesday afternoons a number of us meet up at the shack. It's a combined social and technical session, and quite a lot – punctuated by tea and doughnuts – goes on.

For some, HF operating is the main activity, and the shack is well appointed for this. RNARS has five operating positions, each equipped with an HF radio. Outside the shack there are **several** HF antennas in close proximity, each cabled into the shack to one of two patch-boxes on the wall.

Fantastic, you may say. And I agree it is but there is a problem.

INTRA-STATION INTERFERENCE

The operation positions are arranged as bays. Say I'm in Bay E, on 40m doing SSB. The noise floor, bearing in mind we're in a military communications establishment, is remarkably low. But if Joe G3ZDF, is in Bay C say, on 80m and doing CW, we get mutual intra-station interference. When he transmits, my noise floor noticeably rises. I can see it; I can hear it. So can he. This reduces my ability, and his, to work very weaker stations.



And that's just with two stations; we could have five.

Serious contesters know all about this. The easiest solution is to separate the stations, but, generous as the Navy is, asking for more buildings is not likely to end well!

This interference doesn't indicate faulty equipment or bad operating skills; I must make that clear. Commercial Amateur Radios – well, aside from some Chinese QRP ones – always have Low Pass Filters to prevent harmonics (generated chiefly by amplification) and any synthesiser by products escaping. Each station we have is relatively 'clean'.

Of course if we had two operators transmitting on the same band, that would be asking for trouble. But that's not the scenario.

Our problem is too many stations, too close together.

ASK THE TEAM

One Tuesday we discussed this, and the solution was obvious: Band Pass Filters for each bay/band combination. If I'm on 40m, with a 40m BPF inline, only 40m signals can make it into my receiver. Problem solved; what could be easier?

Well yes - but there are issues, the first one being power. A BPF is outside its radio, beyond its control. In the absence of a band-sensitive RF switching arrangement, each filter has to be able to handle all the power going out, and for us that can be 200W. Additionally the constraint exists in that any BPF will need to be placed between the transceiver and any external ATU if the antenna is not a good match.

[Hmmm. I quite like that idea actually: standalone, intelligent, RX-only filters. We'd need some Arduinos and a few relays. Modern radios have accessory sockets to tell other equipment what band they're on and PTT state. But we'll leave that for the mk2.]

And then there is the human factor. If someone changes bands, but does not change their BPF, the new band will be dead as the deadest of dodos. Worse, the radio looking out will see a very nasty load indeed and smoke will be produced!

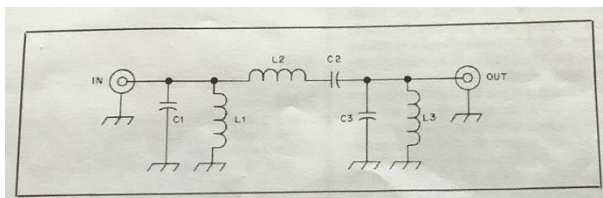
BPFs are the answer though, and they are available. **various** commercial suppliers produce single-band filters starting at about £119. But even ignoring the hefty price tag, how would we know what quality parts had been used?

For that and other reasons it was decided RNARS would do this ourselves and Neil G4EMM and I took this on.

FIRST STAGE – FIND A DESIGN

Google, where would we be without it eh? Neil and I both came across the same article for some high-power BPFs published in QST in 1988. Lew Gordon, K4VX of Missouri, faced with the same intra-station interference, designed and built BPFs for 160, 80, 40, 20, 15 and 10m using a three-stage Butterworth filter.

Pic 1 shows the circuit and Pic 2 shows the L and C values.



Pic 1 -Band Pass Filter circuit

These images come from the original article.

Table 1
HF Band-Pass Filter Specifications

Band (MHz)	C1/C3 (pF)	C2 (pF)	T-68-6 core		T-80-6 core		F _r (MHz)		
			L1/L3 (μH)	L2 (μH)	L1/L3 (no. turns)	L2 (no. turns)			
1.8	4000	400	2.2	22	22	69	23	70	1.75
3.5	2000	200	1.1	11	16	48	16	50	3.38
7	1000	100	0.55	5.5	11	35	11	35	6.78
14	500	50	0.28	2.8	8	25	8	25	13.56
21	330	33	0.18	1.8	7	20	7	20	20.65
28	250	25	0.14	1.4	6	17	6	18	27.39

Pic 2 - Band Pass Filters L & C values

I'm not going to explain how Butterworth filters work. It all comes down to interconnected tuned circuits using the appropriate values of L and C – old school RF engineering, in these days of SDRs. K4VX

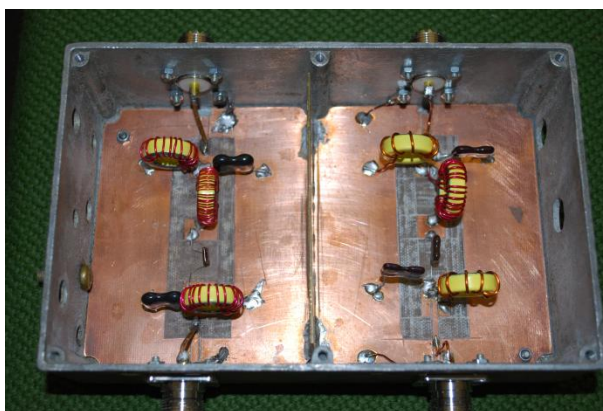
didn't explain it either – I

suppose even 35 years ago, this was a standard RF building block people that just adapted and used. He does explain all though, an essential factor in making inductors. K4VX's article is at <https://www.arrr.org/files/file/Technology/tis/info/pdf/8809017.pdf> and it's well worth a read. There is other material on the net as it's an old article there is good and not so good stuff i.e. Additionally there is a YouTube video for a 20m variant of this design where the builder did not have the expected results because the internal layout was not optimum.

Given the age of this article, I was concerned that the toroids might be obsolete. But no! T-68-6 and the larger T-80-6 toroids are all over EBay – Ah, but are they genuine? – And aren't expensive?

SECOND STAGE – PROOF OF CONCEPT

No-one doubted this would work – it's a textbook design – but we still needed to test it. We decided to make filters for 20m and 80m as probably the most used bands at the station, as cheaply as possible but true to the design. Neil's junk box being bigger and rattlier than mine, he did this.



Pic 3 - Prototype Band Pass Filter with 2 bands

Pic 3 shows Neil's prototype, which is a twin filter because he hadn't got any small boxes. The box has extra ventilation as you can see, proudly proclaiming its previous uses in amateur radio. He declined my recycled SO239 sockets because they lacked countersinking on the screw holes. Appearance and style are vitally important in home-brewing!

The board is **1.2mm** copper clad **paxolin** board. Neil cut gaps in the copper to make 'islands' with a craft knife and laid the circuit out exactly as K4VX did.

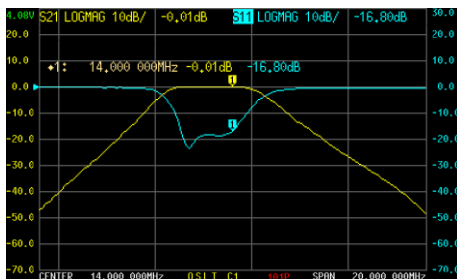
TESTING THE PROTOTYPES

As Stephen Butterworth wrote in 1930: 'An ideal electrical filter should not only completely reject the unwanted frequencies but should also have uniform sensitivity for the wanted frequencies.'

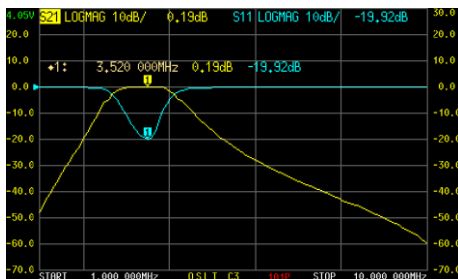
So a BPF should exhibit a vertical rise and fall of an infinity of decibels capped by an attenuation-free absolutely flat top across the desired section of RF spectrum. Butterworth designs generally have a gentler roll off than other filters types.

In practice, this is impossible because, amongst other reasons, capacitor values come in standard values and winding coils is not an exact science.

Neil used K4VX's L and C values, and, as Pics 4 and 5 show, the response of these simple filters, made straight from K4VX's recipe, is more than respectable. He did not need to tweak anything.



Pic 4 - Response curve for 20m



Pic 5 - Response curve for 80m

We did a 'real-world' test with two stations active and no increase in noise floor was noticed on either station. The toroids didn't warm up noticeably for the initial samples sustained 200W CW key-down, but with SSB's lower duty cycle, no change was observed.

Neil's comments about the testing were:

The BP filters I made have not been optimised at all as they would not be the actual filters only prototype's and these when tested in the shack were good enough anyway with the limited combination of antenna/transceiver we chose. We will take the time to centre the band pass responses to the bands for the real thing.

For the purist - The VNA I used although calibrated, technically it wasn't calibrated at the field or plane of measurement as I only normalised the leads for the S21 measurement. Perhaps just a note that the test equipment and results were not considered absolute but good enough for practical purposes at HF.

The filter responses in the prototype are slightly too wide especially 20m although they did seem to work, but I would suggest buying the additional few components per filter to add the extra stage of selectivity which isn't much of a cost increase for them as suggested in the article, also as we

haven't actually tested a 3 pole filter on the other bands. There will be enough wire, it's only the toroid and caps needed.

A success, we called that. To Lew Gordon and Stephen Butterworth we give a hearty thanks.

COSTING

If each bay could have a set of five filters, that will cost typically £175 each. That's twice my original estimate, but metal boxes are expensive and for a BPF, plastic won't do. Toroids are actually quite cheap, but 500V capacitors – needed for our power handling – aren't. Neil ordered everything from his favourite Italian supplier, www.rf-microwave.com.

For five bays then, that's £875, which does, undoubtedly, sound like a lot but with sensible use only one set would be necessary - to have all bays active on HF would be a rare event indeed, even in a contest. Never mind the acoustic noise, there could be other multi-station effects which make that impractical.

NEXT STAGE

Neil and I are planning a Tuesday Build-session. With the help of the usual Tuesday members we will have an assembly line to build one five-filter set and see how that goes in practice.

This is what radio clubs are all about. By the time this newsletter goes out, we will have our first BPFs in service and testing more combinations of different antennas and operating positions. We will have solved a radio problem, together, as radio amateurs do. (With a little help from amateurs who've gone before.)

Why not come along to the shack one Tuesday and see for yourself? It's your shack too and you'd be very welcome.



Doug GW4BEQ in a most unusual configuration

BIRTHDAY TRIP TO RNARS FRIENDS

Maren DK9MOS

Many times Maren DK9MOS has seen RMS QUEEN MARY 2 sailing in and out of the port of Hamburg. She always wanted to sail with her. Now the dream came true with a cruise from Hamburg to Southampton from May 16 to 18th. Unfortunately there were no waves in the Channel either, too bad! But it was still a nice birthday - in Hamburg still 69, in Southampton now 70 years old.

The day at sea (May 17th) was very nice and now we - Hans-Jürgen DK9OS and me - finally know, how a planetarium on a cruise ship works, the show Worlds Beyond Earth was amazing. In the evening with Dixieland Jazz by the Royal Court Theatre Orchestra, Maren enjoyed her cocktail "Jamaican Dream".

At noon there was a birthday card signed by Captain Aseem Hashmi MNM (Merchant Navy Master) at the cabin door. Captain Hashmi is a junior brother of the Corporation of Trinity House (a historic maritime organization founded in 1514 by King Henry VIII by Royal Charter and entrusted with the task of beacon management). Individuals who have rendered distinguished maritime service in Great Britain are often appointed to this administration. This company of course immediately reminded me of many QSO's with Marc GØTOC (SK in 2020). Marc had shown us around Greater London on many excursions on the occasion of the Easter Activity of the London Belfast Group. Of course in 2015 we were taken by Marc to Trinity Buoy Wharf and Trinity Buoy Lighthouse too - a memory of good times together.

In Southampton, Joe G3ZDF picked us up by car at the Mayflower Terminal on May 18th. After a short stop at Southampton Central, we drove through the New Forest to the small town Buckler's Hard, a former shipyard and port for the trade with the West Indies.



HMS Agamemnon display

Buckler's Hard, originally called Montagu Town, was built by the second Duke of Montagu on the banks of the Beaulieu River. It actually flourished as a naval shipbuilding centre and has become famous for building warships for Nelson's Navy. Of course, we enjoyed our lunch in the sun in front of the Master Builder's House Hotel.

In the small but nice maritime

museum you can learn everything about the history of this place: the life in the 1800s, the change of life in the 19th and 20th century, the time of wars and the special importance of the ships built here for Nelson and the Royal Navy. Special exhibitions are dedicated to Sir Francis Chichester, who became the first person to sail single-handedly around the globe in his yacht Gipsy Moth IV, to the sinking of the P & O vessel SS PERSIA and to HMS AGAMEMNON.

The shipbuilder Henry Adams (1713 – 1815) supervised the building of 43 Royal Navy ships at Buckler's Hard, including three that fought at the [Battle of Trafalgar](#) in 1805: [HMS EURYALUS](#), [SWIFTSURE](#) and [AGAMEMNON](#) (affectionately known as "Eggs and Bacon"). [At the museum, Joe finally learned how to tie a sailor's knot, too!](#)

The reconstructed Shipwright's Cottage transported us into past time. Very interesting was St. Mary's Chapel, once (1846) the village school.

Finally, we took a boat tour on the Beaulieu River before Joe brought us back to our hotel.



Hans-Juergen DK9OS & Joe G3ZDF

The next morning, I made a very short trip to the Old Town, the medieval heart of Southampton, which is a strong contrast to the big shopping malls like West Quay and the container facilities.

Then the adventure began: By train from Southampton to Barry Island. Some signals did not work and there was a strike. We drove in a circle around Bristol Temple

Meades before reaching Newport. Fortunately, the replacement bus service was finished and we were able to take another train to Cardiff with a delay. The rest of the way went without problems. The whole train ride we were in telephone contact with Doug GW4BEQ. Finally he had wished our visit for his birthday (95). With more than two hours delay we arrived at Barry Island, put down the suitcases in the Guesthouse and spent another nice evening in Doug's RumBar (his son is also called Doug).

May 20th was the birthday of our former RNARS Chairman Doug. Of course, as always when we visited him, he had prepared something special for us: In the morning we drove to the South Wales Aviation Museum St. Athan. The museum was set up to preserve the rich Aviation History in South Wales to inspire the next generation of aviators and engineers. The MOD base St Athan (Welsh: Maes awyr Sain Tathan), has been home to the



RAF No. 4 School of Technical Training throughout its life. Part of it is now home to a large collection of historical aircraft. Doug told many stories about the aircraft inside the exhibition and also for Hans-Jürgen, who himself started in the Air Force before moving to the Navy, found many well-known machines. Doug was most interested in the smaller specimens such as for instance the de Havilland.

Next stop was the coffee break at "Cosmeston Lakes Country Park" and the very small and also "new" Medieval Village.

Of course, the big birthday dinner with his family took place in the Brewers Fayre in the evening. This pub is close to Barry's modernized old docks. We finally got to know granddaughter Louisa and great-



granddaughter Caitlin as well as other family members. The birthday cake covered with a 95 on it was not missing either. It was a beautiful evening and Doug enjoyed being surrounded by his "ladies".



In the morning of May 21st I explored another part of the Wales Coastal Path as in 2021 in Sully, where Doug GW4BEQ lives. The two Dougs, father and son, took us by car to Cardiff Central. The train journey to Putney went smoothly. In Putney I explored another part of the very nicely laid out Thames Path.

On May 22nd we met another RNARS member, but first we enjoyed our lunch at The Admiralty. Of course we met Jørgen MØAXP and his wife Natali at a London pub, The Salisbury, based in Covent Garden and next to Chinatown. Square, a 18th century pub with traditional etched glass, gold chandeliers and hand-carved mahogany panels inside. We also knew Jørgen from the London Group, he was the treasurer for a long time.

We've had a lot to talk about since we last visited him in Richmond and Kew Gardens in 2019. After a little walk through Covent Garden and coffee with delicious cake we took the subway back to our hotel at Putney.



Jo MØAXP, XYL Natali & Hans-Juergen DK9OS

We flew home from Heathrow Terminal 5 on May 23rd.

All in all it was a nice birthday trip to and with RNARS friends: many thanks to Joe, who always shows us interesting historical and maritime places, and also to Doug, who is always happy to discover new interesting places for us.

We're look forward to seeing you again in October 2023 and wish you every success and many new members for the Celebration of 30th Anniversary of arrival the HQ Shack at HMS Collingwood.

Maren DK9MOS RN4946

SNIPPETS FROM THE BRINY

DAYS SPENT AT SEA IN 2022 BY RN FRIGATES & DESTROYERS

Name of Ship	Type	Days at Sea
Montrose	Frigate	212
Northumberland	Frigate	191
Portland	Frigate	152
Richmond	Frigate	145
Lancaster	Frigate	165
Kent	Frigate	127
Diamond	Destroyer	114
Defender	Destroyer	106
Westminster	Frigate	90
Dauntless	Destroyer	63
Duncan	Destroyer	62
Somerset	Frigate	52
Argyll	Frigate	21
Dragon	Destroyer	18
Daring	Destroyer	0
Iron Duke	Frigate	0
St Albans	Frigate	0
Sutherland	Frigate	0



HMS PRINCE OF WALES TO RETURN TO SERVICE

In response to a question about whether it was being cannibalised for spare parts and whether it would be back in operational service by the end of 2023 the Defence Secretary, Ben Wallace told the House of Commons on 15th May 2023 that “Yes, by the autumn. It is perfectly normal for ships to take ship stores from each other. HMS Prince of Wales is not being cannibalised because it is off to be mothballed. The ship will be back in full service in the autumn”



THE ROLE OF THE OVERSEAS PATROL SQUADRON

The role of the RN's Overseas Patrol Squadron was re-stated in a recent Parliamentary debate as covering both overseas and UK home waters. The Defence Minister re-affirmed the

Government's commitment to protecting the UK's undersea infrastructure such as cables, pipelines and interconnectors.



IRELAND (RE)CONSIDERS ITS NEUTRAL MILITARY POSITION

The Irish Government is to consult the public for their views on the country's long-standing tradition of military neutrality in the wake of Russia's invasion of Ukraine.

Although the Irish Government said there were no preconceived outcomes to the discussions there are already suggestions elsewhere that Ireland may apply for membership of NATO. Critics of the policy say that the low levels of defence spending leave Ireland dependent on the goodwill of allies.



RUSSIAN PRESENCE IN NORTH SEA RAISES CONCERNS ABOUT VULNERABILITY OF KEY INFRASTRUCTURE

The recent presence of the Russian intelligence gathering ship Admiral Vladimirskiy, in the North Sea has raised concerns about the security of the under and overwater infrastructure such as wind farms, internet cables, oil and gas rigs and the cables and pipelines that connect them together and to the shore. Although the ship is described as an oceanographic research ship Western agencies have recently labelled it as a spy ship.



[SCOTTISH SHIPYARDS GEAR UP FOR WARSHIP BUILDING BOOM](#)

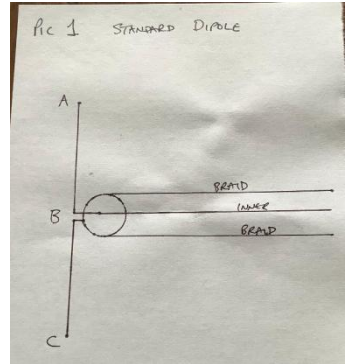
Ben Wallace, Defence Secretary said *“We are committed to building the Type 26 in the United Kingdom; it is under construction on the Clyde. In Rosyth, work is ongoing to build the facility needed to build the Type 31s and the subsequent Type 32s. He also knows that I recently recategorized the future Fleet Solid Support ship as a warship. I intend to make sure that, if not entirely, there is a considerable degree of UK build in that process, subject to tender. I have to be cautious about the contract, because the competition is to begin soon—very soon.”*

TUNED TRANSMISSION LINE TRAP (T2LT) ANTENNA

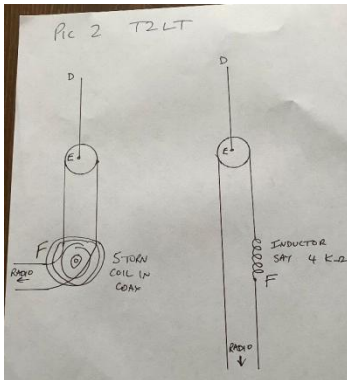
Tony G7ETW & Dave M7CJD

This is an introduction to the Tuned Transmission Line Trap (T2LT) antenna, a cheap, single-band antenna widely used by portable operators but which could be used at home as well.

Pic 1 shows a standard vertical dipole. A to B is a single conductor 1/4 of a wavelength long at the required frequency, connected to the inner wire of the coax. The bottom section, B to C, is the same length, connected to the braid. Point B is the feed-point. (We all know this).



Pic 2 shows a T2LT. Despite appearances, this is also a dipole.



The top half, D to E is exactly the same as A to B.

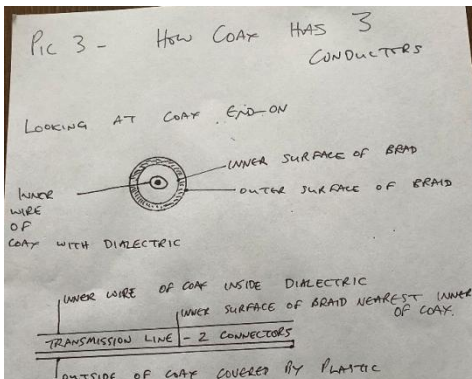
The bottom half, E to F, is 1/4 wavelength of the braid finishing at the choke.

Point E is the feed-point. (This is not so obvious.)

HOW IT WORKS

See Pic 3. The braid has two conductors (because of RF

skin effect). The inner surface of the braid carries the same current, but always opposing, as the coax inner wire. These conductors comprise the transmission line. The outer surface of the braid is another conductor going back to the radio. AC current (usually unwanted, called common mode) can independently flow; E and H fields can and do propagate. For a tuned dipole, this current has to be stopped 1/4 of a wavelength down the coax and that is



what the choke does.

Mechanically, a T2LT is end-fed, at the coil. But the electrical feed-point, just like a standard dipole, is the discontinuity where the inner of the coax peels off.

CONSTRUCTION

Pic 4 shows a T2LT I made for 28 MHz – my first attempt, based on a CB-operator's YouTube video. It's not built to NASA standards, but that was part of my testing of the T2LT concept – could I, without too much thought, make one that worked first time?

I started by cutting 10m (a coincidence) from a reel of 75 Ohms satellite TV coax. Why that coax? Because I was given 80m of it and I am determined to use it up!



I stripped off 2.5m of the outer, braid and inner foil, leaving the inner wire intact.

I measured 2.5m down the plastic outer and wound a 5-turn coil in the coax of about 10.5cm in diameter. I fixed it all in place with ratchet (zip) ties.

I take no credit for the choke; G3TFX has a whole website dedicated to air chokes. Some people call these chokes 'ugly baluns'. They are not strictly baluns but mine, I admit, is ugly!

I put a PL259 on the far end. The whole build took me about 40 minutes and cost nothing.

TUNING AND MATCHING

Unlike an end-fed half wave, which a T2LT does resemble, this antenna has a low impedance. So no matching is required.

The method to tune a standard dipole is to cut snippets off both wires. You see the problem, I'm sure. The top, D to E, can be trimmed, but to alter the length of the bottom 'leg' of the dipole would mean undoing the choke and rewinding it somewhere else. G3TFX has toroidal chokes as well, which would make this task a little easier (but not much).

For that reason, tuning is not really possible.

VSWR

I deployed the antenna as a sloper from a first-floor window to my shed-shack and got a VSWR of 1.7 from about 27.2 to 28.8 MHz.

I call that pretty amazing. On reflection - no pun intended - I reckon any VSWR less than about 3 would be acceptable for this antenna. My reason is the choke, whose position and impedance are absolutely critical. I'd say it was almost impossible - without good testing facilities and equipment - to get this absolutely right.

That's why I say any coax can be used. I don't think the match is sufficiently predictable to get 'precious' over coaxial characteristics!

PRACTICAL EXPERIENCE

Another RNARS member David White M7CJD, uses T2LTs a lot and I asked him for his thoughts.

Dave says:

Being a little strapped for cash when I started out as a new M7, I had to find a way to create an antenna for HF (20m) that was easy to build, cheap and could make use of the materials I was kindly given.

With a little guidance and advice from a fellow amateur, I soon had an antenna for 17m and 20m with all the spare stuff I had. With an old sewage pipe for the former I made the choke and had my first T2LT for under £5.

Eager to try it out, I parked up at Lee-on-the-Solent beach (near Gosport) and sent the antenna up my new Spiderbeam pole and plugged it in. To say I was impressed is an understatement. My 817 crackled into life and I was able to hear stations from far and wide. I worked QRP all that day and logged a good 20 contacts with Brazil, USA and Canada, to name a few. I am sure that the water helped a lot as I was so close but this proved to me that you can make good cheap antenna, on a budget that works.

This is my go-to mono-band antenna when working portable. I have since made other antennas e.g. the not so random "random long wire", but almost always I come back to the T2LT.

Thanks Dave.

Pic 5 shows a T2LT – not actually one of Dave's, or mine – in use.



CONCLUSION

The T2LT then: an antenna you can build in an hour using any old coax you may have. No great skill is required and the finished product not only looks the part, but does a good job.

It's an optimist's antenna, an experimenter's antenna, not to mention a cheapskate's antenna! Build one and try it. And tell us how it went please.

RNARS NETS

UK	LOCAL TIME	FREQUENCY	NET	CONTROL
Daily	0001-0400	145.725	Midnight Nutters	M0WRU
Sunday	0800	3667	RNARS SSB net(news at 0830)	G0GBI
	1030	7085/3748	RNARS Northern SSB net	Robin MM6CXJ
	1100	7020	RNARS CW net	G4TNI
Monday-Saturday	1030-1330	7085**/3748	The Bubbly Rats Net	GX3WTP/G0GBI/G0OKA/M0ZAE
Monday	1400	3575	QRS CW Net	G0VCV
	1900	3748 Primary) 7088 (secondary)	North West SSB Net(News @ 2000)	G0GBI
	1930	145.400 (S16)	RNARS Cornish VHF net (Falmouth/Lizard)	G4WKW
Tuesday	1600	7068/3740	Tuesday HQ Net	GB3RN
	1900	7028/3528	RNARS CW Net	G3RFH
Wednesday	1400	3748	Stand Easy Net	G0GBI
	1700	DMR	TG23527	M0LIH
	1900	3748	Wednesday Net	G0GBI
Thursday	1900	3542	Scottish CW Net	???
	2100 GMT	1835	RNARS Top Band CW Net	G0CHV/G4KJD
	2000	145.575 (S23)	RNARS Scottish 2m Net	GM0KTJ/P
Friday	1600	10118	RNARS 30m CW Net	SM3AHM
Saturday	0800	3748	G0DLH Memorial Net	G0VIX
DX NETS	GMT	FREQUENCY	NET	CONTROL
Sunday	0800	7015 / 3555	MARAC CW Net	PC4E
	1430	21410	RNARS DX Net	GM7ESM & W1USN
	1800	Echolink	RNARS DX Net	Connect to K8BBT
	1900	EQSO	VE Net when condx bad	VA3ICC
Monday	0930	3615	VK SSB Net	Suspended UFN
Wednesday	0118 / 0618	7020	VK CW Net	“
	0148 / 0648	10118	VK CW DX Net	“
	0800	3620	ZL SSB Net	ZL1BSA
	0930	7020	VK CW Net	Suspended UFN
	0945	7090	VK SSB Net	“
Thursday	1330	Zoom		Details from Henry M0ZAE
	1430	21410	RNARS DX Net	GM7ESM & W1USN
Saturday	0400	7090	VK SSB Net	Suspended UFN
	1330	7020	VK CW Net	“
	1400	7090	VK SSB DX NET	“
	1430	21410	RNARS DX Net	GM7ESM & W1USN

RAFARS & RSARS NETS

RAFARS

DAY	TIME	FREQ(Mhz)	NET	CONTROLLER
DAILY UK	24 Hrs	3.568	RAFARS QRP/QRS Calling	
	1100 UKL	3.710 (1)	UK	G0SYF/ MW00ZI
	1700 UKL	Zello	RAFARS Zello Channel	Various
	1830 UKL	3.710 (1)	UK	G0SYF/ MW00ZI
WEEKLY UK				
Mon	2000 UKL	145.325	RAF Waddington	G0RAF (G3VCA)
Tue	1000 UKL	145.375	MSY/CLD/CHS	Varies
Tue	1400 UKL	7.155 (2)	UK 40m	Varies
Tue	1900 UKL	5.403.50 (3)	Tri-Service	Varies
Tue	2000 UKL	145.325	West Midlands	Varies
Wed	1000 UKL	145.375	MSY/CLD/CHS	Varies
Thur	1900 UKL	145.35	West Yorkshire	G4IOD
Fri	1930 UKL	145.35	North East Coastal	Varies
Sun	0900 UKL	5.403.50 (3)	Tri-Service	Varies
Sun	1000 UKL	145.35	Tyne & Wear	Varies
MONTHLY UK				
1st Mon	1000 UKL	3.71	CWR	Varies
1st Tue	1930 UKL	145.325/144. 725	East Riding of Yorkshire	G3JDY (G0SWO)/ MOJBA/2E0BRQ
WEEKLY OVERSEAS				
Wed	1500 GMT	14.29	World Wide	Varies
Wed	1530 GMT	21.29	World Wide	Varies

(1) Alternative is 7.155,

(2) Alternative is 3.710,

(3) Alternative is 5.398.50

RSARS

DAY	TIME	FREQ	MODE	NET CONTROL	DETAILS
Monday	1000	3.742+/-	SSB	GW4PUC	SSB Net – Check both 3.742+/- and 7.170+/-
Monday	1830	3.585+/-	RTTY	None	RTTY Meeting Frequency
Monday	1900 GMT	7.155 to 7.165+/-	SSB	EA7JVZ	Overseas net. With assistance from UK Net Ctrl G2ABR. 1900 GMT or 2000 BST
Tuesday	1000	3.742+/-	SSB	GW4PUC	SSB Net – Check both 3.742+/- and 7.170+/- for activity
Tuesday	1400	3.742+/-	SSB	G6UUR	SSB Net – in poor conditions look on 7.170+/-
Tuesday	1800	3.743+/-	SSB	G6NHY	SSB Net – Assisted by G6UUR
Wednesday	1000	3.742+/-	SSB	GW4PUC	SSB Net – Check both 3.742+/- and 7.170+/-
Wednesday	1830	3.565+/-	CW	G4LRG	CW Meeting Frequency
Wednesday	2030	1.946+/-	SSB	M6LWO	SSB Net Conditions permitting
Thursday	1000	3.742+/-	SSB	GW4PUC	SSB Net – Check both 3.742+/- and 7.170+/-
Thursday	1400	3.7420 +/-	SSB	M0NMI	SSB Net – in Poor Conditions Look On 3.743+/-
Thursday	1800	3.743+/-	SSB	G6NHY	SSB Net
Friday	1000	3.742+/-	SSB	GW4PUC	SSB Net – Check both 3.742+/- and 7.170+/-
Friday	1830	3.583+/-	PSK31	None	PSK Meeting Frequency
Sunday	1030	3.742+/-	SSB	GW4PUC	Chatterbox Net – Check both 3.742+/- and 7.170+/-
Sunday	1100	3.745+/-	SSB	GM4EMX	Highlands and Islands Net

HOW TO CONTACT THE RNARS

Membership Secretary

Joe Kirk, G3ZDF
111 Stockbridge Road
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PO19 8QR



RNARS Gen. Secretary

Martin Longbottom, MOEHL
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Newgate Lane
Fareham, Hants, PO14 1AS



www.facebook.com/groups/RNARS/



RNARS HQ Shack

01329 332292

01329 71727 (answer
phone)

G3BZU

Web <http://www.rnars.org.uk>

Echolink

<https://twitter.com/rnarshq>

Skype RNARS.HQ.SHACK

Twitter

DMR TG23527 (GB7CO)

HF

HQ Net Tuesday 16.00
3748/7068

DStar GB7RN



The RNARS is affiliated to the RSGB

The RNARS subscribes to the [DX Code of Conduct](#)

COMMODITIES

Mike Moore M6POY

Download order form - (<http://www.rnars.org.uk/Commodities.html>)

Item	Price
Gilet/body warmer w/ embroidered RNARS logo, Name and callsign. Taped seams. Waterproof & windproof, Double zip for easier fastening. Sizes S to 4XL Colour: Black	£TBA
Navy cotton/polyester polo shirt w/ embroidered RNARS logo, Name and callsign. Sizes: S to XXXL Colour: Navy only	£TBA
Sweatshirt, embroidered with the new RNARS logo, your name and callsign. Colour: Navy only Sizes: S to XXXL	£TBA
NEW! White long-sleeved shirt with RNARS logo & your callsign on the pocket	£TBA
Baseball cap with RNARS Logo	£TBA
-with your callsign on one side	£TBA
-with your callsign on both sides	£TBA
Baseball hat –plain	£TBA
Gold blazer badge with new RNARS logo (p&p £2)	£TBA
Lapel badge w/ new RNARS logo (p&p £1.00)	£TBA
RNARS Tie	£TBA
Lapel badge w/ new RNARS logo (p&p £1.00)	£TBA
RNARS Log Book	£TBA
Lanyard with RNARS & your callsign	£TBA
Mug with RNARS logo & your callsign	£TBA

Post & Packing is at UK rates. For overseas deliveries please contact Mike for costs.

When you complete an Order Form please remember to include your RNARS Membership Number.. If you wish to pay by PayPal our account email address is rnars.treas@gmail.com

Sizes in inches

Small 36-38

Medium 38-40

Large 40-42

XL 42-44

XXL 44-46

XXL 46-48

XXXXL 48-50

PLEASE write clearly and use block CAPITALS.
Photocopies of this form are acceptable.

CALL SIGN & RNARS No. _____

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ADDRESS: _____

POST CODE: _____

TELEPHONE: _____

EMAIL ADDRESS: _____

It is advisable to check before ordering that your size is available.

Description	Size	Colour	Qty	Price	P&P	Sub-total
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Waterlooville,
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Email: tallyman666@gmail.com

Please allow fourteen days for delivery and while these prices are correct when going to press, prices do vary and are subject to change



The TH6DXX being removed from the 'new' HQ Shack in the Physical Training and Recreational Building in HMS Mercury



The TH6DXX being fitted to the mast in HMS Collingwood

Extract from the Chairman's Report of the official opening of the new HQ Shack in HMS Collingwood

Tom Biddlecombe G3WAO / 0665 (SK)

The 30th July 1993 was a very special day. It saw the climax of all the efforts by the local Hampshire members to prepare the new HQ Building when it was opened by our new Patron, Admiral of the Fleet Sir Edward Ashmore, GCB, DSC, and the Presidency was handed over by Captain Sutermeister to Captain V F Lucas, the Captain HMS Collingwood. They met and talked with over 40 members including the General Manager of the RSGB, Peter Kirby. A former Warrant Officer Radio Supervisor, Peter had served with Sir Edward in 1966. We took the opportunity to present the RSGB with the RNARS plaque that used to hang in the WO and SR Mess HMS MERCURY. It will join those of the RAF and Royal Signals ARS, with the proper precedence I am sure!!??

During the chat at the opening I overheard two serving members who had been former shipmates talking. Inevitably they discussed the drafts which they had had since they served together. When asked, "How did HMS Such and Such compare to our old ship?" the answer was, "You know how it is different ships, different cap tallies.....".

HMS MERCURY and HMS COLLINWOOD are perfect examples - the former is on a hill, quite compact and miles from anywhere, the latter is close to town flat, 30'asl, and measures over a mile across! When HMS COLLINGWOOD has a full training load, over 3000 personnel are on-site so it's impossible to say one is better or worse than the other – they are just different. With so many people moving in and out, security is strictly controlled. The rules for RNARS members wishing to visit the shack are still the same as before, i.e. contact the Shack Manager in good time, he will then ensure that your arrival is expected. Remember to carry proof of identity - ideally, something that has your photograph on it

CHANGING A LIGHTBULB OR HOW MANY RNARS MEMBERS DOES IT TAKE TO REFIT AN N- TYPE CONNECTOR ON THE TOP OF A 60 FT MAST?



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