# ARACNEWS

**ON**

**SUNDAY APRIL 19th**

To help with the Spring

**BOOT SALE**

Don't forget it's the

Spring & Autumn

Boot Sales

That keep your **subs low**

### DATE for your DIARY

YEOVIL QRP CONVENTION
SUNDAY 12 APRIL
Digby Hall, Hound Street
SHERBORNE, Dorset

steve@g7ahp.co.uk

for details

## IS IT TOO LATE FOR NEW YEARS RESOLUTIONS?

**In 1934** the author Konrad Bercovici writing in Golden Book Magazine presented an instance of the anecdote that was based on his gardener:

Fred, my gardener, explained wireless telegraphy to his wife in the following manner:"First I gotta explain to you telegraphy with wires. Imagine a big dog with a tail that reaches one end of the village and a head that reaches the other end. Can you imagine such a big dog?""Sure," the wife said."Now, when you pull the tail the head barks. That is telegraphy with wires.""But what is wireless telegraphy," the wife insisted."It is the same thing without the dog," Fred answered.

What we have in our shacks is nothing less than magical isn't it? Telegraphy and telephony over the globe without wires, without anything discernible at all between the transmitter and the receiver...so why do so many people give it up or not use it much?
I have scanned the various "for sale; going QRT" adverts over the months and one thing seems to be common - the people going QRT are always selling top notch kit and high end radios.

Have you ever seen a "for sale; going QRT" advert from a chap selling homebrew stuff or really old gear? I haven't.

And I think this is significant. A few days ago I finally had a QSO with my homebrew club rig, the bastardised Bitex. Admittedly the QSO was only across my shack and it was with myself, but it proved the thing worked and now I just have to tidy it up and match it to my aerial. I have also found a VERY simple 80m circuit (attached) which was sent to me by the designer and as you will see the full component count must cost the princely sum of about a tenner! Not bad for a 4 watt rig.

To be honest, I doubt you'll ever see a "for sale; going QRT" ad from me because its all just too interesting. But its interesting because, even though there are more components in my Trio's microphone than in this 80m circuit, there's more of ME in the little rig.

Trouble is, these tiny homebrew rigs often need CW if you are going to use them at all. And many amateurs refuse to learn CW! Now, when I

## New Years Resolution Continued

started out (ouch, I suddenly feel old) we had to use CW at 12wpm...but that's all long gone and any amateur can use CW at any speed on any band.  So, if you want to use CW at 5 wpm you can, happily, and you'll find QSOs too.  Not that you'll stay at 5 wpm for long of course, speed will increase very quickly with use.

Not all homebrew rigs need CW though, there are some tidy AM circuits out there (also one attached) and these will happily trundle your voice across town and into other amateur shacks. There are AM nets on most days somewhere and even if there aren't, we could certainly start one!

The common theme though is that you have to make a little effort and you have to be prepared to waste a few components.  When I built my first kit in recent years (in 2012, as I turned 50) I built a complete pile of junk.  I wrote to the vendor, Tony at Spectrum, and he eventually wrote me a lovely letter back which ended thus: congratulations on starting your building career.  Just remember that you'll only get better by turning really good components into worthless junk.

I know many readers have got and are building the club project, but also many aren't and this is a shame.  I know I am not alone in that even though I am building the Bitex I'm also surrounded by two or three other building projects at the same time...I'm G4YVM and I'm an addict!

So, if it's not too late for a new years resolution, go ahead and make one...turn good components into junk.  If you do I'll promise you'll never feature in your own QRT advert!

### David  G4YVM

## FORTHCOMING PRESENTATION

ON 5th MAY
NORMAN FIELD G4LQF
Is coming from BIRMINGHAM
To give a talk on
Homebrew radios
Old "QRP" kit
and techniques
Etc etc

## *Why are we called HAMS*

**HAVE** you ever wondered why we amateur radio operators are called HAMS? Well it goes something like this, the word ham was applied in 1908 and was the call letters of one of the first amateur wireless stations operated by some members of the Harvard Radio Club. They were Albert Hymen, Bob Almy and Peggie Murray.

At first they called their station Hyman-Almy- Murray. Tapping out such a long name in code soon called for revision and they changed it to Hy-AL-Mu, using the first two letters of each name. Early 1909 some confusion resulted between signals from HYALMU and a Mexican ship names Myalmo, so they decided to use only the first letter of each name and identified their station as HAM. In the early pioneer and unregulated days of radio amateur operators picked their own frequencies and call letters. Then as now some amateurs had better signals than some commercial stations. The resulting interference finally came to the attention of congressional committees in Washington, DC and they gave much thought to proposed legislation designed to critically limit amateur activity.

In 1911, Albert Hyman chose the controversial Wireless Regulations Bill as the topic of his thesis at Harvard. His instructor insisted that a copy be sent to Senator David Walsh, a member of the committee. Hyman was put on the stand and described how the little amateur station HAM was built and he almost cried when he told the crowded committee room that if the bill went through, they would have to close up the station because they could not afford the license fees and other requirements which were set up in the bill. The debate started and the little station

HAM became a symbol of all the little amateur stations in the country that were crying out to be saved from the menace and greed of the big commercial stations who did not want them around. Finally the Bill got to the floor of Congress and every speaker talked about the poor little station HAM.

That's how it all got started. You can find the whole story in the Congressional Record. Nationwide publicity identified the station HAM with amateurs. From that time to this and probably to the end of time, in radio, "Every amateur is a HAM...."

## The Perils of getting a new Computer

**A**S  I had recently purchased a new computer and having seen the excellent pictures captured from the international Space Station by Jim Steele M3FWS  I resolved to have a go using the new up to date all powerful computer!

Because the new computer came with a new operating system ie Windows 8.1 I found it very difficult to find anything in the file store.  Moreover my previous backing store (still running obediently in a cupboard somewhere) cannot interface to my new computer because the manufacturers decided that they no longer wish to make new drivers for Windows!  So all my favourite software is lost.

Unabashed I decided to carry on. I had a viable copy of "Orbitron" which is very useful for predicting when various satellites are due to pass over.  This was duly installed but curiously predicted that the ISS passes over my house ever four minutes!  Not what I remembered!  In fact positively wrong.  I discovered that the new computer with its many "cores" and much memory could now do the necessary calculations rather faster than the original one.  So I found a way to hide all the new fast sparkly bits away from the Orbitron and after that I



G8ALR

got an orbital time much more in keeping with what I remember.

At this point I decided to load my copy of Ham Radio Delux only to find that to get the up to date copy of this previously free software new required a payment of approx. £100, a great shock to a Club Treasurer!  So I had to fall back on my out of date version. Sadly this version could not find the sound card on the new computer and just as bad it couldn't find the comms port with which to control the VHF rig.

Time was getting tight and the ISS was getting closer so I decided to engage the slowscan package in the DM780 module only to discover that this very important module only existed on my old (Crashed) computer.  This too was no longer free as it was being extensively used by the Communications Industry.  Without this module I could no longer decode CW, PSK31, SLOWSCAN or a plethora of other weird digital modes, so at this point I gave up and trudged out into the space I laughingly call a garden to set up my binoculars and watch the ISS wiz by.  At least Orbitron was working OK as the ISS appeared on time to the second.  Sadly though even with my 20X70 binos I couldn't see much detail furthermore there was not much to be heard on the usual frequencies using my handheld rig which normally does such a good job.

So at this point I reluctantly decided to wait to see what Jim Steele had produced because he seems to have got it cracked. Where are you Jim! – Show us your Pics!

## The EDITORS DESK

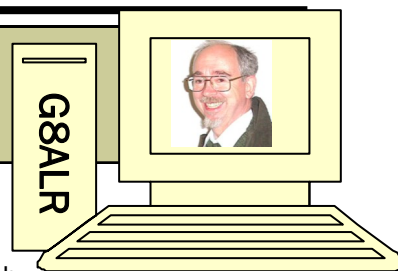Please send all your News, Reports and Articles to

aracnews@ntlworld.com

Microsoft Word is the preferred format if possible

Thanks

**73 de Terry G8ALR**

# SHIPS, STORMS & SUBMARINES  by HARRY SCOTT
## Book Review

**Harry Scott's** book is an expansion and discussion on the memoirs, such as they are, of Ian Waddell, a young RO from Galashiels in Scotland, who sailed with the Merchant Navy 1939 - 1941.

It has been said that we are all just six people away from knowing anyone else on earth and by a quirk of fate it is just possible that I have found the links between myself and Ian Waddell, the real writer of this book, but we'll come back to that.

Ian was a 21 year old ship's RO when he died, killed in an attack from U-105 in the Western part of the North Atlantic. His ship, a tanker and prized target for the U Boats, was stalked and attacked by the submarine which eventually put one torpedo in the stern and another one in the bow. The tanker went down with all hands.

But that is "just" the ending. The memoirs of Ian are very well written; they are funny and poignant and often written in a variety of styles which show that Ian was chasing his definitive style as an author, which I am sure he would have been had he survived the war.

But above all they show what all older people know but youngsters deny: at 21 you are, despite whatever you feel, just a boy. His comments on people and places, his chasing after girls and huge meals is almost as funny as his words and phrases but one phrase stands out for me because my own son has used it. I'll come back to that.

Ian's career started out in Norway facing attacks from Stuka planes and disloyal ship's pilots who tried to ground the vessels. He describes these terrors in a calm, almost detached way as if they were just "part of the job". I suppose after a while they are just that, but even so...how do you sleep at night??

Then he went to serve on freighters and finally the tanker which cost him his life. He travelled across the Atlantic countless times, delivering much needed goods but also having a rather fun time of it according to his notes. He ate a lot, drank a bit, danced a lot and was, it seems, an all round good bloke who loved life and embraced it with all his might. It wasn't all fun of course, Ian also describes his night watches, the bitter cold, the stress of keeping watch when you know there are submarines about and the frustration of having to do something, like keep station or wait in an exposed area, because the convoy commodore has told you to.

Throughout his notes I am constantly reminded of the writing of Guy Gibson, RAF. Ian makes use of the phrase 'so and so ship "got their's"', almost as if death and final destruction was simply allotted to all and all you had to do was wait. Wing Commander Gibson described the death of his friends as "getting on an earlier train". I guess if you eventually missed the train or didn't "get yours", you were fortunate, but you shouldn't count on it. Perhaps at 21 such things are easier to handle.

Ian's memoirs are well represented in this book, but the book itself does not do them justice; a lot of the text is literally 'cut and pasted' from U-Boats.net which is obvious by it's change of style. Then there are some horrible errors and mistakes which are irritating  (knots is not 'knots per hour', it's just 'knots'. A U Boat had around 50 crew, not 25) and soon; simple mistakes but ones which show that Harry Scott didn't really know his stuff. Andfinally, there is a part of the book (not all through, note) where Scott decides to givedefinitions of so many terms and phrases that fluid reading becomes difficult. It is also irritating because (a) I know what the terms mean and (b) I know how to use a dictionary!

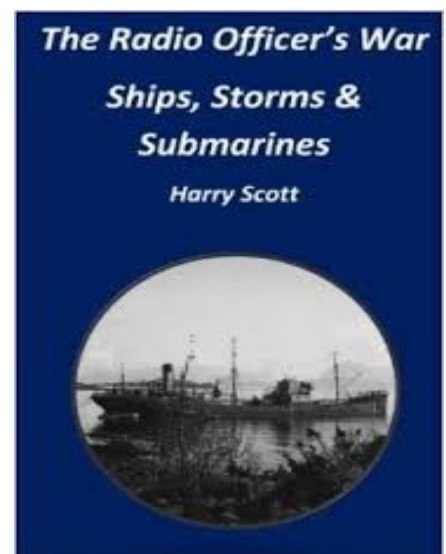Unfortunately, once again, one gets the impression that even the definitions have been cutand pasted!

It is a shame that the book Scott has written is simply not as good as the memoirs Waddellleft us with.

Having made it clear that the book could be better, let me defend it; if you want to know more about 1940s Britain, more about life on board a wartime merchantman or more about what it was like to be a wartime ship's RO, then please, please buy and read this book - it's absolutely worth it. Mind you, this book is worth the purchase price just to read Ian's own writings and phrases and for them alone I urge you to spring the cash!

I have in my collection a little hand made card from one of my sons, he made it when he was about 13 or so and it reads simply "to my wonderful family". In one of the many lettersIan wrote to his parents he added "P.S.I think ours is a nice family, ours is". Ian lived a very short life, but that one PS makes it clear that it was a life lived in happiness and love, despite the ending. A parent can't ask for more and I hope it gave Ian's parents, who were both alive when he died, some solace.

Oh yes, that link between Ian and myself? Well, Ian's girlfriend, Monica, died in 1997 or 1998 in the coastal village of Port Eynon, Wales, which I have visited many times. In the village there are a couple of chip shops where I have bought supper, and , given the size of the village it seems unlikely that I haven't chatted to at least one person who either knew Monica or knew someone who did. It's a small world when you think about it.

RIP Ian Waddell. Thanks for the writing.



The Radio Officer's War
Ships, Storms &
Submarines
Harry Scott

## David Perry
### Fists 15868

# Racal Comsec MA4450 Tactical Data Entry Device

## Racal Comsec MA4450 Tactical Data Entry Device (TDED) or MEROD (Message Entry/Read-Out/Display) Unit

### Richard Powell M1CFW

Two of these units were recently forwarded to me in the hope I might be able to fix them. Having no circuits, logic diagrams or maintenance manual, I considered the chances of success very slim, but this is how I fared.

### Introduction

**Figure 1. The MA4450 TDED**

The MA4450 (figure 1) is a robust, portable message terminal allowing the operator to send secure messages at 150 or 600 Baud rate. It has built in error detection and correction and it greatly reduces transmission time compared with voice. It has a QWERTY keyboard, a 32-character LCD screen and six status-indicating LEDs (figure 2). It connects between the radio and headset by means of Clansman-style 7-pin sockets and, when not in use, is transparent to the operator. There are a further two sockets for a printer and for a remote terminal. Two lithium backup batteries enable retention of stored messages and crypto key settings.
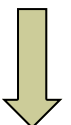


**Figure 1. The MA4450 TDED**

Fig 2.

**Figure 2. The LCD display screen and status-indicating LEDs**

Up to six messages, each of 475 characters (but not exceeding 2000 characters in total), can be stored for later transmission. Transmitted messages are stored until deleted. On pushing the 'Send' key, the address of up to four stations is entered and one of four stored crypto keys selected. The PTT is then automatically operated and, after a pre-set delay, a start sequence and sync preamble is inserted. AFSK tones, 1575 and 2425 Hz, sounding much like a fast RTTY signal, are sent to the radio's microphone input.

On the receive side, up to 16 received messages, not exceeding 4000 characters can be stored, and an LED indicator warns the operator when they arrive. Acknowledgment is sent, and manual or automatic mode can be selected. No crypto-key fill devices are required. Four alphanumeric 16-bit keys are entered from the keyboard, giving $7.9 \times 10^{24}$ possible base keys. A former user, who was in an Air Defence Regiment, has told me these were changed every 24 hours. In an emergency a two-button push will zero the crypto settings and delete all stored messages.

## Construction

A flip-up lid protects the keyboard in transit and has red LED back-illumination for night-time operation. Power for the LEDs is obtained via the printer or remote sockets. The unit is of a layered construction, comprising from the top down:

☐ keyboard assembly and LCD display
☐ man-machine interface board
☐ main processor PCB
☐ sync. input/output board, and power module.

Conductive gaskets seal the unit from moisture and ensure tempest-proofing.

## Down to business

The PCBs (figure 3) are heavily populated with CMOS devices and it was soon apparent that fault-finding 'in the dark' was not an option.

On connecting power to the first unit, it was missing the first 4 digits on the display but it could be deduced that it was showing 'Fault (1)'. This is the fault code for problems on the main processor assembly. Also, two of the keys were not working. The second unit showed 'Fault (4)', indicating problems on the I/O board.

Taking some antistatic precautions, grounding myself to the frame before handling, placing removed boards on conductive foam sheet, I changed PCBs until the second unit came up with the message 'Self-test complete, unit OK'. I then entered six messages of varying length, four crypto keys, set the baud rate to 150, the unit address and other prompted options. Of course, our amateur radio licence does not allow encrypted messages to be sent and although I have access to a third, serviceable, unit an 'on the air test' was not an option. For demonstration purposes one could transmit into a dummy load and, at close quarters, receive on a second radio but this has not yet been tried.

**Figure 3. PCBs heavily populated with CMOS devices**

To check the operation I sent all six messages, addressed to myself, to a tape recorder. I then played them back to the unit and saw the 'MSG REC'D' light up. On scrolling through, five were received perfectly. The recorder has a bit of wow and flutter, so it might have been a 100% success if I had recorded as a .wav file on a computer.



**Figure 3. PCBs heavily populated with CMOS devices.**

## Richard M1CFW

# SNIPPETS

1). Nicotine stains.
OK, so you've bought a radio from Ebay or another source and it was in the home of a smoker.
How do you clean the residue from the radio?
Try
KrudKutter
http://www.krudkutter.co.uk/proddetail.php?prod=KK32
Just click on the above link to go to KRUDKUTTER

It has been said:-
"I would like to propose that nicotine is also an excellent preservative.

 It prevents an oxidiser, like oxygen, from attacking painted surfaces."

What an intriguing concept… When it comes to old radios, a coating of nicotine residue can **MUMMIFY** them while waxed paper condensers can

**HUMMIFY** them!

I think I feel a song coming on……………………………

2). Sticky labels hard to remove? Use a hair dryer, warm label a bit and peel off.
Or if on a waterproof container, fill with hot water and then peel off.

3). Need a linear but only a foundation license holder… fear not.
Just add /QRP to the end of your call sign! (10W only please)!
Most stations will always bring in the QRP stations first…
Just three letters of the call sign with QRP at the end, in the silence at the end of everyone shouting, will often do the trick.
**73 Martin MØMWS**

# FREEBIES

If anyone wants copies of
RADCOM - PW - RADIOUSER
Before they go to the incinerator
**Let BOB G3ZNH know**
ASAP or you will be too late.

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**40" fishtank**, heater, light unit (needs new bulb) and rather posh glass fronted stand.  Also under tank canister filter.  This has been used for a while so needs a good clean but as the last occupant has passed away due to old age, now free to anyone who wants it.  **See G4YVM**

## The Dangers of Ham Radio
### Photo By  shhhhh (you know who)

MUST REMEMBER TO DISCHARGE THOSE P. A CAPACITORS BEFORE I CHANGE THE VALVES

# FOR SALE

## CURTIS K5
(Lil Bugger) Keyer
Information can be found
If you click the link below

http://www.eham.net/classifieds/
 detail/458582

Contact
BOB G3ZNH
For further details

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**Yaesu FT101** (Not E, EE, Z, ZD, just a really old 101!!)  Works well enough, beautiful VFO, very stable from warm up.  Comes with mic and spare output valves.  Only really used QRP on CW   £60

**Yaesu FT101ZD Mk3**   Lovely rig, spare tubes.  Only used QRP on CW   £300 but offers.

**SCAM mast from Clarkes** This 12m mast was given to me by Rick from the club but having done it up and tidied it the winter came and in the meantime I solved my problem another way.  There is a chance I will still use it, but if anyone wants it to definitely use it please call me.  The conditions of sale are: if you take it and don't use it or even if you do use it but eventually get rid of it you MUST OFFER IT FREE OF CHARGE WITHIN THE CLUB FIRST..  If you wont accept this condition please don't ask about it.

These 3 items are from
David G4YVM

*ANDOVER*
**ARAC**
*RADIO AMATEUR CLUB*