



RAGCHEW

SUMMER 2017

FROM THE EDITOR

As I write this piece, summer has well and truly arrived after a very unsettled early June. 6 metres has come to life just in time for the 50MHz Trophy Contest over the weekend of June 17th/18th with plenty of European stations on the band.

Tony G4HBV has submitted two articles. His regular RF Notes column this month was prompted by a letter in a recent "Radcom" concerning an antenna problem. His second article was triggered by a paragraph in a book about RAF Night Fighters in World War II. He came across a reference to Tony Kingscote who was the Chairman of the then Gloucester Amateur Radio Society when I joined in 1969. Tony held a very early RSGB Listener number 479. Not until years later do we find out about the wartime experiences of people known to us. In 1969, which was only twenty four years after the war, attitudes were a lot different. People very rarely talked openly about the war. They had done their bit and survived and probably just wanted to get on with their lives. In my own family, my grandfather, who was wounded twice in World War I, never ever talked about his experiences. Actually I tell a lie - he did once at a family Christmas party when an old wartime colleague came along and they both got slightly tipsy and related a few of their escapades.

Also included in this issue is an article by John Rowing M0NRZ about the Icom Interface unit he built and brought along to the Construction Contest.

As usual can I put in a plea for more articles. As this is the last issue of the current session can I wish you all an enjoyable break and hope you can get some portable operating in. The next "Ragchew" will be in September after our AGM so do get writing about your Amateur Radio summer activities.

GB4GLM - Saturday 17th June

Sadly the HF bands did not play ball on the day and Alan G4MGW, Gary M0XAC and their band of helpers struggled to make contacts. Many thanks to those who did turn up to support this event.



GB4GHF - Saturday 2nd September

This is to coincide with the two week Gloucester History Festival and will also take place from the Gloucester Life Museum.

More details to follow.

RF NOTES BY TONY - G4HBV

Originally I was going to continue with some more notes on interference topics, but a letter in the June "RadCom" caught my attention. In case anyone hasn't read it I will briefly summarise it.

The member reports suffering from an intermittent fault which he describes as a flickering SWR indication on all three of his HF antennas. He traced this to an intermittent connection on one arm of the doublet antenna but doesn't understand why the other two antennas were affected, although to a lesser extent. Well, if you read and understood my notes last month you might well realise why the other two antennas were affected. It is a mistake to think of an antenna as simple a load that connects to your transceiver. Antennas are in fact transducers: devices that turn RF currents flowing in them into RF fields that surround them. The important word here is "surround", as I pointed out last month there exists around every antenna a near zone where intense RF induction fields exist. In a typically small suburban garden, three HF antennas are almost certain to have their near zones overlapping. But even if this was not the case, there is almost certainly going to be significant coupling between such antennas. This will bleed power from the transmitting antenna, altering the fields it produces.

At VHF/UHF even shorter distances between antennas will produce disturbance and power loss. It is no good depending on the antennas not being connected, for open-circuited antennas will still affect the antenna in use.

The fields around a receiving antenna as it intercepts RF field energy are complex. More so than the fields around the transmitting antenna. Receiving antennas re-radiate a proportion of the intercepted energy. If the antenna is matched to the receiver a maximum of half the intercepted energy is delivered to the receiver, with the other half being re-radiated. If the antenna is open-circuited then the whole of the intercepted energy is re-radiated (called scattering). Even if the unused antennas are grounded they will still absorb energy and affect the transmitting antenna's fields. So think twice before you erect more than one antenna for HF or VHF/UHF work.

Incidentally, the use of the terms SWR and ATU are not strictly accurate when the SWR meter and ATU are in-line on a feeder to an antenna. SWR is ONLY determined by the load on the feeder relative to the feeder characteristic impedance. What you see on your SWR meter as you adjust your ATU is not a reading on the SWR on the feeder, and neither does the ATU adjust any conditions on the antenna. This is a pet topic of mine but I'll leave it for another day.

TONY KINGSCOTE BRS 479 - BY TONY MARTIN - G4HBV

When I first joined the Club about late 1970's there were three older chaps of World War II vintage who only turned up at formal meetings every month. One of these was Tony Kingscote, who Pat, G3MA, told me had been an RAF Officer concerned with Radar Development in the war. I didn't have much to do with Tony during my early days in the Club, but I do remember him coming up to me one evening and paying me a compliment about my CW sending.

Anyway, I have just come across a reference to him in a book I have been reading. I have a small collection of books about British Night Fighters in World War II. One of these is "Night Fighter" by C. F. Rawnsley who was the radar operator for "Cats Eyes" Cunningham.

The pair, Cunningham and Rawnsley, were transferred to Number 85 Squadron where Cunningham was to take command. I read that on his first morning on the Squadron, Rawnsley visits the Special Signals Officer, Flying Officer E. A. Kingscote. Rawnsley writes that he thought Kingscote had been having a difficult time with the operators on the Squadron, because they tended to blame their failure to get contact with the enemy on the performance on those early airborne radar sets.

In those days, radar personnel were often referred to as operators, navigators or special signals personnel so as to disguise the true nature of their secret activity.

I had met Tony briefly before I joined the Club because he worked at "Hickies" in Southgate Street, Gloucester where I bought a rather nice cassette recorder off him which is still in working order.

FROM THE GARES ARCHIVE



GARS Dinner Dance at the Fleece Hotel, Gloucester, c 1972. The top table - L-R Tom G3XMM (sitting in the traditional seat of whoever is replying to the after-dinner guest speaker), Olive Perkins, Pat Perkins G3MA, Tony Kingscote BRS479, Tony Kingscote's XYL. Yours truly G4CIB (then G8CIB) sitting with arms folded, and bottom right Jim Beckinsall G3DHS who I think at that time was Treasurer.



Same occasion with some familiar faces including Ian G4CLR and his XYL Maureen, Mal Marks G8SBX and his XYL Marion, Tony A7813 (now G4CMY), Steve Richards (now G4HFT). In the top corner sat on G3DHS's right is Mick Cragge G2H DU who was the after-dinner guest speaker . Mick was a GCHQ employee and after the war was credited with the design of the Radiovision Commander receiver.

ICOM CI-V interface project Overview

At the meeting on Monday 15th May, I decided to exhibit my current project (a work in progress) : "ICOM CI-V interface", an impromptu entry in the Advanced Class of the Construction Competition.

I'll describe the detail of the object shortly, but it might help if I first explain why and how the concept evolved.

I am relatively new to the world of Amateur Radio, and have limited 'on-mike' experience. My 'radio shack' is confined to a small section of our conservatory – space is limited. This had some impact on my choice of transceiver – a very compact (but impressive) ICOM 7300 which occupies the lower left hand corner of my 'RF work station'.



After several months of occasional operation, I began to wonder if I should have invested a little more money and bought a Transceiver with a larger footprint (and more front panel buttons!).

The reason is, I would prefer direct access to some of the functions which I currently have to drill down through the touch screen menus to access. On the rear of the radio is a CI-V port, and after a little investigation it appears that it might be possible for me to build an external mechanism which would provide more immediate access to the 'buried' functions, i.e. via ONE touch of an external virtual or a physical button or knob.

The Project Plan :-

Phase One :

Electrical interface design & construction : to/from ARDUINO T.T.L 5v serial ports to/from CI-V single wire 3v bus. **DONE.**

Phase Two :

Software development : generate the correct CI-V messages, and adhere to the command protocol.

NEARLY COMPLETE.

Phase Three :

Virtual button creation : quite easy with a commercially available ipad app. **DONE**

Phase Four :

Integration – make it work ! **SOON**

Phase Five :

Design / build a large physical panel to replace the ipad / virtual buttons. **SUMMER / AUTUMN this year I hope**

Phase Six :

More software development.

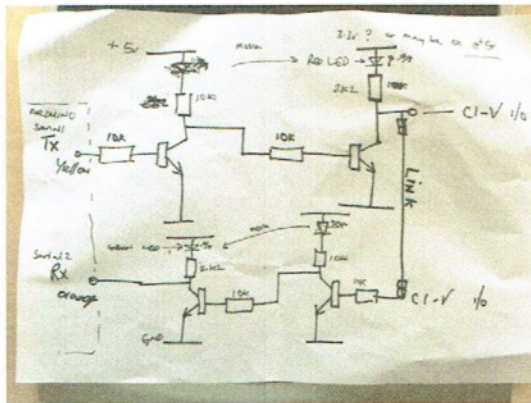
A WINTER TASK.

Phase Seven :

Pretend that I now own a bigger radio ☺

NEXT SPRING

ICOM CI-V interface detail



Phase One Schematic :

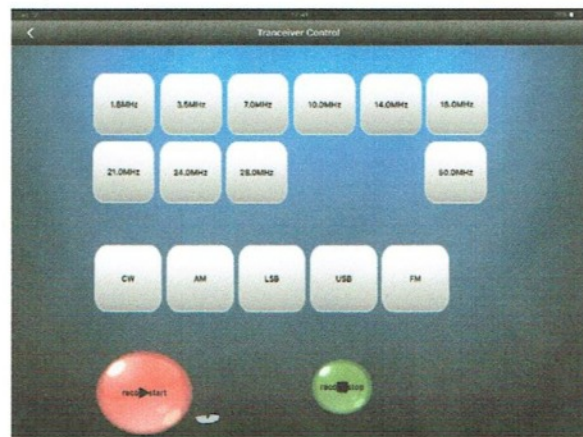
The CI-V bus is on the RHS of the diagram. The NPN transistors buffer (and invert twice) the RX and TX serial data lines which are indicated on the LHS of the diagram. These are connections to an ARDUINO device. (see www.arduino.cc for info ..There are also some very good tutorials on You-Tube : I recommend the ones by Jeremy Blum)

I use two separate SERIAL CHANNELS... the transmit line of channel 1, and the receive line of channel 2. This permits simultaneous TX and RX i.e. the device reads back (from the single wire CI-V line) the data that has been sent, this is to enable collision detection if the target RADIO happens to send data on to the CI-V bus at the same time as me, or any other connected device (should I ever be fortunate to own two radios).

Phase Two : the code won't mean much, but in principle it POLLS the ETHERNET PORT looking for incoming Network Packets and it POLLS the SERIAL PORT for incoming CI-V messages. I'm happy to have a more detailed discussion on the subject on a club night to anyone interested.

Phase Three : the virtual buttons are quite easy to create using a commercially available app, and it's associated server software running on a PC (or Mac) on my local network .

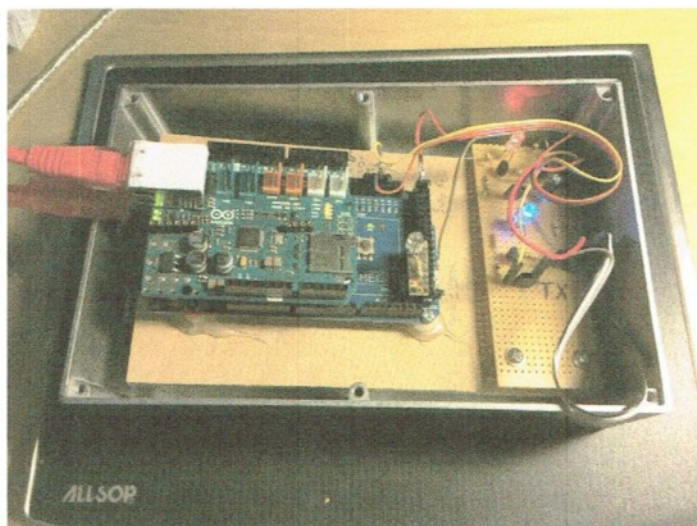
When a 'button' is pressed, a short WiFi message is sent to my Router, which is passed over the wired LAN to the server then onwards to the ARDUINO ETHERNET SHIELD (shown removed from the Arduino board in the photo below).



Phase Five : this will be a challenge, to replicate much of the look and feel of something like the front panel of a larger ICOM radio. This will replace the virtual buttons on the ipad (and remove the reliance on the external server and LAN infrastructure. Once again the Arduino should be up to the job, as it has a multitude of digital inputs and outputs well suited to 'read' the state of input switches, and able to drive LED indicators directly via a series resistor. There are also several (8 ?) analogue inputs to 'read' potentiometers, and finally several PWM outputs.



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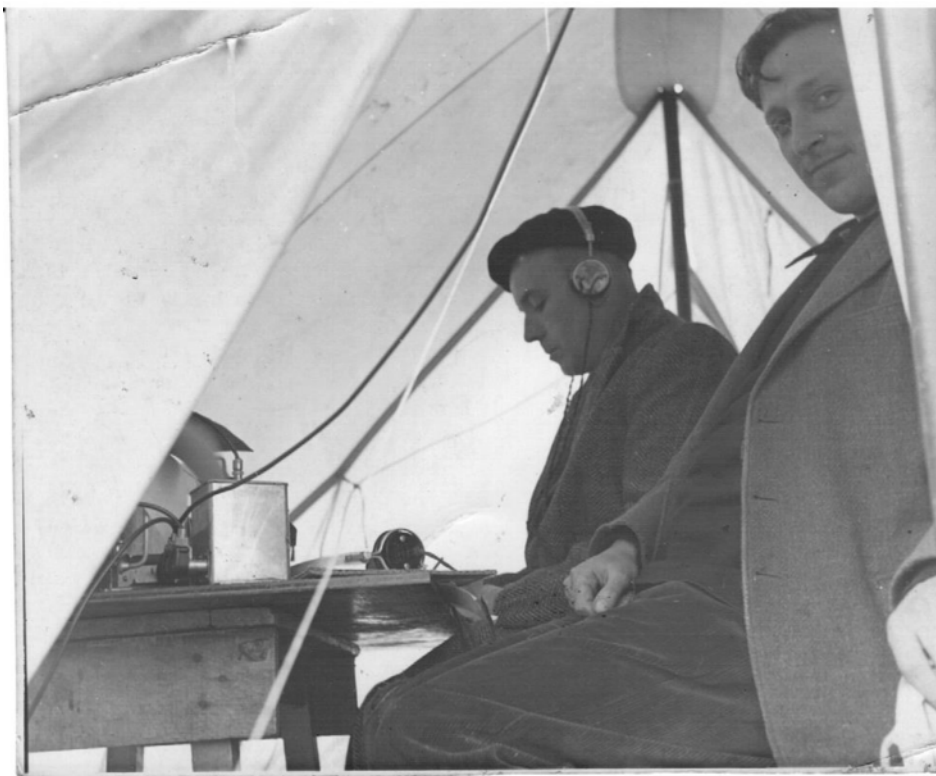
MORE FROM THE GARES ARCHIVE

Tony G4HBV's article about Tony Kingscote has resulted in more information about the other "old boys" mentioned. I am grateful for inputs received from Tom G3XMM and Tony G4CMY regarding Tony Kingscote BRS479 and Cyril Partridge G2RT. Cyril was a Graduate of the Royal Military Academy, Camberley and taught Japanese Morse in the World War II. Below is an image of a QSL card from G2RT to G6YL Barbara Dunn (for more information on G6YL see <http://hamgallery.com/Tribute/G6YL/>)

C. C. PARTRIDGE, Government House Gardens, R.M. COLLEGE, CAMBERLEY, ENGLAND.	
G6YL Your CW Wkd, Grd-red at 1435 GMT, on Aug 5th 192 9 Hed.	REPORT Ur Sigs were QSA 5 Note T 7-8 QRG 7mcycle QSC RECEIVER REINART 3VS
<h1 style="color: red;">G2RT</h1>	
Remarks Vy TKS FR QSO ES HPE TO HVE MANI MORE !! Veri Best 73's, Hpe CUAGN, OM,	XMITTER COLDPITTS Aerial 2 X ZEPP Earth Radnt 25 amps Crystal Controlled 5 Watts Mi QRH 7mc QSO 16 countries
PSE QSL direct or via R.S.G.B. PRINTED BY G6MH. MEMBER - 5 WATT GROUP - RSGB. C.B opr. G.2RT	



Cyril G2RT operating the GARS 1955 NFD 7&14MHz station located at Minsterworth



NFD 1955 once again. Above - Cyril G2RT and Brian G3DXY
And below G3DXY outside the operating tent

