

HORSHAM AMATEUR RADIO CLUB

# *HARCNEWS*

## *Coming Shortly*

Aug 7th Club Evening SSB field Day Discussion and DF  
Hunt

Aug 21st Social Evening Oddfellows Pulborough

Sept 4th Club Evening TCP/IP by Barry Crowley

Sept 6/7th Club Event SSB Field Day

## *August 2003*

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# *A lightweight 3ele Fox hunt aerial.*

Some years ago I was informed that a company that makes its own printed circuit boards were throwing away, into a skip, narrow strips of double-sided copper PC board. These strips were all 2mm thick, fibreglass based, 4ft long and widths varying from  $\frac{3}{4}$ " to 3". With permission I obtained several mixed strips.

At first I had no idea how I was going to use these strips. When the 2003 foxhunts started I decided that I would try and use some of the narrow strips for a 3 ele 2m portable aerial. I cut lengths of approx 1" wide strip to  $40\frac{3}{4}$ ",  $39\frac{1}{2}$ ",  $37\frac{3}{4}$ " for the reflector, driven and director elements.

With the elements at the approximate spacing I tried using 2 off 2" wide strips to act as a boom. This was difficult to handle and was a bit too flexible. I had some aluminium strip  $\frac{3}{4}$ " wide x  $\frac{1}{8}$ " thk which proved to be just right for the job. I drilled

and fixed the director element to one end of the al strip using 2 off 6BA bolts.

Now I had to think of a way to make a dipole from the driven element. At the mid point on one side of the copper I removed a  $\frac{1}{2}$ " strip of copper, thus making a dipole of one side. On the centre line of this gap in the copper I drilled 2 holes for 6BA bolts.

Now one side was a dipole and the other side a half wave strip of copper with 2 fixing holes at the mid point of the strip. I clamped the element to the al strip boom at  $6\frac{3}{4}$ " from the director and drilled and fixed the driven element to the boom. I then drilled and fixed the director element  $12\frac{1}{4}$ " from the driven element.

The al strip beyond the director was vertical for vertical polarisation (normal foxhunt polarisation) and was difficult to hold so I twisted the al strip

through 90deg and bent the handle part down app 30deg. A couple of bits of half round timber fixed either side of the al made a comfortable handle. A piece of 50Ω coax was soldered to the 2 halves of the dipole and taped to the al boom.

A BNC connector connected the other end to my 2m

handheld. The whole unit fitted comfortably inside the car, so off I went foxhunting. I was very surprised to find that it worked and that I managed 3<sup>rd</sup> place. I have since added a platform in front of the director on which I have fixed a compass. I might manage 2<sup>nd</sup> place next time.



# *June Meeting: Homebrew*

Every year the homebrew evening seems to be as popular as ever, with plenty of items on display. Here is a short article on some of those items.

Ron, G3PYC brought along his three-turn hf loop aerial which was nicely constructed out of a single 10m length of small bore central heating copper tube. He demonstrated the small bandwidth which was just about adequate for SSB use. It certainly did appear to work especially for dx use.

Alister, G3ZBU had quite a few homebrewed devices including three Economy 7 timers. The original problem with bought ones was their unfortunate ability to get hot and melt when running high currents. The first used a good 20 Amp relay running under microcontroller software which could be programmed via an RS232 serial data link. As Alister could never remember the serial port baudrate settings (it didn't have any label on it!) he modified the software to gen-

erate a sign-on menu when powered up.

The second unit was a cheap bought unit which turned on a 30 Amp relay to make it indestructable.

His third timer design had an infra red data link so it need not be isolated from the mains. A little PIC micro, as used by PicAtune ATUs can be driven via a series resistor directly from the mains due to their low current consumption.

He also showed a Morse code iambic bug key, also using a PIC. A lithium battery runs it. Finally he showed a Digital Radio Mondiale receiver still under construction. Unfortunately the experimental transmissions of DRM on Medium and Short waves are only at odd hours; the inaugural start of proper services is 16th June in time for this year's WARC conference.

Paul, G4TMC showed his transverter which could cover

4m and 6m. Luckily the kit had most of the bits to do either band.

Tony, G3NPF had a high power G3WZT design 6m amplifier with separate power supply, which provided 48 V regulated at 10Amps and looked very robust indeed.

Adrian, G4LRP had his commercial kit automatic ATU. It looked very smart and the twin meters give one a good idea how well it is working. Front panel switches can override the automatic tuning solutions for improving a match condition that is not quite spot on. The noise made by the relays switching, when not expected, normally means the aerial has been blown down!

David, G4FQR has been busy experimenting with homebrew crystal filters. His test board only had 4 crystals, plus surface mount capacitors, and was used to compare the theory with practice. A result plot matched within experimental error so David will be confident that a larger filter with more crystals is likely to work well.

Most interesting piece of the evening award must go to Bob G8KZO for his 1932-style receiver which was constructed from car boot sale bits from that era. The components were acquired over the last two years. Uninsulated solid copper wires (taken from mains cable) were beautifully all bent at nice right angles as per the original 1932 plans, and it worked first time.

## *HARC August meeting.*

Unfortunately again this year we have had to cancel our usual August meeting. The owners of the hall have reserved the hall for a Brownies/ Guides event. So after consulting with the committee, it has been decided to turn the August meeting into a

social meeting at the 'Lamb' at Lambs Green.

The pub has recently been purchased and refurbished by WJ King (of the old King and Barnes). So why not come

along and sample some of the new 'Horsham Ale'.

But for those who like a challenge before quenching their thirst, we will be holding an evening 'Fox Hunt', starting a

Mannings Heath at 7pm. And yes the pub will be the Lamb! Foxy should be somewhere nearby (within 5 miles!). Final details next newsletter.

Regards HARC Committee.

## *CQ Contest*

It's contest time again, well not quite but it's getting close for HF SSB Field Day on the 6<sup>th</sup> and 7<sup>th</sup> of September. As usual its same old appeal for operators and loggers.

Do you want to try your hand at operating a high power HF station from the middle of a field (with no QRM problems) courtesy of Christ's Hospital School? We hope to put the station together during the Saturday morning ready for the contest start at 13:00 GMT (14:00 BST).

So if you want to lend a hand and operate, log, put the station together or take it down

afterwards, contact Adrian G4LRP on 01403 733087 or e-mail [adrianboyd@avaya.com](mailto:adrianboyd@avaya.com) If you could respond sooner rather than later this would help us to arrange an operating rota. Depending on the number of volunteers an operating rota will be published in the next HARC News (September).

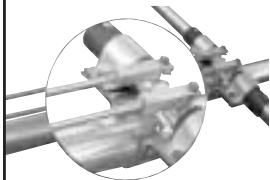
Don't forget we can only take part in contests if we have the operators and loggers, if we can't muster the support we can't run the contests.

73's from the HARC Committee.

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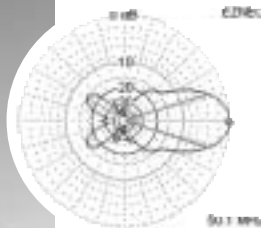


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Pic shows the Trident installation at Mike G3SED's QTH. Mike used this system to work Lance W7GJ via MOON BOUNCE!



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