



Wythall Radio Club

Wythall Contest Group

G1WAC G4WAC G7WAC G0WRC M5W



g1wac@wythallradioclub.co.uk

<http://www.wythallradioclub.co.uk>

Officers

Chairman: post vacant
Secretary: Colin M0GJM
Treasurer: Mel M0MAJ

Committee -

Martin G8VXX, Chris G6KMQ
Lee G0MTN, Chris G7DDN
Peter M5DUO, David G0ICJ
Stuart 2E0NYC, Neil M0YMM
Tom G3PQP, Mark M0MSW (co-opted)

After some concern in recent weeks that the event wouldn't go ahead at all, I'm pleased to report it was one of the better Field Day's we've had, although certainly not one of the biggest.

Packing up the stations and transporting to the field on Saturday morning went relatively smoothly, with several helpers to carry equipment and load up their cars. Phil and Marky duly arrived with the caravan, and the setup began in earnest. Getting the caravan out from the undergrowth I understand was a saga in itself - so well done guys.

We used two sectional masts, using the instructions carefully written by Chris G0EYO based on last year's NFD. In the event everything went smoothly, although we do need to be extra careful about 'back guys' and 'keeping the hat on the end of the derrick pole' to prevent risk of problems in future. Unfortunately this year we did suffer an injury as Walter tripped over a corner stake and injured his wrist. When construction was complete barrier tape marked the perimeter of the masts and the stake points.

The new 144 MHz yagi was partially pre-built a week or two ago. We found that putting the final elements together that different parts simply would not fit, so Pete M5DUO took out his saw to fashion us a working yagi. Later we had a little more drama when the SWR was found to be 4:1. This was resolved when it was discovered that the driven element had been put in the wrong position.

As well as the two VHF yagi antennas, Tom's doublet, the club HF trap dipole, Jon's 1/2 size G5RV, Phil's HF vertical, and the

September Antenna Special!

Newsletter Sept- Oct 2011

2011 VHF NFD



CC Wythall Radio Club

club's VHF/UHF colinear were put through their paces. Outside of VHF NFD, the DL-DX RTTY contest was entered, with Phil observing, and Darren doing some operating. It was also the Venezuelan Independence Day contest (yes, really) and a few SSB and CW contacts were made. Jon was pleased with working Venezuela and Cuba on HF. The little rotator units I think have finally reached the end of their lives. Dr. Dave G3YXM was out with his tools, repairing the 6m antenna rotator as the day wore on. The rotator seemed to take on a mind of its own, and turn the antenna whenever it felt like it. A replacement control unit was fetched from the shack, and the transplant surgery was a success.

It was very hot this year, but we were supplied with tea's, coffee's and cold drinks care of Pete M5DUO and Chris G7DDN. The longest construction project of the afternoon was actually not radio related at all, but was the large gazebo. We remembered it

took Martin a lot of head scratching last year to work it out, and we were in a similar position this year. A team effort, including some maths were involved to solve the problem. In the evening, Chris DDN, Dave YXM, Jon and Stu went off in search of food, and a banquet of pizza, chinese and indian takeaway food kept everyone full. We all sat under the gazebo around some long tables. Apart from the July sun and heat, it had the ring of a Christmas dinner. After dinner, the radios were kept manned, and everyone else enjoyed the usual VHF NFD banter. Several club members, and also non-members popped by the park to see how we were doing. It was good to see everyone, especially the new faces.

On the radio, despite not opting for a rota this year after decreasing success in recent years, the radio seats were kept active, apart from an hour off over dinner. We operating until 1.30am on Sunday morning, and were back on air just after 7.30am this

Wythall Radio Club meets from 8pm every Tuesday evening at Wythall House, Wythall Park, Silver Street, Wythall, B47 6LZ, near Birmingham. Visitors are very welcome. Wythall Radio Club is affiliated to the Radio Society of

morning. Due to lack of members on site, all of the radios and laptops were taken off site overnight. This year, voice keying was working properly on both bands. I think it certainly helped to have a presence calling 'CQ' in getting new callers, and it's easier to press F1 than shout when replies are thin on the ground. It was difficult to make the 'training session' idea work, but a lot of members had a go at calling and listening over the weekend.

Results:

56 QSO on 50 MHz. Best DX was to Puerto Rico in the closing minutes, but generally there was little E's activity which has in previous years boosted the score and QSO numbers.
135 QSO on 144 MHz. EI, northern GM, GU, and usual big PA, ON and DL contest stations.
38 QSO in DL DX RTTY contest
7 QSO in Venezuelan Independence Day contest
Many other QSOs on VHF FM and all over HF.

We took down the 6m station early on Sunday morning, and closed 2m finally around 1.30. As the number of helpers was quite low, there was a feeling it was right to close down a little early. Clearaway went smoothly, with us just about fitting everything into helper's cars.

Finally, as I say every year, thanks to everyone who helped in any way with Field Day this year - from transportation, power, food and drink, keeping the CQ calls going etc. It's always a team effort - Chris and myself have tried to organise things, but certainly we couldn't do half of this on our own.

73, Lee G0MTN

Tom's C pole for 20m

In 2009, Tom G3PQP made a C pole for 20m. This antenna was originally described in a QST article by Brian Clarke KF2YN in April 2004. (If anyone wants a copy of the article contact me via G0EYO@blueyonder.co.uk) The antenna is in the form of vertically polarised half-wave folded dipole with an offset feed point. Its construction, using 20mm plastic conduit



means it is easy to erect and use as a portable antenna. It matches across the 20m band without the need for an antenna tuner unit. We used it on at a special event station we ran at Stratford in December 2009.

Graham M0TGA recently built one and has been kind enough to document his work and pass on to me copies of the pictures he took and drawings that he made based on Tom's instructions.

Parts List

To make this antenna you will need the following:

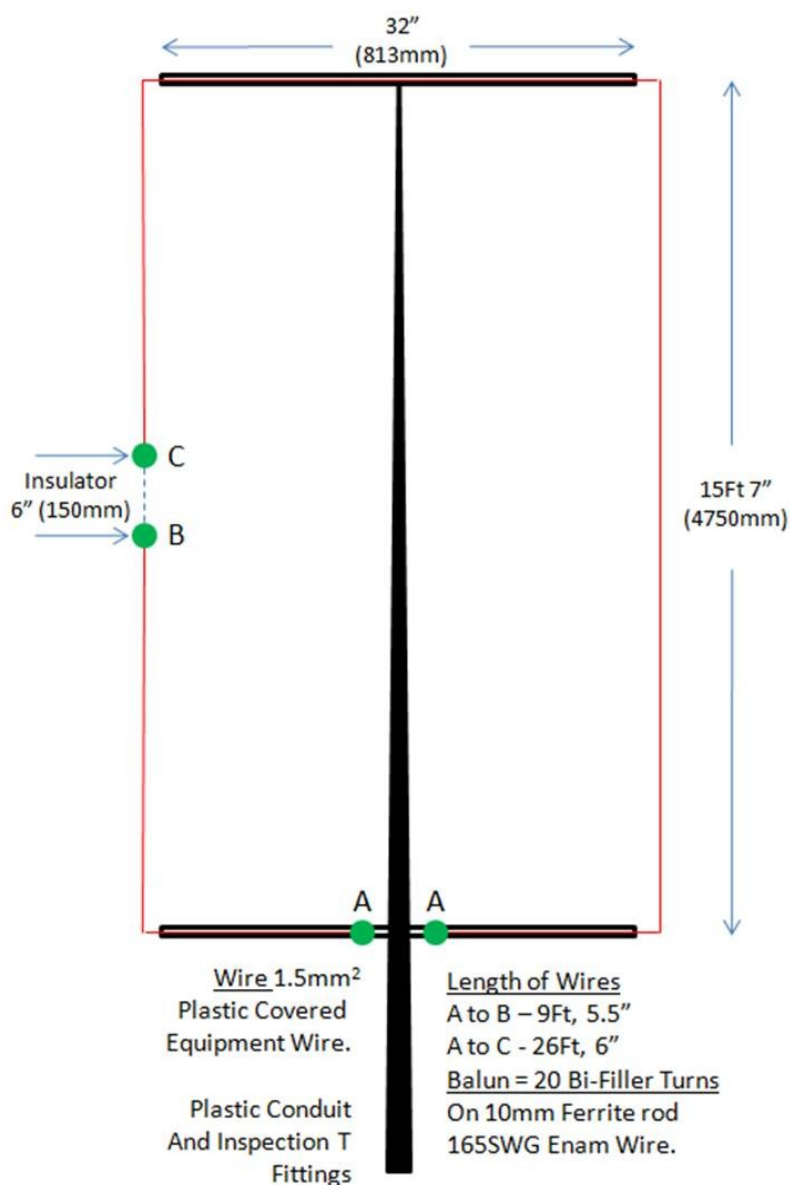
- 6ft x 20mm plastic conduit
- 2 x Inspection T conduit fittings
- 2 x 20mm plastic saddles
- 1 x SO239 bulkhead socket
- 1 x 10mm x 100mm ferrite rod
- 220cm of 16swg enamelled copper wire
- 3 x screw terminal blocks
- 2 x 1 inch spring clips
- Plastic sheeting (scrap from sign manufacturer) for guy rope adjusters, insulator and guy attachment ring
- 12m x 1.5mm² copper wire (there is some in shack)

- Shrink wrap materials
- Adhesive for plastic conduit
- Glass fibre fishing pole 9 or 10m
- Suitable guy ropes and ground pegs

The antenna is an off-set 20m folded dipole with the short element running from A—B, and the long element running from A—C. (see diagram above). The space between C—B is insulated. The feedpoint is a balun inserted in the conduit below A—A and connected across A—A. The whole arrangement is mounted on a 9-10m telescopic fibre-glass fishing pole. VSWR is generally between 1.0:1 and 1.5:1 across the 20m band.

Build instructions

Start with the balun, (Fig 1) this is 20 turns of 16swg enamelled copper wire wound around a 10mm ferrite rod. The transformer



is bilar wound. Take 220cm of wire and fold in half to give a double length of 110cm. Use a tie wrap to secure one end of the double wire to one end of the ferrite as shown on Fig 2 and wire twenty turns of double wire around the ferrite. When complete remove the tie-wrap and using either tape or heatshrink tubing, cover the wire to secure it to the ferrite so it cannot move. (see Fig 1). Solder the bulk head SO239 connector as shown in Fig 4. At the other end of the transformer, identify which wire is connected to the SO239 inner and which one to the outer. Insert foam over the balun assembly to enable it to be seated centrally in the conduit. The conduit to contain the balun needs to be long enough for the SO239 to fit snugly at one end and the pair of wires sticking out the other end. About 150mm should be about right but check first.

Tom's C pole for 20m cont'd



FIG 1: BALUN



FIG 2: BALUN WINDING



FIG 3: BALUN S0239



FIG 5: DIPOLE INSULATOR



FIG 6: GUY TENSIONER



FIG 4: BALUN INSERTED IN CONDUIT

The next item to manufacture is the insulator, this can be anything suitable and non-conducting, Graham made his out of some spare Perspex (Fig 5). This might be a good time to also cut out the 3 guy rope adjusters (Fig 6) from the same plastic. Graham put warning tape on his so that they were obvious to the public who might be around his portable installation.

Then using a hole-saw cut out the 4 inch disc from the plastic which is used as a guy

attachment to support the glass fibre pole used as a mast (Fig 7).

Cut the remaining conduit to the lengths shown in the diagram on page 2. The two length of conduit then need to be cut in half and fitted into the T pieces and secured with glue. With the T pieces fitted make sure the overall lengths of the conduit assembly are 813mm. In the bottom conduit fit the terminal block fitted as shown in Fig 8. The two wires from the balun are connected to screw block as shown. Fit the conduit saddles and spring clips as shown in Fig 8, this will enable the bottom of the antenna to be clipped to the mast.



FIG 8: TERMINAL BLOCK



FIG 7: GUY ATTACHMENT DISK



FIG 9: SADDLE CLAMPS & SPRING CLIPS

Tom's C pole for 20m cont'd



FIG 10

For the top conduit a short piece of conduit tube will need to be fitted to the T piece as shown in Fig 11. Because Graham wanted to mount his dipole higher up the mast, he made an insert which fitted inside the 20mm conduit with a hole suitable to take the top of the mast (not very top but second or third section). See fig 11.



FIG 11

Final Assembly.

Now we need to put this all together. Make sure the balun is secured to bottom spreader. Fit the dipole wire into conduit tubes. First the right hand side the long length A—C as shown on diagram (8.077m—26ft 65"). Then the shorter length A—B (2.882m—9ft 5.5"). At point C—B, insert the 6 inch insulator. Lay whole arrangement on the ground to make sure that it is equalised and one side is not longer than the other.

Next you need to assemble it onto the fishing pole. Secure the guys and the guy tensioners to the guy disk. Graham used miniature spring clips but you can just as easily tie them on to the disk. (see Fig 12)

The fishing poles needs to be fixed at ground level. Graham used a pole attachment frame that fitted under his wheel, but you can just as easily use a garden parasol base screw. With the bottom of the fishing pole in the base, fit the top spreader onto the fishing pole with the guy disk underneath it. (See Fig 14)

As you pull out the fishing pole, the C pole antenna should drop down and when taut, secure to the fishing pole at the balun with the spring clips provided. You can now tie the guys to their ground anchors and tension up with the tensioners.

Once the arrangement is secure, you can now check antenna for SWR across the 20m band. You can do this the conventional way with your rig or an antenna analyser as Graham did.

Adjustment is made via the insulator spacing, and in fact once he had got this to the SWR he wanted. Graham replaced the insulator with a plastic rod secured between two terminals of the final spacing length. (See Fig 15)

I would like to thank Graham M0GAT for taking the photographs and Tom G3PQP for finding the antenna and showing us how easy it is to build.

Chris G0EYO



FIG 14

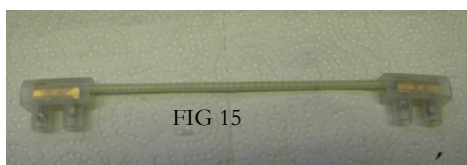


FIG 15



FIG 13



FIG 12



Barry M0DGQ's 20m Yagi

This yagi antenna is particularly suitable for those with small plots (myself included) who wish to use a 2 element 20m yagi. Assessment of the antenna is still on going but initial results are very promising, hopefully I can persuade Callum M0MCX to model it for me using his modelling software. The antenna is based on a design by KJ5VW, it is recommended you read this article first.

Having built the antenna to this design, I could not get it to work properly with the dimensions given and it was still a little too large to fit into my plot (maximum element length no more than 4.7 metres),the antenna would not resonate at correct frequency - the SWR was perfect at 17 MHz but very poor at 14 MHz, I have a suspicion the loading coils were too high an inductance and were acting as chokes at 14 MHz (perhaps I was doing something wrong). Decreasing the number of turns on the loading coils would increase the wire part of the element further making the antenna even larger. Although disappointed by the results I thought it should be possible to build a small yagi with useable gain and front to back ratio, I didn't by any means expect to equal a full size mono-band yagi but was hopeful a compromise could be had.

After a lot of experimenting here is the final design. The elements still use loading coils but are less inductance than the KJ5VW design and the outer half of each element is folded back on its self by ninety degrees thus resembling a Moxon configuration. The pictures show it all. A few words about construction and materials, as you can see the elements are made from 6mm PVC covered earth wire, initially solid core wire was used but this proved a little awkward to manipulate. Loading coils consist of 29 turns 1mm stranded PVC covered hook up wire close wound on the fishing pole.

The element supports are made from 4 metre fibre glass fishing poles, the last two telescopic sections of the poles are discarded. A metal sleeve is inserted into the large end of the two poles to join them together. The poles are filled with expanding foam for strength and rigidity. The weight of the element supports are also supported by a suspension wire made from nylon cord and is anchored at the boom by a small vertical support strut. It is strongly recommended you adhere to these two factors, without them the elements will almost certainly



break in moderate winds. The element support mounting brackets are made from angle aluminium and are secured to the main boom by U bolts, again the pictures give a clear view how this done.

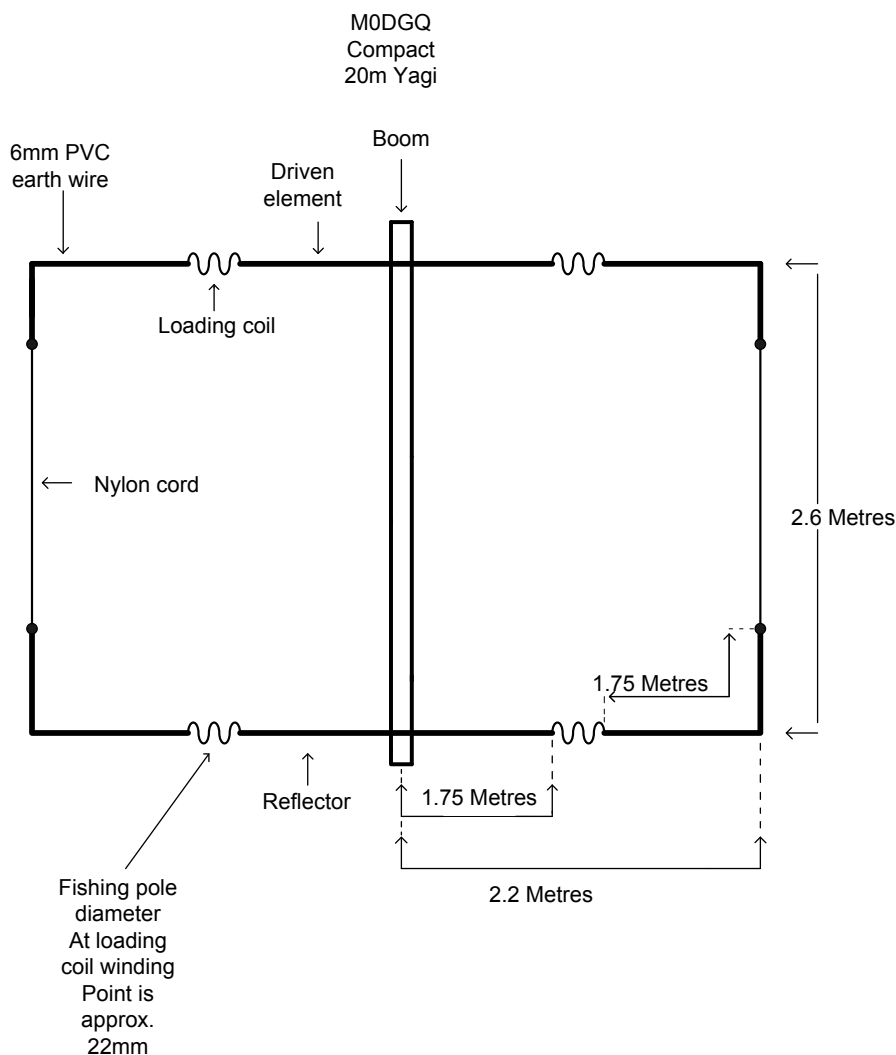
The boom is made from aluminium tubing, mine is approximately 50mm diameter and a

wall thickness of 2mm - 3mm. The coax feeder is soldered directly to the driven element and insulated with self amalgamating tape.

As per the original article, the antenna should be adjusted at the height it is to be used at, this is tedious but worth the effort. In use, mine resides at a height of approximately 11 metres and gives a 1:1 SWR at 14 MHz to 14.5MHz rising to roughly 2:1 at 14.2 MHz so you will have to decide which part of the band you want to adjust it for. Time has not allowed for a thorough evaluation of the antenna yet but i can now here stations I couldn't before using my 20m dipole at 7 metres. The front to back ratio is promising, a difference of 2 - 3

S points is typical (12 to 18 dB). Five watts TX power yields 599 reports from Europe. As said earlier, this will not be as good as a full size yagi but it is a lot better than a dipole and it fits in my small plot.

Barry M0DGQ
See page 8 for details of the metalwork



Reeve's Shorts—the Clyde Rambler

The Clyde "Rambler" An early 1960's battery valve portable wireless set

Clyde Radio produced kit radios – both valve and transistor- as well as importing Lafayette Communication receivers and selling car radios and sundry bits and bobs. An odd mix you might think but it seemed to work. The Company was located on the Tottenham Court Road amidst similar retail and mail order outlets and flourished during the late 50's and 60's. The "Rambler", was sold in kit form complete for £7-7-0 in old money, not exactly a pocket money purchase coming in at a whopping £132.00 in today's money. All the parts were available separately with for example the cabinet, punched chassis and panel with engraved dial for £2.2.6. The permanent magnet Elac speaker would set you back 19/6d, so again quite pricey. Transistor radio kits of the same period were about the same overall cost however so you paid your money and made your choice.

loose sufficient capacity fairly quickly to reduce the heater voltage below acceptable limits and need replacing at double the rate of the HT battery. The original batteries were designed to run down at equal rates and needed replacing together.



The Rambler
"the very imposing engraved cream panel"

be a bog standard 4 valve superhet. The valve line up (or should I call them tubes) were 1R5 Frequency Changer, 1T4 IF Amp, 1S5 Detector & AF amp and 3V4 AF output. An American set of valves, clearly Clyde got more than just Lafayette from the USA. Actually the only

Electrolytic was of American manufacture as well. Is it working? Well I connected up my 90v and 1.4 v supplies and switched on and waited..... Dead as a Dodo! Oh well, put it away for a rainy day project.

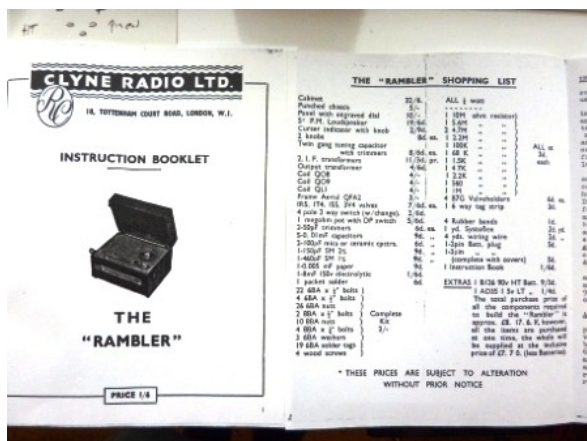
Back to the present, whilst waiting for Mr OFCOM to advise on my S9 interference problem, I dusted down the snakeskin box and decided to get it working again, thinking it must have worked at some stage. Back on the bench it went, connected up my power supplies and switched on and waited..... Ah well. Looking at the

untidy construction, I did wonder if it did ever work but a few voltage checks soon revealed that the on/off switch was open circuit on the HT side, thus depriving the anodes of their 90v life blood. Applied 90v directly to the tag strip, caused some slight stirrings but no signals. More voltage checks revealed that the LT at the valve holders was only 0.85v, strange because there was 1.4v going down the wires from the psu. So how can an ordinary piece of flexible wire become resistance wire? Don't know but it measured several ohms. Anyway full LT brought life to the beast, but tuning around produced lots of instability as well as lots of stations. At least I knew it basically worked.

Taking the bull by the horns, a couple of hours work had the chassis stripped and construction of the audio section was nearing completion, new valve holders and all new components from the spares box were used for reliability.

Great care had to be taken when de-soldering the three coils as they looked fragile and any breaks to the wires would be a disaster.

Construction progressed through the IF and frequency changer stages and the decision was made to re-use the volume pot with on/off switch just bridged out. Construction now complete, front panel on and speaker wires connected, the antenna temporarily connected by croc clips, volts were applied. *!@!@!@.....* Who left the volume control at max? Having woken up the Neighbours Spaniels, I reduced the volume to a more reasonable level and was rewarded by good audio and sensitivity from the set. No surprise really as the circuit was almost the same as the battery portable sets made by Vidor etc which were very



Instruction and Prices

You even had to pay for assembly instructions (free if purchased with complete kit)

Stern, manufacturers of high quality amplifiers, public address systems and tape decks, took a shine to Clyde and the new merged Company known as Stern-Clyde exhibited at the 1963 Radio Communications Exhibition at Olympia where several new models were shown to the dealers.

The growing demand for portable radios was in part satisfied by the many kit radios advertised as well as commercial units made by Vidor, Ever Ready, Marconi to name but a few. Today these radios are collectable with the sad neglected ones being used for spares. Whilst the battery valves are readily available, the original batteries are not and you have to improvise your own 1.4v and 90v supplies for LT and HT respectively. The cheapest way to power them is to use 2 "C" cells in parallel for LT and 10 PP3 type in series for HT. Unfortunately the LT batteries

Lurking beneath a table at the National Vintage Comms Fair a few years ago was this sorry looking box- roughly square in shape and covered with some sort of fake pale snakeskin fabric. Just out of curiosity, I opened the rusty catches and lifted the lid to find a somewhat unusual radio- clearly a kit.

It's yours for 50p a female voice said. After pausing for a moment..... wondering what *It* was, I dived deep in my pocket for my loose change and the transaction was done. Actually not bad, I thought, got to be valves and a quick flourish with the screwdriver confirmed my thoughts.



Original Construction

Wire it in any colour as long as it is mauve! Back home with it on the bench, it looked to

Reeve's Shorts .. cont

good, if rather expensive. No sign of any instability and I am sure a quick alignment would improve matters further. I re-connected the antenna coil which was in the lid and re-assembled it back into the case. Now to find some nice chrome catches and a few other bits and bobs to complete the job.

Is the interference still on 2m? NO! oooh well it's time for a few contacts me thinks.

Ian Reeve M0IDR

Completed
The rebuilt chassis awaiting testing



WRC AGM 6th Sept 2011

Notice of Annual General Meeting of Wythall
Radio Club and Wythall Contest Group
Tuesday 6th September 2011 at Board Room,
Wythall House, Silver Street, Wythall commencing
at 8.30pm

AGENDA

1. Appointment of Minute Secretary
2. Apologies for absence
3. Proxy's Received (if you wish for a proxy form contact the secretary below)
4. Acceptance of minutes of 2010 AGM
5. Matters arising from 2010 AGM
6. Chairman's Report
7. Secretary's Report
8. Treasurer's Report
9. Matters arising and acceptance of reports
10. Election of Chairman,
11. Election of Treasurer
12. Election of Secretary
13. Election of Committee
14. Constitutional issues proposed (notice must be given to the committee of any proposed changes 7 days before AGM)
15. Appointment of Auditors
16. AGM of Wythall Contest Group
17. AOB

Issued by Colin M0GJM, Secretary Wythall Radio Club
colin@truran.net

Training Notes

Two pass their Intermediate

Paul M3XEV and Tony M3ZQN both passed their intermediate course in August so well done to them. Their new callsigns are Paul 2E0DBL and Tony 2E0? We hope they don't hang on to them too long and go for their Advanced licence.

Advanced Course starts in September

By the time you get to read this we will be just about to start our Advanced course for 2011. This is a 15 week course on Monday evenings with a couple of Saturday's thrown in for practical demonstrations and revision.

Since the club started offering training courses at all levels we have run 19 courses and had the following passes.

2008

Foundation 6 Intermediate 7 Advanced 7

2009

Foundation 9 Intermediate 9 Advanced 9

2010

Foundation 6 Intermediate 10 Advanced 5

2011

Foundation 3 Intermediate 5 Advanced ?

Other training news

David G3YXM has joined the tutor team following a very successful couple of sessions on Transmitting and Receiving in the recent Intermediate course. We are pleased to have him on board.

Wythall House has also been re-certified as an Examination Centre by the RSGB.

I have also been asked to be a tutor on the Bath Chris G0EYO

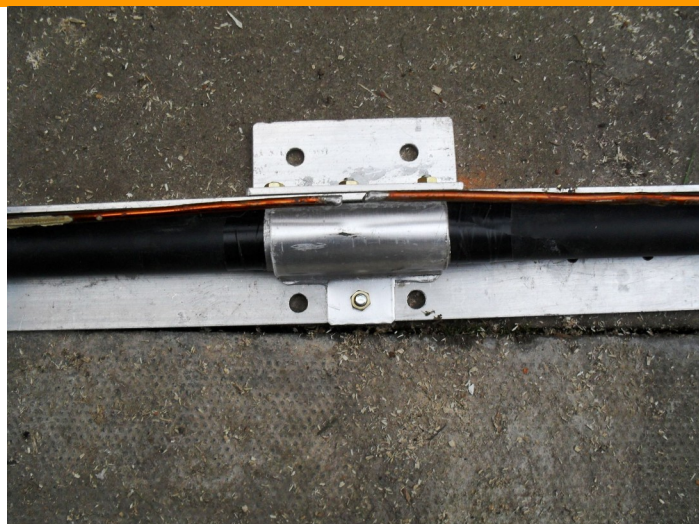
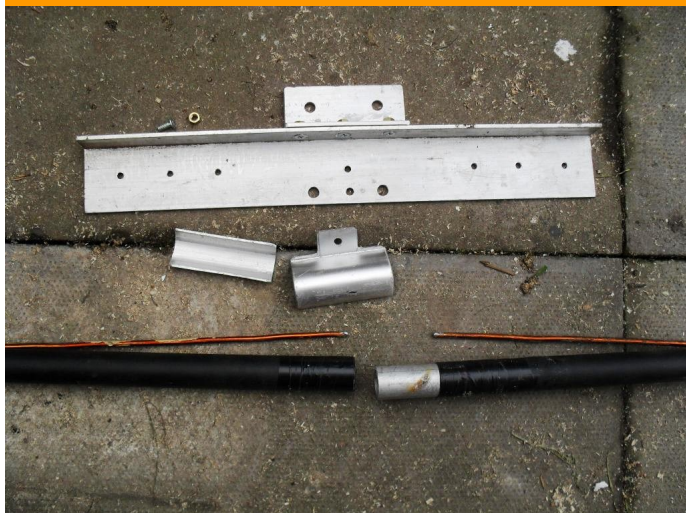
Distance Learning programme for Advanced students who cannot attend a class but need support and tuition. This is run by Steve G0FUW who wrote the Advanced text book and he sets the learning programme and notes and we distance tutors mark the papers and homework of those student allocated to us. We each have about 8 and there are about 64

students in the programme at anyone time.

The current programme started at the end of July and ends with the December Advanced exam. This has proved interesting and challenging so far as it will undoubtedly help with my tutoring and course preparation for our own Advanced classes.



Barry M0DGG's 20m Yagi (pictures)



The next issue of the Wythall Radio Club Newsletter will be published at the beginning of Nov 2011

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