



Carrier Wave

Aberdeen Amateur
Radio Society

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Club News

The style of the newsletter has been changed to make it a little more interesting and so that readers can find their way around it more easily.

The paper on which this is printed was sourced by Norman, GM8CBQ. Thank you Norman for providing enough quality paper for quite a few years of newsletters.

Alford was a success this year as we benefited from the change of shack to the outside hut which provided shack-like facilities close to the 40 m loop and the roof was covered with a large metal frame ideal for a 20 m vertical. Computer logging was used successfully even after the demise of the smps belonging to Ellis, GM4JLZ.

A small group visited the studios at STV and reports back were good, with everyone finding the visit interesting and informative. Thanks to Tony, GM4HTU for setting up the contact with STV.

CW NFD was an official entry this time and thanks to all the operators, loggers

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Coming up soon:-

- Lighthouse weekend
- HF Foxhunt
- SSB FD

and helpers who made the event the success it was.

Results for the SSB FD of last year are now available on the RSGB website. GM3BSQ/P is half way up the list of twenty-four restricted section entrants. Our comments were also published. Our target should be to reach the first 10. Improvements in computer logging and operating technique could make this a reality. Lists for operators loggers etc. will be circulated shortly for the International Lighthouse Weekend and SSB FD. These two events will make use of the new TS570 and TS2000. Although these were aired at the QRP field day only a small number of members took the opportunity to try one out. The TS570, set at 10 watts output, was used in the afternoon contest session. Thank you to Allan, GM4ZUK for the loan of the Elecraft K2, used in the morning session. The operators had nothing but praise for this rig. The QRP contest was a bit hard going but the final score should not mean that we are at the bottom of the entrants list. Thank you to all the members who helped at QRP field day. Conditions were not very good on the higher bands and although the 3 element vertical for 20 m performed well electrically only two stations from the states were heard briefly. European signals were very strong and none of these appeared to be having any success at all with transatlantic QSOs either.

We need to activate the homebrew transmitters more on 80 m on a Monday evening. Several people have mentioned that they would join in if the CW speed was a bit slower. To compliment the CW practice evenings we should allocate another frequency quite close to the one used by the competent senders for those who are beginners and those who want to brush up their skills to a level where they would feel happy coming on the air and working stations elsewhere who are sending at reasonably slow speeds, (8-12 w.p.m.). A Questionnaire/list will be passed round to evaluate the situation.



The club shack has now been upgraded so that the gear is within a large metal-enclosed unit which can be locked. This has added some security and fire-proofing. We have to thank Phil, MM0MSP and his helpers for these improvements. Also more storage space has been added in the shape of cupboards above the operating area. These were donated by Ian, GM4GVK and they should help to keep the shack area a little tidier in future.

Extensive work has been done by members on antenna work nights. We now have 4 light-weight 20 feet poles and these needed 2 sets of guys, one set at the middle and one at the top. One evening was spent labelling the mast sections so that the order of the sections was easily seen and cutting and terminating guys with eyelets at one end and wooden tension adjusters at the other. A small amount of work has still to be done to complete all the work but the target is to have 4 bags each with a complete set of guys, base, pegs, top and pulley with halyard. The plan is to have a laminated A4 card in each bag with a picture of the mast on one side with ground dimensions shown on one side and a list of the bag contents on the other side. Although this sort of club evening may not appear to be the most exciting it has the potential of making a number of our outings go more smoothly in the future. The 4 masts as they stand are ideal for the 40 m loop but it may be possible in the future to add one extra set of guys to two of the bags to allow us to put up two masts to 30 feet each so that a standard single element antenna could be stretched between them. This would increase the flexibility of the system. There is plenty food for thought here.

A Toe in the Water by Tony, GM4HTU

I recently took the plunge and built my first project using some surface mount components. The circuits were for use with microprocessor equipment, and I only used resistors and capacitors. It was not as difficult as I feared.

To encourage others, here are my findings.

Advantages

- 1 No drilling
- 2 Low cost, 1% resistors for < 1p inc VAT
- 3 No drilling
- 4 Small size (see Disadvantages), can be squeezed almost anywhere on a printed circuit board (see Disadvantages)
- 5 No drilling

Disadvantages

- 1 Small size. Do not cough, sneeze, shake or tremble otherwise you will drop the component and never see it again. That's assuming you could see it in the first place
- 2 Printed circuit boards are a must. I cannot see how they could be used with Manhattan, ugly or New Jersey construction, although Veroboard might be possible.
- 3 Sparse/obscure/no labelling. Leave them in the supplier's bags until the moment they are needed. They all look very much alike and a label such as A2 is not a lot of help.
- 4 The underneath of the components is silver/grey, the same colour as my work bench...



Magazines such as Sprat and QST have featured various assembly aids. I have built a fixture from QST which uses clothes pegs and a cocktail stick to hold the parts in place and it works well. Solder with 2% silver is supposed to be used to prevent the ends of the components from being damaged over time. It's dear, but when you see how much you use, consumption is not a problem. Tweezers and a magnifier are essential.

The parts I used are styled 1206, meaning 0.12 inches long (3mm) by 0.06 inches wide (1.5mm). These are the largest (!) available. The next down are 0805, then 0603 and a new range of 0402, about the size of a sugar crystal. I shall not be using any of these.

Tony Langton
GM4HTU

Snippets

Some useful websites for the radio amateur

www.spaceweather.com

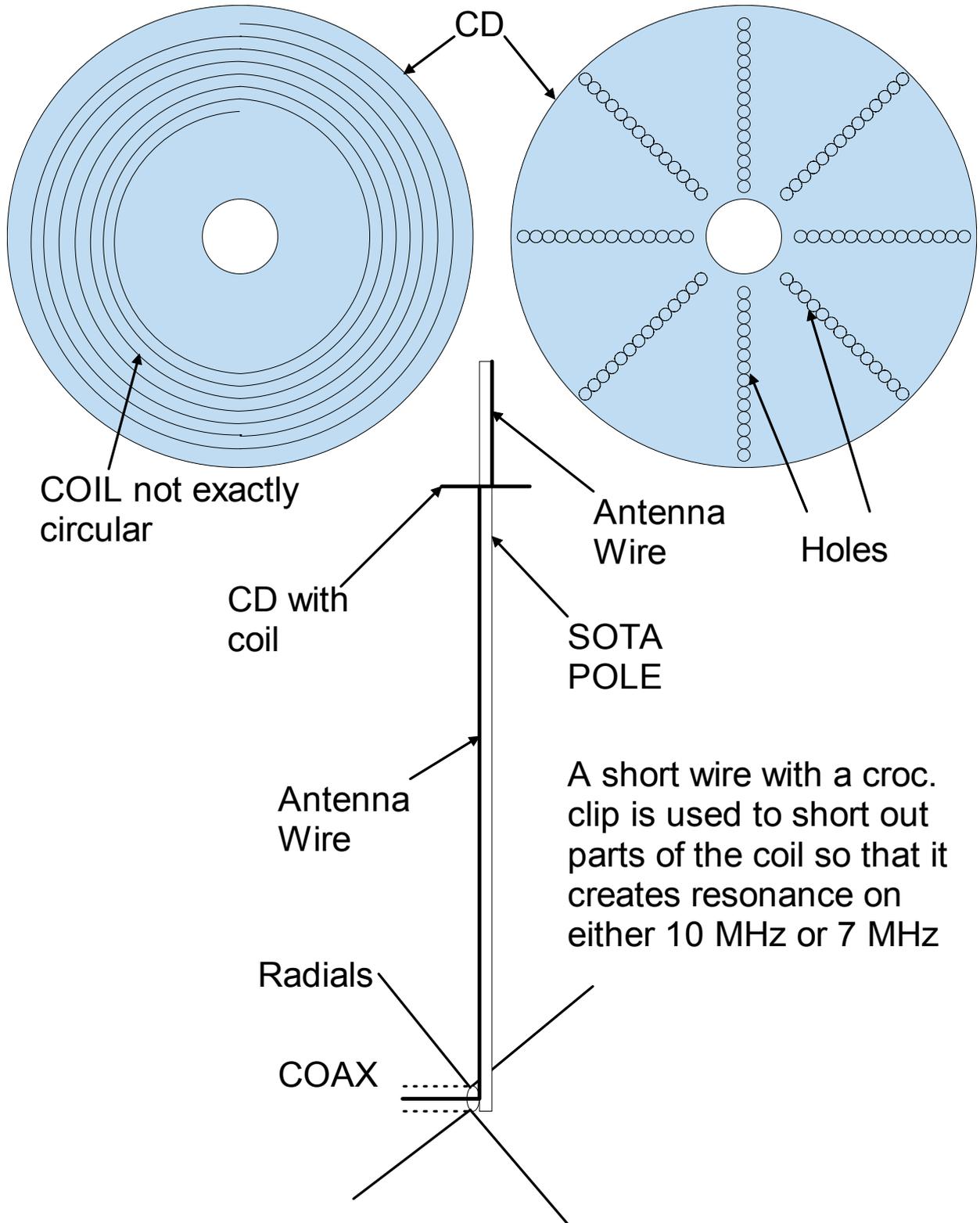
<http://spider.irf.se/mag/>

www.rsgb.org

Sorting Out The Antenna (or SOTA for short!)

by Graham Sangster, GM4OBD

The SOTA pole has been gaining popularity and if the WX is going to continue to be as nice as it has been this summer, more amateurs are likely to set out for the wide open spaces or hill-tops. The 6.7 m version of the pole is very light and manageable and is rather versatile. Already we have used 4 in a square to support a 40 m loop and as long as they are guyed correctly they provide sufficient strength. A single user however is likely to want to get as much as possible from just one pole. At 6.7 m in length it is easy to run a quarter wavelength wire up the pole for all the bands from 6 m up to 20 m. The problems start when the conductor length exceeds the 6.7 m pole length. One solution is to include a loading coil on the pole to make the pole electrically longer and resonate on a band of longer wavelength. I set myself the task of designing a solution to this problem so that the pole could be used on 30 m and 40 m, both user friendly bands which the /P operator should have in his arsenal. A loading coil near the top is much more effective when it comes to radiation as the high current region of the antenna is still vertical and straight. How could a loading coil for 40m be put near the top of the pole without increasing the weight or the wind capture? As I was about to discard an old CD, it occurred to me that this would be a solution. It is thin plastic and so has little weight and if mounted in a horizontal plane would cause little strain on the pole when the wind speed rises. A small drill (1.0 mm) and 4.0 m of bare copper wire is all that is needed to construct the loading coil. (See next page for details.)



This antenna was tested on both 7 MHz and 10 MHz and found to work well on both bands. It was expected that it would have a narrow bandwidth but in fact it was unusually good in this respect. Next target 80 m !!!



For Sale **Ian Munro GM4GVK (01224 316787)**

- Pair of Magnum–K Speakers 25 Hz to 20 kHz, 3 speakers with 12" Bass unit gives excellent quality. Dimensions 15" x 24" x 11.5"
- Heathkit HW-8 QRP Rig. 80-10m approx 2W o/p. Includes mains PSU and Manual. **£100.00**
- Goldring variable speed turntable, shure 75 pick-up

Wanted Articles for inclusion in future newsletters.

- Please submit articles for inclusion in the October issue by Thursday 28th September.
- Information on how to print automatically as an A5 booklet with pages in the correct order!