

Radio

HOMEBREW and EXPERIMENTER'S

Group

An official function of the
Wireless Institute of Australia (NSW Division)
109 Wigram St Parramatta Ph. 9689 2417
Email: vk2wi@ozemail.com.au

Newsletter Issue 01

November 2004

Group Co-Ordinator	Peter O'Connell VK2EMU
Honorary Engineer	Mark Blackmore VK2XOF
Honorary Parts Person	Seppo Ahlstedt VK2SMA (Trash-n-Treasure Co-Ordinator)
Newsletter Editor	Brian Keegan VK2TOX

Note: By the time the next issue comes out the Group should have it's own email address on the WIA (NSW) web site, meantime if you need to contact us phone, fax or email the Parramatta office.

The Radio Homebrew and Experimenter's Group workshop meetings are free to WIA(NSW) members. A \$5 cover charge **may** apply to non-members. Meetings are currently held at the WIA(NSW) Division offices in Parramatta on the first Tuesday night of each month around 6:30pm to 9pm (doors locked by 9:30pm) and on the last Sunday of each ODD numbered month around 1pm to 5pm (that is after the Trash-n-Treasure). The Divisions Book Shop is also usually open at these times for those who can't get in during the week. Only a short walk from either Harris Park or Parramatta Stations and usually plenty of on-street parking for these meetings.

These workshop meetings are informal get-togethers of amateurs interested in building, or repairing their own radio equipment. Some people bring their latest piece of equipment along to work on or to receive advice, while others offer their experience and advice in helping others.

The group had some pieces of test equipment at Parramatta, while others are brought in for the night. If you think that you may need some equipment, then **please contact Peter O'Connell VK2EMU by email or leave a message for him at the Parramatta office** and he will endeavor to have the appropriate piece of equipment available.

This Month

- **Radio Homebrew and Experimenter's Group News**
- **News from other Clubs or Groups which may be of interest**
- **70cm Antenna Project with Photos**
- **Drew Diamond VK3XU "Radio Projects for the Amateur Vol 3" available now**
- **Parts for Homebrew Projects**
- **Need Circuits and ideas for "Project Circuit Folder"**

The contents of this publication are © 2004 by Radio Homebrew and Experimenters Group whose meetings are an official function of the WIA(NSW). All rights reserved. Enquiries should be directed to :

Group Co-Ordinator, Radio Homebrew and Experimenter's Group,
WIA(NSW) Division Office, 109 Wigram St Parramatta NSW

Non-copyright material appearing in this publication may be reprinted in similar interest newsletters and non-profit publications if accompanied by the following notice :

"Reprinted from the Radio Homebrew and Experimenters Group Newsletter, this group is an official function of the WIA(NSW) Australia"

Note: The views expressed within this publication are not necessarily those of the WIA(NSW) or its officers

Radio Homebrew and Experimenter's Group News

The next workshop meeting will be held Tuesday 2nd November where amongst other things we will continue our construction of the 70c, Yagi designed by Gordon VK2ZAB and co-ordinated by Peter VK2EMU. We will also utilize the afternoon of Sunday 28th November to finalize these antennas and test them down in the garage area after the Trash-n-Treasure.

As mentioned previously there are still a couple of kits (constructed) available. For anyone interested please contact Peter VK2EMU as above.

News from other Clubs or Groups which may be of interest

Liverpool & District Amateur Radio Club Auction (Saturday 6th November 2004)

LADARC will be holding an auction on Saturday the 6th of November at the Scout Hall on Hoxton Park Road, Hoxton Park located next to the Boston Park Shopping Centre. The auction will commence at 11am. Sellers will be admitted from 9:30am. A sausage sizzle will be available.

Some 2 metre FM900's will be available for sale. These radios have been converted from 12.5 KHz step radios to 25 KHz and are more stable than the older FM900's. All repeater channels on these radios are fitted with 123Hz sub-tone. Come along, with the gear you want to get rid of and you may end up with the bargain of the year.

-- Submitted by Garry Barker VK2TSR, Honorary Secretary
(original item on WIA(NSW) news broadcast)

Wyong Field Day (February 2005)

Scoop !! according to a msg received by Brian VK2GCE from the CCARC the projected date for the next annual Wyong Field Day is **Sunday Feb 20th 2005** , however this depends on the venues Racing Schedule. It may have to move if the Wyong Racing Club schedule a race for that day.

70cm Antenna Project with Photos

Last month with the help of Gordon VK2ZAB we commenced the construction of the 70cm Yagi antennae. Peter VK2EMU and Gordon have sourced the materials, other interested persons brought a cut-off saw and a bench drill to aid construction. Despite best laid plans of mice-n-men we did not get the antenna finished at the first meeting.

We got all the booms and elements cutup and commenced drilling of these items. A couple of weeks ago we had an enjoyable Sunday afternoon at Wigram St with most of the interested persons continuing the drilling and commenced assembling the elements into the booms. Another team was busy cutting, drilling and shaping the dipole components. Peter EMU was busy with his hole cutter fabricating the little aluminum boxes for the dipole connections.

Hopefully we should get the antennas finished at the upcoming Tuesday 2nd Nov meeting and then at the Sunday 28th Nov afternoon we will tune and test them all. Mark VK2XOF will have available some test equipment to do this. Meantime, I understand there are still a couple of kits available if you are interested in constructing a 70cm Yagi contact Peter VK2EMU.



John, Alan, Max and Bob drilling the booms with a pilot hole to secure the elements. We set up a jig on the pedestal drill to centre on the boom then just drill at the marks along the boom. This assembly line technique greatly simplified and improved the accuracy / repeatability of these important holes. The same procedure was used last month when drilling the holes for the elements themselves.

Bob, John and Alan again (are they doing all the work !), assembling the elements into the booms. Very fiddly as booms were drilled with a clearance hole for the elements. Alan became quite the expert at finding the hole on the other side !.



Seppo (the Trash-n-Treasure man) and yours truly fabricating the end pieces for the dipole. Definately a precision job with Seppo drilling e holes and then I cut them to length and filed the ends in a sort of round shape.

This will be Bob, Peter, John, Alan and Max (with his back to us) along with mystery man. Peter is drilling small aluminum box sections prior to using a hole punch to fabricate the little box to terminate the dipole and balun in.



Sorry gents, I know most of your call signs but in deference to those I don't I will omit them in this article.

Drew Diamond VK3XU "Radio Projects for the Amateur Vol 3", available now.

(Review Brian VK2TOX)

Drew's previous volumes 1 and 2 were a goldmine of circuits and ideas for both RX/TX and Test Equipment. This latest volume certainly continues this concept. Again like the previous volumes most of the circuits have appeared in recent issue of Amateur Radio magazine although I am sure there are some new ones in this latest volume.

The great thing about these volumes is that all the ideas are in one place, not a multitude of scraps of paper, photocopies or magazines to plow through to get some equipment or circuit info.

I have always been a big fan of Drew's projects they are presented in a relaxed and very informative manner. Plenty of information to allow you to substitute parts you have on hand or modify the presentation of a finished project. In most cases if you need a special bit of gear to test or align a particular circuit then he presents that also.

This volume contains over 40 articles covering **Power Supplies, Receivers, transmitters, Antennas, Test Equipment (the largest section), Workshop ideas and Equipment Accessories**. Included are not only photos of the actual equipment being constructed but also Drew's excellent circuit diagrams.

This volume is actually produced by Drew himself with Bill Roper VK3BR taking care of editing, layout etc.

WIA(NSW) Parramatta office has a whole box of them just waiting for you, drop in and pick one up or arrange for one to be posted to you. Get in quick and get your copy, apart from it being an outstanding resource of circuits and ideas you will also be acknowledging the effort that Drew has put in all these years to his interest in Ham Radio.

Parts for Homebrew Projects

Being a keen Homebrewer and running the WIA(NSW) Trash-n-Treasure, Seppo always has his eye out for parts for our projects.

Along with a growing collection of passive parts, xtal osc modules and other useful parts, he has currently an interesting quantity of various IC's. Most of these are older types but still quite useful to build projects around.

Please check out the following list and let us have any ideas or circuits you have that we might use these for.

TC5564PL-15	CMOS Static Ram 8K x 8
LM1408N-8	8 bit DAC (equiv to DAC0808)
AM7910DC	Multi-Modem Chip
4N35	Opto-Coupler
TL084N	Quad JFET OP-Amp
LM301AP	1MHz Op-Amp
LM318P	Fast General Purpose OP-Amp
TDA5660P	TV Sound Modulator Chip

Need Circuits and ideas for "Project Circuit Folder"

For the benefit of our members I would like to build up a file of "building-blocks", that is self contained circuits we can use to construct or modify a complete piece of equipment. It is usually easier to build up a piece of gear, be it a piece of test equipment or a RX/TX by breaking it up into a number of modules. It is also easier on the pocket book too. That way you can be assured of functionality before moving onto the next module and also get quite quick results, rather than quite a long time on a one piece of gear.

Also of interest are circuits of small pieces of test equipment that members could "knock-up" to assist them in testing or aligning the gear they have homebrewed.

So scribble a circuit down on a piece of toilet paper, photocopy an idea or email ideas/circuits to Brian VK2TOX (as per Call-Book or email address on front page). You can even hand it to him as he is there at most meetings.

This compendium of circuits will be available at meetings and eventually in booklet form to members. I am currently putting together some circuits to get it started, but I need your support too.

14/12/04..Next meeting after the T&T Sunday 30th Jan 2005 and Tuesday 6:30pm 1st Feb 2005
.END..