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HAMS Haywire News

MIDLANDS AMATEUR RADIO CLUB
P.O.Box 1076, HILTON, 3245

July 2008



AFFILIATED TO
THE SARL & IN
ASSOCIATION
WITH THE NATAL
CARBINEERS

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The Chairman's Fax

This is the last lap for me being chairman of our select group of hams belonging to MARC, some poor blighter will surely inherit the job after our forthcoming AGM which is going to be held on the 19th July 2008. Notice of the meeting was presented to you in last months Hams Haywire newsletter.

I am sure that the future of the club lies with our younger members (not too many of those!). Our Club is really very lucky to be endowed with a healthy bank balance and members who do care as to what happens from year to year. It was interesting to hear that Rod and Rose have settled in and have bought a car, a house and that their container has arrived from S.A. I am sure it won't be long and we will be hearing from them via the air.

Dave Larsen, ZS5DN, and I had an interesting chat the other day on the landline and he sent his 73 to all the old friends. We do have him on our HHN e-mail list, hi Dave!!

The Club has been asked to take part in the local model engineers annual hobby fair and your new committee will be asking you to partake in this function representing our hobby and ham radio.

We do hope to see YOU and YOU and especially YOU at the AGM!!

Cu at the meeting

73 DE ZS5MQ

PLEASE NOTE THE NEW CLUB HOUSE HOURS.

Saturday from 08:30 to 10:30

The club meets on the third Saturday of every month, except December at 13:00 at the Natal Carbineers Conference Center, Geere Street, PMB.

Sunday Morning Bulletins (MARC and SARL) as well as the Club Net from 07:45 on 3620 kHz and the 145.750 MHz repeater.

Sunday Club Net Controller: Mickey Esterhuysen, ZS5QB
National News Bulletin: Robin Seal, ZS5MRS

From the Editor

In a biography of the famous Roman lawyer, Cicero, by his secretary, Tiro, there is a description of the efforts of the very rich Crassus to purchase the votes of the citizens in order to obtain control of the Roman senate. In the newspapers I read about the efforts of our northerly neighbour to retain control of his senate. Here at MARC things are different: votes are not for sale neither are they subject to any pressure. It is your privilege, no, it is your duty to vote for those members that you wish to see on your committee. No vote means no complaints - the choice is yours!

You should also seriously consider whether you are willing to serve on the committee if your name is put forward. Unless you become the editor of HHN, it should not take up too much of your time!

73,
Wessel, ZS5BLY.

CLUB BANKING DETAILS

Bank: First National Bank	Branch: Bank Street	Branch code: 220-825
Account holder: Midlands Amateur Radio Club	Account Number: 625057756507	
Type of account: Current	<i>Reference to use is your call sign</i>	

News and Views

① Walter Reid Competition

A disappointing number of entries were received in this year's event. Whether ESCOM's power sharing had anything to do with it is rather doubtful, so we have to look for the reasons elsewhere. No time? Well, you are hereby notified that the next Walter Reid competition will take place in June, 2009. I am convinced that any one of us can put together something in 11 months - c'mon guys, do it!

Out of four entries, of which one was withdrawn, the results as judged by those present are as follows:

Winner: Wessel, ZS5BLY (Electronic rain gauge)

Runner up: Mickey, ZS5QB (70 cm Yagi)

OM Bert, ZS5MQ, who withdrew his entry on the grounds that " it is not working properly" could not be convinced by the meeting to keep it in the competition.

① Repeaters

From on-the-air reports it seems that all our repeaters are functioning well. We are all waiting for William to complete his super 2m antenna which may reach the Estcourt repeater. OM Philip also reported that he could work the Swartberg repeater from Rhodes - well done!

① More repeaters

OM William, ZS4L, is seriously considering a 6m repeater at his new QTH or close to it. Maybe we should pass on the unit resting in the Clubhouse to him for experimentation. This may very well open some new areas of experimentation for our members.

Build it yourself

One of the reasons often quoted for the demise of home construction is that "electronics has become too sophisticated and complex for the average home constructor". This is usually followed by the lament that the test equipment required is beyond the pocket of the ordinary person. I have to object to both of these arguments. While it is true that the electronic devices that we see and use have become rather complex, we should remember that these systems have been put together using complex and sophisticated building blocks. Most of these building blocks are available to all of us with, of course, the exception of propriety integrated circuits and pre-programmed micro processors. We just have to get to know about them and how to use them. As regards test equipment, the laboratory units certainly can make life easier but are not required for most of the projects that we tackle at home.

What is essential, is to want to do it. Most objections seem to disappear the moment we decide that we really want to do something. So what are you going to need to get going? The first item is a multimeter. Small digital readout units are available at very low prices and are useful around the house and car as well. A small soldering iron is required to do the soldering: 40 Watt will do but get one with a small tip, about 2 to 3 mm is ideal. Next is a power source to power your project. Though batteries will do, they tend to go flat at the most inconvenient times. Why not make a variable power supply your first project? A suitable circuit diagram using an LM 317 was published in a previous issue of HHN but others are available on the Internet or in the various publications to be found in the clubhouse.

I can't do printed circuit boards! Well, it was interesting to note that for the latest SARL construction competition it is a requirement that the projects be constructed on Vero-board. Software is available on the Internet to do layouts on Vero-board so you can get it right before you even start cutting your board. With careful layout even RF circuits can be built on this versatile material (I have done a 70 cm pre-amp on it!).

So why build at all? There is much satisfaction to be had from the completion of any task, more so from something that you can see and use. My psychologist daughter daughter-in-law explains it as follows: " Every time you successfully solve a problem, a little hand comes from somewhere and pats you on the back and praises you. We all need that to build and retain our confidence in ourselves and to boost our self esteem. It also makes us happy and contented people." To this I wish to add that it keeps your brain and hands busy and avoids you loosing it because you are not using it.

An often overlooked advantage of electronic construction projects is that it brings you in contact with other fields such as mechanics, chemistry, physics, mathematics and even humanity at large. Now is this not enough to get you started?

Another approach to this activity is to start by assembling kits. There are hundreds of them on the market and a large number are available locally: anything from acoustic motion sensors to digital oscilloscopes! Visit www.electronics123.co.za or ask for more information. Kit building allows the newcomer to put together more complex units than is possible with construction from scratch - do not fly too high when setting out! We all crawled before we walked or ran. Maybe we should consider a Club project - get together at the Clubhouse as and when required and get the thing working. For those that have a problem in getting to that venue, a technical net may be a solution. We do have a problem in that people are reluctant to ask what they consider to be "stupid questions" on the air. To them I wish to say that there is no such a thing as a stupid question. If you ask, you learn: if you don't, you remain ignorant. In any case, somebody else wanted to ask it as well!

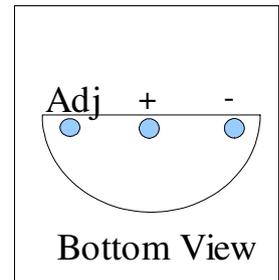
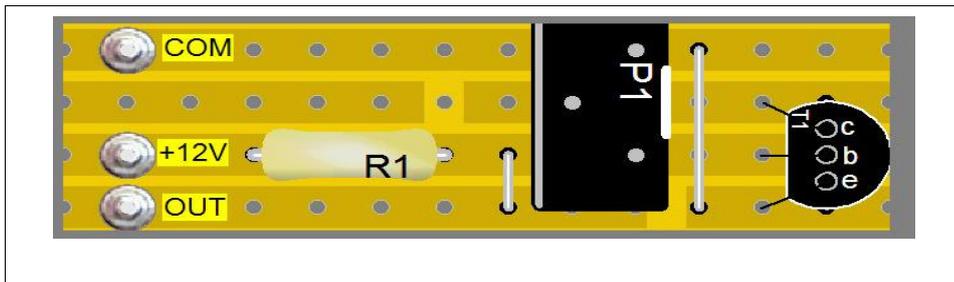
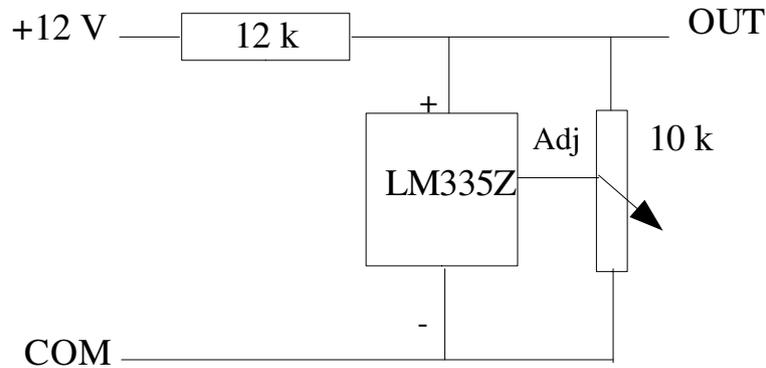
Now what was this all about? We need not build multi mode, all-band transceivers with digital readout and scanning facilities, but there are a host of useful little devices that make operating more enjoyable and easier and can expand our amateur activities and our enjoyment of our hobby. Want to give it a go? You will not be disappointed.

(I will appreciate any proposals for a Club project and how we ought to run it.)

A beginners project.

What is the outside temperature? Well, you may take the thermometer out, wait for it to stabilize and

read it. You may also go out and read the max-min thermometer that you have installed somewhere against an outside wall or you may build this simple unit and stay inside while you report some uncomfortable outside temperature! The project uses an LM335Z sensor which reads directly in Kelvin. Its sensitivity is 10 mV per Kelvin which means that it will read 2,72 V at 0°C and you have to subtract this from the reading on your multimeter to get the real temperature in °C. Should this be a problem, use the LM35Z which reads directly in centigrade. The advantage of the LM335Z is that you can get readings below 0°C without any further ado. The circuit diagram is shown below and a Vero-board layout follows that. As the sensor is linear, it only requires a single calibration point. Compare the reading to that of a thermometer of known accuracy and adjust the 10k trimmer to get the same reading.



And what is it going to cost?

Scrap of Vero-board	?
LM335Z	R8,99
10 k Trimmer	R2,60
R1 (12 k) resistor	R0,06
TOTAL	R11,65

OK, so you need some wire to get the signal indoors as well. I have used the 4-core cable that is normally used to wire sensors to security alarms - keep the run under 10 m if possible. May also be a good idea to weatherproof the unit with some epoxy - it will slow down the response time, but weather does not change that fast!

(My apologies for having to use a transistor in the Vero layout, but the software does not have one for the sensor. Please refer to the mechanical drawing for the connections. Ed.)



Standard Resonators
Power Rating 400 Watts

Part Number	Description	Approximate Bandwidth
		2:1 SWR or better
RM-10	10 Meter	150-250 kHz
RM-12	12 Meter	90-120 kHz
RM-15	15 Meter	100-150 kHz
RM-17	17 Meter	120-150 kHz
RM-20	20 Meter	80-100 kHz
RM-30	30 Meter	50-60 kHz
RM-40	40 Meter	40-50 kHz
RM-75	75 Meter	25-30 kHz
RM-80	80 Meter	25-30 kHz



Ameritron's SDA-100 is without a doubt the best built, best looking, best performing HF Mobile Screwdriver Antenna in the world! When properly installed on your vehicle this antenna will provide continuous coverage from 10 Meters through 80 Meters with a 6 foot whip. Remove the whip to get 6 Meters through 40 Meters coverage.



Stop tuning, start talking.

The SG-230 Smartuner was the first product in the HF market to offer fast, flexible tuning without any user interface. This unit works with ANY radio and ANY antenna without any special interface, making it the most versatile tuning product available. The SG-230 can be used in base station, mobile, marine and aviation and has been the "Gold Standard" of automatic antenna tuning for nearly twenty years. The SG-230 is built in a rugged ABS plastic enclosure which is sealed to protect it, and allows ultimate versatility in installation.

X200
144/430MHz(2m /70cmz)
Gain:6.0dB (144MHz),8.0dB(430MHz)
Max. power rating:200W
Impedance:50ohms
VSWR:Less than 1.5:1
Length:2.5m
Radial length:approx.52cm
Weight:1.2kg
Rated wind velocity: 50m/sec.
Mast diameter accepted:30mm to 62mm
Type:2 x 5/8wave(144MHz),4 x 5/8wave(430MHz),FRP outershell



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Systems Theory.

A complex system designed from scratch never works and cannot be patched up to make it work. You have to start over, beginning with a working simple system.

(From Systemantics by John Gall)

Bulletin Readers

13th July Bert ZS5MQ
20th July [Reserved for our new chairman]

[The following members have agreed to do their bulletins until we have the names of the new committee and can sort out a new roster:]

27th July Wessel ZS5BLY
3rd August Mickey ZS5QB

On the Giggle-Hertz bands

When children do well at school, the parents declare the child clever. When they do bad, then of course they have a bad teacher. The following children must have had very bad teachers if their answers in exam papers are anything to go by.

1. H₂O is hot water, and CO₂ is cold water.
2. When you smell an odourless gas, it is probably carbon monoxide.
3. Nitrogen is not found in Ireland because it is not found in a free state.
4. A fossil is an extinct animal. The older it is, the more extinct it is.

They said it. (In this case it was Murphy)

1. No matter what they are telling you, they are not telling you the whole truth.
2. You can always find what you are not looking for.
3. Multiple-function gadgets will not perform any function adequately.

NEXT MEETING

The next meeting of the Club will take place on Saturday, 19th July, 2008 at the usual venue starting at 13:00. Committee meeting will start at 12:00. Please remember that this is our Annual General Meeting at which the office bearers of the Club are to be elected. It will be followed by a "wors-rol" party for which OM Bert is looking for a helper.