

HORSHAM AMATEUR RADIO CLUB

# *HARCNEWS*

## *Coming Shortly*

2nd Jan Club Evening Antennas x Contest = Computers  
by Adrain Boyd G4LRP and Alaster Watts G3ZBU

12th Jan Club Event 80m CW Contest

18th Jan Club Event 80m SSB Contest

If you have an idea for a meeting or know of anybody that can give a talk for next year, please let a member of the committee know and they can try and arrange it.

# *January 2003*

*Sponsored by:*



# *HORSHAM AMATEUR RADIO CLUB*



*Est. 1938*

*G4HRS*

**Net: Sat 21.30 on 144.725**

**BADNET: Sun 10.00 on 3.722**

**HARC WEB SITE <http://www.harc.org.uk>**

**HARC meets the first Thursday of the month at  
The Guide Hall, Denne Road, Horsham, West Sussex**

## **CQ Contest**

Just a quick reminder, don't forget that its time for the 80m AFS contests this month. HARC would like to field as many teams as possible for both the CW and SSB events. The details are as follows:-

**CW Event: Sunday 12 CW: 3510 - 3590kHz**

**SSB Event: Saturday 18 SSB - 3600 - 3750kHz**

**Time: 1400 - 1800UTC.**

As usual Alister G3ZBU will be waiting for your logs.

# *Loops with a difference & Other “odd” types of small antenna by Colen Harlow*

This is a very brief account from many years of antenna experimentation.

Some very good results have been obtained by the use of copper strip for these antenna, some over ground planes, others in free air, some mounted vertically, others mounted horizontally. Cable, wire, tubing, mesh or similar have also been used with differing results.

Aluminium, tin plate, iron wire mesh or brass have also been employed. All types have a means to make them resonate as required within the selected frequency band. Among the configurations constructed and used are tubular “cages”, discs, squares, delta shapes and twin “bowls” with a critically positioned loop “inside” the bowls.

Most of the experiments have been in the VHF to 1296 MHz (to 1296 –  $\frac{3}{4}$ ” diameter) ranges. The HF loops that have been made have adopted a somewhat different approach to that of the more conventional designs normally seen in use.

This short article is intended to stimulate interest in and wet your appetites to “have a go” and experiment – you could be quite surprised by the results that can be obtained. As an example, my 20”S loop at 9½” wide copper strip over a ground plane in the horizontal position, mounted on a microphone stand.

This 50MHz antenna has netted me 43 countries with more than 77 contacts using 9 watts SSB from my FT68OR. The 2 metres 6” loop of 3 ½ “ wide copper strip is also over a ground plane, The 70 cm loop is 3” diameter also of 3 ½ “ wide copper strip, with a ground plane.

I have included a few photos of some of the above antenna that may be of interest.

All my antennae are situated and all the work on construction is undertaken within a 5’ wide strip at the end of our bedroom. We live in a small flat with no prospect of outdoors or loft antenna.

Have a go!



20" Diam 6Metre AE

6"Diam 2Metre AE



70 cm loop on mount in horizontal position



70 cm loop on mount in vertical position



70 cm Disc AE

## *November Meeting: The Cassini-Huygens Mission to Saturn, by Dr Dave Linder, MSSL.*

MSSL is near Capel and rumour suggests that it can probably be seen from the Capel bypass. It is run as part of UCL and they specialise in making scientific instruments. In particular they have built an electron counter to discover more about the magnetosphere. It will also let us know much more about the influence of the Sun.

After several MSSL instruments were lost in launch problems, there was a celebration that this time it all went according to plan. This was some time ago and a slingshot flyby of Earth happened in 1999. The electrical generation is supplied by plutonium and many people were afraid that it would cause a disaster if another launch crash happened and if the flyby was not accurate enough and the craft crashed.

However NASA said the plutonium generator could be recovered intact and sent on another mission.

Solar panel would not provide enough power as the Sun's rays are so weak at this distance.

Titan is the largest moon orbiting Saturn, and is another target for investigation. A probe will land on

the surface and probably not last very long due to the conditions expected on its surface.

To ensure that as much data as possible is returned from the pioneering Probe, the HRTF proposed a new schedule for Cassini's first orbits around Saturn.

The agreed scenario involves shortening Cassini's first two orbits around the ringed planet and adding a third which provides the required new geometry for the Huygens mission to Titan.

In the new scenario, the arrival at Saturn on 1 July 2004 remains unchanged. However, Cassini's first flyby of Titan will now occur on 26 October, followed by another on 13 December. The Huygens Probe will be released towards Titan on 25 December, for an entry into the moon's atmosphere 22 days later, on 14 January 2005, seven weeks later than originally planned.

To reduce the Doppler shift in the signal from Huygens, the Cassini Orbiter will fly over Titan's cloud tops at a much higher altitude than originally planned: 65,000 km instead of 1,200 km. This higher orbit has the added advantage that

Cassini will be able to preserve the four-year baseline tour through the Saturn system, by resuming its original orbital plan in mid-February 2005.

The probe will fly through the rings of Saturn. It cannot be steered from Earth as the time delay for radio signals is far too great.

The most interesting question that requires answering is why Saturn is relatively warm as it loses 70 per cent more heat than it gets from the Sun!

Our thanks go to Dave for his most interesting talk.

See [www.ssd.rl.ac.uk/news/cassini/links.html](http://www.ssd.rl.ac.uk/news/cassini/links.html) for more details.

## *October Junk Sale*

This sale had a huge amount of stuff to get through and many of us were almost in danger of finding our cars turned into pumpkins that evening! As usual there were some incredible bargains to be had. In particular, a vast quantity of high quality test gear had been donated to Club funds, and I don't wish to embarrass the kind benefactor by naming him.

This gear consisted of digital multimeters, most of which appeared to work when switched on, and were sold for a few pounds each, scopes and even spectrum analysers. Some were marked 'not economic for repair', which tends to mean a bent handle or missing knob!

Then we had some laser printers, motherboards complete with a shed-load of RAM, on sale because they were (only!) Pentiums of 100MHz or so. These were ideal for upgrading 486 pcs.

On the radio side, we had some

valve equipment going, roller-coaster, 100 Watt hf linear amplifiers, transmitters and receivers.

Other items included tubes of EPROMS, boxed pc games, lie detectors, a stress tester, ghetto-blasters, video recorder, radio and programming books.

Our auctioneering team of Tony, G3NPF and Robin, G3OGP, managed to efficiently move the gear from the tables at the front towards the back of the hall.

The Committee would like to thank them and the catering staff for a magnificent job.

This is always a popular event because entry is free and the minimum bid starts at 10p, unlike some other junk sales.

The hon treasurer will be able to give the final Club profit at the AGM in December.