

HORSHAM AMATEUR RADIO CLUB

HARCNEWS

Coming Shortly

Jan 6th Club Evening Computing by Gavin Jelley G7DFV

Feb 3rd 1950's Gee station by Brian Kendell G3GDU

If you have an idea for a meeting or know of anybody that can give a talk for 2005, please let a member of the committee know and they can try and arrange it.

January 2005

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Mobile HF Abroad

by Les Allwood G3VQO

I am sure that many of you cross the Channel by ferry or tunnel during the course of a typical year to replenish stocks of wine and beer in French supermarkets, and maybe on to Belgium for some tobacco products, but how many of you have considered using part of the day for some amateur radio activity? It's very easy, and adds a whole new dimension to the day out.

I first got hooked on the process back in 2000. I had recently purchased a second-hand Kenwood TS-130V, together with a mag-mount and whips for 20 and 40 metres. After a couple of brief trial runs around Rusper, which seemed to go quite well, the equipment accompanied me on a day trip through the tunnel to Cambrai.

Having completed the shopping, I found a quiet location on the edge of a wheat field south of the city and quickly set up the station

to listen whilst having a picnic lunch. Although band conditions that day were below average, and it was a weekday, I found that my 10 watts of CW was attracting quite a bit of attention.

The callsign F/G3VQO/P, whilst a real handful to send, seemed to be popular and I even generated a brief, small, pile-up. My schedule meant that I only had just over an hour to spare, so the powering of the rig from the cigar-lighter socket was not a real problem in terms of battery drainage.

Before my next trip I acquired a spare car battery to ensure that I was never going to unwittingly drain my main car battery and leave myself unable to re-start the car, but after a few further trips it became clear that this type of battery is not ideally-suited to the task. Some friendly advice from the now-defunct motor accessory shop in East Street led me to purchase a Leisure

Battery. Unlike a traditional car battery, it is designed to be fully discharged time and time again without losing its ability to be fully recharged again.

Having made several more trips with increasing levels of enjoyment, I decided to widen my options. I purchased a new Yaesu FT-847, giving myself the potential of running 100 watts on HF (although I find that 50 watts strikes a good balance between battery life and signal strength), together with the addition of VHF.

I also added further whips to cover the remaining HF bands, and a multi-band VHF antenna. That remains the set-up in use today for most trips, although I have an SGC-237 automatic antenna tuner, a small collapsible mast and a long wire available for more prolonged operations.

So, where to operate from? Well, it's a lot easier to find a suitable spot than in this country. Northern France is far more rural and there are limitless patches at the edge of fields along country lanes, or along the banks of the

many canals that criss-cross the area, to provide ideal operating locations.

In all my travels I have never come across any problem with the locals, just as long as their tractor has sufficient room to pass, and the occasional questions from passers-by have done wonders to improve my conversational French. Much of the area north of Calais is extremely flat with a high water-table, and this seems to benefit signals especially on 40 metres .

I have worked VE3 on SSB with just 50 watts in broad daylight. For the VHF enthusiasts there are other options – Cap Blanc Nez just south of Calais, and the hill adjacent to the aerodrome just south of Boulogne, both have panoramic views of the Channel and the Kentish coast beyond.

Just a couple of further words of advice before you all rush off to try operating abroad. Don't forget to take a copy of your amateur radio licence with you as it makes any questions from

officialdom so much easier to explain – not that you will get any hassle anyway.

France is 50200 to 51200 with just 5 watts permitted output power.

Also, don't forget that if you are considering using 6 metres, the allocation in Northern

Now, get planning that first trip, and I look forward to working you from the other side of the Channel.

November Talk: How Electricity gets to the Home by John Narborough

This fascinating talk started with an overview of the electricity distribution network. A power station will generate electricity at 11kV which is transformed up to 400kV for the Super Grid (superimposed grid). At some point, the 400kV is transformed down to 132kV (the Grid) and split off into various directions. Then this voltage is transformed and split off to primary substations at 33kV. The primary substation transforms 33kV down to 11kV and this voltage is typically split into underground cables. Final transformation is to 240V and 415V by either a

pole-mounted substation or a substation at the bottom of your road in a small fenced-off enclosure. Public electricity supplies started around 1881. The Government introduced the Electric Lighting Act in 1882 which allowed roads to be dug up for cables. Just like nowadays, a large team was employed to dig, but most of the team seemed to be standing around watching two men in the trench! The engineer had a top hat, the foreman a bowler hat, the rest wore caps.

Early distribution was localised so that DC could be used and batteries could still

supply electricity when the generator failed. Losses were very high due to high currents. In 1900 it became normal to use three-phase AC and transform up to higher voltages to reduce losses over longer distances. DC supplies were not installed after 1910. Three phase is used at it was discovered early on that a generator winding of 120 degrees gave maximum power. Three windings would fit without a problem, and the common point could be connected together.

The mains frequency is a nominal 50Hz. It will vary a few Hz depending on the load taken, but any loss of cycles is made up over a 24 hour period. A generator will naturally lock to the correct phase once it has run up to speed. However it is possible that a sudden severe load will cause it to lock out of phase with disastrous results if the circuit breakers fail to disconnect the grid.

In 1926 the Government's Electricity Supply Act forced engineering reorganisation to inter-connect efficient

generating stations at 132kV (the National Grid). The new larger power stations could be built near coalfields, seaports or railways. Small localised power stations were closed. An architect was commissioned to design what we call pylons (in fact really known as transmission towers). This standard design was considered to have minimum visual impact. When one travels abroad the range of different styles of pylon stands out.

The 400kV SuperGrid was started in the 1960's to increase the power handling capacity of the network. Some 132kV lines were removed.

Sussex has many rural customers and their electricity is often fed via 11kV or 33kV overhead wires. The former voltage has one porcelain insulator, the latter has 3 insulators at the top. However the capacity is limited and it will not do a lot of good, building hundreds of thousands of new homes locally because of that.

The system has many fault monitoring devices; the highest voltage circuits have to respond in two cycles. A lightning strike within a few hundred yards of an overhead line is sufficient to induce enough power to show a fault.

We saw some photographs of a pole-mounted transformer which had suffered a strike: the steel case was barrel-shaped! Another fault is caused when

an insulator fails; the pole catches on fire because of this!

Finally we were told the folly of windmill electricity generators. They only provide a very small fraction of power and only when it is windy enough, which is never when the customer wants to put his kettle on after penalty shoot-outs during a World Cup

Contests for January

3rd Jan 2000-2130 RSGB 80m CW RST+SN

9th Jan 1400-1800 AFS CW 80m RST+SN

12th Jan 2000-2130 RSGB 80m SSB RS+SN

15th Jan 1400-1800 AFS SSB RST+SN

20th Jan 2000-2130 RSGB 80m Data RST+SN