

HORSHAM AMATEUR RADIO CLUB

HARCNEWS

Coming Shortly

July 1 Club Evening Travel Log by Adrain G4LRP

July 15 Club Event DF Hunt

Aug 5 Club Evening TBA

Aug 19 Social Evening Bax Castle

July 2004

Sponsored by:

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Enigma

by Claire Greer

This talk was partly sponsored by a government scheme to get people interested in maths. Simon Singh's Enigma Project owns a working Enigma machine and Claire takes it to schools and other educational institutions

Simon is an author and broadcaster with special interests in science and maths, and has recently written a book on Fermat's Last Theorem. His writing keeps him busy hence Claire now does the demonstrations.

The machine is insured for 50,000 pounds; it is possible to find the odd one for sale on e-bay but this one works. Even rarer are the Lorenz versions for Navy use which are believed to be worth twice that.

The machine has a set of three 26-position rotors that are set to three letters for each mes-

sage. 5 rotors are supplied and any 3 may be fitted in any order.

A plugboard on the front is able to swap pairs of letters around. The cumulative effect of these variables is to produce millions and millions of permutations, which is why the machine was thought to be unbreakable.

Claire demonstrated the coding and decoding of two letters. The machine's process is symmetrical, so if A and B are pressed, the output may be X and Q. The rotors move on two places. If the rotors are reset, then pressing X and Q produce A and B. That is if the lamps are working. In our demonstration, a lamp was not properly screwed in.

Each lamp is like a small torch bulb but has a flat glass envelope so the legend above is not burnt.

To keep the machine reasonably small, only 26 keys were used. The typical QWERTY layout is in normal German layout of QWERTZUIO, but no umlauts or beta characters were provided.

Because of the phenomenal number of permutations, it was realised that an electronic system would have to be built to test all possible answers, so the Colussus computer was designed. It used paper tape in an endless loop to run past a high speed tape reader and a parallel processing scheme could look for sensible output. This computer was destroyed

and only fragments of information retained by Americans working with us on the project.

Only very recently has the reconstructed Colossus been successfully run, as a result of generous donations from radio amateurs.

The hon sec was presented with a CD-ROM of Simon Singh's Code Book. Not only does it have the text of his book on the history of codes, but also has some interactive animations, tools, video clips etc, and a virtual Enigma machine to run on your PC.

July Meeting

This is to be a travelogue provided by the Chairman G4LRP which is likely to be as entertaining as last year's! If you didn't see last year's, then this is likely to be well worth seeing.

The Friedrichshafen trip end-

ed up as an alcoholic tour interspersed with various rail trips in the region. The lake has a Zeppelin museum and during the night there are some very strange parties on the boats there with leather fetishists etc.



***Life on the Ocean Wavelength,
1949 to 1959,
by J.Edward Brown, New Zealand.***

He passed his marine radio operators test in 1949 and hoped to land a job on some cruise or luxury liner, but was offered a job as radio operator on an oil burner steamer ship, built in 1929.

The one valve transmitter sat in an asbestos covered metal ring. When the heater filament was on you could read a paper easily. The next ship was an oil burner steam cargo ship, built in 1930, operating between NZ and Australia

He was the only radio operator and his equipment was in a corner of the chart room. The equipment was an old fashioned Marconi quarter kilowatt Quench Gap Spark Transmitter, Type 341. All varnished wood, fabric covered wire and a silver plated spark gap.

All buzz and blue sparks with plenty of ozone created on key down. The next ship had a 3

valve TRF receiver, which was rendered useless when within 600 miles of broadcast stations. With only 1 radio operator these ships had, by law, an automatic sounder which was triggered by an SOS call.

The equipment was a Marconi Type 332, regenerative receiver and the selector a Type 333. The one man radio operators had to demonstrate that he knew how to set the cogs, wheels, pawls and levers that set the alarm off.

In 1952 he accepted, for a short period, radio operator on the Wellington to Picton ferry, across the Cook straight between North and South Islands. The ferry was provided with a quarter kilowatt spark transmitter, type 341. At this time, all Radio Amateurs were forbidden to operate spark transmitters. Just imagine what the ZL's thought about the ferries using spark transmitters so close to land.

HARC Social Meeting

June

We would not normally comment on social events but the meeting at the Fountain was a particularly well-supported event.

After a fairly hot week, the temperature had cooled down so it was not comfortable to sit outside. We managed to take over the whole of one bar inside to prevent hypothermia.

The hardest decisions to be

made were whether to select either draught Spitfire, which normally doesn't travel well or draught Guinness. The latter is now only brewed in Dublin from genuine Liffey water, so the head is especially creamy due to the different proteins in it. In the past we had to make do with the black stuff brewed in London which doesn't hold a candle to the 'real stuff'.

The hon sec had to try both!

HARC FOX HUNT

The details are :

Date:	Thurs 15th July/04
Start from:	QTH of G3OGP - TQ083313
Start time:	1930 using callsign G4HRS/P
Fox operator:	Bryn - G3SWC
Transmissions:	144.725 Mhz every 10 minutes
Final xmission:	2100
Maps:	Landranger 187-Dorking & Reigate 197-Chichester & South Downs