

HORSHAM AMATEUR RADIO CLUB

HARCNEWS

Coming Shortly

Aug 4th Club Night, PICs by Alester Watt G3ZBU

Aug 18th Social Evening, Dragon at Dragons Green

Sept 1st Club Night, CAR v HARC Quiz

Sept 3/4th, SSBField Day

August 2005

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All About Antennae, *by Tony Wadsworth G3NPF*

Tony started his talk by explaining that the talk was not all about antennae because the notes would fill a huge book and we also didn't have the time! Tony said that his talk was aimed at newcomers to the hobby who wanted a general feeling about the subject of antennae, feeders and matching.

In fact, Tony pointed out that he would not talk about any actual antenna; there is far too much information available. Of course some of this 'information' is due to old-wives tales and myths, which Tony did spend some time explaining as soon as one of these approached.

The mathematics behind antenna and matching was briefly covered to the point of showing the equations, where to obtain them should one foolishly maybe wish to, and what happens when real-world numbers are fed in.

Myth about matching were explained in great detail. The antenna is often connected to a transmitter by coax and often an antenna tuning unit may be utilised. The latter device certainly doesn't tune an antenna, but transforms impedances, and should be called an antenna matching unit instead.

One hears of dipoles using baluns, but again the term should be balun meaning balanced to unbalanced. Often an antenna will change its pattern and polarisation using a balun.

A further myth was that antennae may possess gain. No! But some have an also magic effect of slowing down a wave as it approaches, which bends the wavefront thus acting a bit like a large cone. This 'cone' attracts more radio waves in one direction, so the antennae is said to have a larger aperture.

Another area discussed is the earth of an upstairs shack, when an end-fed antenna or similar is used. It is no good whatsoever feeding an earth wire out of the window and down to a stake in the ground. If the length of wire is above the smallest fraction of a wavelength then the rig will end up at a high rf potential and can cause a tingling sensation among other effects.

In this situation the only sensible answer is to use an external antenna matching unit, near the earth stake, and fed this from the rig via coaxial cable.

Various sorts of coax cable are available and many types were made once upon a time but no more. The impedance has been standardised for rf use at 50ohm and 75ohm, but other values can be found. Some coax has a deliberately leaky outer copper braid and is used for communications in tunnels. Other types of coax are made for audio use and have a semi-conducting

plastic sheath to keep out noise, but the impedance is variable.

Plenty of myths exist about reflected voltages and powers. Even high SWR levels only mean a small-ish amount of power is reflected, and should not be worried about. However a modern rig will automatically reduce its transmitted power to prevent possible damage, therefore SWRs need to be below 2:1 for this reason alone!

Tony showed us some pictures of his Pic-A-Tune which has been slightly modified with extra relays to short together the two downloads of his Carolina Windom for the lower frequencies. His powerpoint talk ended with the dreaded Maxwell's Equations. In a nutshell, these describe how electromagnetic waves travel with E and H at right-angles to each other.

Our thanks go to Tony for a thorough introduction to antennae.

Friedrichshafen 2005

Once again a contingent from HARC and CARC descended on the lake side town of Friedrichshafen for the 30th HAM Radio show at the town's Messe (exhibition centre).

The trip started when we all met in the departure lounge at Stanstead on the morning of Tuesday 21st June a few days prior to the show. From the Horsham club we had Robin G3OGP, Bryn G3SWC, Mick G4EFO, Adrian G4LRP and Paul G4TMC. From the Crawley club we were joined by Mike G3LHZ, John G3VLH and Richard G4ANN, we were joined later in the week by Stuart G3YSX.

The trip started with a slight delay to the flight from Stanstead, but once we boarded the plane we were off, or so we thought. The

pilot had just set the engines to full thrust for take off, we were rolling at about 70-mph when the engines were cut and we slowed and swung off the runway back onto a taxi way.

A few worried looks from the passenger were hopefully allayed when the pilot announced that there was nothing wrong other than he had forgotten to close the cockpit window (this was Ryan Air after all!). With the window now firmly closed we went round again and took off for Friedrichshafen.

See Pic 1

Due to changed flight times we landed earlier than expected in Friedrichshafen and took the bus into town to find our hotel, The Goldener Hirsch run by Eckhard Rinner, a great chap



Pic1



Pic2



Pic3



Pic4



Pic5



Pic6

(a German with a sense of humour!) described by one of our party as a bit like Basil Fawlty!

With time to spare after our arrival we headed off to the Zeppelin Museum. The museum is housed in the towns old 1930's art deco station building adjacent to the harbour.

Here we were able to view the history of airship development from the early days of flight to the present day. The exhibits included a full sized mock-up of the interior passenger lounge and cabins of an airship. Other exhibits included parts of the rigid frame, engines, navigation and radio equipment from airships.

Also included in the museum on the top floor was an art exhibition, although the connection with airships was lost on me! After our visit, it was time to find refreshment and an evening meal, this was to be found in the museums restaurant and as usual

HARC lead the way in the consumption of food and alcohol!

See Pic 2

Our next day, Wednesday was taken up with a boat trip along the Bodensee (Lake Constance) to Bregenz in Austria. Once in the town of Bregenz, a cable car took us to the top of the hill called the Pfänder overlooking the lake, from where the views were stunning.

Once the party was fed and refreshed from the restaurant adjacent to an ORF (Austrian broadcaster) TV and radio transmitter, we all split up and had a wander around taking in the views. A few HARC members walked further up the hill to the transmitter site and had a look around. (On returning home and looking at the home video shot on the hill, the video sound was found to be distorted by all of the RF flying around up on the hill... nasty!).

Our return boat trip back to

Friedrichshafen was very pleasant, with some of our party (most in fact) gently snoozing away catching up with the excesses of the day!

See Pic 3

Our second day, Thursday planned by Adrian (HARC's resident train buff!) took us across the lake to Switzerland, where we then boarded Swiss Railways and headed south to Chur. Here at Chur, we then joined a narrow gauge railway that started off running in the streets of the town, and then climbed for an hour through some spectacular scenery to the winter ski resort of Arosa. Once at Arosa we then took a cable car ride to the top of the Weisshorn Mountain (approx 2630m).

Again the views were stunning snow capped mountains for 360 degrees. At the top, snow was to be found, so the usual pictures of strange people standing in snow in mid summer were duly taken. But much to the disappointment of all, we all failed to have

a radio contact from the top (even though the CARC team had brought their handhelds with them this time!). Once we descended the mountain back in to the village, a restaurant was found and all enjoyed a light lunch.

On our train return back to Friedrichshafen, time was taken by most to rest one's eyes! On the crossing back across the lake refreshments were taken, for CARC, tea, HARC something stronger! Once back in the hotel we were joined by Stuart G3YSX, where we had an excellent meal, and of course beer!

See Pic 4

The first day of the show, Friday meant yet another early start for breakfast then a dash across to the central station for the free bus to the Messe. The show opened at 9 am and was found to be excellent as usual. This is where the dedicated few amongst us (CARC) went one way and the not so dedicated (HARC) the other. Bargains were to

be had and monies changed hands. At the show a contingent of WDARC members including Phil G4UDU and Sandy G0NRX were met and arrangements made to meet at the museum restaurant later that night. An excellent time was had by all.

See Pic 5

The second day of the show Saturday, was attended by all in the morning, but come lunch time the HARC contingent had picked up a rental car at the airport and headed of the Island of Lindau for the afternoon. At Lindau we enjoyed a pleasant afternoon with a few beers (as usual) and looked around the town.

On the Sunday, the final day of the show, CARC returned to the show to pick those last minute bargains (an FT -897 etc). HARC jumped into the rental car and headed off to Bezau in Austria to find a narrow gauge steam railway. Here at Bezau a 760mm gauge 0-6-2 pannier tank locomotive can be found working very

hard hauling visitors along a 5 km length of track through the mountains (a real treat for train buffs!). After a train ride and a snack in the village, a slow drive back through the mountains lead us to the 'Panorama Café, where each consumed a delicious ice cream before heading back to Friedrichshafen.

See Pic 6

Monday came around all too quickly and it was time to return home. A last chance for HARC members to take morning refreshment (strangely for HARC non-alcoholic) by the lakeside was taken before returning to the airport for the flight home.

I would like to thank all of my fellow travellers for making the trip such an enjoyable one and for keeping the renowned banter and friendship between our two clubs as strong as ever.

Regards

Adrian G4LRP

HF Field day Rota

Set-up : G3ZBU, G4FQR, G4TPO, G4LKW, G7EYL, G7DFV, G3SWC

<i>Time BST</i>	<i>Operating Team</i>			
14:00- 15:00	G3NPF	M1AIM		
15:00- 16:00	G3NPF	M1AIM		
16:00- 17:00	OP A	OP B	G7EYL	
17:00- 18:00	OP A	OP B	G7EYL	
18:00- 19:00	OP C	OP D	OP E	
19:00- 20:00	OP C	OP D	OP E	
20:00- 21:00	M0DEY	M3ICX	2E0AZV	
21:00- 22:00	M0DEY	M3ICX	2E0AZV	
22:00- 23:00	G4TMC	G4LRP	G7DFV	
23:00- 00:00	G4TMC	G4LRP	G7DFV	
00:00- 01:00	G4TMC	G4LRP	G7DFV	
01:00- 02:00	G4TMC	G4LRP	G7DFV	
02:00- 03:00	G4FQR	M0GJH		
03:00- 04:00	G4FQR	M0GJH		
04:00- 05:00	M1YAP	2E1IGA	M0EPX	
05:00- 06:00	M1YAP	2E1IGA	M0DEY	
06:00- 07:00	M0EPX	M3FSA	M0DEY	
07:00- 08:00	M0EPX	M3FSA	M1YAP	
08:00- 09:00	G4LKW	M0CUR		
09:00- 10:00	G4LKW	M0CUR		
10:00- 11:00	G3PYC	OP F		
11:00- 12:00	G3PYC	OP F		
12:00- 13:00	G3ZBU	2E0FRZ		
13:00- 14:00	G3ZBU	2E0FRZ		
Tear-down: G3ZBU, G4LRP, G4FQR, G4TPO, G4LKW, G7EYL, G7DFV, G3SWC, M1AIM, G3OGP				