



## THE MAY MEETING

In this year of wireless communication anniversaries it is appropriate that we should also reminisce about the early days. The subject will be the "Marconi Empire Beam Stations" presented by Dr. Kenneth Jones, G3RRN who is travelling down from Lincoln especially for this occasion.

Back in 1924 the Marconi Company put forward proposals to build large transmitting stations for wireless communication. Sceptics, including many eminent wireless experts believed it impractical, however, Marconi and his very able team of engineers persisted with their pioneering research and succeeded in providing a network of stations which changed the whole technique of wireless communication throughout the world.

Ken will describe the location and details of these early stations, in particular the site in Lincolnshire which played an important part in the momentous events.

During the first week of April this year, the Lincoln Short Wave Club celebrated the 70<sup>th</sup> anniversary of the inauguration of the Empire Beam Service to Australia with a special event station GB70GBH in which Ken was very closely involved.

We look forward to the evening of 6<sup>th</sup> May to hear the past and recent achievements described. The meeting opens at 7.30pm, in the Marconi College, Arbour Lane, Chelmsford.

### DATES FOR YOUR DIARY

- 6 May. CLUB MEETING - "Marconi Beam Stations" by G3RRN.
- 11 May. SOUTHEND & DRS RADIO & COMPUTER SALE.
- 18 May. DUNSTABLE DOWNS RC CAR BOOT SALE.
- 25 May. EAST SUFFOLK WIRELESS REVIVAL.
- 25 May. MAIDSTONE MOBILE RALLY.
- 1 June. WATERS & STANTON OPEN DAY (Sunday)
- 3 June. CLUB MEETING - Constructors' Competition.

### DF NEWS

Four events are scheduled for May; on Friday 2<sup>nd</sup> a Colchester evening event at Fordham Heath; on Sunday 11<sup>th</sup> a RSGB Qualifying event at Manchester; on Friday 16<sup>th</sup> a Chelmsford evening event at Tiptree Heath and on Friday 30<sup>th</sup> a Colchester evening event at Fordham Heath.

If you would like to volunteer to be an operator in a hidden station (great fun!), or require further information on any DF activities, please contact Dick Brocks (01621)891868 or Philip Cunningham (01206)393737 during evenings.

### REMINDER

The Society's Constructors' Competition is now only 4 weeks away, how is your entry coming along? Remember there are lucrative cash prizes to be won, also the continuation of this event depends on the number of entries each year!

### LAST MONTHS MEETING - Harry G5HF

Infra Red sometimes thought of as radiant heat, starts just outside the red end of the visible spectrum with a wavelength of 1.1 microns. For imaging purposes two bands are used 3.5-5.3 microns (Medium IR) and 7.5-13.5 microns (Long IR). Our speaker Andy Chapman, G7TKK, thinks of anything over 30 microns as dc!

Everything that is above absolute zero temperature radiates IR as a black body and so it is possible to detect ("see") objects at night and even in complete darkness without extra illumination, provided a suitable IR sensor is used. This technique has many applications by the military (intelligence, special services and combat) by the police (surveillance against drugs, terrorism and crime), by HM Customs (against smuggling, fraud and illegal immigration), and by fisheries protection (to check on exclusion zones and piracy). IR can "see" through some plastic cases, so don't try to smuggle a camera through customs!

There are two types of detector, photovoltaic, where a proton produces an electron, and photo resistive, where a photon decreases resistance. Examples of the former are cadmium mercury telluride and indium antimonide, which have to be cooled and the latter used platinum silicide, which is used uncooled. Methods of cooling include expansion of gas (nitrogen, air or argon) from about 6000psi, or a Stirling engine (a kind of heat pump), or liquid nitrogen at about 77 degK. Cooling a detector with liquid nitrogen reduces the inherent thermal noise, so that temperature differences as low as 0.1 degC can be resolved.

To resolve a scene using IR a scanner must be used, as with a TV camera. The lenses cannot be made of glass, which is opaque to IR, so exotic materials such as Ge, ZnS, ZnSe, Sapphire, Diamond or NaCl (common salt crystals) have to be used. The scanners involve some precision engineering, such as optically flat polished polygon mirrors made of forged aluminium which rotate at speeds up to 22,000 rpm.

Andy demonstrated a Fireman's Helmet fitted with IR imager and this is used in smoke-filled buildings to find unconscious or lost victims of fires. Visibility through smoke is excellent. He also demonstrated a larger unit with better resolution showing how it is possible to detect the warmth of the Chairman's hand on a magazine after passing it to Andy. It is possible to detect the heat of a hand ten pages or more inside the covers. Some excellent videos showed IR Images being used at sea to follow the movements of boats (smugglers?) up to 14 km away, a helicopter taking off from a Frigate and a steam engine, all viewed at night. Well, Andy said they were all taken at night, but they were almost as good as an amateur video taken in strong sunlight!

I wonder how long it will be before someone invents Stealth number plates for cars to prevent the Police from recording the numbers of cars speeding at night?

Andy demonstrated some superb equipment, including a computer projector which he used for stills, videos and computer images. Thanks, Andy, for a most excellent talk!

### VINTAGE MORSE KEYS

Ron, G5XV has received a letter from Ray, VS6UW/VR2UW. Ray mentions that he is an active Morse Code Instructor and would like to set up a museum-type collection of vintage Morse keys for the historic education of Morse students. If anybody is willing to donate keys Ray will pay for the postage. Rays letter will be on the Notice Board at the next meeting.

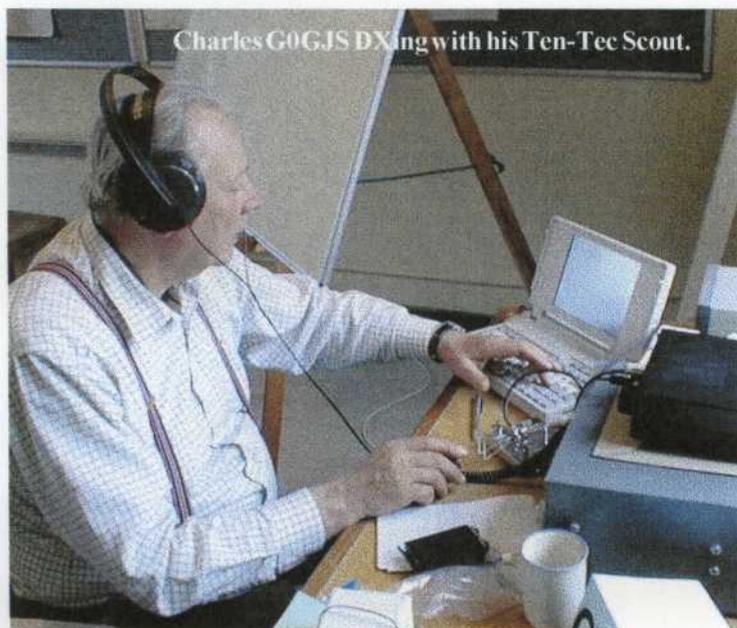
## INTERNATIONAL MARCONI DAY - Geoff, G7KLV

Around 19<sup>th</sup> April is now a regular date in the club calendar and once again, with the kind co-operation of Dr. Geoff Bowles, we were able to celebrate the event from the Writtle Hut at the Sandford Mill site of the Chelmsford Museum of Science and Industry. This year marks a special occasion because as well as Marconi's birthday there are three other anniversaries, the centenary of the formation of his first company, the 75<sup>th</sup> anniversary of the UK's first light entertainment broadcasts from the Writtle Hut and the 50<sup>th</sup> anniversary of the formation of EEV- IMD is the first of a number of events to be sponsored by the Borough in recognition of the town's communications history.

Following the practice of previous years, a large working party assembled on the previous Tuesday to erect the aerials under the expert guidance of Tony G3YTG. So slick was the teamwork that both aerials were erected and working by midday.

The main aerial, used with the club rig in the Hut, was an 80m dipole with open wire feeder, the length of which was calculated by Brian G3CVI to give a good match on all bands. The other aerial, for use by members with their own rigs, was a long wire with a very effective 'Tony' type groundplane.

The established procedure was to use the club rig exclusively on 80m and use the long wire on any band.



Charles G0GJS DXing with his Ten-Tec Scout.

The first set of operators assembled at the Mill at midnight on Friday ready for the start at 1am. It very soon became apparent that we had a bad case of the EMC's! The long wire rig when sending on 40m played strange tricks with the newly installed intruder alarm, which in turn produced a high level of interference when receiving on the same band. With the aid of Charles G0GJS's Sony SW RX we were able to trace the source of the interference and throttle it. A minor mod: to the alarm and all was well both on send and receive.

The first few hours of operating for Pat G0SBQ and Chris G0IPU were rather disappointing, contacts were few and far between. However, things picked up throughout the day and, at times, stations were queuing up to contact us, right up to 1am Sunday morning when Ela and Roy had to close down with stations still calling! Tony braved the chilly afternoon and had made about twenty contacts using his kite aerial when disaster struck. A speck of dust found it's way in to the carb: of his generator!

Pat is still busy analysing the logs and will provide details for next month's newsletter, However, a quick tot up shows that there were approximately 500 contacts on 80m with another 230 on 160, 40 and 20m.

IMD was advertised in the local papers and the event attracted attention from radio and TV. Charles G0GJS was up early for his customary 'phone in' with BBC Essex. Anglia TV filmed Gwyn G3FKH busy doing a stint with his beloved key, for later transmission during the weekend.

As part of the Borough's program of events, the public were invited to see what Amateur Radio is all about. We had no idea what response there would be but, in fact, there were 53 visitors between 10am and 4pm.

As well as those mentioned above Geoff G3EDM, Colin G0TRM, Wally G3MCO, Malcolm G4KGL, Ralph G3NAA, Alan G0LSH, Arthur G3KPJ and Geoff G3AMQ all did spells of operating and hosting.

John G8DET, Chris G0IPU, George G3GNQ and Charles M0APJ also acted as hosts to the visitors.

Don Manning, a Friend of the Museum, did a two hour stint on the gate.

Our thanks must go to all the above members, friends and visitors for making the occasion so enjoyable and successful.

Lastly, special 'thank you's' to Ela and Roy for providing the excellent refreshments, to Pat SBQ for doing all the organising and paperwork and to Geoff Bowles for being such a delightful and accommodating host.

### Anyone Lost a Scarf?

A dark blue woolen scarf was found at Sandford Mill in the Writtle Hut. Any takers? Please claim from Geoff, G7KLV at the next Club meeting.

### SALE OF MARCONI MUSEUM

Our Secretary Charles, G0GJS received the following letter dated 26<sup>th</sup> Feb 1997, from Frank Howe, G3FIJ, Sec: of Colchester Radio Amateurs:-

Dear Charles,

Thank you for your letter and copy of the sale papers. As promised, I have written to the local Radio Clubs, Clacton, Harwich, Sudbury, Ipswich, Felixstowe and Dengie and received some expressions of support.

At Colchester members signed a petition, about 40 signatures and addresses, which has been copied to Lord Prior GEC, Colchester, MP Bernard Jenkin, National Heritage Dept. Mrs. Virginia Bottomley, The Essex Chronicle and the RSGB. The YES vote line has also been used extensively. We await the good news. Best Wishes, Frank Howe, G3FIJ.

The good news has been received and the Sale has been called off.

### SILENT KEY

It is with regret that we have to record the passing of Eddie Cole, G3IIS. Although he was not enjoying the best of health the news was unexpected. During the fifties and sixties Eddie had been an active member of our club and will be remembered for his help to a number of members in passing the RAE. Wally G3MCO and I were colleagues of his in the late sixties and always found him a pleasure to work with. We both lost touch after that and I understand that he gave Amateur Radio a rest for a number of years while he concentrated on family and career. He took up the hobby again on retirement and became an active member of the Colchester club.

At his cremation, Frank Howe G3FIJ, the Club President, gave a moving account of his activities with the Club and as a family man. He leaves a wife, Katy, two daughters and a son.

### COMMITTEE MEETING

The next Committee meeting will be held at 7.30pm on Wednesday 14<sup>th</sup> May, in Telford Lodge, you are welcome to join us.

### WANTED

A UA78HGSC regulator. This is a complete 5 amp regulator i.c. in a TO3 package. I have a very good 13.8 volt power supply that has given many years of faithful service, but unfortunately the regulator has now decided to keel over. Murphy's law dictates that if you have something that you like and works well, then if it ever needs replacing, then it's no longer in production.

So if any one has such a device, I will be very pleased to hear from them, and will pay a good price for it.

Andrew, G4KQE, QTHR or (01376)583094.

### FOR SALE

**Yaesu FT200** H.F. tran'cvr, SSB, CW, AM. **Yaesu FP200** 250Vac PSU, loudspeaker and desk-top mic. £150 o.n.o.

**Yaesu FT202R** 2mtr FM Tran'cvr, 6 channel xtal controlled hand held, speaker/mic and Ni-cad charger. £30. o.n.o.

**Dee Comm** 2 metre whip aerial (5/8) + cable. £15

**SMC TYT3-170L** PWR/SWR Bridge 3.5 to 170 MHz. 50 Ohms. £15.

**OSKER** Model SWR-200, SWR, PWR Meter, 3.5 to 200 MHz 52/75 ohms switched. £20. **Howes CM2** Electret Mic Kit. £3.

Contact John, G0LSY, 01245-468768.

73 from Roy & Ela Martyr,  
G3PMX & G6HKM

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Deadline for the next NewsLetter is Saturday 24<sup>th</sup> May