



# **Chelmsford Amateur Radio Society**

## **Newsletter**

### **August Meeting**

**Tue 1-Aug-2017, 7.30-10pm**  
**Oaklands Museum, Moulsham Street**

### **Construction Competition**

**By CARs Members**

The August meeting is the annual time to show what had been constructed - be it a Linear, QRP Transceiver, an Aerial or some Radio Software.

Last year's winner was a homemade weather station by Alan Hanna M0IWZ. The winner gets their name on the CARs M1FDE Constructor's Shield.

CARs accept all sorts of entries (and have done so in the past) from still photographs to video clips. The only real Rule is that it must be electrically SAFE.

**There are four cash prizes!**  
**- including a special one for new entrants**

Our famous refreshments and raffle will also be available!

All welcome. Free entry and parking.

The purchase of a raffle ticket is requested. Refreshments are available.



**Colin G0TRM says that the total prize money is over £40 – so do pop along and enter!**

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**Club Diary**

Tue 01-Aug-2017	Meeting: Constructors Competition	Chelmsford – Oaklands Museum, 7:30pm
August 5 <sup>th</sup> -12 <sup>th</sup>	Youngsters On The Air - YOTA 2017	Gilwell Park
Tue 05-Sep-2017	Meeting: Radio Caroline	Chelmsford – Oaklands Museum, 7:30pm

**Club Nets**

CARS meets for talks/events on the first Tuesday of the month. The subsequent Tuesdays have club radio nets as follows:-

- 2<sup>nd</sup> Tuesday in the Month - VHF**  
 The CARS VHF FM Net uses GB3DA from Danbury starting at 8pm (local).  
 GB3DA is 145.125MHz Input and 145.725MHz Output - and CTCSS-only (110.9Hz), 2min timeout  
 If for any reason GB3DA is not available then 145.375 Simplex will be used. Vertical aerials are best for this
- 3<sup>rd</sup> Tuesday in the Month - UHF**  
 The CARS UHF FM Net uses GB3ER from Danbury and starting at 8pm (local).  
 GB3ER is 434.675MHz Input and 433.075MHz Output - and is CTCSS-only  
 Vertical aerials are best.
- 4<sup>th</sup> Tuesday in the Month - HF**  
 The CARS 80m Net on "3756kHz" Night, SSB and starting at 8pm (local).  
 Horizontal aerials are best. The idea is to enable distant CARS Members to join the Net.
- 5<sup>th</sup> Tuesday in the Month (when there is one!) - MF**  
 This is the CARS Top Band Net on 1947/1950 kHz +/-QRM, LSB and starting at 8pm (local).  
 Horizontal aerials are usually used for this Net. A reminder - limit your power to a max of 30 Watts, please.

**Training Dates**

CARS Intermediate Course-16 successfully concluded as planned on Thursday June 8<sup>th</sup>. Training resumes after the summer break in September with the 36<sup>th</sup> Foundation course and Morse classes.

Please note the following if either you are interested, or know some who may be...

Course	Dates	Comment
Foundation-36	Sep-7 to Oct-12	Register your interest now!
Advance Exam-20	Thu 7 <sup>th</sup> Dec	Registration for Advance must be 4wks beforehand. The session can also accept Foundation/Intermediate exam-only

**Contact:** Chris Chapman G0IPU, [training2017@g0mwt.org.uk](mailto:training2017@g0mwt.org.uk) Web: [www.g0mwt.org.uk/training](http://www.g0mwt.org.uk/training)

**Morse Classes:** These are run by Andy Kersey G0IBN at Danbury in parallel to the main training courses. They will re-start after the summer break on Thursday 7<sup>th</sup> September.



## July Meeting Report: Three Short Talks

### Talk-1: "A Century Not Out" - Brian Styles G3NSD

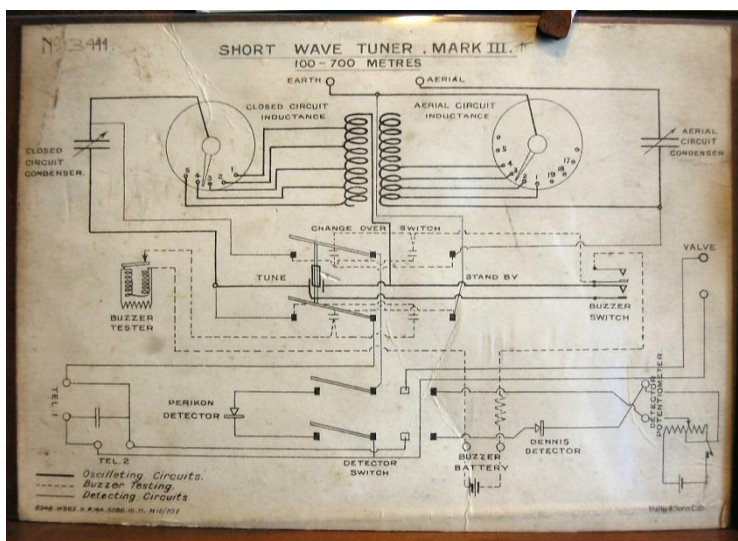
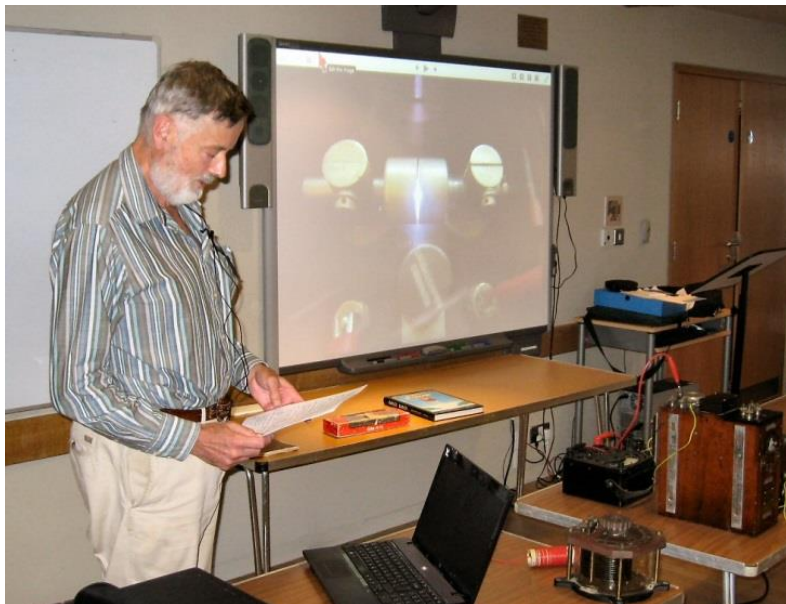
The first short talk was given by Brian, first licensed in 1959 in the world of valves and home-brewed stations. He gave some glimpses of part of his embarrassment of "techno-relics" - a collection of scientific instruments, mostly electrical, of which radio is a small segment. He owns a Mk III "trench set" - an advanced crystal set from 1917.

So it seemed fitting to honour its hundredth birthday. It still works, bringing in Long Wave DX yet was made before 'proper' broadcasting had begun.

The British used Mark III "Short-Wave" Tuners in the trenches. Jonathan Hill writes in *Radio! Radio!* that this early crystal set was used by the Royal Flying Corps (RFC) ground stations for the reception of Morse Code signals transmitted from aeroplanes flying above the battlefields of the Western Front. The pilot's job was to direct the gunfire of artillery batteries on the ground via an RFC wireless operator attached to each battery. With a clear view of the battle scene below, the pilots would transmit in Morse the coded position of the enemy and the message would be relayed on to the gunners who would then take the appropriate action.

Quite a challenge for the pilot, with sparks, aviation spirit and hostile fire! The ground operator's life was no safer...

The Mk III is a high-performance receiver with two tuned circuits and a choice of two crystal detectors.



Mk-III Short Wave Tuner No 3444 (W/T Factory W.D Southgate)

The receiver has recently been joined by a Type-52b spark-transmitter - an aircraft mounted radio from about 1915. Until quite late in the War, communications were ground-to-air only, spark-only and Morse-only. Reliable valves appeared late in the day. The talk outlined the arrangements in the field and described the workings of the two radios. In particular, how the spark acts as a 'switch' to trigger bunches of RF generated in a resonant circuit charged up with EHT.



M.09170.

COPY

War Office,

London, S.W.

21. July 1917.

63/4834 (F.W. 9.B.)

SECRET

Sir,

With reference to Paragraph 2 of your letter of the 28th ult., No.M.05506, I am commanded by the Army Council to acquaint you, for the information of the Lords Commissioners of the Admiralty, that the continuous wave lengths required by the Royal Naval Air Service will not be used by the Army in France.

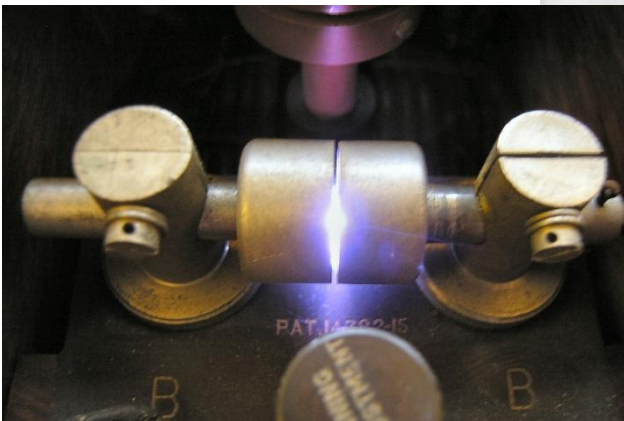
The Field Marshal Commanding-in Chief in France, however, considers it necessary that the use by the Army of wave lengths midway between those proposed for the Royal Naval Air Service should be extended to include all wave lengths differing by more than 20 metres from those named. I am to say that this arrangement should be regarded as provisional and subject to rediscussion later should the necessity arise.

The Council would be glad to receive their Lordships' concurrence in this proposal.

I am, Sir,

Your obedient Servant,

(Sgd.) B.B. Cubitt.



### Type-52b (No 237) Airborne Spark Transmitter – and a British WW1 band plan!

Our thanks to Brian for a fascinating talk that gave a glimpse of the strange world of syntonisers, jars, decrements and jiggers. The transmitter was demonstrated working but time prevented a proper QSO!

### Talk-2: Magic Quarter Waves - Tony Gilbey G4YTG

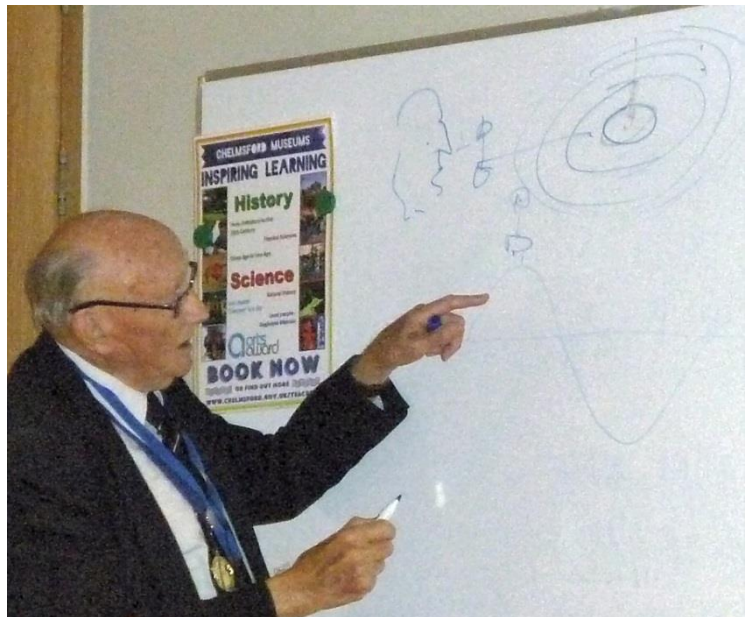
Tony started by telling us about wave transmission using an illustration of ripples (waves) in a pond showing how they could be related to the terms we use in Radio and how they were related to the parameters and terms we are familiar with Wavelength, Frequency, Modulation, CW, AM, FM and the speed of transmission in liquid, sound and light (Radio Waves).

He then went on to mention extracting energy from a wave showing how an extractor tuned to the wave (half its length) was the most efficient way to do this.

When an element of this length is cut by a radio wave it resembles a tuned circuit with voltage at the ends and maximum current in the middle. When folded it becomes a quarter wave stub.

Looking into this stub at the open end at the frequency at which it is resonant (tuned) it will look like an open circuit stub can be used as a transformer which changes the terminated end to the opposite impedance to its actual.

A short looks open, an open looks short, a capacitor looks like an inductor and an inductor looks like a capacitor



Our thanks to Tony for a rather nice way of presenting how waves work and their properties

### Talk-3: Marconi's Hidden Museum – Murray G6JYB



Following the refreshments and raffle break, Murray gave the final talk in which he eventually revealed the answer to the teasing talk title - which was that one of the great hidden gems is the “**Museum of the Story of Communications**” in the Eur governmental district of Rome. A statue of Marconi is in the telecoms ministry entrance next to

the museum. The latter was founded in 1982, with a collection covering 2000 years of history starting with the Roman Postal system, followed later by Swiss Post, Pirelli telecoms cables, their Marconi collection and Olivetti equipment.

Despite his trip to England, the Italians realised how important he was and have maintained their history of it all (unlike their English equivalents in Chelmsford and Ofcom!)





- Numerous Hidden Gems



The Marconi Collection in the Museum includes a piece of the Elettra



1902 Maggie

Magnetic Detectors superseded Cohers



Later Detectors

Same model Maggie as at Baddow

Magnetic detectors (Maggies) were preferred in service to early coherers



- Wavelength in Feet - as well as metres



Morse Keys !

The collection includes Instruments and Morse keys

Museum info is online at [http://cultura.mise.gov.it/museoPPTT\\_fe/index.do](http://cultura.mise.gov.it/museoPPTT_fe/index.do)  
(Use Google translate in Chrome)

## Science Discovery Day Report

Sandford Mill on Sunday 9th July had the first of two Science Discovery Days in 2017. The warm sunny weather prompted a good turnout including plenty of youngsters and was ideal for outdoor demos.

Supporting Sandford Mill on their Open Day was a rather family affair this time. When the Society was asked if we were supporting the Science Discovery Day I was keen to assist. I have in the past run a very much "Hands On" outside event, utilising equipment for both my Radio interests, namely the Chelmsford Amateur Radio Society and The Chelmsford Scout Amateur Radio Fellowship (mainly comprising of the Scouting leadership Team that have grown up with the group over the last 18 years, with me as Chairman

### Equipment Used

As can be seen we had much kit to use from both the radio groups, and some we did not use.



**Paper Rockets** whilst not strictly radio was a big hit with all age groups, even the adults had a go on this one. Run by my wife Rhona (who is licensed as 2E1GQL).

**Remote Control Cars** was also there with the TV cameras on top back to monitors in the tent shack. Run by my eldest son Dan (who has a 2E1 Amateur Radio Licence). My grandson was there to assist in the proper running of the event, by mainly checking the cars were in top working order (as yet he does not have an M6 Amateur Radio Licence, but we will be working on that later).



**Snap Circuits** was very popular with the young people, and some even used the instruction book to create a dimmer circuit (Colin G0TRM grandson). This was run by Andy G7TTK, my brother.

**2M Amateur Radio Station GX0MWT** was run by me and Bob G4MDB (not a Chapman). We had a few contacts throughout the day. Thanks Bob for the help.



**Bob G4MDB**



**CARS VHF-UHF Station**

**The Kit NOT used** was the DF kit, no one to run it - perhaps next time in October 22<sup>nd</sup> when we have been asked to get involved again. On the 21<sup>st</sup> I will be mostly in JOTA mode as GB4CDS and M5CDS, big district event for Chelmsford.

The HF station was also quiet on this occasion, If you would like to get involved please contact me and we can start to build a team for the next event

The next Science Day at Sandford Mill, will have a theme of 'Space and Beyond', and will be on Sunday Oct-22.

**Chris G0IPU**

**See also:**

<http://www.g0mwt.org.uk/sandfordmill/science-2017/science-2017.htm>



**Young circuit builders (Photo by Colin G0TRM)**

## Equipment Sale

Chris Chapman G0IPU is managing the clearance of a range of good condition items which are on a sold-as-seen basis. Full info is on our sales page at: <http://www.g0mwt.org.uk/society/sales.htm>

Item	Category	Manf	Model	Description	£ Guide
R1	Radio	Alinco	DJ-195	VHF FM single band handheld	£25.00
R2	Radio	Alinco	DJ-G5	VHF/UHF dual band handheld	£35.00
R4	Radio	Daiwa	SR-9	Search-9 VHF Receiver	£20.00
R6	Radio	Icom	IC-746	HF Transceiver	£450.00
R7	Radio	Maycom	FR-100	Basic scanner	£20.00
R8	Radio	Telcom	Talkeasy-100	Pair of PMR-446 handhelds	£10.00
R9	Radio	Wouxun	KG-UV6D	FM dual bander	£45.00
R10	Radio	Yaesu	FT-2800M	2m VHF Mobile	£85.00
R12	Radio	Yaesu	FT-897	HF/VHF/UHF Transceiver plus matching ATU	£500.00
R13	Radio	Yaesu	VX-2E	VHF-UHF Handheld 6M 2M 70cm	£50.00
R14	Radio	Yupiteru	MVT-7100	Multiband receiver	£45.00
R15	Radio	Yupiteru	MVT-7200	Multiband receiver	£45.00
S2	Speaker	BlueParrott	B250	Roadwarrior bluetooth wireless headset	£15.00
S3X	Speaker	Icom	IC-23	External Speaker	£0.00
S3	Speaker	Icom	IC-20	External Speaker	£40.00
S4	Speaker	MFJ	MFJ-281	External Speaker	£10.00
S5	Speaker	Midland	70-2355T	External Speaker	£10.00
S6	Speaker	Moonraker	PMR-201	External Speaker	£7.00
S7	Speaker	SMC	SP2	External Speaker	£10.00
S9	Speaker	Yaesu	SP-6	External Speaker	£60.00
T1	Tuner	Global	Coupler AT-2000	Tuner	£30.00
T4	Tuner	MFJ	MFJ-906	6m tuner	£50.00
T5	Tuner	MFJ	MFJ-941E	Versa tuner	£50.00
AD2	Adaptors	Various	various	Lots of coax adaptors in box	£12.00
A1	Antenna	Diamond	MX-2000	2m/6m/70cm triplexer	£30.00
A2	Antenna	Diamond	RH-901	VHF/UHF BNC connector	£5.00
A3	Antenna	MFJ	MFJ-1736	6m J-Pole Antenna	£15.00
A5	Antenna	Moonraker	MRW-100	40cm long vhf/uhf antenna	£7.00
A6	Antenna	Moonraker	MRW-210	scanner antenna	£7.00
A7	Antenna	Watson	G5RV-XH	40m-10m multiband antenna	£25.00
A8	Antenna	Watson	W-901	VHF/UHF BNC connector - 1	£5.00
A9	Antenna	Watson	W-901	VHF/UHF BNC connector - 2	£5.00
A10	Antenna	Watson	WHXX-270	Whip BNC connector	£7.00
F1	Filter	MFJ	MFJ-704	Low pass filter	£30.00
M1	Meter	AEC	SWR-50	SWR meter	£4.00
M2	Meter	Avo	Avo-8	Avo-8 inc case, flat battery	?
M5	Meter	Watson	Hunter	10MHz-3GHz frequency counter	£50.00
J1	Microphone	Heil	iCM	Hand Microphone and stand/boom	£130.00
J2	Preamp	Jim	M-75	VHF/UHF GaAs FET preamp	Offers
SW1	Switch	Watson	CX-201	2-way coax switch	£10.00
SW2	Switch	Watson	CX-201	2-way coax switch	£10.00
SW3	Switch	Watson	CX-401	4-way coax switch dc-500MHz	£25.00
SW4	Switch	Watson	CX-401	4-way coax switch dc-500MHz	£57.00
X1	Misc	unknown	tbc	Small rotator inc controller	Offers
X2	Misc	Watson	tbc	triple-pad mag mount	Offers
X3	Misc	Yaesu	CD-15	Rapid charger adapter for VX5R	£5.00
X4	Misc	Maplin	N70AP	Flight Cases	£10.00
X5	Misc	Maplin	N70AP	Flight Cases	£10.00
X6	Misc	Maplin	N70AP	Flight Cases	£10.00

## Louis Varney G5RV - from Stan Ames

My continued interest in RSS has turned up an interesting story about Louis. He was head of RSS DF network and travelled around the country visiting the stations.

One of them was located in a small remote community on the coast near Bridgwater called Steart, RSS named their station after the nearest village Stockland Bristol.

It seems that a very good relationship developed between the RSS staff and the local community because, at the end of the war, they made Louis a Freeman of the hamlet! The press cutting is from December 1939.

Below from Trevor M5AKA is some additional material:-

Pictured below is Captain Louis Varney G5RV (2nd from left) in 1945, at an HF DF station assumed to be Steart



**Note:** In 1936 Louis Varney G5RV was a founder member of the Chelmsford Amateur Radio Society, then known as the Chelmsford RSGB Group. During World War II Louis was involved in Plan 'Flypaper', see [http://www.southgatearc.org/news/july2006/plan\\_flypaper.htm](http://www.southgatearc.org/news/july2006/plan_flypaper.htm)

After the war Louis returned to Chelmsford, Essex where he developed the famous G5RV antenna and Elizabethan transmitter.

## STEART VILLAGE HAS A "FREEMAN"

### Army Captain Honoured

ONE of the loneliest places in England, the hamlet of Steart, near Bridgwater, put itself on the map this week-end when, as part of the proceedings at a British Legion dinner in the neighbouring village of Comwich, "The Freedom of Steart" was conferred on Capt. R. L. Varney Royal Signals, who during the war has been in charge of a wireless station there.

A local farmer, Mr Victor Biffin, wearing appropriate "robes of office," performed the ceremony, during which Capt. Varney was presented with a huge key.

Steart has a population of 26, no public-house, no shops, no main services, and the residents have to walk over two miles to catch a 'bus to the nearest town, Bridgwater, which is nine miles off.

Three times recently Steart has been cut off by heavy seas which have swept across the only road and inundated the fields.

The hamlet is proud of its only serving man, Sgt. Pitman, who is with the Army in C.M.F.

## Freeview TV Changes

If you see scrolling retune notices on BBC News-24, it is because the clearance of the 700 MHz band (Digital Switchover-2) has started, so that it can be auctioned by Ofcom for more mobile phone usage.

As mentioned in our June newsletter, the sequence of events has started in Scotland as per the table below, but the work switches to Crystal Palace in the first half of 2018 whereupon there is a reshuffle and the extra HD channels (from multiplexes Com-7/8) may be lost. Sudbury will follow later in 2018 at which point many marginal systems and some diplexers may need replacing as this has the greatest frequency changes.

Transmitter group	Area served	Retune dates
Bressay	The Shetland Islands	26 July 2017
Knockmore	Morayshire, Strathspey and parts of Easter Ross	23 August 2017
Rumster Forest	Caithness and North Sutherland	23 August 2017
Rosemarkie	Inverness and the Great Glen	6 September 2017
Eitshal	Lewis, Wester Ross, north west Sutherland and parts of Harris and Skye	20 September 2017
Skriaig	Skye, Harris, North Uist, Benbecula, South Uist and parts of Barra	20 September 2017
Torosay	The south west Highlands and Islands	4 October 2017

**Scottish TV Area timetable**

## Help Wanted !!

- **Chairman**
- **Newsletter Editor**
- **Newsletter Items**
- **PR Officer**



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Editor: [editor@g0mwt.org.uk](mailto:editor@g0mwt.org.uk)

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