STARLITE

The Award Winning Newsletter for Members and Friends of

G6OI
1938

Stourbridge and District Amateur Radio Society

G6SRS
1938

incorporating

Old Swinford Hospital School Radio Club

G4CVK

1969

ISSUE 05/2014

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MEETINGS

Visitors always welcome

STARLITE

The Society holds its full meetings on the
1st and 3rd Monday of each month at

Old Swinford Hospital School
Heath Lane
Stourbridge
(8.00pm – 10.00pm)

Additionally the shack is open during the same times on the intermediate Mondays

Telephone Enquiries to :-
Hon Secretary
John Clarke M1EJG
(01562) 700513

Or by e-mail to :-

honsec@g6oi.org.uk

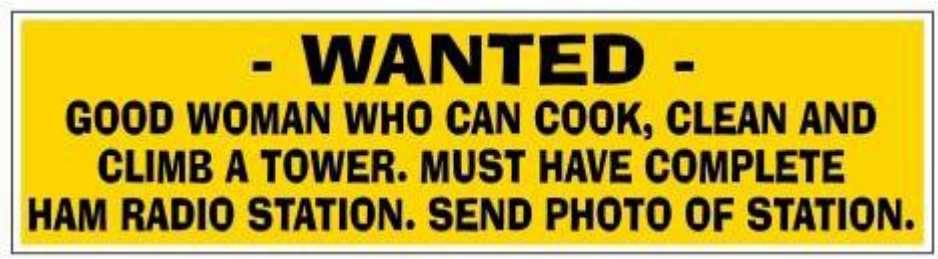
All correspondence/enquiries should be addressed to the Hon. Secretary :-
STARS
c/o The Mill House
21 Mill Lane
Blakedown
Kidderminster
DY10 3ND

STARS Web Site URL :-

www.g6oi.org.uk

SEEN ON THE INTERNET

Andrew Hill sent in a couple of items. One was a bumper sticker



WOOFFERTON TRANSMITTER GUIDED TOUR

And the second was a series of YouTube videos on the Woofferton Transmitter. There are nine videos in all. I was unaware but the Voice of America radio station transmits from Woofferton (not to mention the 2 metre repeater) and has some serious 250 kW and 500 kW transmitters. The commentary is by Dave Porter G4OXY and includes Dave starting up one of the 250 kW transmiters and a tour of the facility. The video can be found at - https://www.youtube.com/watch?v=QovPkM35aF0

MARTIN LYNCH – TX FACTOR

There is also the second YouTube video from Martin Lynch, which can be found on http://www.youtube.com/watch?v=mhpUj6EkpB4&list=UUnfnPpcvCwxqlNDHX_bJIXg

The program comes from the RSGB National Radio Centre at Bletchley Park and covers a review of the Yaesu FTDX 1200, The Fun Cube Dongle in action receiving AMSAT data and building a 14 Mhz PSK receiver, plus items on the wartime work at Bletchley Park.

If this does not reach the correct video, Google TX Factor Martin Lynch

If you missed the first program this also is well worth watching.

MESSAGE FROM THE PRESIDENT

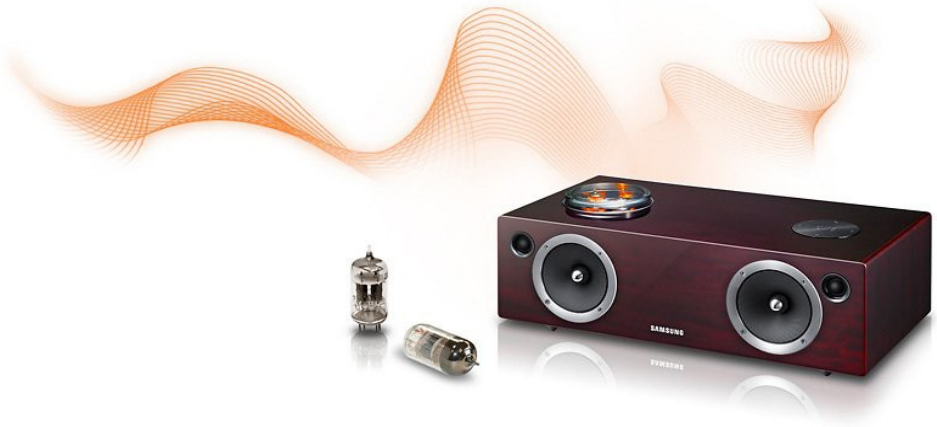
Following on from the AGM and the new committee's first meeting -

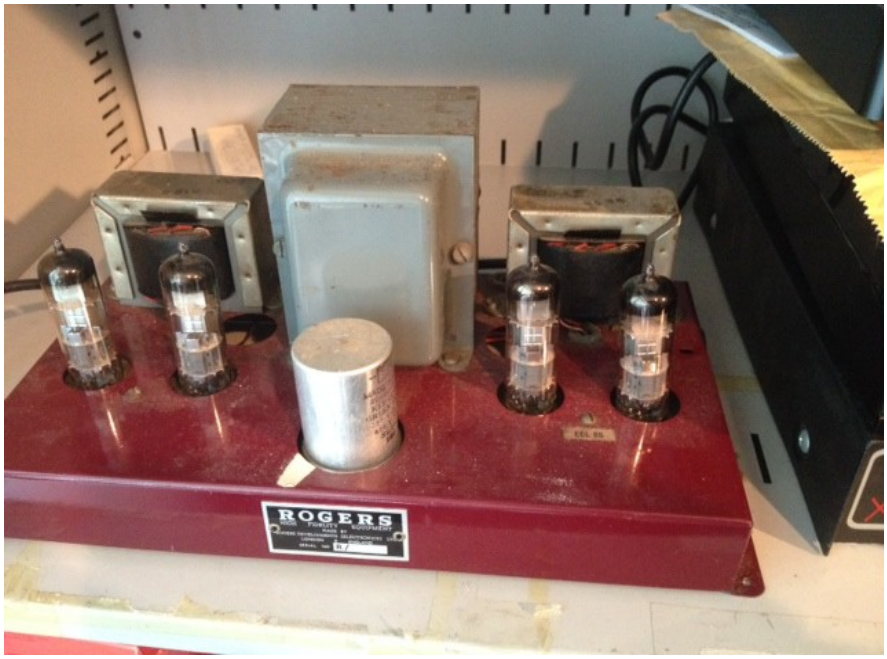
A further £500 to be invested in premium bonds.
We have arranged a soldering master class to be given by Dr Alan, we are also looking at possible club construction projects
Sat 24th May @ 10am is for a visit to the roof, all welcome to assist, even if its not going up the ladder.
There is a possibility of getting GB3OS back on the air, we have asked Paula from Kidderminster repeater group to come and give us a talk on what is involved, implications, locations etc.
Malcolm G8BOP has been co-opted on the committee and will be programme secretary, if you have any ideas / leads for talks then please pass this info on to him.

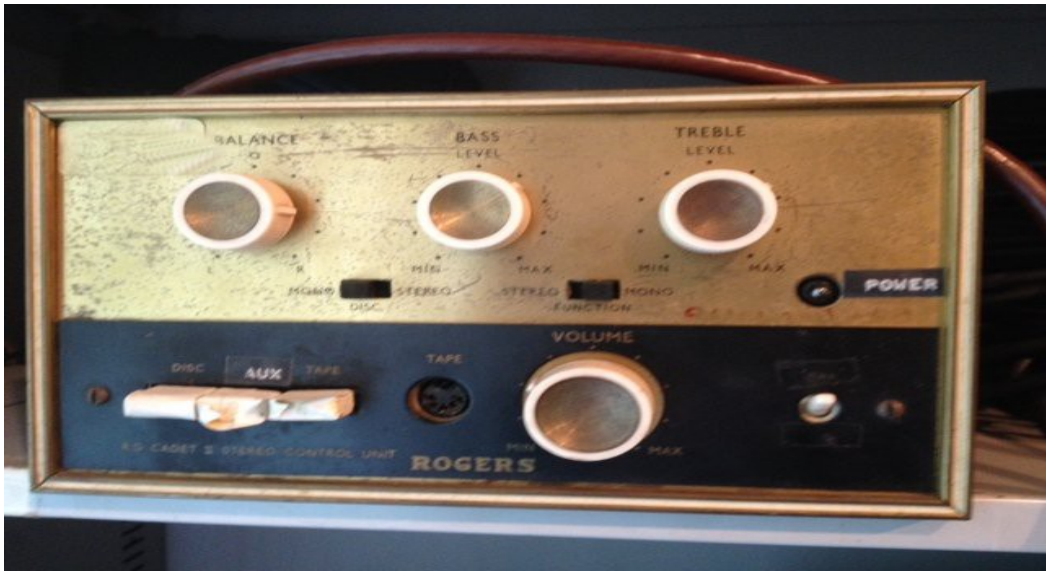
As always Adrian would like articles for the newsletter.

We are proposing to run the next Foundation Course in September, any names to John, Hon Sec.

Phil G4SPZ gave the 2nd in a series of talks on Valves and Valve test gear, a completely new subject for myself, although I do have a Rogers Valve audio pre and power amp, which some years ago with the assistance of Bob G4VPE I replaced the mains transformer. A couple of pictures show its current state (dust covered!)
As promise here are a couple of links to useful resources
http://www.ebay.co.uk/gds/Choosing-a-Valve-or-Tube-tester-from-AVO-to-B-K-etc-/10000000007494378/g.html
Radio Bygones BVWS Forum http://www.vintage-radio.net/forum/index.php
Paul Stenning British Vintage Wireless Society
The National Valve Museum www.r-type.org
The Virtual Valve Museum www.tubecollector.org
Radiomuseum www.radiomuseum.org
John L Fuhring http://www.geojohn.org/Radios/MyRadios.html
I have asked Phil that as he has given us a talk on Avo's and now Valves that perhaps he could do a talk on the end result of Vintage Radios next year! As I mentioned at the talk consumer electronic manufacturers are getting back into Valve equipment.
You can buy a Samsung Valve amplifier, although it appears it only the pre amp stage that is actual valve! The following US company have a considerable range of brand new Valves for sale
http://www.tubesandmore.com/products/vacuum_tubes







We have also had an email from http://edinburghmorsekits.com/ A new company selling Morse keys in kit form, there is a chance to win a kit!

It is with pleasure the club also welcome several new members, Can all members with email addresses confirm they get emailed a copy of Starlite and also the brief reminder emails from myself regarding main talk nights.

James French (G7HEZ)

DUDLEY'S RADIO-CONTROLLED TRAFFIC SIGNALS?

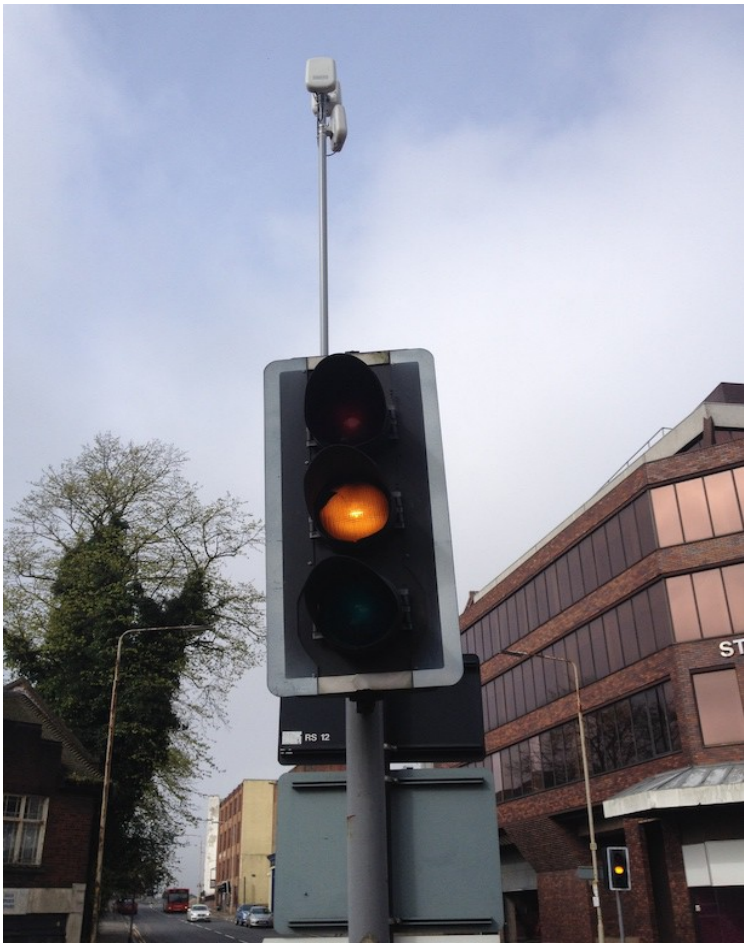


Illustration 1: Junction of King Street and Union Street Dudley

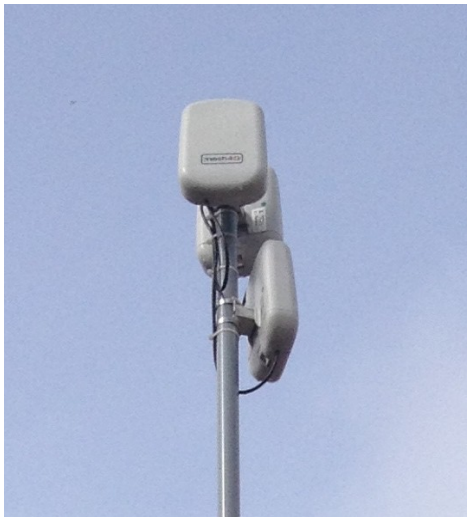
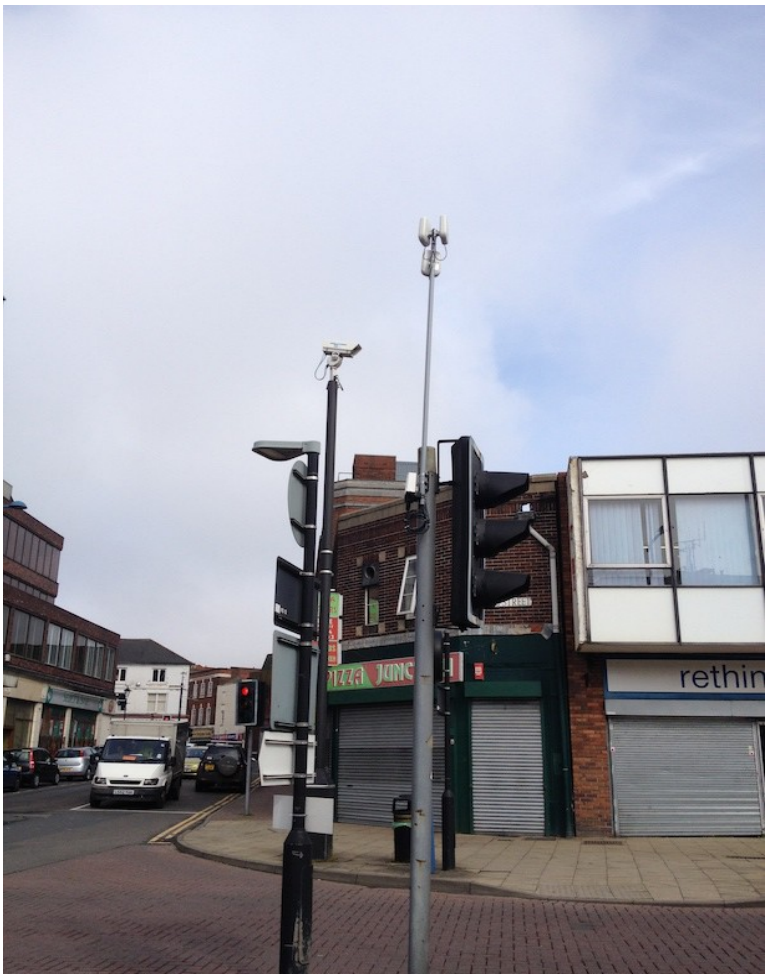


Illustration 2: Detail - Cover of Box is labeled Mesh40

At a glance the humble traffic light seems to have changed little over the years since its introduction to the UK in the 1920s, but looks can be deceptive. The physical structure of the traffic light has been changed to mitigate vehicle damage in the case of the inevitable road traffic accident. The units now operate at a reduced voltage of 48 Volts thus reducing accidental exposure to mains voltages, to pedestrians, motorists and repair staff. Many are equipped with UPS in the event of a power cut. Control boxes can be managed by means of a web browser interface, which can be accessed by a USB, with WiFi or an ethernet connection. At some crossings facilities exist to sense the presence or absence of a human and act accordingly. Emergency vehicles are able to override normal automatic traffic flows. However the greatest changes to the traffic light are in the area of optimisation of traffic flow. In the early days lights operated in a fixed sequence, whereas modern lights use microprocessors to improve throughput using adaptive traffic flow methods. The mathematics of traffic flow is well understood and microprocessors are able to take advantage of advances in this area. It is possible to link traffic lights to a control box by means of radio and this has the advantage of reducing the need to dig up roads to lay cables.

So what is the function of the new aerials that are springing up on town centre traffic lights around Dudley, or do the aerials have a function that has no connection to traffic lights?

See next page



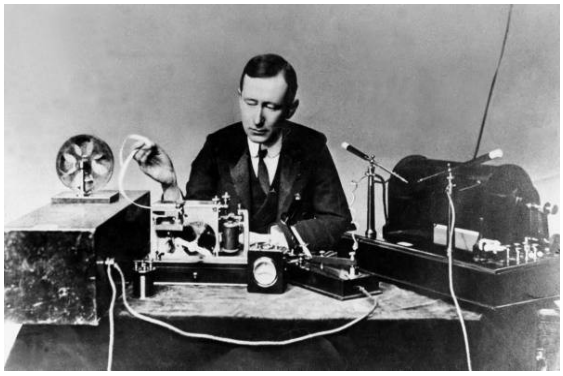
So what are the aerials for?

The short answer is that we do not know exactly. Check out the URL below
http://www.cisco.com/web/strategy/docs/gov/city_of_san_antonio_case_study.pdf
The pictured equipment above is not Cisco, but looks to be a similar but more modest traffic control system.

If you have any information I would be pleased to hear from you. No amount of searches on Google reveals what MESH40 is. Another report suggests that there are similar aerials on traffic lights along the Birmingham/Wolverhampton road and the purpose of these aerials is to relay video information to a central control point where traffic signals are operated manually to relieve congestion.

Photographs courtesyof James French (G7HEZ)

MARCONI'S TRANSATLANTIC BREAKTHROUGH



Introduction

The breakthrough made by Marconi in transmitting a signal across the Atlantic has been covered in a previous Starlite (Starlite November 2010). When the story is told it is tempting, with our current knowledge of the eventual outcome to assume that Marconi proved all the doubters wrong and "The rest is History". In reality this was not the case and there were a series of major setbacks along the way. In order to understand what the problems were we need to go back to around the 1890s.

Recap

Looking back, progress in radio communication made advances in small steps. Heinrich Hertz was able to transmit a signal using spark gap that was generated at the focal point of a parabolic dish. The signal was received at the focal point of a similar parabolic dish at a distance of 1.5 Metres. Marconi was able to increase the distance to around 9 metres. The progress at the time would be seen as interesting, but not having a commercial value. In 1894 Marconi was able to make further progress and increase the distance to 275 metres between transmitter and receiver. By 1896 Marconi was able to demonstrate further progress after assistance from the Post Office by increasing the gap to a distance of 6.4 miles on Salisbury Plain, and then 14.5km across the Bristol Channel.

Steady Progress

Before continuing it is worth pointing out that the then Italian authorities were unenthusiastic and the Post Office were more able to see the potential of Marconi's work. Getting funding was a problem and if advances in progress could be accompanied by a newsworthy story this would serve to promote radio and improve the chances of obtaining financial backing. Later a signal was transmitted a distance of 19.5km from a land based transmitter to an Italian warship. There must have been a conscious effort to raise the profile of his work. Recognition brings with it vitally needed funding and some of the larger naval powers were increasingly purchasing and leasing Marconi equipment.

Credibility

The ability to transmit and receive signals across a line of sight path was easy to understand and sell; convincing others that greater distances were possible less easy. After obtaining more financial backing distances were improved to 50km and then 120km. The next hurdle for Marconi was to transmit and receive a signal across the Atlantic. This required two leaps of faith. Larger aerials and more powerful (and expensive) transmitters and more efficient receivers. Secondly that it was

achievable to cover the 1,800 mile journey across the Atlantic. Looking at the challenge from a doubter's point of view. An observer on the western most point of England would have to see over a hundred mile high obstruction to be able to see the east coast of America. Whereas shorter distances may seem possible, a much longer distance seemed less credible.

Demonstrating that transatlantic transmission is possible

To prove that it was possible, an aerial was constructed at Poldhu in Cornwall. It consisted of twenty 200 foot wooden uprights that was comprised of three ships masts that were guyed and formed into a 200 foot circle. To give some idea of the scale, an electricity pylon is around 153 feet high. There was also triatic rigging whereby the top of each mast was attached to its adjacent mast. This type of rigging carried the risk that if one mast failed it could bring down neighbouring masts.
The risk was well understood and agreed calculations were made and the risk was deemed to be acceptable. A similar receiving station was constructed in the USA at Cape Cod in Massachusetts. Then on 17th September 1901 disaster struck and a heavy squall struck the array of masts leaving most of the masts damaged and the aerial unusable. On November 25 a similar fate struck the Cape Cod Massachusetts aerial in the USA. See below for a timeline of events. I can only speculate, but this must have been a devastating blow to the team working on the project. Marconi must have held considerable sway with his team. Within a few weeks of the Poldhu setback a new aerial was erected using only four guyed upright supports. On December 6 Marconi arrived in Newfoundland to begin tests using a kite to support a wire receiving aerial. On December 11 it was agreed to commence for a pre-arranged transmission of signals to test communications between Poldhu and Newfoundland. At last on December 12 signals were received. The agreed signal was to send the letter S in morse (di-di-dit). This was chosen for reasons such as it placed less load on the transmitting equipment and could be recorded on an inker (machine to make an ink line on a paper tape).

And the rest was history – No it was not

On December 15 Marconi received a message from the Anglo American Telegraph Company that it had monopoly rights on transmission of messages between England and America. Marconi had no option but to comply. The move by Anglo American Telegraph Company was not well received in America, by Alexander Graham Bell amongst others.

At home Marconi's claims of success of the experiment, which was a proof of concept were mixed and largely unenthusiastic. The Daily Telegraph on December 18 can be summed up as unconvinced. The Times on December 20 printed "far more than a probability that the experiment was a success". Following the assertion by the Anglo American Telegraph Company of its exclusive right, the Canadian government stepped in and offered assistance and Marconi was able to move his Massachusetts Cape Cod operation to St. John's in Newfoundland, and this time, "the rest was history".

Timeline of Events

Dates in 1901

Sep 17	Squall damages Poldhu Aerials
Nov 25	Cape Cod aerials badly damaged by storms
Dec 11	Test transmissions start
Dec 12	Poldhu signal received in Newfoundland
Dec 15	Anglo American Telegraph Company assert monopoly rights

Postscript

It is unclear how Marconi's signals were sent and received. I do not doubt that signals were sent and received. The estimated frequency of transmissions is believed to be around 850 kHz (353 metres) from the aerial dimensions, which put transmission in today's medium wave. The selectivity of the transmitter frequency was governed to a large extent by the frequency at which the aerials were resonant. The receiver did not contain any form of active amplification. The signals were received at around noon (US time) and both transmitter and receiver would have been in daylight. This would be a very, very unfavourable time to receive medium wave transmissions over such a distance. The frequency at which the transmitter and receiver worked were not matched. The receiving aerial was a long wire suspended by kite and/or hydrogen balloon.

It is thought in some circles more likely that Marconi was receiving an HF signal. The Year 1901 was a sunspot minimum. If Marconi was receiving an HF signal it would probably have been in the 5 mHz to 15 mHz range.

Perhaps we shall never know.

Adrian Bryan (G0NLA)

ROVING REPORTER

Starlite 2014 May

As I was drafting this report, I was in The Midlands Hospital where my son Andrew was waiting to have his hernia operation on Saturday April 12. He is now recovering at home and he is not allowed to drive yet so I have full use of his car which is a new Nissan Micra. Being in the hospital brought back memories of when Glenys was in Russell's Hall. Naturally both Andrew and I think back to that time often. I get moments of severe depression when I have no interest in doing anything at all, so I may not attend all our main meetings. When I am in that state of mind I do have a friend who I can talk to on the phone and txt on a regular basis.

She is going through the same trauma as myself and we share the same interests but she is only a friend who lives some distance away, so when I am in one of my several depressed moments, I get in contact or send a txt and this eases what I am, and what she is going through with the loss of her loved one. Glenys had known her for some time. Circumstances have brought us together as just friends .

Moving on, I am delighted to be back on the committee and with the title of Programme Organiser which is something I have been doing over a number of years without the title. I have been listening on 40 metres and heard a report about Norbreck Castle Radio Rally and how well attended it was and the amount of items that were there at good prices. Glenys and myself attended there once. It was on the same weekend as a George Formby meeting so I was able to combine both interests together in one weekend. I may surprise everyone one day by connecting the earth wire on to a suitable earth point and going on air.

The April meeting about valves brought back memories for me going back to the 1950s when I was on a two year course at Dudley Tech for amateur radio. Valves and thermionic emission was one of the subjects from the foundation of radio by scroggi. Taking that course I was entitled to take another course free of charge, so I chose ballroom dancing. I have since done a lot of ballroom dancing, and even to this day I am very much tempted to go back on the dance floor. This was how I came into contact with Glenys through a dance I was running at Leominster British Legion . At the April meeting I came in contact with Peter Baker M6ZXH one of our new members, Peter like myself being in entertainment and was in a group called Clock and Hoof who had bookings on the continent. STARS would not have to look far for artistes if there were entertainment at one of our annual dinners. I also found out from John G3XEV who brought me to the meeting on Monday night that Dave Tromans G4CGB has a request programme on The Bridge Radio on a Monday night.

Finally there is news that the Hippodrome talks are still continuing between The Council and events that rok (sic) who have already offered money for the venue, based on the business that was submitted by the Friends of the Hippodrome and turned down by the consultant as unviable . I still have hopes I will see it operating again as a theatre. When I start asking for volunteers you will know something is about to happen.

Best 73s Your Roving Reporter

Malcolm G8BOP

STARLITE

YOUR COMMITTEE

Hon. President	JAMES	G7HEZ	
Vice President	NICK	G6DQN	
Hon. Secretary	JOHN	M1EJG	(01562) 700513
Hon. Treasurer	JOHN	G8UAE	
Committee Members	MARK	G7EDZ	
	KEITH	M0HPY	
	SEAN	M3XMJ	
	PETER	M6ZXH	
	MALCOLM(Co-opted)	G8BOP	
	ADRIAN	G0NLA	

CALENDAR OF EVENTS

It should be noted that the Shack will be open every Monday evening unless shown otherwise in the Calendar

May	Mon 5th	No Meeting - Bank Holiday
	Mon 12th	Committee Meeting
	Mon 19th	Early Computing – John Tracey
	Sat 24th	Aerial Roof Work
	Mon 26th	No Meeting – Bank Holiday
June	Mon 2nd	Open Shack Night - Or on air natter
	Mon 9th	Soldering Master Class – Dr. Alan
	Mon 16th	BBQ at Sheepwalks
	Mon 23rd	Open Shack Night - Or on air natter
	Mon 30th	Open Shack Night - Or on air natter
July	Mon 7th	Open Shack Night - Or on air natter
	Mon 14th	Open Shack Night - Or on air natter
	Mon 21st	High Voltage Sub Stations (Sean M3XMJ)
	Mon 28th	Open Shack Night - Or on air natter
September	Mon 15th	Band I and Band III TV Aerials (Geoff G0KVK)
April 2015	Mon 20th	Vintage Radios (Phil G4SPZ)