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 09/2015

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MEETINGS

Visitors always welcome

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

STARLITE

EDITORIAL

I am glad to see that we will be taking part in the SSB Field Day this year after a break last year. For those new to competitions it is a good opportunity to make a large number of contacts and gain experience with lots of help from other club members close at hand.It is also a practical demonstration of which bands are usable and at what times of day

Adrian (G0NLA) Starlite Editor

MESSAGE FROM THE PRESIDENT

Congratulations to Pete on passing his intermediate course. We will let you know his new callsign as soon as it's confirmed!

As mentioned elsewhere we are taking part in SSB field day this year. 5th and 6th September, contest times are start at 2pm local time Saturday and lasts for 24 hours. Obviously setting up before and after. The location is Suger Loaf Lane (passing Stoubridge Tennis Club) which is a continuation of Greyhound Lane (off Norton Road). See the picture from Google Maps of the entrance to High Acres Nursery which is on the left past the tennis club (on your right) driving away from Stourbridge. Many members are signed up to operate, log keep, or generally assist. It would be good to see those members who are not signed up attend to show their support.

The next foundation course will start on 21st September. If you know anyone interested then please let Hon Sec John know. If you would like to assist in the running of the course then please let myself know.

Whilst on holiday I visited Brixham Battery, this is an intact military installation from WW2 primarily to defend Brixham harbour from E boat attack. The picture of the various radios is one of the exhibits from the museum. See http://www.brixhambattery.net/ for far more information – well worth a trip if you are in the area.

4965 Rood Ashton Hall is a steam engine that is certified for mainline rail and runs regular mainline steam trips. Recently I went on the Shakespeare express and noticed the additional new feature that is not from its time period. This is a Siemens radio hidden away in the green cabinet within the drivers cab!

James French (G7HEZ)

SEEN ON THE INTERNET

Peter M6ZXH has spotted two interesting items on YouTube which are well worth looking at.

Part 1 - https://www.youtube.com/watch?v=PSojSY0wDN8
part 2 - https://www.youtube.com/watch?v=P48CHEecR4o

The submitter of the two videos: Ray, is a radio repairer and radio ham from Sussex who encounters interference on a large portion of the Medium Wave. On further investigation the interference turns out to be additionally on HF as an S9 signal up to around 7.5 Mhz. Some time later the interference disappears completely only to reappear later. Ray sets out to identify the cause of the interference which after some investigation turns out to be caused by broadband. The second video is a practical guide on how to stir a broadband company into action to clean up some of the radio interference they are causing. Both videos are well worth watching.

Subsequent to Peter sending infornation about the two above videos, a third video is now available on Youtube which is interesting to watch.

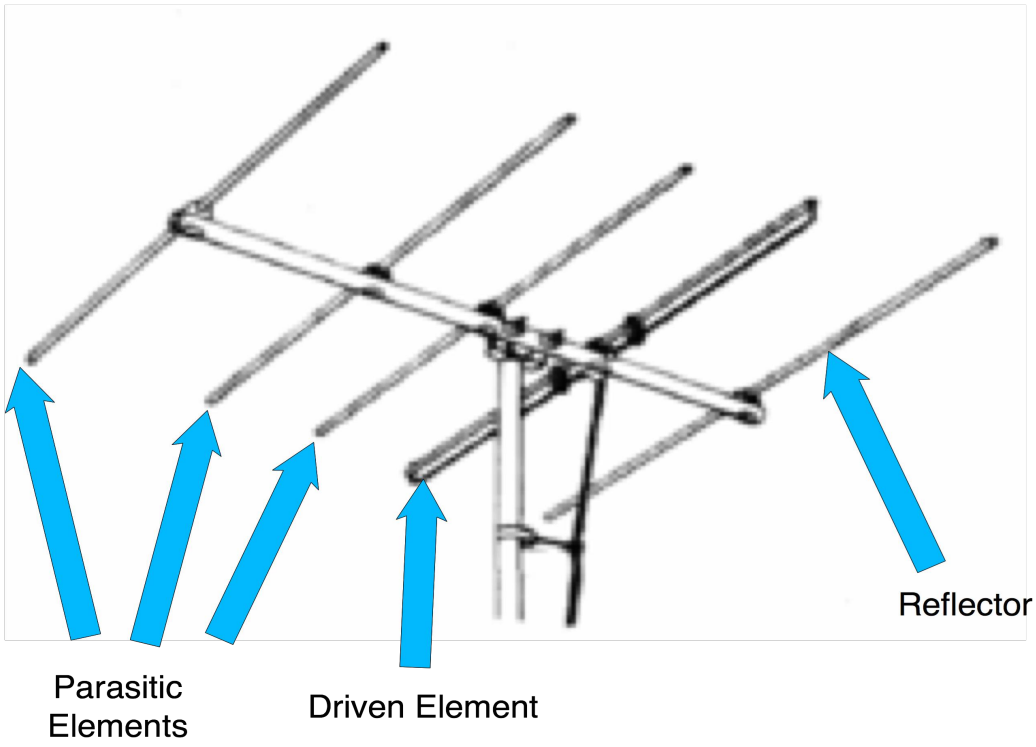
Thanks to Peter for the above contribution.

THE YAGI-UDA ARRAY AERIAL

INTRODUCTION

The Yagi aerial is a familiar sight around the world and is used in one of its many forms as an aerial to receive television signals. Most radio hams can identify a Yagi aerial. This brief article gives some background into the development of the aerial and its inventor.

A BRIEF RECAP ON THE YAGI AERIAL

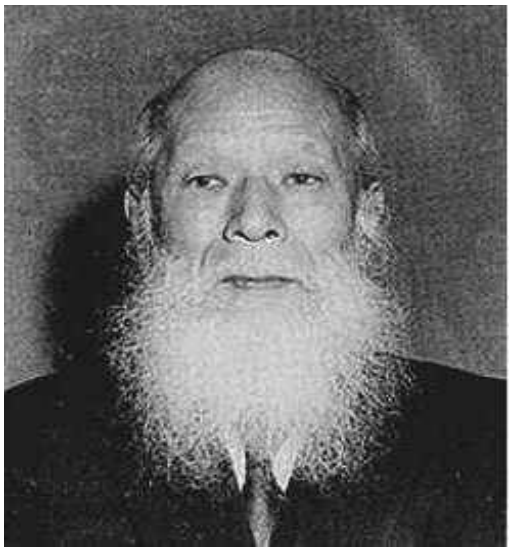


More accurately the aerial should be known as the Yagi-Uda aerial. Uda being one of Yagi's assistants.

The elements of the Yagi areial are attached to a boom. If the parasitic elements and reflector are not insulated from the boom the over-all size of the aerial is reduced. The driven element is always insulated from the boom. To further reduce the size of the aerial a folded dipole can be used as the driven element. The driven element is connected to the transmitter or receiver and may incorporate a matching device such as a gamma match, hairpin match and others. At its simplest the aerial will have one parasitic element, one driven element and one reflector. The aerial is designed for a specific frequency, but the frequency at which the aerial can operate will be increased if a folded dipole is used as the driven element. Within limits, increasing the diameter of the tubing for the elements can also increase the fequencies at which the aerial operates. An aerial for use on the amateur bands is likely to have a conventional dipole as its driven element and would not be designed to have a wide bandwidth. Note also that the spacing and size of the elements are critical. Yagi modeling software is freely available on the internet and has been featured in previous editions of Starlite. Club members may be interested in building a simple Yagi for 2 metres or 70 cms and testing their aerial on the society's recently acquired antenna analyser courtesy of Eric Brigstock.

HIDETSUGU YAGI RESEARCH AND TRAVELS

Hidetsugu Yagi graduated from Tokyo University and initially worked in Germany for H. Barkhausen in the company's Feeble Current Engineering division in Dresden, however his employment was cut short by World War 1 and he was obliged to flee to the UK in 1914, Such was his haste that he was forced to leave behind his research notes. Unlike WW2 Japan was in alliance with both the UK and America during WW1. Whilst in the UK Hidetsugu Yagi studied under John



Professor Hidetsugu Yagi (1886-1976)

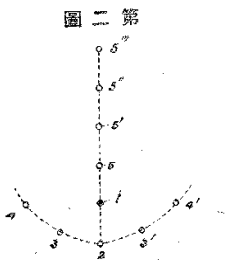
Dr. Shintaro Uda

Ambrose Fleming who was the developer of the first thermionic diode valve. Before returning to Japan to take up a teaching post, Hidetsugu Yagi spent time at Harvard University in the USA. Whilst in the USA, Hidetsugu Yagi worked along side George W. Pierce - some of you may recall the Pierce oscillator in your RAE or Full licence studies.

Back in Japan Hidetsugu Yagi obtained a post at Tohoku Imperial University where he drew on his previous experiences to set up collaborative research in the field of radio-electronics. Working amongst the members of one of the research groups was Shintaro Uda.

In 1928 Yagi presented a paper to the Institute of Radio Engineers during a vist to the USA. Yagi described how he had used a device with a split anode magnetron operating at 50 cms connected to what became known as a Yagi aerial. The setup was able to transmit a narrow microwave radio signal. *To save you looking up what a magnetron is Wikipedia gives the following definition - An electron tube for amplifying or generating microwaves, with the flow of electrons controlled by an external magnetic field.*

Opposite is a diagram extracted from the patent application for the Yagi aerial. One can see the parasitic elements, driven element and reflector made up of multiple elements. One would have expected the patent to have made and continue to make large amounts of money for the inventor. I understand that the patent for the Yagi was sold to Marconi.



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FUTHER READING

There is an interesting collection of aerial patents which can be accessed by Googling www.aktueiium.com antenna patents. The list includes the Yagi-Uda array, the discone, the Zepp, Turnstile, log periodic, discone and many more. Take a look if you have time

I also encourage you to look on the web site of Brian - MW0GKX at mw0gkx.co.uk which I stumbled on when writing the above article.

As usual Wikipedia provided copywrite free illustrations and helped out when I wanted to know for example, what split anode magnetron is.

For those interested in free software for building their own yagi try Googling yagi.exe
You may need to download a Visual Basic runtime .dll file to make it work, but the effort is well worth it.

As usual any mistakes are probably mine.

Adrian Bryan (G0NLA)

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YOUR COMMITTEE

Hon. President	JAMES	G7HEZ	
Vice President	NICK	G6DQN	
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	KEITH	M0HPY	
	SEAN	M3XMJ	
	TIM	G7TAC	
	MALCOLM	G8BOP	
	WAYNE	M5LLT	
Starlite Editor	ADRIAN	G0NLA	

CALENDAR OF EVENTS

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

August	Mon 31st	Bank Holiday – No Meeting
September	Sat Sun 5th & 6th	SSB Field Day
	Mon 14th	Roger G4ROJ . Kite Aerials
	Mon 21st	Foundation Course - Start
October	Mon 19th	Dave G4DPZ Amateur Satellites
November	Mon 9th	Foundation Course - Exam
	Mon 16th	Annual Surplus Sale
	Mon 23rd	Committee Meeting
December	Mon 7th	December Christmas Gathering
2016		
January	Mon 18th	Tim 4x4 Response
February	Mon 15th	Constructors Competition and Quiz by Peter
March	Mon 21st	AGM
April	Mon 18th	Digital Radio and Repeaters = Phil (G4SPZ)

Please note in future :-

There will be £2 admission charge to non-members for attending main meeting talks / events. This is refundable against joining the society.