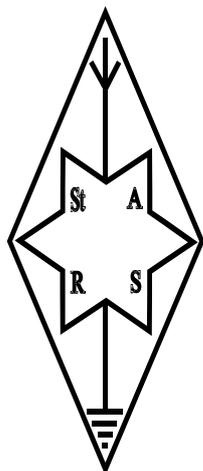


STARLITE

G6OI
1938

The Award Winning Newsletter for Members and Friends of
Stourbridge and District
Amateur Radio Society
incorporating
Old Swinford Hospital School Radio Club

G6SRS
1938



G4CVK

1969

ISSUE
10/2014



Table of Contents

MESSAGE FROM THE PRESIDENT.....	3
A BIT OF REVISION.....	5
VOLUNTEER INTERCEPTOR ARTICLE IN EXPRESS & STAR.....	6
RECENT MAIL.....	6
STEP BY STEP HB9CV CONSTRUCTION.....	7
JUNK IN SPACE.....	9
YOUR COMMITTEE.....	11
CALENDAR OF EVENTS.....	11



STARLITE

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

MESSAGE FROM THE PRESIDENT

The process of renewing existing CRB checks and undertaking brand new checks is almost complete. As we meet within the grounds of the school it is essential that all members undertake a CRB check or visitors sign in properly. There will be a new visitors sheet which will be handed over to the school after every meeting for the school to update its visitors book.

As you are aware yet another foundation course is in progress and as always this is an ideal opportunity to gain new members and blood into the society. For future courses if anyone is interested in helping out - from invigilating exams, assisting in the practical sessions or taking lectures then please let me know.

November sees the annual surplus sale, its NOW TIME to start looking through your shack, shed / garage for quality items that will sell!

December also sees our annual Christmas gathering. Tradition dictates we go to the carvery - which suits the majority of members, If anyone else has any other suggestions then please let me know.

Thanks James G7HEZ



STARLITE

Some pictures of the shack being moved

The bulk of the work to move the club's radio shack to a new location is very close to complete. The old shack has been cleared out and passed back to the school. One of the main challenges has been to re-route the coaxial cables from inside the previous shack to its new location. Below are the photos of the club members soldering the cables and Wayne showing us the finished job.



Illustration 1: Wayne and Keith connect the fiendish N plug

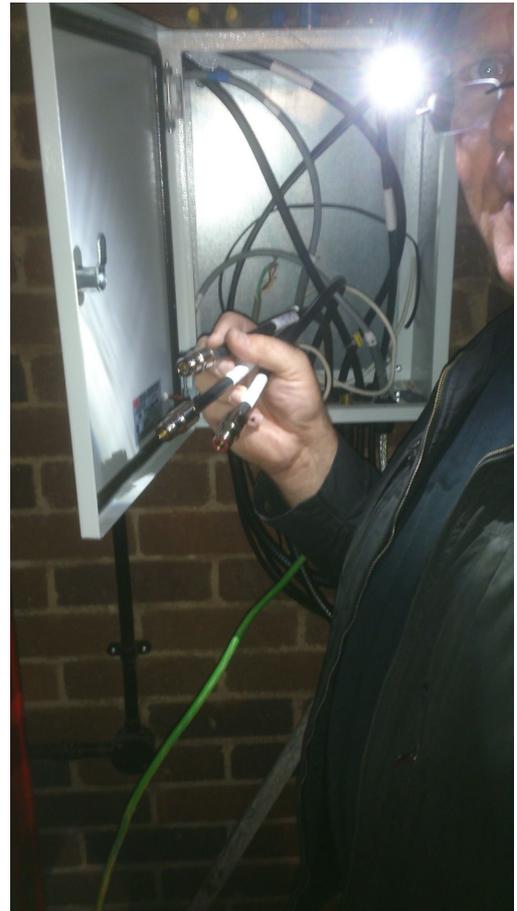


Illustration 2: Wayne showing us the finished cables



Illustration 3: Clockwise from the top - Nick, John and Jim fitting locks to cable cabinet



STARLITE

A BIT OF REVISION

Training for the Foundation Course will soon be with us and may well have started by the time you receive the October Starlite. We need to be able to answer radio and exam related questions posed by prospective Foundation Course students and be able to pass on that ability. So with this in mind I have included a few sample questions below.

- 1 Which of the following has the greatest effect on the reflecting properties of the ionosphere?
 - (a) Solar radiation.
 - (b) Barometric pressure.
 - (c) Temperature.
 - (d) High winds.

- 2 If a signal is transmitted vertically, the highest frequency to be reflected back to earth is known as the:
 - (a) maximum usable frequency.
 - (b) minimum usable frequency.
 - (c) critical frequency.
 - (d) ideal frequency.

- 3 Which of these bands is a VHF band?
 - (a) 1.9 MHz (160 M)
 - (b) 28 MHz (10 M)
 - (c) 50 MHz (6 M)
 - (d) 433 MHz (70 cm)

- 4 What is the term that describes normal VHF/UHF propagation?
 - (a) Skywave.
 - (b) Line of sight.
 - (c) Lift.
 - (d) Ionospheric.

- 5 A transmitter is operating on a frequency of 2 MHz. What is the wavelength?
 - (a) 1500 Metres
 - (b) 150 Metres
 - (c) 15 Metres
 - (d) 150 Centimetres

- 6 What is a working figure for the speed of light
 - (a) 186,000 Km per second
 - (b) 300,000 MPH
 - (c) 3×10^8 Metres per second
 - (d) 299,792 Kilometres per second

Answers on the back of a £5 note to



STARLITE

VOLUNTEER INTERCEPTOR ARTICLE IN EXPRESS & STAR

I was sent the following link from a previous Stars member who you may remember – John Sheils – G0VAT who lives a short distance away. The article covers items donated from Wolverhampton resident, Geoff Hanley's family. Geoff had been a Volunteer Interceptor during World War Two and had been a Naval Wireless Operator during World War One. There were a network of around 1,500 Volunteer Interceptors scattered around the country who had good Morse code skills. The VIs were organised to listen to allocated frequencies and send what they found to a central location. Often the information they intercepted would be encrypted and required patience and persistence under difficult circumstances. The work of the Volunteer Interceptor was later taken over by the Radio Security Service and many VIs went on to work for the RSS.

<http://www.expressandstar.com/editors-picks/2014/09/19/researchers-discover-wolverhampton-mans-secret-past/>

RECENT MAIL

The editor (G0NLA) has no experience of the following supplier. If you contact him, you do so at your own risk. As far as I know it is genuine and he seems open about where he gets his email addresses from. Please send your feedback

From :- dsmczcom@dsmcz.com

Hi...

This is a quick note to announce we are a new component supplier selling electronic components relevant to the electronics hobbyist.

If it's of interest to you, have a look here:- <http://dsmcz.com/presta/en/>

I'm an expat living in the Czech Republic, my eshop is mainly targeted back to the UK, but we do sell worldwide.

Shipping is at cost (What I pay at the post office), and rates are on the site's homepage. Shipping time to the UK is normally less than 1 week, sometimes packages arrive within a couple of days.

For reference, here is my Ebay feedback page - although the prices I charge on ebay are higher (to cover their fees):- http://feedback.ebay.co.uk/ws/eBayISAPI.dll?ViewFeedback2&userid=dsmcz_com

Here is a 10% discount code for your club members and friends, if you do end up buying something:- C1N9CX8V

This is a one off email, you are not on a mailing list or anything like that... (I got your email address via the RSGB website or your club website)

If you do want more info, then just reply to this mail, or there is a facebook group which provides updates periodically. Just search facebook for DSMCZ

If you want a flyer for your club noticeboard, then email me, and I can either send you a PDF file to print, or Send you a real one through the post.

Damian Mitchell
DSM Components



STARLITE

STEP BY STEP HB9CV CONSTRUCTION

One of my new HB9CV 2m beams is now complete and tested giving about 1.1 swr centre band 145.00 Mhz only rising to 1.2 at band edges. So quite pleased with that , the only hitch was spacing the gamma match feed (in red) it was moved to about 6/7 mm from the elements and secured with spacers and everything fixed with hot melt glue . The problem was highlighted by the use of John Scott's antenna analyser last week at the club .

The second identical beam is best part constructed and should complete tomorrow. Ready for the revamp of the home antenna installation . The rotator is seized at the moment but a replacement spare is in standby for donor parts.

Hopefully the installation should be completed before the bad weather sets in , this project has only been in the offing for the last 5 years.



Illustration 4: HB9CV assembled elements and boom with tuning capacitor



Illustration 5: HB9CV Tuning capacitor detail



Illustration 7: HB9CV Gamma match detail - 1



Illustration 6: HB9CV Gamma match detail - 2

See next page for finished antenna



STARLITE



Wayne Mcroft (M5LLT)



STARLITE

JUNK IN SPACE

What prompted this article?

I was recently sat next to a man who had a job with a satellite company. The company analyses prospective customers requirements and if required will arrange to have a satellite built, put into orbit and maintained.

A Bit of History

The first artificial earth orbiting satellite, Sputnik 1 was launched in 1957 by the then Soviet Union. The cold war was in progress and the launch caused a stir at the time especially amongst the Americans. Sputnik I transmitted beep signals on 20.005Mhz and 40.02Mhz and was tracked by radio amateurs. The perception was that the Soviet space program was more advanced than the American space program. Since that first launch the number of launches increased a pace. According to Wikipedia, about 6,000 satellites have since been launched and of these 3,600 are still in orbit, but only 1,000 of these are operational. The launches have resulted in spent booster rockets being left orbiting the earth and other debris.

Background

Satellites divide roughly into three types. Those in equatorial orbits and those in polar orbits and the rest (Molniya, heliocentric). Those in equatorial orbit appear to be in fixed positions above the earth and are often used for satellite TV and radio. Alternately polar orbits pass over the earth's poles at regular intervals and at some point in time will have flown over the entire earth's surface. The greater the height of the satellite's orbit, the more of the earth's surface will be visible.

Decaying Orbits and End Of Life Satellites

There is a tendency for the height at which a satellite orbits above the earth to decay over time. To correct for this tendency, booster rockets are ignited to reposition the satellite back into its desired position. Positioning is also required to avoid collision with debris. The useful life of a satellite is often, but not exclusively, determined by the fuel remaining in the booster. Other components can and do fail and nothing lasts forever. A reasonable life expectancy is between five to seven years. At end of life it is preferable that a satellite is de-orbited. Another solution is that a satellite is moved to a graveyard orbit where collision with an operation satellite is much reduced. Changing orbit however requires booster fuel. The increase in orbiting debris poses a significant risk of collision. In the event of a collision the debris problem is further exacerbated by more collisions and more items of debris. This chain reaction is known as the Kessler Syndrome and in a worst case could severely limit our use of satellites.

Worst Satellite Collision

Perhaps the most dramatic satellite collision occurred in 2009 when the inactive Kosmos 2251 collided with Iridium 33, an operational communications satellite. The relative speed of the two satellites was 42,120 km/h (26,000 MPH) and resulted in over a 1,000 items of debris over 10 cm in size.



STARLITE

International Agreements and More

The problem of space debris is recognised and acknowledged and the Inter Agency Space Debris Coordination Committee put forward good practice and mitigation measures. Around 19,000 Items of debris are currently tracked and computer models are maintained. The model and reality are compared. Presently debris avoidance measures are not a common occurrence, but do occur and the ISS had to take action to avoid some of the debris from the Iridium satellite mentioned above. Large items of debris are not the only problem, small items travelling at kilometres per second can have an effect similar to a sand blaster.

Adrian (G0NLA)



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

October	Mon 6th	Open Shack Night - Or on air natter
	Mon 13th	Open Shack Night - Or on air natter
	Mon 20th	Open Shack Night - Or on air natter
	Mon 27th	Military Radio - Stuart McKinnon
November	Mon 3rd	Foundation Course Exam
	Mon 10th	Committee Meeting
	Mon 17th	Surplus Sale
	Mon 24th	Open Shack Night - Or on air natter
December	Mon 1st	Open Shack Night - Or on air natter
	Mon 8th	Christmas Gathering
	Mon 15th	Open Shack Night - Or on air natter
	Mon 22nd	No Meeting - Bank Holiday
January	Mon 19th	Main Meeting TBC
February	Mon 16th	Constructors Competition and Quiz
March	Mon 16th	2015 AGM
April 2015	Mon 20th	Vintage Radios (Phil G4SPZ)

