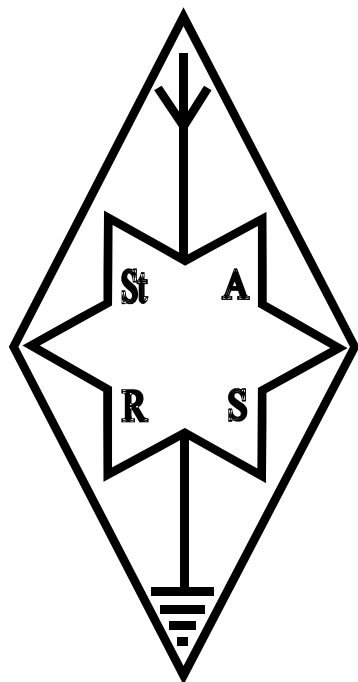


STARLITE

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
06/13



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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



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EDITORIAL

May has seen increases in solar flares and this is often good news for radio propagation, both for VHF and HF, so listen out for any report of problems with TV reception. One man's poor TV signal can sometimes be another man's chance of some DX.



John Bills (G3KZG) was kind enough to bring in his test equipment into the Stars Club on 20th May 2013. It is always good to get feedback that ones transceiver is transmitting on frequency and with the correct deviation. (it is also a licence condition that a transceiver is checked from time to time to ensure it is not causing interference to other users) Sensitivity was also checked. John was able to help Wayne Mocroft (M5LLT) to rectify a problem with his transceiver. John checked transceivers belonging to Adrian (Starlite Editor) and Adrian's 24 year old Icom 3200E 2/70 was performing exceptionally despite the age of the transceiver and the years of mobile use it has undergone. Despite my photo above, the event was well attended and it was still going strong after 21:30.

Adrian Bryan (G0NLA) Starlite Editor

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A SIMPLE DIY AERIAL FOR 2 METRES

Introduction

There is a definite satisfaction to getting on the air with an aerial one has made. At one point or another, the majority of radio amateurs have made their own aerial. The Radio Licence conditions state that one of the purposes of the licence is for self-training in radio communications.

There may be a temptation to think that one has gained the Foundation Licence and that study is over, for a while at least. There is however, much more to learn and one of the more enjoyable ways of learning is by experiment.

This article is deliberately aimed at some of the more recent members of the club. The older members of the club will already be familiar with the topic below and probably have constructed their own version of this aerial in the distant past. The more experienced members in the club, I am certain, will be willing to assist if you need any help. The aerial described below became popular before I became interested in radio and we are indebted to F.C. Judd (G2BCX) for the design.

The Project

As a start point for construction we will look at making a 'Slim Jim'. If you Google Slim Jim, you will probably see articles on a device for breaking into and facilitating car theft. Avoid these articles and add antenna or aerial to your Google search. I understand that the name Slim Jim is copyrighted, but the underlying theory of the aerial is not copyrighted. In ham radio circles the aerial design has achieved an iconic status similar to Biro, Hoover and Sellotape and the aerial has encouraged designs based on the original, but utilising different materials. Note at the outset that there are two distinct levels of aerial construction ability. It is relatively easy to make an aerial that is a prototype. A greater level of competence is required to make an aerial that will be erected outside and will survive several winters and remain viable. We are aiming for the prototype.

Equipment

If you are new to amateur radio, you will probably not have acquired some of the tools required for this project. Do not despair, the club members will be able to help out with such items as VSWR meters and soldering irons. I often find that articles in magazines for aerial construction can be off-putting. In particular there will be a list of items that must be obtained and will be required for successful construction. In this article, I have tried to avoid this pitfall. For me and I suspect many others there is a satisfaction to be had from making aerials from materials that came to hand, rather than from items one specifically went out and bought. There is however a possible problem here and it can get you into the habit of keeping things "that might come in useful in the future". The collecting habit has spawned TV programs featuring hoarders who surround themselves with things that may "come in handy" at some future date, so be warned!

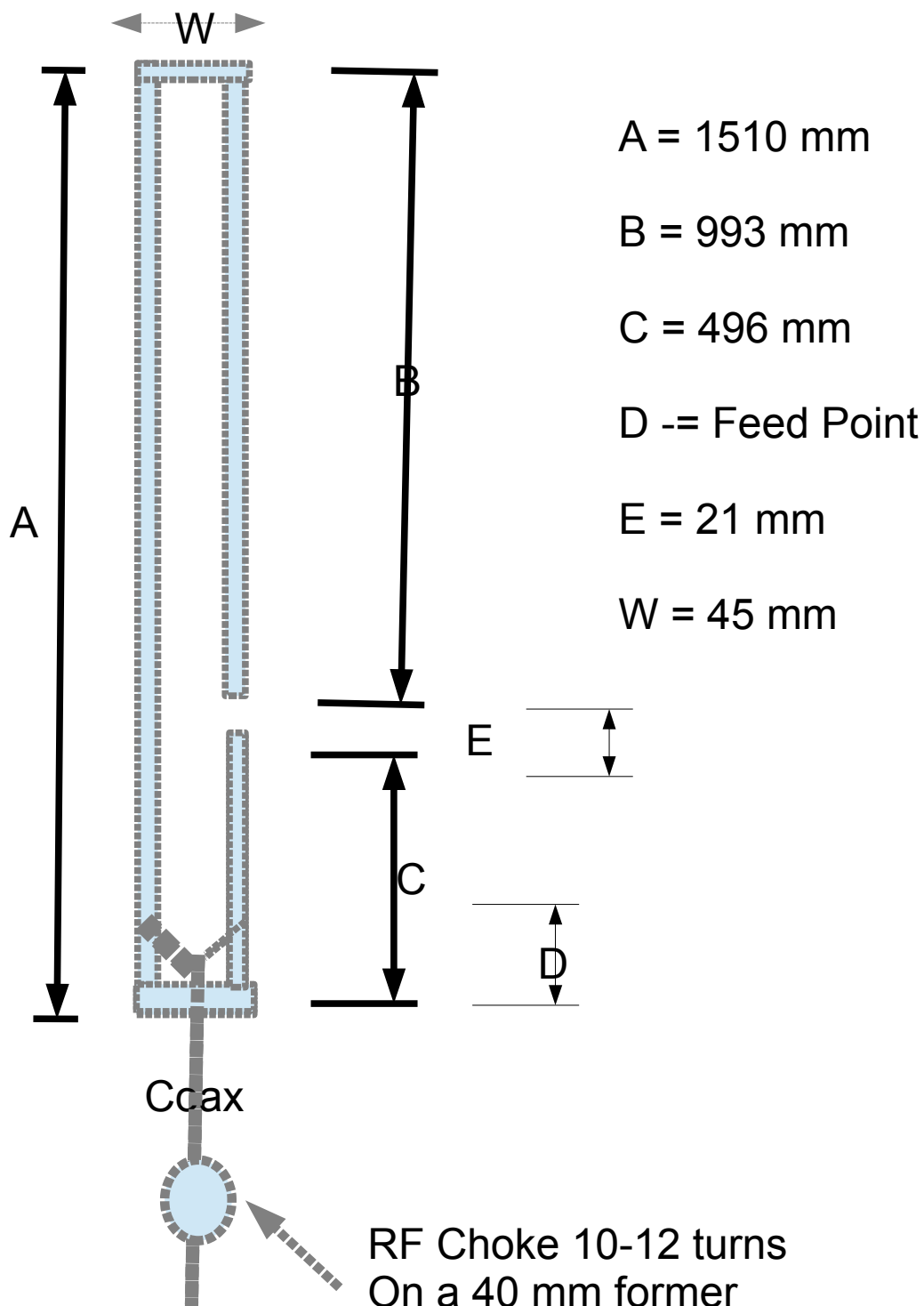
One problem you will need to give some consideration, is what type and gender of coaxial plugs you need. The smaller transceivers use SMA plugs. VSWR meters often used PL259 or N-type connectors. Although stores such as Maplins sell some of the components needed for aerial construction a far cheaper way of obtaining items is at radio rallies. See also Plugs and Coax at the end of this article.



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So let's make a start

Take a look at the 'Slim Jim' diagram below. I chose to make my 'Slim Jim' out of wire, as I thought this would be easy to source. One of the main problems in using wire is that it will not be rigid enough to be self supporting. If you want your aerial to be rigid enough to be self supporting, then you would probably need something like soldered half inch copper pipe.



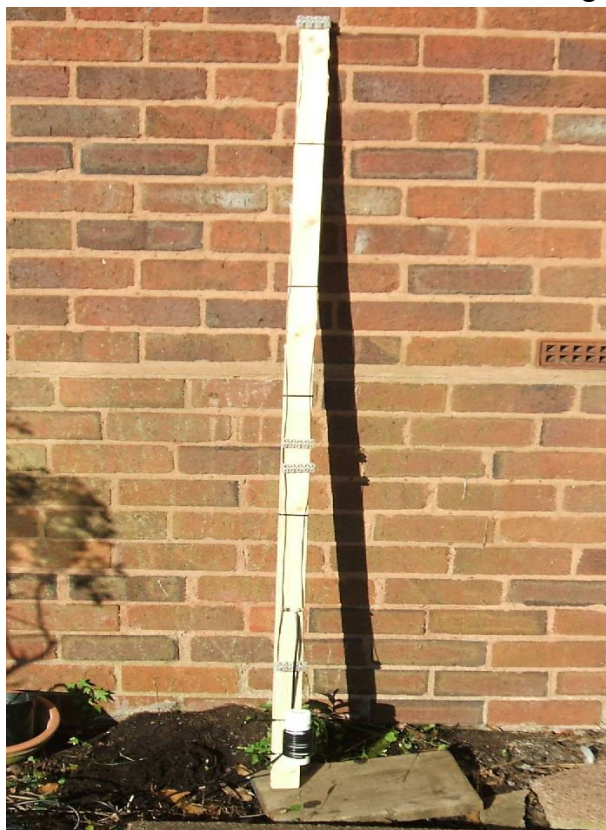
'Slim Jim' Diagram



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As I stated in the previous paragraph, we are going for a prototype design and we will leave soldering copper pipes for another day. For my 'Slim Jim' I made an unfortunate choice of copper wire as mine was hard and resilient and difficult to get it straightened out. It had previously been in a 30 cm coil. It may be possible to make the copper wire easier to bend by heat treating it in some way, but I did not experiment. Because of this difficulty with the copper wire, I chose to use terminal strips fastened to a 1.8 metre, 45 mm wide piece of wood to achieve the proportion and dimensions in the 'Slim Jim' diagram above. If my wire had been flexible, then nails, cable clips, staples etc. would have been just as effective and much cheaper. As I know I can take the aerial apart and reuse most of my items, then the extra cost was not an issue

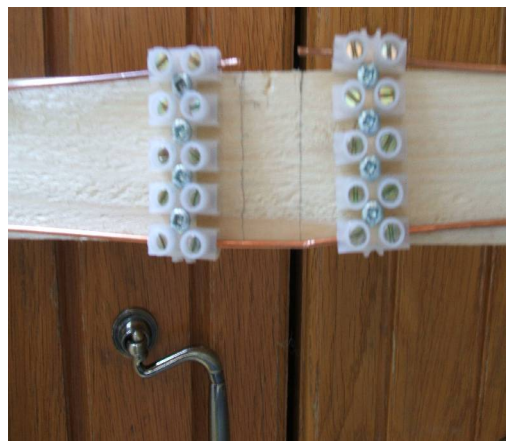
Often with projects like this it is difficult to know which dimensions are critical. In this case all dimensions should be accurate with the exception of W and D. Rather than using wood I did think of using box section white plastic trunking and keeping my wire aerial in the conduit and kept in place with expanded polystyrene. The gap in the aerial (see dimension E) acts as a capacitance and I have seen some designs where this gap can be altered by means of a screw adjustment, but again this would be more suited to a non-prototype aerial. As a mitigation for using terminal strips in my aerial, I did initially think that I could replace sections of wire if they needed to be changed, but this was not required. Note that 'Slim Jims' have been built using



straightened out wire coat hangers. If you decide to use coat hangers then terminal strips may be handy for joining your hangers to make up the required dimensions

There is a wealth of practical experience to hand in the other Stars club members and without exception they will all be willing to share it. If you are having problems, do not hesitate to ask. I wasn't sure I was on the right track and I brought my 'Slim Jim' into the club and was given useful advice.

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It has taken longer to write this article than it did to make the aerial. If you attempt to build the aerial please can you bring it into the club. Often if a beginner fails at the first attempt it may put you off similar projects in the future and this is a shame as aerial construction is a satisfying and low cost part of our hobby.

Did it Work?

I noted from one internet article that the matching point on the aerial is about four inches from the bottom of the aerial. I followed this advice and I checked my SWR and got a reading of 1.8 to 1. This gave me sufficient encouragement to ask for a radio report and I made my first contact with Droitwich, which is around 14 miles from my location. In a way this is a shame really as I am not able to relate what steps I took to resolve my problems. If I could not get a reasonable SWR a next step would be to check all dimensions and rectify any problems. Failing that one of the club members has aerial analyser. This could be used to see what frequency the aerial is resonant at and this would give a clue as to where the possible problem is. The coax should have been checked for open circuit when the plug was first fitted and before attaching to the matching section. Once the coax is attached to the matching section then the coax at the plug end will be

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shorted. If you don't understand this go back and look at the diagram and all will become clear.

How does it work?

In essence the aerial is an end fed folded dipole. The lower part of the aerial indicated by the dimension "C" is used to match the coax to the folded dipole and it can match a quite large range of impedances. The smaller the value of "D" then the lower the impedance value. The larger the value of "D" then the higher the impedance value.

The last part of the aerial is the choke balun, and this is formed by winding 10-12 turns around a 40mm former. I used an old plastic capsule container and kept the turns in place with cable ties. Plastic cable ties were also used to keep the wire in place between the terminal strips. The coax was attached to the wire using terminal strips which had been cut in half and soldered together side by side. One screw held the coax in place and a second screw kept the coax secured to the matching part of the aerial. The length of coax required choke balun is a surprising 1.5 metres. Work it out $\pi \times 40 \text{ mm} \times 12$.

History and Acknowledgements

We are indebted to F.C. Judd (G2BCX) for the original Slim Jim. I believe that the original article that helped to spread the popularity of the aerial was first published in monthly magazine; Practical Wireless. The article was reprinted in an abridged form in the popular Practical Wireless supplement entitled "Out of Thin Air". The popularity of the article spread quickly and was soon used in Europe and was and is popular in the USA, New Zealand and Australia. The article describes how to make a sturdy weatherproof version.

The main reason for the popularity of the Slim Jim is its low angle of radiation. The most effective part of a VHF transmitted signal is that which travels toward the horizon. The aerial is omni directional and vertically polarised. Maritime variants exist and there are modifications that can be made to the Slim Jim to enable it to be easily dismantled for mobile use (when parked up).

Conclusion

The "Slim Jim" is an ideal first-time aerial for those who have never made their own aerial. It is cheap to build and easy to get working. With different dimensions it will work on 70cms, but construction may be slightly more difficult. If you are interested in making your own 'Slim Jim' and need advice or assistance please see any of the older members of Stars. I would also encourage you to bring your partly constructed aerial to a Stars meeting. Finally, it is always nice to say you are on a home brew aerial when you are on the air.

Footnote - Plugs and Coaxial Cable

Plugs and coax (coaxial cable) can be a mine field for those new to amateur radio. There are four basic types of plug – SMA which is found on smaller hand held transceivers, BNC which has a bayonet connector, N-Type and PL259. Ask to see examples in the shack. I have never soldered an SMA plug, but I have soldered the rest. The easiest and cheapest plug to fit is PL259. It is easy to make a mess of N-Type and BNC plugs so ask for assistance. You need to chose a cable best suited for VHF, but if your cable run is short it does not matter greatly. Go for thin coax and your plugs should also be for thin coax. I used RG58U coax. Again ask to see examples in the shack.

As usual all mistakes are mine - Adrian Bryan (G0NLA)



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SAD OR WHAT?



I found the following picture in my holiday snaps from Portugal last year. The location is Cape St. Vincent. The picture was taken through a moving coach window, which was tinted and the lighting was not conducive to a good photograph. I have since tried to find out which radio station is using the aerial and for what frequency, but without success. I have had to experiment with the picture to make the wires more visible and ended converting the photograph to black and white and increasing the contrast. I recall there was more than one of the aerials and all the aerials seemed to be similar in construction. If you look at the two metre high perimeter fence in the photograph, it will give you some idea of the scale.

I would guess at some commercial broadcast HF station. Again a guess, but I would think that the radiating parts of the aerial are from the highest point down to the halo arrangement, although broadcast stations tend to be somewhat directional and this does not seem directional. I would expect a target audience for Portugal to be Brazil or parts of Africa such as Angola or Mozambique, if it is an HF antenna. A medium wave transmitter has been put forward as a possibility by Mark (G7EDZ). As Cape St. Vincent is in the south of Portugal, it would suggest that the target audience is not Portugal. A more detailed colour photograph can be found by Googling "Natur Und Technik Faro Sagres".

Any ideas or opinions please to editor@g6oi.org.uk?

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A BEGGING LETTER FROM THE TREASURER

Way back in 1986, at the Annual General Meeting, the then incumbent Honorary Treasurer, Paul Willets G6YAK, wished to have a years respite from the office so that he could help look after their new baby. No one wanted to take over the position and although I was very busy at work and regularly late to the meetings, I reluctantly agreed to become the Temporary Honorary Treasurer. I am now in my TWENTY EIGHTH year as Temporary Honorary Treasurer or should that be Honorary Temporary Treasurer.

Since then I have taken on other duties for the Society.

Quartermaster.

Archivist.

Web master.

Yahoo group Moderator.

Et AL.

Each time because NO ONE in our society was willing to do the duties.

From time to time I have noticed members photographing society events such as Field days, Stourbridge Carnival and other events. One member regularly comments that he has many slides and even Newsletters from the year dot. I have asked if I can have copies for the archive but the number of members who give me support can be counted on ONE hand with several fingers left over. So:-

If you have anything to augment the archive can I Please please please Please please please Please please please Please please please PULEEEEEEEEESSSSEEE have either copies or let me borrow them to copy for the archive.

The Archive is the history of our Society and without input it effectively dies.

I eagerly await your input.

John G8UAE Hon treasurer et al.

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ROVING REPORTER

May 2013 Starlite 2013 May

Every time I make the journey to Tipton rail station from Sedgley, I pass through Woodsetton. There is a newspaper shop there called 'Starlight News' different to our 'Starlite', but close, so that one day on the route back, and time to spare I decided to take a photograph that's one of the pictures in this report.



As mentioned in the last report, at this time of year with so many other jobs to be done, amateur radio has had to be pushed down the list. This will also apply in June when my XYL Glenys has to have an operation in The Queen Elizabeth. What I find if I am waiting around, either in waiting rooms, hospitals trains and buses, is that I start writing my reports. I have decided to start cleaning the shed [The Shack] out. I recall the early days when I first had my transmitting licence 45 years ago this month, and the time I used spend in the shack. Often, into the early hours of the morning summer or winter when I had a paraffin stove for heating. The paraffin heater caused damage to the equipment in the long term. After the heating was turned off, it created moisture which condensed on equipment, although I was unaware of this happening at the time, until the rust started to appear. I prefer being in the house nowadays.

The May meeting was interesting and I only wish I had remembered to take some of my equipment along. Hopefully, John will be good enough to bring his test equipment along again in the future. Congratulations to Gary for passing the intermediate radio amateurs exam.

The work of fitting the DC power supply to the console on the Wurlitzer organ at The Buttermarket Shrewsbury should be finished this week and when completed, organ concerts will re-start after a break of 3 years. I hope some of STARS will be able to support some of the organ concerts.

Sadly, I was informed a week ago, by one of the fellow volunteers on the Severn Valley Railway that Don Keeling who had worked in the carriage works at Bewdley where I also work had died. He



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became a silent key three weeks ago. Don was a member of MARS and I often used to see him on the MARS stand at Radio Rallies and at Wythall. I was asking about and I was given his telephone number. RIP Don, he was 80 just as keen on trains as he was on amateur radio.

Best 73s Malcolm

G8BOP. Your roving reporter.



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THE PRESIDENT'S COLLAR

As you all know, or at least should know, The Stourbridge & District Amateur Radio Society possesses a presidents collar or chain of office. I have been asked to provide some background about it.

All I was aware of was that it was presented to the society by Mac in memory of his mother. On the 24th June 1975 a committee meeting was held at the home of Dr G P Sugden G8DZQ. At the meeting it was stated that following the death of his mother Mr A (sic) MacIntosh G3XKM wished, as a memorial to her, he would like to donate approximately £25.00 to be used as the committee decided. It was decided that Peter (sic) should look into the possibility of having a Presidents Medallion.



At this time the minute book includes not only committee and AGM minutes but also précis of normal meetings. After the minutes of the above meeting I can find no other reference to the

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medallion. I have also looked through the periods Newsletters without success.



When I referred to the societies accounts by the then Hon treasurer Bob Wright G8HET I find that the entry for 17th December 1975 shows he received a donation of £30.00 for the MacIntosh Memorial Fund. Further on I find a payment dated March 1976 of £26.00 to Messrs Hamish Bowie for the Presidents Badge of office. The next suitable entry is in April 1978 when John Bills G3KZG was treasurer and made a payment of £15.00 for silver bars for the Medallion.

The silver medallion is circular and suspended from a blue ribbon upon which are individual silver bars giving the details of everyone who has held the office of President since 1974.

The obverse has a five pointed star engraved in the centre with the letters S.T.A.R.S. around the outside and G.6.O.I. between the points of the star. The Reverse has the phrase In Memory Of Mary B.G.MacIntosh Aug. 1974. It is believed to be solid silver but is not Hall marked so we have no

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proof, the bars are the same. At one time it was suggested that we use silver plated or stainless steel for the bars but it was decided to keep them silver. If the bars or the medallion were only silver plated the base metal would show through when they were engraved.

We currently have the Collar valued at £1100.00 and decided a while ago to have it re-valued but so far I have not been informed that this has been done.

“Mac” MacIntosh G3XKM’s Christian name was in fact Roy so when he was referred to as A MacIntosh it was incorrect for some reason. He was an ardent member of our society and held the post of Secretary for several years but our current Secretary is the longest serving in the society's history.

John G8UAE Hon Archivist et al.

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YOUR COMMITTEE

Hon. President	JAMES	G7HEZ	
Vice President	NICK	G6DQN	
Hon. Secretary	JOHN	M1EJG	(01562) 700513
Hon. Treasurer	JOHN	G8UAE	
Committee Members	MARK	G7EDZ	
	MALCOLM	G8BOP	
	KELVIN	M6KTR	
	ANDREW	M6APJ	
	ADRIAN Simms	M3HBA	
	ADRIAN Bryan	G0NLA	

CALENDAR OF EVENTS

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

June	Sat 1st	10:00 am Roof Work - Weather Permitting
	Mon 3rd	Committee Meeting & On Air natter
	Mon 10th	Open Shack Night - Or on air natter
	Mon 17th	Barbecue at The Sheepwalks KD Repeater Group Invited
	Mon 24th	Open Shack Night - Or on air natter
July	Mon 1st	Open Shack Night - Or on air natter
	Mon 8th	Open Shack Night - Or on air natter
	Mon 15th	Dave G8EPR - Talk about PYE equipment.
	Mon 22nd	Open Shack Night - Or on air natter
	Mon 29th	Open Shack Night - Or on air natter
August	Mon 5th	Open Shack Night - Or on air natter
	Mon 12th	Open Shack Night - Or on air natter
	Mon 19th	No talks for August
	Mon 26th	Open Shack Night - Or on air natter
September	Mon 2nd	Open Shack Night - Or on air natter
	7/8th	SSB Field Day (this is not the NFD!!!)
	Mon 9th	Open Shack Night - Or on air natter
	Mon 16th	John Bills G3KZG Stars Involvement in NFD - Up to Winning
	Mon 23rd	Open Shack Night - Or on air natter
	Mon 30th	Open Shack Night - Or on air natter
October	Mon 7th	75 th Club Anniversary Events
	19/20th	Jamboree on the Air (JOTA)
	Mon 14th	Open Shack Night - Or on air natter
	Mon 21st	To be Arranged
	Mon 28th	Open Shack Night - Or on air natter

