

# STARLITE

The Award Winning Newsletter for Members and Friends of

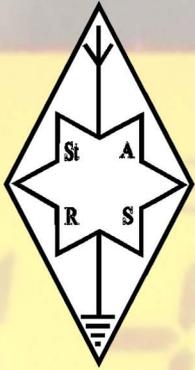
## **Stourbridge and District Amateur Radio Society**

Incorporating

**Old Swinford Hospital  
School Radio Club**



Old Swinford  
Hospital



G6OI  
G6SRS

G4CVK

**Issue Number 05/2016**

### **Stourbridge and District Amateur Radio Society**

**Meetings Held at**

**Old Swinford Hospital School**

**Heath Lane**

**Stourbridge**

**(8:00pm to 10:00pm)**

*Visitors always welcome*

*The Society holds its full meetings  
on the 1<sup>st</sup> and 3<sup>rd</sup> Monday each month*

*RSGB Affiliated Society*

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## ***Word from the President***

Well it's been just over a month since the AGM and I'm beginning to get used to the idea of being President. During this time we have been visited by representatives from RSGB and held a Q&A session with them. At Last week meeting members had the radio equipment out in the club room. Several members had a go at getting the club back the on air, especially Mark G7EDZ who may a sterling effort with his unstoppable motivation in shouting CQ for most of the evening, despite nobody getting any replies.

Expect more radio use over the coming weeks and there's possibility of some new club awards - more on that next time.

## ***Editors Comments***

I will kick off this month with a big thank for the kind words and encouragement I have received since taking on the roll of Editor; plus the support I have I received from Adrian (GONLA) and Bob (G4XOM) on the article front, come on guys their putting you all to shame.

The month of May is upon us, longer day light hours and warmer days (well sometimes) time to get out into the shack, now you're not going to freeze to death. Get out there, dust off your equipment (radio equipment) and get on the air.



Have you noticed the rise in the number of small dual band transceivers that have come onto the market over the last months? I love to hear from anyone who has acquired one of these rigs, and am looking for a review on how good or bad they are?

This month we look at one man's (me) fight with 'Noise'. Get your minds working! with 'Brush Up on your Theory' .

(Image MT-270M copyright Moonracker (UK) Ltd <http://www.moonracker.eu>)

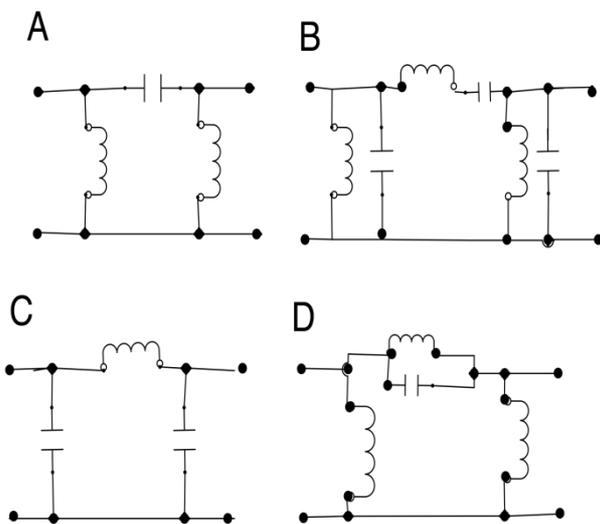
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## Brush up your theory

### Question 1

Which one of the following represents a band pass filter suitable for suppression of harmonics from a single band transceiver?

If you don't know the answer, find out by any means you like what a band pass filter looks like and a band stop filter looks like. (Hint - A capacitor and an inductor in series has one effect and in parallel has a different effect.)



### Question 2

The type of transmission most prone to causing interference to an audio amplifier system is?

- (A) Frequency Modulation
- (B) Frequency Shift Keying
- (C) Amplitude Modulation
- (D) Phase Modulation

### Question 3

A tuned circuit can be made to oscillate providing -

- (A) Additional damping is included
- (B) More capacitance is added
- (C) More inductance is added
- (D) An amplifier is added on order to make up for circuit losses

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## Question 4

It is good practice to:-

- (A) Leave pauses between over's on a repeater
- (B) Leave no pauses between over's on a repeater
- (C) Let base stations have priority
- (D) To test a repeater with a tone burst three times before using it

Answers in next month's Starlite.

(Adrian GONLA)

## ***ECO Shed – Part One***

If there is one aspect of amateur radio that has always been a pain in the rear, it is noise. Modern living does not lend its self to HF transceivers. For 18 months my radio setup had been located in the room I use as my office. It does not take any leap of imagination to realise that 3 laptops, a server and several monitors are not going to help reduce the noise levels one little bit.

It will probably come as no surprise if I say I have changed my antenna a number of times in an attempt to reduce the background noise. Starting with a long wire, which pulled in more, dare I say it, crap than anything. Silly as it seem my personal distance record for 5 watts, 3483 Miles (VE3YJ in Guelph Canada on 17m), was achieved with the long wire. Next came a vertical, I can only say hopeless on all counts. Noise, transmit and receive all in all one big disappointment. This was followed by a half wave inverted V dipole (20mtr) with a 1:1 balun. A Positive step forwards a clear improvement on all fronts but not as good as I was hoping for. It seemed evident that the V idea was on the right lines so on to a Half size G5RV, trying to get height and enough space in a small garden is not easy but somehow I managed to shoehorn it in. Improvement yes, in a straight fight with the dipole it was a close run thing with the G5RV just winning the day.

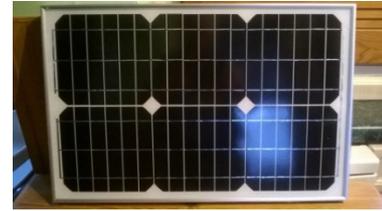
I was determined to find any answer to my problems. Over the time I'd listen to Dr Alan (G7AXW) and Geoff (G0KVK) and picked up some great information and ideas. The upshot was, if you can't beat it gets away from it.

I have a large storage shed the size of a garage at the top of the garden well away from the house ideal but for the fact it's full of my junk (well not junk but you know what I mean), But the XYL has a smaller shed closer to the house which is used as a pottery studio, a few radios plus yours truly don't take up that much space so new location sorted.

Having struggled with so much interference from electrical/electronic equipment, I knew that the only way I was going to be able to clear the deck (so to speak) of the problem was to revert to good old fashioned BATTERY power. This is fine for your hand held or your SOTA equipment, but not truly partial for shank operation, batteries have a bad habit of running out. My answer was to continually change the battery.

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I first purchased a 20 watt Solar Panel and controller. Why 20 watt? No real reason, majority of solar powered trickle chargers I looked at were between 1.5 and 3 watts. Knowing my HF rig can pull 25 amps (300w) the main battery could easily drain down in a short period. Trickle charging, let say a 30ah car battery with a 3 watt panel form flat, would take a minimum of 120 hours. So I wanted something with a bit more, shall we say, 'welly'. Based on the 30ah battery the charging time could be down as low as 18 hours, in this case bigger is better.



The controller I purchased was 10 amp rated, more than enough for my needs (20w at 12v = 1.66amp). A small box of tricks, with 6 terminals that handle's the power distribution from the Solar Panel. From the picture you can see how straight forward the controller wiring is. Power comes in from the Panel to terminal one and two. This power is then regulated and sent out to the battery via three and four. Terminals five and six are for your load. If there is sufficient power from the panel to deal with the load but upon it, then the controller directs the power direct from the panel to the load. Should the load be greater than the power supplied by the panel, then power comes from the battery and power from the Solar Panel goes to the battery. I add a LED meter above the controller to keep a track of the voltage being supplied by the Solar Panel. On good sunny day produces between 19 – 20.5 volts out of the Panel, but even on a dull day voltage is 12 -13 volts.



The Load side of the controller I connected to my lighting circuit. Again, looking to reduce noise I went for LED's, bright, low current, low voltage, ideal for my needs. I picked up two sets of LED strips used on cars. These were light weight very bright, thin and above all very cheap (Just over £3.00 a set).

Continued next month.  
(Peter 2E0MVM)

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## *Ofcom-RSGB Forum meeting*

### **A Summary of matters discussed at the Ofcom-RSGB Forum meeting held on 15 March 2016**

#### **1 Implementation of WRC-15 allocation at 5 MHz.**

Ofcom have contacted Primary User concerning harmonising the current allocation with that agreed at WRC-15. It was noted that a response from the Primary User of this part of the spectrum was awaited.

#### **2 Amateur Radio Licence Review: Guidance**

Ofcom reported that the guidance document had been amended as a result of comments received. It was agreed that the draft be shared with the RSGB before publication. The RSGB agreed to share with Ofcom its draft good practice notes that it would publish after the revised Ofcom guidance.

#### **3 Updated Packet NoV**

It was agreed that Ofcom would share the draft with the RSGB before making it available for issue.

#### **4 Revalidation**

Ofcom provided the latest data showing the impact of the recent pilot re-validation exercise. There were still a significant number of licences that had not been re-validated. It was noted that the process of revocating unvalidated licences would be re-started after Ofcom's new IT system had been commissioned (May/June 2016) and then continue on a rolling basis.

#### **5 Preparation for WRC-19: Proposal to harmonise the 50-54 MHz amateur allocation.**

The RSGB outlined the WRC-19 agenda item and its importance to the amateur community. The preparatory work underway within ITU was noted, and it was recognised that the CEPT processes would commence after April.

#### **6 Beacon and Repeater Applications**

RSGB reported that responses to requests appeared to be delayed from one of the Primary Users, possibly as a result of staff changes. It was agreed that Ofcom would approach the relevant Primary User to see what could be done to improve matters.

It was agreed that the RSGB could receive, process and issue routine Beacon, Repeater and Gateway renewals.

#### **7 Callsign formats**

Ofcom circulated an internal document summarising the current policy for information. RSGB agreed to comment on the completeness of the document. It was noted that, in line with the revised licence, Ofcom were now issuing new Intermediate Licences with callsigns in the format 20xxx (though this did not imply any change to the need to insert an RSL). RSGB agreed to publicise this practice.

#### **8 EMC**

RSGB outlined proposals for improving liaison and cooperation between Ofcom and itself for the management of reports of interference. Ofcom welcomed the approach in principle and agreed to provide detailed feedback as soon as possible. It was noted that Ofcom were in the process of providing an article for RadCom explaining the anticipated EMC Statutory Instrument and how it would affect its enforcement practice.

#### **9 RSGB Examination Audit Committee**

It was agreed that the Committee's report should be an agenda item on an annual basis

#### **10 National Hamfest**

It was noted that Ofcom officers expected to be in attendance at the event.

<http://rsgb.org/main/blog/news/rsgb-notices/2016/03/30/ofcom-rsgb-forum-15-march-2016/>

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## ***New radio antenna avoids unwanted signals***

Physicsworld report that a new, simpler, cheaper and potentially more effective way to prevent radio antennas from picking up unwanted signals has been created by researchers in the US.

With further development, the technique could also be used to help prevent thermophotovoltaic cells from re-emitting radiation they absorb – according to the team.

The laws of electromagnetism work exactly the same way if you run time in the opposite direction. One logical consequence of this is that an antenna designed to broadcast at a certain radio frequency will also be very good at absorbing radiation at that frequency. This is problematic for broadcast radio antennas, which will absorb radiation that has bounced back from surrounding objects – something that can have a negative impact on their operation. While there are ways of minimizing the effect of these echoes, they can be expensive and reduce the performance of the antenna. Now, Andrea Alù and colleagues at the University of Texas at Austin have developed a new way of dealing with echoes. Their design is based on a traditional leaky-wave antenna, in which electromagnetic waves of certain frequencies couple to the space around the antenna and "leak out" as they travel along it

Read the full Physicsworld article

<http://physicsworld.com/cws/article/news/2016/mar/29/new-radio-antenna-avoids-unwanted-signals>

## ***UK Rallies***

Rallies/Events over the next month around the UK

**1 May Dambusters Hamfest**

**2 May Dartmoor Radio Club Rally**

**8 May 35th Lough Erne Amateur Radio Rally**

**15 May Barnsley LAMFest**

**21 & 22 May Dayton Hamvention**

**21 May Rochdale & DARS (RADARS) Summer Rally**

**22 May 1st Black Country Radio Rally Mark 2**

**22 May 33rd Dunstable Downs RC, Amateur Radio Car Boot Sale**

**22 May Broadband Hamnet Meeting**

**28 May 2016 Waters & Stanton Open Day**

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## *Just a bit of fun*

Starlite word search (25 words) how many can you find? Answers next month.

C L R E P E A T E R T F T U X  
K O L A T I P S O H R G I R Q  
Q O M L P S A T F E A I U A J  
B H O P X H I M Q Y N A C L R  
U C D W U C A U P T S N R L M  
U S U I A T E S E L M N I I O  
T J L P F N E R E V I E C E R  
G N A V C Y F R Z M T T S S S  
H C T Y R E T T A B T N U O E  
K M I C R O P H O N E A A D X  
M S O E I E J S T A R L I T E  
B A N D P A S S W I N F O R D  
I C A L L S I G N O O W M O N  
E R C Q R N B T Q D R M T E T  
D N C M O O D D Q T S F F Q H

## ***Dairy of Events***

**Monday 16<sup>th</sup> May** - Talk by Steve Turner, Medical Imaging Technology.

**Monday 20<sup>th</sup> June** – Sheep Walk and BBQ, our thanks to Dr Alan (G7AXW) who has graciously offered to pay for the food again this year.

**No Society meeting** - 2<sup>nd</sup> and 30<sup>th</sup> of May (May Day and Spring Bank Holidays)

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

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## Your Committee



<b>President</b>	Tim Childe	G7TAC
<b>Vice President</b>	Nick Moss	G6DQN
<b>Secretary</b>	John Clark	M1EJG
<b>Treasure</b>	John Scott	G8UAE
<b>Committee Members</b>		
	Wayne Mocroft	M5LLT
	Geoff Cooper	G0KVK
	Mark Cadman	M0TCG
	Keith Dixon	M0HPY
	Ross Lewis	M6RLZ

## ***And Finally***

Thanks to Adrian (G0NLA) and Bob (G4XOM) for the contribution to this month Starlite.  
Also, Justin Godfrey –Sales Director Moonracker UK ltd for permission to use the image.  
Many thanks to Karen Clatworthy for the help in compiling this month Starlite and for proof reading the copy.

Next Month Part Two of Eco Shed, Baofeng Vs Baofeng how do two hand handles match up.

Peter Baker (2E0MVM) – Starlite Editor (editor@g6oi.org.uk)