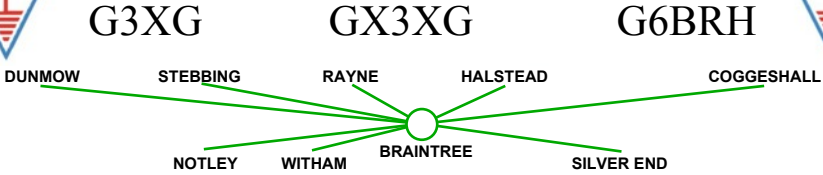
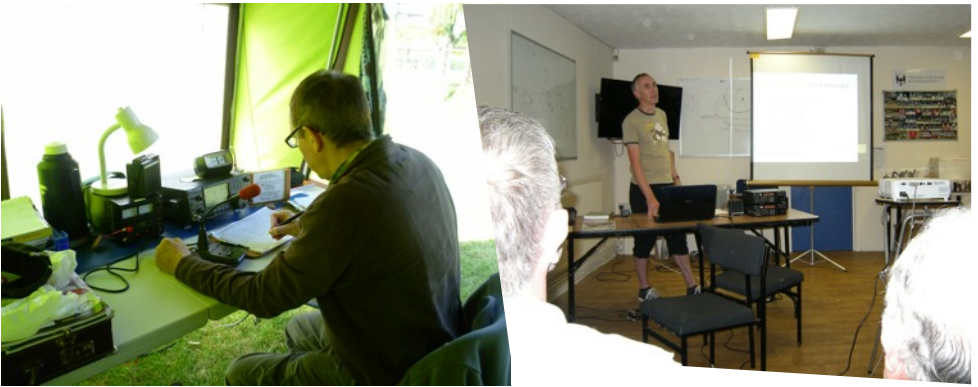




# BARSCOM



## Monthly Communication of the Braintree and District Amateur Radio Society



Not quite “Trains & Boats & Planes”  
- But good fun though!



October  
2012

## “... 5/9 - Repeat Please!”

*Ian, G8MKN*

Last month I sent out this mag from Turkey with a tongue-in-cheek note asking for anyone who did NOT receive it to contact me. A couple of people did, but only one got the meaning of my note which was to show how easy mis-communication can be. My QRM in adding the “NOT” really made the comment pointless - as is giving a 5/9 report when the signal is not completely readable.

## Convention

*RSGB*

The RSGB Convention takes place at Horwood House near Milton Keynes from 12th to 14th October.

There is something for all amateurs with lectures on DXpeditions, technical topics, propagation and operating. Day tickets for the RSGB Convention are still available, as are a few limited packages.

The continued success of the RSGB Convention is such that we continue to grow year after year. If you would like to book for the RSGB Convention 2012 please visit [www.rsgbevents.org](http://www.rsgbevents.org).

## Contents

Recent Activities	Cover
Club External Activities	2
Band Plans - IX	3
Club Meetings and Nets	4
BADARS Inside and Out	5
UK Space Agency	7
Amateur Radio Quiz	8
Mason Jars	9
Olympic Restrictions	9
Masts and Baluns	10
Sunspots	11
Rallies	12
Contests	14
Club Info	15
Contact Info	Back cover

## Activities

*Tony GØIAG*

The club is taking part in another special event this month:

### October

18-19 JOTA weekend.

Help from all members is welcomed.

## Know the Band Plans - IX

### RSGB

#### 30MHz (10m)

28,000-28,070 200 Hz CW  
28,055 QRS (slow CW) CoA.  
28,060 QRP CoA.  
28,070-28,120 500 Hz NB modes  
28,120-28,150 500 Hz NB modes -  
ACDS  
28,150-28,190 500 Hz NB modes  
28,190-28,199 IBP - RTSB  
28,199-28,201 IBP - WTSB  
28,201-28,225 IBP -  
continuous-duty beacons  
28,225-28,300 2.7kHz AM  
beacons  
28,300-28,320 2.7kHz AM ACDS  
28,320-29,100 2.7kHz  
28,330 - DV CoA  
28,360 - QRP CoA.  
28,680 - Image CoA.  
29,100-29,200 6kHz AM - FM  
simplex - 10 channels  
29,200-29,300 6kHz AM - ACDS  
29,210 UK IVG - unattended  
29,290 UK IVG - unattended  
29,300-29,510 6kHz Satellite  
down-links  
29,510-29,520 Guard channel  
29,520-29,590 6kHz AM - FM  
repeater inputs (RH1-RH8)  
29,530 UK IVG - Unattended  
(RH2)

29,600 6kHz AM - FM calling  
channel  
29,610 6kHz AM - FM simplex  
repeater (parrot) - i/p and o/p  
29,620-29,700 6 AM - FM  
repeater outputs (RH1-RH8)  
29,630 UK IVG - Unattended  
(RH2)

LICENCE NOTES: Amateur and  
Amateur Satellite Service - Primary  
User: 26dBW permitted  
Beacons may be established for  
D.F. competitions except within  
50km of NGR SK985640  
(Waddington)

#### Notes to the Band Plan

ITU-R Recommendation SM.328  
(extract)

Necessary bandwidth: For a given  
class of emission, the width of the  
frequency band which is just  
sufficient to ensure the  
transmission of information at the  
rate and with the quality required  
under specified conditions.

The use of Amplitude Modulation  
(AM) is acceptable in the AM  
segments but users are asked to  
consider adjacent channel activity  
when selecting operating  
frequencies.



## Know the Band Plans - IX

### *Cont.d*

Foundation and Intermediate Licence holders are advised to check their licences for the permitted power limits and conditions applicable to their class of licence.

#### **Key:**

\*(10 kHz channels)

AC - Aligned Channels

ACDS - Automatically Controlled Data stations (unattended)

AM - All Modes

CoA - Centre of Activity

CPS - Contest Preferred Segment

CW - Telegraphy

DV - Digital Voice

IBP - International Beacon Plan

IVG - Internet voice gateway (10 kHz channels), (IARU common channel)

NB - Narrow Band

RTSB - Regional Time Shared Beacons

WTSB - World-wide Time Shared Beacons

Priority:

P1 - inter-continental operation

P2 - inter-continental telephony

P3 - Priority for DXpeditions

## Next Month

Latest News from the RSGB

For Sale and Wanted

***Plus the usual ...***

Events, Rallies, Contests, etc.

***W H Y ???***

## Club Meetings and Nets

***Club Net - 08.00pm local time  
2Mtrs (145.375Mhz)  
70cms (433.575Mhz)***

### **October**

- 1 Video evening, JOTA dicussion
- 8 Club Net - 2mtrs
- 15 Wildlife of Essex, talk by Mr & Mrs Jiggins
- 22 Club Net - 70Cms
- 29 Club Net - GB3BZ Repeater

### **November**

- 5 Club "Junk" Sale
- 12 Club Net - 2Mtrs
- 19 Metal Detecting - Howard
- 26 Club Net - 70cms

### **December**

- 3 Christmas Social
- 10 Club Net - 2Mtrs
- 17 Natter Night
- 24 Club Net - 70cms
- 31 Club Net - GB3BZ Repeater

---

---

## BADARS - Inside and Out

*Tony, GØIAG*

---

It has been a busy month for the club, so here are reports in chronological order.

### Club meeting, 3 September

Howard, G6LXK, gave a very interesting and entertaining talk on scanners.



He set up a pair of Uniden UBC 9000 XLT scanners, attached to a receiving aerial. (Other scanners are available). He tuned through different frequencies, and we listened to aircraft traffic and other radio traffic, (naughty!). It was an entertaining evening and created interest in scanning. Many thanks Howard.

### British Wireless For The Blind. 15/16 September 12

The club station was once again set

up at the QTH of John, M5AJB, this time for the benefit of British Wireless for the Blind.



Melvin GØEMK, and his team set up on Friday, using the new telescopic club mast to support his Windom aerial, and the clubs 2/70 co-linear. Over the 2 days, many club members turned up to operate and support the event.



A total of 104 contacts were made, as a result of which, £110, has so far been raised for the charity within our club.





Unfortunately, very few radio clubs bothered to have a weekend for the charity - Imagine how much could be raised with publicity from the R.S.G.B. and nationwide support. Our thanks go to John and Rosemary for the use of their pristine paddock, and of course, to Melvin for his tireless hard work, setting these events up, (and the loan of all his gear).

### **Railways On The Air. 22/23 September.**

Because I am a steam nut, and am involved with the Colne Valley Railway, I approached them to see if they would be interested. They loved the idea and agreed to host the event at the Castle Hedingham site. We set up on Friday in a vintage motorail coach, using Melvin's window, the telescopic mast and the dualband VHF/UHF aerial. It was great to see so many club members turn up to

operate and support the event.



Saturday was a Driver Experience day at the railway, and

Sunday was a steam day, which meant the background noises were handy for the operators.

I noticed that some club members spent a lot of time watching the trains or riding on them or both, (bigger toys for big bots).





Valley Railway for looking after us so well. And for inviting us back next year.

My personal thanks go to you all for helping me to enjoy my 2 favourite hobbies at the same time.

The event proved to be a great success with a total of 169 radio contacts being made, many of them to other R.O.T.A. Stations.



We must extend our grateful thanks to our hosts at Colne

---

## **BADARS Club Library**

### *Head librarian*

We hold a collection of about 70 books and DVDs that features electronic construction, the history of radio, shortwave listening and other forms of technology to do with radio.

If you want to borrow any please see Howard.

## **Soyez to launch UKube-1**

### *RSGB*

Kube-1, the UK Space Agency's first CubeSat mission, has booked its journey into space on a Russian Soyuz-2 rocket.

The launch from Kazakhstan is expected to take place in March 2013. UKube-1 carries an amateur radio 435/145MHz linear transponder built by members of AMSAT-UK.

## Amateur Radio Quiz Answers

*H. Ward Silver, N0AX/ARRL*

1. b - Black/Brown/Red/Orange/  
Yellow/Green/Blue/Violet/  
Gray/White.

Other answers:

- (a) is the sequence of stellar  
spectral classifications  
(c) is the lines in the treble staff.  
(d) means “Pay No Attention To  
That Man Behind The Curtain.”

2. a - At this frequency an  
inductor can appear to be an  
open or short circuit!

3. a - Resistance of nearly all  
materials increases with  
temperature.

4. c  
5. c

6. a-f, b-g, c-h, d-e

7. a - Ferrites offer low-loss and  
high-permeability at audio and  
higher frequencies.

8. d - TO-220 and TO-92 are  
common plastic packages and  
SOT stands for Small Outline  
Transistor for surface-mount  
parts.

9. a-b-c-d lowest to highest

10. a-f, b-e, c-d

11. c

12. b and d - Before the term pico  
came into wide use, micro-micro  
was the usual value prefix.

### Future Events

*Don't forget!*

If you have an interest outside of  
Amateur Radio why not share it  
with us at one of our club nights?

Contact a committee member to  
arrange a night.

13. b - In the four-band color code  
system, silver indicates 10 percent  
and no tolerance band means 20  
percent.

14. c - SGD stands for Source-  
Gate-Drain

15. d

Bonus: A “slop jar” rectifies  
alternating current. *See next page*



## Slop Jar Rectifiers

*Ian, G8MKN*

---

Slop Jar, or Mason Jar, rectifiers used Borax or Baking Soda as rectifier diodes. They consist of two strips of metal in an electrolyte solution and were common before selenium and vacuum-tube rectifiers became widely available.

They were often used in the early days of radio as a means of converting mains AC power to DC for use in radio systems<sup>1</sup>. These were plugged into the wall, and the output Used to power a radio transmitter!

They were connected in series to handle the voltages involved. They drew a lot of current, and amateur radio operators reported that the electrolyte would heat up\* and when the electrolyte reached 140° F the electrolyte would begin to visibly evaporate. Those using them would pour a thin layer of mineral oil on the surface of the electrolyte to reduce evaporation.

I have not found any information on how the size of the plates affects the current handling or if the type of plates and/or electrolyte strength determines the reverse voltage.

\* *See Electrode Boiler- Ed*

<sup>1</sup> Ray Dall - [www.electronicstheory.com](http://www.electronicstheory.com)

## See Yourself In Print

*Editor*

---

Technical & non-technical articles wanted for publication photos not essential, but welcome. Submit your article or contact the editor for guidance.

## Olympics Operating Restrictions End

*Ian, G8MKN*

---

Following the success of the London 2012 Olympic Games, the Ofcom temporary operating restrictions on 70cm and the microwave bands came to an end on Sunday 23rd September.

It will be interesting to hear of what happens to all the gear used by the Olympic organisations and of any intruders on the bands in the coming months.

## Dead Weight

*Dave, G3PEN*

---

If you are lucky enough to be able to obtain a pine pole (like those used for telephone and power distribution), together with installation planning permission, you may be interested in the following facts.

A Class 1 Southern Pine Pole in the USA has a top circumference of at least 27 inches, while a Class 6 is at least 17 inches circumference.

A Class 1 pole of 40 feet length should be at least 41 inches circ. at 6 feet up from the butt, and be buried at least 6 feet deep.

A Class 6 pole of 40 feet length should be at least 28.5 inches circ. at 6 feet up from the butt, and also buried at least 6 feet deep.

A Class 1 pole of 60 feet length


should be at least 48 inches circ. at 6 feet up, and buried at least 8 feet. A Class 6 pole should be at least 33.5 inches circ. at 6 feet up, and also buried at least 8 feet deep. (*The GPO used to bury 60-footers a full 10 feet deep*)

The approximate weights of these poles, with an average amount of creosote treatment, is:

For a 40ft. Class 1 pole - 1955 lb. and for a Class 6 pole - 958 lb.

For a 60ft Class 1 pole - 3891 lb. Extrapolating the available data, a Class 6 pole would weigh in at about 1900 lb.

You don't want to be messing with big poles like this unless you have the correct lifting gear! Incidentally, the grading of USA poles goes down to Class 10, but these are real light-weights.



---

## Baluns

*Dave, G3PEN*

---

I have various articles from American magazines that describe specific types of Balun for HF use. Some of these are for unusual ratios, and if any are of interest to you, please let me know - I can photocopy

them (at cost), if required. They are for 1.5:1, 2:1, 4:1, 6:1 and 9:1 ratios.

For those of you wanting to learn more about Baluns, I can recommend "Building and Using Baluns and Ununs", by Jerry Sevick, W2FMI, published by CQ Communications - a good book.

## Sunspots

### *Anon*

The following data was found in a Winter 1991 Communications Quarterly magazine, published by the ARRL, which illustrates the variations that may be found with each cycle. This is only a sample of the information, as the article shows every year's sunspot average mean totals from 1700 to 1990.

Mean sunspot number at maximum, for the year shown:

1989 - 157.6	1979 - 155.4
1968 - 105.9	1957 - 190.2
1947 - 151.6	1937 - 114.4
1928 - 77.8	1917 - 103.9
1905 - 63.5	1893 - 85.1
1883 - 63.7	1870 - 139.0
1860 - 95.8	1848 - 124.7
1837 - 138.3	1830 - 70.9
1816 - 45.8,	1804 - 47.5
1787 - 132.0	1778 - 154.4
1769 - 106.1	1761 - 85.9

It is interesting to note that the spacing between maxima is quite variable, and not a consistent 11 years, although some of the variation may depend on which part of the year the maximum is actually reached, whereas these figures have been done on a whole-year basis.

In 1957's "super" maxima vile language came over the television, from taxi drivers in New York. They blotted out the BBC completely at times, in the late afternoon and early evening.

## Don't Forget

You can borrow the club's Aerial Analyzer for only £1/day and the Morse Tutor (Less Battery) for 50p/2-week session.

Ask one of the Committee for information

## From '73' August 1962

"Let's get together on this....."  
I'm assuming you're as confused as I am.

"Overriding priority is assigned....."  
We should have written/done this 6 months ago.

"Pending results of a survey now in progress....."  
We are trying to hire a man to make the survey.

"Research work....."  
Hunting for the guy who moved the files.

"Under consideration....."  
Never heard of it.

## Rallies

### 7 OCTOBER

AUTUMN MILITARIA & ELECTRONICS & RADIO AMATEUR HANGAR SALE – Hack Green Secret Nuclear Bunker, Nantwich, Cheshire, CW5 8AL. OT 10.00, civil, military and vintage radio equipment plus vehicle spares and more. Contact Rod Siebert, 01270 623 353, coldwatr@hackgreen.co.uk [[www.hackgreen.co.uk](http://www.hackgreen.co.uk)].

BLACKWOOD AND DISTRICT ARS RALLY - Coleg Gwent, Risca Road, Cross Keys NP11 7ZA. TI V44 (S22), CP, OT 10am, £2. TS, B&B, SIG, C, WIN. Dave, GW4HBK, 01495 228 516, gw4hbktalktalk.net. Visit website: [[www.gw6gw.co.uk](http://www.gw6gw.co.uk)]

### 12-14 OCTOBER

RSGB CONVENTION – Horwood House, Little Horwood, near Milton Keynes. Full convention programme with lectures for all interests and all levels of technicality [[www.rsgb.org/rsgbconvention](http://www.rsgb.org/rsgbconvention)].

### 14 OCTOBER

HORNSEA AMATEUR RADIO CLUB RALLY – Floral Hall, 7 The Esplanade, Hornsea, East Yorks HU18 1NQ. OT 10.30, CP, TS, B&B, SIG, RSGB, RAFARS, LB, C, DF, WIN. Details from Rick, M0CZR, R106221@aol.com [[www.hornsearc.co.uk](http://www.hornsearc.co.uk)].

### 20 OCTOBER

G QRP CLUB MINI CONVENTION - Rishorth School, Rishworth Sowerby Bridge, West Yorkshire HX6 4QA. OT 10am. Trade enquiries only, g0bpsgqrp.co.uk. Visit website: [[www.gqrp.com/rishworth.htm](http://www.gqrp.com/rishworth.htm)]

### 20 OCTOBER

CARRICKFERGUS AMATEUR RADIO GROUP RADIO RALLY - Downshire Community School, Carrickfergus, BT38 7DA. OT 12:30pm, £3, TS, B&B, CP, C, DF, SIG, RSGB, MT. Details from Tim, MIØTBL, carg@hotmail.co.uk. Visit website: [[www.radioclubs.net/carg](http://www.radioclubs.net/carg)]

## 21 OCTOBER

GALASHIELS AND DISTRICT ARS RADIO RALLY - The Volunteer Hall, St Johns Street, Galashiels, Scottish Borders TD1 3JX. OT 11.30 /11.15, £2.50. B&B, TS, C, WIN. Details from Jim, GM7LUN on 01896 850 245, [[mailgm7lun.co.uk](mailto:mailgm7lun.co.uk)]

RADARS RALLY AND SURPLUS EQUIPMENT SALE - The Hugh Ripley Hall, Ripon, North Yorkshire HG4 2TP. TI, OT 10.30, £2. C, B&B, WIN. Details from rallyripon.org.uk  
Visit website: [[www.ripon.org.uk/content/radars-rally-2012](http://www.ripon.org.uk/content/radars-rally-2012)]

## 27 OCTOBER

BAA RADIO ASTRONOMY GROUP - National Space Centre, Leicester, LE4 5NS. CP, £15, C, LEC. Further details from Paul, G4CSD 01256 470135 or [[www.britastro.org/radio/](http://www.britastro.org/radio/)]

## 28 OCTOBER - NEW ONE DAY EVENT

NORTH WALES RALLY - John Bright School, Llandudno LL30 1LF. 10am - 4pm, £4.50, TS, B&B, CP, DF, DIS, C, SIG. Details from Gordon, MW0GBR 0773 3531 766 or rally@nwrs.org.uk.  
Visit website: [[www.nwrs.org.uk](http://www.nwrs.org.uk)]

## 4 NOVEMBER

HOLSWORTHY AMATEUR RADIO RALLY – Holsworthy Community College, Victoria Hill, Holsworthy EX22 6JD. Contact Roger Williams, 07773 983 691, gsowter@talktalk.net.

FOYLE & DISTRICT ARC RALLY - White Horse Hotel, 68 Clooney Road, Londonderry BT47 3PA. 11.30am, TS, SIG, RSGB Bookstall, IRIS, B&B, WIN. Philip Hosey, MI0MSO, mi0mso@yahoo.co.uk.

## 10 NOVEMBER

ROCHDALE & DISTRICT ARS TRADITIONAL RADIO RALLY - St Vincent's Church Hall, Cutgate, Rochdale OL12 7QL. OT 10.30, £2.50 (Concessions U12 & Seniors), B&B, C. Pitches £7.50. Dave, G0PUD, 01706 346517, dave.shaw1@sky.com.  
Visit website: [www.radars.me.uk](http://www.radars.me.uk)



## Contests

### VHF/UHF

#### October

- 2 2000-2230 (Local) 144MHz  
UKAC
- 6 1400-2200 1.2GHz Trophy /  
2.3GHz Trophy
- 6-7 1400-1400 432MHz-248GHz  
IARU
- 9 2000-2230 (Local) 432MHz  
UKAC
- 16 2000-2230 (Local) 1.3GHz  
UKAC
- 21 0900-1200 50MHz AFS
- 23 2000-2230 (Local) SHF UKAC
- 23 2000-2230 (Local) 50MHz  
UKAC
- 30 2000-2230 (Local\*) 70MHz  
UKAC

\* BST ends October 28 at 02.00

#### November

- 3-4 1400-1400 144MHz CW  
Marconi
- 6 2000-2230 144MHz UKAC
- 13 2000-2230 432MHz UKAC
- 20 2000-2230 1.3GHz UKAC
- 27 2000-2230 SHF UKAC
- 27 2000-2230 50MHz UKAC

#### December

- 2 0900-1700 144MHz Affiliated  
Societies Contest
- 4 2000-2230 (Local) 144MHz  
UKAC
- 11 2000-2230 (Local) 432MHz

## HF

#### October

- 7 0700-1900 21/28MHz Contest  
Open/Restricted/QRP
- 10 1900-2000 80m Club Sprint  
CW QRP
- 25 1900-2000 80m Club Sprint  
SSB QRP

#### November

- 10 2000-2300 Club Calls All
- 14 2000-2100 80m Club Sprint  
SSB QRP
- 17-18 2100-0100 2nd 1.8MHz  
Contest
- 29 2000-2100 80m Club Sprint  
CW QRP

### **Don't forget!**

Wildlife of Essex  
October 15 - A talk by  
Mr & Mrs Jiggins

### **Ancient Modulation**

#### Answers

The sets shown last month were, to the best of our knowledge:

- #1 R107
- #2 R109
- #3 ? Any ideas?
- #4 5820-99-114-3390
- #5 Type T1989

## Braintree and District Amateur Radio Society

Braintree and District A.R.S. meets every 1st and 3rd Monday of the month at The Clubhouse, Braintree Hockey Club, Church Street, Bocking. Doors open from 7.30 pm for an 8 pm start to the meeting. Prior to 8 pm, and during the refreshments break, when a cup of tea or coffee is available free of charge, members have the opportunity to sell or exchange equipment etc. Meetings normally finish at 10 pm.

A Club Net operates on the 2nd and 4th Mondays (excluding Bank Holidays) under the callsigns G6BRH and G3XG. The net commences at 20.00 clocktime on V30 (S15) - 145.375MHz and SU23 - 433.575MHz, unless QRM. In months with 5th Monday the net operates via GB3BZ 430.850Mhz.

The Club Membership fee is £16 annually; Senior members (State Retirement age) and Junior members (under 18) pay a reduced club subscription of £10. Door fees are payable per meeting. Rates are £1 for members, and £1 for visitors.

This magazine "BARSCOM" is issued free to members, usually at the first meeting of the month by e-mail. Members unable to attend club meetings may lodge S.A.E.s with the Editor for printed copies of BARSCOM. Usual deadline for copy is the 3rd weekend of each month.

Members advertisements are published free of charge.

The club operates a no smoking policy at it's meeting.

---

For more information and pictures of events and projects see our Web Site at [www.badars.co.uk](http://www.badars.co.uk)

---

The next edition will be published on November 1

The deadline for submissions for the next edition is October 27

**When disposing of this booklet please shred or destroy the back page to protect members' privacy.**

© Barscom Editor on behalf of BADARS 2012 - E.& O.E.