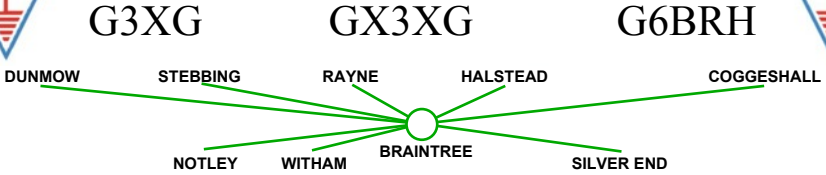




# BARSCOM



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



April 2012

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## Construction Contest

*Dave G3PEN*

Yes - it is coming soon - April, to be exact. If you need single- or double-sided PCB, in order to complete a project for the contest, please let me know your requirements - type and size - as I still have a small stock of my own, and also hope to get some more for club use from our friendly supplier in Witham (if still there). I can cut it to size (straight lines only), using a powered ceramic-tile cutter, equipped with a diamond-edged wheel. A fairly modest fee will be charged for the material and the cutting service, which will go to the club coffers. Please don't leave your order too late - I may not be available in April.

PS - Don't forget that a piece of PCB makes an excellent replacement for missing lids on die-cast boxes, especially as it can be soldered to very easily, which is more than can be said about the die-cast variety.

## Sticky Labels

The modern sticky label used by shops to price their goodies can be the absolute devil to remove fully, without leaving a sticky background. Try using WD40 spray to clear the labels.

## RSGB AGM 2012

The audio recording of proceedings at the Society's Annual General Meeting will be available on the RSGB website shortly after the meeting.

## Birthdays

*April 25th, 1874*

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Guglielmo Marconi was born at Marzabotto, near Bologna, Italy. His father was a wealthy Italian banker, and his mother came from an aristocratic Irish family.

Jumping ahead quite a bit, when Marconi was 27 years old, he could be found sitting with colleagues in a disused military barracks on a windswept hill near St. John's, Newfoundland, at 12.30hrs local time (1530hrs GMT), on December 12th, 1901.

It was at this time and place that Marconi first heard the letter S, in morse, being transmitted from Poldhu radio transmitter in Cornwall, nearly 2,100 miles away. Signals were also heard at 1310hrs and 1420hrs - the era of long-distance wireless communication had begun, despite nearly all the "experts" of the day saying it would be impossible.

We have, of course, just passed the 100th anniversary of this great event - did you participate in the various activities that took place in mid-December last? A report for BarsCom would be much appreciated.

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## RSGBTech

*RSGB*

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This is technical help for the 21st century - an RSGB internet site located on Yahoo! Its purpose is to be the first port of call for technical queries on amateur radio matters. It is open to all radio amateurs and within a short period of time from its inception had hundreds of registered users. Not only are there people from the Society on the site, but people from other special interest groups and radio amateurs from overseas. How to join the site? Simply go to [groups.yahoo.com/group/rsgbtech/](http://groups.yahoo.com/group/rsgbtech/)

Recently discussed topics on the RSGBTech reflector include: Coax relay specification, telescopic mast design, matching stub for 1/4 wave 40m vertical, Archer rotator inside cog, portable masts and antennas, Weller soldering iron bits, Comet 250B vertical antenna, VHF path maps, Yagi tuning, noise gates, antennas for lofts, bending a G5RV antenna, antenna simulation, UHF SWR meters, FT-290R receive audio problems, FDK Multi-700EX, Standard C58, Yaesu FT-280, GPS, homebrew projects using mobile phone modules, MFJ-1625 balcony antenna, lack of software innovation in amateur radio.

## Club Meetings and Nets

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

### April

- 2 Rig Clinic - Checking Working Sets (PROVISIONAL)
- 9 Club Net - 2Mtrs
- 16 Construction Contest
- 23 Club Net - 70cms
- 30 Club Net - GB3BZ Repeater

### May

- 7 Equipment Testing - Part II (PAT)
- 14 Club Net - 2Mtrs
- 21 AGM
- 28 Club Net - 70cms

### June

- 4 Rig Clinic - Fault Finding
- 11 Club Net - 2Mtrs
- 18 TBA
- 25 Club Net - 70cms

### July

- 2 Club BBQ
- 16 DF Hunt

### August

- 6 TBA
- 13 Club Net - 2Mtrs
- 20 TBA
- 27 Club Net - 70cms

### September

- 3 TBA
- 10 Club Net - 2Mtrs
- 17 TBA
- 24 Club Net - 70cms

### October

- 1 TBA
- 8 Club Net - 2Mtrs
- 15 TBA
- 22 Club Net - 70cms
- 29 Club Net - GB3BZ Repeater

### November

- 5 Club "Junk" Sale
- 12 Club Net - 2Mtrs
- 19 TBA
- 26 Club Net - 70cms

### December

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

## Next Month

Latest News from the RSGB

Band Plan IV

For Sale and Wanted

**Plus the usual ...**  
Events, Rallies, Contests, etc.

## Interference in my own House!

*Howard, G6LXX*

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I do get quite a lot of interference in my house. Some of it is electrical. I can't do much about the interference from the humans, but I can try to do something about the electrical noise. My family give me funny looks when they see me wandering about with a pocket radio tuned to the shortwave band, with strange hissing noises emitting. In me doing this, it is surprising how many appliances seem to create a lot of hash. Let me give you some examples:

Compact fluorescent lights, units with backlit LCD displays (DAB radios, fridges), gas discharge display clocks in cookers & microwaves, LCD and plasma TVs on standby, leaving wall chargers plugged in for phones, IPods, even when not charging (My family are good at doing this). The Apple IPlayer charger squeals for nearly a minute after unplugging. The 12v power supplies used for low-voltage

lighting in bathrooms and kitchens make a lot of noise. Power supplies for laptops, routers and Playstations - these are permanently on. All of these PSUs are transformer-less, switch-mode Power supplies. I am also getting a lot of these failing now. Try finding an equivalent transformer PSU that isn't four times larger!

Apart from its screen on the front, my refrigerator when ticking over makes a buzzing noise from the 80m band downwards. It stops when I slap the side of the appliance, but it soon returns. One type of noise is getting onto one of the mains rings in my house. Can I find the source of it? I guess I will have to go around and switch everything ring off in turn, then start plugging back in appliances one by one, then reset all of their clocks.

Wish me luck!

Showing that the best @experts can make some serious errors find some great pictures of totally destroyed hardware, and photos of blown circuits at:

[microwaves101.com/content/microwavemortuary.cfm](http://microwaves101.com/content/microwavemortuary.cfm)

## Rallies

### 1 APRIL

LOUGH ERNE AMATEUR RADIO CLUB ANNUAL RALLY – The Share Holiday Village, Lisnaskea, Co. Fermanagh BT92 0EQ N. Ireland. Access from Erne/Shannon Waterway. OT 11.30, CP, B&B, TS, LB, C, DF. Iain 02866 326 693, iain@learc.eu. [[www.lougherneradioclub.co.uk](http://www.lougherneradioclub.co.uk)].

SOUTH GLOUCESTERSHIRE AMATEUR RADIO RALLY – Scout Activity Centre, Woodhouse Park, Almondsbury, Bristol BS32 4LX. OT 10.00, B&B, CP, C. CBS, TI S22 (V44). Stan Goodwin, GØRYM, 07833 517 370, SouthGlosRadioRallyCoordinator@gmail.com. [[www.southglosradiatorally.org.uk](http://www.southglosradiatorally.org.uk)]

### 15 APRIL

50th NORTHERN AMATEUR RADIO SOCIETIES ASSOCIATION EXHIBITION (Blackpool rally) – Norbreck Castle Exhibition Centre, Blackpool FY2 9AA. TI, CP, TS, B&B, SIG, MT, LB, C, DF, RSGB book stand. OT 10:45 /11:00. Dave, MØOBW, 01270 761 608, dwilson@btinternet.com [[www.narsa.org.uk](http://www.narsa.org.uk)].

CAMBRIDGESHIRE REPEATER GROUP RALLY – Foxton Village Hall, Hardman Road, Foxton, Cambridge CB22 6RN. OT 10.00, 7am for traders, £2, TI S22, TS, B&B, C, DF. Lawrence, MØLCM, 01223 711 840, rally2012@cambridgerepeaters.net [[www.cambridgerepeaters.net](http://www.cambridgerepeaters.net)].

### 22 APRIL

28th YEOVIL QRP CONVENTION – Digby Hall, Hound Street, Sherborne, Dorset DT9 3AA (adjoining the central shopping car park). OT 9.30am, TI S22, CP, TS, LEC, B&B, C, DIS. Contact Derek, MØWOB, 01935 414 452, yarc-contact@tiscali.co.uk.

### 6 MAY

DAMBUSTERS HAMFEST – Thorpe Camp Visitor Centre, Coningsby, Lincs LN4 4PE. TI S22, GB3FR, £3, free parking, Pitches free but size is limited if not pre-booked. RAF heritage centre on site. Overnight camping by appointment. C, OT 10.00. tcrm@hotmail.co.uk [[www.qsl.net/gb4tcm/dambusters.html](http://www.qsl.net/gb4tcm/dambusters.html)].

### **7 MAY (Bank Holiday Monday)**

DARTMOOR RADIO CLUB RALLY – Tavistock College, Crowndale Rd, Tavistock, Devon, PL19 8DD. CP, £2.00, OT 10.15/10.30, TS, B&B, SIG, C, DF. Viv, 01752 823 427, vivwatsondre@aol.com.

### **18 – 20 MAY**

DAYTON HAMVENTION® – Hara Arena, Dayton, Ohio, USA. 3 day pass \$20/\$25 on door. CP, TS, FM, SIG, DF, LEC, C, CBS, WIN [[www.hamvention.org](http://www.hamvention.org)].

### **2 JUNE**

CENTRAL SCOTLAND MINI HAM RADIO CONVENTION – Crofthead Farm Community Education Centre, Templar Rise, Livingston EH54 6DG. OT 10am/9.50, TS, FM, B&B, LEC, RSGB, WIN, C. [[uk.groups.yahoo.com/group/cshrc](http://uk.groups.yahoo.com/group/cshrc)].

### **3 JUNE**

SPALDING & DARS ANNUAL RALLY – The Sir John Glead Technology School, Halmer Gardens, Spalding, Lincs, PE11 2EF. Free CP, OT 10am, TS, C, CBS. John, G4NBR, 07946 302 815, rally-secretary@sdars.org.uk [[www.sdars.org.uk](http://www.sdars.org.uk)].

### **17 JUNE**

25th NEWBURY RADIO RALLY AND BOOT SALE – Newbury Showground, next to M4 J13. Big display area of amateur radio stations, exhibitions, special groups, clubs and societies. TI S22 (V44), free CP, OT 9.00, £2, TS, C, DF, FM, SIG. Sellers have access from 8am and pitches cost £10. Details from rally@nadars.org.uk [[www.nadars.org.uk](http://www.nadars.org.uk)].

### **22 – 24 JUNE**

HAMTRONIC SHOW, FRIEDRICHSHAFEN – Messe, Friedrichshafen, Germany. TS, FM, CP, SIG, LB, C, DF, LEC, CS. Large RSGB bookstall [[www.hamradio-friedrichshafen.de/html/en](http://www.hamradio-friedrichshafen.de/html/en)].

## Need a mic connection?

### ARRL

Then visit the website of Roy Frettsome, G4WPW. His Microphone Connections website is probably the most comprehensive and up-to-date Internet source for ham radio microphone-to-radio wiring information.

Eleven years in the making, G4WPW has compiled information for mouthpiecing equipment from a long list of providers, including the big (such as ICOM, Trio/Kenwood and Yaesu), the old (Collins, Drake, Hallicrafters and Heathkit) and the weird.

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

#### Construction Contest

**April 16th at 20.00**

Although this is a British website, it is not UK-centric (except for the part about using mobile mics on the left side of the road), so you can feel secure about using this information on the right side of the road, too. Now, all I need is a website that shows me how to easily wire those tiny 8-pin mic connectors.

## WRC-15 - the next WRC

### ARRL

One of the responsibilities of each WRC delegation is to set the agenda for the next WRC. WRC-12 delegates approved an Amateur Radio-related agenda item for the upcoming WRC-15:

*“To consider the possibility of making an allocation of an appropriate amount of spectrum, not necessarily contiguous, to the Amateur Service on a secondary basis within the band 5250-5450 kHz..”* This will be Agenda Item 1.4 at WRC-15. The original 5 MHz proposal came from Cuba.

The Agenda Item focuses primarily on using the proposed allocation for emergency communications.

The band 5250-5450 kHz is allocated to the fixed and mobile services, except aeronautical mobile, on a primary basis. The proposal maintains that “an allocation of an appropriate amount of spectrum, not necessarily contiguous, to the Amateur Service at around 5300 kHz would be adequate to better satisfy its needs associated with use for providing communications in disaster situations and during relief operations.”



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## USA - Post-War 1945

*Dave G3PEN*

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At the recent Cambridge Rally, I was fortunately able to pick up a rather dilapidated copy of the 23rd edition of the ARRL Handbook - minus a cover but otherwise OK. This was dated as 1946, but the editorial was date-lined as November 1945. It made fascinating reading - not so much the technical articles as the foreword, the first chapter on Amateur Radio (AR), and the adverts, which were prolific.

This was, of course, the first handbook published after the end of WWII, and apparently the cessation of hostilities caused the ARRL to make numerous editorial changes, as the draft was mainly written, and indeed printed, before Japan surrendered - V-J Day. Prior to this time, the Handbook had been extensively used by the Armed Forces during the war, as a training and reference manual, and so the content was somewhat different from the pre- and post-war requirements.

Although very soon after the declarations of peace, the people in charge of Amateur Radio in the USA - the Federal Communications

Commission (FCC) - had already started to make changes to amateur operation. The first, announced during May 1945, were to the 56MHz and 112MHz pre-war bands, which had already become 50-54Mhz and 144-148MHz instead, together with the addition of, or changes to, other VHF and UHF bands. Presumably, this was possible without world-wide agreement as they were at VHF, not HF, as the FCC had suggested changes at HF that were to be discussed at the next world-wide conference, due in 1947. (It was at this conference, I believe, that we all gained the 21 MHz band for the first time.)

The Editorial made reference to the many amateurs employed in a vast range of duties during the recent war, and the chapter on AR gave much more detail about the history of AR from its' early days, including WWI activities, when about 4,000 US amateurs had been actively involved. In WWII, the numbers exceeded 25,000, plus many more in home-based work. The history and development of message relaying within the USA was given in some detail - an essential service between the two World Wars, because of the vast size of the States, the limited and expensive telephone networks, and the relatively short



distances achieved by radio in the early days. (After WWII, as the US telephone networks became widespread, the use of radio relaying evolved also into a system of communication between armed service personnel serving abroad, and their loved-ones at home - the MARS network.)

On the technical side, the book had a lot of transmitter and receiver (etc) designs that used the very latest components generated during the war years - especially the valves. Techniques were still rather primitive, with free-running oscillators in some transmitters on 2m and 70cm, although crystal-control was much the preferred method. There was no mention that I could find of television interference, and, of course, no mention of SSB.

It was the adverts that really attracted my attention. All the "Big Guns" in the commercial world were changing from war-time production to amateur-radio needs, with big adverts from such as Hallicrafters, Hammarlund, National, Collins and RME. In many cases, the transmitters were fairly straight conversions from the military production, and the receivers identical to those used in the last year

of the war. Most of the equipment was already available in the stores, whereas I could find no adverts for ex-military equipment, such as we had here in the UK in the late Forties. It probably hadn't yet been released by the armed services, although there were adverts for new and second-hand valves of every sort, released from military stores.

One pair of adverts particularly caught my attention, as the idea became prevalent for a while in amateur circles, but then seemed to die out completely. This was for masts that were made from exterior-grade plywood - sections of several inches width and from about 14 to 15 feet long being formed into box sections, pinned and glued, with guy supports at appropriate intervals. One company claimed to provide complete masts for up to 50ft height, in 4 sections that telescoped into each other. Probably not cheap, as the quoted price was \$98.50, complete with erection kit and guys. The other type of mast used a combination of wood and fabric, bonded with water-proof phenol-resin, for heights from 12 feet to 125 feet - but no prices! I didn't find any adverts for steel towers - probably because steel was still restricted in supply.

There were many other adverts, for crystals, power and audio transformers and other components for building power supplies, valves, relays, and all the other items needed for home-construction. Morse keys of all types were available - genuine "J" keys at less than \$2 for instance. An absolute Mecca for the well-heeled.

To put costs into perspective - QST membership was \$2.50 per year in

the USA (\$3 elsewhere), the ARRL Antenna Handbook was 50c, as was Hints & Kinks, and the Radio Amateur's Handbook was \$1, including p&p in the US, and \$1.50 elsewhere. Those were the days!

I don't really recommend your building much of the stuff in these old handbooks, although the antenna sections are still worthwhile, but they are well worth reading for the history they contain. ■

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## CircuitLab Editor

*Andrew Ban, KB3GRK*

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If you tinker with electronic circuit designs, you maybe interested in a new free online application for designing, testing, editing, and sharing electronic circuits from [www.circuitlab.com](http://www.circuitlab.com). Intended for students, educators and engineers, as well as hobbyists, this online application lets you quickly test your circuit designs before breadboarding.

CircuitLab Editor is completely web-based. Therefore, it is a cross-platform (Windows/Mac/Linux OS) application, requires no installation

or plug-ins and allows you to share your designs by just copying and pasting a webpage addresses. When CircuitLab hosts your circuit, it provides "you with a convenient image and link that you can use to share your circuit on online forums or your own website, so you can contribute to or get help from the hobbyist community."

CircuitLab Editor includes an array of easy-to-use, but powerful tools, as well as a slew of sample circuits that you can build upon. The nice thing about this design application is if your creation happens to fail, there is no smoke, nothing blows up and no harm is done; just start over again.

## Universal Laws

Reeves's Law: Once a job is fouled up, anything done to improve it will only make it worse.

## Know the Band Plans - III

### RSGB

#### 10.0 MHz (30m)

10,100-10,140      200 Hz CW

10,116 kHz - QRP CoA

10.140-10.150      500 Hz NB

Automatically controlled data stations (unattended) should avoid the use of the 10 MHz band

The 10 MHz band is allocated to the Amateur Service only on a **Secondary** basis. The IARU has agreed that only CW and other narrow bandwidth modes are to be used on this band. Likewise the band is not to be used for contests and bulletins.

SSB may be used on the 10 MHz band during emergencies involving the immediate safety of life and property, and only by stations actually involved with the handling of emergency traffic. The band segment 10,120-10,140 kHz may only be used for SSB transmissions in the area of Africa south of the equator during local daylight hours.

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 is acceptable in the all modes segments but users are asked to consider adjacent channel activity when selecting operating frequencies.

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:**

ACDS - Automatically Controlled Data stations (unattended)

CPS - Contest Preferred Segment

CW - Telegraphy

NB - Narrow Band

CoA - Centre of Activity

#### Priority:

P1 - inter-continental operation

P2 - inter-continental telephony

## Contests

### VHF/UHF

April

- 1 0900-1200 First 70MHz Contest
- 3 2000-2230 144MHz UKAC
- 10 2000-2230 432MHz UKAC
- 15 0900-1200 First 50MHz Contest
- 17 2000-2230 1.3GHz UKAC
- 24 2000-2230 50MHz UKAC
- 24 2000-2230 SHF UKAC

May

- 1 2000-2230 144MHz UKAC
- 5 1400-2200 432MHz Trophy
- 5 1400-2200 10GHz Trophy
- 5-6 1400-1400 432MHz-248GHz
- 8 2000-2230 432MHz UKAC
- 13 0900-1200 70MHz Contest CW
- 15 2000-2230 1.3GHz UKAC
- 19-20 1400-1400 144MHz May
- 20 1100-1500 144Mhz #1  
Backpackers
- 22 2000-2230 50MHz UKAC
- 22 2000-2230 SHF UKAC
- 27 1400-1600 70MHz Cumul's #3
- 29 2000-2230 70MHz UKAC

June

- 5 2000-2230 144MHz UKAC
- 10 0900-1300 2nd 144MHz  
Backpackers
- 12 2000-2230 432MHz UKAC
- 16-17 1400-1400 50MHz Trophy
- 19 2000-2230 1.3GHz UKAC
- 24 1400-1600 70MHz Cumul's #4
- 26 2000-2230 50MHz UKAC

### HF

April

- 2 1900-2030 80m CC CW LOW  
QRP
- 8 1900-2030 RoPoCo SSB ALL
- 11 1900-2030 80m CC SSB LOW  
QRP
- 19 1900-2030 80m CC DATA  
LOW QRP

May

- 7 1900-2030 80m CC SSB LOW  
QRP
- 16 1900-2030 80m CC DATA  
LOW QRP
- 24 1900-2030 80m CC CW LOW  
QRP

June

- 2-3 1500-1500 NFD Open  
Restricted LowPower
- 4 1900-2030 80m CC DATA  
LOW QRP
- 13 1900-2030 80m CC CW LOW  
QRP
- 21 1900-2030 80m CC SSB LOW  
QRP

July

- 2 1900-2030 80m CC CW LOW  
QRP
- 11 1900-2030 80m CC SSB LOW  
QRP

## CB Rules?

### ARRL

Showing that the FCC actually has rules for CB! -

In November 2011, the FCC issued a Notice of Apparent Liability for Forfeiture (NAL) in the amount of \$10,000 to Michael Perry of Cross City, Florida. Perry was accused of operating a radio transmitter without the requisite FCC authorization and his failure to operate a Citizens Band station, “willfully violating” Section 301 of the Communications Act of 1934, as amended and two Sections of the FCC’s rules by operating an unlicensed and non-certificated CB transmitter with two amplifiers.

Mr Perry submitted a response to the NAL, denying that he operated the non-certified CB transmitter and amplifiers, and requesting cancellation or reduction of the forfeiture based on his inability to pay.

2 web sites that may be of interest:

[www.curiousinventor.com/guides/Surface\\_Mount\\_Soldering](http://www.curiousinventor.com/guides/Surface_Mount_Soldering)

[www.bartg.org.uk/modesamples.asp](http://www.bartg.org.uk/modesamples.asp)

The Communications Act requires that the Commission take into account the nature, circumstances, extent and gravity of the violation and, with respect to the violator, the degree of culpability, any history of prior offenses, ability to pay, and other such matters as justice may require. After full consideration of Mr Perry’s response in light of these statutory factors, we affirm our findings in the NAL that Mr Perry violated the Communications Act and Sections of the Rules, but reduce the \$10,000 forfeiture proposed to \$450, based solely on his documented inability to pay.”

Perry has until April 5 to pay the \$450 fine.

## Radio-Locator.com

### Stan Horzepa WAILOU

Possibly the most comprehensive radio station search engine on the internet, with links to over 10,000 radio station web pages and over 2500 audio streams, you can search by location or call sign. It displays the technical information including coordinates of the station’s transmitter. Click on the coordinates and a new browser window opens a Google Map, displaying the transmitter’s location.

## **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.

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

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The next edition will be published on May 1

The deadline for submissions for the next edition is April 27

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