

## Welcome to the 2011 Bristol 70cms Repeater Group newsletter.

This past year has been a little lighter on site work as most of the hard work is now complete on the main equipment room. A few security improvements have been undertaken and completed. We have also re-vamped the way external temperature sensors are connected to the repeater, more on that later in this newsletter.

While writing this I have had a quick look on line ([www.gb3bs.com](http://www.gb3bs.com)) at our membership list which is currently showing 51 members. Let me thank each and every one of you for your continuing support of the repeater during these difficult financial times.

We hope this level of support will continue into the future, I know we keep saying this in every newsletter but for new members it will be their first newsletter.

Without the support of its membership GB3BS would not be on air. Although in the past some aspects of the repeater have been funded directly by Mark and I we decided a while back that the repeater had to survive on its own finances. That is why membership is so important.

While staying on the subject of membership we do monitor the repeater as much as possible and have noticed a few new regular uses of the repeater. Although we cannot and will not demand everyone who uses the repeater MUST be a member of the group it would be nice to think that these "Newbie's" took an interest and showed willing to support not only GB3BS but any repeater group who operate a repeater and which they use often. Membership to repeater groups does differ, so the group's website is always a good place to start.

Our own Website has a membership section where you can check on your current membership status, join or renew. Also in the membership section you can make a donation to the group if you would like to support us but do not wish to become a member.

If you work non members regularly on the repeater please do not demand they join the group but simply suggest they maybe interested in taking a look at our repeater group website for information such as joining if they are interested. Many users are not sure where or how to become a member or get in contact with us.

Ok that just about wraps up the membership section, other than thanking those out there who have made a donation to the group, ether directly or as part of their membership, it is gratefully received.

73's - Mat (G7FBD) Chairman, Technical support and senior mug washer.

# NOW FOR A BIT OF A REVIEW OF THE WORK WE HAVE BEEN DOING THIS YEAR.

## Internet Proboards Forum.

Back at the start of the year (March) we published a poll on the forum, looking for feedback on the forum itself, was it of use, or were we just simply wasting our time as we noticed that the visitors to the forum were, well non-existent.

The Poll Ran for one month, every registered member was emailed to their registered email address informing them of the poll. Even though membership of the forum exceeded 40 members only 6 took the vote. Five voted to keep the forum running, and one voted to close it.

Even with this small turn out the “Keep” side won. So the forum was kept going. Daily stats of the forum were then monitored.

Some 6 months down the road, the stats showed quite clearly that other than Mark and myself who were logging on to update the forum and collect the stats, oh and an indexing robot from Google that seemed to visit every week, NOT ONE PERSON visited.

Keeping the forum up-to-date of our activities as well as updating our Face book page (thanks again to Dan for creating this resource for us to use) and updating the news section on the website was time consuming, and to know that no visitors were reading the forum kind of suggested that we were wasting our time. The forum was subsequently terminated in August 2011.

However we are still updating our Facebook pages and news pages on our main website at every stage of any work or activity.

The screenshot shows a Windows Internet Explorer browser window displaying the Facebook page for the GB3BS - The Bristol 70cms repeater group. The browser's address bar shows the URL: https://www.facebook.com/groups/128043717243880/. The page header includes the Facebook logo and the group name. The main content area features a post by Mat Adlard from Thursday 17th November 2011, discussing membership issues and a recent site visit. The post text includes: "We have recently had reports of problems when trying to Join or Renew GB3BS membership on-line via Paypal. This also includes the Making a Donation option. It would appear that Paypal have added an extra security feature that impacted on our web pages. We have now made some changes to our Membership pages which should now resolve the problem. This fix has been tested on all the usual and popular browsers without any problems. If anyone continues to have problems then please contact us and we will endeavour to help." The post also mentions a site visit on Saturday 29th October, where a massive swarm of flies was discovered in the generator room. The right-hand side of the page shows a list of 45 members and a sidebar with various notifications and sponsored links.

## Site Update.

Since our last newsletter in 2010 we have carried out yet more work to the building fabrication. This has mainly been to repair and make good some of the damage to the building due to years of neglect and disrepair.

I am please to report that with regard to the main room where the repeater equipment is housed this is now complete. We have also added an internal dividing fire proof door between this room and the generator room. This work has really made a difference and was well worth all the effort.

The repeater equipment is now in a self contained dry, secure and clean room and can handle a wide range of temperature swings between winter and summer. Fortunately all this work has not cost the group much in funds. The only item that we had to purchase was the fire door and that was reduced in cost to us after a bit of negotiation.

During this past year we have also spent a little time on the other room which houses the generator. This room had suffered badly from the damp and wet caused by a roof that must have been leaking for a good number of years. However, we wanted to leave this room until it had really dried out and the old paint had stopped peeling off the walls and ceiling.

The good news is that this room is now fully dried out and is probably ready for making good and redecorating. However, we decided to delay this work until next year when the weather is better and warmer and bearing in mind that this room is of less importance than the main room housing GB3BS was. It also allowed us a break from DIY and to turn our attention to the repeater itself, which is what it's all about, more about this later.

Overall the building is looking a lot better that it did a year ago, inside and out. Unfortunately there are some parts of the exterior woodwork that has badly rotted away and probably cannot be saved or repaired. These areas will need replacing in the future. However, these areas fortunately do not impact on the building being weatherproof or secure and so are set well down the list of things to do. Other areas just need a good coat of paint!



## Generator.

The standby generator continues to provide full backup to the sites mains supply should there be a failure. We usually aim to carry out a generator test run once a month.

During the summer of 2011 Matt was able to source a manufactures service handbook for the engine and obtain spare service parts. This allowed us to have the generator fully serviced, replacing the oil, air and fuel filters. The timing was also checked and found to give a good and stable 50Hz supply. Again, our thanks to Dave M0SFT for carrying out the maintenance & service.

Although the site appears to have a very reliable electricity supply we have found that on a few brief occasions the generator has been running. On one occasion we arrived on site to find the generator room quite warm. After some investigating we found out that the generator had been running continuously for 17 hours. Apparently the local electricity board had, unknown to us, a planned overhead line outage.

Obviously during this time GB3BS remained on air with all of us unaware that this was going on. Having this generator is a real blessing and with out doubt we are very lucky to have it at our disposal.

Since then we decided to install an alarm that would announce over the air to inform us and the users of GB3BS that the site was on generator supply. Again, more on this a bit later.



## Repeater Activity & Status.

The repeater continues to operate well and overall coverage has exceeded expectations. Operationally the repeater has certainly become much more stable since the new non-beta release firmware has been installed on the controller back in June/July, more on this later.

We are still receiving reports from various stations from all over, which is good along with quite a few new stations popping up and putting calls through. So far the most distant station to work through the repeater was from Kent, but this was during a recent spell of good conditions.

We have also managed to put together a full set of spares should any of the repeaters modules develop a fault. These are all tuned and ready to go and can be hot swapped, keeping any down-time to a minimum.

Mat G7FBD is currently working on a new Mk2 Logic Interface unit. This unit handles audio matching and processing along with circuits that provide 1750Hz tone burst access and filtering. Additions to this Mk2 unit will include an in built remote access facility using a mobile phone. This has proved to be very successful when we first trialed it at the Cossham Hospital site using the Arcom RC-210 logic. It can also be used to send instant alarm information via Text Messaging (SMS).

The remote access facility has proved to be very useful in the past as it allows us to resolve problems, change operating parameters or shut the repeater down without the need to attend site. Also the Mk2 version will have the facility to automate certain common functions by simply sending it a Text Message!

Activity of the repeater in general has been consistent and fairly high throughout 2011. There has also been an increase in new and newly licensed stations, which is always great to hear. However, the slight down side is that we have received a few comments from people who are unhappy with some stations and their operating practices.

Unfortunately this tends to be with stations that are either new to the hobby or are new to operating through repeaters. However, there are exceptions to this! Certainly from our observations most of this is usually only down to the lack of understanding on how a repeater works, what its operating characteristic are and the lack of just spending a little time listening to a repeater before transmitting through it.

Several times we have heard stations trying to access the repeater while transmitting on the output, transmitting on the wrong input frequency or using the wrong CTCSS tone, even the wrong mode!

There are plenty of people out there who are more than willing to help and give advice and information. We were all new to the hobby at one time, so if you can please give a little bit of help and patience when you can to any new stations you may hear or who appears to be having trouble.

Other comments have been aimed at us with regard to the “content”, and in some instances, the language used in QSO’s. We should make it clear that the repeater group are **NOT** responsible for the content or the language used by stations using GB3BS. Anyone using the repeater should do so in accordance with their licence. It is ultimately their own licence that is at stake.

## Repeater Firmware Updates.

Regular users of GB3BS will I am sure of noticed or been aware of a few glitches or “Bugs” with the operation of the repeater. Some of these have been more spectacular than most and have, on a few occasions, rendered the repeater unusable.

During the last 8 to 9 months we have been trialling and testing, with the help of Arcom Systems, many versions of Repeater Controller firmware. We have been spending a lot of time testing firmware on our test setup. However, there comes a time when its got to be used on a live system to really find the bugs,.....and we sure did find them!

Some of these bugs would cause the repeater to continually announce itself following an automatic reboot. Other times messages would fail to be sent or timers would get overwritten and system variables held in memory were being corrupted.

In July of 2011 we finally were in possession of a full product release version of firmware. All versions prior to this were in Beta, hence our many visits to site to test the latest release.

The full release version has now been in operation since July 2011 and during this time we have had only one incident when the repeaters control logic rebooted itself. We do not know exactly why this happened or what caused it but it was able to restore itself without any outage, interruption to service or human intervention.

We do not plan to change the firmware in the near future as this version appears to be extremely stable and most reliable. Since running the RC210 controller and this version of firmware the reliability of the repeater has never been better.

At this point I would like to reiterate a request that we have made many times before but does get forgotten in the heat of the moment, and that is – PLEASE – allow the repeater to closedown and properly reset following a reboot or system reset.

A reboot or system reset is identified by the repeater controller announcing it self. If you hear the sentence “RC210 REPEATER CONTROLLER V(version number), DATE NOT SET, CLOCK NOT SET, READY” then do please cease all activity, allow the repeater to close down. Following the repeater closing down you can then re-access the repeater and continue any QSO.



## Repeater Operational Changes.

### Generator Running Indication.

As mentioned above, the site generator is an important part of the repeater and of the site itself. In the last few months we have connected a “generator running” alarm into the repeater controller. This will make the repeater announce a single verbal warning when the sites incoming mains supply fails and the generator is running.

The one off announcements are as follows:-

Generator running: - “WARNING – POWER FAILURE ALERT ACTIVE (time)”.

Be aware that all the time the generator is running AND the repeater is in use, the first “pip” is changed to a double and shortened pip. i.e. “pip pip”.

Normal Mains restored to site: - “POWER FAILURE ALERT CLEAR (time)”.

When normal incoming mains supplies have been restored and the generator is no longer running AND the repeater is in use, then the normal courtesy pips will be restored.

Both announcements will be sent with CTCSS turned on if the repeater is not in use at the time.

### Temperature Announcements.

Recently we announced a change to the temperature announcements that are made at 7 minutes past every hour.

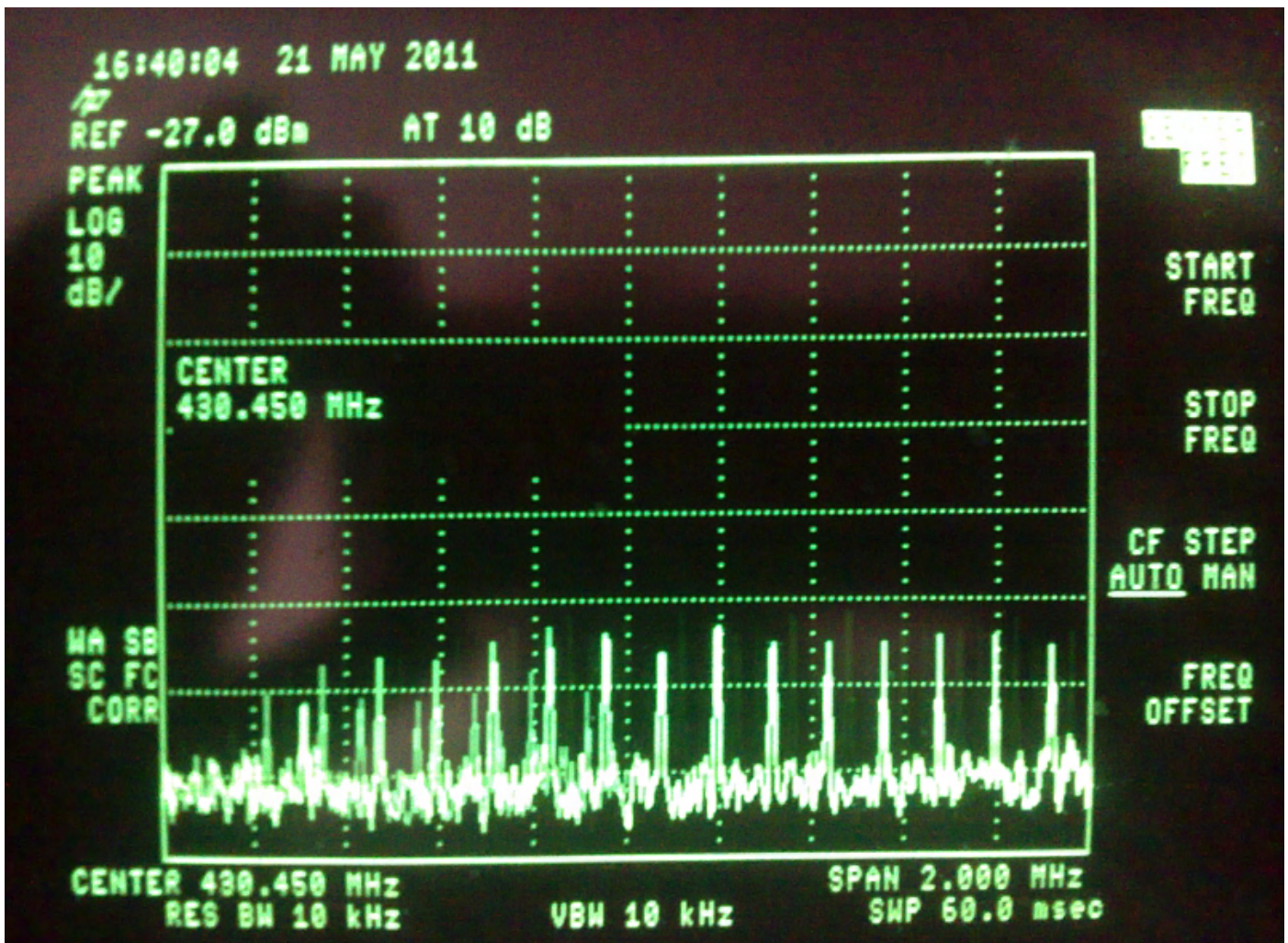
After several members made a suggestion that it might be good to have the outside temperature at the repeater site reported we installed another sensor which we have located outside at the bottom of the tower.

We have recently re-calibrated the sensors so it should give reliable reports. Both sensors are within + or – 0.5 degrees Celsius.

At 7 minutes past each hour the two temperature announcements are made. The first is the room temperature housing the repeater. The second is now the new outside temperature.



*The outside temperature probe.*



Interference

Back in May this year we had been experiencing some interference that manifested itself as a repeating buzzing noise that would sometimes obliterate weak signals.

This interference had been noticed over several weeks to varying degrees of severity and times of the day. The interference was quickly identified as having a radar type signature which I had seen before in my travels.

I was able to hear this noise at the home QTH and managed to see what was going on using a spectrum analyzer. The interference was really wide band and the pulse repetitions were clearly defined with a sweep rate of around 11 seconds. I was able to take a picture of the analyzer's trace with my phone camera; a copy of this can be seen on the GB3BS web site under the News section or on our Facebook pages.

However, just as this interference appeared it went away without trace and has not been heard since, so far! As to its source, there appears to be only 2 obvious sites, one being Filton Radar or Lulsgate Airport. Of course there could have been something else that was causing it but which we do not know about.

Unfortunately the problem disappeared before we could get out on the road to find out its direction or what the sweep rate was of the two sites to see if there was any correlation. Most likely it was Filton radar that developed a fault, we may never know. Case closed as they say.



## A Reminder

Listening to the repeater I often hear people misunderstanding the priority of CW or Voice beacons that are periodically sent.

When the repeater is in use any CW or Voice beacon, and this includes any other voice announcements, which are sent will be forced to be at a low audio level (low deviation). Through audio is always the priority and sent at normal system deviation levels.

If between over's an announcement is ongoing or has started then the level of the beacon will be at a high level. As soon as a new over is started then this beacon will be immediately reduced to a low level again.

There are no situations where CW ID's or voice announcements will override the through audio of a QSO, apart for one condition and that is when the repeater is Timed Out – the over has exceeded 4 minutes!

## Membership

Over the last 12 months we have seen membership slowly creeping up. At this time last year our membership had fallen to around 32. This year we are at around 53 members which is great news.

We hope that this trend will continue especially as the coverage of the repeater has expanded since our move to Lansdown.

Below are the callsigns of all current paid up members. If you have received a copy of this newsletter and your callsign is **not listed**, then your membership has lapsed and this will be the last newsletter you will receive from us.

Please check our web site for an up-to-date membership list which shows when it will lapse and how you can renew. If you have queries about your membership then do please contact us.

We are still bemused that there are people who continue to use the repeater yet do not spend any time to think how the repeater facility came about or that it must cost money.

We do our utmost to keep expenditure to a minimum but there are certain costs that we cannot get away from, these are mainly site costs, electricity and insurance.

So, our sincere thanks go to all the members out there and to those who have made donations to the group for your support in keeping GB3BS (one of the longest running repeaters) up and running.

CALL SIGN	EXPIRY DATE	CALL SIGN	EXPIREY DATE
2E0HTB	Apr-12	G7FBD	Jun-12
2E0IKK	Nov-12	G7ITD	Jun-12
2E0JUW	Mar-12	G8CKK	Aug-12
2E0JWJ	Jan-12	G8NQO	Mar-12
2E0WSW	May-12	G8YMM	Dec-11
2E1FQU	Dec-11	M0AKF	Dec-11
G0GZW	Jul-12	M0GBH	Nov-12
G1FNR	Jun-12	M0GTT	Jun-12
G1FUA	Oct-12	M0HDJ	Jun-12
G1IHL	Nov-11	M0PRJ	Jul-12
G3LYW	Nov-12	M0SFT	Jan-12
G3LZN	Life Member	M0TGN	Apr-12
GW3YKZ	Jun-12	M0TSX	Jul-12
G4EJH	Jan-12	M0TTE	Dec-11
G4FUA	Nov-11	M0XMM	Jun-12
G4JQX	Apr-12	M1ACQ	Jul-12
G4KUQ	Apr-12	M1BGB	Jun-12
G4MCQ	Nov-11	M1GJC	Aug-12
G4OJI	Nov-15	M1MAD	Apr-12
G4RZY	Dec-11	M3JDK	Apr-12
G4SDR	Oct-12	M3PGS	Dec-11
G4TAH	Oct-12	M3VIU	May-12
G4THG	Mar-12	M6FUA	Oct-12
G4ULV	Dec-11	M6ZAW	Dec-11
G4XCB	Apr-12		
G4YZR	Dec-11		
G6FFB	Nov-11		

CURRENT MEMBERSHIP LIST 26/11/2011

**Finally.**

GB3BS has certainly settled in at its new home now and it is satisfying to see so many people using it. I know for Mat and myself it was a difficult and a very hectic time when we first realised that we were going to have to move away from the Cossham Hospital site which had been home for some 30 or so years. It was an end of an era.

Thinking about it now it has probably been the best thing to happen for the repeater the group and its users.

I know I say this every year, but please remember to keep looking at our web site & Facebook pages. It has a lot more detailed information and a good selection of pictures which we will keep adding too as things progress.

We of course welcome any sort of feed back or suggestions of any kind. Maybe it's something you would like changing to GB3BS or how it functions. We are always interested in hearing what people think. This can be done via our web site, email and on the Facebook open group pages, not forgetting via our postal address too.

Well that's about it folks, another year almost gone, so we wish everyone a Happy Christmas and a good New Year. We hope that you have enjoyed the newsletter.

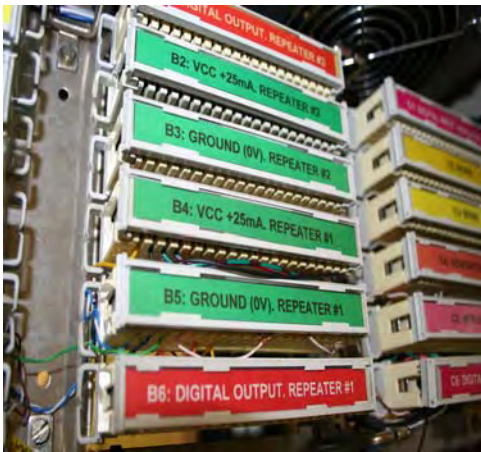
73's

Mark – G4SDR (Repeater Keeper).  
Coffee/Tea maker & Webmaster.



*From The*  
*Bristol 70cms Repeater Group*

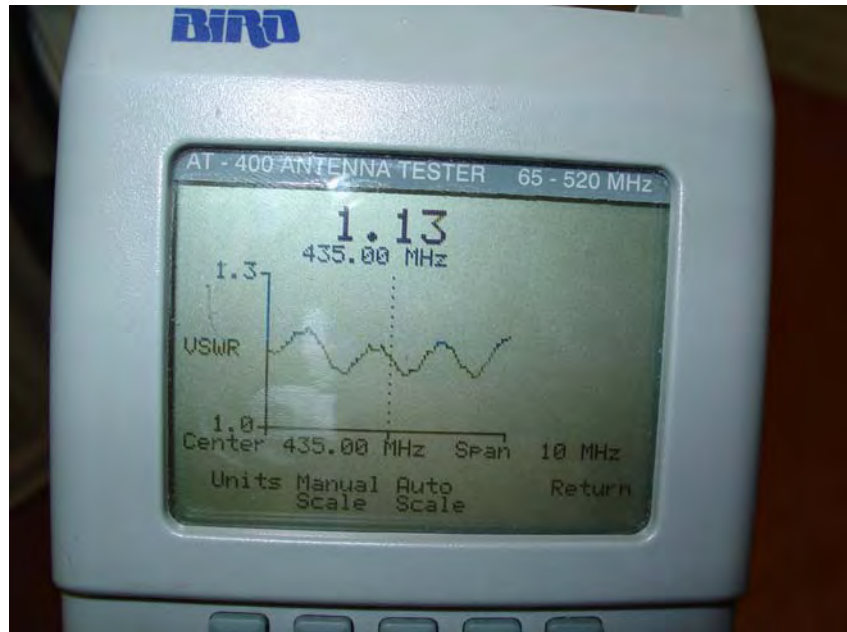
## Miscellaneous pictures from the GB3BS Repeater site/Equipment



The new Krone™ connector panel now gives us a quick and reliable way of interfacing external equipment to the repeater.



The “Kitty Litter” Drip tray. Yes its really Kitty litter!



Picture taken 26/11/2011 @ 15:15 of an antenna analyser connected to GB3BS's main antenna. From the display which was set for Mid-point in our radio spectrum. You can see our current VSWR is 1.13:1.

(return loss -25dB 99.7% efficiency)



Inside view of the Receiver. This is one of the operational spare units the repeater group owns.

## BRISTOL 70cms REPEATER GROUP, (GB3BS)

GB3BS Web Site: [www.gb3bs.com](http://www.gb3bs.com)

Email: [info@gb3bs.com](mailto:info@gb3bs.com)

If you use the Voice Repeater GB3BS & would like to support the group then all you need do is fill out this form and part with just £6.00p. Your details & membership fee will then be passed to our Treasurer.

### PLEASE REMEMBER

Repeaters do cost money to run.

Without members the repeater GB3BS would cease to exist.

Please help to support what you use.

**Please make Cheques payable to "Bristol 70cms Repeater Group".**

Please tick appropriate boxes and print clearly.

£6.00p Membership       Donation Amount £.....      Paid by... **Cheque/Cash**

Callsign:.....      Email:.....

Name:.....

Address:.....

.....

Post Code:.....

Please send to: **Bristol 70cms Repeater Group. 66 Forest Ave, Fishponds, Bristol. BS16 4DA.**

*(Your details will ONLY be used for mailing you our newsletter)*