



# P5



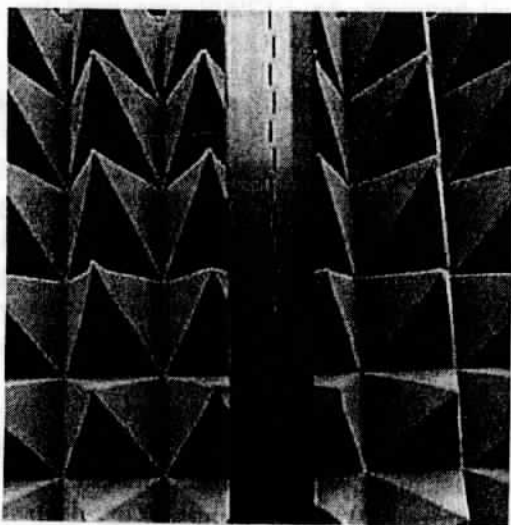
## Newsletter of the Severnside Amateur Television Group

Autumn 1999

### *New slots for old*

The Group's 3cm repeater **GB3XG** has been back in operation from Dundry Hill since mid-August, with its full output power, on the new frequency of **10.065GHz**, using a new slotted waveguide antenna by Nigel G7JZP.

GW3PYX, G3KAC, G4BVK, GW0ROL and G7JZP/P have successfully worked through it so far, and the output can be seen well from the GB3ZZ site. Coverage should improve further once the leaves fall from the trees!



*The new 10.065 GHz antenna for GB3XG*

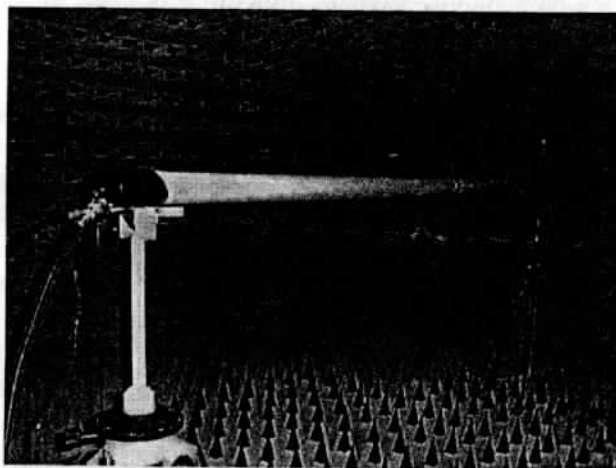
The 23cm repeater **GB3ZZ** is also undergoing a well-deserved refurbishment, having been in operation continuously since 1987.

At the end of June, the main antennas were replaced by a temporary system, loaned by Ivor G1IXF. We hope to have the new system, and brand new guying wires, installed before the autumn gales set in.

The new pair of Alford slot antennas have been assembled by Ian G6TVJ: see the marvellous exploded diagram in this **P5**, (which should enable us to get it all back together should we accidentally connect Ken's new preamp up to reverse-polarity dc?). Alternatively, perhaps we could market an Airfix-style kit, complete with STG transfers and

polystyrene cement? Look out for them in the shops this Christmas! The new aerial stack is now ready to be erected, when we get a good day to go on the roof at Filton.

Jim GW3PYX has kindly restored the weather satellite receiver to life, so we should have this facility back in action soon, and be able to view satellite images through GB3ZZ. The VCR is proving more recalcitrant though, and it could be some while before this is in operation again.



*The new GB3ZZ antennas under test*

### *Turkey time*

It seems a long way off yet, but a date for your diaries is **Saturday 11th December**. This will be the Group's annual Christmas Party, held beneath the GB3ZZ aerials at Filton. Please come along, and bring some junk (sorry, that should read *pre-loved surplus equipment*) and some ready cash for the Grand Auction and the Raffle.

### *Generous donation*

The Group has recently received a generous donation from the *RSGB City of Bristol Group*, to help us with the expense of refurbishments to the two Bristol ATV repeaters. Many thanks for your support, gentlemen!

## ATV Activity Day: Sunday July 11th

In view of the lack of contest activity this year, Ken and I decided to run a portable Activity Day of our own, as advertised in the last P5. We deliberately chose a day at the height of summer, and were really lucky with the weather since July 11th turned out to be a warm sunny day, with only a light breeze.

We were operating from the Group's usual contest site on the Mendips (ST548536) and using the caravan, but as there were only the two of us, we had decided to use portable masts, rather than struggling with the trailer-tower. We had dispensed with 70cm, but did have 23, 13 and 3cm. On 3cm, the problem was a lack of height for the antennas, which did not have such a clear take-off, and as a consequence we struggled to work paths which had been easy in last September's contest, with the dish at the top of the tower. Indeed, we were unable to exchange pictures on 3cm with G7FEQ/P who was operating from the Cotswolds.



G4BVK/P operating from the Group's caravan

We did manage some good QSOs on 23 and 3cm with portable stations near Cardiff, and even towards Bridgend on 3cm (71km). On 23cm, we were using a single loop-quad antenna, with 18 watts output at the masthead changeover unit. On 3cm, we had two systems, one with a single penny-fed 3ft dish and a waveguide changeover, the other with separate dishes for tx and rx. Transmit outputs were 10mW from a Gunn, and about 200mW from a reversed-LNB.

We were also able to try out Ken's new home-made 13cm loop-quad aerials, thanks to pictures from G1HIA in Bristol.

During the afternoon, we had a visit from Phil, GW8BVI, an ATV enthusiast who has recently moved to the area, and now lives at Caldicot.

Meanwhile, Roger GW4UGI, Jim GW3PYX and Heather (Jim's XYL) made a trip to Mynydd Eglwysilan, (*Mountain of the Church of St. Iwan*), (ST098904), to try out some ATV Dx'ing.

Jim has sent the following report:

The days prior to the DXpedition were spent preparing equipment. We intended using TX and RX equipment for both 3cms and 23cms. The main RX was a G8OZP *Dove* RX, Pre-amp for 23cms and a converted LNB for 3cms.

For 23cms we were using a Worthing TX followed by a 12 Watt PA (supplied by Dave GW0ROL). The antenna was an STG 38-ele.

The 3cms TX was a Gunn-diode followed by a 600mw PA, modulated by a G8OZP *GunnMod*. The antennas were 35cm offset-fed dishes for both RX and TX. The mast consisted of an 8ft pole mounted in an old theodolite-type tripod.

The TV was a black-and-white portable. Power for everything was supplied by 4Ahr and 10Ahr lead-acid gel batteries. An FT290R was used for 2m talkback.

The day started gloriously sunny. We left Penarth at 9.00am and headed north on the A470. Just south of Pontypridd we turned east and climbed through narrow lanes heading for Mynydd Eglwysilan. On the way we noticed what might have been a good location on Mynydd Meio, but a closer inspection showed that our view to the South and West would be blocked by The Garth Mountain.

We took the car as close as we could to the top of Eglwysilan. Where the road became impassable, we parked up and contemplated man-handling all the equipment 300 yards uphill. Three trips later, we settled on a site well within view of the PMR masts. We felt we had done a day's work before we started!

We set up the 23cms RX first and the antenna and pointed it towards Bristol for GB3ZZ. We immediately got a P3 picture which was a bit disappointing until I found I hadn't connected the video-to-RF adapter to the TV. The TV was picking up stray RF from the adapter. On making the connection we had a perfect P5.

We were monitoring 144.75 all the while and it wasn't long before we heard Ken and Ross on the Mendips telling us they were setting up their equipment and would be on the air in half an hour.

**Review corner: Hauppauge WIN/TV PCI card**

**Another review of high-tech video equipment for the PC from "Chaos Manor" by Mike Stevens G7GTN**

This is a quick review of the latest generation of television viewing and frame-grabbing cards available from the German multimedia company *Hauppauge* for use on your personal computer. The card is currently on sale for around £70 including VAT from the majority of advertisers in the popular PC magazine marketplace. Keep your eyes peeled at the next radio rally as you could probably purchase an older model for well under £30.

The card does differ slightly from the one which Paul G8YMM mentioned in his review in **P5** two years ago: there is no need to make use of your graphics card Feature connector to use this board. The card is, as the title indicates, based on the PCI bus, which means that all data is transferred across the bus straight into your graphics card's memory for direct display. This makes the updating of moving images much faster, even on a moderately fast PC, unlike the previous version which could produce some quite jerky TV pictures if viewed in too large a window size on your desktop.

The hardware consists of a three-quarter sized interface card, and a mini jack-to-jack connection cable for your sound card, if fitted. The driver software is supplied on a CD-ROM.

With the card installed into a spare PCI slot, you are ready to make the required connection to the outside world, this being a television aerial and the connection to the line input of your sound card if required. When this has been done, you are ready to install the software from the CD-ROM. This contains the drivers and system software to allow you to watch a re-sizeable television picture or video feed from anything which produces a standard IV P-P video output.

Any source which is connected to the composite video input may be frozen on screen, and then saved to a separate file in many of the common *Windows* file formats including BMP, PCX, TIF, GIF, JPG. Unlike the previous versions, this system will successfully grab moving pictures at resolutions up to 1280 x 1024 with up to 16 million colours. It is also quite possible to save moving images as Microsoft .AVI files using the supplied program for simple video editing, although the resolution is a little bit low at just 320x240. The manual does suggest that this may be used for CD-ROM multimedia presentation work.

The card will also decode normal broadcast Teletext thanks to the *Philips Semiconductor SAA5246* I<sup>2</sup>C-based chip which is matched to a *WinBond* RAM chip. A *BrookTree Semiconductor Bt848KPF* handles all the video decoding. The teletext chip is controlled by its I<sup>2</sup>C interface off the PCI bus through several data buffer stages. This *Philips* text-handling chip is an update of the SAA5231 & SAA5243 enhanced computer-controlled teletext decoders. These are in turn updates to such old favourites as the SAA5010, SAA5020, SAA5030, SAA5040, and SAA5050 series of analogue devices which you may find in your teletext television sets.

The Teletext option works very well, and is somewhat quicker than the previous card I had in updating the display screen. The only extra which would be nice is an S-Video terminal for high-band digitising from your camcorder.

The slim manual was also found to be excellent, and was required when a few display driver installation problems were found with *Windows 95* and an older *Diamond Stealth S3 Trio+ SVGA* graphics card. When I fell foul of the PCI bus IRQ settings, again the manual was excellent, advising to move the card into another slot. This worked fine and no more problems have been experienced since.

The manufacturer has very thoughtfully also included updated video card display drivers on the CD-ROM which you may require for certain types of cards to work correctly. This disc also contains some read\_me files containing technical information, so should you become stuck have a look there first for answers to compatibility problems.

The competition is starting to hot up now with several manufacturers offering TV cards that are either of a cheap standalone type as in the *Miro PCTV* and *Typhoon* or ones which can be piggy-backed onto some makes of graphics display cards notably from *Matrox* and *ATI*.

**Mike G7GTN**



We then set about connecting up our 23cms TX equipment. At this stage the site looked like a car-boot sale at the BATC Rally.

Before long the TX was set up. Heather had organised a campsite table and chairs and we had a short break with tea and buns.

Ken and Ross then called on 2m and said they were sending ATV on 23cms our way. We had already taken bearings to their site using a compass (which also had a clinometer fitted, this allowed the setting of the dish offset on 3cms). Pictures were soon being received and with a few small adjustments both ends we had P5 pictures from the Mendips, 58km away.



*G0WJR/P and G4BVK/P on the Mendips*

Ross then did a walkabout with his camera and we had good pictures of their equipment and the site.

Following a change to transmit, our pictures were received P5 on the Mendips. We showed the usual shots of equipment and scenery (including Heather doing a crossword) and also the PMR masts on the mountain top.

Other stations then started calling in on 2m, Basil G7FEQ and Bob G0SYF, from a site near The Cotswolds (ST770897), 67km away and Roger GW4NOS from The Werfa Mountain (SS945915) 15km away.

Ivor and Viv G1IXF and G1IXE had also just arrived at their location down in Devon.

Basil and Roger were on 3cms only so whilst they were setting up to call Ken and Ross, we took down the 23cms antenna (we only had one mast) and started setting up our 3cms equipment.

Before long 3cms was operational, but when Basil steered his dish our way, we couldn't receive him at first, so we went to transmit. We were pushing

about 600mW into a 35cm offset-fed dish, Basil was using a Gunn-diode feeding 10mW into a 2ft diameter prime-focus dish. When he saw our sync's and centred on them, we aligned our dish to give him P5 pictures. He then went to transmit and to our amazement we were able give him a P5 report.

We then gave Roger a call on 2m. He gave us his OS reference so we looked his way but could only see mountains on the horizon. Anyway, we pointed our dish that way and got an immediate P5 report from him. Something very odd was happening! He was on the other side of the mountain (we've taken plots of the route since and still don't know how we received one another)..

Roger then sent to us; he was using a converted LNB-type TX with about 50mW. We were able to give him a reciprocal report.

In the meantime, Ivor and Viv called in on 2mtrs to say that they were having equipment problems: (even the 2m talkback rig was playing up) and would be abandoning their attempts for the day.

We set about disassembling the equipment and transported it back to the car. We then called on 2mtrs to say we were leaving the site. On getting to the bottom of the mountain we signed off, letting everyone know we had returned safely.

The end result of our trip was a very successful day out on Eglwysilan Mountain, Roger managed to get his feet sunburnt and I was feeling like toast. Heather, who had managed to keep us supplied with food and drink for the day also turned a few shades darker.

Eglwysian turned out to be a good site for ATV so we were already thinking up plans to make another site visit in the near future, for now though a very good time was had by all.

*Jim GW3PYX.*

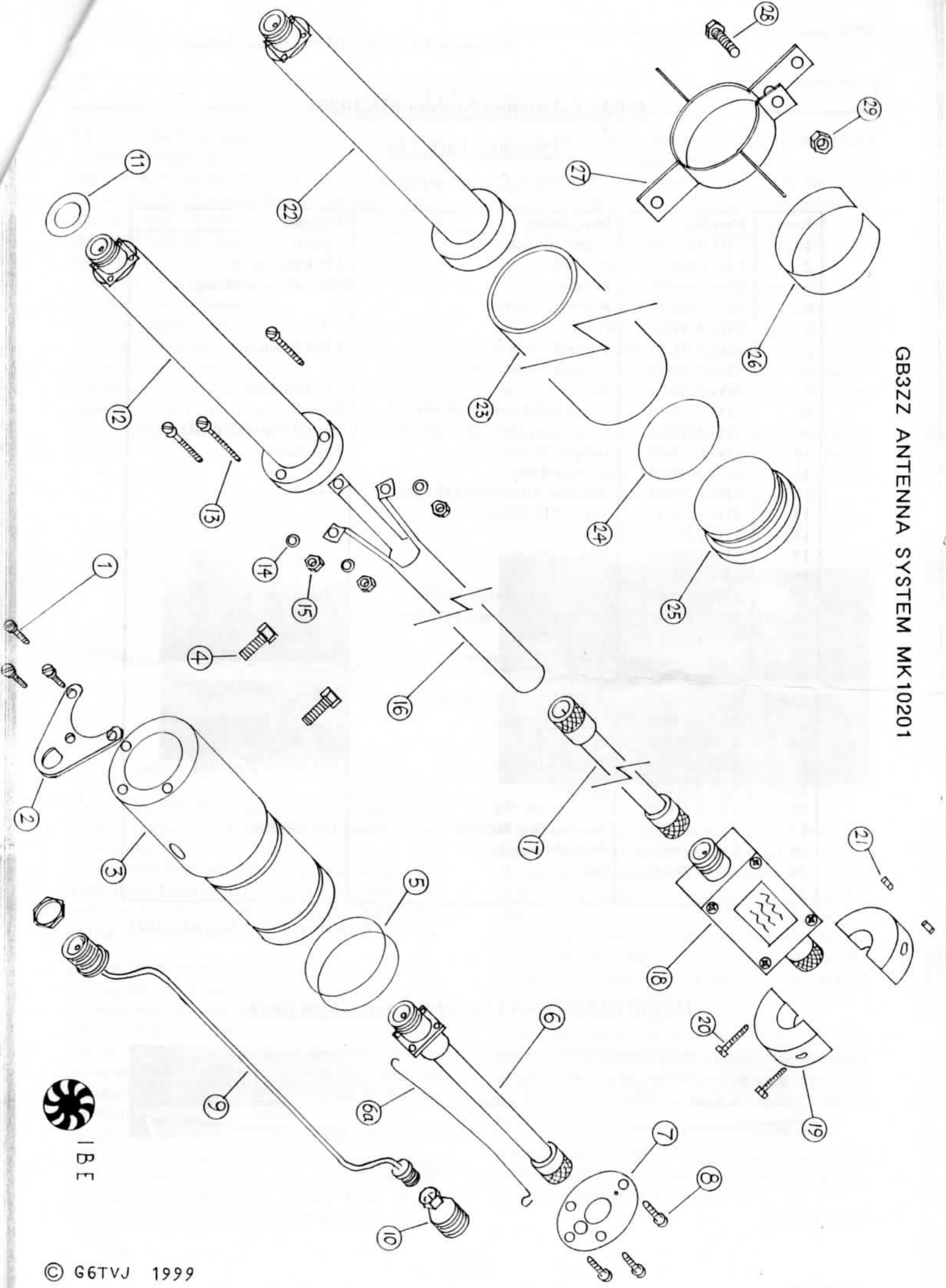
### *Material for P5*

Have you have any news of on-the-air activity, reviews of new equipment, etc. which may be of interest to other members? If so, please get in touch, and I'll include it in a forthcoming edition of P5.

I'd be interested in hearing about SSTV activities, (and how about an introductory article on the subject?), not just fast-scan ATV.

99-30

GB3ZZ ANTENNA SYSTEM MK10201



## GB3ZZ Antenna System MK10201

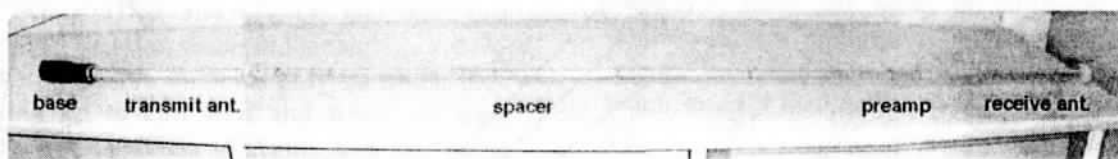
### Illustrated Parts List

(refer to diagram on page 5)

Item	Part No.	Description	Supplier
1	STG ZZ0010	Screw M4 Stainless	Farnell
2	STG ZZ0020	Bracket	I.B. Electrics
3	STG ZZ0021	Mount	Opt-out Engineering
4	STG ZZ0011	Bolt M8 Stainless	
5	STG ZZ0030	O-ring	
6	STG ZZ0051	Cable Assy. N type RG214	I.B. Electrics
6a	STG ZZ0039	Support Wire (2 off)	
7	STG ZZ0021	Disc	I.B. Electrics
8	STG ZZ0010	Screw M4 Stainless (4 off)	Farnell
9	STG ZZ0052	Cable Assy. Semi Rigid RG402	Bristol Uni. (G0WJR)
10	STG ZZ0059	Adapter N type-SMA	Pasternack
11	STG ZZ0035	Washer Rubber	
12	STG ZZ0061	Antenna Alford Slot (Modified)	G3JVL
13	STG ZZ0012	Screw M4 Stainless	
14	STG ZZ0015	Washer	
15	STG ZZ0016	Nut	
16	STG ZZ0022	Separator Tube	
17	STG ZZ0053	Cable Assy. N type RG214	I.B. Electrics
18	STG ZZ0069	low-noise pre-amp (1249 MHz)	K. Stevens G4BVK
19	STG ZZ0041	Spacer Plastic	S. Marshall G6NHG
20	STG ZZ0017	Screw M3 Stainless	
21	STG ZZ0018	Nut	
22	STG ZZ0062	Antenna Alford Slot (Modified)	G3JVL
23	STG ZZ0049	Cover RF Radome	Jewson
24	STG ZZ0031	O-ring	
25	STG ZZ0048	Cap Plastic	Opt-out Engineering
25a	STG ZZ0007	Deleted	
26	STG ZZ0036	Rubber anti-slip	
27	STG ZZ0025	Bracket Guy Support	I.B. Electrics
28	STG ZZ0013	Bolt M6 Stainless	
29	STG ZZ0014	Nut	
30			

*Ian Bennett G6TVJ, September 1999*

### Digital wide-screen view of the assembled stack



*it's well over 10ft long!*

### 3cm ATV is a picnic!

For once, the Bank Holiday weekend at the end of August brought good weather, and an ideal opportunity to get the 3cm portable gear out again. On the Sunday afternoon, Ken and myself set up at Tog Hill, (ST734728, close to the intersection of the A420 with the A46), with three sets of 10GHz kit. This is a picnic site at 200m ASL, with a good clear take-off across Bristol towards Wales (and an ice-cream van on Sundays!)

All my systems, which included a Casio LCD monitor, a Canon camcorder and a Fuji digital camera, were powered either from 12v gel batteries, or from internal NiCads. Ken's system required a 240v AC supply, which was derived from a *Handy-Mains* inverter running from his car battery.



*G0WJR/P also at the Tog Hill picnic site*

Meanwhile, GW3PYX and GW0ROL were set up on Eglwysilan, just North-West of Cardiff, some 66km away.

I transmitted first: working just with a compass and a calculated beam-heading, the first link was set up fairly easily, but we did have some initial difficulty getting pictures back from Wales.

*Jim GW3PYX sent the following report:*

On August 29th, Dave G0ROL and I, together with my wife Heather and daughter Karen, set out for Eglwysilan again. The day was bright and sunny and after repeating our drive and trek up the mountain, we set up our equipment. This time we decided to use 3cms equipment only but we had the benefit of a colour TV receiver.

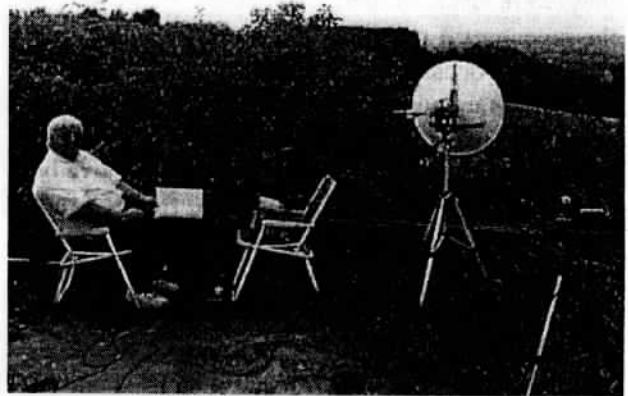
Before long we were receiving GB3XG at P5. We didn't have to wait long before we heard Ken on 2m saying that he and Ross were setting up at their location. We also had a call from Roger GW4NOS, who was mobile and was making his

way to our location. He wanted to test a direct-feed dish on site to see how efficient it was.

We received some great pictures from Ross and Ken, but it took a bit of fiddling with dishes and orientation before our signals were received. The main factor at our end was the inclination of the dish, which was very critical.

We were able to reciprocate with some of the usual scenic pictures which included the animal life, a view across the Severn Estuary and the local mountains. Heather and Karen also appeared on their TV's and Karen got them involved in trying to solve a crossword puzzle she was having problems with.

Ross and Ken had three different sets of equipment they wanted to test: two *Solfan* heads with penny-feed dishes, and Ken's LNB-based transmitter, which all gave excellent pictures and sound.



*G4BVK/P operating from Tog Hill*

When we had finished our testing with Ross and Ken we had a call from Stewart G6NHG/P, on 2m. He was located near Brean Down and was thought to be line-of-sight from our location, so we had high hopes of a two-way contact. However, he was using a horn-type antenna and was on the opposite slope of Brean Down from us. Even after considerable adjustment of antennas we weren't able to establish a contact.

Roger, meanwhile had set up his indirect feed dish and was looking for signals on 3cms. He managed to get some strong indications on his s-meter but his IF was not suitable for ATV reception with our equipment.

Another perfect day at Eglwysilan. Our future thoughts will be to search for a different location, hopefully, equally as successful.

*Jim GW3PYX*



### Rally round

The Group operated a stand at the recent rallies at Longleat and Bristol, and managed to swell the Group's coffers by over £300 with aerial sales and membership subscriptions. Many thanks to all who helped.

### More repeats?

The welcome reappearance of GB3XG has led to an upsurge of ATV activity. Pictures are regularly relayed through the repeater from G3KAC, GW3PYX and G4BVK and G1IXF. G6TVJ, G7FEQ, G8XZD and GW6BWX are also able to receive the repeater on its new output frequency.

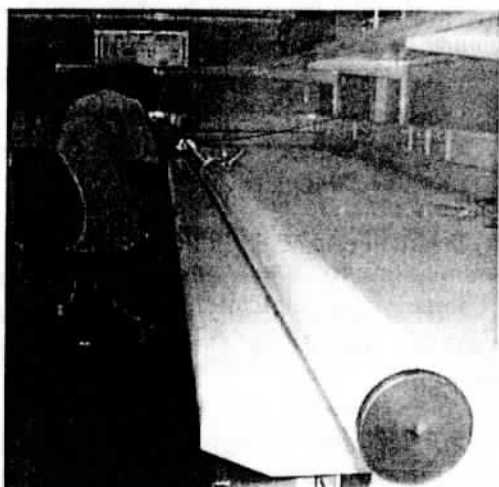
The signals relayed by the repeater were originally subject to some fading interference but following the installation of a narrowband filter at the 1217MHz IF by Nigel and Ivor, this has been completely cleared, and signals are now as good as they were back in January, before we had to turn the repeater off pending the frequency move.

On a few occasions, both repeaters have been in use simultaneously, with G6TVJ via GB3ZZ in QSO with the stations working through 'XG.

Recent "programmes" to be seen on 'XG have been recordings of the total solar eclipse from Cornwall and France, airborne shots from hot-air balloons, Robin Reliants powered by jet engines (!) and live cross-band television tests with slow-scan pictures on 20m and 2m.

We hope that once the new aerials are installed at GB3ZZ, there will be a similar increase in 23cm activity.

### Pipe dream?



Ian G6TVJ putting the finishing touches to the new GB3ZZ antennas in their "Jewson radome"

### Weave your own Web

My attention has recently been drawn to a WebSite called **Qsl.Net**. It can be found at URL: <http://www.qsl.net>, and offers free email accounts and homepages to all licensed amateurs.

I've already tried it, and with no previous experience with HTML or FTP, managed to set up pages for myself and the University Club (have a look at <http://www.qsl.net/g3kac>). Email messages sent to me @qsl.net are automatically forwarded to my existing address.

### News from Down Under

Only a couple of days after posting the last P5, I had an email message from STG member Michael Sheffield ZLIABS, in Auckland, New Zealand, who had just received our newsletter: well done to the Post Offices!

Michael writes that the Auckland ATV web page is <http://www.qsl.net/z11qf/atvug/ATVusers.html>.

Their group has been doing some ATV tests on the little-used 3cm band, using Gunn-diode txs (*Solfan*-style) and LNB/satellite TV rx's.

They will soon be upgrading the teletext on the ZLIBQ repeater from 32 to 64 pages, and are also planning to add a stereo sound system, using 5.5 MHz and 5.74 MHz sub-carriers, to the ZLIUX ATV repeater.

### Contacts

#### Severnside TV Group WebSite:

<http://wkweb4.cableinet.co.uk/severnsideTV/Severnside.htm>  
(careful: this is case-sensitive!)

now also on: <http://www.qsl.net/stg>

#### P5 Newsletter & STG matters:

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Edited by G0WJR, September 1999

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