

Editorial Comment



Newsletter of the Harwell Amateur Radio Society
Affiliated to the Radio Society of Great Britain



QAV

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The beginning of June sees the annual 'D' day celebrations in Normandy. The Caen Radio Club have been very busy building replica 'paraset' radios (the ubiquitous suitcase radio) and are planning to make some CW contacts with UK stations on the 5th June from Ver-sur-Mer, close to Omaha beach, in the presence of the local Mayor. John, G3VPW has kindly agreed to be the UK end of the QSO which will be on 40m or 80m, (the frequency coverage of the paraset). The radio itself consists of a 2-valve super-regenerative receiver using 6SK7s and a single valve oscillator/PA using a 6V6. Output power is estimated to be around 4W. Ann and I will be in Normandy on that day and we've been asked to come along and help. I'm not quite what this 'help' will consist of but I suspect it will be something to do with a UK presence!

The weekend before this event is a contest weekend in France on 144MHz up to 47GHz, the equivalent of our VHF NFD, and the Caen Radio Club are taking part at Longues-sur-Mer, just along the coast to the East. Again, we have been asked to help with I think operating when working UK stations. Sadly, there is no VHF/UHF UK contests timetabled that weekend (except for the UKuG low band event on 1.3, 2.30, 2.32 and 3.4GHz). This is called **planning!**

On the 6th June itself and a few days either side, the Caen Radio club put on a demonstration station (TM5BBC) at Creully (a bit further East along the coast) where the first BBC studio was installed after 'D' day itself. And, yes, we have again been asked to help! All these places are about 1.5 hours from our house, so there will be a lot of travelling up and back in a short period of time!

As we get more details of these special events, I will try and get them out to you in case you would like to listen or even join-in!
Mike, G8CUL

Another over from the Chairman

Well I do not know where the time has gone, it only seems like last week that I was writing my last over.

This month as I put pen to paper, sat in my hotel room overlooking Ramsgate harbour on a rather wet and windy evening (Bank Holiday Sunday), I felt a bit let down by the fact that on Saturday Marian and I had spent most of the day in my home town of Sandwich, which was engaged in a 40's revival weekend. Lots of themed events and displays going on, along the river side there were military displays representing the different services, amongst all this activity we could not find any vintage radio, the nearest we came to it was an Aldis lamp and 2 field telephones, connected by about 50mtrs of wire and nobody using them. Another bit of history, which I did find interesting, was moored on the river was the USN P22 (Google it) gunboat, which is normally moored in Ramsgate. Throughout the afternoon they and a mobile AA gun would let off a few rounds, much to the kids' delight, and us oldies.

Anyway back to the job in hand, at last month's meeting we had a show and tell evening where several members gave a short talk on their own pet subject. This time Mike (G8CUL) gave us a demonstration, with the help of a USB camera and projector and of course some steady hands, on the art of attaching SMC to a PC board. Some of the components were so small that I thought there were some bits of dirt on the white plastic tray, just as well nobody sneezed when they came up to have a look.

We then had a slide presentation by Richard (G0REL) and Liz (G0RJX) on their scouting activities with amateur radio in Iceland, along with some local views and some interesting facts about the locations.

Last but not least, Colin (G3NNG) told us all about the birth and first few years of the club way back in 1957 along with stories about some of the very interesting and brainy people that helped to form the club. In those days most, if not all, of the equipment was home built or modified ex MOD equipment, a thing that you do not see as much of these days.

John G6LNU

Charlie Sierra Signal Report

A good turnout of 14 again at Millets, and a good mix too. We managed to commandeered the separate area near the servery, useful as we could rearrange the seating to suit us. Hat-tip to G6LNU for managing to join in late in the day despite his other commitments. The next meeting will be on Friday 19th May at the usual 10:45hrs and at the same venue, the Farm Shop cafe at Millets Farm, all welcome.

Kate, G7DOF

Radio Active

Michael 2E0MHM - Most of my QSOs this month have been on the 20m and 40m bands using, both my 20m dipole – which is strung out roughly North to South – and the 40m one which lies roughly East to West. On 15m: Canary Islands; 17m: Greece and USA – K1IED: 20m: Algeria- 7X2VFK, Bulgaria, Dodecanese (Greek Islands), Germany, Greece, Italy, Kuwait, Macedonia, Malta, Romania, Russia, Spain, Tunisia, Turkey, United Arab Emirates-Dubai. 40m: Denmark, Germany, Norway, Portugal, Slovak Republic, Spain and Switzerland. Two SWLs... I could hear them but not vice versa- Iraq – YI3WHR, Thailand – HS0ZCW. To date I have 420 QSOs, 67 Confirmed and 61 Countries.

Ron, G0BNC - Not a lot to report again this month, The job season has started. Fitted a new camera over my back door after missing the parcel man, but then another camera failed and the DVI-I side of my monitor failed. Cable repair for the camera, and purchased another monitor. Then my mono laser printer failed because the toner went too low. After a week of pressing buttons, I managed to get a new cartridge fitted. I did the RSGB 2m contest with 31 contacts in what would have been 15 squares on the old system. On the 70cm contest I had 14 contacts on 10 watts, and managed to work Gérard & Jacques in Normandy. There were a few more stations pointing back inland again thankfully on 2m. 'While the cat's away the mice will play', Val went to her sisters, so lots of dust was made, A small £12 bottle of Gorilla glue used, £40 of different shades of varnish were

tested, and a £30 piece of oak 900*100*30mm had holes made in it (6 mortice joints) I did manage to get the jobs done before the XYL returned. Still no time for radio, the grand-children's PC was jammed up with rubbish, the worst offenders being AVG and iTunes, but with ruthless cleaning of the registry removing lots of files without backing up, the PC runs OK again. This is an XP machine that I will install Win7 on when time permits. Then my daughter's internet connection failed or sometimes connected at below 0.4Mbps. Because BT now charges £130 for a customer fault call out, I made sure it was not my fault. 2 years ago I fitted a VDSL2 plate for her, with the PC 15m away from the inlet. I belled out every bit of the line, remade and tested every connection and colour coding on the wiring, and the resistances, and recorded them, so there was no way BT could blame the system. 3 or 4 years ago BT tried to charge me £200 for 2 calls made when we were alleged not in. I went to his van when he did not ring the door bell. He said there was a fault on my equipment, phone or modem. But everything was disconnected, so that was not possible. I still had to pay £100 for the call. The BT engineer tested my daughter's system this week, I showed him all of my checks and watched what he did, he checked all the wiring. He found a fault 13m away from the house, changed a pair of wires down the road. The internet is now flying at 1.92Mbps, well it is a village 4km away from the Witney telephone exchange.

Angus G0UGO/G2U - As I write this I have just finished the long running patio project and now have to phone up to get the skip removed! Next bit is to lay a new lawn but that is easy by com-

parison. As I have clearly impressed the XYL with progress I have been allowed to play radio as a wind down activity. I have been playing around with various versions of JT65 software and, for the moment, settled on JT65-HF HB9HQX. It does JT65 very well but that is the only JT mode it will work with. It can be configured to communicate with various logbooks so I have it parsing logbook entries into Ham Radio Deluxe. Best DX of the month was Japan on 40m on the back of a CQ call using JT65. New band country! As the weather was not brilliant over one weekend I did have a go at the SP DX RTTY contest getting 124 QSOs. Looks like I may have won the High Power category for England.

Ray, G3LQC - I told you last month I had acquired a Military 19 set. One or two of you may have come across this radio of WWII vintage but I doubt many have operated or worked on one. I have done both.

This particular radio was made in Canada in 1942 and I started my training on them as a Radio Mechanic in the then Royal Corps of Signals as a boy soldier in 1943..They were installed in the Churchill tank and Daimler scout cars together with many other vehicles and also used as base stations. They were used extensively up until 1963.

In the middle of the picture below the photo of Sgt Ray Evans, by then serving in FARELF (Far Eastern Land Forces) is the original power supply which ran off a 12 or 24v battery supply , to the left of the picture are two homebrew units a 230v mains supply which provides 12v, 270v, and 500v all

DC. Above the PSU is a control box home-brew which I made up with a Loudspeaker included. The original control box is heavy and made to be screwed to the bulkhead of the vehicle. I have it and it's under the bench, but not it in use.

Right hand side and on top is the antenna tuner. This is of the variometer type: a device not many will be familiar with, It is an inductance which rotates through 360 degrees within another series inductor, thus providing a variable inductance. Tuning the P.A. is carried out using this and the larger left hand control on the main set.



The equipment runs in 3 bands: 220-270 MHz 'B' Set, 2.- 4.8 MHz and 4.8 - 8.0 MHz. 'A' set. I have worked one Russian station on CW with this equipment who gave me 599. I think he was being kind as the CW note of the 19 set sounds like a chirping canary and so I should have got 599c. In the old days, (50s), you were lucky if your homebrew didn't have a chirpy 'c' note.

So there we are - 75 years of radio in the one shack, the 19 set and the Elecraft KX3. One takes two men to lift and the other you can put in your jacket pocket .The KX3 runs a few more watts than the 19 set at that!

Some will regard the 19 set as a piece

of junk but to me it takes me back to my youth and the age of 15-17 when I learned what made it tick..There is no doubt it was a crucial bit of equipment which helped us win WWII.

I am hoping to make the May club meeting and look forward to seeing you all again, just depends if I have good day or not...73 Ray G3LQC

Neil, G4BRK - I've been away for much of the last month so not a lot to report.

Yet another 28V power supply failed during the SHF Tuesday contest. I need to solve this properly. I'm even thinking of building a linear-regulated supply with a big transformer on the grounds that when it goes wrong at least I have a chance of fixing it, unlike these switched-mode specimens. Anyone got any ideas? I need 28V at 40A.

Also got my 70cm Tonna 21el down at last and discovered that the N-connector ground is not connected to the driven element. However it's all encapsulated in plastic, so I can't see what has happened. 6cm is also off the mast for mending. In fact I am nowhere near keeping up with all the repairs that seem to be needed, let alone getting on with planned improvements.

For the last 2m UKAC I had no amplifier, so just used the transverter bare-foot with just 10W. I was pleased to work 2xF, 2xGM, GD and many others with this setup and a 9el yagi.

Ron/Kate, G7DOE/G7DOF - Batteries. Don't talk to me about batteries! We built the second controller and the

signal combiner board for the two tone RF generator, programmed up the controllers for 146.5 and 146.6MHz and were poised to test the combo when the question of power raised its ugly head. I thought batteries might be a good idea. Now I had noticed that each ADF4350 board was taking around 130mA, so we would be talking more than a quarter of an amp, but I have a bunch of rechargeable 1100mA-hr AAA cells which were cycled fairly systematically in some LED nightlights (a bit too bright) so I thought they should manage an hour or two. Wrong! Four cells managed half an hour whilst the rest seemed to have expired altogether after a few idle months. Obviously not meant for a long life: (The first test revealed the intermod weaknesses of the spectrum analyser, the next tests will use a mains powered PSU and a lot more attenuation to the SA input. It also needs a low pass filter, so that's the next little board to build.

Malcolm, G8NRP - Took part in the First 50MHz contest on 9 April. This is slightly different in that the first two letters of your post code are exchanged as well as a serial number and signal report. This is known as M3 scoring (M3 Post Code, Country and QTH Locator Multiplier. The multiplier for a band is the sum of the number of different DXCC countries, U.K. post code areas, and large QTH locator squares [e.g. JO01, IO91 etc.] worked on that band. Contest exchange is RST plus serial number and QTH Locator and UK&CD stations send the first 2 letters of their Postcode.) The propagation was interesting with a number of distant stations rising in and out of the noise.

Martin, M0HAH - Now that I am working my notice from work, I have been able to make some time to spend on doing things that make me happier (Radio!).

I recently got round to constructing one of the bargain Chinese kits that I had ordered a while ago from Amazon. This one is a frequency counter capable of counting up to 50MHz. It uses LEDs (5) and a PIC controller, all to run off of 5-9V dc. This seems ideal to add onto one of the radio transceiver kits that I have in progress. Unfortunately, it had a few capacitors missing, and I didn't have any "equivalents", but a quick look at the tracks on the board indicated that the values I needed were in series anyway - and I did have something of half the value! A quick kludge, and it seems to be working well enough! I guess there is a lesson here: Keep some spares!

Latest (and somewhat amusing) gadget being promoted by the "gadgeteer" Engineering magazines: Forget using noise cancelling headphones when in a high audio interference zone: you can now fix the issues at its root cause! The device in question is a "hushme" (<https://www.youtube.com/watch?v=w2wF8LOV5kw>). My personal opinion is that this will probably not make it as a product in its current manifestation. I can't think why!

That's all from me on the radio front - or is it? - I'm doing quite a few campervan trips around the UK at the moment, but this time I am taking my DAB radio with me and comparing the coverage with the equivalent FM signal. Last test

was in Norfolk (North Walsham way). It seemed fairly good for both, although Radio 4 digital seems the weakest (the Radio 4 extra seems to work consistently though). Next location to test: Glastonbury for Mayday celebrations. Next on the list will be the "Langdale valley" in the lake district (no mobile signal there!) and maybe the trough of Bowland (no electricity there!).

Jonathan, M0ZGB - April and the good weather over Easter saw me turn to a bit of construction and a project which I started 2 years ago!

I have always been interested in attempting to work satellites, but have never tried it. Several years ago, I came across an antenna on the web called the EZ (Easy) Lindenblad, which was suitable for LEO type satellites and was designed for 2m.

Having had suitable tubing and angle for the mechanical construction, I had cut out the main bits a few years ago and there they sat on the workbench until April this year. This antenna works on the principal of using 4 x 75 ohm cables feeding the 4 dipoles arranged around the centre point and each canted at 30 degrees to give the right-hand circular polarisation used by many satellites. By introducing a deliberate mismatch representing around 122 Ohms + 75 Ohm cabling = around 200 Ohms. The four feeders are then fed into the N type socket in parallel which should present 50 Ohms to the socket and a happy radio! That's the theory anyway. After construction, I couldn't get much under an SWR of 1.4:1 on 145.200 (The ISS uplink) which was around 60 Ohms. Reading

various stories of people who have built these and similar, it seems most have suffered the same problem and they are very finicky to get right. However, all is not lost as many satellites require a 70cm UHF uplink and 2m VHF downlink, so the antenna is okay as the receive part of the system. Construction is now underway for a simpler 70cm Lindenblad, which uses a central fed dipole and 4 parasitic elements arranged around it. This one was an AM-SAT design from 2006 and can be found on the web.

The only radio I have suitable for one-radio cross band operation is the FT-7900 which you can programme for 'odd split' working, otherwise it is two-radio operation with perhaps a hand-held as a receiving rig and the FT-857D as the transmit rig. Hopefully I will be able to report some satellites worked in the next QAV!

Another project at the moment is some work (cosmetic & electrical) on an Ed-dystone 1004 Sentinel marine receiver. It's working to a point, but there are some issues with the aged coax cable breaking down on the wiring harness, which needs to be replaced. I am also on the lookout for a desk type 19" rack cabinet to fit it in. Height would need to be over 5.25", but preferably less than 8" and a max depth around 12". If anyone has one spare please let me know – m0zgb@btinternet.com.

I did make a brief attempt at trying to work some of the Marconi stations for IMD on the 22nd of April. However, due to doing other things on the Saturday and poor conditions on HF, I only managed a meagre 4 stations worked this

year – you need 15 for the award!

Ann/Mike, G8NVI/G8CUL - Some frustration was evident when operating on the UKAC contests from France due to our signals not being heard very well in the UK. (Remember that for the UKAC events one end of the QSO must be in the UK so, while we are in France....!) 2m isn't too bad as we have around 80W, (the French power limit is 120W) but 70cms really suffers as we only have 40W or so. On 6m we have around 80W from an IC706 but the propagation on that band is not good for Tropo back to the UK - and the aerial gain is not brilliant either.

In the UK we use a modified 'Dolphin' PA for 70cms so after scrounging another (thanks Mike!) we started modifying it for use in France. The existing UK version gives about 100-150W, above which it gets decidedly anti-social to other band occupants. Initial tests on the French version seems to show that it is capable of nearly 200W! I ought to check its output spectrum though.

A new PCB has been designed to control the PA sequencing, measure the heatsink temperature, measure the forward and reflected power and control a fan as well as driving some suitable display. The PCB design has been sent off to China for manufacture and the software for it has been started, but it's hard to write much software without having some hardware to test it on!

Hopefully, this will all be finished in time for the summer - **this** year! Maybe.

Balun's Random Ravings

Helping other amateurs get on the air is all part of the fun, and here one's dubious skills and enthusiasm are always available. This time assistance was needed to erect an HF vertical mounted on a stubby pole and a pair of T & Ks on the side of the house. No problem - *but no ladder*.

The latter is a pretty big stumbling block for this sort of task, however all is not lost and at this QTH we have a three section compact aluminium ladder mostly used for window cleaning and aerial fettling. Fortunately when purchasing our car we also included in the deal a purpose built roof-rack which although costly was very robustly made – just as well really since its main job is to support a couple of mountain bikes, so a ladder should be a walk in the park – so to speak.

The XYL does most of the driving, although she does let yours truly steer a lot of the time. This was one of those times. She did mention that perhaps we should put a red flag on the ladder but since the ladder was shorter than the length of the car and driving slowly was not in the plan, requiring someone walking in front with a flag was deemed unnecessary.

Aerial installation can be a long winded business and it was felt that an early start in the morning was preferable. Although the human body is mobile and capable in the early hours (before 9am and coffee) the brain cells are still asleep and there is a tendency towards blasé attitude - as often witnessed by others in the past on VHF NFD. Lots of rope, plenty of seaman type knots and much grunting secured the ladder and we were off! (Together with an impressive quantity of back breaking tools for the job)

The XYL kept the speed down to 60 MPH and the journey went smoothly, at least for the first 20 miles. It was on the motorway when it was noticed that the ladder, which was clearly visible since it stuck out in front of the windscreen by several feet, has developed a slight skew to the right, obviously nothing to worry about. Just as those calming thoughts were being put into words, there was a loud clang and the front portion of the ladder vanished from sight only to reappear at an angle of 45 degrees through the side window. The ladder now protruded over the 'fast lane' by several feet.

It's amazing how adrenaline can be summoned up in an instant by a car horn..... and how suddenly the road behind you, in all lanes, suddenly fill with vehicles, big vehicles, vehicles that won't slide neatly under a protruding ladder. It was a heart stopping moment but it all has a happy ending, barely 500 yards ahead was a slip road to some little known village which saved the day. The journey was restarted half an hour later having spent time recovering and re-applying more lashings of rope.

Everything went according to plan for the rest of the day but let me tell you about the time that I bought home a 25 foot steel telescopic mast roped, top end forward, on the roof rack and had to do an emergency stop at a roundabout..... (Yes, the obvious really did happen!).

An amusing picture supplied by John, G6ZHB -



Contest News

Regular VHF/UHF/SHF UKAC

Day of the month	Time	Band	Notes
1 st Tuesday	1900-2000	144MHz FMAC	Not a club contest
	2000-2230	144MHz UKAC	
2 nd Tuesday	1900-2000	432MHz FMAC	Not a club contest
	2000-2230	432MHz UKAC	
2 nd Thursday	2000-2230	50MHz UKAC	
3 rd Tuesday	2000-2230	1296MHz UKAC	
3 rd Thursday	1900-2000	70MHz FMAC	Not a club contest
	2000-2230	70MHz UKAC	
4 th Tuesday	2000-2230*	SHF UKAC	*see website for timings
5 th Tuesday	NOTHING -	an evening off for good behaviour!	

Forthcoming VHF/UHF/SHF Contests

14th May - 70MHz Contest CW
20th-21st May - 144MHz May Contest (VHF Championship)
21st May - 1st 144MHz Backpackers Contest
28th May - 5.7GHz/10GHz Contest
28th May - 70MHz Cumulative No 3
4th June - Low Band Contest

Forthcoming HF Contests

25th May - 80m CC CW
3rd June - HF NFD
5th June - 80m CC DATA
10th May—80m CC Data 1900-2030

Full details of all forthcoming contests can be found on <http://www.rsgbcc.org/>

VHF Championship

Well done to all HARS members who were active during the 432MHz Trophy last weekend. We know of at least 6 stations that took part (there may have been others). The next contest in the VHF Championship series is the 144MHz May Contest (see above). There is a 6 hour section in this contest which will hopefully suit most of you! Full contest rules can be found here:

http://www.rsgbcc.org/cgi-bin/contest_rules.pl?year=2017&contest=may144&seq=

UKACs

The number of club members taking part in the UKAC is gradually increasing which is great news. We are still 5th in the General Clubs Section although we have moved up a place in the individual 144MHz, 432MHz and 1296MHz contests so I'm not sure how that pans out! The way the overall scores are worked out remain a mystery to me!

VHF National Field Day – 1st-2nd July 2017

Our plans for entering 2 bands for VHF NFD are taking shape. We will be running 2 bands (2m and 70cm) from a field at a farm on Hagbourne Hill (courtesy of the owners).

We have received little commitment for this project from club members—but we are undeterred at present as we have learnt in the past that a personal approach is often the way forward! Can you come and help? We need help getting everything for the 2 stations to the contest site, erecting the 2 stations and dismantling them at the end of the contest, help with operating, logging, tea making and general support – or just come along to find out what it is all about. Some may wish to stay for the whole event – some may only be able to commit for an hour or 2.

Please support this venture if you can!

MARCH-APRIL 2017

MARCH	Callsign	Section	Position
70MHz	G3MEH	AO	9 th
	G4BRK	AO	14 th
	G0ODQ	AR	17 th
	M0IEP	AR	54 th
2.3GHz	G4BRK	SAO	2 nd
3.4GHz	G4BRK	SAO	1 st
50MHz	G3MEH	AO	4 th
	F1BHL/P	AR	4 th
	G0ODQ	AR	7 th
	M0IEP	AR	31 st
	F4VRB	AR	62 nd
	M0PXM	AL	14 th
APRIL			
144MHz	F8BRK	AO	8 th
	G8CUL	AR	12 th
	F1BHL/P	AR	16 th
	G0ODQ	AR	33 rd
	G8DVK	AR	82 nd
	G0BNC	AR	96 th
	M0IEP	AR	102 nd
	G7IVF	AR	131 st
	M0KEP	AR	183 rd
	M0CIW	AL	41 st
	M0PXM	AL	45 th
432MHz	F8BRK	AO	7 th
	G8CUL	AR	9 th
	G0ODQ	AR	14 th
	G8DVK	AR	71 st
	M0IEP	AR	75 th
	M0KEP	AR	132 nd
	M0PXM	AL	29 th
	G0BNC	AL	40 th
50MHz	G3MEH	AR	5 th
	F1BHL/P	AR	6 th
	M0IEP	AR	54 th
1.3GHz	G8CUL	AR	5 th
	G3MEH	AR	19 th
	M0PXM	AL	40 th

RCE EXAM NEWS:

There are no planned courses just at the moment, but we have some interested candidates for a foundation course, so please watch this space, especially if you know someone who would like to join in!

HARS Website:

You may have noticed that the HARS website has been a bit static for a while, with few updates. A new website has been under consideration for some time and the committee has recently decided to approach a professional organisation to create a new site for us. Again watch this space for progress reports!

RAL Microwave Round Table

As mentioned last month, the next microwave Round Table event is the RAL one, sponsored by HARS. This occurs on the 11th June at Chilton village hall. There will be a day of events including a flea market and talks on a variety of radio-based topics, not just microwaves. The 2nd round of the UKuG project competition will also take place. Refreshments will be available including bacon butties in the morning! For more details, and registration, please see <http://www.microwavers.org/>

CLASSIFIED ADS

Your advertisement can appear here **free of charge!**

DIARY

Thursday 11th May

"Aircraft Deployment" by Lucy Creed (Tactical Flight Officer for National Police Air Service based at Benson)

Saturday 13th May

HARS Club Dinner

Thursday 8th June

M0XTR Tutorial Workshop

Sunday 11th June

RAL Roundtable

Sat/Sun 1st-2nd July

VHF NFD

OFFICERS

Chairman: John Durban, G6LNU
Vice-Chairman: Ann Stevens, G8NVI
Secretary: Elle Frost, M0NRK
Treasurer: Angus Wilson, G0UGO

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Dave Aram, G8DVK
John Booth, G6ZHB
Angelos Gonias, M0XTR
Tim Keep, M0KEP
Roger Powell, G0AOZ
John Morris, G6PEP

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Opinions expressed in QAV are the personal views of the contributor and cannot be taken as reflecting the views of the society, committee or editor.

The deadline for the June QAV is 31st May 2017. Articles submitted after this date cannot be guaranteed to be included.

Contributions from all members are greatly welcomed. They may be submitted to ann.stevens@btinternet.com