



SURREY RADIO CONTACT CLUB

DECEMBER 2006 — No: 771

CLUB NET 1.905 MHz Sunday 9:30am
CLUB Natter Channel: 144.215 MHz Daily 8:30pm

CLUB Internet WEB Site:
<http://www.g3src.org.uk>

Hon. Sec. Ray Howells G4FFY
9 Aultone Way
SUTTON
Surrey SM1 3LD
(020) 8644 7589
E-Mail: secretary@g3src.org.uk

MONTHLY MEETINGS 1ST AND 3RD MONDAYS 7.45 FOR 8pm

Normally AT THE T.S. TERRA NOVA, 34 THE WALDRONS, SOUTH CROYDON, CR0 4AZ

"A" MEETING 4th Dec 2006 Home Brew Radio – Hans Summers G0UPL

"B" MEETING 18th Dec 2006 FIX-IT, ADVICE, CHIN-WAG, CLUB STATION + "MOVE-IT-ON"

Chairman & Club Meetings	G4FDN Pat McGuinness	020-8643 0491
Vice-Chairman	G4WAY Roger Holyoake	020-8689 7089
Treasurer, Liaison & Equipment	G4DDY Maurice Fagg	020-8669 1480
Secretary, Membership & Communications	G4FFY Ray Howells	020-8644 7589
VHF Co-ordinator (Co-Opted)	G8IYS John Simkins	020-8657 0454
Publicity & HF Co-ordinator	M1MRS Robert Shepperley	020-8687 0811
Technical Topics	G4XAT Gareth Evans	020-8462 2837
Members	G3RJW Graham Marshall	020-8647 1186
	2E0UYP Peter Sutton	07974 296045

Dear Members & Friends

Hello and welcome to the December 2006 newsletter which I started on Monday night. Next Monday 4th December we welcome Hans Summers G0UPL for a talk on Home Brew Radio, with the Christmas "B" meeting on Monday 18th December. More details on these are given below.

May I firstly on behalf of all the committee wish all our members, other clubs, friends and all our readers a Happy Christmas and a peaceful New Year. Another year has gone by and it will soon be 2007, it goes too quick for me!

Since the last newsletter I've installed another Linux distro replacing the Ubuntu I had tried. This time it was Free Mandriva 2007 with KDE desktop. This version saw my NTFS and FAT32 partitions straight away and allowed me to access the files in those partitions. Another surprise was that it played my MP3's straight away. The KMail client also worked well in accessing my E-mails on the IMAP server I have. Wasn't as impressed with the PDF creator as part of Open Office as the file it created was 500kB when the basic document was only 20kB.

I am now getting quite familiar with opening up firewalls in Routers to allow remote access to Windows Server installations. I have now installed an ADSL Router here rather than using an ADSL WAN Card in my server. It's a BT Voyager 2091 Router but it was initially locked to BT Broadband user names, but via Google I found a Dynamode firmware solution (which this router actually is before BT build) which allowed me to use my ADSL ISP.

One of my other hats is the Kempton Park Rally and we had another successful show on 12th November. The gate was up making it a busy show.

Anyway let's get on with the Newsletter proper . . .

NEXT "A" MEETING: Monday 6th Nov 2006 Home Brew Radio – Hans Summers G0UPL

For the next "A" Meeting on Monday 4th December we are pleased to welcome Hans Summers G0UPL for a talk on Home Brew Radio. At the time of writing I am not sure what projects Hans will be presenting but for a flavour take a look at <http://www.hanssummers.com/>. His repertoire covers Clocks, Radio, Frequency Counters, Electronics and Equipment, and some computing.

This will be a talk not to miss and I hope we will get a good turnout on the evening to support the efforts that Hans will have made into giving us this meeting – thank you.

NEXT "B" MEETING: Monday 18th Dec 2006 FIX-IT, Advice, Chin-Wag & "MOVE-IT-ON"

The "B" meeting on Monday 18th December is the regular "Fix-It" and advice evening with the extra twist. If you have a radio item or anything else that you just wish to clear out then bring it along - you never know it may be just what another member is looking for!

The Fix-It section has proved very interesting and successful so please bring along that item that has been giving you grief - rigs, PCs, whatever! The collective heads at the meeting usually come up with something. This is also the last meeting before Christmas so should also be having those seasonal treats.



**LAST "A" MEETING: Monday 6th Nov 2006
Short Talks Evening with Alvin G6DTW and
Gareth G4XAT**

Last month's meeting with Alvin's G6DTW presentation on "Steam Powered Radio" was very entertaining showing what could be done with a little steam engine. Included in his talk was the enjoyable sight of two traction engines circulating on the floor around the table.



Alvin in full flow with Kim (traction engines under the table)

Once the system was up and running it powered a low power CW transmitter strip and Charles MOBIN took up the challenge of pounding the key.



Charles MOBIN on the key

Following a break we welcomed our Kent Correspondent Gareth G4XAT who educated us on the latest high-power LEDs, how LEDs work, and brought along some examples. It's amazing how bright they are now with the high power white LEDs usable as down-lighters or in torches (Robert M1MRS has recently sold some examples). Charles MOBIN has found a wikipedia.org page which explains it all in great detail – see Website of the Month section.

We thank both Alvin and Gareth for taking the time to give us these presentations, and we also thank Maurice G4DDY for going over to Alvin's to help him transport his equipment to/from the Terra Nova.

The CHAIRMAN's BLOG - Dec 2006



Firstly, I must thank Alvin G6DTW for identifying the unknown connector I pictured last month, and for also promising to supply a couple of mating connectors. I also want to thank John, G4EWX of Bromley, who is not a club member, for his recent generous donation

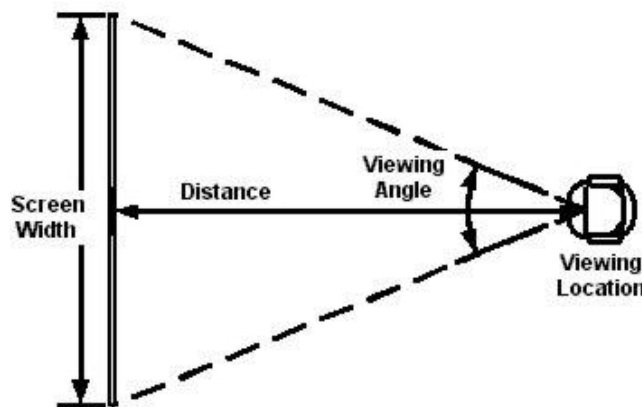
of books, computer ancillaries, home made items, cables, PSU's and a war time pocket watch, to be sold for club funds.

As may be reported elsewhere in this newsletter, November is an active month for raising clubs funds with the club having tables at both Kempton Park and CATS Bazaar recently. Without the efforts of our treasurer, Maurice G4DDY, in soliciting donations, collecting and storing items and supporting the above events, then the club subscription would be a lot higher than the current £8. Before throwing out equipment, books, cables, etc, please consider a club donation.



Changing the subject HDTV is something that came up in conversation recently with a colleague. I pointed out to his disappointment that having this sticker on his TV didn't guarantee he would actually be able to view broadcasts at their highest definition (1920 x 1080 pixels) but only at the lowest HD size of 1280 x 720 pixels. He was also surprised to learn that optimum viewing distance depends on pixel size which is related to screen size and screen resolution, but also on personal visual acuity.

The acuity limit of the human eye is typically accepted to be 1 minute of arc (1/60 deg). So you can now work out how far away the display has to be before the pixels just merge (i.e. when the pixel size is the same as your acuity limit). The math's is straightforward:



We need to find the angle that an item of size S subtends at the eye distance D, $\text{COS}(\text{angle})=S/D$, so $\text{angle}=\text{ARCCOS}(S/D)$, and if we work in radians instead of degrees, that becomes $\text{angle}=S/D$. Now S is the size of the pixel on the panel; in a 32" display the height is $32/\text{SQRT}(1+16/9^2)=15.89$ inches, so one pixel is $15.89/768=0.0204$ inches high. Now we can see that if it subtends an angle of 1 minute of arc or more, 1 minute of arc is $2\text{PI}/360/60=0.000291$ radians, so the distance at which it's just discernable is $0.0204/0.000291=70.22$ inches, so if you watch this 32" panel from further away than 70 inches (say 6 feet), you won't see the pixels so it's fine. However, depending how much further away you are than this, your higher definition may not be discernable and is therefore wasted. Since typical viewing distance is around 3 metres (9.5 feet), this too far away for optimum HD viewing, -it'll be fine for normal viewing, but if you want to show off the HDTV, you should be closer to the pixel merge distance.

So, armed with all this, you can work out how many pixels the display needs to have for optimal viewing, you work out where you're going to view from, and the pixel count you need (limited by the 1920x1080 of HDTV), and the numbers will drop out of the equations.

For typical British sized sitting rooms HDTV can have the following impacts:

- You need to sit closer
- The size of the screen can be out of proportion to the room if you want to maintain existing viewing distances.

Back to radio. At the last 'B' meeting John, G3ENG, brought along a Halcyon Electronics off-air (Droitwich 198kHz) frequency standard. Co-incidentally in the November issue Practical Wireless had a construction article for a Droitwich locked 10MHz frequency standard. More coincidentally I had recently purchased on e-Bay, for £10, a Rockwell Jupiter GPS receiver board that as well as the usual 1pps output also has a 10kHz low jitter reference output (see picture). This GPS receiver board has been the subject of several articles for integration into a 'disciplined' frequency standard. The DATA Column editor in RadCom, G4JNT, being the author of one phase locking a 5MHz VCXO to the 10kHz. My own use will be for phase locking the 5MHz VCXO in my Racal 9054 calibrator.



The Rockwell Jupiter GPS board just requires +5V supply, a connection to a GPS antenna, and TTL/RS232 converter interface to take of the standard NMEA data. I hope to have time over the Christmas break to put it all together.

Hope to see you all at the Hans Summers talk on homebrew radio. I'm also hoping we will have some heat again in the TS Terra Nova that night.

73, Pat G4FDN

27th Nov 06"

Thoughts of our Hayes, Kent Correspondent



The year is flying by, it will soon be December and work just seems to accelerate into a star-shifting Star Trek like haze! What with reports and parents evenings on top of daily life it gets a bit busy! On the car front we have started both the new car TSR-4 and a compete rebuild of TSR-2 the picture shows the basic chassis devoid of it's clothing!), having learnt a lot about aerodynamics this year. We have high hopes of winning in 2007, but then we always do!!

The team website (www.trinityschoolracing.co.uk) was judged to be the best Greenpower website this year and won the award, getting us a tour of the Honda F1 factory next February – should be good! The site is all the work of one pupil although the content is from many sources – the team and I. Thanks to Ray for hosting our videos too, otherwise we would exceed our allowed bandwidth and have to pay more or rather our website sponsor would!



For 2007 the rules have changed – no more bubble cars (good, they were too fragile and too fast – touching 49 mph on 1/3 of a hp!!) and 4 hour races in place of 6 hours, but with no charging allowed – with our comprehensive data logging we should be well placed to come up with a winning race strategy.

On the radio front one or two of the latest crop of foundation license holders have been using the school station at lunchtimes – I really need to find time to run a DIY Slim Jim factory for them and they are saving up for mostly FT817's – especially that they are now down to £350 – I'd rather not remember what I paid for mine years ago. Following the plea for a packet modem in the last newsletter, Terry, G4CDY, kindly dropped off a suitable unit recently and some handhelds to go with it - thanks. Tom, M3ZYA, (probably the most technical of our licence holders – well he is the team data logger), has found an all singing, all dancing sound-card based program that does the lot (packet, psk31, Morse send and receive and more), so he tells me. So long as our data acquisition chip does not lock up, it should feed regular streams of data to the modem and handheld, whilst back at base the laptop will be collecting the data, we hope....

The stunning weather at the end of October and early November (we had a 2 week half term and I had probably the most relaxing holiday for years) meant that Reuben and I managed a lot of model flying time, all of it in glorious sunshine, culminating in Reuben passing his British Model Flying Association 'B' test. This requires an advanced level of flying and having passed it he is 'rated' to fly at public displays. Not bad for a 13 year old (Proud dad). A model I have been working on for months is slowly dragging towards completion but it looks unlikely that it will make it into the air this year, unless we get some more great weather at the weekends. That's about it, see you at the next A meeting...

73, Gareth, G4XAT

26th Nov 06"

Web-Site of the Month

From Charles M0BIN this month take a look at:
Circuit Design Software:

<http://www.abacom-online.de/uk/html/splan.html>

Further LED info following on from Gareth's talk:

<http://en.wikipedia.org/wiki/LED>

QRP Matching Unit:

<http://www.g3ejs.com/files/antennas/2tuner.pdf>

Superdrug radio is back but is it the same as last year's:

<http://www.hanssummers.com/radio/superdrg/index.htm>

JAB Component supplier:

<http://www.jabdog.com/>

THE CALENDAR SECTION

SRCC and Local Club Meeting Dates:

1 st Dec	Crystal Palace: Christmas Meeting @ All Saints Church Parish Rooms, Beulah Hill from 7:30pm. Bob G3OOU 01737 552170 (Meet monthly on 1 st Friday) http://members.aol.com/rfcburns
4 th Dec	Home Brew Radio – Hans Summers G0UPL – http://www.hanssummers.com/
7 th Dec	Sutton & Cheam RS – 'Natter Night'. Meetings @ Vice Presidents Lounge, Sutton United Football Club, Gander Green Lane, Sutton –8pm. Sec: John G0BWV 020-8644 9945 www.scrs.org.uk
8 th Dec	W&DARS – Christmas Social @ Martin Way Methodist Church, Buckleigh Avenue, MERTON PARK SW20 9JZ – 7.30 for 8pm 2 nd & last Friday's Details: Jim M0CON on 020-8874 7456 http://www.gx3wim.org.uk/
11 th Dec	CATS: AGM – Meetings normally held @ St. Swithun's Church Hall, Grovelands Rd, Purley 8pm 2 nd Monday's. Contact Andy Jackson G8JAC on 020-8651 2727 g8jac@btinternet.com
14 th Dec	Sutton & Cheam RS – Christmas Junk Sale. Meetings @ Vice Presidents Lounge, Sutton United Football Club, Gander Green Lane, Sutton – 7.30 for 8pm. Sec: John G0BWV 020-8644 9945 www.scrs.org.uk
18 th Dec	Fix-It, Advice, Chin-Wag, Move-It-On
19 th Dec	Bromley & District – Meetings normally on 3 rd Tuesday's @ Victory Social Club, Kechill Gardens, Hayes – 7.30 for 8. Paul M3PGW bdars@greenwand.net or www.bdars.org.uk
26 th Dec	Dorking & District Radio Society – normally meet on 4 th Tuesdays @ Friends Meeting House, Butterhill South Street, Dorking – opp. Spotted Dog. Details: Walter Blanchard, G3JKV on 01306 884359 wb@g3jvk.co.uk
27 th Dec	Mitcham & District ARS (Meetings normally last Wednesday of each month) @ ATC Headquarters, Commonsides West, Mitcham. Sec: Mike Knott G0WCR 020-8764 4716
2007:	CAD PCB Design – Terry G4CDY
8th Jan	
5th Feb	Sid Morley Memorial Lecture with Jon G0GNA and Don McLean
5th Mar	Spring Surplus Equipment Sale
24th Mar	Annual Club Dinner – details to follow
2nd Apr	AGM

SRCC Meetings indicated in BOLD with venue of Terra Nova

Rally Calendar, etc:

3 rd -4 th Mar 2007	Firepower, The Royal Artillery Museum , Royal Arsenal, Woolwich, SE London. Vintage radio display. Demo and radio junk sale (no computers). Open 10:30 both days. Details: 020 8654 2582. Email: M1CCF@talktalk.net Web: http://tinyurl.com/y2jaze
15 th Apr 07	West London Radio and Electronics Autumn Show – Kempton Park www.radiofairs.co.uk – Additional attractions of a craft fair on the 1 st floor, and holding of RSGB Top Ham Contest being planned. Programme should also include VHF Talk-In managed by Whitton, 'Byte-Size' Lectures, and Bring & Buy Sale run by CATS. Also don't forget the Restaurant on the 2 nd Floor with those glorious views over the racecourse.
May 2007	Dunstable Downs Radio Club Boot sale. Details: http://www.ddrcbootsale.org/
15 th Jul 07	McMichael Rally and Boot Fair Reading RFC, Sonning Lane RG4 6ST Open 9:30am, entrance fee £2.00. Details http://www.radarc.org/MMRally.htm

WEST LONDON RADIO & ELECTRONICS

AUTUMN SHOW - KEMPTON - 12th Nov 2006

This show was another success and the fifth that I have been involved with – one role I have been organising the table layout – trust it was to everyone's liking. As there was twilight racing on the Saturday we couldn't get up on site until 8:30pm to ensure that the tables were laid out correctly, and all the mains cables laid out to those who had ordered power. Got home about midnight and up again at 5am for the day's activities!

SRCC had two tables at the show in the "Club" area. This particular area of the floor was particularly crowded for most of the show and SRCC did good trading. The club raised several hundreds of pounds towards SRCC funds making it a very worthwhile day out. Thanks goes to Maurice G4DDY and Pat G4FDN for manning the stand – apologies to anyone I have missed

As Pat has already said without the efforts of our treasurer, Maurice G4DDY, in soliciting donations, collecting and storing items and supporting the above events, then the club subscription would be a lot higher than the current £8. Before throwing out equipment, books, cables, etc, please consider a club donation.

CATS Bazaar - 19th Nov 2006

I trust you didn't miss this annual "Social event with Sale" at which SRCC had two tables and was able to make over £100 towards Club funds. Manning the tables was Maurice G4DDY, Gareth G4XAT and myself and it was a busy show. It all went very smoothly thanks to CATS and we are looking forward to next years'.

MEMBERS NEWS

John Headland G3BFP

John now has a new E-Mail address as follows: g3bfp@tweet.orangehome.co.uk

Graham Marshall G3RJW

Graham now has a new E-Mail address as follows: graham.g3rjw.marshall@radiouk.com

The Future of AM & FM Radio in the UK

If you are interested or concerned about this topic then you can get involved. Ofcom published a discussion document 'The Future of Radio' on 16/11/2006 and is looking for comments by 14 December. More information can be found at <http://www.ofcom.gov.uk/consult/condocs/>

UNUSUAL ITEM. Good home wanted. STAIRLIFT straight, Can be easily carried in a car. Further details from G8TB on 020 8660 7517

SIGNING OFF:

I think that is it for this month - if I have missed anything I give my apologies and hopefully remember it next time.

For our main meeting on Monday 4th Dec we welcome Hams Summers G0UPL for a talk on Home Brew Radio We hope there will be a large turnout to support Hans for taking the time to come to SRCC. The "B" meeting is on Monday 18th December and this will be the last meeting before Christmas.

In closing, may I wish all members, friends and readers a very happy Christmas and peaceful New Year. Don't forget we have a Christmas morning net @ 9:30am and it will be on 1.905MHz or thereabouts.

Ray G4FFY

73 and 88

Posted: 30th Nov 2006