



# SURREY RADIO CONTACT CLUB

DECEMBER 2005 — No: 759

CLUB NET 1.905 MHz Sunday 9:30am  
 CLUB NET 144.325 MHz Friday 8:30pm  
 CLUB NET 145.500 MHz and Down Thursday 7.00pm

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](mailto:secretary@g3src.org.uk)

MONTHLY MEETINGS 1<sup>ST</sup> AND 3<sup>RD</sup> MONDAYS 7.45 FOR 8pm

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

\*\*\*\*\*

**"A" MEETING 5<sup>th</sup> Dec 2005 Hybrid powered vehicles and vehicle battery systems – G4WPB**  
**"B" MEETING 19<sup>th</sup> Dec 2005 FIX-IT, ADVICE, CHIN-WAG, CLUB STATION + "MOVE-IT-ON"**

Chairman	G4XAT Gareth Evans	020-8462 2837
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
Club Meetings	G4FDN Pat McGuinness	020-8643 0491
Members	G3RJW Graham Marshall	020-8669 8722
	G8TB Bernie Wynn	020-8660 7517

## Dear Members & Friends

Hello and welcome to December 2005 newsletter which I am composing having returned home from my care under Prim G4CCY and Maurice G4DDY. They were just fantastic and very caring making me very welcome and at home with them. I greatly appreciated their care and support during those first weeks of my recovery following discharge from St. Georges Hospital on Friday 21<sup>st</sup> October. More details are posted on my website [www.g4ffyc.co.uk](http://www.g4ffyc.co.uk).

To business then, and 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 2006, it goes too quick for me!

The SRCC meetings for December start with the "A" meeting on Monday 5<sup>th</sup> December when we welcome Peter G4WPB for a talk and presentation entitled "Hybrid powered vehicles and vehicle battery systems"; with the Christmas "B" meeting on Monday 19<sup>th</sup> December, more on these below.

### NEXT "A" MEETING: Monday 5<sup>th</sup> Dec 2005 Hybrid Powered Vehicles and Vehicle Battery Systems - Peter G4WPB

On Monday 5<sup>th</sup> December we have the pleasure of welcoming Peter G4WPB for a talk and presentation on Hybrid powered vehicles and vehicle battery systems. Some of you may be aware that Peter is the proud owner of a Toyota Prius, which intelligently combines a petrol engine and an electric motor under a system called Hybrid Synergy Drive.

Peter will start his talk with an introduction to Battery technology and how it has developed over the last 140 years or so. Before describing the latest battery developments, Peter will describe the technology which "drives" the Prius and on the way expose some of the myths and magic.

Peter will be supporting his talk with a PowerPoint presentation including showing some of the technical aspects of the Prius configuration including fuel cells.

Recognising Peter's other interests, we will also be learning about his electric bikes; and electric motors and batteries in models, including important safety information about lithium polymer batteries. Peter will be bringing along his electric bike and electric helicopter to show these alternative travel possibilities and the power that can be contained.

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 Peter has made into giving us this meeting – thank you.

### NEXT "B" MEETING: Monday 19<sup>th</sup> Dec 2005 FIX-IT, Advice, Chin-Wag & "MOVE-IT-ON"

The "B" meeting on Monday 19<sup>th</sup> 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 - 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 7<sup>th</sup> Nov 2005 Converting Computer Power Supplies for Amateur Use with Pat G4FDN



On Monday 7th November, club and committee member Pat McGuinness, G4FDN, gave a well attended talk on "Converting Computer Power Supplies for Amateur Use". Pat started with an introduction of how he got interested in the subject highlighting that receiving a 40lb PSU built by Bernie G8TB for a 4M linear amp had

been an incentive for looking for something lighter!

This led into a comparison of the pro's and cons of switched mode PSUs against linears, highlighting that switched mode PSUs offer a 10-20 time weight advantage against linear and are around 85% efficient against around 50% for linear. This led into a brief history on the Switch Mode PSU since WWII. Pat highlighted that it was 13 years ago that a German amateur DL2YEO had an article in RadCom on how to convert a PC PSU to 13.8V and that much of the information in his talk was down to the work of this amateur.

Safety was an aspect that Pat emphasised needed to be taken seriously when working on PC PSUs, because, as well as 240V AC Mains, 380V DC was also present and could remain for a significant time. However he concluded that the audience, given their age, were probably well experienced in high voltages!

Pat had brought along several different types of PC PSU showing how they could be identified, highlighting the differences between them, and what the differences meant. This led into the practical part of the talk where Pat demonstrated how they could be tested and showed a simple test and load harness he had made and compared it to a commercial one that was available.

With a series of diagrams and pictures he gave a useful overview of the architecture and circuitry inside the typical PC PSU and how the major components could be identified without a circuit diagram. The modification for getting 13.8V can be as simple as turning a pre-set pot or changing a resistor but to make full use of all the PSU power the 5V output circuitry needs to be removed and the 12V Schottky rectifiers swapped with the 5V ones. Regulation and ripple can be improved by doubling the value of the reservoir capacitors on the HV and LV sides. RF noise (hash) can be significantly reduced by incorporating an IEC filter with the mains input socket and having an additional low pass PI filter on the 13.8V output.

Pat said he had been experimenting with modifying PC PSUs for 250V-300V and 6.3V output for use with valve equipment. For HV outputs it is essential to use fast recovery rectifiers. It also requires the main transformer to be rewound. After getting rid of the dope or lacquer this is fairly straightforward as a single layer each is only needed for primary and secondary and the number of turns is much less than conventional transformers.

The talk concluded with summary of the most common component failures and then led into an informal question and answer session.

I will be putting up on the Club Website [www.g3src.org.uk](http://www.g3src.org.uk) the slide presentation that Pat used to support his talk. We thank you Pat for an excellent and informative evening that was enjoyed by all in attendance.

## CHAIRMAN THOUGHT of the MONTH - December 2005



"Well after finding catkins on my Hazel tree in mid November I've since been scraping the ice off the car windscreen every morning. Global warming, what global warming?? However, in a flash of inspiration I tried using a short piece of wood as a scraper (actually a bit of pine, 12mm by 100 by 200) and it works fine. Think about all those plastic scrapers that have snapped over the years due to the cold. The wood is non-damaging to the glass surface too and will probably outlast the car??"

On a very positive note I can report that all eight of my pupils/racing team passed their Foundation Licence training and examination, courtesy of Bromley and District Amateur Radio Society. I was present throughout as 'guardian' for six of them and as father of two. Yes, sons Joshua and Reuben both studied and past with flying colours. Having seen the enormity of the task, both logistical and manpower I, and the pupils, are very grateful. Call signs should be with us by the time you read this.

Last months talk by Pat, G4FDN, about persuading PC power supplies sent me to see the schools network manager. Last summer they upgraded a large number of Elonex Celeron 733 desktop units by buying new cases and motherboards and swapping across the FDD, HDD and CD drives. So, if you want one of these to either rebuild as a working machine (free Win 98 SE license number included) just ask. They are destined for the skip, so if you have a really old box lying around, one of these could replace it. Subject to confirmation, they may well run XP (XP runs fine on my P3-600) but you would have to buy a copy of that OS for yourself. Failing that, ask for one for the power supply so that you can experiment with a SMPS as per last months talk by Pat!!

On the Trinity School racing car front things have been quiet, with a lot of planning and researching going on. Aerodynamics is now the key, so we are looking at ways of improving our old faithful TSR-2; now with 1350 miles on the clock and having barely consumed the equivalent energy of a gallon of petrol in the process!!

The data logger we use has been re-designed by me onto a single sided PCB, leaving off a lot of the stuff we did not need. It means we can knock them out ourselves cheaply and actually have the luxury of spares, this will help with last minute failures...well it was OK when I used it yesterday!! The published diagram contained a reversed pair of pins and this caused much head scratching until I compared a commercial version to ours. Problem solved. I wonder if it was deliberate??? We have acquired a GPS engine for £45 including vat, delivery and external aerial (<http://www.crownhill.co.uk/level3.php?cat=18&sec=3>). We hope to extract current speed from the once-per-second data stream and then pop that into our data logger. The telemetry issues remains, with time needed to sit down and find out what's stopping the data getting across. It's probably just in need of a pull-up resistor or two but a separate PSU has been suggested as a cure. Time is in short supply (as usual) as I have reports and parents evenings to wade through at the moment.

Finally, I know I've asked you all via email, but should you have any old 2M or 70cms gear lying around unused (FM or multimode) perhaps you would consider selling it or passing it on to one of at least six new licensees who are looking for their 'first station'. My own two will be OK once I sort what works from what does not, or that which needs bench time, or not!!

See you at the next "A" meeting for another 'home grown' special when Peter Bruce will be telling us all about his experience of hybrid vehicles, should be another good evening.

## STOP PRESS:

Reuben is now the proud owner of M3TVC and Joshua M3LSU. Reuben has filled up a page in his logbook already....(24 hrs)

Club station (G3TSC) now on it's collinear (at last) and can muster 50 watts on 2M, 20 watts on 70cms and 100 watts on HF & 6M into our monster horizontal loop. Time to do some actual operating then....

Gareth G4XAT"

## THE CALENDAR SECTION

### SRCC and Local Club Meeting Dates:

2 <sup>nd</sup> Dec	Crystal Palace: Christmas Experience @ All Saints Church Parish Rooms, Beulah Hill. 7:30 for 8pm. Bob G3OOU 01737 552170 (Meetings 1 <sup>st</sup> and 3 <sup>rd</sup> Fridays) <a href="http://members.aol.com/rfcburns">http://members.aol.com/rfcburns</a>
5 <sup>th</sup> Dec	<b>Hybrid powered vehicles and vehicle battery systems with Peter G4WPB</b>
8 <sup>th</sup> 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 <a href="http://www.scrs.org.uk">www.scrs.org.uk</a>
9 <sup>th</sup> Dec	W&DARS – Christmas Social @ St. Andrew's Church Hall, Herbert Road, Wimbledon – 7.30 for 8pm 2 <sup>nd</sup> & last Friday's Details: Jim M0CON on 020-8874 7456 <a href="http://www.wadars.thersgb.net">http://www.wadars.thersgb.net</a>
12 <sup>th</sup> Dec	CATS – AGM – Meetings normally held @ St. Swithun's Church Hall, Grovelands Rd, Purley 8pm 2 <sup>nd</sup> Monday's. Contact: Dave G8VXB on <a href="mailto:dave.young@siemens.com">dave.young@siemens.com</a>
13 <sup>th</sup> Dec	Bromley & District – Mince Pie Social - Meetings normally on 3 <sup>rd</sup> Tuesday's @ Victory Social Club, Kechill Gardens, Hayes – 7.30 for 8. Alan G0TLK 020-8777 0420 <a href="http://www.bdars.org.uk">www.bdars.org.uk</a>
13 <sup>th</sup> Dec	Dorking & District Radio Society – Meetings 2 <sup>nd</sup> & 4 <sup>th</sup> Tuesdays @ Friends Meeting House, Butterhill South Street, Dorking – opp. Spotted Dog. Details: John G3AEZ on 01306 631 236
14 <sup>th</sup> Dec	Crawley ARC – DF Receiver Design – Top Band version with Derek G3GRO @ Hut 18, Tilgate Forest Recreational Centre, Tilgate Forest, Crawley – 7.30pm. Sec: Keith G8KZZ 01403 257788 <a href="http://www.carc.org.uk">www.carc.org.uk</a>
19 <sup>th</sup> Dec	<b>Fix-It, Advice, Chin-Wag, Move-It-On</b>
27 <sup>th</sup> Dec	Dorking & District Radio Society – Meetings 2 <sup>nd</sup> & 4 <sup>th</sup> Tuesdays @ Friends Meeting House, Butterhill South Street, Dorking – opp. Spotted Dog. Details: John G3AEZ on 01306 631 236
28 <sup>th</sup> Dec	Mitcham & District ARS (Meetings normally last Wednesday of each month) @ ATC Headquarters, Commonsidge West, Mitcham. Sec: Mike Knott G0WCR 020-8764 4716
30 <sup>th</sup> Dec	W&DARS – TBA @ St. Andrew's Church Hall, Herbert Road, Wimbledon – 7.30 for 8pm 2 <sup>nd</sup> & last Friday's Details: Jim M0CON on 020-8874 7456 <a href="http://www.wadars.thersgb.net">http://www.wadars.thersgb.net</a>
<b>2006</b>	
9 <sup>th</sup> Jan	<b>From 50Hz to 2GHz with Peter G3ZPB</b>
6 <sup>th</sup> Feb	<b>Life and Times of Early TV with Jon G0GNA</b>
6 <sup>th</sup> Mar	<b>Spring Surplus Equipment Sale</b>
3 <sup>rd</sup> Apr	<b>AGM</b>
8 <sup>th</sup> May	<b>Project Constructing Evening</b>
5 <sup>th</sup> Jun	<b>Summer BBQ (tbc)</b>

SRCC Meetings indicated in **BOLD** with venue of Terra Nova unless otherwise stated.

**Note:** Some of the dates after Christmas may not be correct – please check with applicable society – thanks.

## Rally Calendar, etc:

11 <sup>th</sup> Mar 06	CPREC Spring Sale 7:15 for 8pm
16 <sup>th</sup> Apr 06	<b>West London Radio and Electronics Spring Show</b> – Kempton Park
12 <sup>th</sup> Nov 06	<b>West London Radio and Electronics Autumn Show</b> – Kempton Park
19 <sup>th</sup> Nov 06	<b>CATS Bazaar</b>

## Coulsdon Amateur Transmitting Society

### CATS QUIZ - Monday 14<sup>th</sup> Nov 2005

This event returned to the calendar on Monday 14<sup>th</sup> November and SRCC was represented by Bernie G8TB and Blanca XYL; and John G3BFP and Hazel XYL. I am not sure of the scores obtained by the visiting clubs but I believe the SRCC team got the wooden spoon. It's many thanks to CATS, and especially Andy G8JAC and XYL for organising the quiz.

## WEST LONDON RADIO & ELECTRONICS AUTUMN SHOW - KEMPTON - 13<sup>th</sup> Nov 2005

This show was another success and the third that I have been involved with – one role I have been organising the table layout – trust it was to everyone's liking. Due to my operation in October my involvement at the show was "light duties" and I didn't draw the short straw to get there by 6am and co-ordinate the early traders.

SRCC had a table at the show next to Graham G3RJW who was selling some of his Eddystone receivers. This particular area of the floor was particularly crowded for most of the show and both SRCC and Graham 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.

## Members News

### - Timothy Molyneux VA3TEM / VK4DKH

It is with pleasure that we welcome Timothy VA3TEM as a new member of SRCC. His interests include HF, VHF, UHF, SSTV, APRS, Echolink, Satellite and Microwave. His UK address is:

Flat 1, 22 Langley Ave

SURBITON

Surrey KT6 6QW

Tel: 020 8404 0083

E-Mail: [va3tem@yahoo.com](mailto:va3tem@yahoo.com)

Welcome Timothy and we hope you have a long and enjoyable association with us.

## VHF NFD 2005 Results

The VHF NFD 2004 Results are now out - see <http://www.blacksheep.org/vhfcc/results/05/nfd.html>

In the Mix & Match we came 2nd out of 11 entries (was 2nd last year out of 13 entries).

Here is a quick comparison of Claimed versus Actual, and Mix & Match positions (Section Position):

	Claimed	Actual	% Lost	Position
<b>50MHz</b>	48707	43716	10%	7 <sup>th</sup> (11 <sup>th</sup> )
<b>144MHz</b>	105491	102918	2%	1 <sup>st</sup> (1 <sup>st</sup> )
<b>432MHz</b>	31893	30630	4%	2 <sup>nd</sup> (1 <sup>st</sup> )
<b>1296MHz</b>	3720	3230	13%	3 <sup>rd</sup> (4 <sup>th</sup> )

John G8IYS will be calling a review and planning meeting in the New Year, etc. Well done everyone.

## LAST "B" MEETING: Monday 21<sup>st</sup> Nov 2005 FIX-IT, Advice, Chin-Wag & "MOVE-IT-ON"

The last "B" meeting definitely had the extra twist when John G8MNY brought along his copious supply of components – those of you that went to the CATS Bazaar will know how much John has including lots of capacitors from pF to  $\mu$ F, low to high voltage.



These pictures taken on the night were with my camera phone but no flash so a slow shutter leading to some camera shake!! Thank you John for taking the effort to bring all these components up to the Club room and those in attendance left with bags full of some interesting bits. Funds that were raised were donated to the Club – thanks again John.

### PE1AUK and his DC Transformer!



I think this one has been doing the rounds but at the last "A" meeting we had a guest visitor Evert PE1AUK who brought along his "DC Transformer".

My picture shows the battery and the multi-meters connected to the primary and secondary windings. Reversing the battery was followed by the meters – a good trick!

### Ofcom to take over amateur radio work from RSGB

Communications regulator Ofcom will take over a series of amateur radio administrative tasks from 1 January 2006.

The tasks include managing the repeater and packet radio networks, issuing NoVs for special event call signs, contest call signs and operation on 5 MHz and providing permits for amateur radio research and Raynet operations.

These roles were previously undertaken by the Radio Society of Great Britain on behalf of Ofcom and its predecessor the Radio Communications Agency. The Society received an annual subsidy for this work and was therefore able to issue NoVs free of charge. As part of a review of amateur radio procedures, Ofcom has decided to take these roles in-house. The management will now be carried out from Ofcom's headquarters in London.

RSGB General Manager Peter Kirby, G0TWW, welcomed the changes. "I am delighted with this decision. It shows Ofcom's commitment to amateur radio and will provide a slicker service to the amateur radio community as Ofcom can provide more resources than the RSGB." he said.

Peter also said that the shake-up would "allow the RSGB to revert to being a truly representative organisation able to concentrate fully on representing its members and all UK radio amateurs to Ofcom and other governmental bodies."

Ofcom's Steve Roper, G8MXZ, praised the RSGB for carrying out the administrative roles in the past and for providing a very efficient service over many years. He said: "Ofcom has a duty to manage the amateur radio spectrum and is committed to maintaining a good service for radio amateurs."

RSGB staff will work alongside Ofcom representatives to ensure the hand over of responsibilities goes as smoothly as possible.

### Superdrug £3 radio

I found on the Southgate Amateur Radio Club web site a page about this cheap radio:

[http://www.southgatearc.org/news/november2005/superdrug\\_radio.htm](http://www.southgatearc.org/news/november2005/superdrug_radio.htm)



"The special Superdrug offer is a 10-band radio for £2.99. It's a neat little radio, featuring: Digital clock/alarm with backlight 4 digit frequency counter MW/SW1-SW8/FM Telescopic antenna It runs off 2x AA batteries (not included), has integral 8-ohm 0.25W loudspeaker, a Power LED, and a Tune LED.

Apparently inside is a single 24-pin SMD IC, with markings: CHMC S5504 D1191. There are also 6 discrete transistors near the audio end of the board. There is a ribbon cable to the LCD/buttons board, which presumably has another IC to take care of frequency counter and clock functions.

Apart from the SMD IC, the rest of it is non-SMD. There are several canned IF transformers and a plastic-cased 465 kHz ceramic filter. Tuning is via a polyvaricon variable capacitor, i.e. this radio is not synthesised PLL. The digital display must therefore be a proper frequency counter.

Contrary to the band limits specified in the information sheet. Band coverage as displayed on the frequency counter:

FM 86.6 - 108.7; MW 523 - 1657 kHz; SW1 5.81 to 6.56

SW2 6.74 to 7.58 (incl whole of 40m)

SW3 9.29 - 10.35 (incl whole of 30m)

SW4 11.85 to 13.03

SW5 12.93 to 14.20 (incl lower part of 20m)

SW6 15.21 to 16.63; SW7 16.63 to 18.14; SW8 20.94 to 22.54

The tuning knob is not geared, so tuning CW could be tricky unless the band could be narrowed somewhat. The frequency counter resolution is 10 kHz, I don't know if this could be altered.

Hans GOUPL"

Thanks to Southgate ARC. Also take a look at:

<http://www.hanssummers.com/radio/superdrug/>

### SIGNING OFF:

That's it for this month, apologies if I have missed anything. Monday 5<sup>th</sup> Dec is when we welcome Peter G4WPB for his talk on "Hybrid powered vehicles and vehicle battery systems" which I hope you can all make, whilst Monday 19<sup>th</sup> Dec will be the Christmas "B" meeting.

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.

73 and 88  
Ray G4FFY

Posted: 1<sup>st</sup> Dec 2005

**January's "A" meeting will be on Monday 9<sup>th</sup> Jan 2006** when we welcome Peter G3ZPB for a talk entitled "From 50Hz to 2GHz". Part of this talk will be about Building Regulations Part P - Inspection & Testing of electrical wiring & the respective legal framework