



# SURREY RADIO CONTACT CLUB

## FEBRUARY 2009 — No: 797

**CLUB NET** 1.905 MHz **Sunday 9:30am**  
**CLUB Natter Channel:** 144.215 MHz **Daily 7:30pm**  
**Slow Morse** 144.100 MHz **Wednesday 8pm**

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

Hon. Sec. Ray Howells G4FFY  
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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 7.30 FOR 7.45pm**

**Meetings at Trinity School, Shirley Park, Croydon CR9 7AT**

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**"A" MEETING 2<sup>nd</sup> Feb 2009 SMD Master Class with Gareth Evans G4XAT**

**"B" MEETING 16<sup>th</sup> Feb 2009 Extraordinary General Meeting + FIX-IT, ADVICE, CHIN-WAG**

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	01892 668191

### Dear Members & Friends

Hello and welcome to the February 2009 Newsletter which is being edited by Ray G4FFY in the week before the next "A" meeting but coinciding with my Tax Form submission on line. More about this in the next meeting section below.

It's been a busy month, both sorting out people's PCs and doing my tax – always seem to leave it to the last moment! Next month I start my Great Rail role with a tour to the Geneva area for 6 nights – will be great to see the Lake Geneva area in winter and hopefully covered in snow.

Anyway to the Newsletter proper and once again we are indebted to Pat G4FDN.

### **NEXT "A" MTG: Monday 2<sup>nd</sup> Feb 2009: 7.45pm SMD Master Class with Gareth Evans G4XAT**

We are pleased to welcome Gareth Evans G4XAT to lead a workshop evening dealing with the intricacies of Surface Mount Devices (SMD) and especially how to de-solder and solder such small components. A taster for this meeting was published last month and I have a further piece from Gareth providing more information about this meeting next Monday 2<sup>nd</sup> Feb 2009.

"You may recall in the last newsletter I wrote about our forthcoming "SMT master class" February A meeting. Well I was absolutely swamped by a total response of ...ONE person, asking what he needed to bring along. So here is a little bit more about the evening and what you can get from it.

At Trinity we are fortunate to be well equipped with most of the "must haves" of the modern age. One of these is a microscope camera, designed for looking at small things and with built-in illumination so you can get really close, like SMD close.

We also have video/data projectors so you can all see what is going on. So you should all be able to see what I'm talking about at least.

Firstly, what tools do you need to work with SMD, and hence, what should you bring along with you? I was fortunate to have a retired Toolmaker as a Technician at my last place of employ and he took delight in making quality items. My SMD assembly jig is an example of his work. However; almost any weighted but pointed and stable device will do the job. I hope to have a few variations available to try. If you have any SMD tools, like tweezers (or "particle accelerators" as I tend to find them), favourite mini long nosed pliers, cocktail stick with a bit of blutack on the end, that sort of thing, bring them along. 22 SWG solder will be provided to experiment with and if you really want, I have a roll of the proper silver rich stuff. Small (or TINY) soldering irons are a good idea too, I have two or three available but a small point can be made by wrapping some 1 mm single core earth wire from ring main cable around the iron tip. Quick and easy. Wattage is not a problem as the thermal inertia of the parts is small.

Inevitably I have collected a number of commercial boards that are covered in SMDs, these can be salvaged if you really want, but only resistors are printed with a meaningful value, transistors and diodes come in a huge range of packages and unless you know what you bought, good luck in identifying them off a commercial board! Larger capacitors (electrolytics) are usually marked. If you have something that you would like an enlarged look at, bring it along for the masses to scrutinise!

As I detailed in the last newsletter, I bought and built a SMD Sudden receiver (80 metres DC), provided then as a kit by Blue Rose Electronics. This is no longer available (well it was over 20 years ago!!) but I still have the receiver and we

shall initially look at this, literally under a microscope, but with the added benefit of big-screen viewing. From there we can move on to look at commercial boards, but I imagine that the most benefit can be derived from actually soldering some of these devices onto a piece of PCB. For this I have prepared a number of simple single-sided boards, based on a kit that used to be available from the NorCal QRP club. Two of my pupils built the original kit with relative ease. It's a 10 watt dummy load with BNC connector, with a diode and capacitor for RF sampling. The original was double sided, and screen printed. This one, being home grown, is neither!

SMD parts are freely available from suppliers like Rapid Electronics, even if you do have to buy a 100 minimum. They are so cheap however that this is not really an issue. The roll of 5,000 resistors cost just over £12.

As with any talk, a lot of preparation has gone into this and it would be nice to see a good turn-out. The actual presentation is unlikely to actually be that long, but soldering the blighters can take as long as you like!

See you there on Monday.

Gareth, G4XAT"

**NEXT "B" MTG: Monday 16<sup>th</sup> Feb 2009: 7.45pm  
EXTRAORDINARY GENERAL MEETING  
FIX-IT, Advice, Chin-Wag & "MOVE-IT-ON"**

The "B" meeting on Monday 16<sup>th</sup> Feb at Trinity School will first of all be an Extraordinary General Meeting to discuss the proposal of deleting Rule 27: *A Chairman's term of office may not exceed three years' continuous service, after which period at least one year must pass before he may offer himself for re-election as Chairman.*

The normal "B" meeting will then follow.

**LAST "A" MTG: Monday 5<sup>th</sup> Jan 2009: 7.45pm  
"Does the Goubau (single wire transmission) line explain how antennas actually work?" with Professor Mike Underhill G3LHZ**

We were very pleased to welcome Professor Mike Underhill, G3LHZ, for our January 'A' meeting which was very well attended. Mike is well known to many radio amateurs from not only his RadCom articles and appearances at the Kempton Park Radio Fairs, but also his professional, academic, research and consultancy activities in relation to radio antennas.

Mike is Chairman and Research Director, Toric Ltd, UK and Principal, Underhill Research (Scientific Research Services.) Mike has had a long academic and research career with the University of Surrey for nearly 40 years.

His current research interests include low phase noise in oscillators and frequency synthesis, low jitter clocks and clock recovery, HF transmitting loops and associated electromagnetic theory, millimetric and satellite borne HF radar and Ionospheric sounding. He holds about 50 patents in these and related fields and has published about sixty papers. He has been a Fellow of the Royal Academy of Engineering since 1993.

Mike has recently turned his attention to the Surface Wave or Single Wire Transmission Line, also known as the G-Line or Goubau Line after its inventor. This technology is well known to several SRCC members, notably Bernard G8TB, and Ray G3DVQ, who built and used a 13cm G-Line for use in VHF NFD in the 1990's.

Mike demonstrated a 2m G-Line and described the insights he has gained from his experiments with it, particular with respect to how an antenna actually radiates.

We also saw demonstrations and insights into small loop, hairpin and Yagi antennas. We will also hear about discovering, inventing and demonstrating 'impossible' antennas – that are supposed not to work! Thanks extended to Gareth G4XAT for providing the FT817 RF Source.

The small transmitting loop controversy regarding efficiency, how intrinsic efficiency is measured/calculated, and in particular the Rho-Q method, was covered in Mike's presentation. Mike also highlighted the importance of the environment the antenna operates in and where losses in the environment occur, and the effect of the ground and how to test it.

All the equipment Mike used in his demonstrations are within the scope of the well equipped radio amateur, so his presentation give much food for thought for others to undertake their own experiments.

This was an evening not to be missed and we thank Mike for taking the time out to come to the SRCC and present a wonderful and interesting evening. Rather than write up here all the technical details of Mike's talk Pat G4FDN has kindly set me some links where Mike's presentation material can be read as follows:

**All sorts of small antennas – they are better than you think – heuristics shows why!**

[http://www.qsl.net/vk5bar/Small%20Loops%20-%20Mike%20Underhill%20KLT%20&%20BR/G3LHZ-talk-2008\\_02\\_04/v1p1comp%20All%20sorts%20of%20small%20Antennas%20better%20by%20heuristics%20.pdf](http://www.qsl.net/vk5bar/Small%20Loops%20-%20Mike%20Underhill%20KLT%20&%20BR/G3LHZ-talk-2008_02_04/v1p1comp%20All%20sorts%20of%20small%20Antennas%20better%20by%20heuristics%20.pdf)

**Small Loop Antenna Efficiency:**

[http://www.g4cdy.co.uk/Loop%20Efficiency%20\(Kempton\).pdf](http://www.g4cdy.co.uk/Loop%20Efficiency%20(Kempton).pdf)

These presentations cover most of what we saw at the meeting except for the Goubou line demonstration. I will add that next month.





## The CHAIRMAN's BLOG - Jan 2008



January has been another month that I haven't managed much operating apart from the club's Sunday net on Top Band, though I did manage a new country on 80m PSK31 courtesy of UA9AM in Malkovo in Siberia. FR5AB on Reunion Island was a got away I heard during a brief opening on 15m.

### Last 'A' Meeting: Talk by Prof Mike

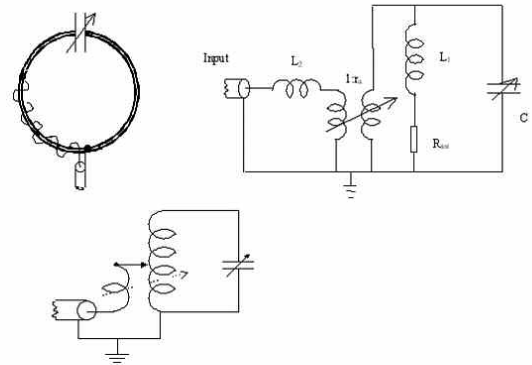
**Underhill G3LHZ:** Ray G4FFY will have reported above on this well attended event so I don't intend to repeat here other than to include some details about Mike's twisted gamma match arrangement used on his loop antennas which several people asked for. The details are from Mike's presentation notes.

**The G3LHZ Twisted Gamma Match:** (or mu-gamma, or G3LHZ gamma match) consists of a long insulated wire wound loosely or tightly around the main loop starting from a chosen ground point.

It combines three coupling modes:-

- Inductive coupling - as by a small loop.
- Travelling wave coupling - as in directional couplers.
- Tapping along main loop - as in conventional gamma match.

The loop coupling is achieved by pulling out a small loop at a desired point along the gamma wire. The travelling wave coupling is weak and it allows the point of maximum coupling to be moved to practically any point around the loop (for optimising directionality). The best tapping point can be found using a large crocodile clip and then replacing this by a soldered joint, permanent clamp, or large "jubilee" clip.



### G3LHZ

There are usually two essentially open-circuit points of practically zero coupling on the main loop, at approximately 90 and 270 degrees away from the tuning capacitor. Practical coupling points can be found on either side of these "null" points. An equivalent lumped circuit shows how the inductive coupling can cancel the tapping point voltage at certain places.

**RSGB Badges:** Prue G4RWW recently presented to the club her late husband's (Ron G6LX) RSGB Empire DX Award medal.

Along with these she gave me five spare RSGB member lapel badges. These used to be given to members upon joining, and perhaps they still are, but if anyone would like one would they please let me know.

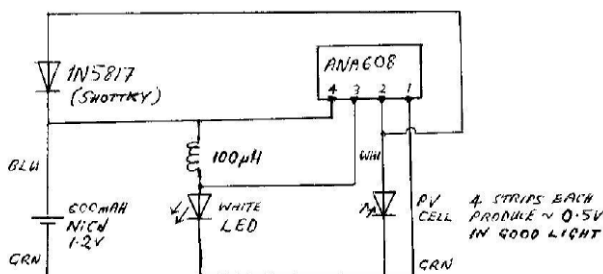


**Solar Powered Garden Night Lights:** These have been around for several years now but one's in Croydon's Poundland store in Croydon caught my attention recently costing, naturally, £1 each.



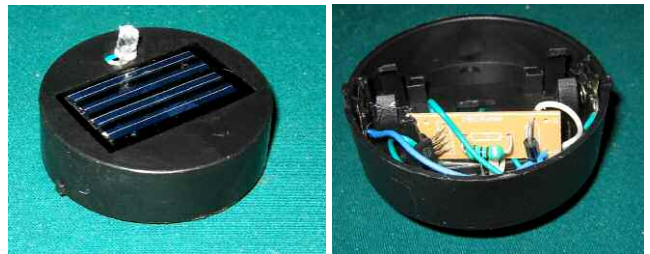
I bought a couple to experiment with. I've sketched the circuit below:

*Poundland Solar Garden Light  
Circuit Diagram G4FDN*



*LED current drain  $\approx 10\text{mA}$*

The ANA608 is the LED driver IC and works in a similar fashion to a DC-DC switched mode voltage up converter. There are only 5 other components, the Photo-Voltaic cell array, a white LED, a 100uH inductor (I mistakenly identified this as a resistor first – thanks to Gareth G4XAT for putting me right), a Schottky diode and a Ni-Cd cell. Below are pictures of the innards:



**Forthcoming IET Lectures:**

I have been e-mailed the following details:

**The Centenary Kelvin Lecture: Creating the Invisibility Cloak - New Horizons in Electromagnetism**  
**Lecture by Professor Sir John Pendry FRS FENG**  
**Condensed Matter Theory Group, Imperial College.**  
**6pm on Thursday 12 March 2009**  
**Venue: The IET, Savoy Place, London.**

Professor Sir John Pendry will give the one hundredth Kelvin Lecture in the year that the IET also celebrates its centenary year at Savoy Place. This is your opportunity to hear one of the foremost experts in electromagnetics outline his thoughts on future innovations in the field.

Professor Sir John Pendry's talk will cover such themes as metamaterials, the creation of a negative refractive index and "cloaking" – the design of materials that hide objects within them, apparently invisible.

Professor Sir John Pendry is noted for his work on the interaction of electrons and photons with surfaces. He has recently captured the attention of the media and the popular imaginations as his work has given rise to the potential for invisibility and a perfect lens where the resolution is unlimited by the wavelength of light. Further information is available at [www.theiet.org/kelvin](http://www.theiet.org/kelvin).

And

**The Lord Austin Lecture and Dinner**  
**Greener Technologies for Meaner Motor Sports**  
**Lecture by Jon Hilton, Managing Partner, Flybrid**  
**Systems LLP**  
**6pm on Wednesday 25 February 2009**  
**Venue: The IET, Savoy Place, London, UK**

Jon will introduce the audience to the technology behind the 'KERS' systems being implemented into Formula 1 for the 2009-2010 season, looking at the effect this technology will have on the performance of the cars.



Other motor sports applications of the technology will be discussed in addition to civil applications and the huge potential benefits that can be delivered. Further information is available at [www.theiet.org/lord-austin](http://www.theiet.org/lord-austin).

**Both the above lectures are free to attend and are open to both members and non IET members but require prior registration via the web links above. Dinner afterwards is optional but is charged for.**

Anyone who has attended lectures before at Savoy Place will know they are top notch professional events given by experts in their fields. The IET building is just behind the Savoy Hotel and adjacent to the Embankment underground station.

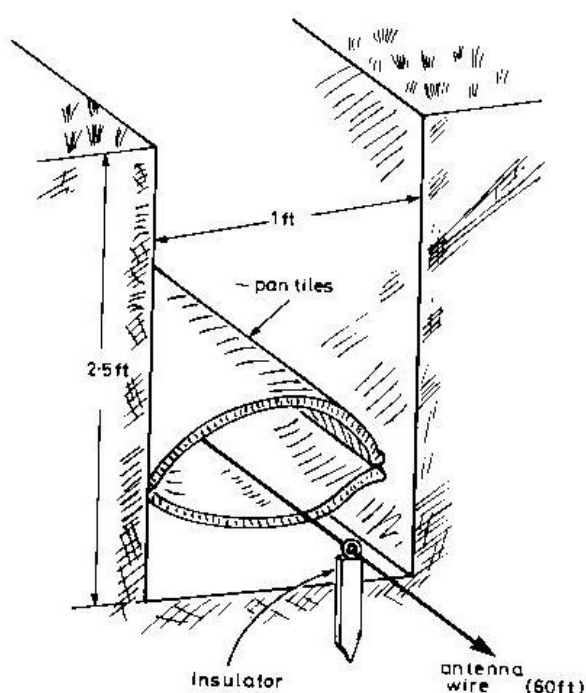
**Underground Antennas:** An underground antenna might sound like an oxymoron but they do exist and they do work. I was reminded of their existence in Mike Underhill's talk and subsequently came across several references. The following is quoted from an article in Sept/Oct 1999 QEX on "Underground HF Antennas" by Grant Bingeman KM5KV:

*"Buried HF antennas are of great interest at clandestine sites that cannot advertise their presence with an elevated antenna, and to underground military and civilian emergency sites that cannot rely on the survival of an above-ground antenna structure. After all, hurricanes and bombs are not very kind to towers."*

*Buried antennas have certain inherent advantages over normally deployed antennas. These buried antennas generally operate within an air space, or they are insulated from direct contact with the earth."*

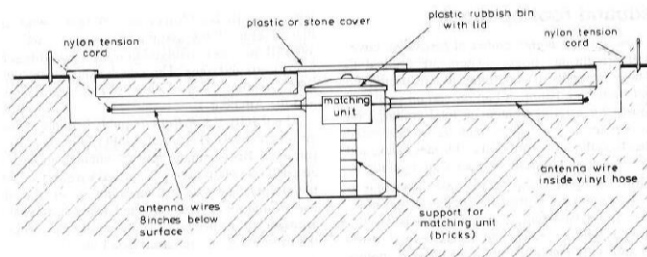
Underground antennas have a long history in professional and amateur radio and according to John Heys in his book "Practical Wire Antennas" were being considered as early as 1912 and an article on them appeared in the September 1922 issue of Amateur Wireless. A few years later in 1927 an article appeared in the RSGB T&R Bulletin by G8PG. The latter's antenna was a 60ft rubber insulated wire about 2½ft below ground in a trench.

The wire was supported on small posts which had insulators at their top and enclosed within a sandwich of pan tiles before the trench was filled in.



G8PG discovered that this end fed antenna reduced QRN almost to zero and allowed reception of shortwave signals almost as efficiently as his elevated wire. He used an 8W input transmitter and operated on wavelengths of 150-200m, 90m, and 45m and had many contacts up to a range of 1000 miles. The antenna was very directional and all contacts lay within an angle of 30° of the wire end.

The ARRL Antenna Compendium Vol 1 also has a section on underground antennas and in it Richard Silberstein W0YBF describes a doublet type antenna for receiving WWV in Maryland on 5MHz (see picture below).



In his article, Grant Bingeman KM5KV gave some detailed information and calculations on expected characteristics, signal strengths and attenuation:

*"As we increase the depth of a dipole below ground, the signal decreases as expected, but it is actually quite useable. The signal attenuation is a little more than 2 dB per meter. Note that the self-impedance of the buried dipole is higher than that of a typical 1/2 λ dipole, because the wire looks electrically longer when the dielectric constant of the medium surrounding it is greater than one. Even when we have an insulating layer of air surrounding the dipole, the close proximity of the earth clearly influences the dipole's impedance. The permittivity of earth is quite a bit higher than that of air, so a wavelength is much shorter along a buried wire than it is along a wire suspended in air. A wavelength in air is about 300 / f meters, where f is measured in megahertz. A wavelength in dirt or any medium other than free space is 300 / (λf), where λ is a factor based on the dielectric constant (relative permittivity) and conductivity of that medium. Thus, a wire looks longer in any medium that has a greater permittivity or greater conductivity than air."*

#### Signal in Dipole Below 5 mS/m Ground

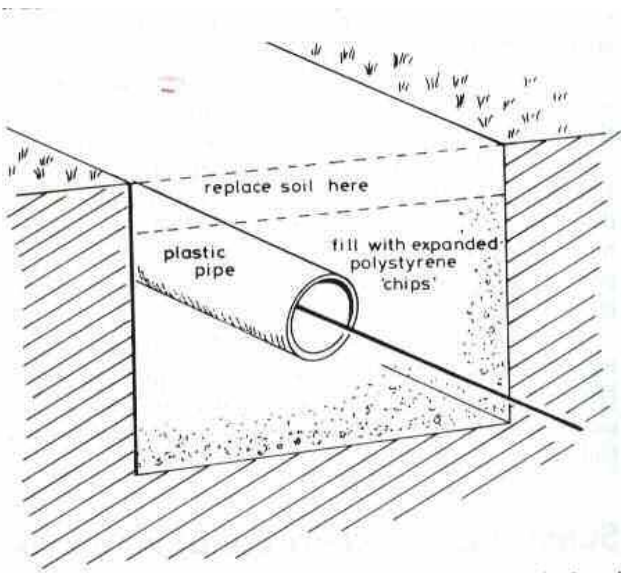
Depth Attenuation (m)	Field Intensity (mV/m RMS)	Self-Impedance (Ω)	Induced V (mV RMS)	
1	71	140 + j145	511	2.2
5	26	136 + j150	187	10.9
10	7	137 + j149	52	22.0
15	2	137 + j149	15	32.8
20	0.6	137 + j149	4	44.3

#### Signal in a Dipole Below 1 mS/m Ground

Depth Attenuation (m)	Field Intensity (mV/m RMS)	Self-Impedance (Ω)	Induced V (mV RMS)	
1	91	154 + j134	614	0.5
5	74	138 + j136	504	2.2
10	59	147 + j149	386	4.5
15	44	149 + j153	298	6.8
20	34	147 + j153	229	9.0

From the above one can assume that a dry sandy soil (or desert!) would be a good environment for an underground antenna.

In his book G3BDQ suggests a possible modern approach, using modern materials by putting a dipole inside a PVC pipe surrounded by polystyrene chips, before being covered in a top layer of soil.



A few more references I have come across are:  
 Underground Antennas – Fact or Fiction? by Paul Cornell  
 W8EFW, QST March 1948  
 An Underground Antenna Adapted to Amateur Waves by R.  
 Mathews, QST June & July 1920.

As Mike G3LHZ said, if we don't experiment we won't learn what works and what is possible – you also might impress the XYL with all that digging in the garden instead of tinkering in the shack!

**Instructional Videos:** I think everyone who saw Maurice G4DDY's video on servicing a watch was very impressed on how professionally it was done. This got me thinking that there was probably quite a 'market' for amateur radio related videos and I thought perhaps I could put one together regarding the repair and/or modification of PC Switch-Mode PSUs which I had become quite familiar with, but as often happens, someone else has already done it, in this case, Scotty Moyer W3URR. He has uploaded to YouTube a couple of videos, the first on the theory and background and the second on the nuts and bolts of conversion. Both of these are available at:

<http://uk.youtube.com/watch?v=rkApRq5VWnc>  
<http://uk.youtube.com/watch?v=S0JDuiTcMxs>



I think most people will have heard of YouTube from some of the more humorous and sometimes salacious material, that has been posted, but in addition to that there is a large repertoire of instructional and explanatory videos on a wide range of topics that are worth a browse.

**G3BFP Operating Report:** In a recent e-mail John advised that he hadn't added any new countries to his FT-817 tally, however with the wick turned up on his main rig he has managed recent contacts with 4J9M (Azerbaijan), CX2AQ and CV5A (both in Uruguay), VP8CMH/MM (near South Georgia), and MM0CIN (Glasgow) all on 30m. On 17m he managed contacts with 6W1SE (Senegal), VQ9JC (Chagos Is), and V51AS (Namibia).

**Surplus Equipment:** In just over a month it will be time again for another surplus equipment sale so can I encourage all members to start to de-clutter and identify items that they can either sell or donate to the club for sale? The club will also be supporting a table at the next Kempton Radio Fair and this is always a good venue for selling on more valuable items of kit. If you have any equipment or components that you want any help with please give Maurice G4DDY a call.

**Committee:** We still need to fill a vacancy and this is likely to be exacerbated from April when others are expected to step down. The work, if it can be called that, is not onerous and most meetings are very enjoyable to attend. Is there anyone out there willing to contribute some time?

**New Shop in Croydon:** I came across an interesting new shop last week on the upper level of the Whitgift Centre in Croydon called Clas Ohlson. They started out in Sweden in 1918 as a DIY store. Their store has an interesting mix of many hard to find items in electrical and consumer electronics, automotive, media supplies, clocks watches, lighting, and tools to name a few. They also have a website at: <http://www.clasohlson.co.uk/Product/StartPageProducts.aspx>

**Errata:** In last month's blog it said "The Linksys WAG200G has become a favourite with hams world wide experimenting with HSMM". It should have been the WRT54G –not to be confused with the WAG200G I bought for broadband use and mentioned in the same blog.

**Finale:** I hope to see you all at the next meeting where Gareth G4XAT will be leading us in a masterclass on surface mount components.

73 de Pat G4FDN 29 Jan 2009

**G4FKK's Antenna Matching Unit (AMU)**

Martin's AMU won 2<sup>nd</sup> prize at last year's club construction contest gaining the Basil Wardman Trophy. It attracted a lot of interest due to its good construction and compact size.



Pat G4FDN presenting Martin G4FKK with the Basil Wardman Tankard

Subsequently Martin has provided the following details should anyone want to replicate it.



Inside of AMU

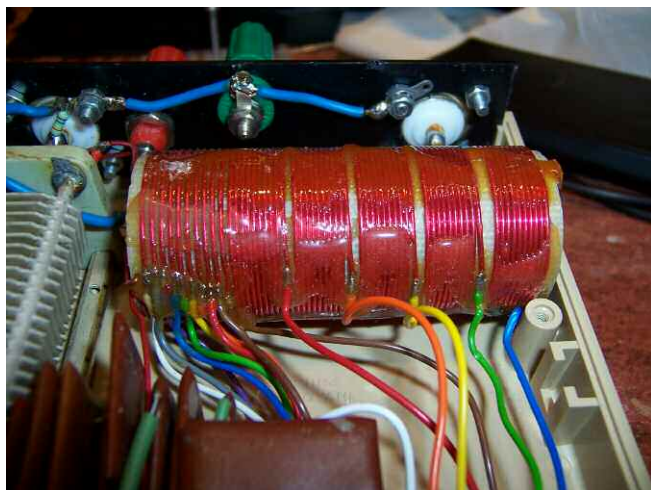
Martin built the AMU in 1989 with the intention of making it as small as possible to take out portable when he used to use kite aerials on Top-Band.

The case is a plastic, in two parts with plastic front/back panels and measuring 5" X 5.25" X 1.25". It and the knobs came from RS Components.

The 60 turn coil is, effectively, tapped at every turn by the switches SW1 and SW2. (estimated to be around 32uH by size calculation).

The capacitor values (some of which are made up of paralld capacitors to get the required value) and the switch connections are shown in the circuit diagram.

Not shown in the circuit diagram is a 1MΩ resistor across the high Z output for discharging static.



AMU Coil showing taps

The AMU can be used to match either low or high impedances depending upon which of the sockets are used as input or output (the red binding post is for direct connexion to a high impedance wire), and it just about manages to function up to around 29MHz and down to below top-band. Despite being small, the variable capacitor is reasonably wide spaced and will cope with 100W as long as the aerial isn't too close to being a half-wave with its consequently high voltages. The fixed caps are 450V wkg silvered micas.



Front & Rear Panels

## THE CALENDAR SECTION

### SRCC and Local Club Meeting Dates:

2 <sup>nd</sup> Feb	<b>SMD Masterclass with Gareth G4XAT</b>
5 <sup>th</sup> Feb	Sutton & Cheam RS – 'Natter Night'. Meetings @ Vice Presidents Lounge, Sutton United Football Club, Gander Green Lane, Sutton – 8pm. Sec: John G0BWV 020-8644 9945 <a href="http://www.scrs.org.uk">www.scrs.org.uk</a>
6 <sup>th</sup> Feb	Crystal Palace: The History of Sound Recording by Jon Weller G0GNA @ All Saints Church Parish Rooms, Beulah Hill from 7:30pm. Bob G30OU 01737 552170 (Meet monthly on 1 <sup>st</sup> Friday) <a href="http://www.g30ou.co.uk/">http://www.g30ou.co.uk/</a>
9 <sup>th</sup> Feb	CATS: 'Building a Web Site' by Steve Beal G3WZK – Meetings normally held @ St. Swithun's Church Hall, Grovelands Rd, Purley 8pm 2 <sup>nd</sup> Monday's. Contact Andy Jackson G8JAC on 020-8651 2727 <a href="mailto:g8jac@btinternet.com">g8jac@btinternet.com</a>
13 <sup>th</sup> Feb	W&DARS: Bird Photography, Then and Now with Graham 2E0BJX @ Martin Way Methodist Church, Buckleigh Avenue, MERTON PARK SW20 9JZ – 7.30 for 8pm 2 <sup>nd</sup> & last Friday's Details: Jim M0CON on 020-8874 7456 <a href="http://www.gx3wim.org.uk/">http://www.gx3wim.org.uk/</a>
16 <sup>th</sup> Feb	<b>Fix-It, Advice, Chin-Wag, Move-It-On</b>
17 <sup>th</sup> Feb	Bromley & District – Meetings normally on 3rd Tuesday's @ Victory Social Club, Kechill Gardens, Hayes – 7.30 for 8. Paul M3PGW <a href="mailto:bdars@greenwand.net">bdars@greenwand.net</a> or <a href="http://www.bdars.org.uk">www.bdars.org.uk</a>
19 <sup>th</sup> Feb	Sutton & Cheam RS – 'Hamtests.co.uk' by Paul Gibson M0TZO. 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>
19 <sup>th</sup> Feb	Reigate Amateur Transmitting Society – Main meeting 3 <sup>rd</sup> Thursday's at RNIB, Redhill College, Philanthropic Road, Redhill 7.30pm. <a href="http://www.qsl.net/rats">www.qsl.net/rats</a> or <a href="mailto:rats@qsl.net">rats@qsl.net</a>
24 <sup>th</sup> Feb	Dorking & District Radio Society – they normally meet on 4 <sup>th</sup> Tuesdays @ Friends Meeting House, Butterhill South Street, Dorking – opp. Spotted Dog. Details: Walter Blanchard, G3JKV on 01306 884359 <a href="mailto:wb@g3jkv.co.uk">wb@g3jkv.co.uk</a>
27 <sup>th</sup> Feb	W&DARS: Construction - Antennas @ Martin Way Methodist Church, Buckleigh Avenue, MERTON PARK SW20 9JZ – 7.30 for 8pm 2 <sup>nd</sup> & last Friday's Details: Jim M0CON on 020-8874 7456 <a href="http://www.gx3wim.org.uk/">http://www.gx3wim.org.uk/</a>
2 <sup>nd</sup> Mar	<b>Spring Surplus Equipment Sale</b>
6 <sup>th</sup> Apr	<b>69<sup>th</sup> AGM</b>
11 <sup>th</sup> May	<b>Project Constructing Evening</b>

SRCC Meetings indicated in **BOLD** at venue of Trinity School

## Rally Calendar, etc:

1 <sup>st</sup> Feb	<b>24<sup>th</sup> Canvey Radio &amp; Electronics Rally</b> at the Paddocks Community Centre, Long Road, Canvey Island, Essex SS8 0JA (The Paddocks is situated at the end of the A130) Doors open from 10:30 am <a href="http://www.southessex.ars.btinternet.co.uk/canveyrally.html">http://www.southessex.ars.btinternet.co.uk/canveyrally.html</a>
8 <sup>th</sup> Feb	<b>Harwell Radio and Computing Rally</b> at the Didcot Leisure Centre, Mereland Road, Didcot. TI S22 (V44), free CP, £2 (u12 free), Opens 10.30. Details from Ann, G8NVI, on 01235 816379, e-mail: <a href="mailto:ann.stevens@btinternet.com">ann.stevens@btinternet.com</a> , web: <a href="http://www.g3pia.org.uk">www.g3pia.org.uk</a>
22 <sup>nd</sup> Feb	<b>Bredhurst Receiving and Transmitting Society Radio Rally (BRATS)</b> at the Rainham Girls School, Derwent Way Rainham Kent ME8 0BX. Just of the A2 and M2 J4. Opens 10am with Talk In on 2m. Entry £2.50 web: <a href="http://www.the-brats.co.uk/">http://www.the-brats.co.uk/</a>
19 <sup>th</sup> Apr	<b>Spring West London Radio &amp; Electronics Show</b> at Kempton Park – <a href="http://www.radiofairs.co.uk">www.radiofairs.co.uk</a> – Top Ham Competition – Opens 10am - £4
Rally List	<a href="http://www.rsgb.org/events/index.php">http://www.rsgb.org/events/index.php</a>

## Web-Site of the Month

From Charles M0BIN this month take a look at:

True RMS Autoranging Multimeter with USB PC Interface:  
<http://www.maplin.co.uk/module.aspx?moduleno=222041>

M0WYM Web Site:

<http://www.radiowymsey.org/index.htm>

70cms shared with "CB" handhelds:

<http://www.aruk.org.uk/index.php?s=e405fa6c887db3008cf10fab3573cbcf&showtopic=649&st=0&#entry3226>

Interesting Web Site:

<http://www.dx-wire.de/brit/>

Interesting Blog:

<http://gm0elp.blogspot.com/>

60/40 Solder source:

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

Anti Static mat material:

<http://www.3m.com/us/office/meetings/rg/pdfs/w4%20choosing%20the%20right%20mat.pdf>

Printed or embroidered tee shirts etc:

<http://www.logoking.co.uk/index.htm>

Woman speaks with Morse code:

<http://news.bbc.co.uk/1/hi/wales/7843705.stm>

Bob's updated web site:

<http://www.qsl.net/g3oou/>

## Members News

### Phil G1LKJ

It was great receiving the following email on the 27<sup>th</sup> Jan with the good news of Phil G1LKJ:

Just got back from the hospital, stitches removed and the good news is that the cancer hadn't spread. Phil's leg is still a bit sore and he will be home for a few more days.

He had the mole checked very quickly on appearing and the malignant melanoma removed. Do not leave it if you have one, get it checked!!!

Thank you to everyone for their prayers, thoughts and support.

Phil & Jackie.



## RSGB Top Ham Competition at Kempton Rally Sunday 19th April 2009

The third RSGB sponsored TopHam Competition will be held at the spring Kempton Radio and Electronics Fair on Sunday 19th April 2009 at Kempton Park Racecourse.

The Competition is sponsored by the RSGB in association with RadioFairs.

The format remains the same, everybody at the Rally will get chance to enter the competition, free of charge; the initial round will be relatively simple multiple choice questions on Amateur Radio and electronics. The first 95 entries handed in will all receive a commemorative prize, once marked; the 10% with the highest score will be entered for a valuable prize draw. Those who get the six highest scores will be asked if they would like to compete in the second round. This will involve much harder questions in a TV style quiz, on a stage at the end exhibition hall. The final winner will be presented with the RSGB Top Ham Trophy and a brand new an ICOM 7200 HF transceiver, the runner up will also receive an E-92D VHF/UHF transceiver.

It is hoped that Top Ham round will be televised around the exhibition, via local TV repeaters and onto the internet. For more details see the RadioFairs' website [www.radiofairs.co.uk](http://www.radiofairs.co.uk).

## 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 2<sup>nd</sup> February 2009 we are pleased to welcome Gareth Evans G4XAT for a SMD Master Class, an evening not too missed; the "B" meeting is on Monday 16<sup>th</sup> February 2009 starting with an EGM to discuss the removal of Rule 27.

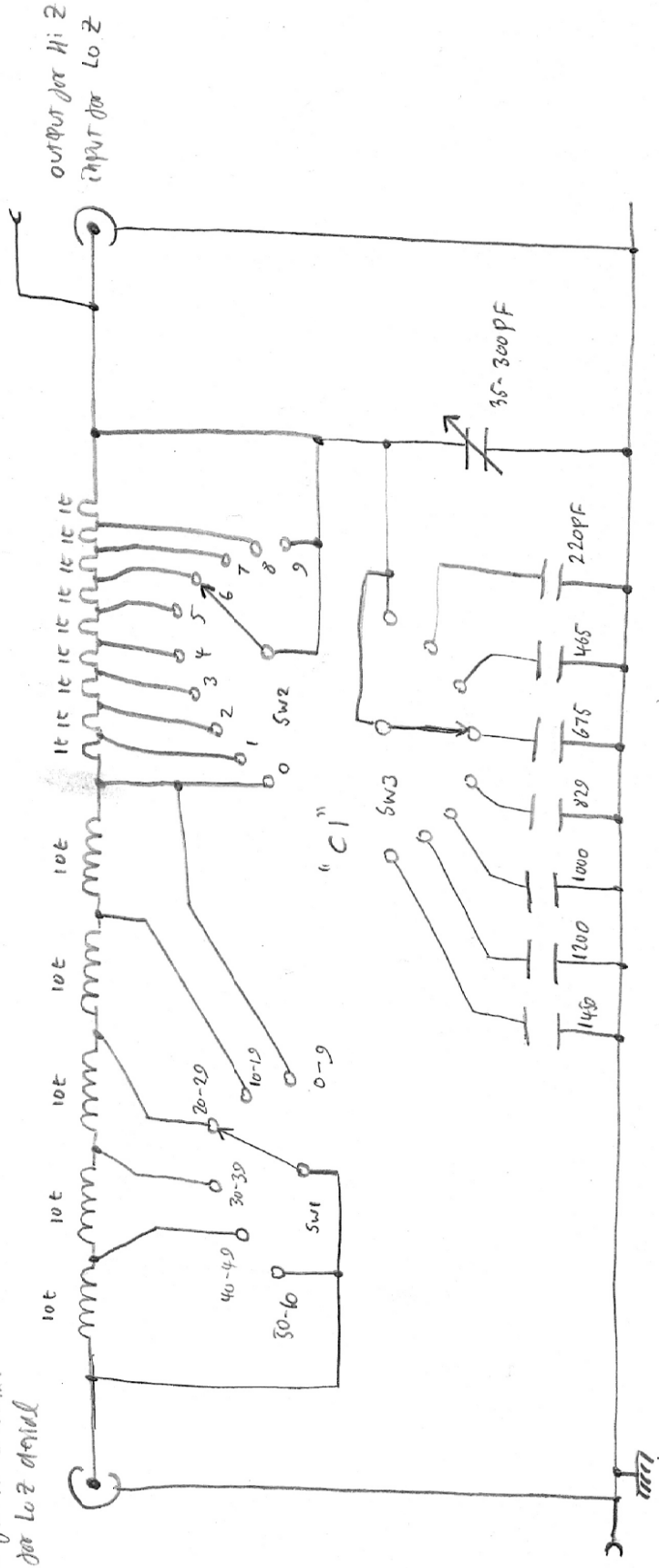
73 and 88 *Ray G4FFY*

Posted: 29<sup>th</sup> Jan 2009

G4FKK L-MATCH

input for Hi Z aerial  
output for Lo Z aerial

L1



L1 = 60 turns tapped at every turn (effectively) by SW1 & SW2  
"C1" = 35 - 1800 pF

will match most bits of wire from 160m to 10m

DESIGN.	DRAWN.	DATE
TITLE: Miniature L-MATCH		
DRAWING No.		

FKK Electronics  
Carshalton