SURREY RADIO CONTACT CLUB

80th Anniversary Year - Founded in 1935

APRIL 2015 – No: 872

CLUB NET 1.905 MHz Sunday 9:30am
CLUB NET 145.35 MHz +/- 25kHz Friday 9.00pm

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

Hon. Sec. John Kennedy G3MCX
22 Croham Park Avenue
SOUTH CROYDON
Surrey CR2 7HH
020-8688 3322
E-Mail: secretary@g3src.org.uk

MONTHLY MEETINGS 1ST AND 3RD MONDAYS 7.30 FOR 7.45pm

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

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1st MEETING: Monday 13 April. Annual General Meeting.

2nd MEETING: Monday 27 April. Fix-it, Move-it-On and Informal Chat. Led by John G8MNY.

SRCC Committee 2014/15

Chairman & Club Meetings	G4FDN	Pat McGuinness	020 8643 0491
Vice-Chairman	G3ENG	John Mathews	020 8652 6604
Secretary & Communications	G3MCX	John Kennedy	020 8688 3322
Treasurer& Membership Records	G4FFY	Ray Howells	01732 357474
Contest Co-ordinator, Newsletter Editor, Publicity	G8IYS	John Simkins	020 8657 0454
Web Master	G4FYF	Steve Jones	020 8406 0919
Chief Fund-raiser, Liaison, Recycling, Equipment	G4DDY	Maurice Fagg	020 8669 1480
Committee Member	M0LEP	Rick Hewett	01689 851472

Dear Members & Friends,

Hello and welcome to the April 2015 issue of the Newsletter, edited by John G8IYS.

THIS MONTH'S MEETINGS

First Meeting: Monday 13 April. 2015 Annual General Meeting.

Formal notice of the 2015 AGM and a form for nominations accompanied the March Newsletter. An Agenda and Minutes of the 2014 AGM will be distributed shortly.

Second Meeting: Monday 27 April. Chat and Fix-it Evening.

As usual, this will be a mix of repair activity, technical/operating advice and informal chat.

LAST MONTH'S MEETINGS by Hon Sec John G3MCX

First Meeting: Monday 2 March 2015. Surplus Equipment Sales

These sales were very well organised into four separate areas by our Chairman, Pat G4FDN.

SRCC items and SK sale items not won in the e-mail auctions were placed on tables behind the Auctioneer. Members who had notified that they had items for sale were placed on tables in front of the Auctioneer. Hopefully, they had been marked with the seller's callsign and any reserve price. Donated items were placed on the left hand side adjacent to the tea trolley. Sale items won in the e-mail auction were further down on the left. The latter were dispensed by the

Chairman and the additions to funds were received by our Treasurer, Ray G4FFY.

The Auctioneer for this evenings sale was Gareth G4XAT, ably assisted by Maurice G4DDY. The accounting records for were kept by John G8IYS and Peter, G3ZPB. As is our normal practice, Member's items were sold first, followed by those held by the Club. The regular four man team carried out a very efficient sale, finishing in good time. More could have been sold if it had been available. Sellers were paid, minus the commission collected by the Club after all the buyers had paid their dues. Unsold items will be offered for sale at Kempton Park. Thanks to those who ran the auction and to the sellers and buyers for making this a successful evening and making a useful contribution to Club funds.

Second Meeting: Monday 16 March 2015. Chat and Fix-it led by John G8MNY prefixed by a visit from Alan Messenger G0TLK on behalf of the RSGB.

Alan needed no introduction, both as Chairman of B&DARS and for having given us a presentation in January this year entitled “5MHz re-visited”. He had asked if he could attend a meeting as a member of the RSGB Training and Education Committee. He had been asked to canvas local club opinion on a possible re-launch of the GB4FUN callsign for educational outreach purposes.

He began by giving us a brief explanation of what might result – given the proposal was supported. The callsign would be resurrected for educational purposes and used by local clubs. Any operation would be to a very high standard and strongly branded. An application form would be much like an NOV for a licence, but more professional than a special event station. The callsign would be provided for a specific date and all operations would be to a very high standard.

This was followed by eight simple questions to enable him to record initial responses.

Do you think GB4FUN should be re-branded? - Yes. (majority)
Would you value an opportunity to take GB4FUN to schools etc?
Yes, if enough volunteers are secured.
Would you value a professional backdrop presentation stand?
Yes.
Would you, as a presenter, be willing to wear a GB4FUN polo shirt?
Yes.
Would you welcome and distribute leaflets?
Yes
Would you value activity packs?
Yes.
What other support would you expect from RSGB?
"Thank you" at the end!
Do you think GB4FUN gives the right image? - No. One suggestion was made: GB4AR (Amateur Radio).

Alan thanked us for agreeing to take the survey.

This was followed by Steve G4FYF who described his DDS meter from the Chinese kit. Pat G4FDN had downloaded a 100 page technical manual (in English?). It is planned to have our first Technical Topics meeting on the Club Construction Project on Monday May18. It works out of the box and would cost around £10.

Chairman's Blog by Pat G4FDN

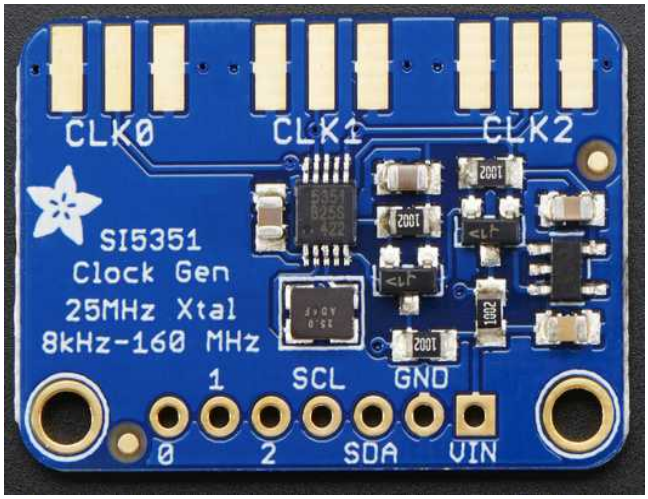
On things electrical: I’m mentioning this time some more background to the new IET Wiring Regulation on having a non-combustible enclosure for consumer units. I mentioned last time that most of the evidence for the change had come from the London Fire Brigade. Their Fire Investigation Team, part of the LFB Fire Safety Regulation Department, undertake investigations to produce evidence to help improve public safety. In 2011, the Fire Investigation Team identified an increase in the number and severity of fires involving consumer units.

The team started looking carefully at the cause of those fires and established that there were issues with high resistance connections, often those terminating to or from the neutral block, where cables were not secured properly. This led to localised heating, arcing and, in some cases, to fires. There was also a problem due to a large batch of non-compliant miniature circuit breakers (MCBs -over 1 million units), which could fail catastrophically. There was evidence that fires caused by aforementioned scenarios were spreading beyond the consumer unit and putting people’s lives at risk and the flammability of the

plastic enclosures of consumer units was identified as a causal factor.

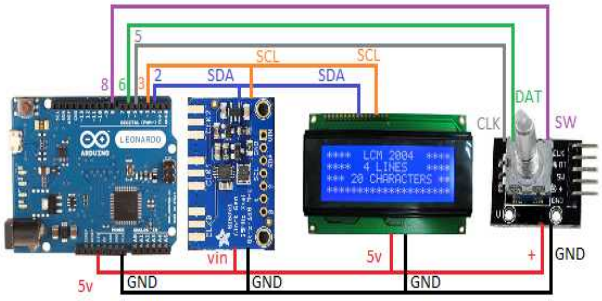
Another consequence of the investigations on the Wiring Regulations, is the requirement that cables in escape routes to be adequately supported against their premature collapse in the event of a fire. The regulation precludes the use of non-metallic cable clips, cable ties or cable trunking as the sole measure of support.

Another digital frequency synthesis module: since the club project with the AD9850 DDS module a couple of years ago, most of my experiments (tinkering) have involved this module. That was until I started 'playing' with the Arduino board and came across the Adafruit Si5351 8kHz to 160MHz clock generator module which I got for £8.

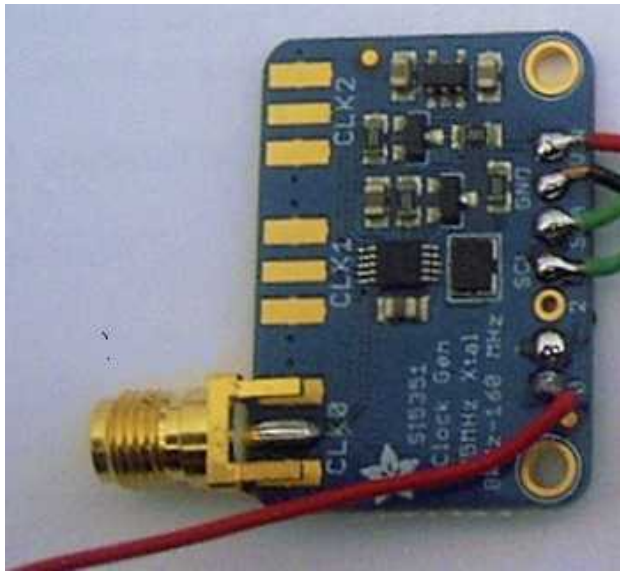


The Si5351 will be familiar already to those with Han Summers' WSPR kits, but the Adafruit module came to my attention via the IRTS Journal "Echo Ireland" and an article by Gerry EI8DRB.

I breadboarded Gerry's setup from his diagram:



but used my Arduino Uno rather than the Leonardo used by EI8DRB. As you can probably infer, both the Si5351 and the LCD display module are controlled over an IC2 bus. Adafruit supply a code library for the Si5351 module but I started off with EI8DRB's modified code which used the NT7S Si5351 library, and I was quickly able to generate a signal on 14MHz. The Si5351 module can actually generate 3 separate frequencies simultaneously and the edge connector is designed to take edge launch SMA connectors, but



These are not supplied with the Adafruit module. I managed to get a pack of 5 on eBay for 99p including postage.

Extended Warranties: there is a lot of bad press on these, but I have a good tale to relate. In June 2010 I bought a LG 19" TV/DVD combo set for use in our kitchen for £199, from Richer Sounds in Reigate. For another £19.99 (10% of purchase price) I took out a 5 year extended warranty. Most other retailers charge between 25% to 35% for a warranty extension of this type, so I considered the price I paid good value for money. Last month, the digital tuner section went faulty just 3 months shy of the warranty expiry. I returned the set to Richer Sounds in Croydon for repair and they offered me a loaner set, as the turnaround would be in the order of 3 weeks. I didn't need this but it could have been useful. A couple of weeks later I got a call from them saying the required part was obsolete and unavailable, and they offered me a new 22"

Toshiba TV/DVD combo set with a higher spec as a replacement. When I picked up the set I was further surprised to find that the set came with a further free 5 year warranty. That is what I call good service and a good deal. This is not the first time I have had good service from this company. 6 years ago I bought a 42" Hitachi LCD TV and a week or so later, on a Sunday, it went faulty. I phoned the Croydon branch from where it was purchased, and within 2 hours they had delivered a new replacement and taken the old one away. As a result, I don't think you will be surprised if I say they have my recommendation.

The Annual General Meeting: please do your best to attend –even if it is to only offer criticism of the existing committee and the way the club has been run, as you will have the opportunity to select the new committee and express ideas that they can take on for the coming year.

Kempton Radio Fair 19th April:

Radio Fairs

As usual, the club will have its stand, led by Maurice G4DDY, and assisted by myself and John G8IYS.

Sign off: I hope to see you all next Monday.

Kenya Communication from Rick 5Z4/M0LEP

Communication in Kenya is sometimes tricky. The post can take weeks to get through. Phone land-lines mostly don't work outside the big towns because the wires got stolen so often that the phone companies stopped replacing them, but the mobile phone network works reasonably well around centres of population. Internet connections often rely on relatively long-distance wireless links. Away from population centres, mobile repeater links may help the mobile phone connection, but data connections may well need a direct satellite link.

When I'm on holiday I usually try to make at least a little time for playing with HF radio, so I'd submitted my Kenya temporary visitors licence request well ahead of my Christmas holiday. The license was issued on November 26th, but it hadn't arrived in the post before I arrived in Kenya. However, I was officially assured that I was properly licensed to operate, so I got an antenna up and tested the day after I arrived, and my first contact was with an operator in North Carolina, 12500kms away. That ended up being my best DX of the whole holiday. Next best was with an operator in Canberra about 11900kms away. Making HF contacts was hard work, and most of my contacts were rather nearer. Conditions were interesting; possibly not helped by a continent-wide band of storms which at times stretched from Tanzania to South Africa, and raised the QRN floor noticeably. My CQ calls weren't answered often, so most of my contacts came by answering others' calls. I've had a harder time making contacts from Kenya only once, when all I had was a 5 watt FT-817ND.

I operated from KI88jp near Nairobi (with 100 watts and a fan-dipole for 40,20,17,15,12 and 10 metres at about 30 feet) on 12 days, and made a grand total of only 40 QSOs. However, they covered 20 Countries. South Africa was the most contacted by a long way, with 10 QSOs into ZS. Islands also featured, with contacts on Madeira, Mauritius, Reunion, Sicily, and St. Helena.

This time I did operate away from base, as we went to the ranch my brother manages (in KJ80ih near Rumuruti) for five nights over Xmas. As he's off-grid I took my KX3 there, and used the

kinds of antennas I usually deploy on SOTA summits. There wasn't all that much time available, but I did at least turn the rig on at some point in every day. The KX3 can produce 12 watts at best, and it soon became clear my SSB calls weren't being heard, so I ended up trying to use Morse (QRS!), and a CQ of mine was logged to the Reverse Beacon Network by a skimmer in Namibia. I persevered, and managed 3 whole contacts, one in South Africa and two in Russia. I expect I could have made a few more QSOs if I was a bit better at Morse.

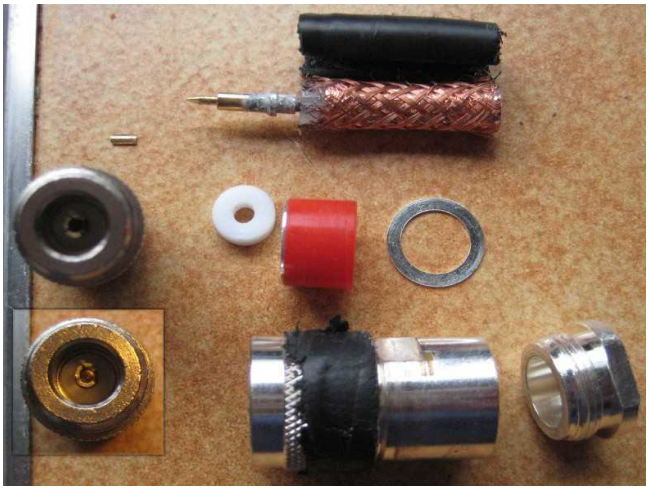
Next time I visit Kenya I hope I'll return with a rather larger QSO tally. My original licence document eventually turned up in the post at the beginning of February, having travelled at an average speed of about 12 furlongs per fortnight.

Rick 5Z4/M0LEP

A Technical Hitch by Rick M0LEP

I was working on expanding the capability of the home-brew hex-beam I cobbled together last year. Tuning it is an interesting exercise, because both element length and element geometry affect it, so I was doing quite a bit of back-and-forth between the antenna and the rig end of its feeder. I hit a problem. The analyser started reporting a steady six point something SWR that didn't vary with frequency. Clearly there was something wrong. It didn't take all that long to find the problem.

Take a look at the picture below. It shows the (somewhat dissected) bits I took off the far end of the antenna feeder. I've edited in a better-focused view of the N-type socket so that you can see where that little bit of metal came from. You will also notice slight evidence of corrosion on the pin that's still attached to the coax.



The compression fitting was probably a poor choice. They're supposed to be water-tight, but things went wrong with this one. The first problem was probably that the connector was on the sharp end of quite a bit of twisting as the rotator turned the antenna to which the feeder was connected. At some point the connector began to slip in response to the twisting. The compression grip wasn't up to the job of resisting that twist, so it ended up getting just slightly loose. That allowed the cable to twist inside the connector. At some point a bit of moisture got in. The centre pin corroded a little. Then the centre connector in the socket broke, and that left a small bit of metal rolling around inside the connection.

Most of the time it probably didn't actually short anything out, but it sure made a mess of the connector's impedance. That did the antenna no favours. I've now fitted a reasonable quality PL-259 connector to the end of the feeder, and re-arranged the cable so that it doesn't get quite so much twisting force applied to it.

73. Rick M0LEP

Beware PL259 and SO239 from China.

Noting Rick's socketry problem reminds me of a warning posted on the rsgbtech website by Peter G3RZP: "Some of you may remember that a few years ago, a number of cheap N type connectors appeared that wouldn't fit standard N type sockets because they had a metric thread rather than the standard UNEF 5/8-24. It now appears that there are 'PL259' and 'SO239' connectors appearing with the same 'feature'. Be warned! It would seem that the Chinese manufacturers can't be bothered to use a 127/128 tooth change wheel in their lathes to get the thread right."

Power MOSFET and a PSU Challenge by John G8IYS

Some years ago, I discovered the merits of RF LDMOS-FET (Lateral Diffusion Metal Oxide Semiconductor - Field Effect Transistor). Over the last decade, several manufacturers have come and gone (or at least changed their name eg Motorola – Freescale) but development, demand and production continues unabated. Attainable outputs from a **single package** have risen from a hundred or so watts to more than

1.5 kW. Drain voltages have climbed through 28 volts to now about 60 volts. Working frequencies range from 1.6 MHz to beyond 2.5 GHz (not necessarily from the same device!). The move to higher Drain voltages has been prompted by a drive for increased power output and consequentially the need for greater circuit efficiency. It is clearly an economic drag to firstly generate substantial DC power and then spend even more money on cooling plant to carry the excess dissipation away. Much better to employ better devices and circuit techniques. The driver, naturally, was (is) the cellular telephone industry. The 1.5 kW devices employ Gemini construction (two devices on a common substrate), offer moderate input input and output impedances (so are easier to match and thus employ less lossy networks to achieve this and offer 60 to 70% efficiency. An ability to withstand a 50:1 SWR is indeed impressive. You might have to pay £300 for the device – so not a decision to be taken lightly and a £ hundred or so for heatsinking. Passive components (all now surface mount except inductors in tuned circuits) include ceramic chip capacitors and lengths of coaxial cable with what would have been regarded as unusual characteristic impedances eg 10, 12.5, 25 ohms. Happily, the availability and price for those parts do not frighten off one's pants. Making sure the 30% excess dissipation is satisfactorily conducted away and incorporating appropriate protection circuitry might well do so.
.
Pre-dating that development was a range of MOSFET devices offering up to 250 Watts of RF and working frequencies up to 150 MHz - also requiring a 50 volt supply. At the time of their launch these commanded hefty costs, but much less so nowadays – if you can still find them. We are now lowering sights and getting closer to the main thrust of this piece. One such device is the SD2931 – 10, giving 150 watts up to 144 MHz and very useful for 70MHz with just a few Watts drive. It is a single ended device. I bought some SD2931s a few years ago in an opportune discovery on eBay. They cost me a tenner each. A 70 MHz Linear Amplifier employing one of these remains an unfinished project right now – not to mention the 70 MHz transverter too!

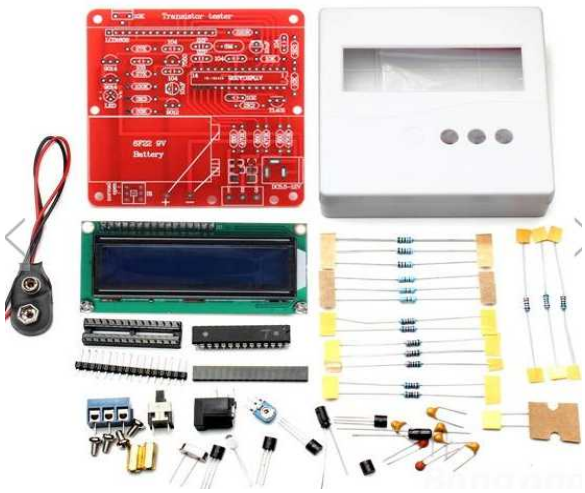
Lurking in my shack next to those projects lies the 50 volt,10 Amp Linear Power Supply which I was building in parallel! The downside of the latter is that a sack truck is needed to move it around the shack or at least three trusses. So, contrary to my long-standing prejudice against switch-mode PSUs, I surfed eBay and found one which offered a 45 to 56 volt (adjustable),1.2 kW (thus about 30 Amps peak) PSU at £27 plus postage from the Netherlands. List price NOS (new old stock) is £250 – so I believe it to be a good buy. Identification and sourcing of the Interconnects presented a bit of a problem, but that is now solved by a post on the rsgbtech website. It also gained me an assurance from fellow purchasers of the PSU's rfi quietness. Mouser offered the wherewithal DIN 41612 Power Connector crimps and 5.02mm pitch shells at a price that made me jump a little (59p a crimp). Nevertheless, the overall project seems to be moving forward after a lengthy hiatus. The door also opens to high power amplifiers for 2m and 70cm. Oh dear, what have I said now?

SRCC Construction Project 2015 by Steve G4FYF and Pat G4FDN.

The committee has decided on an A**uto-identifying LCR, ESR and Semiconductor Tester** as this year's project.

This useful instrument comes as an easy-to-build kit with all parts, including pre-programmed ATmega328 microcontroller and, what's nice, a box with LCD aperture and mountings. An assembly manual is provided in PDF format. The tester is based on a design by a German amateur who is still evolving and improving the design. He has produced a very detailed technical manual, available in PDF which will be provided, covering the tester architecture, how it works, and its limitations and accuracy. The source code for the Atmel ATmega328 processor used in the tester (the same processor as used in the Arduino Uno board) is also freely available for those who want to tinker or enhance.

Kit of Parts



Here is a brief summary of the measurements/auto detections available:

Resistance: 0.1Ω ~ 50MΩ
Capacitance: 30pF ~ 100mF
Inductance: 0.01MH ~ 10H
ESR: 0.01Ω upwards for capacitors 2uF or greater
PNP and NPN type bipolar transistors
N & P channel MOSFET, JFET FETs
diodes including forward voltage drop , two diodes, LEDs
thyristors (automatic detection pin definitions)
measurement of the bipolar transistor current amplification factor (B) and conduction voltage emitter junction (Uf).
Darlington transistors can be identified by the amplification factor of the high threshold voltage and high current.
Internal protection diodes inside bipolar transistor and MOSFETs can be detected and displayed on the screen.
threshold voltage and MOSFET gate capacitance
Potentiometers (variable resistors)

Each test time is about two seconds, only large capacitance and inductance measurements will take a long time. Standby current: 0.02uA, operating current: 25mA.

Steve G4FYF trialled the kit build which took about half an hour to assemble and worked first time. A photo of his working example with an NPN transistor connected is shown in the column opposite:

Members will be able to order kits directly from the supplier in China. The current cost is £8.99 including shipping. The supplier's URL for the kit is located here http://www.banggood.com/86-Plastic-Shell-DIY-Meter-Tester-Kit-For-Capacitance-ESR-Inductance-p-956240.html
Delivery time is typically 7-14 days.

For members who cannot order on the internet, the committee will undertake ordering once the numbers wanting kits this way is known. Depending on numbers, the cost this way will be between £11 to £15, because ordering multiple kits means that the delivery is subject to VAT, import duty, and a collection charge.

Members, who want to participate, will be requested to confirm no later than the 18th April. Kits will be distributed at the club meeting on the 18th May with construction starting the same evening. If there is a sufficiently large interest among members for the kit, the committee may use the first meeting in June for a technical presentation on the kit with a Q&A session.

Marconi Day – a message from Tim G7DYQ Hon Sec GDARS:

As some of you may already know, Saturday April 25th is Marconi Day, to celebrate the birthday of Guglielmo Marconi, who was born on the 25th April 1874. To celebrate this event, the Brooklands Museum Radio Group will be putting on a special event station, GB1BM. We will hopefully be using our new rig, which has just been released - the Yaesu FT-991. We will be operating from 1000 until 1700 and would love calls or visitors to our shack and radio display room, which is situated on the mezzanine floor of the Barnes Wallis Stratosphere Chamber at Brooklands Museum.

For further information please contact Tim, G7JYQ on tim@twdabbs.me.uk

Sunday 12th. July 2015, 1.00pm. SRCC 80th. Anniversary Celebration at QTH G3MCX. Short update:

The price of each ticket, subsidised from Club Funds , will be £10.. There will be no charge for children under 14 years old. The price of the ticket will include hog roast with stuffing and apple sauce accompliments or BBQ meats as an alternative. Bread, salad and soft drinks will also be provided and there will be a vegetarian alternative. An Anniversary Cake will be kindly provided by Prim Fagg G4CCY.

It may be possible to organise Pimms as well.

The venue was chosen for easy access by public transport. This would benefit those living outside the area or those who would rather drink than drive. Note that the yellow lines in the road do NOT apply on Sundays. More details of the public transport services will be provided later.

Please also note that there will not be a Club Meeting on Monday 6th July.

Website, Homebrew and other Trivia – Steve G4FYF

First, the excuses: Extensive building work has been going on by new next door neighbours. This has involved them digging a trench adjacent to the side of our patio behind my fence, to re-route mains drainage. They under-mined my brick pillar connected to my rustic brick wall that I built some 12 years ago that has stood the test of time with climate and numerous jet washes. Not surprisingly, gravity took over, pillar sank and broke wall into the process. A row of patio flag stones also descended towards earth's core.

After "full and frank" liaison with neighbours (who are not presently living there), builders began process of rebuilding wall. However, when they removed a fence panel to get access, and having been warned, two of our dogs saw this as an escape route and were returned by a neighbour away up the road! Situation exacerbated by the fact that builders speak little or no English. This is all happening while I'm trying to get on with re-grouting and giving the bathroom a facelift! Oh, and the tumble dryer is now making strange noises!!

So, apologies for delay setting up member access to Component Bank page on the website. Hopefully, this should have happened by the time this hits your in-box.

Likewise, progress with my re-vamped multi-band transceiver project which I described last month, well, hasn't progressed. But I did have a chance to evaluate the component test meter proposed as this year's construction project described elsewhere in the newsletter.

On a lighter note, the last committee meeting was kindly hosted by John G8IYS at his Sanderstead QTH. Our Chairman commented on a distinct temperature differential as he neared Sanderstead to that of Carshalton, i.e. about 2ºC lower. Moving to Addington in 1965, I remember my dad telling me the area was known as 'Little Siberia' and I think I have seen this on a OS map. Indeed, as you approach over Addington Hills, there always seems to be a 'micro climate'; like no snow Croydon side, snow Addington side. Anyway, I interrogated Google and it came back:

"New Addington was developed from the mid 1930s as a private rental housing estate by known as 'The Boots estate'. The estate also had a nickname of Little Siberia no doubt coined by the shivering commuters waiting at the bus stops. The icy wind was well known and the snow would linger for days or weeks after Croydon was snow free. There were times when the 130 bus could only cope with the hills if many of the passengers walked beside it until the summit was reached".

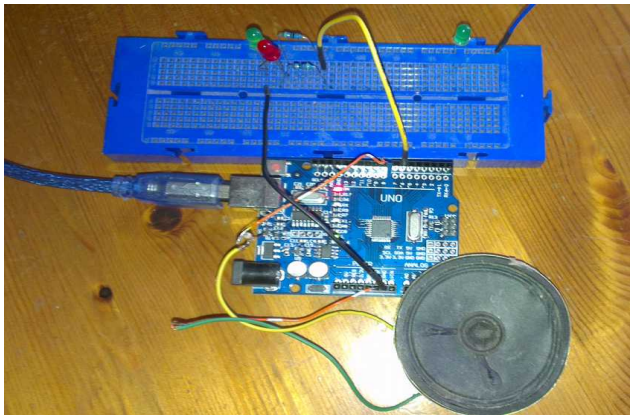
I can associate with this, having to get the 64 bus to school and back to Tooting in the mid-late '60s!

G8IYS comment: Spot-on. I moved here in 1982 , on the basis that it was a nice vhf/uhf spot. My late wife Carole agreed with the selection – possibly for different reasons. Tractors and hay-bearing trailers plyed along Limpsfield Road and one did not beware of traffic, since there was none! The M25 was yet to be built, of course. We also moved here in the summer. We did not know then that a voyage of discovery lay before us..... When the snow is lying up here at 150 m agl (IO91XH) annually at a depth of 75mm and a trip down into Croydon, or indeed anywhere, is dopily in prospect, a major shovelling party is often needed. On many occasions over the last 30 years, halfway down Sanderstead Hill, the snow became negligible and in central Croydon there was absolutely nothing. It is very blowy up here too, so mast guys are very desirable. Nevertheless, it is nice to be up here. Ed.

Arduino

With recent chat, especially with Pat G4FDN and Gareth G4XAT, I decided to see what the Arduino is all about. I ordered a Uno board and it arrived complete with USB cable and header pins all in for £2.38 from ebay. Downloaded the Arduino IDE software and we're off! Having grasped the basic concept of C programming from the on-line tutorials, had my first blinking LED program running. Then expanded to 2 LEDs blinking sequentially then with a time delayed pattern between them. Now have it sending Morse code with LED blinking simultaneously with each character. OK, I did download the basic program withfrom the web, but having the code, seeing the structure and syntax and modifying/playing with

this, I think, is the best way to get your head round the programming language effects on input/output.



WARNING: Beware, this thing is addictive!!!

73 Steve.

FUTURE SRCC MEETINGS

13 Apr 2015	SRCC AGM
27 Apr 2015	Fix-it, Move-it-On, Advice Clinic
11 May 2015	DIY PCB Design and Production by Steve G4FYF
18 May 2015	Fix-it, Move-it-On, Advice Clinic
1 Jun 2015	TBC
15 Jun 2015	Fix-it, Move-it-On, Advice Clinic
6 Jul 2015	No Meeting
12 July	SRCC 80th Anniversary Celebration
20 Jul 2015	Fix-it, Move-it-On, Advice Clinic
3 Aug 2015	TBC
17 Aug 2015	Fix-it, Move-it-On, Advice Clinic
7 Sep 2015	TBC
21 Sep 2015	Fix-it, Move-it-On, Advice Clinic
5 Oct 2015	Autumn Surplus Equipment Sale
19 Oct 2015	Fix-it, Move-it-On, Advice Clinic
2 Nov 2015	Short Talks Evening
16 Nov 2015	Fix-it, Move-it-On, Advice Clinic
7 Dec 2015	SRCC Construction Contest
21 Dec 2015	Informal pre-Xmas Social and sampling of various tinctures

OTHER CLUBS' MEETINGS

10 Apr	**Wimbledon & District ARS** BBC Tatsfield Receiving Station by Alvin G6DTW. Contact Jim Noon M6AVV - 020 8337 4940. email jamesanoon@hotmail.co.uk
	Web site:- http://www.gx3wim.org.uk Meetings are usually at 8pm on the 2nd and final Friday of each month at Martin Way Methodist Church, Merton Park (corner of Buckleigh Avenue), SW19 9JZ.
16 Apr	**Sutton & Cheam RS** Test equipment: Signal Generator and Spectrum Analyser by Bob Burns G3OOU. Meeting at Vice Presidents Lounge, Sutton United Football Club, Gander Green Lane, Sutton – 8pm. Sec: John G0BWV 020-8644 9945
21 Apr	**Bromley & District ARS** 1. Magnetic Loop Antennas (TBC). 2. Normal Meetings 7.30 for 8.00 pm @ Victory Social Club, Kechill Gardens, Hayes, Bromley, Kent. Contact: Andy Brooker G4WGZ 01689 878089
10 Apr	**Crystal Palace R & EC** Lifeboats by Alan Ashley. All Saints Church Parish Rooms, Beulah Hill from 7:30pm. Bob G3OOU 01737 552170 (Meet normally monthly on 1st Friday) http://www.g3oou.co.uk/
28 Apr	**Dorking & DARS** TBA. Contact: Garth Swanson G3NPC 01737 359472 email G3NPC@swansons.org.uk Meetings held at The Friends Meeting House, Butterhill, Dorking, RH4 2LE. Meetings commence at 7.45 pm. Web site:- www.ddrs.org.uk
13 Apr	**Coulsdon ATS** RSGB Antenna Presentation. Meetings normally held @ St. Swithun's Church Hall, Grovelands Rd, Purley 8pm 2nd Monday each month. Steve Beal G3WZK. Secretary@ catsradio.org. Tel: 01883 620730.

	Crawley ARC
22 Apr	Surplus Equipment Sale. Hon Sec: Phil Moore M0TZZ Contact: secretary@carc.org.uk for more info.
	Horsham ARC
Apr	Date has already passed.
May 7	Antenna Gain by Mike G3LHZ. Meetings at: Guide Hall, 20 Denne Road, Horsham, West Sussex, RH12 1JF. Contact: www.harc.org.uk. Hon Sec Alister Watt email: g3zbu@hotmail.com Meetings normally held on 1st Thursday each month at 20.00 hours

Sign Off

And that completes this month's and this Club year's series of Newsletters. Maybe my last, if not elected at the AGM - competition warmly welcomed. 73. John G8IYS.