SURREY RADIO CONTACT CLUB

81st Anniversary Year - Founded in 1935

JANUARY 2016 – No: 881

CLUB NET 1.905 MHz Sunday 9:30am
CLUB NET 70.300 MHz Thursday 8:00 pm
CLUB NET 145.35 MHz +/- 25kHz Friday 8:00 pm

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

****

1st MEETING: Monday 4 January. The Crystal Palace High Level Railway with Bernard Winchester

2nd MEETING: Monday 18 January. Fix-it, Move-it-On, Informal Chat led by John G8MNY

SRCC Committee 2015/16

Chairman & Club Meetings	G4FDN	Pat McGuinness	020 8643 0491
Vice-Chairman and Web Master	G4FYF	Steve Jones	020 8405 5584
Secretary & Communications	G3MCX	John Kennedy	020 8688 3322
Treasurer & Membership Records	G4FFY	Ray Howells	01732 357474
Contest Co-ordinator, Newsletter Editor	G8IYS	John Simkins	020 8657 0454
Chief Fund-raiser, Liaison, Recycling, Equipment	G4DDY	Maurice Fagg	020 8669 1480
Committee Member	M0LEP	Rick Hewett	01689 851472
Co-opted Committee Member	G3WRR	Quin Collier	020 8653 6948

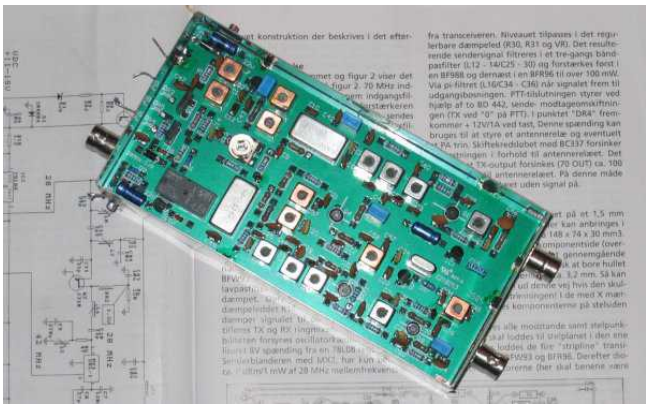
Dear Members & Friends,

Hello and welcome to the January 2016 issue of the Newsletter, edited by John G8IYS.

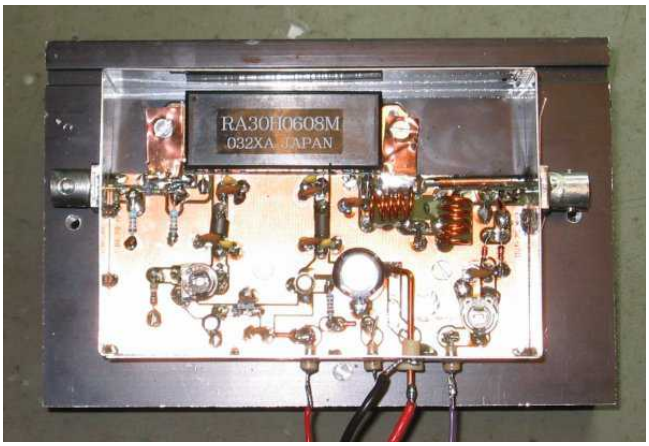
Editorial Intro

Last month, I banged on about my 1296 MHz construction plans. At the time, I expressed unease about all the unfinished projects lying neatly-boxed in my shack, just crying out for completion. On reflection, I decided that my 70 MHz Transverter and Linear Amplifier projects deserved to be finished first. The Transverter utilises the split RX in/ TX out 1mW (0dBm) 28MHz ports on my Kenwood TS590S transceiver and is a kit from OZ2M – acquired some years ago. The link is www.rudius.net/**oz2m**/70mhz/ . From the same source came the first stage Linear Amplifier, which gives a maximum output of 25W. Both of these are assembled and neatly tinplate-boxed. All two modules were completed a couple or more years ago. What remains to be done is the enclosure chassis- bashing, DC and RF relays and interconnects. Frankly, I always find this the most difficult part of any construction project. This not because I lack the appropriate tools, but I find it rather challenging to work where and how to mount the modules, interfaces, patch cables, relays etc, with necessary line-up access, within my chosen (selected from various surplus equipment sale purchases, actually) enclosure. There is a saying: Choose your case to enclose your project – not the other way around. This is probably sound advice, but the right one will never appear at a price one is willing to pay. The late Bernard Wynn G8TB had a different ethic: If you cannot fit it into an OXO cube tin, then don't

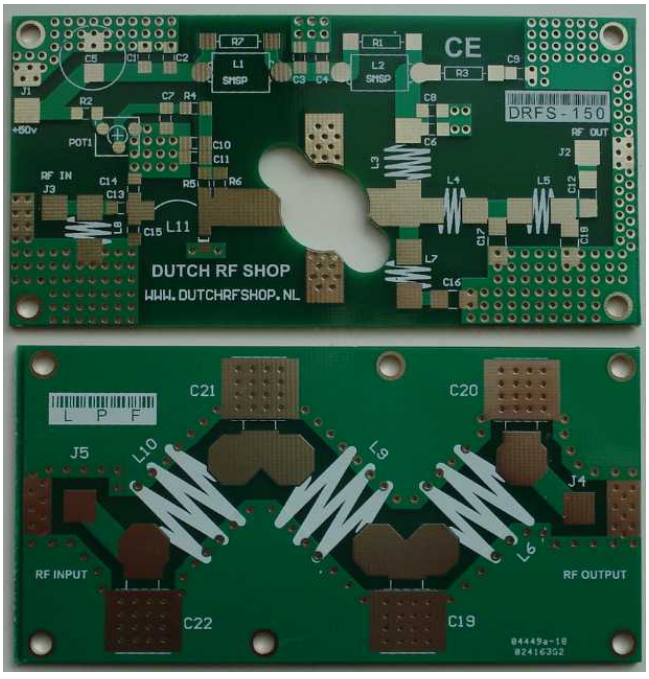
build it in the first place and certainly do not paint it to obscure its origin. Functional? Usually; Pretty? Not often. Definitely not my approach. Here is a glimpse of the two bits done so far:



70/28 MHz Transverter



70 MHz 25 Linear Amplifier

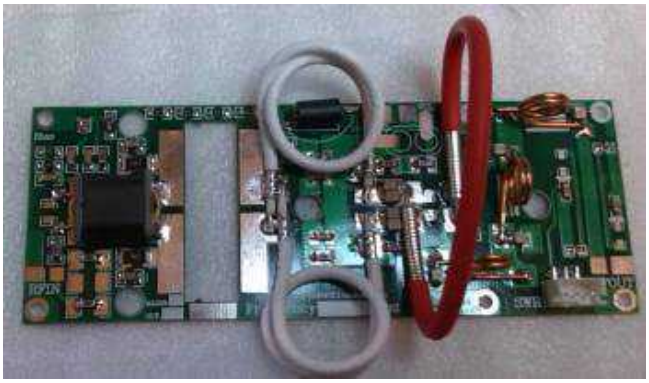


70 MHz 150W LA and LPF boards

The next phase (separately enclosed, along with its 50v DC supply) will be a 70 MHz, 140 W (maximum UK legal output) linear amplifier. This employs an obsolescent device: SD 2931 Power MoSFET – but they appear on eBay from time to time and currently from the dutchrfshop at about 20 euro. The link is www.dutchrfshop. nl . This company also does complete kits (not including Heatsink) plus Low Pass Filter kits at around 60 euro. A picture of the two boards is at the foot of the column opposite.

While we are on the topic of 70 MHz, this is a good enough place to draw attention to an item flagged in email dialogues between Pat G4FDN, Martin G4FKK and Gareth G4XAT. This is skimmed from the SRCC techy group. If you wish to join, please email me accordingly at g8iys@ btinternet.com

100W 80-170 MHz Amplifier



Here is a link to eBay. It is priced at just over **£25** for the kit including the Gemini MosFET MRF 186 with free delivery from Hong Kong. It is described as an FM amplifier, but will perform fairly linearly when the gate bias is appropriately adjusted.

http://www.ebay.co.uk/itm/171776288254?_trksid=p2057872.m2749.l2649&ssPageName=STRK%3AMEBIDX%3AIT Here also is a link to the website of G4FEV who has managed to assemble two of these without the benefit of any instructions. Thus: Take care out there>>>>. http://g4fev.atspace.com/mrf186linear.htm You will most definitely need to add a substantial heatsink, a 24 volts DC PSU and a suitably rated Low Pass Filter.

Hon Sec John Kennedy G3MCX : Poorly, but Mending

Some members will know that, a couple of weeks ago, John G3MCX was emergency- admitted to intensive care at Croydon University Hospital with pneumonia, amongst other things. He has been under deep sedation and undergoing dialysis. Shortly, he is to be moved to St Helier Hospital for long term dialysis, but his condition has improved significantly. Maurice G4DDY is

keeping in contact with John's wife, Sandra, and will keep us updated.

John G8MNY: Poorly but Mending

Some members will also know that the stalwart of the monthly Fix-it sessions, John G8MNY, suffered a return of a rare ailment: Myasthenia Gravis. He was hospitalised for 5 days, receiving IV treatment. He generated a graphic Christmas card, showing himself in bed, coupled to Heart Rate, Blood Pressure, Oxygen and Respiration monitors – not to mention a hat to help him sleep. He handed one to me at the Construction Contest, so is well on the mend.

JANUARY CLUB MEETINGS

First Meeting: Monday 4 January. The Crystal Palace High Level Railway with Bernard Winchester.

Second Meeting: 18 January. Fix-it, Move it On, Informal Chat - led by John G8MNY.

LAST MONTH'S MEETINGS

First Meeting: Monday 7 December.
Club Construction Competition. Report by Quin G3WRR.

12 SRCC members were present. 23 entries (some containing multiple items) were submitted. Entrants were invited to give presentations on each of their entries, and based on these the attached table was produced. In the absence of Steve G4FYF on business, John G8IYS presented his items.

Following the presentations members were invited to nominate items for first, second and third places. Following adjudication, prizes were awarded as follows:

1st – Gareth G4XAT - Item 18
2nd– Gareth G4XAT - We cannot remember
3rd – Steve G4FYF - Item 15

In the absence of Steve, his prize was accepted by John G8IYS. However, Steve was available to attend a Committee meeting the following week at QTH G8IYS and thereat the filthy lucre was presented to its rightful recipient!

There now follows an extensive list of all 23 entries and a few exhibition pieces.

No	Entrant	Item	COMMENTS
1	John G8MNY	Directional analyser	50Ω in & out, including coupling loop (which has moveable termination)
2	John G8MNY	VHF oscillator	Tuneable, supporting AM & FM modulation
3	Quin G3WRR	Mains splitter/filter	For use on Field Days. BS4343 connectors and 30A filters
4	Quin G3WRR	Single valve TRF receiver	Just for fun. EF50 grid leak detector, home made variable capacitors & coils wound on (empty) toilet rolls. Works but regeneration touchy!
5	Maurice G4DDY	Component tester	As per 2015 club construction project. Focus here was the use of PLASTICARD as a material for the case: this is a very useful product that is potentially useful in various construction applications
6	Rick M0LEP	SOTA antenna	Optimised and pre-tuned for SOTA operation on 60/40/30/20/17/ (15)m… pullable links and choke balun, but no connectors
7	Roger G8HDP	Radio controlled hovercraft	Built from kit but modified to include separate lift and motion motors. Weight 2kg including batteries. Subsequently demonstrated in operation in meeting room!
8	Alvin G6DTW	Tazer	Powered by 2 x PP3 batteries. Originally built in cigarette packet. Not tested on any SRCC member (yet)
9	Alvin G6DTW	Stereo PPM meter	Very high input impedance. Runs for > 1 month on 4 x PP3 batteries.

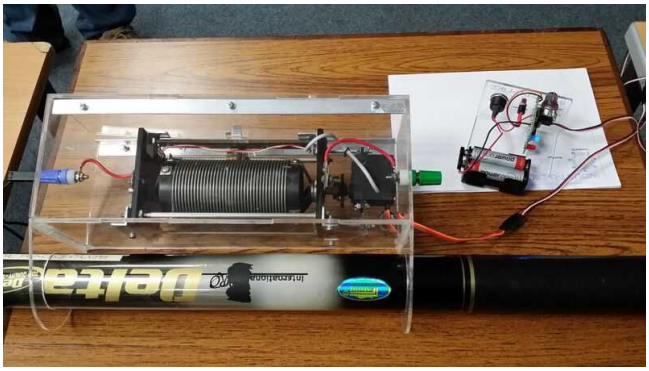
No	Entrant	Item	COMMENTS
10	Alvin G6DTW	40m CW transceiver	Includes autocaller. <6W output but has achieved WAC. VCXO controlled, offering frequency spread of +/- ½ kHz
11	Alvin G6DTW	Gun microphone	Made in copper tube with slits in side and using electret microphone. Acceptance angle 30 – 40°
12	Steve G4FYF (in absentia)	40m QRP transceiver	Similar to item 10
13	Steve G4FYF (in absentia)	Memory keyer	PIC based
14	Steve G4FYF (in absentia)	Bencher keyer paddle	Refurbished to pristine condition by Steve following a hard life with G3WRR. Used with item 13
15	Steve G4FYF (in absentia)	DDS signal generator	Arduino based. With buffer amplifier
-	Steve G4FYF (in absentia)	HF transceiver board	**Displayed but not entered in competition.** PCB based, work in progress
16	Steve G4FYF (in absentia)	Voltage probe	Built to test item 13
17	Gareth G4XAT	4m antenna designs (various)	Ladder line based Slim Jim – SWR <1.4:1 – fairly broadband. Based on G4FKK design Matching full wave dipole **(work in progress)** Vertical half wave based on fishing rod (useful for Morse cod perhaps…) **(work in progress)**
18	Gareth G4XAT	Remote antenna tuner	Mutliband, designed for use with vertical using 10m of wire tuned against earth mat. Uses variable roller coaster driven by servo. Could do 160m with additional coil
19	Gareth G4XAT	Various electronics based domestic items	Analogue display clock housed in rotor from Wankel rotary engine PCB based clock in pretty case. Based on ATMEL PIC Sound to light LED display: multiple colours: 1kHz /bar LED display showing andom red / green / blue patterns
20	Gareth G4XAT	Pictures from recent trip to Iceland	4 stunning pictures (none rude….) taken with Nikon digital SLR camera
21	Gareth G4XAT	Weather satellite equipment	2 cavity filter providing 30dB notch for 6dB insertion loss Helical notch filter for pager QRM Copper tube based quadrifilar helix (QFH) antenna for satellite reception Flat pack QFH antenna (goes in suitcase)
22	Gareth G4XAT	Ignition coil tester	
23	Gareth G4XAT	Mazda RX8 retrofitted with V8 engine	As described in Gareth's presentation on 2/11/15. Would not fit in room so was demonstrated outside. V8 sounded nice!

No	Entrant	Item	COMMENTS
-	Gareth G4XAT	Parts for broadband HF linear	**Displayed but not entered in competition.** Will produce 1kW from 1.8 – 54MHz (thus supporting very high feeder loss…). Needs 50V @ 40A. Parts displayed included: LDMOS FETs Huge heatsink Switch mode PSU ex server And 2 items for a different PSU (not switch mode): 2 electrolytic capacitor - 15mF (yes, millifarad) @ 100V 2 transformers – mains in, 5.75 – 0 – 5.75 V @ 500W out

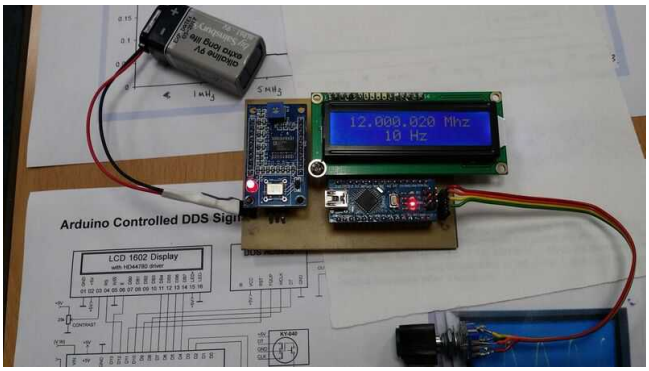
There now follows a selection of photographs, taken by Ray G4FFY. He took a total of 87, so that is why it is only a selection. This means inevitably that some items are omitted on space grounds and the aspect in which they were taken. So here we go:

Gareth G4XAT receiving the cash award from Pat G4FDN for both 1st and 2nd place

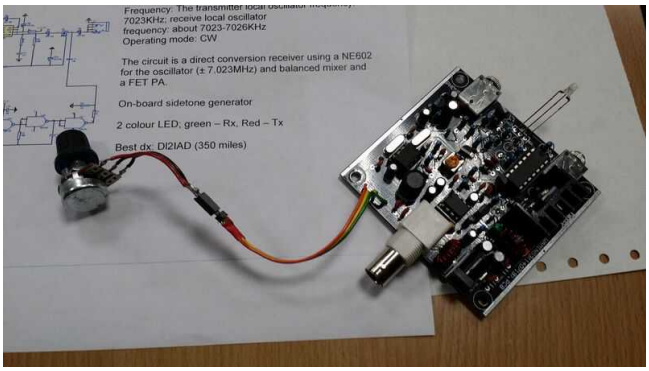
Gareth G4XAT, the proud recipient of the Basil Wardman Tankard for 2nd place. The Coronation Cup for 1st place is still being engraved and will be presented to him at a later time.



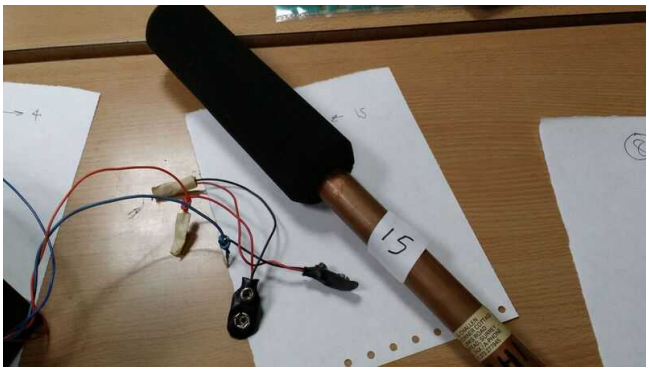
Winning item 18 from Gareth G4XAT



3rd placed Item 15 by Steve G4FYF



Item 12 by Steve G4FYF

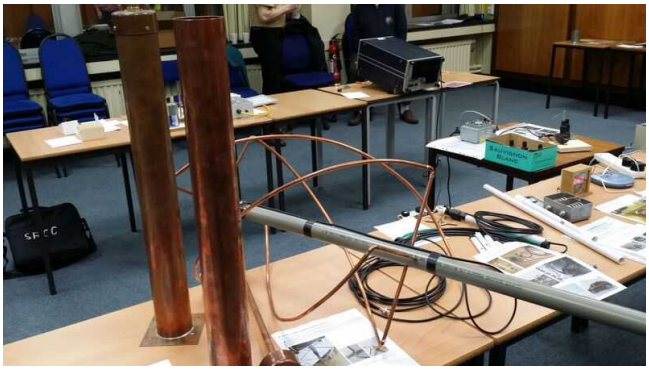


Item 11 from Alvin G6DTW

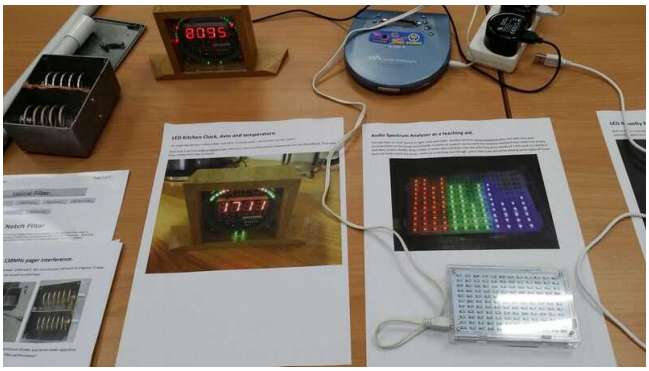
Item 13 from Steve G4FYF

Item 9 from Alvin G6DTW

Gareth G4XAT presenting a plethora of exhibits



and more



and more

Item 17 from Gareth G4XAT

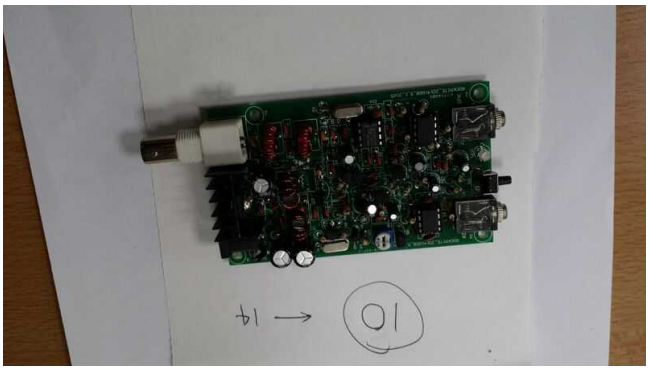
Quin G3WRR presenting Items 3 and 4

Items 1 and 2 from John G8MNY

Item 7 from Roger G8HDP

Item 5 from Maurice G4DDY

Rick M0LEP presenting Item 6



Item 10 from Alvin G0DTW

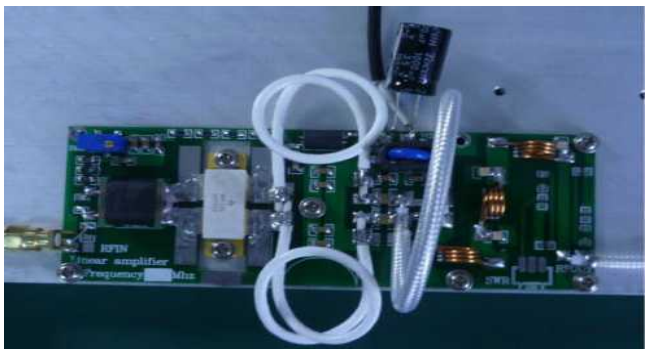
Second Meeting: Monday 21 December. Informal pre-Christmas Social

Pictures will appear in the February issue of this Newsletter.

Chairman's Blog by Pat G4FDN

Hon. Secretary John Kennedy G3MCX: For those of you who were at the last two club meetings you will know that he was in hospital with pneumonia. The last update we had as I write was that his condition has improved and we all hope that continues, and he is back to normal quickly. In the meantime, John G8IYS and Quin G3WRR are temporarily standing in to cover John's role as secretary. Any communications via email should still be addressed to secretary@g3src.org.uk.

4 metres: The club's net had a successful move of frequency to 70.30MHz on the 10th March with no drop off in the numbers participating in subsequent weeks. Perhaps members can make it a New Year resolution to participate in one of the club nets as well as having a go on 4 metres? Looking for 100W amp kit that will work on 6m, 2m as well as 4m and only cost £27?



Thanks to Gareth G4XAT for spotting this on eBay http://www.ebay.co.uk/itm/171776288254?_trksid=p2057872.m2749.l2649&ssPageName=STRK%3AMEBIDX%3AIT and finding a well written article on it by a Scottish amateur here: http://g4fev.atspace.com/mrf186linear.htm

My workshop and dehumidification: Like several club members, I have a small workshop (14' x 10') at the end of my garden, but because of my job and other commitments I only get to use it for a few hours each week. I have electric heating installed to use when required, but I have been looking at the most energy efficient way of keeping the humidity low to avoid surface corrosion on equipment and tools. After doing some research I decided to deploy a powered desiccant dehumidifier, which works down to 1C, as a few calculations showed this would be more economical than just heating to the workshop to a higher background temperature. The dehumidifier I bought was a Meaco DD8L. The "8L" indicates it can extract up to 8 litres of water per day.

Most desiccant dehumidifiers run their fan continuously, regardless of the relative humidity. They do this so that they can react to rises in relative humidity and start to dry the air again. This provides a level of humidity control that is an over kill for domestic applications, and not very

energy efficient. On the Meaco DD8L, when the target relative humidity is reached, it runs its fan for 5 minutes to check that all is ok and then it turns itself off to save energy. Thirty minutes later it turns its fan back on and samples the air again for 5 more minutes. I have the controls set so the relative humidity is kept between 50%-60%. If the relative humidity has increased above its target it starts dehumidifying again, if the relative humidity is OK it goes back to sleep again for another 30 minutes. As my workshop is fairly well sealed it means that the fan will run for just 10 minutes an hour instead of 60, using just 1/6th of the power of most other desiccant dehumidifiers. In Standby it consumes 2W, with the fan running 36W, and in full power mode 690W. I have just started to monitor the energy usage via a kWh meter in series with the dehumidifier in order to work out the actual running costs. I also have frost stat to ensure that the workshop temperature doesn't drop below 1C.

Desiccant dehumidifiers are quicker at extracting moisture then the compressor type and work to lower temperatures. A compressor dehumidifier (also known as a refrigerant dehumidifier) uses much the same process as a domestic fridge. It cools a metal plate on to which moisture from the air condenses. A fan constantly draws the room air through the dehumidifier and over the cool metal plate and all the time more and more of the moisture condenses onto the plate and drips into the dehumidifier's water tank. Eventually the relative humidity in the room/home is reduced to the required level and the unit will then switch itself into standby until such a time as it is required again. Compressor/refrigerant dehumidifiers are most effective at typical room temperatures and their performance declines dramatically in cooler conditions. The reason for this is the formation of ice on the metal cooling plates (coils). This freezing can occur at any temperature from about 65°F/18°C downward. Therefore this type of dehumidifier is not really suitable for use in unheated locations like a garden workshop.

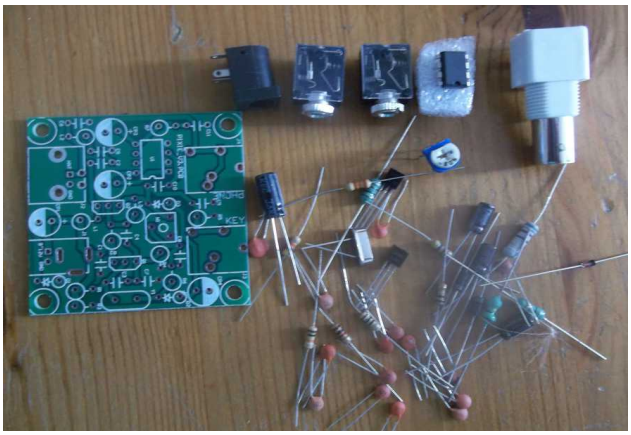
Next club construction project: this was discussed at the last committee meeting but no decision has yet been made as to what it will be. One suggestion has been a 4m Slim Jim antenna. Perhaps also the 100W VHF amp mentioned earlier? We are looking for other suggestions against which we can determine relative popularity and support for, as well as volunteers to help organise.

Broadband HamNet Mesh Network on 13cm: This initiative is not dead and CATS member Adam G7CRQ, who has a well elevated QTH in South Wallington, has kindly agreed to host a node. This should finally give Victor G3YIS someone else to connect with, as well as several other local amateurs who will now be in line of sight range of G7CRQ.

Sign-off: Wish everyone and their families a very Happy New Year. I'm hoping to see as many of you as possible next Monday at the talk on the Crystal Pace.

OOPS: SRCC Prize Crossword Competition – Steve G4FYF

Despite the announcement in the November issue and the reminder in the December Newsletter, I am disappointed to announce that there were no entries. So, in the Spring, there will be a new crossword puzzle. The same prize will be on offer:



Pixie 40 meter QRP CW transceiver kit

Two completed and working examples were on display at the Club Construction Competition.

Message by email on 21 December from Rick M0LEP – operating from Kenya

I landed a spell working 5Z90IARU, which led to a bit of a pile-up yesterday. I'm not set up for full-belt DXpedition-style pile-ups, but may get a few more if I have time to warm the rig up.... Further activity yesterday was curtailed by having to take my mother to hospital. "Atypical pneumonia" says the doctor. I suspect our Xmas plans will change. All the best to everyone. 73. Rick M0LEP

Chairman Pat G4FDN has sent our best wishes for Rick's Mum's speedy recovery. Ed

SRCC Meetings for 2016

1 Feb	Propagation by Mike Parkin G0JMI
15 Feb	Fix-it, Move-it-On, Informal Chat
7 Mar	Surplus Equipment Sale
21 Mar	Fix-it, Move-it-On, Informal Chat
4 April	Annual General Meeting
18 April	Fix-it, Move-it-On, Informal Chat
2 May	Weather Satellites by Gareth G4XAT
16 May	Fix-it, Move-it-On, Informal Chat

OTHER CLUBS' MEETINGS

8 Jan	**Wimbledon & District ARS** AGM. Contact Jim Noon M6AVV - 020 8337 4940. email jamesanoon@hotmail.co.uk Web site:- http://www.gx3wim.org.uk Meetings @ 8pm on 2nd & last Friday of each month at Martin Way Methodist Church, Merton Park, SW19 9JZ.
21 Jan	**Sutton & Cheam RS** Visit by John Gould G3WKL – RSGB President. nb: Starts 7:30 pm. Meeting at Vice Presidents Lounge, Sutton United Football Club, Gander Green Lane, Sutton. Normally 8pm. Sec: John G0BWV 020-8644 9945
19 Jan	**Bromley & District ARS** AGM. Normal Meetings 7.30 for 8.00 pm @ Victory Social Club, Kechill Gardens, Hayes, Bromley, Kent. Contact: Andy Brooker G4WGZ 01689 878089
8 Jan	**Crystal Palace R & EC** An Introduction to Electronic Components: Part 3 (includes making printed circuit boards). 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/
26 Jan	**Dorking & DARS** Practical Evening: Construction of a 20m Vertical Beam antenna with John G3YGG and Garth G3NPC. Contact: David Browning M6DJB Website: www.ddrs.org.uk. Meetings held 7.45 pm at The Friends Meeting House, Butterhill, Dorking, RH4 2LE. Web site:- www.ddrs.org.uk
11 Jan	**Coulsdon ATS** CATS New Year Dinner at Chateau Napoleon. Meetings held 8 pm on 2nd Monday each month @ St. Swithun's Church Hall, Grovelands Rd, Purley. Steve Beal G3WZK. Secretary@ catsradio.org. Tel: 01883 620730.
27 Jan	**Crawley ARC** AGM. Hon Sec: Phil Moore M0TZZ Contact: secretary@carc.org.uk. Formal meetings held every third Wednesday each month at: Hut 18, Tilgate Recreational Centre, Tilgate Forest, Crawley West Sussex. Directions are given in the CARC Newsletter which can be found at carconline.blogspot.co.uk
	Horsham ARC No formal January meeting. Meetings held at 8 pm on 1st Thursday each month at: Guide Hall, 20 Denne Road, Horsham, West Sussex, RH12 1JF. Contact: www.harc.org.uk. Hon Sec Alister Watt email: g3zbu@hotmail.com

Congratulations to John G3ENG on 70 years of RSGB membership. This is a remarkable achievement and I believe John is also now the SRCC's longest-licensed radio amateur. John had to step down from Committee because of his wife Benita's ill health. He still has a keen interest in the club and radio but his role as a carer restricts his ability to attend club meetings and operate.

Greetings to Ted G3EUE who has the longest SRCC membership.

That's all. 73. John G8IYS. Editor.