



# SURREY RADIO CONTACT CLUB

MARCH 2001 — No: 702

CLUB NET 29.111 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>

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

AT THE T.S. TERRA NOVA, 34 THE WALDRONS, SOUTH CROYDON

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**"A" MEETING 5<sup>th</sup> Mar 2001 SPRING SURPLUS EQUIPMENT SALE**

**"B" MEETING 19<sup>th</sup> Mar 2001 FIX-IT, ADVICE, CHIN-WAG, CLUB STATION + "MOVE-IT-ON"**

Chairman	G3RJW Graham Marshall	020-8669 8722
Vice-Chairman	GOPAR David How	020-8761 2954
Treasurer, Liaison & Equipment	G4DDY Maurice Fagg	020-8669 1480
Secretary, Membership & Communications	G4FFY Ray Howells	020-8644 7589
VHF Co-ordinator	G8TB Bernard Wynn	020-8660 7517
Publicity & HF Co-ordinator	G4WAY Roger Holyoake	020-8689 7089
Members	G3ZPB Peter Burton	01737-551413
	G4XAT Gareth Evans	020-8462 2837

## Dear Members

Hello and welcome to the March newsletter and I am not going to say how big it will be as I managed last month to do a normal 4-pager! This time last year we were in the midst of completing the furnishing of our new extension so that means it's a year old already! This year's project is the widening of doors in the "old part" of our bungalow but I have a problem of widening the old bedroom door. To allow this we may have to move the front door, which could mean moving the wall for the front of the lounge to the "real" gable-end line and not have a porch - we shall see!

For this month's "A" meeting on Monday 5<sup>th</sup> March we are holding our usual Spring Surplus Equipment Sale and don't forget the popular "Fix-It" and "Move-It On" Meeting on Monday 19<sup>th</sup> March.

More about these below but firstly:

### ANNUAL GENERAL MEETING

I HEREBY GIVE NOTICE that the Annual General Meeting of the SRCC will be held on Monday 2<sup>nd</sup> April at the clubroom 7.30 for 8.00pm. Following our usual practice this notice is over a month ahead, but this is to comply with club rules. It allows time if there are any proposed alterations to the rules, or to give you an opportunity to raise any points at the AGM, the committee would like notice of important ones.

We also ask for nominations for committee, with such nominations (and acceptances) to be received by the committee prior to the opening of the AGM.

With the next newsletter I will include the minutes of the last AGM, the full agenda and also another nomination slip for a new committee and also for a Secretary (nominated separately).

Also please note that since our current Chairman, Graham G3RJW has reached the end of his 3-year period

we also have to elect a new Chairman in accordance with our rules.

### NEXT "A" MEETING: Monday 5<sup>th</sup> Mar 01 SPRING SURPLUS EQUIPMENT SALE

We hope there will be a good turnout for this Spring Sale, when members can bring along items for sale and also items to be donated to the club. We have a reasonable amount of donated gear to sale and this will be balanced against members' own sale items. It is very helpful, as in the past, for sellers to be in the clubroom well before 8 o'clock, and no boxes of "rubbish" please.

All members and visitors they have brought along must sign the attendance book and all must be conversant with the rules.

**Note** that the club accepts no responsibility for goods sold at this private sale, and the purchasers buy on the understanding that they are capable of determining the usability, fitness for purpose and SAFETY of goods obtained.

The following also applies:

1. Only SRCC members are permitted to sell.
2. All items not donated must be marked with the name or call sign of vendor, brief description and details of any reserve price.
3. Bids should be in steps of 5p up to £1 and 25p thereafter.
4. Visitors are welcome but must be introduced by a member who is responsible for informing them of the rules.
5. All members and VISITORS must sign the attendance book.

6. Sellers will not be paid until all buyers have settled up.
7. The club levies 15% on all transactions.
8. Please try and arrive early so that we can start by 8 o'c.
9. **PLEASE KEEP THE DOORWAY CLEAR FOR FIRE PRECAUTIONS.**
10. SMOKERS are requested to keep to the rear of the room.

**NEXT "B" MEETING: Monday 19<sup>th</sup> Mar 01  
FIX-IT and "MOVE-IT-ON" Evening**

The "B" meeting on Monday 19<sup>th</sup> March will be the now regular "Fix-It" and advice evening but with the extra twist. If you have a radio item 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.

**LAST "A" MEETING: Monday 5<sup>th</sup> Feb 01  
Ropes & knots - Jim Gale G4WYJ**

I was a bit late in getting to this interesting meeting where Jim G4WYJ explained the best uses of various types of ropes and also explained some knots to be used. Roger G4WAY kindly took some photos, which I reproduce below. The question is what are the knots?



Jim's Selection of Ropes



Ropes & Shackles



Knot Close-up #1



Knot Close-up #2

Thank you Jim for your excellent talk and for making the time to present this topic - it was appreciated.

**LAST MEETING: Monday 12<sup>th</sup> Feb 01 -  
VHF NFD Group Meeting @ Peter's G3ZPB**

I am indebted for this report to Bernie G8TB, as I was unable to attend:

"This meeting was held at QTH of G3ZPB. Present were G3ZPB, G8IYS, G7PWV, G3BFP, G4WAY, G6LX, GOPAR, G3RJW, G4DDY, G8TB and G3DVQ.

It was decided that come what may we would enter a station this year 7/8th July at Nore Hill. As the special Rules had not been published we did not decide on the details of entry.

Much time was devoted to "inquisting" the last results and it was suggested that we devote a "B" meeting for all the operators to go over procedure and to impress on the traps we can fall into. If we cannot eliminate errors the other approach is to substantially increase our scores, and with this in mind some improvements in equipment and pre-contests runs should be attempted. We should do our utmost to ensure that, whatever scoring procedure is used; a check operator is present. The committee also will press for members to enter into contests, as practice makes perfect (perhaps).

Specific things to check. Sensitivity of 4-meter receiver. Test the new 6-meter antenna and also sensitivity of 6-meter receiver. 70cm Transverter being constructed, test. Interference from our generators, check with 70cm and 2-meter receivers. Did 2 meters have antenna filter in place? (*Sec's Note - Yes - I saw it in place*)

HOW DO WE LOSE POINTS. Wrong logging of call signs. Wrong logging of locators. Are stations /P or not? (Some stations forget sometimes to send /P.) Are you sure you are in contact with the station you are working? The biggest losers of points are duplicates. Most would show in check log or computer but not if the call is incorrect, i.e. not /P. (*Sec's Note: most good quality programs strip of suffixes and then check!*)

THE NEXT MEETING will be on Monday 9th April at Pound Cottage.

Meeting closed with thanks to Wendy and Peter for their hospitality."

Thanks Bernie, hope you don't mind my additions.

## THE CALENDAR SECTION

I have re-vamped this section to include not just Club meeting dates of SRCC and local Clubs, but also future Rallies and some contests that you may like to enter or experience before the big ones that SRCC enters.

### SRCC and Local Club Meeting Dates:

<b>5<sup>th</sup> Mar</b>	<b>Spring Surplus Equipment Sale</b>
6 <sup>th</sup> Mar	Thames Valley ARTS – AGM @ Library reading Room, Giggs Hill, Thames Ditton – 8pm. Sec: Trevor MOCDB 01372-457674
7 <sup>th</sup> Mar	Crystal Palace – Building your own GDO @ Beechwood School, Leigham Court Road – 7.30pm. Sec: Bob G3OOU 01737 552170
9 <sup>th</sup> Mar	W&DARS – Surplus Equipment Sale @ St. Andrew's Church Hall, Herbert Road, Wimbledon - 8pm. Details: Jim G4WYJ 01737-356745
12 <sup>th</sup> Mar	CATS – DF Construction & Valve Testing @ St. Swithun's Church Hall, Grovelands Rd, Purley – 8pm. Contact:: Andy G0KZT 01737-552139
15 <sup>th</sup> Mar	Sutton & Cheam RS – "World Radio Team Championship" - Roger G3SXW @ Vice Presidents Lounge, Sutton United Football Club, Gander Green Lane, Sutton – 7.30 for 8pm. Sec: John G0BWW 020-8644 9945
20 <sup>th</sup> Mar	Bromley & District - "No Details at time of Printing" Victory Social Club, Kechill Gardens, Hayes – 7.30 for 8pm. Sec: Alan G0TLK 020-8777 0420
21 <sup>st</sup> Mar	Crawley ARC – "Down to Earth" David G4JHI @ Hut 18, Tilgate Forest Recreational Centre, Tilgate Forest, Crawley – 7.30pm. Sec: Jerry G0FPI 01293-512932
28 <sup>th</sup> Mar	South London College ARS (G3HFY) - TBA @ ATC HQ, Commonside West, Mitcham - 7.30pm. Details: Derek M0BGX 020-8684 0963
<b>2<sup>nd</sup> Apr</b>	<b>AGM</b>
<b>14<sup>th</sup> May</b>	<b>Construction Contest &amp; Constructing Eve</b>
<b>4<sup>th</sup> Jun</b>	<b>TBA</b>

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

### Rally Calendar:

7/8 Apr	RSGB Spring Radio & Computer Show (incorporating RSGB National VHF Convention) - Bletchley Leisure Centre. Web: <a href="http://www.rsgb.org/bletchley">http://www.rsgb.org/bletchley</a>
21/22 Apr	London Amateur Radio & Computer Show, West Hall, Alexandra Palace. Contact: RadioSport 01923 893929 Web: <a href="http://www.radiosport.co.uk">http://www.radiosport.co.uk</a>
13 <sup>th</sup> May	Three Counties Radio & Computer Rally. Contact: John 01527 545823

17 <sup>th</sup> June	Newbury & DARS Annual Boot Sale @ Cold Ash
8 <sup>th</sup> July	Sussex Amateur Radio & Computer Fair. Contact: Ron G8VEH 01903 763978 or 01283 417756 (Office Hours)
21/22 Sep	The Leicester Amateur Radio Show - Geoff G4AFJ 01455 823344 <a href="mailto:g4afj@argonet.co.uk">g4afj@argonet.co.uk</a>

## Contest Calendar: (Ray's Selection)

(Oct 2000 Issue of RadCom has full list and details)

6 <sup>th</sup> Mar 2000-2300 144MHz All Modes	144MHz UK Activity Contest. First Tuesday of every month. Multiplier on the number of locator squares worked in each session. The contest is a cumulative: at the end of the year, the best six sessions count towards the final score. Entries submitted after each session
1 <sup>st</sup> Apr - 1 <sup>st</sup> 5 <sup>th</sup> Aug - 2 <sup>nd</sup> 0700-0900 CW: 3520-3570kHz	RoPoCo - a real test of your CW operating skill. Chinese whispers using rotating postcodes! Exchange RST plus for the first contact, one's own postcode. For each subsequent contact, RST plus the postcode received from the previous contact.
27 <sup>th</sup> Mar, 4 <sup>th</sup> /12 <sup>th</sup> Apr 1900-2100 144MHz All Modes	144MHz Cumulative. Scored as 1pt / QSO, with a QTH locator multiplier. Section 1 25W max O/P @ transmitter, Section 2 full legal power. Best two sessions count towards the final score.
5 <sup>th</sup> May 1400-2200 432MHz	432MHz Trophy.
2 <sup>nd</sup> /3 <sup>rd</sup> Jun 1400-1400 50MHz	50MHz Trophy - co-ordinated with IARU contest.
10 <sup>th</sup> Jun 1800-2200 432MHz FM	432MHz FM - Postcode and Country multiplier

## SRCC Activity Station & Contest Calendar:

13 <sup>th</sup> May	Windmills on the Air @ Shirley Windmill? - Contact David G0PAR (020-8761 2954)
7 <sup>th</sup> /8 <sup>th</sup> Jul	VHF NFD - Contact Bernie G8TB (020-8660 7517)
1 <sup>st</sup> /2 <sup>nd</sup> Sep	HF SSB - Contact Roger G4WAY (020-8689 7089)

## LAST MEETING: SRCC Annual Dinner @ The Windmill, Wallington - 24<sup>th</sup> Feb 01

24 members and wives attended this event on Saturday night 24<sup>th</sup> Feb to tuck in to Roast Pork (*the organised Chicken must have flown away!*) and Lemon Sponge pudding. More details next month including what the Chairman said at his last function prior to the AGM.

## MEMBER NEWS

### Barry G0WBF:

I have to report the sad news that Barry G0WBF has sadly become a Silent key on Tuesday February 6<sup>th</sup>. Our thoughts are with the family at this sad time.

### Stamps for Diamond Riding Centre:

Bernie wishes to thank Pat G8LZA for her continued support with the stamps she sends for the Diamond Riding Centre for the Disabled, and also to Gav G2OS. Best wishes to you both.

### Ted G3EUE Downunder:

I recently received the following from Ted G3EUE, which I have already forwarded to members on E-Mail but here it is for wider circulation:

New Year's Day

"Dear Ray,

I was very pleased to receive your E-mail in reply to the query which Tim had sent to you. Perhaps I should give you an explanation about Maurice. The boys decided I should be dragged screaming into the real world and send E-mails to various friends so I thought I would drop a brief note to SRCC. Whilst we were over at his place I asked him to try and find the E-mail address for SRCC and as an alternative, Maurice. I remembered his call but not yours! Now that I have your address I can communicate directly with the Club - but please give my best regards to Maurice!

You will know that Daphne had a major op. in November '99 with a further one in January last year. Since that time she has been picking up well and we decided to do another trip to Tasmania. We left the UK at the beginning of December and had nearly a week in Singapore, going back to a hotel where we had stayed 8 years ago. Just the same except for a change of name. We thoroughly enjoyed our stay, which gave us a good break in the journey and felt active enough to visit various attractions in the city. It really is an extraordinary place with new buildings popping up all over the place and yet is so clean and tidy everywhere. Very nice food in the hotel - mainly Chinese. I was a bit surprised one evening when I asked the girl - "what is the soup of the day?" - Chicken - "OK". Up it came complete with three feet in the bottom of the bowl !!

We have two sons and their families in Tasmania so we try and divide our time between the two. Fortunately they only live about 40 minutes drive apart. The first couple of weeks were with Tim and now we have moved on to stay with Nick at his farm hence the change of E-mail address. Nice and quiet and just the company of a Rottweiler at night - about 10 miles off a main road. He provides trout fishing facilities and has five lakes on the 1,000 acres, much of it up hill. He and his wife have a house in town because of school problems but he does stay here from time to time. Last week they organised a day out for the boys and with six friends we went to the east coast for a day's deep-sea fishing. Had a super day and were very fortunate with the weather - it gets pretty choppy 15 miles off the coast. Not brilliant fishing but caught a reasonable number including Barracuda, which look like 3-foot long mackerel. I may be able to E-mail a photograph when we go over to Tim.

The weather has been extremely variable. Hot when we arrived, perishingly cold over Christmas with strong southerly winds, rain and snow on the local hills. Today it is 32 C in the shade ! Spent Christmas Day with one family and a general party with the other side of the bunch on Boxing Day.

Daphne has some college commitments soon so we decided to make this a somewhat short visit and will be back home early in February. Am hoping to get down to Hobart to visit a cousin and to make contact with an Australian amateur, VK7LP. A rather complicated story. I have a regular sked with three friends around the UK and discovered that one of them contacts VK7LP quite frequently and suggested that I give him a call. He lives in a small community south of Hobart with the delightful name of Tinderbox. I traced his phone number, rang and was immediately told that he was expecting a call! He too is ex-RAF of 1950 vintage. Made most welcome so hope to catch up with him before we leave. On top of all this we have been offered the use of a holiday cottage on the east coast so we really do need a longer holiday !!

All the news for now. Have had a few problems with traffic to the UK and for one addressee we could only get through by changing .com to .co.uk No wonder I am confused with the whole business! Please give my 73 to old friends and hope to make personal contact later in the year. Many thanks for using you as a post office.

Love to Mary - Ted"

22<sup>nd</sup> Jan 01

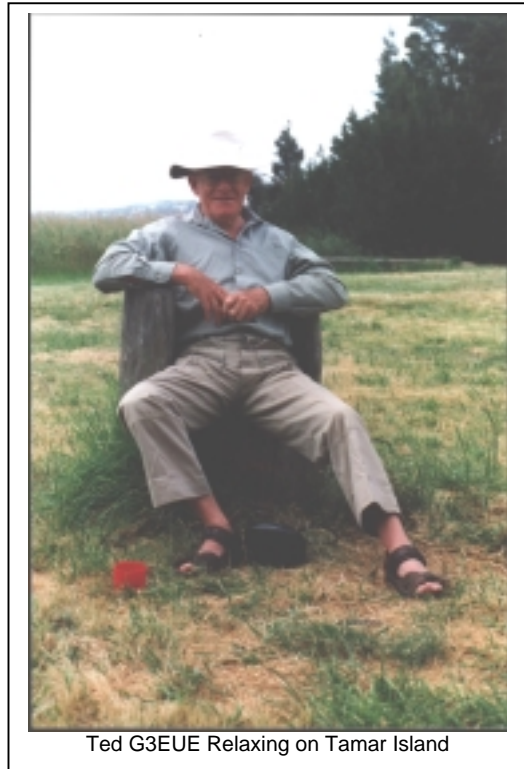
"I promised to send a photograph of the fishing trip. Unfortunately none of them is of real interest so I thought I would just mail a personal one of me fully stressed out on Tamar Island!! The only thing missing is a "stubbie" in my hand! Still having a great trip. We have been staying with friends in their shack up on the north coast and got back yesterday from a similar short-break holiday in another house on the east coast. Travelling never seems to stop.

Daphne is still making good progress so we have deferred our return until the end of Feb. to accommodate all the scheduled visits to friends and relations.

WX has really turned to summer after a freezing cold Christmas; hope it stays like it for the rest of our stay. We

are staying here with Tim for about another week so will have a look (or get someone to do it for me !) for the news letter.

All the best to you all - Ted."



Ted G3EUE Relaxing on Tamar Island

#### John G8IYS Contributions:

Over the last month or so John G8IYS has kindly sent me some copy as follows - thanks John:

2<sup>nd</sup> Feb 01

"Hi Ray

On a possibly selfish note, I am pleased that the Construction Competition is running for another year. I know that now I have much more time to spend on such activities than possibly the average person does but I do find it saddening that so few people seem to want to construct things anymore. Maybe people don't because they think they do not have enough knowledge or experience to do so or there is no one around to dig them out if things go wrong. I think that the Construction Evening is a very good encouragement for people to try their hands.

Apart from the infamous 70cm Transverter and Control Box, I have knocked up a milliwattmeter 0.5mW to 1000mW and a 70cm twin meter vswr/power bridge with peak and average power reading capability up to 100 watts. All the bits for these two came from SRCC junk sales - except for the paint on the boxes. It is quite striking that I was able to produce the SWR bridge for about £1-50 when a model with much less accuracy would cost over £100. Cost of labour not included, of course !!!!! Very odd, but when I started to build the Transverter, I must have been very naive thinking I could do without some really very basic test gear. If I had had these two items, I would not in all likelihood have blown up my mark 1 Transverter. I can guarantee that I am not overdriving the Transverter - could others ?? If I don't make it to the next Club meeting then see you at Peter's on 12th Feb for the VHF FD meeting.

Best Regards John G8IYS "

10<sup>th</sup> Feb 00

"Ray. I guess you won't say no to some potential copy for the Newsletter.

More on my pet theme of building things. One of the reasons why people stop building or do not start is that they are optically challenged. It has always been good practice (and plain common sense to avoid cost of failure) to inspect a PCB after etching - to check for track gaps and again after component assembly to check for dry joints and bridges. Years ago, I used a jeweller's eyeglass.

As time has rolled on, I have found it necessary to use an optical aid for the soldering stage too. I have not tried magnifying spectacles because the corrections for each of my eyes are very different. There is also a hazard of trying to walk around the shack with an optical range of 20cm !!! If you saw the state of my shack you would understand the reality of that hazard.

I have also tried a "Third Hand" - a heavy metal base with 2 articulated crocodile clip and a small lens. The clips for holding the work are quite useful, but I found that the lens was too close to the work and it is a bit tiresome to be hunched over the workbench for hours with your nose 2cm from the end of a hot soldering iron.

One item I can very much recommend is an 8cm dia. magnifying lens on the end of an anglepoise style articulated arm. Within the lens shroud is a 40watt lamp. This gives a good field of view, good illumination of the work, a comfortable sitting position and leaves you with two hands to do the job. It also incorporates a shutter, which leaves the work area illuminated, but covers the top of the lens to avoid dazzle during pauses in the work. The cost is about £20 odd.

I got mine from Machine Mart on Brighton Road South Croydon. I have also seen an identical item in the Maplin catalogue - within £1 of what I paid. I don't know what price they are asking but I also spotted some in the Discount shop in St George's (?) Arcade near the Nestle building in central Croydon. If you really want a Rolls-Royce version, there is also a model with a lens about 50% larger in diameter and a ring fluorescent lamp built in. This is £35 plus - a bit over the top, perhaps.

I hope someone finds this a helpful recommendation - with all sorts of hobby applications. Perhaps other members can recommend tools and aids that they too have found useful.

73 de John G8IYS."

Ps **WANTED.** Anyone who bought a circa 10 metre length of UR67 at a Club Surplus Equipment Sale and can no longer think of anything to do with it might like to offer it a new home. Your (sensible) price paid - say a fiver. I need some for the flexible tail to connect a run of LDF 4-50 semi-rigid coax to my 70cm antenna. Happy to collect. KR's. John (020-8657 0454)

20<sup>th</sup> Feb 00

"Hi Ray:

Anyone who has spent more than 5 mins in the company of G8IYS in recent months will have been told (to the point of boredom) of his problems with generating a negative voltage from a positive 13.8v.

He needs an adjustable 4 to 5 volts negative volts to feed into the ALC socket of his Alinco DX70TH in order to wind back the RF o/p to about 3mW on 28Mhz to drive his 70cm Transverter.

It is important that the generator runs all the time - including Rx periods. It is not a good time to discover that it is disabled after pressing the PTT. 100w to the Transverter input does it no good at all. (Proven, not theory !!!)

Many months have been spent trying to tame the o/p from an NE555 multivibrator, suitably rectified, but all to no avail. Whilst the dc has been produced ok, a big problem has been lots of noise spikes which wander about from AF up to and beyond 30 MHz. Increasing the oscillator frequency has reduced the number of spikes, but increased their amplitude (no surprise there, I suppose). This has been an insoluble problem for over 6 months and was present on Rx and on the transmitted signal.

A chat with Ray G3DVQ at the last VHF NFD get-together produced a comment from him: 'You need to try a 7660. It will only cost you about £1 and I have used them in the past to generate neg. volts and never had a problem.'

With lots of hope but not much confidence, John duly acquired said device, knocked up a PCB etc, applied + volts and bingo - up to 40mA of neg. volts, controllable anywhere between 1.5 and 10v and ABSOLUTELY NO NOISE. Yippppppeeeee.

There is always someone in the Club who has a solution for a problem. All you have to do is find the right person.

The 70cm Transverter project is NOW complete - except for putting the antenna up - and the rain has stopped so .....

Very very grateful thanks to G3DVQ from John G8IYS"

## Gareth G4XAT Contribution:

In the last Newsletter I mentioned that I had held over some copy from Gareth G4XAT, here is the first of two:

### Brewing beers like those you buy by Gareth G4XAT.

I wonder where the term 'home brewing' originated? Was it amateur radio or was it amateur brewing? Either way it relates to producing something at home, generally under ones own steam.

I do not want to give the impression that I am far down the road to alcoholic ruin, far from it! But a decent pint of quality beer is a joy to imbibe and in the comfort of ones own home solves all those difficulties like getting home afterwards. Also as a non-smoker I find the presence of cigarette smoke (in pubs) increasingly abhorrent to the point that I will only very occasionally endure it.

Although the supply of quality bottled beers has improved in recent years, by their very nature they tend to be slightly 'fizzy'. A good honest pint of flat real ale served at a 'cool' temperature goes down a lot easier.

For years I have been using tins of hopped malt extract or homebrew kits as they are known. With care they have all been acceptable but none ever tasted like beer you buy. In the early 80s I experimented with 'Brewing beers like those you buy' a book written by Dave Lines. The results were certainly 'beer' but tended to have off flavours or just overpowering flavours, probably brought about by a lack of temperature control. In recent years there has been an increasing trend towards better quality beer kits which did not require sugar to be added, the sugar content being entirely malt derived. These tasted a bit better, but still obviously 'homebrew'. The next step I took was to acquire some genuine yeast from the brewery that marketed the kits. Apart from the vigour (amazing) the results got better still, almost to the point of perfection. But there was more to come. Whilst visiting Cheers! Home Brewing and Wine store, (94 Priory Road, Cheam, 0208 644 0934) Richard, the ebullient proprietor mentioned that he ran 'full mash' courses (extracting your own malt from the barley) and would I like to reserve a place. Yes Please! He also gave me two very helpful leaflets, one about malt and its many variations, the other about hops, absolutely fascinating, detailing the two main properties of hops themselves, that of bitterness and aroma. Beers derive their individual characters mostly from variations in these ingredients and technique and also from the yeast strain, a science in itself!

The brewing process is relatively straightforward but time consuming. My first batch of 'full mash' took six hours (a good way of using up boxing day!) but without mistakes and delays due to limited heat input (it was freezing on boxing day) I think it could be reduced to about 4 hours, with plenty of opportunity to 'do things in between'.

Basically the malted grain is purchased in the required amounts and 'cracked' in a simple mill to 'halve' each malted grain. Hot water is then added to the dry grain at a specific temperature and the whole 'porridge' mass is kept at that temperature for between 30 and 90 minutes. Nature is wonderful here, as apparently various enzymes produced by the malting process work on the starch in the grain to produce sugar. How kind of them! At the end of this stewing process the sugar rich liquor is run off and the remaining grains are 'sparged' with additional hot water to rinse the remaining sugars out. This liquid is then boiled in a 'copper' (large plastic bucket actually!) and as it comes to the boil a green 'scum' rises to the surface. This is apparently unwanted proteins and should be skimmed off. The bittering or copper hops are now added and the 'wort' is now boiled vigorously to reduce the volume and extract the bitterness from the hops. Boiling times vary but commonly are 1 to 1 1/2 hours. About 15 minutes from the end of the boil, the 'aroma' hops and a material called 'Irish Moss' (actually a variety of ground up seaweed, rich in copper) are added. The hops are very often a low bitterness, high aroma variety, for obvious reasons. After the boil, rapid cooling of the wort is required and this is achieved in my case by immersing a copper cooling coil into the 'copper' (boiling vessel). By passing cold water through the coil the wort can be cooled to room temperature in about 15-40 minutes, depending on the various temperatures. Basically just like a central heating boiler in reverse! Once at room temperature the wort needs aeration, achieved by running off the wort into the fermenting vessel from a height of a foot or so. The spent hops sit at the bottom and form a 'filter bed' that further traps unwanted proteins precipitated (apparently) by the Irish moss. One drained off, the yeast can be added. There are many varieties of yeast to choose from again depending on the style of beer you are brewing. Fermentation takes up to a week, again depending on temperature and yeast strain. The yeast basically turn the sugars extracted from the malt into alcohol and carbon dioxide, and an 'ale' yeast forms a thick skin on the surface which acts as a protective blanket during the fermentation. That and a blanket of carbon dioxide helps prevent infection of the brew by stay natural yeasts, a particular problem in late summer (apparently).

Once fermentation is completed the now nearly clear beer can be either bottled or barrelled, depending on your preference. It becomes drinkable within a week but personally I find it improves with age and is best left at least 3 to 4 weeks. Some brewers use a fining agent (variously made from the swim bladders of sturgeon or calves hooves, i.e. isinglass or gelatine) but this is to rapidly clear their product of suspended yeast and so effectively increase the shelf life of their product. I have never bothered and with limited consumption the only problem I have is as the barrel empties and natural pressure runs out, extra CO2 is added from a cylinder to provide 'top cover'. This theoretically means that the beer is no longer strictly 'real ale' but I never notice any difference. The beer is still 'alive' unlike pressure filtered and pasteurised keg based product beloved of the megabreweries.

So what did it taste like? I brewed a recipe to give me a copy of Eldridge Pope's 'Royal Oak', a long time favourite but rarely found these days around here. It wasn't even at the Camra Beer Festival so the brewery and/or the beer may have been taken over. Anyway, as far as I can remember, it's pretty close. It certainly is a 'nice pint' and is probably the best I have ever brewed, apart from a single batch of Christmas ale I made a year ago, and kept until this Christmas. Would I do it again? Yes, absolutely, there are many other favourites with published recipes to try too!

Like most hobbies these days, you can 'wave your wallet' and purchase just what you need to get going. To a practical person such as myself, I made the bits I needed.

The water boiler is simply a kettle element fitted into the side of a 5-gallon plastic container. A suitable plastic water tap was added to drain off 'hot liquor' as required. The Mash Tun is a converted coolbox, actually extracted from my wife's hands under the promise that it would still serve fine as a coolbox. I simply drilled a clearance hole through the side outer and polystyrene insulation, and a fit hole through the inner. A plastic tap was fitted to this hole to drain out the 'wort'. The wort is full of small bits and a copper filter assembly was made from 22mm copper pipe. Slits were cut with a hacksaw and cleaned up with a needle file. This is unsoldered and sits at the bottom of the mash tun, connected to the back of the tap by a short length of plastic pipe. The 'Copper' is a 6-gallon plastic food bin, with a tap and two kettle elements (2.2KW each) added. The hop filter is another copper pipe, this time drilled all around its circumference with 3-mm holes. A short piece of plastic pipe connects this to the back of the tap. The crash cooling coil is made from a roll of 10 mm copper microbore tubing, originally bought for £2 at a bootfair to make a huge horizontal magnetic loop. Only half the original coil was used, giving me a 9-turn coil, which fits easily into the copper when required. The fermenting vessel is another 5-gallon bucket, with a close fitting lid, originally sold by Boots. Sadly Boots seem to have stopped doing their previously good range of homebrew accessories. A sign of the times I suppose.

Anyone who has ever been near a brewery will know that it emanates some pretty distinctive smells on mashing/boiling days. In the domestic environment these can be difficult, especially for non-beer drinkers!

Whilst the mashing process is a fairly fruity 'baking' type smell, the boiling of the wort with the hops is definitely NOT. I did my mashing in the garage (attached to the kitchen) and got away with it. For the boil I was under no illusion as to the consequences so I moved to the garden workshop for this part. I suspect that the neighbourhood wondered where (or what) the smell was coming from! For me, as happens every time I brew a beer, it took me straight back to my childhood on a Welsh Farm, where, periodically, lorry loads of (spent) Brewers Grains were delivered into a vast pit which then required treading down. As you can imagine, surrounded by tons of steaming grain rich in odours, a youngster would remember that smell! So vivid is the memory, I (think!) I can even remember which coat I was wearing! Happy days, now occasionally revisited every time I make a brew!

The 'hardware' needed for the above will be displayed at our annual construction contest, as a general interest item. A sample of the first brew will be available for tasting too! Let me know what you think!



G4XAT junior ops 'warming themselves around a healthy pair of triodes', the radio amateurs equivalent of a roaring log fire!!



After the excesses of the Christmas period Gareth G4XAT decided to take up weight lifting (hi) so he pressed a pair of Russian Triodes (2.5 Kg each) into service as dumbbells.

**SIGNING OFF:**

That's it having reached Page 6 this month - sorry about the need for a magnifying glass! I still have articles from Bernie G8TB and Gareth G4XAT for next month.

Don't forget the AGM on April 2<sup>nd</sup> - please complete the nomination slip below. This will be Graham's G3RJW last year and so we will need to elect a new Chairman.

Next "A" Meeting is the "Sale" - see you all there.

*Ray* G4FFY

73 and 88

Posted: 27th Feb 2001

**NOMINATION FOR COMMITTEE 2001—2002** (Please return to Ray Howells G4FFY)

I ..... wish to nominate .....

For the position of **Secretary / Member** on the SRCC committee 2001 - 2002

If elected I agree to stand. Signed: ..... Date .....