



SURREY RADIO CONTACT CLUB

JUNE 2004 — No: 741

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

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

Hon. Sec. Ray Howells G4FFY
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 Surrey SM1 3LD
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MONTHLY MEETINGS 1ST AND 3RD MONDAYS 7.45 FOR 8pm

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

"A" MEETING 7th June 2004 ENIGMA PROJECT with Claire Greer of Sussex University
"B" MEETING 21st June 2004 GENERATORS with John Stockley G8MNY

Chairman	G4XAT Gareth Evans	020-8462 2837
Vice-Chairman	G4WAY Roger Holyoake	020-8689 7089
Treasurer, Liaison & Equipment	G4DDY Maurice Fagg	020-8669 1480
Secretary, Membership & Communications	G4FFY Ray Howells	020-8644 7589
VHF Co-ordinator (Co-Opted)	G8IYS John Simkins	020-8657 0454
Publicity & HF Co-ordinator	M1MRS Robert Shepperley	020-8687 0811
Club Meetings	G4FDN Pat McGuinness	020-8643 0491
Members	G3RJW Graham Marshall	020-8669 8722
	G8TB Bernie Wynn	020-8660 7517

Dear Members & Friends

Hello and welcome to the June 2004 newsletter which has late breaking news of changes to our meeting programme. Following Pat's G4FDN acceptance of the role to organise our club meetings, this has already borne fruit in achieving a talk on the Enigma Project by Claire Greer of Sussex University. The only date which was mutually available was 7th June and so we postponed the Construction Contest to take up the opportunity of this excellent presentation for the next "A" meeting.

Also, noting that in July its VHF NFD, we have also taken the opportunity to have a presentation by John Stockley on Generators for the "B" meeting on 21st June.

By the way, my presentation at the Sutton Area Planning Committee meeting went well, and had the desired effect in that the councillors supported our view and rejected the local development proposal.

NEXT "A" MEETING: Monday 7th June 2004 ENIGMA PROJECT with Claire Greer

We are very pleased to welcome Claire Greer on Monday 7th June, Director of the Enigma Project at Sussex University, to give us a presentation on the Enigma Machine.



Claire Greer, Director of the Enigma Project - picture courtesy of www.simonsingh.net

As an opener to this evening I have the following synopsis:

"The science writer and broadcaster, Simon Singh (author of the best-selling 'Fermat's Last Theorem' and 'The Code Book'), owns a genuine WW2 Enigma cipher machine and would like as many people as possible to experience first-hand this rare historical object and to understand its scientific and cultural significance. He has hired Claire Greer to manage and deliver the Enigma Project, which aims to maximise the potential of using the Enigma Machine as a teaching resource. This Enigma machine (one of only about 150 known to be around today) was built in 1936 and was used by the Germans in France to send coded messages during WW2.

The key objective of the Enigma Project is to get as many students of all ages interested in maths, science and history. Code making and breaking promotes problem solving skills and logical reasoning. Claire Greer delivers hands-on code breaking workshops in schools, museums and other educational establishments throughout England, in addition to speaking to adult audiences from a variety of backgrounds, including Amateur Radio groups."

I hope that despite the short notice, many of you will turn up to enjoy and participate in this interesting evening, and support the Club's efforts in bringing this talk to the TS Terra Nova. The invitation is also open to all local clubs as well.

Apparently all you need for the evening is to bring a pencil. We will **not be allowed to touch the Enigma Machine**, so please respect this, but if time permits we will be able to take a closer look. Take a look at either <http://www.setpointsussex.org.uk/resources/directory/enigma.htm> or http://www.simonsingh.net/More_Information.html for more details.

**NEXT "B" MEETING: Monday 21st June 2004
GENERATORS with John Stockley G8MNY**

The "B" meeting on Monday 21st June will be different to the normal "B" meeting fare, in that we are welcoming John Stockley G8MNY for a presentation on "Generators", rather timely recognising VHF NFD is fast approaching over the 3rd/4th July weekend. The talk topics include Petrol 2-stroke and 4-stroke, mods for /P SSB use. Demo of them e.g. the 25Hz flicker on 4-strokes. What voltage, needs, fuel magnetos, economy, engine RPM. The Alternator, Regulation, Safety, Security.

**LAST "A" MEETING: Monday 10th May 2004
CONSTRUCTING EVENING - Bat Receiver**



This was another excellent evening organised by Gareth G4XAT and as you can see from the photos, construction is alive and well in SRCC. Some 9 kits were made up on the night following the excellent instructions that Gareth had prepared. They all worked but some instability was noted. David G8RUZ has found a solution which he had E-mailed to Gareth:

"Gareth

As you are aware a couple of the projects suffered from instability. Today I tried reducing R6 in value, extra decoupling etc, no changes were noted. But as I sat looking at the board I noticed a hairline track around the board, (the artwork border). I removed this with the help of a soldering iron, the problem was solved! I guess it was coupling taking the high level output to the low level input. A VGA computer monitor is a source of ultrasonics, for testing the unit.

Well done for the organisation of this project.

David G8RUZ"

Thanks extended to Gareth for the excellent evening.

**LAST ACTIVITY STATION: 8th/9th May
SHIRLEY WINDMILL - GB2SWS**

As part of the Windmills on the Air weekend (8th/9th May) David G0PAR lead the SRCC activity from Shirley Windmill, Postmill Close, Shirley with help from Ray G4FFY and Roger G4WAY.



On the Saturday afternoon David and Ray, in the rain, erected the G5RV aerial between the windmill and the Monkey Puzzle tree on the golf course. David did an excellent job of launching the fishing line into the tree to pull up the aerial with. On the Sunday morning Roger erected his tent and by midday we were on the air.

We worked some 80 contacts on 40m and 80m (40 was noisy!!). At the last committee meeting congratulations were recorded for the participants enthusiasm

**LAST ACTIVITY STATION: 9th May 2004
Sutton Model Engineering Club - GX3SRC**

Bernie G8TB and Maurice G4DDY were up at the Sutton Model Engineering Club in Stonecot Hill on the Windmill's Sunday, and were operating a station on 80m.

Dusty G4DSY sent me the picture on the right of Maurice G4DDY talking to Geoff Burlington, the President of the Sutton Model Engineering Club. The shack is the tent, and the TV monitor is receiving pictures transmitted from a camera (provided by Gareth G4XAT) mounted inside one of the locomotives.

Thanks Dusty for the info and picture.



NEXT VHF NFD MEETING: 14th Jun 2004 at QTH of John G8IYS

The next meeting of this group is at 8pm on Monday 14th June at QTH of John G8IYS. All are welcome so please contact John for further details (020-8657 0454) and advise of your attendance – thank you. At the next club meeting we need to gather commitments to the erecting and operating rotas for each of the stations. John has registered our site and entry and this has been acknowledged by the VHF Contest Committee.

VHF 70cm AFS Contest Result

John has sent me the following E-mail:
 "The results of the 70cm Affiliated Societies Contest are out. Clubs were permitted to enter a max of 3 stations, but for various reasons SRCC was only able to field 2 stations this year: Jim G4WYJ and John G8IYS. Overall the club came 7th out of 11. This is one place down on last year, but with poor conditions, no advance advertising and not a lot of activity. The top station score was only 6541 points compared with 17573 in 2003. Individually G4WYJ came 9th with 3079 points (4909 last year) and G8IYS came 11th with 2411 points (2996 last year). Jim's and John's scores held up very well compared with others. John G8IYS was delighted to receive a certificate for the highest placed station running less than 30 watts to a single antenna.
 Regards

John G8IYS"

WARLINGHAM VILLAGE FAIR 19th June Blanchmans Farm, Limpsfield Rd

Roger G8HDP has advised me of the following:

"I have a date for the SRCC diary...
 19th of June.
 Warlingham village fair at Blanchmans Farm.
 Limpsfield Road,
 Warlingham.

All the family welcome... They can visit the fair while you play radio on our radio station provided by Wimbledon ARS... Special Event station, only operating that day from about 10:00 to 16:00hrs. QSL cards are available.

The site entrance is about half way between the village green and Sainsbury's, opposite Bond Road.

If you need any more info just let me know...

Best regards

Roger G8HDP"

CHAIRMAN THOUGHT of the MONTH - June 2004



"Well the construction evening went off well, all the kits were sold (11) and all bar 2 were built and 'activated' using the supplied battery on the night. Some worked fine, allowing easy reception of our surrogate 'bat' (40 KHz transducer driven by a signal generator) around the room. Some exhibited instability and failed to respond to the suggested modifications. Thanks are due to David G8RUZ who found that the surrounding border track (which not all the boards had) was the cause. Removing it provided the cure and although turning the gain right up will produce feedback, it makes the product more 'manageable'.

Maurice, G4DDY, went on the Beddington Park Bat walk and although no bats were heard, the intention was there!!

Half term has arrived at last and I am looking forward to a rest, but I'm not sure where it will come from. Although our electric cars are all ready to go, our petrol powered wonder is not, so it's going to be a busy 4 weeks...(not that half term is 4 weeks).

In our attempts to provide our members with fascinating talks, we have a change of program for the June meeting. All the details have been sent out by email or you may well have had a phone call. Please try and attend what promises to be a fascinating evening, something of an Enigma even.....see you there

Gareth G4XAT

THE CALENDAR SECTION SRCC and Local Club Meeting Dates:

4 th Jun	Crystal Palace – Club projects/Morse Practice/Natter Night <i>Theme: Morse Practice Oscillators</i> @ All Saints Church Parish Rooms, Beulah Hill. 7:30 for 8pm. Bob G3OOU 01737 552170 (Meetings 1 st and 3 rd Fridays) http://members.aol.com/rfcburns
7 th Jun	Enigma Project with Claire Greer
11 th Jun	W&DARS – Desert Island Radio with Reg M1EEK @ St. Andrew's Church Hall, Herbert Road, Wimbledon – 7.30 for 8pm 2 nd & last Friday's Details: Jim MOCON on 020-8874 7456 http://www.wadars.thersgb.net
14 th Jun	CATS – Linear Acceleration with Brian Edwards G6HIE (To be confirmed) Meetings held @ St. Swithun's Church Hall, Grovelands Rd, Purley 8pm 2 nd Monday's. Contact: Andy G0KZT 01737-552139. cats@briersa.fsbusiness.co.uk
14 th Jun	VHF NFD Meeting @ G8IYS QTH
15 th Jun	Bromley & District – The BDARS DF Hunt – all welcomed. Meetings on 3 rd Tuesday's @ Victory Social Club, Kechill Gardens, Hayes – 7.30 for 8. Alan G0TLK 020-8777 0420 www.bdars.org.uk
17 th Jun	Sutton & Cheam RS – Visit by Mark Francis of Walters & Stanton. Meetings @ Vice Presidents Lounge, Sutton United Football Club, Gander Green Lane, Sutton – 7.30 for 8pm. Sec: John G0BWV 020-8644 9945 www.scrs.org.uk
18 th Jun	Crystal Palace – German Aircraft Receivers of WWII with Brain G8DIU @ All Saints Parish Rooms, Beulah Hill – 7:30 for 8pm. Further details from Sec: Bob G3OOU 01737 552170 – http://members.aol.com/rfcburns
19 th Jun	Warlingham Village Fair, Blanchmans Farm, Limpsfield Road, Warlingham – Roger G8HDP
21 st Jun	Generators with John Stockley G8MNY
22 nd Jun	Dorking & District Radio Society – VHF Field Day Planning. Meetings normally 4 th Tuesdays @ Friends Meeting House, Butterhill South Street, Dorking – opp. Spotted Dog. Details: Jon G0GNA 01306-883718
23 rd Jun	Crawley ARC – Dayton Hamvention 204 Report with G3GRO, G3YSX & co. Meetings normally held @ Hut 18, Tilgate Forest Recreational Centre, Tilgate Forest, Crawley – 7.30pm. Jerry G0FPI 01293-512932 www.carc.org.uk
25 th Jun	W&DARS – Letter from Devon, Live with Clive G7APM @ St. Andrew's Church Hall, Herbert Road, Wimbledon – 7.30 for 8pm 2 nd & last Friday's Details: Jim MOCON on 020-8874 7456 http://www.wadars.thersgb.net
30 th Jun	Mitcham & District ARS (Meetings normally last Wednesday of each month) @ ATC Headquarters, Commonsides West, Mitcham. Sec: Mike Knott G0WCR 020-8764 4716
5 th Jul	BBQ @ QTH of G4XAT
2 nd Aug	Construction Contest – New Date *****

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

MEMBERS NEWS

Robert & Mikiko Shepperley

New web address:

http://robert_mikiko.mysite.freeserve.com/index.html

New email for Mikiko: takakura@airpost.net

Existing email for Robert: robert@shepperley.fsworld.co.uk
M1MRS JAL 42473

Tony Naylor G3GHI: UO-11 Satellite

Tony's grandson took two digital photos of the dish he is using to receive the weak signal from UO-11 satellite on the S band using Wisp to tell me where to look.



Ex TV dish with an SSB converter mounted at the back converting the input signal to 2 metre IF to a FT736R.3 1/2 turn helical at the focal point made from centre inner of H100 Coax. Originally designed antenna for Oscar 40 now defunct - so now receiving Oscar 11 continuous wave carrier on 2401.5MHz + or - Doppler for test purposes only.
Tony G3GHI

Pat G4FDN - Digital Mains Power Meter

Pat recently E-mailed with the following:

"At a recent 'B' meeting I brought along a digital mains power meter which attracted some interest. It has a 13A socket such that you can measure the current through, volts across and power consumed by any mains device plugged into it. It also measures power factor, mains frequency and KWH. I bought the device at Maplin Electronics in Croydon for £12.49 and they are still available at that price. Catalogue number is L61AQ and description is Plug-In Mains Power and Energy Monitor. See:

<http://www.maplin.co.uk/products/module.asp?CartID=040525103243447&moduleno=37708>

Maplin also have a second model, slightly cheaper: L61AG £9.98 Socket with Wattage and Current Meter <http://www.maplin.co.uk/products/module.asp?CartID=040525103243447&moduleno=36352>

The second one will also tell you the accumulated running cost if you program in the cost per KWH.

Pat G4FDN"

For Sale:

£10 Agfa Snapscan 1212P scanner, parallel port, 36 bit colour, 1200 DPI vertical resolution. In very good clean condition with application & OCR software and drivers & orig pkg. Works under Win 95/98/NT/ME/2000. Review at: http://www.computingreview.com/pscHardware/Scanners/Agfa_SnapScan.1212p/PRD_255441_5642crx.aspx

Contact Pat G4FDN

Eric Taylor G5XW - Founder member

Ray G2KU sent me some info last Christmas which I am now catching up on to publish:

"The SRCC was founded by Len Hooke G5XH and Eric Taylor G5XW. Eric's grandson, Russell Woodham, M1ELX/M3YHO has now taken over the call G5XW and he is active on 40 and 80m. My first contact with the original G5XW was on 6 June 1936 and I am looking forward to working the resurrected callsign soon. In the meantime, information and photographs regarding his grandfather are on the way to Russell Woodham.

Ray G2KU"

Bernie G8TB added the following:

"Hi Ray,

The grandson of G5XW has now assumed this call which belonged to Eric Taylor and he is seeking information ref G5XW. As Eric was the founder member of the SRCC I think it is worth a mention and it would be interesting for members to work that call. Anyone who has information please contact R Woodman 2 Keepers Cottage, Hampton, Dorchester, Dorset DT2 9DY or 106@mandy-russell.fsnet.co.uk

73s Bernard"

Alvin MOBRX - Aerial Capabilities

Alvin recently sent me the following list of aeriels he has available for operating with, along with a picture of his shack:

- 1 10m 5/8ths gap vertical currently res. on 28.500 on edge of garage
- 2 60cms? Elliptical digital satellite dishditto
- 3 90cms elliptical satellite dish on g600 rotator dual feed 10 GHz Inb
- 4 1.2m prime focus dish with actuator on 4" pole single Inb
- 5 80m 1/4 wave over house to south east via sgc 230 coupler
- 6 sort of" crossfield antenna / incinerator via sgc 230 coupler
- 7 smaller conical cylindrical antenna ditto
- 8 1/4 wave 70 MHz in loft
- 9 1/2 wave 70 MHz extendable to...
- 9a 1/2 wave 50 MHz on main 20' scaffold pole
- 10 hb9cv 2m ditto and g400 rotator
- 11 3+3 2/70 cushcraft ditto ditto
- 12 scanmaster white stick ditto
- 13 2/70 collinear on chimney stack
- 14 46 ele mbm group 'b' for Hannington on stack
- 15 2/70/23 collinear on original standoff brackets on side of cottage
- 16 2/70 collinear chrome in loft
- 17 2/70 collinear f/glass in loft
- 18 10m dipole horiz in loft
- 19 6m dipole horiz in loft

20 6 ele band 2 yagi in loft
 21 band 2 circular folded dipole in loft
 22 23 ele band 4/5 log periodic in loft
 23 2.182 long wire inside loft
 24 extension to 2.182 aerial indoors
 25 Carolina Windom 80 special indoors
 26 Carolina Windom 4:1 balun indoors
 27 lazy z' dipole on upstairs bedroom ceilings
 28 15m quad loop on shack one ceiling
 29 3.5 MHz wire with 1.4m sat dish as cap hat.
 Their are others , but currently 'down' due to planning permission limitations... more details to follow

Alvin M0BRX"



Alvin's M0BRX Shack

Laurence KL1X (G4DMA) update

Back in February Laurence sent me the following E-mail which I am publishing a bit late – sorry.

From Laurence KL1X Anchorage (G4DMA) Feb 9th 2004

Dear all, great to keep up with the happenings both from your SRCC and the CATS web sites.

Although I've been living and working in various countries for the past 25 years I still yearn (!) to keep up with ham activities in my home county.

For the past 3 years I've had a job here in Alaska looking after data/voice and satellite comms for my oil company - but sadly its time to move on and Ill be diving way South to Oklahoma/Kansas in a couple of weeks in fact just a couple of miles from the Little house on the Prairie and Roy Rogers home area - Yep we will be in the Toto and Wizard of Oz homeland.

Been operating a FCC Part 5 experimental beacon from here on 137Khz since late July but sadly the tower has come down and I'm not too sure whether the next house will support a couple of 110 footers! I have just about completed a mod to produce about 1.2Kw output on the band so I'm raring to see the sparks fly!

My memories of the SRCC include seeing Nell G2YL, 6NB and of course 8TB with Peter ZPB giving some good teaching at the RAE Tech college, back probably in the early mid 70:s - I was a keen SWL but find myself today learning as much as I did then.

Interesting to note that the Class of '74 with Peter ZPB contained quite a few people who are now flung far around the globe, most of whom are still active.

Thanks again for the web site and look forward to talking to you on HF/Echolink or when visiting my mum now in the East Grinstead area, having moved out of Cousldon after 51 years in late 2003.

Cheers to all including Maurice, Peter and the many others.

Also listen out for me in June July time when I'll be in Fiji teaching for about ten days.. 3D2 something...awaiting the call.

Laurence Howell IEng MIIE FRGS G4DMA

Also in the past as PA9AQL, 5X1LH, VP8SB, VP8ADE, 9M6, JT1FCR, AL1V, V51, TI5 etc etc etc...!

The Transit of Venus

My brother sent me the following info this week:

"STARGAZERS CAN watch Venus move in front of the sun in this country for the first time in 750 years.

CALLED the Transit of Venus, this is when the planet crosses the Earth's orbit while in front of the sun. People can watch the first full one seen in the UK for centuries, from the Kenley Observatory on June 8.

For this major event in the astronomy calendar, the Observatory, off Hayes Lane Kenley, will be opening its doors for all to see.

The transit will last from 6.18am to about noon. For more information go to www.croydonastro.org.uk and www.kenleyobservatory.co.uk or call 020 8668 9642"

I stress careful reading of this page

<http://www.croydonastro.org.uk/TransitOfVenus-Tips.htm>

which has important safety tips – take care if you wish to view.

"BACON AND BEANS AND THE CRY OF THE TIMBER WOLF"

ADVENTURES OF A "Y" SERVICE DIRECTION FINDING OPERATOR. By Maurice de la Bertauche

When the train came to a halt in Maidstone Station the writer of this article lifted his suitcase down from the luggage rack and stepped out on to the platform; it was a sunny afternoon in late August 1944 and he had just been transferred from the top-secret War Office "Y" Group wireless interception station at Beaumanor Park, Loughborough to join the secret direction finding stations at Sutton Valence and Chart Sutton, in Kent. At Beaumanor the writer had been involved with the interception of German short wave Morse code wireless transmissions. Once transcribed, this traffic was relayed to Bletchley Park by teleprinter for deciphering; these activities have been the subject of earlier articles in "Radio Bygones."

After collecting his bicycle from the luggage van and asking directions, the writer set off in the direction of his Supervisor's home in Maidstone, where he had been promised short-term accommodation. As it was absolutely forbidden under the dire penalties of the Official Secrets Act to discuss anything about "Y" Group, except on duty, the Supervisor and writer set off early next morning for Sutton Valence.

The Direction-finding Station was situated in the middle of a large, neatly mown, flat field overlooking the Weald of Kent; the word "station" is an exaggeration because it was a wooden hut, about sixteen feet square. In the perspective of time it seems remarkable that the occupant of this inoffensive looking hut was part of an organisation dedicated to probing the secrets of the Third Reich. It had four radio masts outside located some twenty feet from the hut itself; these were positioned at the four points of the compass. The wireless signal from these aerials was fed into the D/F hut using underground cables, a single aerial wire, at high level, was attached to the top of each mast and crossed the hut to form an "X". From the centre point of this arrangement where the cables intersected, a download fed into the D/F hut to provide help with "Sensing". A subject to be mentioned later.

About twenty-five feet away from the hut was a low wooden fence about four feet tall, which surrounded the station. One entered the hut by walking across a wooden catwalk, below at ground level around the station was an expanded-metal, earthed grid. Inside the D/F hut was a short-wave wireless receiver on a desk coupled to a radiogoniometer with a dial calibrated in 360 degrees. Using this equipment the operator could determine the direction of the incoming wireless signal with some accuracy.

The radiogoniometer comprised a small earthed metal box, inside it, the incoming aerial leads from the North, South, East and West were interconnected to coils. As one rotated the dial closely wound coils on a shaft rotated within the magnetic field produced by the incoming signals, until a point was reached when they cancelled themselves out. In fact the signal reduced gradually in volume until it reached zero, which we called the "null" point. Usually this 'dead-spot' extended a few degrees either side of the bearing read off from the dial; we referred to this cheerfully as "The Swing."

When operating direction-finding equipment on a ship, or an aircraft, it is absolutely essential to determine the direction of the incoming signal apart from taking a bearing itself. Obviously there is a null point, which also provides a reciprocal bearing. The incoming lead from the overhead aerials suspended and crossing above the D/F hut provided "sensing." By rotating the dial of the radiogoniometer one hundred and eighty degrees and listening carefully, the operator could determine which was the loudest signal, the human ear can detect pitch and volume quite well. Although there was provision for sensing this was not really needed because all of our signals were arriving from Europe.

Apart from a microphone located in front of the operator on duty there was a table for the supervisor, wooden storage cupboards, a shelf for a kettle and the all-important teapot. The station, with its lino-covered floor, was very basic except that it had windows in one wall allowing the operator to view the catwalk and the landscape; a rare luxury after the claustrophobic set room at Beaumanor Park.

The Supervisor explained that the "Y" group direction-finding network extended from Thurso in the far North of Scotland to Chacewater in Cornwall with other stations at Montrose, Moulton in North Yorkshire, Perton near Wolverhampton, as well as the two stations in Kent. At some key locations one could find two D/F stations, fairly close together, both taking separate bearings on the same German transmitter to ensure accuracy. Each station had a supervisor and three operators enabling round the clock shift work; at those places having two stations there was also a relief operator who could be called upon to work at either station, this was to be the writer's occupation. Supervisors and the relief operator covered leave and any absences from duty; surprisingly absences were rare as we all had a high sense of duty and obligation.

All D/F stations were in contact with control at Beaumanor by closed-circuit landline. By operating a switch located on a panel alongside the radiogoniometer it was possible to hear output from the receiver in both headphones or split the sound to the headphones so that one could listen to the control operator at Beaumanor on the landline in one ear and to one's own wireless receiver in the other ear. It struck the writer at the time that this was probably the quick route to Schizophrenia.

If an unknown German station was intercepted at Beaumanor, or as a check on the location of a recognised transmitter, it would be "put-up" for direction finding. The control operator at Beaumanor would find the signal on his own set, speak to the D/F operators on the land-line giving frequency, call sign, if known, and other helpful information such as "calling", or "on traffic" and relay the station on the landline. The D/F operator would then tune his own receiver, match the signal and take bearings, or "cuts" as we referred to them and record this information in a logbook. Of course speed was absolutely vital as the German station could end its transmission at any moment and go off the air. Failing to obtain a bearing was something all D/F operators took seriously as a reflection on their own ability. On every occasion one endeavoured to obtain ten bearings noting down each one before calculating the average. The operator would then apply site correction [to be mentioned later].

At an early opportunity control would call each D/F station on the landline in an ordered sequence starting with "Bill One", the code name for Sutton Valence - the reader is asked to make a note of this arrangement as it too will be mentioned later - asking for the bearing. An example would be 117 10 3 5 indicating that the bearing from the D/F station after site correction yielded an average of 117 degrees based on ten bearings, the spread of the dead signal or "null" point on the radiogoniometer dial was 3 degrees and the overall spread between the ten cuts was five degrees. Of course the bearing reported by each station on the D/F network would be different, determined by geographic location.

When bearings were received at Beaumanor these were plotted on a flat horizontal, large-scale map of Europe to find the distant place at which string extended from each D/F station intersected revealing the location of the German transmitter. Although interception operators were never given information about success it is understood that bearings were in fact quite accurate. If a German station sent STW at the end of transmission this signified change of location. It was given absolute priority at Beaumanor so that next time the station came on air it could be out up for D/F at once. The writer has tried to find the meaning of the letters STW, but without success. Possibly STW stood for Stellewechsel, or Stabverwandeln, both relating to change.

It would be easy to underestimate the skill and perseverance needed to obtain bearings on most occasions. Generally incoming signals were weak, or fading, and there was channel noise (QRM) on the frequency. To obtain the dead spot of an incoming signal it was essential to focus one's brain on the transmitter sound before rotating the control knob of the radiogoniometer to find the point at which the signal faded to zero. One needed supreme concentration and this probably meant using both headphones by disconnecting the landline taking control out of the equation. One had to be cautious when busy not to miss any new instructions from control giving a frequency and call-sign, or one could find one's self with an incoming signal on the landline with no relevance to the one given earlier and it was impossible to break through the noise and ask for information.

The twin "Y" group D/F station at Chart Sutton was about two miles away and received exactly the same information from Beaumanor; we were, in fact, taking almost identical bearings. In modern economic terms this would probably be deemed as an extravagance but, in fact, it had positive advantages because sometimes bearings sent to Beaumanor from the two stations in Kent would differ because incoming signals could be corrupted by geographical features. Sometimes we suffered from a "flat bearing", the incoming signal was probably quite loud but it was impossible to get a "cut"

. If the control knob on the radiogoniometer was rotated there was no variation in signal strength throughout the whole 360 degrees. We were told that this phenomenon was caused when the transmitter was not far distant, perhaps on the coast of France; we were receiving both the ground wave and the sky wave cancelling one another out in some way causing the flat bearing.

In late 1944 some Intelligence Corps enthusiast at Beaumanor decided that healthy, Thatcher style, competition on the D/F network might be a good idea and introduced comparisons in performance between one station and another showing bearings obtained and the number not achieved. This sort of nonsense may sound horribly familiar to some readers in this day and age, illustrating perhaps that such ideas are not original and can have disastrous consequences on human psychology. Most of us on the D/F network regarded these statistics as casting aspersions on our enthusiasm and conscientious approach as we always strained every fibre to get results.

Such statistics had a flaw for stations in Kent because any "flat bearings" would be to our discredit.

Some months earlier one of the supervisors at Sutton Valence, who had served as a wireless officer in the Merchant Navy before the war, had made what was a duplicate of the plotting table at Beaumanor. It comprised a poster-sized Daily Express map of Europe glued to a sheet of plywood and this was attached to the hut walls using cup hooks. He had drilled a hole through the map and plywood of every "Y" group D/F station and through this hole he had threaded a string with a weight on one end and clip on the other.

Around the perimeter of the board he had marked the degrees from true North of each station. After noting the bearings handed in by other stations on the network, pulling out each string and clipping it on to the edge of the map it showed where the strings intersected revealing the location of the transmitter. Previously this map had been used merely out of curiosity but, when statistics were introduced, the situation changed.

The reader will recall that the bearings were called in by control in a set order beginning with "Bill One", the landline code name for Sutton Valence. When confronted with a flat bearing, or perhaps having missed a bearing owing to QRM, or the transmitter went off the air too soon, this particular supervisor just said "Hold on a moment. I'm just working it out", when control would call the next station in sequence. The supervisor would listen attentively to bearings presented by other D/F stations and with nimble fingers clip each string to the edge of the map board before cheerfully running the Sutton Valence string through the centre of the converging bearings, note the one he should have obtained and hand this in faking the log book and figures, safe in the knowledge that statistics for the month, in this case, would not prejudice his peace of mind. The writer avoided this map like the plague having pictured himself saying "Hold on.. I'm just working it out", only to find that nobody else had got a "cut" either. Presumably one might be forced to invent a bearing out of self-preservation with unfortunate consequences. "I'm just working it out" implied that one had obtained several bearings and the writer had a frightening mental picture of handing in a fictitious bearing on a German Luftwaffe controlling station only find out that, when plotted, the bearing went straight through Southampton, Torquay, Truro and Tresco before departing into some distant region of the world.

However the writer found this map very useful and used it occasionally to plot bearings out of academic curiosity, places such as Cracow, Berlin and San Nazaire appeared regularly.

Every few months we were expected to recalibrate the station so that we could apply site deviation correction to all bearings. It necessitated closing down the one station independently for several days. One of the operators, using a signal generator, would position himself at pre-determined places several hundred yards from the D/F hut whilst the supervisor inside took a bearing on the signal and obtained a reading, which provided the site deviation characteristics for that part of the compass on that date.

Early in 1945 at Chart Sutton D/F station we were supplied with a more modern unit for taking bearings. This comprised a conventional radiogoniometer driven by an electric motor; the incoming signal was displayed visually on a Cathode ray screen in the form of a sine wave. The screen had a horizontal line across it calibrated from zero to 180 degrees. At the point where the waveform crossed the horizontal line was the actual bearing. When taking bearings it was interesting to see how the null point varied constantly. This unit suffered from the defect that it could not cope with channel interference, although it was excellent for taking bearing on a loud signal. If an enemy station had a weak, or fading signal, the operator would take bearings on it using the old method and relying on his skill and experience.

At this point it is worth mentioning that usually after a German operator completed his transmission with the conventional VA (SK) nothing further would be heard although all wireless interception operators continued to monitor the frequency diligently. After Stalingrad we rarely heard VA (SK) followed by "HH" [Heil Hitler] although it became an increasingly familiar habit amongst German operators to finish VA (SK) and then give a single dot in a friendly manner, rather like nowadays, saying "cheers". Descriptively we referred to this as a "dit". On extremely rare occasions a comment in German might be made such as "Sehr Kalt, nicht war?" (Very cold isn't it?) "Y" service operators called this sort of thing "backchat". Sometimes the receiving station might respond, or perhaps send QWP [observe regulations] and shut down. It was understood that any backchat was most welcome by British intelligence as a good deal could be learnt from idle chatter. The writer mentions this because on one occasion, when Beaumanor control put up a station for direction finding, the sender was almost at the end of his traffic, one had to work furiously to tune one's own receiver and get a bearing, but the writer arrived on the given frequency just as the German operator sent VA (SK). Luckily enough the German operator was stupid enough to give a "dit" and this showed itself on the Cathode Ray screen providing a beautiful cut that would have been missed had the operator observed the rules.

Sometimes on watch we were not busy; our efforts hinged entirely on the volume of German wireless activity. Listening to a commercial radio broadcast, when on duty at Beaumanor, was a serious offence fraught with danger for the interception operator as supervisors in the set room had a control console on their desk so that they could snoop on one's activities. It was said, jokingly, that if caught "listening to the radio" one would soon be listening to the steady tramp of a firing squad in the cold grey light of dawn. But now, in Kent, far from Beaumanor, the writer found himself alone in a remote hut, in the middle of a large field, with nothing to do and the whole short-wave world at his fingertips. Perhaps the most beautiful, sublime pleasure in listening to a commercial broadcast was being able to use the radiogoniometer - property of H.M. Government - to tune out any unwanted interference, or spurious signal. Progressively, on night duty, when short-wave reception was best, the writer built up a programme of useful "Skeds" (schedules) mainly broadcast from America. Being enthusiastic about Big Bands he was able to enjoy Xavier Cugat and his Latin American Band, or Carmen Cavallero his piano and his orchestra, the pure heaven of the Bob Hope show with Skinnay Ennis and his Band, the Chicago Symphony Orchestra and the funny Edgar Bergen show with his ventriloquist doll on sound radio.

Some D/F operators, including the writer, killed time reading when not busy on watch; an occupation strictly forbidden at Beaumanor. The writer has always been an avid reader and at the time was much under the spell of the Frozen North having recently read works by Jack London and the Canadian poet Robert Service, both of whom went to the gold rush town of Dawson City in the Yukon. One enterprising musician at a D/F station brought his violin on duty with him and scrooged away practising, inadvertently leaving the "send" key on his microphone connected to the network one night. Everyone enjoyed extracts from a Beethoven Violin Sonata, an incident that was the topic of humour for quite a while.

The writer's billet was in Maidstone, which meant cycling a round trip of fourteen miles to and from a D/F station. On a quick changeover, when we worked sixteen hours in twenty-four, it meant cycling twenty-eight miles in all kinds of weather, it was rare for anyone to miss his shift and an absolute point of honour to be punctual. Going on duty at 10.00pm one bitterly cold winter's night in January 1945, the writer parked his bicycle in the wooden storeroom at the entrance to the field at Sutton Valence, shivering with cold and half-frozen he set off towards the D/F hut in the middle of the field.

It was a cloudless night and the heavy layer of snow underfoot seemed to scream with pain as the writer crunched along, the distant stars were shimmering against a black background; the world seemed to be moving through space and one could almost feel the roll of the world eastwards. In the still, Arctic-like night, every sound seemed sharp and spiteful and the writer looked towards the distant hut with its beckoning prospect of warmth and food during the night, when a descriptive line from a poem about life in the Frozen-North, written by Robert Service, occurred to him:

"Bacon and beans and the cry of the timber wolf" - These words seemed so apt at the time and in the circumstances.

One morning, early in 1945 there was a thundering roaring sound from the sky, we frequently heard aircraft passing overhead but this was quite different. The writer went outside, looked up into the clear blue sky above where one could see a vast number of American B29 Flying Fortress Bombers at high altitude with vapour trails streaming out behind them heading South. Shortly afterwards there was a heavy muffled explosion in the distance and we were called upon to take bearings of a transmitter sending KR (Kriegsmeldung = urgent war message), the wireless operator sounded very shaken.

When V1's were first fired at Britain from sites near the coast of France, large numbers of them passed over both D/F stations in Kent. The V1 pilot less Flying Bomb - "Buzzbomb" or "Doodlebug" as the propagandists, minimising their threat, called them - had a unique sound like an angry, unsuppressed two-stroke engine. The sound itself was all-pervading and seemed to fill the whole sky. When they ran out of fuel the engine would stop instantaneously in a most uncanny manner. It is no exaggeration to say that the sudden, stunning silence could be felt. Normally, when a Flying Bomb roared overhead at an altitude about 6000 feet, people took no notice, regarding them almost as one does an irritating wasp, but the instant the silence hit you when the engine stopped it was "hit the deck time" because the detonation from one ton of high explosive could be absolutely shattering for the listener and totally devastating for the recipients. In September 1944, George Orwell, with his genius for facing unpalatable facts, wrote: "it looks as though the doodlebug may have a big future before it in forthcoming wars".

Occasionally fighter aircraft, having a hard job keeping up, would pursue doodlebugs passing over the D/F station. As we wore headphones and were usually busy we had scant time for listening to approaching buzz-bombs. Once, on night duty, the writer heard a loud explosion relayed by the intercom between Sutton Valence and Chart Sutton, a few seconds later the rumbling sound-wave arrived as a V1 had landed in a field not far from Chart Sutton shattering the D/F station windows. Luckily the D/F operator on duty was uninjured. Possibly reference to these terror weapons has no place in an article written for "Radio Bygones", but they are relevant to events and illustrate that signals intelligence reaching Bletchley Park was often attained in the teeth of difficulties, either poor radio reception, shift work, poor living conditions in many cases, and personal risk on occasions.

When the war in Europe ended in May 1945 the younger members of the War Office "Y" Group, who had been placed on

the Royal Corps of Signals reserve for " the duration of the embodiment", expected to be transferred to the Far East. Suddenly we found ourselves with nothing to do except take a few D/F bearings. It did not take long to rig up an extension lead with 'phone jacks on each end so that the operator on duty could lounge outside the hut enjoying the warm summer sunshine during the day, it was bliss lying on the soft grass staring up into the clear blue sky trying to focus one's eyes on a singing skylark. A few months later the author of this article was ordered to report to the Royal Signals unit at Ossett Mill in Yorkshire.

EPILOGUE

In May 1948, at the age of twenty-three, the writer returned to normal civilian life after five years and eight months with the "Y" Service, happy in the knowledge that he would be seeking employment in some other sphere.

After leaving the "Y" Group Special Signals Station at Thalerhof, near Graz, in Austria several days earlier, he reached the demobilisation centre in York and left clutching his precious box of civilian clothes. Catching a late evening train for London and then a slow overnight "stopping" train from Waterloo station bound for Exeter, he arrived early next day at Axminster. His parents had removed to Devon after the war where they bought a small, detached bungalow set in an acre of land, for four hundred and seventy-five pounds. It had a panoramic view of the Axe Vale.

A bus for Lyme Regis was waiting outside the station at Axminster; climbing off near Hunter's Lodge the writer picked up his heavy kitbag and set off in the direction of Lambert's Castle. After about three-quarters of a mile he turned into Cook's Lane and soon reached a gateway on the right. Stretching away from this was a rough, barely distinguishable track, wide enough for a vehicle that led downhill to his parents' bungalow. A few yards further on was a small, level, grassy plateau. Throwing down his kitbag the writer sat down and looked out across the Vale; the woods to the right were carpeted with bluebells and a cuckoo calling incessantly nearby sounded crystal clear in the bright morning atmosphere. The writer reflected on the futility of war and thought about his childhood in pre-war days concluding that they were not such bad times in which to have lived. Suddenly, he detected the sharp, sweet, smell of wood-smoke from the kitchen range.

He stood up shouldered his kitbag and continued down the lane.

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Thanks also to Derek Willson M0BGX for E-Mailing to me.

SIGNING OFF:

That is it for this month - please support the Enigma Project talk next Monday - 7th June, VHF NFD Meeting @ G8IYS on 14th June, and Generators on 21st June.

I have realised that I have still to give an AGM report, and publish pictures of the recent Club Dinner - held over to next month along with a new Club membership list. (And Maurice went to Beddington Park!!)

Ray G4FFY
73 and 88

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