MERCURY

THE JOURNAL OF THE ROYAL SIGNALS AMATEUR RADIO SOCIETY

NUMBER 48 SUMMER 1974

ROYAL SIGNALS AMATEUR RADIO SOCIETY
(AFFILIATED TO THE RADIO SOCIETY OF GREAT BRITAIN)

PRESIDENT : Brigadier D.H. Baynham GM, B.Sc, (Econ), G3DHB

VICE PRESIDENT : Major General E.S. Cole, (Rtd), CB, CBE, G2EC

SCHOOL OF SIGNALS LIASON OFFICER: Lieut. Col. B.C. Complin, R. Signals.

GENERAL SECRETARY : Captain (TOT) J. Cooper, T.Eng.(CEI), FSERT, MinstAM, MISM, MASEE,
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QSL BUREAU : Mr. A.J. Button, G3YSK/692, 13 Taplings Road, Weeke, Winchester, Hants., SO22 6HE.

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CONTEST AND AWARDS MANAGER : Major(QM) R.Webb, T.Eng.(CEI), FSERT, G3EKL, Royal Signals Airfield Camp, Netheravon, Wiltshire, SP4 9SE.

STATION MANAGER :

MEMBERS SUPPLIES : Captain (TOT) J. Cooper, (Address as above)

HEADQUARTER STATION : Normal call-sign - G4RS. Special call-signs : GB3RCS, GB2AAD (Aldershot Army Display) or to suit event. ACF/CCF call-sign - G4CCF. Locations : G4RS at Blandford. GB2AAD and GB3AAD at site of Aldershot Army Display. GB3RCS as required. G4CCF with G4BTW. Blandford Camp: Grid Reference (1" Ordnance Survey Sheet No. 179) 921091. QRA Locator : YK10e. WAB Area - ST 90.

SOCIETY FEES :Members : Annual - 50p. Life (after 3 years consecutive annual membership) : £5.
: Club Affiliation fees are the same.
Annual membership fees become due on 1st January each year and can be paid by a Standing Order. In the event of non-payment of annual fees, no 'Mercury' after the January (Winter) edition will normally be forwarded and the members name will be removed from the membership list when fees are 6 months overdue. The editor of 'Mercury' reserves the right not to forward 'Mercury' in the event of two or more editions being returned undelivered indicating an un-notified change of address.
Membership dates from the 1st of the month in which application is made, subject to the application being approved by Council. Members joining on or after 1st September each year are granted the remainder of that year free of subscriptions PROVIDING that fees for the following year are paid at the time of application.

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EDITOR "MERCURY" : Captain (TOT) J. Cooper, (Address as above)

PRODUCTION : 'Mercury' is produced at The School of Signals (by kind permission of The Commandant).

CONTENTS

SUMMER 1974

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Note pages 40 to 57 were loose 'Flash' attachments to the SUMMER 1974 'Mercury'

EDITORIAL

G3DPS
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Changes are always taking place and our Society is no exception. As most members will know a change of 'command' has taken place and we extend a hearty welcome to the new President, Brigadier D.H. Baynham, GM, BSc (Econ) whilst saying farewell and thank-you to Brigadier W.E. Sherratt, who maintained an active interest in the Society whilst holding down the much more important job of Director of Telecommunications. Brigadier Baynham, better known, perhaps, as G3DHB, kindly travelled down from Liverpool to chair the AGM and a number of members had the pleasure of meeting him. Rumour has it that G3BHB/MM is a distinct possibility!. Changes have also been taking place at Blandford and we would also like to thank Brigadier Anderson, the mew Commandant here at the School of Signals, who, despite the problem of settling in to a new posting, found time to sort out several administrative problems for the Society, including suggesting the appointment of a School of Signals Liaison Officer - a post filled by Lieut-Col. B.C. Complin, G4CHT. This post is now fully operational and results beneficial to the Society have already been seen. Another change that has taken place is the appointment of a new SWL Representative - Gordon Allis, RSARS 481, who, probably assisted by Jon Hirst, RSARS 371, will look after the interests of the non-licensed RSARS community. As we now have nearly 200 NLs and most licensed amateurs spend more that 50% of their time listening the NL Section is intended to be of assistance to all branches of the Society. All we ask is that the members give a little support.

The Society has been out and about recently and thanks are also extended to all those members who supported us at Aldershot, Worcester and at the Blandford Fair. Also to those members, many of whom travelled a long way, whom we met at the A.G.M.. Apologies are offered for the somewhat ragged organisation of the A.G.M. - this was due to leave, normally taken just prior to the A.G.M. in order to organise same, being cancelled.

Several members have sent along items for 'Mercury' - many thanks, without your contribution there would be no 'Mercury'. G3BID has put in a bit of overtime and has two articles in this issue. Regarding his antenna article, it is interesting to note that on page 34 of the April issue of "CQ", William Orr, in an article on antennas, states that a 🗁-wave dipole has a gain of 2·1 dB over an isotropic reference antenna, whereas a Ground Plane has only 0·3 dB gain. Keep those items rolling in, you may well be the recipient of The Best Mercury Article Award next year. The voting this year was as follows: The Birth and Early Life of a Ham - 26, G3IBBs Electronic Latch-Key - 23, A Day in the Life of a 9M2 - 21, Spratly Island - 10, G3ONU's Frequency Standard - 8, Baldy Bill's Meter Shunt - 6,Sporadic-E - Phooey! - 5, Progress and Pollution - 3, 'LCK's Ground Plane - 3, Mercury - You can write, etc. - 3, Principles of Electricity - 2, Lament of an Ancient Telegraphist - 1, Editorials - 1 (!). Thanks to all those who voted and a plaque will be on its way to G2BQ.

Several worthwhile suggestions have been made regarding 'local' RSARS membership participation in Rallies, Get-togethers and other Social events. Although we may be a little late for this years Rally 'season' please give this some thought for the future. All suggestions to HQ, please.

In closing, I must stress one more thing - this is YOUR Society and any Society is only as good as its membership. Will YOU help us to make The Royal Signals Amateur Radio Society even better than it is now???. Thanks! - I knew you wo[illegible]

73

OUTDOOR ACTIVITIES:

During recent months, the Society has taken part in The Aldershot Army Display and Exercise Signal View III at Worcester. A number of contacts were made as GB2AAD at Aldershot and as G4RS/A at Norton Barracks Worcester, and we were pleased to meet a goodly number of members and non-members at both events. Signal View III was designed to introduce members of the ACF/CCF to Corps activities and, judging by the comments, was quite successful - Our thanks to all those members who came to see us at either event.

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CHANGES IN SOCIETY STRUCTURE.

As many members will know, certain changes have taken place within the Society during recent weeks. Primarily, the handing over of the office of President by Brigadier W.E. Sherratt MBE B.Sc C.Eng MIEE to Brigadier D.H. Baynham GM B.Sc (Econ). We welcome Brigadier Baynham. perhaps better known to some as G3DHB, and trust that his stay with us will be a long and happy one, whilst saying farewell to Brigadier Sherratt who, despite carrying the heavy task of Director of Telecommunications so well, always took such an active interest in the Society.

As G3DHB is not located in "the corridors of power" in Whitehall, the post of MoD Secretary has been dropped and replaced with a "School of Signals Liaison Officer". This post has been taken over by Lieut-Col Basil Complin G4CHT R. Signals, who is located at The School of Signals and active on the key. Our thanks are extended to The Commandant, School of Signals who not only approved this appointment but suggested it in the first place. We are deeply appreciative of the interest shown in the Society by The Commandant, Brigadier Anderson, particularly as these changes coincided with the multitude of tasks always associated with taking over a new command.

The above changes are the result of a lot of thought and discussion and no decisions have been taken lightly or quickly. Resulting from this some delays have been unavoidably caused to the normal running of the Society, particularly in respect of mails and orders. It is hoped that by the time members read this all the back-log will have been cleared. Your Secretary would like to apologise for any inconvenience caused to members.

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NON-LICENSED MEMBERS SECTION.

As the membership now includes over 180 non-licensed members, it is hoped to revive the SWL Section of the Society. GORDON ALLIS, RSARS 481 has volunteered (Society-fashion, not Army fashion!) to "give it a whirl" and all members, whether licensed or not, are asked to support him in all ways possible. Send along to Gordon all the non-transmitting news you have, stations heard, QSLs received, QSL addresses, etc., in fact anything of interest to other members. The address is :

G.V. ALLIS ESQ., RSARS 481, 117 CHESSINGTON ROAD, WEST EWELL, SURREY, KT19 9XB.

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CQ CW.

It has been Suggested that Chas., G3XTL, should 'visit' the SSB Net on Tuesday evenings around 2000 - 2015 hours clock time before sliding down the band to around 3·575 + or – to organise a further CW Net in addition to the normal Wednesday evening meeting. It is hoped that this will provide a few extra contacts for members who cannot make the normal CW Net. Remember, if you leave one Net to join the other, PLEASE BOOK OUT. Our thanks to G3ALI whom, it is understood, has carried on the Wednesday CW Net when Chas couldn't be around. Mni tnx.

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THE GW2OP TROPHY.

The GW2OP Trophy for outstanding service to The Royal Signals Amateur Radio Society has been awarded for the coming year to Chas., G3XTL, for his service to the CW Net. Congratulations - a well-deserved award.

FROM THE RETIRING PRESIDENT.

The following message was received from Brigadier W.E. Sherratt, Director of Telecommunications (Army) on his handing over the office of President of The Royal Signals Amateur Radio Society to Brigadier D.H. Baynham GM. The message was read at the Annual Genera1 Meeting at Blandford held on the 20th July 1974.

MESSAGE TO THE MEMBERS OF THE ROYAL SIGNALS AMATEUR RADIO SOIETY FROM BRIGADIER W.E. SHERRATT DIRECTOR OF TELECOMMUNICATIONS (ARMY) 20th JULY 1974.

As you all know, the Office of President of The Royal Signals Amateur Radio Society has for some years been held by The Director of Telecommunications (Army), and it was with much pleasure that I became President in May of 1973. However, during the past year it has become clear to The Signal Officer in Chief and to me that it would be very much better if the President of the Society were a senior officer who was also an amateur radio enthusiast.

Brigadier Baynham who is, I am sure, very well known to you has offered to take over from me and we agreed that today's Annual General Meeting would be a most suitable opportunity to announce and make the change.

There is, of course, no question of the help that I have been able to give as Director of Telecommunications not continuing in the future, and I have already assured the new President that if at any time there is anything that I or my staff can do to help the Society, especially in the matter of equipment, we shall be delighted to do so. Finally, I am most grateful for the support and kindness that I have received from the Council and members during the past year and I wish you all the very best of good fortune in the future.

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ZAIRE RIVER EXPEDITION.

It is hoped that Colin, DA2YR, may be included in the civil/military strength of the expedition up the Zaire River in 74/75, if an amateur license can be granted. It is understood that 8 or 9 months ago all such licences were cancelled. Further details in 'Mercury' or on the Nets.

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RSARS MEMBERS AT RALLIES.

Part of a letter from Bill, G3XWS, reads "...I wonder if a mention of the larger Rallies could be made in 'Mercury' together with a suggestion that RSARS members meet at a predetermined point at a given time. When I went to Drayton Park earlier in the year, I displayed my call-sign back and front of the car and it 'hooked' G3MAY and XYL. He and I then asked over the Tannoy if RSARS members would meet at the Strumech Tower at 3 p.m. There were three other members there at 3pm...". This is a good idea and it is hoped that RSARS Early-Birds at Rallies will approach the Check-in points or PA System and make similar arrangements. Also wear your RSARS Lapel Badge, Tie or, better still, your RSARS Dymo Badge which gives your name as well as call etc. Bill goes on "...has thought been given to a possible annual get-together with XYLs say in Birmingham one year, London another, and so on for, perhaps, a dinner, or social evening?.." Another good idea but one which requires a lot of planning and admin. If a couple of members are prepared to organise something along these lines, preferably in the North for the benefit of those unable to attend the AGM, HQ would he interested in hearing from them and, of course, lending all the support possible. A couple of mini-get-togethers held at Pitton, NE of Salisbury, have been very successful with members coming from Netheravon, Winchester and Southampton, etc.. Any further suggestions, offers of help, etc. will be welcomed at HQ. The venue should not be too remote, have the necessary parking facilities, easy to find and with catering facilities if required. The date selected should be far enough in advance to allow advertising. HQ will assist by circulating details to members in the selected area if required. Birmingham might be a good start with membership in that area already in double figures., but suggestions from any area most welcome.

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BITS AND PIECES.

Congratulations to GD4BEG/RSARS 775 who, with low power and 1,500 feet long wire across a valley with a height of up to 250 feet, won the RSGB 80 Metre Low Power contest *** G4BKU was heard to ask on the air for a circuit diagram of a set of bagpipes (complete with BFO) *** Eric, G3RLP/ RSARS 1001 (and they don't come cleaner than that!) hopes to be moving QTH in the near future from Brixham to the vicinity of Burgess Hill *** Barry, G3YEU/RSARS 625, will be a 'civvy' by the time you read this, and hopes that this will give him more time for the RSARS Nets *** An extract from a letter from an Overseas member reads "In my 20 years of operating I can truly say that the RSARS fellows are the most gentlemanly group I have ever met on the air - they are a credit to RSARS and Amateur Radio in general". Kind words, indeed, for which we extend our thanks. Take a bow RSARS members! *** We were pleased to see Walter and Iris, GI2DZG/ RSARS 005 and GI2DZG/XYL/005½ during a recent visit to Blandford *** A list of the 'new' counties has been obtained and it is hoped to 'up-date' the computer list and 'Mercury' labels as soon as time permits *** Les G3HWL/RSARS 400, has moved to Pine Hollow, 5 Northview Road, Budleigh Salterton, Devon, EX9 6BY and Alf, G3UAA has a new QTH at The Orchard, Carmen Grove, Groby, Leicester, LE6 0BA *** Sheila. RSARS 719, as well as editing 'The Cornish Link' takes time off to breed goats and look after a donkey. A recent letter explains "Two more goats have kidded making the family now 12 and the donkey is not in too good a frame of mind as she had an appointment with the farrier this afternoon and she's anti-male... ...took 8 Nuttals Mintoes, proffered at intervals, to get her across two acres for the deed to be performed" *** W.G. Beaumont, RSARS 213 writes to notify change of address to 82 Bond Street, Blackpool and mentions "I enclose details of my service and hope some of the chaps may get out of their wheelchairs and make contact...". The history which is quite interesting reads "Joined in 1923 and given the number 2315853. Spent the usual time at Crowborough and then on to Maresfield for Trade Training. Became a DR Class II and was also interested in Morse. Had to read 6 wpm for DR test but managed 15's. Spent my spare time Flag Bashing and practising Telegraph Key. Was sent for duty during The General Strike carrying messages (as well as a loaded revolver) from Dover Police Station to Deal, Canterbury, Ramsgate and then on to RAF Manston. During this time was stationed in Dover Castle. After the Genera1 Strike was posted to 4th Divisional Signals at Colchester. I put down to go to Egypt but (as usual) finished up on the 'NEVASSA' for India. Spent a short time at the S.T.C. and then to Kohat on N.W.F.P. Spent summer in Parachina and winter in Kohat, year in and year out. Then went to Calcutta to The Bengal Telephone Company. Came home and joined the G.P.O. Called up again in 1939. Went to Bulford and then Catterick and Hoylake (Royal Liverpool Golf Club). Here became 23rd Armoured Brigade, part of the 8th Army. Moved from Hoylake to Caenarvon - Whitby - East Grinstead. Spent time putting 1924 Sets in Scout cars. Became ill and rushed to Base Hospital at Horsham and from there was discharged (never did find out why!). Back to Birmingham putting 1154/1155's in Stirling bombers. Then back to the G.P.O. until I retired at 65". Drop a line to the given address if these dates/times/ jobs/locations ring any bells. *** Another member on the move - this time it is G3LCG/971 G.P. Bateman, now at 37 Chantry Road, East Ayton, Scarborough, YO13 9EP. Almost taking over G2KK's old stamping ground, OM *** Congratulations to William 'Willie' McMillan, RSARS 150 who is now GM4DAE. Please add to membership lists *** The youngest member of a recent Andorra DX-pedition Simon Harris, G8FFG has applied for a commission in (it is believed) Royal Signals. We wish him well and look forward to his application form *** As a result of donations from the Junk Sale and the use of a "Dracula's Bank (the battery driven black box where a small hand comes out, grabs your money and rapidly disappears) £3 - 85p was recently forwarded by the Treasurer to the R.A.I.B.C. funds. A thank-you letter had been received from G3HXN and all members concerned are to be congratulated on their effort. *** The recent collection for Joe and Frances Wooley on their retirement from holding the reins of office of R.A.I.B.C. was expended on a high quality Stereo Unit. A letter of thanks from G3ESR and G3LWY appeared in Vol.20, No.5 issue of Radial *** A letter from W8KXA/RSARS 743 comments on the publication in the Winter

73/74 edition of 'Mercury' the poem about '76'. Bill writes "You recall the poem about 76 or "God Bless You" printed in the Winter 73/74 issue of 'Mercury'?. It was credited to The Apricot Net which is a Six Metre Net active in the Cleveland, Ohio area. The founder of this Net is K8ONA, Eunice Bernon. "Eunie" used to keep another 6 Metre schedule with W8BAA, The Chippewa Amateur Radio Club at the Brecksville, Ohio, Veterans Hospital. I am a member of that Club and about 10 years ago I was having a QSO with "Eunie" which I closed with "73 es 76". She asked what '76' meant, and I told her "God Bless You", and that it, as well as '73' and '88' were from the old Telegraphers Code. The only reason I was familiar with it (76) was that I had a number of QSO buddies who were also priests and ministers one of them had made me aware of '76'. So it was a reminder that it is, indeed, a small world, to read the poem about '76' in "Mercury", that started with a QSO 10 years earlier..." *** 2 letters from G3BG/507. The first mentions a change of address to Noel M. Button (no relation to The QSL Bureau Manager, we believe!), 15 Meadow Close, Breaston, Derby, DE7 3RL, and the second reads "I am writing on behalf of Mrs L.R. Seal wife of the late L.R. Seal G2OC/538. G2OC, I am sorry to say, passed away on 11th July 1974 after an illness lasting several months. During the war years he was stationed in North Buckinghamshire on Special Duties. His colleagues, friends and myself will ever remember him and on behalf of all members offer our sincere condolences". Thank you, Noel, we, at HQ, are always sorry to have to put 'Silent Key' alongside an RSARS number and also offer the sympathies of all members to Mrs Seal. *** From Gordon Allis, RSARS 481 we hear the unfortunate news "...Will be unable to attend the A.G.M. due to an accident. It was an unfortunate incident really - I parted company with the ladder at eaves level whilst painting the house - sustaining a neck and shoulder injury. Should have gone down to the local instead of listening to the pleadings of the XYL!" Sorry to hear the news Gordon and trust all is now well. I trust you don't mean that the XYL pleaded with you to fall off the ladder!!! *** G6QM/510 writes to wish our QSL Bureau Manager well. He is only too aware of the problems and goes on to mention that he handles cards for the RSGB for the following G6 + 2 letters, G6 + 3 letters/T, G8 + 2 letters, and the series G8GAA to G8GZZ. As if that is not enough, Bert's XYL, Florrie, handles cards for callsigns from G8HAA up to the latest issue. Bert also mentions that as from 1st September this year he will be re-cycling many, many cards if they are not claimed. If your callsign is in one of the above groups get some SAE's to Bert/Florrie pronto. Bert passes his 73 to all members *** A Service signal from VP1MT, Mike Taylor in Belize says "Expedition on to English Cay most successful PD Total of 244 amateur radio contacts representing 54 countries PD 3 RSARS contacts (2 UK CMN 1 BAOR CLN DA2YR)PD Report to Mercury for possible inclusion BT. Well done, Mike and Jim, QSLs are still coming in and will be forwarded. *** We will soon be saying 'Farewell' to Peter, G3YOB who will be leaving Blandford for warmer climes, together with Tiger and Anchor Beer and, possibly, a VS9M- callsign *** Sincere thanks to RSARS 744, Julian, for sending along a FB donation to Society Funds *** George, GM3VIO, isn't a GM any more, in fact, he now has the following address at Av. Belle Etoile 3, 1310 La Hulpe, Belgium, having been "posted" there by his "multi-national employer", He has the gear with him but may have prob1ems over antenna due to the modern environmental-type ban on outside antennas. As George remarks "Can you imagine that in the land of monstrous TV antennas on every house!!". He is waiting for an ON call and would like to contact any RSARS members who are in, or may visit, Belgium *** The recent 'Owl' remark about Bees brought a letter from 'Chis' Chisholm, G2CX saying "I admit that entry into The Royal Corps of Signals did mean a forced sale of my bees kept, till then, in a chalk pit in Surrey. With the aid of high-level contacts in the City a deal was negotiated with The Bank of England and arrangements made for delivery of the bees to the Bank's war-time hideout in Hampshire. The hives were dismantled and the brood-boxes screwed down on to wooden bases, the open tops being covered with perforated zinc. As may be imagined this procedure was not pleasing to the bees, but they had become calmer by the time the car was stopped at an Army road block at Leatherhead and

had relapsed into a sullen silence. The Corporal shoved his head through the front window and asked where we were going and what was in the boxes. The answer, somewhat understandably, failed to convince him and he motioned one of his men to open up the back doors of the Traveller. This rude disturbance caused a united roar of displeasure from the five hives which shook our doughty fighting man more than a little. The doors were slammed and we were sent on our way with an injunction to 'Get the Hell out of it'. Perhaps Hitler was wasting his time with V1's and V2's - a few hives of bees could have been cheaper and more effective. Come to think of it - not many people can boast of having sold bees to the Bank of England!!!'. *** RSARS 808 has now swapped the rank of Driver for that of Signalman and is undergoing training at 8 Signal Regiment. Good Luck. OM. *** P.T. Phillips, RSARS 766 writes from Haywards Heath "Not being a transmitting amateur, and my main interest being in RTTY, would it be possible to run a news bulletin, say on Sunday mornings?, similar to the one from PA0AA on Fridays. Contents could be items of coming interest, Mobile Rallies, World-wide activities of members, other News items, in fact, anything to make up a tape of say half and hours duration on 3·600 MHz?". Sorry, OM, although we have the equipment (Marconi HR27/HS27 and a Seimens T100 50 Bauds teleprinter) and the aerials, etc. we do not have the manpower available. We used to run Slow Morse transmissions twice a week on Top Band but had to give up the practice as the auto transmitter became u/s and manpower became scarce. A News Bulletin, as you suggest, could be very helpful it is agreed but would require a specia1 licence from The Home Office and it is extremely doubtful if they would consider granting this facility to anyone other than the RSGB. *** From PY2PA "There are about 1,300 or more licensed amateurs IN THIS CITY alone (Sao Paulo - Ed.) so you can probably imagine the '20 Metre Band when 30 or 40 stations are on at the same time!. But, for RSARS members I will be on Saturdays and Sundays, 21·260 MHz around 1600 - 1700 GMT and later (2000 - 2100 GMT) on 14·195 or 14·305 MHz. For QSL purposes, Jack, could you please find me a friend who would act as my European QSL Manager in the same way as W3DJZ is doing for W-land? (OFFERS DIRECT TO ALEX PLEASE AT A. PERENYI, PY2PA/RSARS 595, RUA BASTOS. PEREIRA 397. SAO PAULO. BRAZIL - Ed). I am very grateful to G8GDD for his wonderful gesture (8GDD paid Alex's subs for 1974 due to the difficulty of getting Sterling in San Paulo. Alex has now paid for Life Membership with US Dollars - Ed). I plan to be in Europe around July to visit my daughter in Geneva who is expecting her second baby and may be visiting England for a short while. Am very busy with my plastics factory where we manufacture in the plastic injection moulding plant such things as knobs for radio and TV, battery holders, etc. Kind regards to all at HQ and to all RSARS members" *** From Ted. G2AYQ. "I see that G5YM is ex-Call-Book. He has a QSL Manager. G3WJO, 2 Broad Street, St. Columb Maj. Cornwall" *** G3ZKD. W.L. Ball has moved QTH and is now at 6 Coronation Drive. Penketh, Warrington. *** DA2XH having got rid of his khaki suit and having settled in Germany is now DJ0GU *** G6IQB, Sgt D.B. Humphries, RSARS 963 has a new home QTH in the G3WNI area at C/o 22 Chalcrafts, Alton, Hants and Capt. A. (Tony) Sugdon, G3UNC is now C/o Signal Wing. School of Infantry, Warminster, Wilts. *** John, G3ZKA (a non-member but still employed Service-wise at RSARS HQ station) is busy converting the Heathkit SB-500 2 Metre Transverter for 4 Metres and it is hoped to have 50 Watts or 80 of SSB and CW on 4 before too long *** Apologies all round to John. GM3VJW, whose number (887) got entered in the "Subs received" Book as 885 and, who, as a result, got a "Secs Nastinote". Happy to confirm that John has never been out of compliance and, in fact paid well within the deadline. *** Thought we had lost contact with VE4AI but an Official Change of Address Postcard tells us that he is now at 551 Bruce Avenue, Winnipeg, Manitoba, R3J 0W3. Canada *** We have lost contact, however, with VE8CB who has apparently left the Far North of Canada and has forgotten to let us know where his caravan has rested. *** AFF 02, 1 Division HQ and Signal Regt., previously operating as DL2VR has resigned its affiliation with the Society. *** A nice photo to hand taken at Aldershot Army Display showing John, G3NOL, doing his stuff on the FDK Multi 2000. Taken and sent along by G3PQF. Many thanks, Dave ***

THE G3ZOJ AUDIO 'P & F' UNIT.

BRIAN D. CORPER RSARS 815.

(The following article came to the Editor by way of GW3ASW. Cyril mentions "I can recommend it to anyone who cares to knock it up as it is really effective and so easy to make that even I only took about 3 hours to get it working and that included looking out the bits and pieces from the Junk Box. Whilst the Unit was made up with all forms of reception in mind, I feel that for A3j the "Tuning pot."/ VR3, has too wide a response and it should be possible to "bandspread" an obvious critical control, by the use of a matched, switched, resistor bank and a smaller value of pot, perhaps. This would obviously complicate an otherwise very simple Unit and is best left out until pure speculation can be turned into fact". - Ed.)

This Unit is an AF processing and filter unit, designed around an easy-to-obtain transistor (and cheap!) as are all the parts. It gives at least 30 dB of rejection at 'Notch' and has a good noise limiting section. Its use requires no modification to the station RX, it is very easy to construct and the layout is not critical. Although designed around the BC108 transistor other comparable devices work well (see below). The measured rejection of the unit is at least 30 dB and the rejection notch is tuneable throughout the range of 100 Hz - 25 KHz. There is only one MUST and that is that the linear matched potentiometer VR3 (25 Kohms + 25 Kohms) is closely matched. This potentiometer and the transformer T1 may be obtained for under £1 (see Note 1).

THE CIRCUIT.

A tuneable AF filter, TR1, is fed at high Z into TR2 which is an emitter follower, then into an AF amplifier feeding a diode noise limiting section, and thence into a further amplifier matching a low Z output into phones. TR1 - The input, taken from the phone jack of the RX is applied to the INPUT LEVEI, control. The adjustment of this control is rather critical and is so set to give just below 600 mV at the collector of TR3 (see adjustments section). The slider of this control is connected via the DC blocking capacitor, into the base of TR1. C2, R1 & R2 provide the operating bias. This stage forms part of a WEIN BRIDGE network. VR3a and VR3b plus C3 and C4 acting as the selective network of the filter. The output at the slider of this network will be virtually ZERO at any frequency to which the 'Notch' is tuned.

TR2 - Output from TR1 is fed at high Z to the emitter-follower, TR2. A pre-set control in the emitter leg controls the gain and level at this point. C5 blocks the DC input with R4 providing the base bias. N.B. - VR4 pre-set permits VR1 to operate over a sensible portion of its track without overdriving the limiter stage.

TR3 - The output from VR4 is fed into TR3 which acts as a further stage of AF amplification. The output from the collector goes to a pair of un-biased diodes, which will not conduct until the voltage swing exceeds about 600 mV. Below this level the signal will be unaffected and the diodes will act as a pair of high value resistors. Above 600 mV they will conduct and short out to chassis any excess peaks. They must be of the silicon variety, BY100, BY127, 10D6, etc., all work well. The necessary DC path is completed by the inclusion of VR5 which also acts as a volume control into.....

TR4 - an AF amplification stage converting the medium to high Z down to a low impedance suitable for phone output through T1.

NOTE 1 - The transformer, Tl, type LT700 (centre tap not used) together with the potentiometer, VR3, can be obtained (at the time of writing) for less than £1 from Messrs Maplin Electronic Supplies, P.O. Box 3, RAYLEIGH, Essex, SS6 2BR.

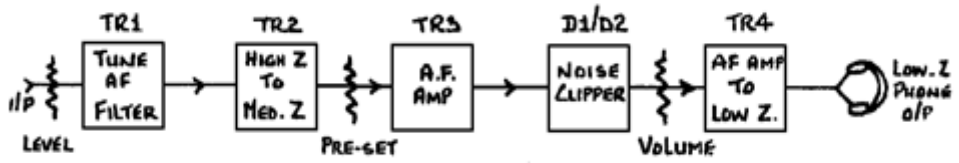
ADJUSTMENTS.

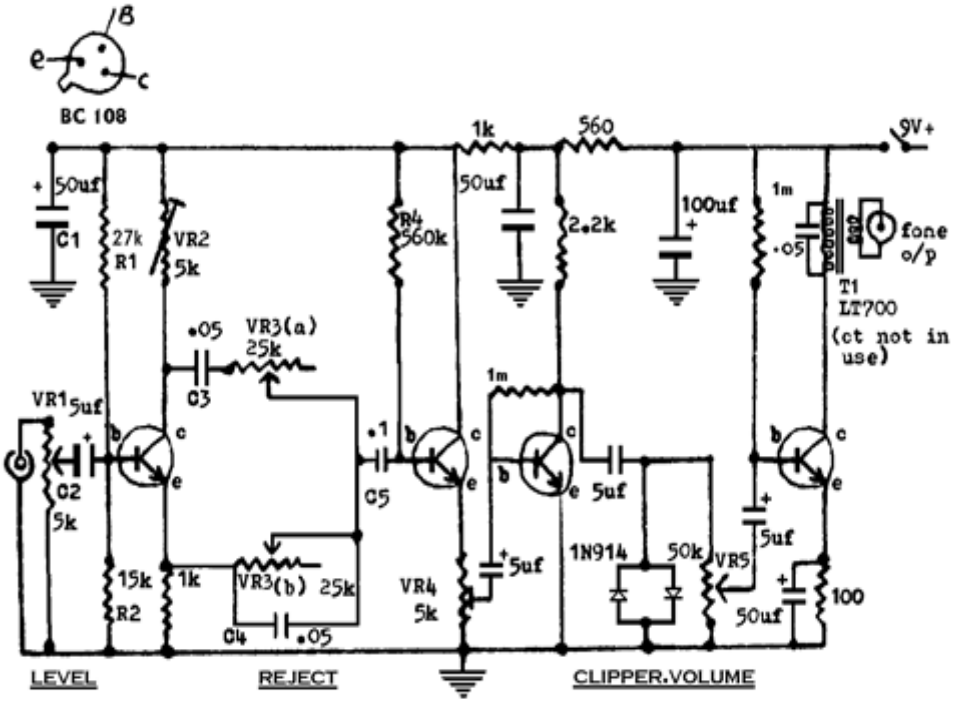
The RX volume control should be set for a comfortable listening level. Plug the Unit input into the RX phone jack. Adjust VR5 to approximately the same level of output. Tune in a hetrodyne and adjust VR3 for reduced level and reduce this level to minimum by use of VR2. RECHECK that VR3 is at null point and again readjust VR2 for the lowest level. Once set this control need not be touched again. THE TUNING OF VR3 IS VERY SHARP so it is easy to miss a null point. As stated, the extremes of settings are 100 Hz and 25 KHz.

SETTING THE NOISE LIMITER - The noise limiter is controlled by VR1. Set this to a low level and bring up VR5 to compensate. Find a noisy signal and increase the level until the audio distorts slightly - now back off the control to just below distortion point. When correctly set, the noise peaks will be virtually eliminated. N.B. - VR4 is used to adjust and control that portion of the track of VR1 that is used, so making clipper adjustments easier.

COMMENTS - During the building of the prototype details of this Unit were passed to GW3ASW. Having no BC108's to hand he constructed the unit around BC171's (roughly equivalent to BC107) and although, as he describes it, his unit was a 'lash-up' it was, nevertheless, a marked success and a 'Cleaned-up' version has now been constructed and is fully operational.

(HQ would be interested in hearing from anyone who constructed this 'P & F' Unit, together with a short 'Field Trials' report - Ed.)





THE 3ZOJ AF PROCESSOR & FILTER UNIT.

QSL BUREAU MANAGERS REPORT. G3YSK/692

The following members have cards awaiting collection at the R.S.A.R.S. QSL Bureau. SAEs (sufficient postage, please!) to the Manager A.S.A.P.

G2BUC (13), G2CAV (1), G2CDN (3), G2CKQ (12), G2CVV (4), G2CX (1), G2DFH (1), G2DJM (25), G2DPQ (1), G2DTO (7), G2FAS (10), G2FCI (1) G2FRY (3), G2FWA (3), G2FYT (1), G2HNL (2), G2IO (1), G2TT (9), G2UZ (7), G2ZZ (4).

G3AAK (1), G3AES (11), G3AGO (1), G3BA (4), G3BGR (2), G3BOE (3), G3BWV (10), G3CIO (13), G3CLJ (1), G3DOJ (1), G3EBO (3), G3ECV (4), G3FD (1), G3FNK (1), G3FPC (7), G3FQN (1), G3FTV (2), G3FWD (4), G3GBS (12), G3GLQ (5), G3GSW (4), G3GVV (1), G3GWD (2), G3HCM (4), G3HMY (11), G3HZP (3), G3IDG (2), G3INA (6), G3IRP (1), G3JAO (12), G3JKO (2), G3KAE (4), G3KAM (1), G3KBQ (3), G3KKF (12), G3KLX (14), G3KWN (3), G3LAT (15), G3LCJ (10), G3LCK (66), G3LHJ (2), G3LNC (10), G3LNS (3), G3LO (1), G3LXP (20), G3LZR (6), G3MBQ (1), G3MYF (5), G3NDJ (3), G3NJM (1), G3NKR (2), G3NL (1), G3NOL (5), G3NWZ (2), G3NZY (8), G3OFB (1), G3OKX (1), G3OMH (7), G3ONU/G2DX (2), G3OOD (4), G3OOQ (9), G3OPL (1), G3OYS/G4BZC (33), G3PC (7), G3PMC (1) G3PNE (1), G3PNM (2), G3POC (9), G3POY (15), G3PRN (1), G3RBS (10), G3RCJ (1), G3RFI (2), G3RGF (3), G3RYF (16), G3SAX (2), G3SDD (1), G3SGH (1), G3SMG (6), G3STM (2), G3TAN (1), G3TDW (1), G3TKI (7), G3TKX (23), G3TSR (4), G3TUM (3), G3UNC (2), G3UMI (4), G3UZB (4), G3VA (8), G3VBE (1), G3VBL (11), G3VED (1), G3VIR/G4CDH (4), G3VIS (1), G3VIY (3), G3VNN (5), G3VOO (1), G3VPI (6), G3VPM (1), G3VXE (2), G3VYT (5), G3VZP (1), G3WBL (1), G3WEQ (5), G3WET (13), G3WTA (3), G3XBA (1), G3XBR (8), G3XBU (10), G3XFG (3), G3XHR (10), G3XRY (1), G3XYF (2), G3XZT (10, G3YBP (2), G3YJO (27), G3YJU (20), G3YMN (10, G3YMR (11), G3YQQ (1), G3YSZ (15), G3YYD (47), G3YZQ (70, G3ZDB (5), G3ZKD (1), G3ZMT (11), G3ZPW (20, G3ZYE/G4CCF (16).

G4ADF (70, G4AMZ (7), G4AOF (2) G4BHV (3) G4BIK (11), G4BOU (13), G4BWS (1), G4CKP (30), G4COQ (1), G4CWA (22), G4JT (1),

G5CP (1), G5FG (4), G5KW (1), G5PX (1), G5RV (7), G5VO (3), G5XB (7), G5YM (6), G5YY (1),

G6DV (7), G6HB (2), G6LC (19), G6LL (9), G6UC (5), G6VQ (9), G6XM (4), G6ZO (2),

G8DK (1), G8FG (2), G8GXE (1), G8JU (1), G8KW (4), G8LT (10), G8NY (6), G8TK (4),

GI3ALT (2), GI3IWD (1), GI5DX (7),

GM3AVA (1), GM3AWF (10), GM3FSV (1), GM3GFO (4), GM3IAA (3), GM3KLA (2), GM3KPQ (50, GM3OFV (1), GM3PFQ (2), GM3SAE (5), GM3TDS (4), GM3VIO (3), GM3VJW (1), GM6RI (5),

GW3CVY (26), GW3DRV (17), GM3VBP (10), GW3YPF (2), GW4ANK (1), GW8MQ (3),

A4XFB (1),

DA2XH (18), DA2XN (21), DA2XQ (3)

DL4RI (14), DL5ZU (5),

EI5BH (2),

PY2PA (2),

VE3CDM (1), VE3GNM (1),

VK4IV (19), VK6MK (3),

VQ9HCS (1),

VS5JS (7), VS5PW (1),

W3RX (4), WA6CEB (5),

ZC4DS (1),

9V1RL (4),

095 (18), 536 (4), 630 (2), 669 (1), 701 (2), 837 (1),

The figures in brackets show the number of cards held at the Bureau as at 14th July 1974. If you have sent envelopes since that date many thanks, if not, how about helping your QSL Bureau Manager to clear the back-log. If you do not collect or exchange QSLs, please tell your contacts in order to avoid a 'pile-up' at the Bureau.

THE AWARDS MANAGERS REPORT G3EKL/046

By now, with the A.G.M. tucked away for another year, the 5-59 Trophy will have been re-hung once again in the 'NVK QTH'. However, Dick doesn't seem satisfied with that and, unless an extremely dark horse comes up with a Log Sheet for the HF Anniversary Contest, Dick has got that one in his pocket, too!. As I'm open for business up to the last day of July and these notes are being knocked up just before the A.G.M. there is still time for a mystery member to challenge Dick's claim to fame. We'll see in the next issue.

But to Awards in general. The following Society Operating Awards have been issued up to July 1st.;

Special Award (Europe)	Silver Clasp	(400) GW3ASW
	No.15	(200) GM3HGA
	No.16	(200) G3WXX
	No.17	(200) G2TT
Any Mode Ladder		(400) GW3ASW
		(350) G3UAA
		(300) GW3HHJ
		(200) G3ONU
		(200) GM3HGA
		(200) G3WXX
		(200) G2TT
Class 1 Certificate (Europe)		(100) G3WXX
		(100) G2TT
VHF Ladder		(20) G3EKL
CW Ladder (Europe)		(150) G3UAA
		(50) GW3ASW
		(50) GM3HGA
		(25) G3NVK
		(25) G3NT
CW Ladder (Overseas)		(12) ZL1AXM
		(12) K2JFJ

Congratulations to all the members listed above.

After some careful thought and deep deliberation (yes, even from me !) it has been decided to introduce an additional ladder to the Awards Scheme, retrospective to January 1st, 1969, although it's effect won't be noticed for a while. It's effect???, To encourage members to operate at much lower inputs than at present and so benefit themselves by improving their operating and building techniques as well as helping the hobby by reducing the QRM level some small degree. So, as from now, claims for the "QRP Certificate" can be accepted commencing at 12 contacts for zone 14 members, 6 contacts for Overseas members, with stickers at 20/30/40 etc., and 10/15/20 etc., respectively. The claimant needs to certify that he has NOT used a power input exceeding 5 Watts DC, 13-3 Watts PEP or equivalent, for any of the contacts he is claiming.

Don't forget the VHF Contest in September and, of course, the 5-59 Trophy starts again in November - the rules are elsewhere (if Jack, 'DPS, has enough space!), ('Hand-outs' giving details of the "QRP Certificate", the "LE TOUQUET" Trophy and other RSARS Awards and Trophies are available from HQ for an SAE - G3DPS). The November 5-59 is 40 Metres only, and Top Band has been dropped. I mentioned a couple of issues ago that Ken Cook (530) had kindly made a donation to the Society for use as a perpetual Award. This has firmed up at last and is in the form of an annual 24-hour stint in March on CW and/or RTTY only. It has been named "The Le Touquet Trophy" With the introduction of this Trophy the Society now has activity periods over the second full week-end of each month together with Contests of some sort or another embracing CW, RTTY, SSB and AM on HF and VHF throughout the year, except for April, May, July and August. Some of you will say that this is too much, others not enough. I have tried to offer a balanced selection of friendly rivalry to whet the appetite of as many members as possible.

THE AWARD MANAGERS REPORT - Contd.

G3EKL/046

To those who want them - they're there!, for those who don't want them - ther'e are the various Nets, and for those who are QRT - there is still the "Mercury". So everybody ought to be satisfied!.
See you all next time.
Very 73 Ray (G8EKL)

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DX-PEDITION TO ENGLISH CAY.

VP1MT/VP1JR.

(The following report from Mike and Jim was written for the Corps magazine "The Wire".).

On Saturday 15th June 1974, Mike Taylor, VP1MT, and Jim Rayment, VP1JR, together with Signalman Jim Scope and Signalman "Chippy" Wood, set out in two motor launches for the tiny Caribbean island of English Cay. The island, co-ordinates 17° 20' N., 88° 2' W. is located in the Barrier Reef some 15 miles off the coast of Belize. With the party were rations for three days (both liquid and solid), a portable generating set and a complete Single Side Band Amateur Radio station complete with mast and rotatable beam antenna.

The aim of the expedition was to stimulate world interest in terms of culture, tourism and Commerce in the emerging nation of Belize. To this end official backing was willingly given by the government of Belize in the form of accommodation on the island, allocation of a special call-sign, special QSL cards depicting the new Belizean flag and both Press and Radio publicity. Advance news of the expedition was given by the BBC World Service and also in Amateur Radio magazines published throughout Europe. The Royal Signals Amateur Radio Society handled most of the prior publicity and were responsible for a wide circulation.

As soon as the station, call-sign 'VP1B', went on the air the two operators were hard pressed to keep pace with the large number of stations throughout the world who wanted to make a contact with Belize. As many as 30 to 40 stations could be heard calling at the same time - an excellent example of the cocktail party effect'.

Unfortunately, with only 2 licensed operators, it was not possible to operate for more than 15 hours per day!. However, during the two days on the island some 244 contacts were made which accounted for 54 countries some rare 'DX' stations were worked, including Fiji, Tahiti, Gilbert and Ellice Islands, San Andres Island, New Hebrides, New Caledonia, and American Samoa. Many contacts were made with Canada, New Zealand, Japan, Australia and most South American and European countries. Regrettably, only three contacts were made with Royal Signals Amateur Radio Society stations (G4RS - where were you?) (Packing equipment for the Aldershot Army Display!! -Ed.), two of these in the UK and one in BAOR (DA2YR, Sgt Colin Harvey in Detmold).

The event was a great success in that it fulfilled it's aim and also provided much enjoyment to all those who took part. More important, it provided a sound basis for future expeditions. Next time we intend to invite two Belizean Radio Amateurs to accompany us. This will enable us to operate continuously with, we hope, two complete stations and thus make 'DXCC' (100 countries confirmed) a possibility during a week-ends operation.

Our grateful thanks to The Royal Signals Amateur Radio Society for arranging such successful advance publicity and for handling the inevitable rush of QSL cards!.

Well done, Mike, Jim, Jim and Chippy. We would like to construct a "DX-pedition Board" for use at G4RS and the various Rallies and Displays. It is known that RSARS members have provided a RTTY DX-pedition to Lundy Island in the past, as well as Andorra, Brunei, etc., but we would like details of any other 'trips' undertaken by members at any time. Details to HQ, please, together with details of any 'Special Event' Call-signs held and used by members. Usual details - Dates, Places, Reason, etc. - Ed.

POLLUTION - TIME AND TROUBLE.

G3BID/381.

In "Mercury", Winter 1973/74, Angus Taylor GG8PG/GW8PG wrote an article entitled "PROGRESS (??) AND POLLUTION" in which he discusses the present congestion and QRM on the bands and especially castigates those amateurs who run far more power than is needed to maintain satisfactory communication between the stations concerned.

I agree with him heartily. G8PG criticises Amateur Radio transmitters for the pollution. Self criticism is a great virtue but is it enough?.

Apart from the pollution on the bands caused by the Amateurs themselves there are, in my experience, a large number of other causes of interference and pollution, in toto far more serious than that caused by Amateurs using more power than is necessary.

Let me list a few of them :

1. Spurious radiations from Broadcast and other non-Amateur stations on the exclusive amateur bands.
2. Line noise due to faulty connections, cracked insulators in overhead power lines - especially the 11 kV overhead lines.
3. Oil fired centra1 heating installations whose thermostat restarts the heater by means of an arc or spark.
4. Unsuppressed or inadequately suppressed - domestic apparatus, vacuum cleaners, electric razors, electric drills, etc., etc.
5. Television time bases
6. Inadequately suppressed motor vehicles.

One could continue this list for quite a long way, and except for No.5, I have experienced all of these myself.

Let us not accept a defeatist attitude that there is nothing we can do about this non-Amateur produced pollution. We can achieve a lot if we take THE TIME AND TROUBLE to pursue these various sources and take TIME AND TROUBLE to see the thing through. I have deliberately repeated 'IIME AND TROUBLE because it does take some considerable TIME AND TROUBLE if any success is to be achieved.

It is no use just complaining to each other. Far more definite action is needed. Lest I be accused of writing "vague generalities" I will give some more concrete examples.

ITEM 1.

Spurious radiations from broadcast and other non-Amateur sources on the exclusive Amateur bands.

Above the 21 MHz band there is a Broadcast band, from 21·450 MHz upwards. Here mixing can take place which can cause serious interference in the Amateur bands. For example, a perfectly legitimate broadcast on 21·480 MHz in close proximity with another on 21·570 MHz produces a heterodyne of 90 KHz. This 90 KHz signal, beating with the 21·480 MHz transmission produces a signal at 21·390 MHz well inside the exclusive Amateur band.

I have experienced this type of interference and it takes little imagination to see that many other mixing products can be produced which fall within the Amateur band. I have had considerable success in getting these spurious radiations removed. But it took TIME AND TROUBLE.

On one occasion the Broadcast station to which I wrote, investigated the situation and changed the frequency of one of its transmitters. On other occasions the spurious interference has just disappeared after vigorous and well substantiated protests have been lodged.

Then there is the simpler question of harmonic radiation from Broadcast and other commercial stations into the exclusive Amateur bands. A normal broadcast station on 7·150 MHz can produce a big harmonic on 14·300 MHz.

Remember the R.S.G.B. runs an Intruder Watch, but unless Amateurs send in repeated reports and get on the 'phone, or another band, to ask other Amateurs to confirm the interference from another location and, preferably with a different type of receiver, the Intruder Watch can do nothing, unless the report is confirmed by, at least, one other report preferably several. NOTE! :

Full details must given - Date, Time, Frequency, Type of Transmission, Station Identification if possible, Nature of Programme and Type of Receiver used.

G4RS is well equipped to copy RTTY on the Amateur bands, and there certainly appears to be plenty of non-Amateur RTTY stations on the exclusive Amateur bands.

RSARS could here make a real contribution. It is one of the very few responsible organisations in the Amateur radio field really well-equipped to monitor the RTTY intruders on the exclusive Amateur bands and report them to The Intruder Watch.

Could it not :

1. Send a list at frequent intervals to the Intruder Watch of RTTY signals copied in the exclusive Amateur bands, preferably with detailed identification.
2. Publish this list in "Mercury" and note what action has been taken.

As G8PG says :- Pioneers needed - What about RSARS?". Yes, I know, it takes TIME AND TROUBLE.

ITEM 2.

Line noise from overhead power lines.

Here the very excellent Post Office Interference Service will help, providing certain conditions are fulfilled. The Post Office Interference Service will assist if the interference can be shown to exist on a Television or Sound Radio channel, but NOT if only noticeable on an Amateur Band. However, line noises can usually be seen (or heard) on Television or Radio as well.

I had considerable trouble with line noise and, having no TV myself, I visited a neighbour and asked if they had any interference. They had. But they had always attributed this to my transmissions but had not complained, out of friendship and good neighbourliness to me. When I called on them they were watching Television and the interference was clearly noticeable. As I was there myself it was clear to them at least that it was not caused by my transmissions!!. Then they asked what they could do about it. I asked them to lodge a complaint with the Post Office and, sure enough, the line noise was cured.

Even if one has interference on ones own Television it is as well to get corroboration from neighbours.

Here the Mobiles can be of great assistance. By cruising around the district listening to the line noise one can often locate the actual pole which is causing the trouble, or, at any rate, get an idea where the source is. If you can locate the pole the Electricity Authorities will usually be helpful if approached in the right way - but it all takes TIME AND TROUBLE.

ITEM 3.

Oil fired central heating.

This is my biggest trouble at the London QTH. All is well during the Summer, or fairly well, anyway. Oil fired water heating doesn't seem nearly so troublesome. But oil fired central heating can be very noisy and so difficult to pin-point as it is, of course, very intermittent interference.

ITEM 4.

Domestic appliances.

These are gradually becoming better suppressed nowadays. Electric shavers and some electric drills can give trouble.

ITEM 5.

Television time base interference.

As far as I know I have no trouble with this.

ITEM 6.

Inadequately suppressed motor cars.

This is a real problem in some locations. Some receivers now have noise blankers, otherwise, siting the antenna as far as possible from the road and as high as possible obviously helps considerably.

If we do not take the TIME AND TROUBLE to search out and eliminate these various sources of interference and pollution, Amateur Radio will steadily deteriorate. Apart from the more obvious

POLLUTION - TIME AND TROUBLE - Contd.

G3BID/381.

sources of pollution, such as spurious radiation from Broadcast and Commercial transmissions (including RTTY) whose identity and source should be ascertainable, there are a lot of other sources whose location is not so easy to find.

THE DF CONTEST.

DF Contests are regularly held all over Britain and in many other countries, where they are often called Fox-Hunts. They always try to locate a hidden transmitter deliberately placed in some secret location for the Contest. But why not use this energy - or part of it - to try and locate an actual source of electronic pollution - the source of a line noise, a badly suppressed machine, a faulty fluorescent light or neon light, etc., etc.

You may answer that they are intermittent and cannot be relied upon to operate just at the appropriate time you want them to. Of course, it is easier to find a hidden transmitter, KNOWN to be operating on a certain, frequency at certain hours at certain intervals of time.

Let us call this the elementary DF Contest or Fox-Hunt. I know that all sorts of tricks are used to make the DF Contests or Fox-Hunts more difficult. The genuine Fox-Hunter does not have a guarantee that the fox will be available just on the right day of the week at just the right time. So why not have the Second Stage DF Contest or Fox-Hunt where the competitors chase genuine sources of electronic pollution. How much more satisfactory to have located the pole causing interference by a cracked insulator or a bad contact. Of course, you DO NOT climb the pole to check your results and risk electrocuting yourself, but the very fact that the intensity increases as the pole is approached and is reduced as you move beyond it, is good evidence. Often a good pair of field glasses will show the cracked insulator, the arcing contact, etc.

How satisfactory to locate the actual intermittent fluorescent or neon lamp, than just to have found a hidden transmitter. What fun for the Mobiles!!.

From fixed stations in a given area you will certainly have noticed types of interference which occur fairly regularly at certain times of day or under certain weather conditions.

Why not organise a DF Contest or Fox-Hunt to locate the source of that interference?.

Of course you may come home having failed. This may be due to the fact that on that day the interference was not actually present. Do not genuine Fox-Hunters sometimes return home without having seen a fox???. Is it only a sport if you are guaranteed a positive result???.

TWO METRE NET.

Many Amateurs have a regular, almost continuous, 2 Metre Net, where they call each other to report rare DX or just have a natter. Why not use this to report to each other on spurious radiations on the exclusive Amateur bands, and get corroboration from several Amateurs using different receivers, at slightly different locations. Then all the Amateurs INDEPENDENTLY report to the R.S.G.B. Intruder Watch giving full details of Date, Time, Frequency, Type of Transmission i.e. CW, Automatic CW, RTTY, Broadcast, etc., and, in the case of Broadcast, the nature of the programme.

Having reported to the Intruder Watch, send a copy to "Mercury" and watch the frequency for a month or so and see if it disappears. If not, report it again. Do not devote too much time to the Communist Block stations. The chances of getting them to do anything about it is small, but, in the Western World, you have far more chance of getting some remedial action.

****

WANTED - WANTED - WANTED - By the author of the above article, Edgar, 3BID, any ex-U.S. Service type 600-C hand-held microphones (the type that went with the BC-610 as well as many other type sets). Condition of microphone, lead, insert etc., immaterial PROVIDING MICROPHONE CONTAINS A SMALL TRANSFORMER WHICH MUST BE IN GOOD CONDITION, Offers G3BID, 5 Ferncroft Avenue, London, NW3.

THE VERTICAL. G3BID/381.

If someone tells you that they are using a "Vertical", a Ground Plane immediately springs to mind. And nine times out of ten you would be right.

Most verticals in use today (except on the VHF bands) are Ground Planes.

A Ground Plane is, in essence, a vertical quarter-wave on the band concerned, worked either against earth, or against a series of radials each approximately a quarter wavelength long, strung out from the base of the vertical section. These can be horizontal. If the vertical is mounted at ground level, they must be horizontal (Fig.1). But, if the quarter wave vertical is mounted above ground level, the radials can slope down (Fig.2). The steeper the slope down the higher the impedance of the feed point.

If, in fact, the radials are all vertical (as in Fig. 3) the feed point impedance is 72 Ohms, and we have, in effect, a vertical dipole.

Now it is easy to conceive why one has a Ground Plane on 40 or 80 Metres as the height involved in trying to erect a vertical dipole would be far too great to be practical for most radio amateurs.

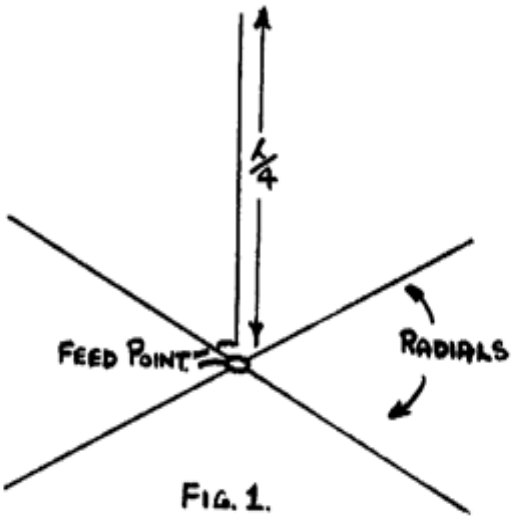

FIG. 1.

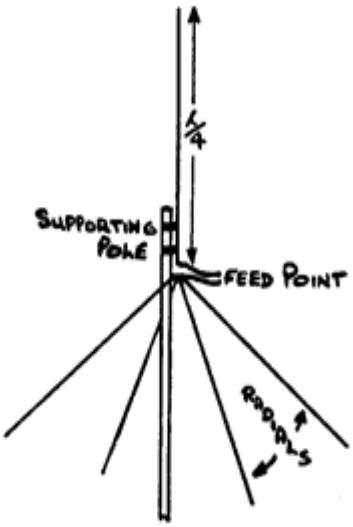

FIG. 2.

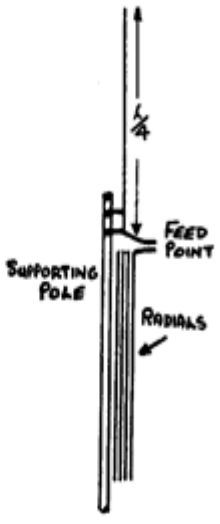

FIG. 3.

THE VERTICAL - Contd.

But the same does not apply on 10, 15 or even 20 Metres. A vertical dipole on 15 Metres is about 23 feet high, a vertical dipole on 20 is just about 32 feet high.

With a convenient tree and a bow and arrow (I used a catapult and arrow myself) one can get a line over the tree and hang a vertical dipole thus :-

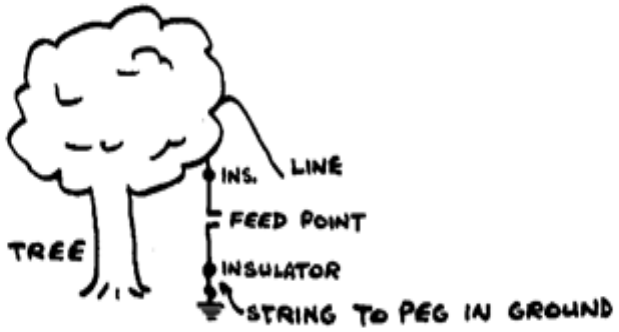

FIG. 4.

If you feed this with co-ax you will, of course, get little advantage over the Ground Plane of Fig 3 with its vertical radials. But if you feed it with 72 Ohms Twin Lead and a Balun you are exciting BOTH halves of the dipole. The lower part is NOT connected to earth.

Now it can be argued that it is not easy to find a tree on which you can hang a dipole at 32 feet for 20 Metres. True. But the advantage of this system is that you need not be quite high enough, you can always bend the bottom bit thus :-

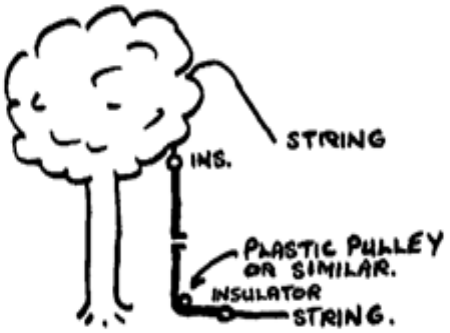

FIG. 5.

The ends of the dipole do little radiating and if the small horizontal piece at the bottom is kept a foot above ground the asymmetrical capacity will have little affect. I have constructed dipoles of this nature cut solely by measurement according to the figures and formulae found in the various handbooks. The SWR has bean about 1 : 1·2 or 1 : 1·3 and the performance excellent.

But do NOT make the dipole of thin wire or even single strand thick wire. Use a heavy multi-strand wire, or better, the outer braid of co-ax to improve the length to diameter ratio and so get some broad band effect as well of course, as reducing the RF resistance. If you use co-ax braiding, do NOT strip it off, leave it complete on the polythene insulation to keep it circular in cross-section which improves the RF conductivity due to skin effect, and greatly improves the broad banding effect due to the improved diameter to length ratio and makes the whole thing far less frequency critical.

Ah, I hear people saying, but you may not have a tree handy. True again. If you are operating from the ground floor, and have no access to a higher floor, you are then sunk and must revert to a Ground Plane.

But, if you are on the first floor or higher of a hotel or house, you can get over the difficulty, merely by making a bracket, which can be clamped on to a window, windowsill, balcony or other fixture. To this you add an insulator which can take a vertical whip, ex-Army Tank aerial or even a Mobile Whip.

From here you put your whip upwards vertically, and from another insulator (a stand-off insulator will do) you hang your other half of the dipole downwards.

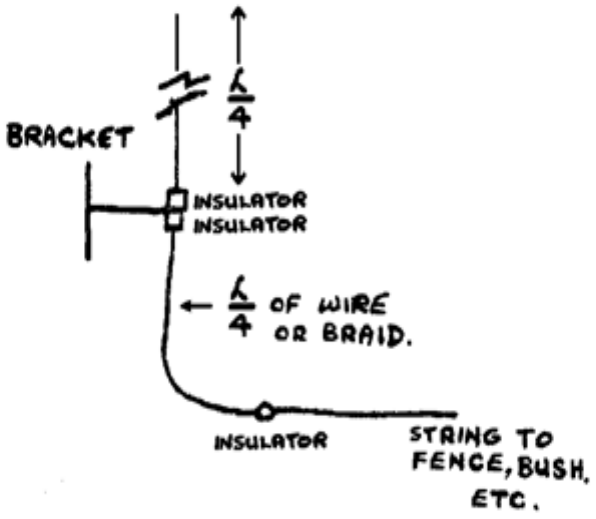

FIG. 6.

Again you feed with 72 Ohms Twin Feeder to a 1 : 1 Balun, and you are exciting both halves of the dipole - not just one half.

There is one problem here; the feed line should leave the dipole at right angles and NOT run parallel to the dipole.

In the case of the tree method, this is fairly easy by finding some support which will hold up the feed line (and Twin is much lighter than Co-ax) horizontally for about half a wavelength from the dipole. I have found small trees, bushes, etc., very handy.

On the window bracket system it is easy if you are operating at the same height as the window. In fact, this method was devised for Hotel bedroom operating which Mobile operators so often want to do when spending a few days at a hotel.

If you are on the ground floor you may have to drape the feed line horizontally along the building for a bit. In this case it would probably be better to put the Balun at the feed point on the bracket and feed with co-ax from there.

I mentioned earlier that a Mobile Whip can be used as the vertical upward part of the Window or Balcony Antenna. It was, in fact, in this way that the whole idea began, as the Mobile operator always has a Mobile Whip handy.

It was only after using a Mobile Whip against a quarter wavelength of wire hanging down, that the writer appreciated that a Mobile Whip is loaded in order to reduce its physical length and render it safe for Mobile operation. For static operation from a hotel, house or other building there can, of course, be no question of motion or passing under bridges, overhanging trees, etc., so there was no need to shorten the physical length of a quarter wave on 20 or 15 Metres. Thus, the longer whip without loading coil was substituted, and an improvement in performance was noted.

SOCIETY OF WIRELESS PIONEERS.

Information has recently been received at HQ from John N. Elwood W7GAQ/6, Vice President and Chairman of the Membership Committee of the Society of Wireless Pioneers, the International Organization of Professional Radio-Telegraphers, inviting RSARS members who may be eligible to apply for membership. The Society is dedicated to "The men who 'went down to the sea in ships' as Wireless Telegraphers and all those who have earned their living 'pounding brass' as wireless or radio ops since the days of Mareoni". Membership exceeds 1,400 and is granted in four categories :
"SPARK GAP PIONEER" (Members whose service dates started prior to 1915).
"PIONEER" (Members whose service dates between 1915 and 1925 inclusive).
"VETERAN" (Members whose service dates between 1925 and 1935 inclusive).
"PROFESSIONAL ASSOCIATE" (Members who started after 1935). Those starting after 1950 must show TWO YEARS service to be eligible. Military service on CW circuits makes one eligible. Further details, and membership application form, from SOCIETY OF WIRELESS PIONEERS, P.O. BOX 530, SANTA ROSA, CALIFORNIA, U.S.A., 95402.

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DISCOUNT LIST ADDITION.

Please add to Discount List : RIVERSDALE ELECTRONICS, P.O. BOX 470, MANCHESTER, M60 4BU. Discount Reference : Letter to RSARS HQ PP/PR/267 dated 26th July 1974. 5% discount to all RSARS Members on catalogue prices. The catalogue includes : Aerials (TV type), Aircraft Converters, Amplifiers, Batteries and Battery Accessories, Burglar Alarms, Speaker Cabinets, Cabinets in Kit form, Cartridges, Car Radio, Car Stereo Speakers, Cassette Tapes, Cassette Accessories, Cleaning Fluid, Crossovers, Record Decks, Battery Eliminators, Microphones, Mic Accessories, Meters, Multi-Meters, Transistor Radios, Sinclair Project 80, Soldering Irons and Accessories, Speakers, Styli, Recording Tapes, Transformers, Tuners, Tweeters, Clock Radios, Stereo Record Players, P.A. Amplifiers, Bernards and Babini Press Radio Books, Turntables, Special reductions on AMPEX Tape Products (i.e. C-120 Cassettes : Recommended Price (excluding VAT) - £1 49p, Riversdale price (INCLUDING VAT) - 99p, for quantities of 10 or over - 93p each). Enquiries direct to Riversdale. Please mention RSARS or above letter reference.

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SILENT KEYS

Reports have been received of the passing of RSARS members G3VUC, G3XUR, G4QD and G3IR. Nobby (G3VUC) had been a member and supporter of R.A.I.B.C. for some time and was largely responsible for getting Short Wave receivers into Cheshire Homes. He was expecting to undergo another operation in the near future and in view of his failing health virtually gave up amateur radio resigning from the R.S.A.R.S. but a short time ago. Sheila, now RSARS 719 says "I feel proud to be associated with the RSARS number of a person who did so much for others". Needless to say his number has been re-issued before news of his passing was received.

Tom, G3XUR, passed away suddenly while on holiday in the West Country. Although not active to any great extent during the last year (he spent most of his spare time working on his house and shack for his coming retirement) he maintaina4 an active interest in RSARS.

To all relatives and friends of our members no longer 'On Parade' we offer our sincere condolences. Their places in the ranks of Amateur Radio and the Society will be hard to fill.

R.I.P.

FOR SALE - FOR SALE - FOR SALE - FOR SALE - FOR SALE - FOR SALE - FOR SALE

HEATHKIT SB-101 WITH AC PSU PLUS SPITFIRE LINEAR AMPLIFIER (FULL LEGAL LIMIT). LINEAR HAS A HOME-BREW PSU. COMPLETE WITH HAND BOOKS. SB-101 HAS MINOR VOX FAULT. STATION AS HEARD/WORKED AS DL5YS/G3NOL. SENSIBLE OFFERS OVER £150. APPLY TO : Sgt J. Brown-Greaves, Royal Signals, 38 Engineer Regiment, Claro Barracks, Ripon, North Yorkshire.

AS OTHERS SEE US!
(With acknowledgements to the original publishers).

(The advert on the left prompted G3NVK to ask "Is this why G3ONU isn't heard on the bands so much lately?")

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CQ P29.
In case the message never reached Port Moresby, Papua, DA1EH asks us to QSP to P29MC that the answer to his Teletype problem will probably be found with the contacts under the cover.

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A letter from a member.
The following letter, delivered by hand to the Editor whilst at The Aldershot Army Display, is signed "Hawkeye Herridge G3IDG, The Original, Un-re-issued R.S.A.R.S. 024 (circa. 1961)".
Dear Ed (Your name is Ed, isn't it?),
I am sorely puzzled. Will someone please tell me:

(i) Why after being twice threatened with no back cover to my Spring MERCURY, do I get one?. Is someone trying to get the better side of me (if any)?.
(We were told to cut MERCURY by 50% due to the paper shortage. MERCURY has (normally) 2 covers. 50% of 2 is 1. Hence you should have got only 1 cover. The regular producer of MERCURY was away when it went into production and the job was taken on, at very short notice, by two ladies on the staff. As card was not as short as paper, and, no doubt, feeling that R.S.A.R.S. members should get value for their money, they gave you, free, gratis and for nothing, an extra cover to the number promised. Returning the cover in an undamaged condition will get you credit in the form of a 'Cover Note' - Ed.)

(ii) How do GM's come to be involved in the issuing of a Worked All Ireland Award?

A letter from a member - Contd.

(Don't know. It's probably a fiendish plot, but, no doubt, a GM or GI will enlighten us - Ed.)

(iii) The quickest way of getting to the Tidworth Tattoo on the 25, 26 or 27th of May, starting out immediately after reading the announcement in MERCURY on the 28th?
(By Time Machine, I suggest. Careful with the Time Control Switch or you may end up at last years Show! - Ed.)

(iv) How did Ivy get into this?
(Into what? - Ed.)

(v) It seems that the people who run our Society are a lot of Fizzerts and Mizzums and such-like (which doesn't sound very nice to me!), so what dastardly wretch had the affrontery to deprive our illustrious Vice-President of his appendages?
(Our apologies. What appendages did you have in mind, OM? - Ed.)

(vi) Now Vi wants to join Ivy).
(Where? - Ed.).

(vii) What's a UNIVERSIRY (Spring MERCURY, p.1) and who's this guy ART CILE (ditto p.3.)? Oi!!.
(My fault entirely. You see, the keyboard knobs on this typewriter are all loose and when the office table collapsed and the typewriter fell on the floor, the keyboard knobs fell off, and, in replacing them, the top row read QWETRYUIOP instead of QWERTYUIOP. Sorry!. The guy you mentioned originally had two eyes like everyone else. You should have had a black patch between 'T' and 'C'. - Ed.)

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Another letter from a member.

J.A. Batchelor/647.

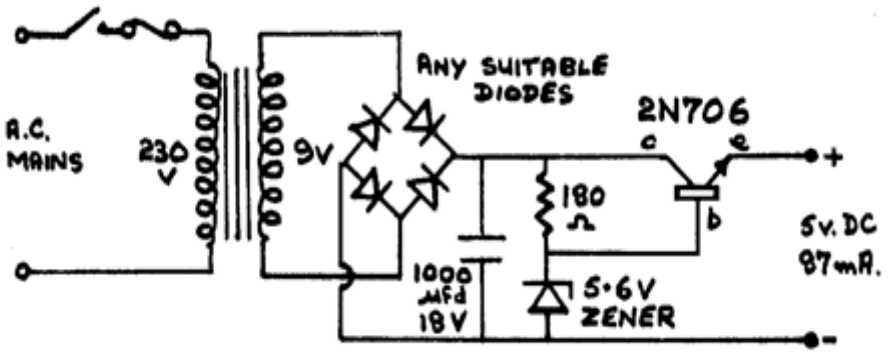
"The article on a "Secondary Frequency Standard" in the Spring "Mercury" shows a unit very much like a home-brew unit I constructed a while ago, only I used 4 IC's and a 1 MHz crystal. Not liking batteries, I built a small 5 Volts Power Supply Unit, the circuit of which is shown below, and will, I hope be of interest to other readers. The complete unit, including Power Supply, i.e. built into a home-brew case 2" X 5" X 4" and stands on the long edge. This way it takes up very little room. It was lined up with an Oscilloscope, using Lissajous figures, against another 1MHz standard which I have and which has been checked against a high-class Frequency Counter.

Set the oscilloscope to External Input, and the Sync. Selector to external. The 1MHz output of the std. is now fed into the Vertical Input of the oscilloscope and the 1MHz output from the unit for lining up is fed into the Horizontal Input. After allowing time for the units to settle down, the trimmer on the unit under test is adjusted to display a single circle on the oscilloscope. The unit is now set at 1MHz within the same accuracy as the Standard. Switch to the 500 KHz position should produce a "Figure 8" display. The other switch position outputs can be looked at in a similar way, but become difficult to check.

Readers not having a 1MHz Standard may be able to beg, borrow, or otherwise obtain a BC-221 Frequency Meter. By switching to the "XTAL ONLY" position on the BC-221 you have a 1MHz standard. The BC-221's 1MHz output is fed to the oscilloscope Horizontal Input, and the unit under test to the Vertical Input and adjustments carried out as previously described.

Keep your eyes open at Rallies. A couple of years ago, I picked up, for 25p, a 'Time Marker - MR-207/718". This has a tuning fork as a standard. Slight rust on the tuning fork was removed with "Naval Jelly", new valves fitted and aged and the unit was powered from a stabilised PSU of 250Volts. The ranges of this unit are 1000Hz, 200Hz, 50Hz and 20Hz with switched sync on all ranges and it makes a useful oscilloscope extra.

(See next page for PSU diagram - Ed.) .



5V. P.S.U. (BUILD ON 1¼" x 2½" VEROBOARD).

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FIVE-BAND AND SIX-BAND WORKED ALL CONTINENTS AWARD.

From G5GH comes news of the new International Amateur Radio Union's Five-Band and Six-Band Worked all Continents Award. Details as follows :

The International Amateur Radio Union announces the availability of five-Band and six-Band versions of the popular Worked All Continents Award. These new Awards are intended to promote the more uniform use of the high-frequency amateur bands for international communication and to recognize outstanding achievements by amateur stations in establishing two-way communication with the six continental areas of the world on each of the amateur bands available for such communication.

The following rules apply:

1. The basic Award shall be known as "Five-Band Worked All Continents" (5BWAC). An endorsement for "Six-Band Worked All Continents" (6BWAC) shall be available upon submission of proof of this additional accomplishment.
2. Applications shall be sent by the applicant, accompanied by the originals of the required confirmations, to the headquarters of the member-society for the country in which he resides. The headquarters of the member-society shall then examine the application and, if it is found to be satisfactory, shall so attest to the headquarters society, ARRL, which shall issue the certificate and deliver it directly to the applicant. If the applicant resides in a country not represented in the Union, the application shall be sent directly to the ARRL.
3. Where the applicant resides in a country, which is represented in the Union, it shall be necessary for him to hold membership in the representative member-society in order to be eligible for the award.
4. The continental boundaries defined in the WAC rules shall apply to 5BWAC and 6BWAC.
5. To be used toward the award, contacts must be made from one station (in terms of licence and call-letters, but not necessarily of equipment) operated at one location. The term "location" shall be construed as representing one metropolitan area, or, alternatively, an area not exceeding 25 miles (about 40 km.) in diameter.
6. Contacts must be made on or after January 1st 1974 to be used in qualifying for this award.

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ANY IDEAS?.

G3BID would like to hear of any piece of test equipment which uses RF to measure the resistance of cables, etc., at radio frequencies. Details to HQ please

THE LATER EXPERIMENTAL WORK OF GUGLIEMO MARCONI.

(Much has been written about the early work of Marconi. It is, therefore interesting to see some details of his later experiments, particularly as the following articles was written by one of his technical assistants. Ed.)

The following article first appeared in "The Marconi Review", Volume XXXVII, No.192, First Quarter 1974. We are indebted to the Editor of The Marconi Review, C.P. Cooper BSc. Tech. C. Eng., M.I.E.E. the author of the article.

The author, who was technical assistant to G. Marconi from the middle '20s to the middle '30s, describes the various propagation experiments carried out, in many eases from the S.Y. Elettra (See Fig.1)

Following work in the 3 - 20 MHz band and its application to the "Marconi Beam System" between 1924 and 1928, experimental work on a 30 MHz link between Sardinia and Rome in 1930 proved very successful in the summer months but only very weak signals were received in the winter. This demonstrated, although this was not fully appreciated at the time, super-refraction in the summer and troposcatter in the winter.

There followed in 1931-32 work on 600 MHz leading to a radio-telephone link between the Vatican and the Pope's summer palace at Castel Gandolfo. It was during this work that the detection of moving objects by "C.W. Radar" was first demonstrated.

The use of a split beam microwave guidance system for ships was demonstrated in 1934; also in that year very clear evidence of a surface duct over the sea for microwaves was obtained.

INTRODUCTION.

When one analyses Marconi's own multifarious contributions to the art of radio communication it is quite evident that it was in the field of experimentation associated with radio wave propagation that he excelled. It is fitting, therefore, that the emphasis should be placed on radio wave propagation in this issue of "The Marconi Review", coinciding as it does with the Centenary of Marconi's birth on the 25th April 1874.

Marconi was often critical of the attention given to his experiments by both the scientific and popular press who, he said, reported him "with varying degrees of accuracy". His early experiments have been reported and re-told by many authors and the main purpose of this particular article is to give an authentic account of his later experiments which, for one reason or another, have been reported inadequately, sometimes inaccurately and, in some cases not at all. It is based on original technical papers written by Marconi himself, upon authentic records and documents, and upon the author's own personal knowledge.

MARCONI'S SHORT WAVE BEAM.

Judging from Marconi's own statements it would seem that he was obsessed with the fear that, having commenced his experiments with wireless on frequencies of the order of 1,000 MHz in 1894-96, he had somehow missed something important by allowing himself to be distracted from fully exploiting them by taking the slippery slope to lower and lower frequencies to achieve greater and greater distances of practical communication. For example, in a paper which he read before a joint meeting of the American I.E.E. and I.E.R.E. in 1922, he said "The progress made with the long waves was so rapid, so comparatively easy and so spectacular, that it distracted practically all attention and research from the short waves and this I think was regrettable for there are very many problems that can be solved and numerous most useful results to be obtained by, and only by, the use of the short wave system".

At that time Marconi had in fact already set about experimenting with high frequencies in the band 3-20 MHz between Zandvoort in Holland, and Southwold, Hendon and Birmingham in this country (See Fig.2). It would be difficult now to imagine a more complicated and unpromising network of test routes over which to study the behaviour of radio waves. It comprised "all sea" paths, "all land" paths and "mixed land and sea" paths; there were also effects noted which would now ascribe to the influence of sky waves.

A hitherto unpublished report summarized the results obtained. It described, in particular, remarkable differences in the behaviour of signals in the 5 - 10 MHz band over the different paths and went on to say "Whereas at Southwold, about 110 miles from Zandvoort, the night signal is much greater than the day strength; at Birmingham 282 miles from Zandvoort, the day strength appears normally to be greater than that at Southwold while at night it is impossible to get any sign of the signals.

There seems little doubt that the day signal at Birmingham was due to propagation by the sky wave. Incredible as it may now seem to us Marconi actually had the discovery of the "daylight" wave within his grasp in 1922 - but failed to recognise it as such. It was to take him two more years to "re-discover" it!

Notwithstanding his lack of appreciation of the evidence which had been presented to him, Marconi, within a short space proved the usefulness of high frequencies for long distance communications to the point that the then existing high power low frequency communications networks became, by comparison, uneconomical and virtually obsolete for point to point communication. His long distance tests, made with the aid of his steam yacht "Elettra", were first of all carried out on a frequency of about 3 MHz with which he was soon able to communicate to the furthermost ends of the earth, albeit only when the great circle path followed by the radio wave was all, or substantially all, in darkness.

Encouraged by his success in reversing the technological trend towards low frequencies Marconi began experimenting with still higher frequencies until he reached the point where he could, with the "re-discovery" of the daylight wave he had missed two years earlier, communicate to anywhere in the world he wished, at almost any time of the day or night, by carefully selecting the appropriate operating frequency. It was at this point in time, 1924, that the Marconi Beam System was conceived - just fifty years ago!

The selection of the optimum operating frequencies for radio telegraphy and telephony has been studied by The Marconi Research Laboratories successively by T.L. Eckersley, K.W. Tremellen and G. Millington and the point has now been reached where optimum operating frequencies are selected by the sophisticated processes described by L.W. Barclay in a companion article in this issue of The Marconi Review. (Ionospheric Prediction Techniques - L.W. Barclay, The Marconi Review, Volume XXXVII No. 192 First Quarter 1974, pages 51 - 66. - Ed.).

MARCONI IN ITALY.

It was in 1928, soon after the short wave beam system was universally adopted for long distance communications, that the Italian Government, at last recognizing that Marconi's reputation and influence would be of a most valuable political asset to Italy at the time, sat about creating a situation in which permanent residence in Italy would be an attractive proposition to him. So it came about that Marconi was given responsibility for founding the Italian Research Council, and became its first President.

In 1929 the hereditary title of Marchese was conferred upon him by the King of Italy, and in 1930 he was nominated President of the Italian Royal Academy. It was perhaps an understatement when Marconi said about his personal circumstances "I enjoyed special facilities and was afforded every possible assistance and encouragement by the Italian Government". It is not difficult to imagine, therefore, that the Italian Government gave a very sympathetic ear to Marconi when he expressed a desire to carry out further experiments in radio communication. As a consequence he was asked to establish a permanent radio telephone communication link between Sardinia and the Italian mainland, a distance of 170 miles, in such a manner that it would be reasonably secure from interception and interruption by unfriendly powers.

Marconi readily accepted the project because he realised immediately that here was a chance to continue his investigation into the possibilities of still higher frequencies than those he had used hitherto.

THE LATER EXPERIMENTAL WORK OF GUGLIELMO MARCONI - Contd.

He quickly transferred his staff to Italy and set about designing a pair of stations on the established beam system principles with effective radiated powers around 40 kW and, typically contrary to the best advice, he chose a vary high operating frequency around 30 MHz. The stations ware built virtually at sea level, one at Golfo Aranci in Sardinia and the other on the site of what is now the Rome Airport at Fiumicino.

The link became operational in June 1930 and the results during the succeeding three months were extremely promising. It was in fact possible to establish 2-wire subscriber connections from any town in Sardinia to any other town on the Italian mainland at any time of day or night. It was noted, however, that there was both short term fading and a day to day variation of signal, the latter being undeniably correlated with changes in meteorological conditions along the route. These variations of signal were however, at that time, well within the capabilities of the automatic gain control of the receiving system. The performance of the link was so reliable that it was decided to hand it over to the Italian Posts and Telegraph to operate. A series of official tests were, therefore. arranged to commence in the middle of October. Unfortunately, the tests ended in disaster for, coinciding with the sudden seasonal change of weather, the mean signal level dropped by more than 20 dB, thereby rendering the link hopelessly unworkable.

"WEATHER" AND RADIO WAVE PROPAGATION.

Although the Sardinian project ended in commercial disaster, it was not without considerable scientific significance because, probably for the first time, the effect of weather upon the propagation of radio waves at the then higher end of the frequency spectrum was established.

With the advantage of hindsight it would seem that sustained atmospheric super-refraction could explain the presence of the enhanced signal level during the summer mouths, only to collapse at the sharp demarcation of the seasonal change between summer and winter in that part of the Mediterranean. Furthermore it is suggested that the scatter type signal which remained over the link during the winter months was almost certainly produced by those mechanisms upon which "troposcatter" communication was to depend two decades later.

The experimental evidence obtained from the Sardinian link prompted Marconi, in his address to the Italian Society for the Progress of Science in 1930, to say "From measurements effected recently it would seem that along the route between Sardinia and the Italian mainland this wave is refracted and contained within a space layer between the surface of the earth and a layer situated somewhat lower than the Heaviside layer". What a good description of the troposphere as we know it today - considering it was made over forty years ago!.

MARCONI AND MICROWAVE COMMUNICATION.

Was Marconi discouraged by the failure of his latest experiment? Quite clearly he was not!. In a paper he read before the Royal Institution in London in 1932 he said "The remarkable results which I obtained during the period of 1919 - 1924 with the use of wavelengths from 100 to 6 metres ... again distracted my attention from the study of microwaves". The paper then went on to describe his first experiments on frequencies as high as 600 MHz - how first be had to develop practically every piece of apparatus from scratch.

Before proceeding to discuss these experiments this may perhaps be a convenient point to digress from the main theme of this article to consider, for a moment, the difficulties under which Marconi carried out his basic experiments because of the absence of those facilities or "tools of the trade", that are now available to the modern experimenter. There were literally no radio frequency devices available for the measurement of power, signal intensity, attenuation or indeed frequency itself. This fact explains the absence of the precise measurements to which we have become accustomed in the past decade or so - it may serve also to enhance his technical achievements!.

The backbone of the microwave apparatus which Marconi used was, without doubt, the electron oscillator described by Barkhausen and Kurz in 1919 whereby a negative potential was applied to the "plate" of a triode valve and a high positive to the grid. The frequency generated by this means

was largely dependent upon the applied potentials, but it was generally higher than 300MHz.

Not every valve would function as an electron oscillator and when one was found that did, its life often terminated in a matter of minutes - usually because the grid had melted. One of the first things to be done, therefore, was to develop suitable valves; this was in fact to be a continuing process. A transmitting valve, producing oscillations of 600MHz, was eventually developed which dissipated 200 watts and had a life of approximately 500 hours. It was designed in mirror fashion to operate in a balanced push-pull arrangement. The "plate", grid and filament circuit were all tuned by Lecher lines (See Fig.3). Frequency modulation was achieved by the simple expedient of modulating the negative potential applied to the "plate"

The receiver consisted of a similar arrangement of balanced low power electron oscillators serving as the radio frequency detectors; this was followed by a two-stage audio amplifier - only four valves in all. The secret of the success of this remarkable little receiver undoubtedly lay in the fact that, by patient and cunning manipulation of the plate and grid potentials, and careful adjustment of the tuning lines, it could be coaxed to the state where it just failed to oscillate on the received frequency; this state was as superbly sensitive as was the most orthodox regenerative receiver which many will remember with affection and some nostalgia. The transmitter and receiver could be arranged to be mounted on the back of either plain or "fish-bone" parabolic reflectors, the dipoles for which were connected by open Lecher lines. These were eventually replaced by rigid coaxial feeders.

It was with this equipment, crude and simple by modern standards, that Marconi set out in 1931 supremely confident that he would, yet again, confound the false prophets of the day who were of the opinion that propagation of microwaves beyond the horizon was an impossibility.

The first tests on frequencies of 600MHz were made between a villa overlooking Genoa harbour and a motor boat from the S.Y. Elettra. Although signals were received well out to sea they were not what one might call robust - neither were the transmitting and receiving valves because their lives at that time, were still only three or four hours at the best.. But it was a beginning.

Tests continued during the summer from a transmitter installed on the balcony of a villa situated in the foothills at Santa Margherita overlooking the Ligurian Sea.

INTEREST AT THE VATICAN.

By the autumn it was possible to transmit good speech between Santa Margherita and a disused signal tower at Sestri Levante, a distance of 12 miles. Many demonstrations were given in quick succession to the Italian Ministry of Communication and representatives of the Press..

Improvements in equipment and techniques were continuously being made and by April of 1932 it was possible to demonstrate a complete duplex system capable of being extended to 2-wire subscribers. Soon after this the Vatican Authorities expressed an interest in the possibilities of linking the Vatican City with the summer residence of His Holiness the Pope at Castel Gandolfo, a land path of 15 miles obstructed at two points by dense trees.

Not having the experimental data relating tree density to signal attenuation Marconi decided to carry out a radio survey to determine the possibility of communicating over such a path. The tests in fact indicated that the trees did not, on that route, constitute a serious obstacle to microwaves. His Holiness Pope Pius XI took a great personal interest in these experiments.

The subscriber to subscriber telephone and teleprinter link was completed by the end of the year and officially inaugurated by His Holiness the Pope in February 1933 (See Fig.4) and thus became the first microwave telephone subscriber link ever to go into service.

It was over this link that the Popes words were relayed to the main Short Wave transmitter at the Vatican when he consecrated the new cathedral at Messina.

MARCONI'S STUDY OF MICROWAVE PROPAGATION.

Marconi was satisfied that he had sufficiently demonstrated the usefulness of microwaves for relatively short communication links and he was content to leave it to his commercial organisation

to develop the idea. His ambition was clearly to break down the barriers which appeared to him to be imposing an unreasonable limitation to the propagation of microwaves to substantial distances. With this in mind, and disregarding the opinions of the great men of science, who "knew" that microwaves could not be transmitted beyond the horizon, he set about studying in more detail the laws governing their transmission characteristics to greater and greater distances.

In July 1932 the first investigations of reception at relatively long distances were carried out on the yacht Elettra from a more powerful transmitter which had been installed on the terrace of the Hotel Miramare at Santa Margherita, at a height of 40-50 feet above sea level. These tests immediately indicated that signals could be received well beyond the optical range.

SARDINIA AGAIN.

Marconi then made one of his snap decisions. He would try to bridge the route between Sardinia and the Italian mainland by microwaves - this despite his lack of success in his previous attempt to do so on a frequency of 30 MHz.

The transmitter was thereupon dismantled and transported to the obsolete seismographic observatory, situated at a height of 2,000 feet, at Rocca de Papa, about 12 miles south of Rome and overlooking Fiumicino. The receiver was, as usual, installed on the upper deck of the yacht Elettra.

Following a very brief test over a distance of 18 miles, Marconi confidently invited representatives of the Italian government on board the yacht to accompany him on the cruise to Sardinia and witness the tests he was about to make. All was ready on 6tb August (1932) and the yacht took up a position on a line joining Fiumicino and Golfo Aranci, Sardinia - an almost identical route to that of his earlier 30 MHz tests.

Signals were received continuously up to a distance of 120 miles at which point they became inaudible.

Upon reaching Golfo Aranci the receiving apparatus was disembarked and transported to the signal station at the top of Cape Figari at a height of 1,000 feet above sea level. Strong signals, giving for much of the time 100% intelligible speech, were received for several hours although, at times, there was severe fading.

The distance between the terminals was 168 miles - quite an achievement considering the relatively crude apparatus available at that time!. Nevertheless, while the tests had been successful and Marconi had shown that a microwave communication link would function between Sardinia and the mainland, the Italian government representatives were sceptical about its long-term reliability and expressed the hope that Marconi would carry out extended tests, over considerable distances, to obtain reliable propagation data before they could consider incurring expenditure on a commercial installation. Marconi was quite happy to fall in with their wishes - he had proved his point and a good time had been had by all on board - beyond that he had several other lines of research which had been occupying his mind for some time.

FIRST STEPS TOWARDS RADAR.

High on Marconi's list for further investigation was a phenomenon he had noticed during the testing of the Vatican microwave installation. The transmitting and receiving dipoles in this installation were situated side by side in the same 4-unit fish-bone parabolic reflector. The system would normally have been controlled by a "voice operated device" but on this occasion, for some reason, it was being dispensed with so that the tone modulation used for adjusting system levels, which was then being transmitted, was received on the adjacent receiving dipole - this condition was often used when it was desired to monitor the outgoing signal.

From time to time, on this particular occasion, a strange rhythmic undulation of the monitored signal was noted. This was at first attributed to malfunction of the equipment but a thorough check failed to reveal a plausible explanation and some time elapsed before Marconi realised that the rhythmic variation of the monitored signal seemed to occur each time a steam-roller, making up the road in front of the aerials, moved.

THE LATER EXPERIMENTAL WORK OF GUGLIELMO MARCONI - Contd.

Immediately Marconi knew he was in fact detecting a moving object in exactly the same manner that he himself had specified in his paper to the American I.E.E. and I.E.R.E. in New York ten years earlier. Had he made the first "radar" observation?

Further controlled tests were carried out and it was found that a man walking in front of the aerials could also be detected. Over the ensuing year, when more experience had been obtained in controlling the crude radar device, motor cars could be detected about 1½ miles away.

The climax of this particular investigation came on 14th May 1935, when a demonstration was given to Mussolini, then Head of the Italian Government, who foresaw an application in connection with his military adventures in Abyssinia which erupted a few months later.

"BLIND" NAVIGATION BY MICROWAVE.

Throughout his career Marconi was always seeking ways and means of securing the safety of ships at sea. This urge was particularly keen while he was investigating the possibilities of utilizing microwaves, and it was in the field of marine navigation by microwaves that he gave one of his most spectacular demonstrations.

He had conceived the idea of guiding a ship through a narrow entrance to a harbour in conditions of zero visibility. To demonstrate this Marconi arranged to have mounted at right angles to one another two broad beam reflectors with their respective horizontal dipoles fed 180º out of phase from a common transmitter. In this way a very sharp zone of minimum signal was created in the centre of an otherwise broad region of high signal level. The whole aerial head was then made to oscillate to and fro by about ± 15° so that the sharp minimum scanned a sector of 30°.

The transmitter was modulated by two tones alternately, the changeover from one to the other taking place when the aerial minimum was directed exactly along the desired navigation course.

On board the Elettra the same type of four valve receiver, which had been used so successfully in all previous experiments, was modified to incorporate two note filters, corresponding to the two modulation tones applied to the transmitter. Their respective detectors, giving DC outputs, were then fed into a centre zero indicating instrument. By this arrangement the needle of the indicator was deflected left or right (port or starboard) according to the tone that was being received at that moment.

When the "beacon" head was scanning correctly left and right about the desired approach course the indicating instrument would be deflected equally, also left and right, provided the ship was correctly positioned on the approach course. Should the ship deviate from the predetermined course an unequal deflection left or right would be noted on the indicator. All that was necessary to keep the ship on the desired approach course was to ensure, by altering course if necessary, that equal deflections were obtained on the indicator.

Tests commenced early in 1934 and proved to be so successful that Marconi, in a very confident mood, planned a very elaborate demonstration and invited on board the Elettra representatives from all the big British shipping lines and from Trinity House.

For the demonstration the navigational beacon was installed on the promontory at Sestri Levante at a height of 300 feet above sea level. Two buoys were then anchored 100 yards apart at a distance of half a mile from the shore to simulate a harbour entrance.

On 30th July the Elettra steamed out to sea from her anchorage at Santa Margherita with Marconi's guests on board.

With all the blinds of the chart room drawn so that it was impossible for the navigator to see, the yacht was successfully steered through the two buoys solely by means of the indication given by the beacon. The manoeuvre required little skill and many of Marconi's guests took turns to do it themselves. Captain Harris of the London, Midland and Scottish Railway was most enthusiastic and performed the manoeuvre several times.

The success of the demonstration caused a flurry of excitement amongst the guests. - but more was yet to follow!. Marconi had also arranged for two similar buoys to be anchored at the entrance

to the harbour at Santa Margherita. By turning the receiver to face astern, and by reversing the connections to the indicator, Marconi then proceeded to carry out the same manoeuvre, again most successfully, but this time at a distance of 10 miles from the beacon!. This, one must remember, happened forty years ago. Could we do much better now?

"TROPOSCATTER", SUPER REFRACTION OR OBSTACLE GAIN?.

In parallel with the radio beacon and other experiments, a great effort had been made to develop a more powerful and reliable transmitter with which to study the behaviour of microwave propagation over an extended period of time and at relatively long distances.

The first experiments were made in August 1933 with improved transmitting and receiving equipment. The transmitter was installed on the terrace of the Hotel Miramare at Santa Margherita and, for the first time, a parabolic dish of 5 feet aperture was used. A similar dish was used for the receiver and this was mounted at the stern of the Elettra at a height of about 15 feet above sea level (See Fig.6). The combined heights of the transmitter and receiver provided an optical range of about 20 miles.

Among the many successful cruises that were carried out between the 2nd and 6th August there is one of outstanding interest. The Elettra sailed southwards from her anchorage at Santa Margherita on a course that would take her between the island of Elba and the mainland.

Signals were received continuously, and at great strength, up to a distance of 100 miles - about five times the optical range. Beyond this distance the requirements of navigation did not allow the receiving dish always to be correctly directed towards the transmitter; the signal, in consequence, was not observed for long periods. Nevertheless, when the Elettra finally reached her anchorage at Porto Santo Stefano, a distance of 160 miles from the transmitter, signals were again received but at a somewhat reduced strength - this was at more than 8 times the optical distance.

The real point of interest of this test, apart from the remarkable distance over which signals were received, lies in the fact that the route between Santa Margherita and Porto Santo Stefano was badly obstructed by the promontory of Piombino rising to a height of 1,000 feet above sea level (See Fig.7). The propagation mechanism by which the signals were received on the Elettra must be a matter for conjecture. Could it have been tropospheric scattering? Was it another case of super-refraction? Or was it a classic example of diffraction over a knife-edge giving the so-called obstacle gain?

Marconi made no secret of the fact that he hoped one day, with improved equipment, to find evidence of an elevated layer which would reflect microwaves in a similar way that short waves were reflected by the ionosphere. Accordingly it was a routine procedure at that time to determine the best vertical angle of transmission and reception by the simple expedient of tilting the parabolic reflector backwards at prescribed angles. No evidence was found at any time to suggest that the best angle was other than zero degrees.

ATMOSPHERIC DUCTING.

In September 1933 a test link was established between a transmitter at Monte Nero, Livorno, at a height of 750 feet above sea level, and a receiver installed at Monte Rosa, Rapallo, 2,000 feet above sea level. The distance between terminals was 85 miles, the greater part of which was over sea.

The purpose of this test was to establish the reliability of a line- of-sight link at a relatively long distance. The tests continued until August 1935. For the last five months a second receiving site was established at Santa Margherita, also 85 miles from the transmitter, mostly based on the Elettra anchored in the harbour; this enabled two paths to be monitored, one of which was in line-of-sight and the other beyond, but both equal in distance.

Observations on the line-of-sight path showed quite clearly that although there was considerable fading from time to time it would have been sufficiently reliable to support a commercial radio telephone service throughout the winter and summer and throughout the 24 hours.

THE LATER EXPERIMENTAL WORK OF GUGLIELMO MARCONI - Contd.

Reception on the Elettra at Santa Margherita was surprisingly good in the summer of 1934, fading only during short spells of bad weather. During one particular period the signals were some 15-20 dBs stronger on the Elettra than they were high up on Monte Rosa; this made Marconi suspect that the receiver at Monte Rosa was not functioning correctly always a possibility in those days.

To resolve the matter a spare receiver was compared with the one in service on the Elettra to establish that they were equal in performance. The spare receiver was then rushed by taxi - at the risk of life and limb up the tortuous mountain road to Santa Rosa. Comparison with the receiver there showed that the signal was indeed stronger down below on the Elettra. The test was repeated several times, always with the same result, which left no doubt - despite the rather crude method of the test -that for a substantial period of time the signal was stronger at sea level than it was 2,000 feet higher. A clear case of a surface based transmission duct if ever there was one!. Now, forty years later, transmission ducts are still being investigated, albeit, with infinitely greater finesse.

LAMENT.

Notwithstanding the painstaking experimental work that Marconi performed in his later years his findings, for the greater part, fell on deaf ears!. The world at large was not ready to follow his lead. It was to be two decades, in some cases, before physicists and communication engineers continued where Marconi left off.

THE FATE OF THE S.Y. ELETTRA.

Where is the Elettra now -the legendary ship which poet Gabriela D' Annunzio described as "the shining ship that works miracles, penetrating the silences of the air"?. Alas, she is a twisted and rusting hulk lying in the shipyard at Trieste, having been salvaged from the sea off the Dalmatian coast where she had been sunk by Allied aircraft, after she had been pressed into service as a patrol ship by the Germans during the last war.

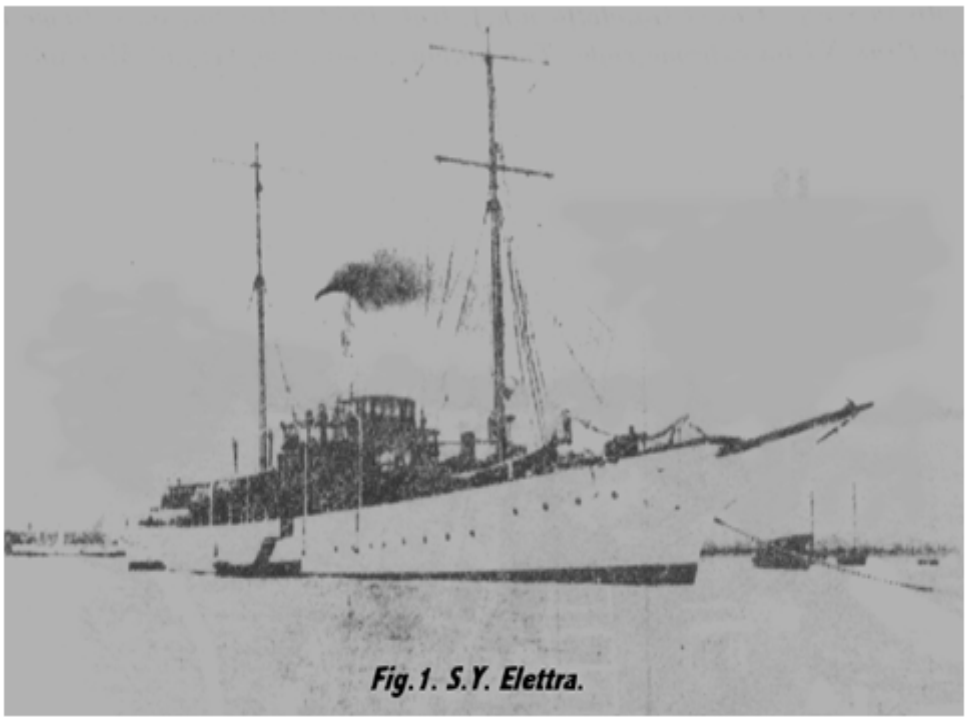

Fig.1. S.Y. Elettra.

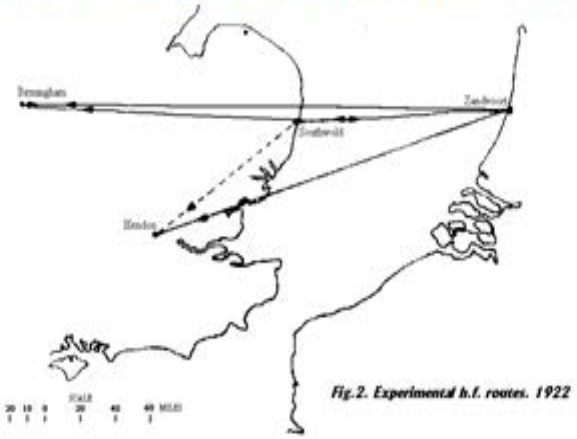

Fig.2. Experimental h.f. routes. 1922

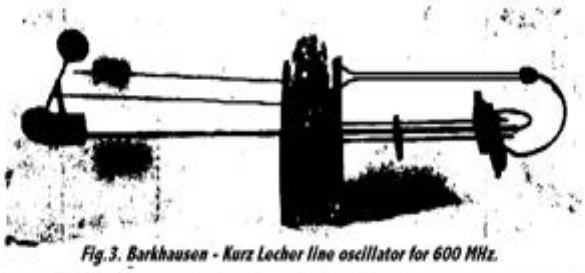

Fig.3. Barkhausen - Kurz Lecher line oscillator for 600 MHz.

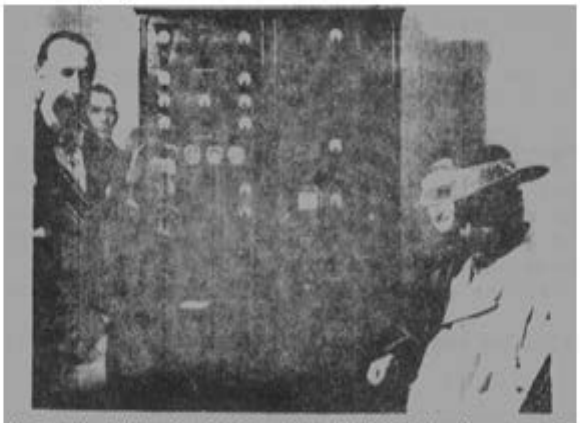

Fig.4. Opening of Vatican City - Castel Gandolfo u.h.f. link 1933. Marconi on extreme left. His Holiness Pope Pius XI on extreme right. The author is standing behind Marconi.

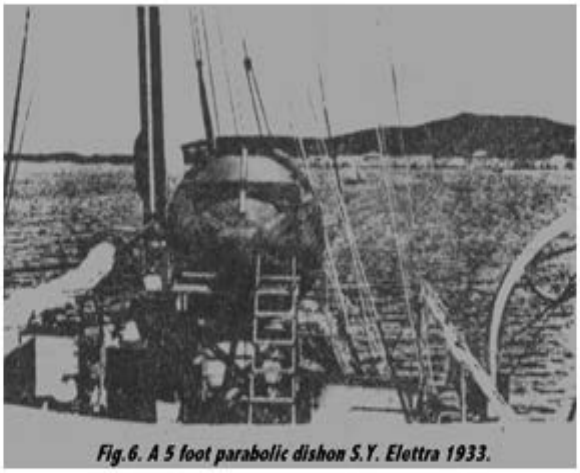

Fig.6. A 5 foot parabolic dishon S.Y. Elettra 1933.

THE LATER EXPERIMENTAL WORK OF GUGLIELMO MARCONI - Contd.

Fig.7. Path of signals between Santa Margherita and Porto Santo Stefano

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R.S.A.R.S. NUMBERS.

When writing to HQ or any Society official, please quote your R.S.A.R.S. number. With membership numbers now in excess of 1000 it can take a lot of valuable time looking through the list if we have only your name to go on (and Murphy's Law determines that the name we find always belongs to "one of the other fellows". For instance, the latest list shows that we have the following names in quantities of 2 or more (total number in brackets) :

ADAMS (2), ASPINALL (2), BAILEY (3), BAKER (2), BARNES (3), BEAUMONT (3), BENNETT (2), BEVAN (2), BLAKE (2), BOWDEN (2), BRAITHWAITE (2), BROWN (7), BUTLER (4), BUTTON (2), CHISHOLM (2), CLARK (7), COLE (3), COLLINS (3), COOK (3), COOPER (3), COURT (2), COX (4), DAVIES/DAVIS (5), DONN (2), DOUGLAS (2), DUNN (2), EDWARDS (3), ELLIS (3), EVANS (4), FORD (2), FOSTER (3), FRANCIS (2), GEORGE (2), GRAHAM (3), GREENWOOD (2), HALL (3), HARDING (4), HARE (2), HARRISON (2), HARVEY (2), HATLOCK (2), HAYWARD (2), HEATH No. He's not included!), HEATON (2), HODGKINS (2), HUDSON (2), HUGHES (2) HUNTER (2), JAMES (2), JOHNSON (2), JONES (4), KENT (2), KING (3), KNIGHT (2), LAWRENCE (4), LEWIS (2), LLOYD (2), MACDONALD (2), MATHEWS (3), MAYHEAD (2), MCMILLAN (2), MILNE (3), MITCHELL (2), MORGAN (2), MORLEY (2), MORRISON (3), NICHOLLS (2), OLIVER (3), PARKER (2), PARKES (2), PARTINGTON (2), PHILLIPS (2), POOLE (2), PORTER (2), POWELL (2), RAMSEY (2), READ (2), RICHARDSON (2), ROBERTS (3), ROBINSON (5), ROSE (3), RUSSELL (2), SCOTT (2), SHAW (2), SMART (2), SMITH (15), SNOW (2), SPENCER (2), STEPHENSON (2), TAYLOR (7), THOMAS (5), TUCKER (2), WALTON (2), WARD (4), WEBB (3), WHITE (5), WILKINS (2), WILLIAMS (8), WILSON (6) (No, he's not included either) WRIGHT (2), YOUNG (4).

If you are not sure of your number, drop a line to HQ, give your name, initials, address and call-sign (if applicable). Thanks!

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R.S.A.R.S. STORES.

Three new items of stores are now available to members. New retractable triangular shaped ball pens with chrome pocket clip, stamped with ROYAL SIGNALS AMATEUR RADIO SOCIETY and diamond shaped badge (12½p). Key fobs, complete with ring and Society name and badge (12½p). And R.S.A.R.S. Great Circle Bearing and Distance Charts. These charts, produced on a computer at The School of Signals (by kind permission of The Commandant), list nearly 1,500 locations throughout the world and give the following details : Town, country, Latitude and Longitude, Distance in Nautical Miles, Statute Miles and Kilometres, plus the bearing to and the

the bearing from the given location. For instance, did you know that Colon, Panama is situated at 9° 21' N, 79° 54' W and is 4,501 Nautical Miles, 5,183 Statute Miles or 8, 342 Kilometres from Blandford Camp and the bearing (from True North) from Blandford to Colon is 266° and the bearing from Colon to Blandford is 39°?. Lots of other locations ranging from Aachen to Zwolle through such names as Baghdad, Cayenne, Dnebrodzerzhinsk, El Paso, Fort Lamy, Gorky, Hanoi, Iloilo, Jerusalem, Karachi, Leopoldville, Maastricht, Nassau, Osaka, Phnom Penh, Quito, Rangoon, Sacramento, Tabriz, Ulan Bator, Vatican City, West Ham, Yokohama and Zomba. EACH CHART IS PRODUCBD FOR A SPECIFIC LOCATION. THEREFORE IT IS ESSENTIAL THAT MEMBERS QUOTE THEIR LATITUDE AND LONGITUDE (IN DEGREES AND MINUTES ONLY) WHEN ORDERING. DO NOT QUOTE ORDNANCE SURVEY MAP REFERENCES. ORDERS CAN ONLY BE ACCEPTED FROM MEMBERS OF THE ROYAL SIGNALS AMATEUR RADIO SOCIETY. Price : £1 - 25p including post and packing. PLEASE REMEMBER - Computer time is limited and there may be delays in production of these charts. Orders will be processed in strict rotation as received. Charts can be produced for any location in the world (except the North and South Poles where all directions are South and North respectively!!).

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R.S.A.R.S. MEMBERSHIP LIST - AMENDMENTS.

Members having the Membership List as at 31st March 1974 are asked to make the following amendments. DELETE : A4XFB (Resigned 30 June 74), DA1DQ - Insert DA1QD, G3CMG. - Insert G4CMG, G3IR - Silent Key, G3OYS - Resigned 30 June 74, G3XVR - Silent Key, G4AOF - Resigned 30 June 74, G4NS - Silent Key, GM3OFV - Insert G3OFV, GM3VJW - Resigned 30 June 74, VE8CB - Resigned 30 June 74, 5B4FF - Insert G4DBF. The following non-licensed members (all resigned from 30 June 74) : 0065, 0220, 0711, 0762, 0819, 0836, 0867, 0916, 0927, 0937, 0951. Also delete G3PQY - Resigned 30 June 74. delete G3ZKA, - Resigned 9 July 74.

INSERT : DA1QI - 1 March 74, G2ALM - 1 June 74, G2BAR - 1 April 74, G2BYM - 1 March 74, G2RT - 1 March 74, G2XQ - 1 March 74, G3AAK - 1 April 74, G3ALI - 1 April 74, G3BIN - 1 May 74, G3CAA - 1 March 74, G3JDJ - 1 April 74, G3LZO - 1 April 74, G3NAK - 1 March 74, G3RLP - 1 May 74, G3SUK - 1 July 74, G3WJO - 1 June 74, G3YYQ - 1 May 74, G3ZSN - 1 May 74, G4AYH - 1 April 74, G4BNI - 1 April 74, G4BYJ - 1 April 74 G4DBR - New call, G4DDA, - 1 June 74, G5CP - 1 May 74, G6QN - 1 July 74, G8FYJ - 1 May 74, G8HZF - 1 April 74, G8JAC - New call, G8QO - 1 April 74, GC5TU - 1 April 74, GM4DAE - New Call, VU2BK - 1 April 74, ZB2WW - New call - intermittent use, ZL2AAV - 1 May 74, ZL3VJ - 1 June 74, ZL4IJ - 1 June 74, ZL4MI - 1 July 74.

Membership Lists, with amendments, are available from HQ. Large SAE, please.

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COMMUNICATIONS '74.

During a visit to the above Exhibition at Brighton on Friday 7 June, it was pleasing to see RSARS members 'doing their stuff' on the stands, in the form of G3NJM, Ted Philp, busy extolling the virtues of his parent Company's products, and G3TAN on the Ministry of Defence stand doing something similar. Friday was Defence Communications Day and included a lecture on Electromagnetic Compatibility by Brigadier W.E. Sherratt MBE, the then President of the Society. Although devoted to the commercial and military communications world, with no amateur radio in evidence, it was apparent that radio amateurs were around in force including several overseas call-signs. Many of the stands displayed equipment that can only be described as 'mouth-watering', but, of course, some of the prices quoted tended to leave rather a dry mouth!. The new Eddystone receiver range would have graced any shack - if you had between £1,500 and £2,000 to spare and the RX with logarithmic tuning (tune slowly and the digital read-out changed by Hertz, turn faster and the read-out went through the megahertz like nobody's business!) was interesting to say the least. Not all the exhibits were ultra-modern - many old-timers would have recognised the Morse Tape Transmitters and Tape Perforators on display.

MINUTES
OF
THE 13th ANNUAL GENERAL MEETING
OF
THE ROYAL SIGNALS AMATEUR RADIO SOCIETY
HELD AT BLANDFORD CAMP DORSET
ON
20th JULY 1974.

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PRESENT:			
R. WINTERS	G3NVK	D. SUGDEN	G4CGS
D. FREESTON	G4DBF	D. SMITH	
G. SMITH (*)		D. RAMSEY	G3UAA
C. EMARY	G5GH	R. WEBB	G3EKL
A. RIX	G3RYF	R. LOCK	G3PHK
I. WHITWORTH	G3OFB	G.ALLCOCK (*)	G3ION
L. WORBOYS	G3AFD	G. ROJAHN (*)	
P. DOWDALL	G3YOB	L. THOMPSON	G3VYZ
A.NEWMAN	G2FIX(*)	J. CHISHOLM	G2CX
W. ALFORD	G2DX	E.NEPEAN	G5YN
E. WARDROP	G3MOW	H. SMITH	G3POY
J. EVERETT	G4CDP(*)	J. BUTTON	G3YSK
J. COOPER	G3DPS	F. HICKS-ARNOLD	G6MB
H. PEERS	G3BEZ	A.N. OTHER(*)	
B. CLARK	G3BEC	D. HAYWARD	G3OMH
W. STEDMAN	G3XWS	C. SQUIRES	G3XCS
A. BLOW	G2TT	D. BARRY	G3ONU
A. PAXTON	G4BIZ	D. BAYNHAM	G3DHB
T. CRAZE	G3VNN	H. CUNNINGHAM	G8FG
W. LINDSAY-SMITH	G3WNI	J. WORRAL	G3XBA
R. FOOT	G4BKU	B. CROKER	G3ULJ
A. HARROWELL	G3OMO	E. LAWRENCE	G3BIC
M. PAVELY	G3GWD	N. WEBB	ZC4WW
P.HARDING	G8INN	R. COOK	G3UZL
L. HITCHINGS	G3HWL	L. PARTINGTON	G4BZP
T. GATES	310	D. McLEAN	G3NOF
M. BERNARD	G4AKQ	W. KENT	G3YCN
T. MILNE	G4CMG	W. YEO	G2CVY
H. HUGHES	G4CG(*)	T. WARD	G2FKO(*)
H. STENHOUSE	G3MAY	C. MOUNTJOY	GW3ASW
T. WEATHERLEY	(*)	(*) = Visitor	

The Meeting opened at 1410 hours with Brigadier D.H. Baynham GM in the Chair. Brigadier Baynham was introduced to the Meeting by the General Secretary. Before proceeding with Society business the Chairman read a message to all RSARS members from Brigadier W.E. Sherratt, the outgoing President of The Royal Signals Amateur Radio Society (reproduced in Summer 1974 'Mercury' - Gen. Sec.)

CHAIRMANS OPENING ADDRESS.

The Chairman extended a welcome to all those attending the A.G.M. particularly those who had travelled long distances and, in particular, to the ladies who had accompanied members.

He then went on to comment on Brigadier Sherratt's message and said he was sure that the Society could make use of the past Presidents offer of assistance. He stated that he had not been too active on the bands of late due mainly to extensive work oo his boat. The end result could well mean a spot of /MM operation. It was apparent, he noted, that the Society was going from strength to strength not only in membership figures, but in general amateur radio activities. The work of various members, particularly the QSL Bureau Manager, The Awards and Contests Manager, the Society Printer and not forgetting G3EJF up there in the Yorkshire Dales and the General Secretary. He was certain that members fully appreciated the efforts of all those who performed a particular function within the Society. He noted with satisfaction that the membership figures continue to rise and that RSARS members and call-signs regularly appear in the lists of amateur radio achievements. The Chairman then introduced Major Clare who, at short notice, had taken over the task of MoD Secretary and travelled down from London to attend the Meeting. Brigadier Baynham then recorded the thanks of all members to The Director of Telecommunications for his help and assistance during his term of office as President. He then mentioned the need to encourage people to obtain amateur radio qualifications, particularly officers and men of the Army in general and the Corps in particular, as it was a known fact that amateurs could maintain communication under almost all circumstances.

MINUTES OF THE PREVIOUS MEETING.

The Chairman then called for the Minutes of the previous Meeting. In order to save time copies of the Minutes of the 12th Annual General Meeting of the Society were circulated to those attending. The Chairman indicated that he would call for acceptance of the Minutes after circulation.

THE GENERAL SECRETARY'S REPORT.

A report from the General Secretary was then called for by the Chairman. The General Secretary reported that 1973/74 had, once again, been a favourable year for the Society with resignations being the lowest ever at less than 2%. This included members with whom contact had been lost due to un-notified change of address. A considerable amount of support had been received from the membership as well as from members of the Council. Membership continues to increase which is always a healthy sign. Four-figure membership numbers were now being issued which, allowing for Silent-Key numbers, meant that membership was now just about 1,000 not including the Affiliated Clubs. The membership records were now held on a computer at The School of Signals which eased the work load considerably and thanks must be extended to the Commandant and the Computer Section for this privilege. Capt. Barrett of the School also assisted the Society by producing a program for another computer to calculate Great Circle Bearings and Distances and these charts would be made available to the membership in the very near future. Arrangements had also been made with several retail organisations for the supply of goods to members at discount prices. The Society had participated in various events including The Aldershot Army Display, Exercise Signal View III at Worcester (display of Amateur Radio to ACF/CCF Cadets) and would be providing a station at the forthcoming Blandford Country Fair. In view of the continued support by members, the increasing membership figures, the lack of resignations, and the general absence of complaints, 1973/74 can certainly be recorded as a successful year.

THE TREASURERS REPORT.

The Treasurers report was then called for. Due to family circumstances the Treasurer could not attend the meeting but would be available to answer questions, etc., immediately after the meeting. The Treasurers Report was read by the General Secretary. The Balance Sheet having been circulated the General Secretary explained that the final figures showed that the Society was in a healthy financial position despite rising prices, postage, etc. Most of the smaller increases had been absorbed by the Society which was reflected in the somewhat lower overall profit margin, which was approximately 8%. The Society was grateful to the Royal Signals Institution which, again, generously provided a substantial grant to Society funds to assist in the purchase of equipment. This grant had been expended on an FDK Multi 2000 VHF transceiver which had been received

and was working well and which had proved very interesting to spectators both at Aldershot and Worcester. Postage had, of course, increased but expenditure on postage was being kept within reasonable limits. 100,000 RSARS QSL cards were on order from a local printer, a very reasonable price having been negotiated after it was discovered. that he held the original 'blocks' for the cards. In view of this it is expected that prices for QSL cards will remain unchanged unless overprinting costs and/or postage increases drastically. RSARS equipment had been depreciated at an average 10% in preparation of the Balance Sheet. After payment for the QSL card printing it was intended to transfer the major portion of the Society's financial assets to The Nationwide Building Society which will provide a reasonable return. The General Secretary then offered to answer any questions but pointed out that the Treasurer would be available after the Meeting.

EDITORS REPORT.

The Chairman then asked for the Editor's report. The Editor stated that, although sometimes late, 'Mercury' had continued to get to members despite lack of staff, time and paper. Members had still continued to contribute articles but more were always required. It was felt that many members could write something for 'Mercury' but were reluctant to do so perhaps because they had never attempted anything similar. All were encouraged to assist even if only with a "Letter to the Editor", The Editor then explained that, although members were promised no back cover to the last 'Mercury' they had received one. This was because the normal staff that produced 'Mercury' were either sick or on leave and the production was taken over by two young ladies at the School who, knowing that 'Mercury' normally had two covers, put two on that issue. A letter from a member commenting on having received two covers instead of one would be answered in the next 'Mercury'.

NON-SERVING MEMBERS REPORT.

Captain (Rtd) C. R. Mountjoy was then called upon to give his report. He stated that non-serving members continued to support the Society well and on their behalf passed thanks to the General Secretary for his assistance during the last year. In his capacity as Deputy Net Control for the SSB Nets he reported that the Nets were most popular despite QRM and often unfavourable conditions. Mention had been made of "number-swapping" on the Nets but GW3ASW pointed out that this was not the sole intention of the RSARS Nets although it formed an active portion of the Nets. Non-serving members were always well represented on the Nets. As many as 39 stations have appeared during an evening session on the 80 Metre Net. He stated that criticisms of the Nets were always welcome and should be passed to the General Secretary. He then passed a vote of thanks on behalf of the non-serving members to the Council and other members for help received.

AWARDS AND CONTESTS MANAGER REPORT.

G3EKL was then called upon to make his report. He stated that activity by members in respect of Awards and Contests had been gratifying. Although Contests were not too well supported we compare favourably with similar RSGB and SWM events. One new annual Award had been instituted (The Most Outstanding Progress Award) and two more Contests had been finalised, the VHF contest in September and the Le Touquet Trophy (CW/RTTY) in March. The latter Trophy has been kindly donated by ZL1AXM. Contests are now available on the second full week-end of every month throughout the year except April, May, July and August. All modes and bands are catered for and it is intended to leave these dates fixed so that a known pattern can evolve. Through the light of experience the 5-59 Trophy contest has been reduced to four sections covering CW and 'Phone on 80 and 40 only. Full details of the Society's Awards and Contests are available from the Gen. Sec. for an SAE. During the last 12 months progress on the Awards Ladders has been good. 8 CW Certificates have been issued (including two to overseas members - ZL1AXM and K2JFJ) and two 150 stickers have been approved. The activity with this mode is most satisfactory. The VHF Ladder has produced two more Certificates, with G3YSK leading the field with 40 contacts. On the 'Any Mode' front 16 Class 1 Certificates have been issued of which 4 were to overseas members, and progress upwards has reached the 400 contact level. Finally the Special Award has been won

by a further 6 members as well as 3 bronze plaques and 1 silver. G3NVK again won the 5-59 Trophy, the 1973 Anniversary Contest was won by GW3ASW and the 1973 MOP Award went to G2KK. If submitting claims it would be a great help if members remembered to submit IN MEMBERSHIP NUMBER SEQUENCE. Thank you for your assistance and tolerance during the last 12 months.

THE QSL BUREAU MANAGERS REPORT.

The Chairman then asked for the QSL Bureau Managers Report. G3YSK stated that his report could only cover two-thirds of the year as he had 'inherited' the office from Dave, G3HSE, in the latter part of 1973. From time to time the question has been raised as to what extent do our members use the QSL Bureau. Therefore, at the outset, a log of mail received was kept in order to provide some statistics. During the period of 36 weeks covered I received a total of 7824 cards, which averages at 206 per week. This figure projected for a full year give a turnover approaching 11,000 QSL cards per annum. The log also showed that 267 different members were involved in either sending cards or pre-paid envelopes. Further sub-division showed that these included 9 SWLs, 11 DA/DL, 1 GD, 9 GI, 10 GM, 11 GW, 1 ON, 1 HB and 11 overseas call-signs. The latest membership list shows nearly 800 call-signs indicating that about 40% of these have used the QSL Bureau during my term. Despite a list published in 'Mercury' (to which the response was limited) I currently hold 1365 cards for 236 members with no collecting envelopes. It is intended to repeat the published list every six months. Those cards remaining from one period to the next will be disposed of or returned to sender if possible. Finally, I am in the process of listing envelopes held with insufficient postage on them.

CONFIRMATION OF COUNCIL.

The Chairman then asked for confirmation, or otherwise, that the present Council should continue.

Council to continue :	Proposed by : D. BARRY	G3ONU/076
	Seconded by : E. NEPEAN	G5YN/040
	Unanimous.	

ACCEPTANCE OF MINUTES OF PREVIOUS MEETING.

The Chairman now considered that the copy of the minutes of the 12th Annual General Meeting had now had time to circulate and called for their acceptance.

Minutes accepted :	Proposed by : F. HICKS-ARNOLD G6MB/601
	Seconded by : C. WITHALL G3XBU/194

Before moving onto further business, the Chairman stated that attempts were being made to help streamline the work of the General Secretary to reduce the spare-time workload. It was expected that effective changes would be forthcoming in the very near future. He also stated that a membership increase in the Society may well help to overcome the effects of inflation.

WRITTEN PROPOSITIONS.

The contents of a letter from G2HKU was then discussed. This suggested that the log of G4RS (with Home Office permission) could be passed around various members in order to activate G4RS on the CW mode. This was being done by The First-Class Operators Club to ensure that members could obtain the necessary CW contacts. After discussion in which the General Secretary stated that CW operators were few and far between at Blandford at the moment it was decided that attempts would be made to get G4RS on the CW bands more often. In this respect G8FG offered to travel to Blandford say once a month to operate G4RS on CW. This offer was accepted by the meeting and the Gen. Sec. stated that arrangements would be made for G8FG to draw the necessary keys, etc. It was felt that posting the G4RS log book to members would not be satisfactory as G4RS could not be operated on any mode whilst the log book was away from Blandford.

ANY OTHER BUSINESS.
The Chairman then called for any other business.

A vote of thanks was then proposed to the present Council.

Proposed by : E. NEPEAN G5YN/040
Seconded by : D. BARRY G3ONU/076
Unanimous .

G3NOF/827 then commented upon the discount facilities granted to RSARS members by Western Electronics. The General Secretary pointed out that Western Electronics letter HEP/MB dated 24th January 1974 stated that discount was 'subject to agreement' and members should write or phone their requirements and ask for RSARS discount. No fixed figure had been quoted by this Company. It was suggested that members dealing with Western Electronics should quote the above letter when writing or phoning.

In connection with the above comment, G2TT/291 commented upon the excellent service he had received from KW Communications.

G3ONU/076 spoke on 'Mercury' and its size and quantity of paper in view of continuing increased Membership. The Editor replied that although paper was short at the moment, he did not anticipate any major problems with 'Mercury' in view of the relatively small percentage increase in overall membership. He also stated that thought had been given to obtaining a smaller print typewriter in order to get more information per page. After discussion the meeting decided that this was not a worthwhile project.

Discussion then took place regarding the RSARS Membership List. The Gen. Sec. stated that it was hoped to produce a full list twice a year with amendment slips as necessary. The list would be as requested by members, i.e. an alpha-numerical list of call-signs with space for name and QSL information. J. WORRALL, G3XBA kindly offered to assist where possible and this offer was gratefully accepted by the meeting.

I. WHITWORTH, G3OFB/700 suggested that the RSARS Nets were the best form of Society advertising. The Gen. Sec. stated that of requests received for RSARS details, it would appear that most came about from potential members hearing the RSARS Nets and by members personal recommendation.

G4BIZ/152 A. PAXTON, asked about the number of serving members of the Society. The Gen. Sec. stated that it was not possible to give any accurate figures as many serving members did not use their rank and often had their mail, 'Mercury', etc., sent via a home address in view of Service moves
G2TT/291 A. BLOW, queried possible membership of the Society for past members of F.A.N.Y. whose membership had contained many good CW operators. The Gen. Sec. stated that there was no mention in the RSARS rules which applied directly to F.A.N.Y. but as membership of, S.O.E., S.C.U. and R.S.S, entitled one to RSARS membership no reason could be seen why membership of F.A.N.Y. should not make one eligible. The Chairman then spoke on this subject and it was agreed that membership would be available to past members of F.A.N.Y.

G3ONU/076 asked if the Society required more members in view of the extra work-load involved. The Chairman commented that extra members should be encouraged as he had mentioned before. The Gen. Sec. stated that with computerisation of membership lists, extra time being made available, etc., extra membership would not impose too great an extra load. The Chairman went on to say that some form of advertising would not be amiss and the Gen. Sec. agreed to try one advertisement in a national magazine and study the results.

G4AKQ/366 M. BERNARD, commented on the use by RSARS of a suitable caravan at various Rallies, etc. The Gen. Sec. pointed out that this had been considered previously on a purely Society basis and the cost of a second-hand motorised caravan was prohibitive (£900 - £1200 as quoted). This, coupled with the problems relating to drivers, insurance etc., has caused the matter to be dropped. Nevertheless the idea was a good one and would allow the Society as well as the Corps and the Army to be represented at events where there was a large technical recruiting potential. G3XBA/225 stated that RRIT caravans (Regimental Recruiting and Information Team) would not have room to permit the installation of an amateur radio station. It was then suggested that a service vehicle, such as a Trailer, Office, 4-wheeled could be made available to the Society through the School of Signals and fitted as a mobile amateur radio demonstration station and recruiting information vehicle. It was decided that investigation into these possibilities should take place. C. MOUNTJOY, GW3ASW/559 mentioned the possibility of RSARS members operating stations at various Rallies as RSARS participation. It was thought that RSARS members 'local' to the bigger Rallies may like to consider some action along these lines. All assistance possible would be given by RSARS HQ.

G2DX/893 K. ALFORD commented that he would prefer to see British equipment at such displays and Rallies rather than the foreign equipment one sees so much of.

G3NOF/827 D. MACLEAN, asked about the use of MoD equipment at Rallies, etc. The Chairman stated that generally speaking help from TAVR Units at such events is usually forthcoming and speaking in a TAVR capacity he could assure members that he would help in this matter wherever possible. G4BKU/259 R. FOOT, asked about the use of such TAVR equipment in conjunction with amateur activities. The Chairman remarked that TAVR participation could often be arranged as an Exercise. This could be beneficial both to the Radio Amateurs and the TAVR. Contact should be made with the local TAVR Unit in the first instance and details sent to RSARS HQ in all instances.

ADOPTION OF ACCOUNTS.

The Balance Sheet having circulated to all present the Chairman called for the adoption of the accounts. G3RYF/599 A. RIX queried the method of constructing the Balance Sheet. The General Secretary pointed out that the accounts of the Society were prepared in accordance with "SERVICE FUNDS, ACCOUNTING AND AUDIT PROCEDURES" (W.O. Code No. 60450) which may make them appear a little different than those accounts normally seen in G3RYF's civilian job. The Chairman then asked that the accounts be adopted.

That the accounts be adopted :

Proposed : E. NEPEAN G5YN/040
Seconded : C. STEDMAN G3XWS/747

PRESENTATION OF TROPHIES.

The Chairman then said it gave him pleasure to present the following Trophies.

To G3LNS, G. BEASLEY (In absentia)- The plaque for the leading RSARS station in the RSGB Anniversary Contest - Phone Section.

To G3LNS, G. BEASLEY (In absentia)- The plaque for the leading RSARS station in the RSGB Anniversary Contest - CW Section.

To G3NVK, R. WINTERS, - The 5-59 Trophy complete with personal miniature as overall winner in the RSARS 5-59 Contest.

To G3XTL, C. BARLOW (In absentia) - The GW2OP Trophy for his services to RSARS in running the CW Nets.

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ROYAL SIGNALS AMATEUR RADIO SOCIETY
STATEMENT OF ACCOUNTS 30 JUNE 1974.

BALANCE SHEET AS AT:

30 JUNE 1973 £		30 JUNE 1974 £
7.13	CASH IN HAND	15.46
327.67	CASH AT BANK	413.88
701.86	DEPOSIT ACCOUNT	794.37
1103.41	PROPERTY	1317.76
70.06	STOCK	267.51
2210.13	TOTAL ASSETS	2808.98

GENERAL PURPOSE FUND

EXPENDITURE/LOSSES		INCOME/GAINS	
PROPERTY PURCHASES	325.23	PROFIT ON SALES	35.42
PROPERTY DEPRECIATION	110.88	SALES	406.61
HQ MAINTENANCE	37.88	STOCK	267.51
SOCIETY MAINTENANCE	88.16	SUBSCRIPTIONS	553.89
STOCK ACCOUNT	638.40	DONATIONS	31.64
AWARDS	55.94	CORPS GRANT	230.00
SPECIAL EVENTS	10.45	INTEREST ON DEPOSIT A/C	92.51
"MERCURY"	61.15	NEW PROPERTY TO ACCOUNT	325.23
DONATION R.A.I.B.C.	5.00		
SUNDRIES	11.17		
TOTALS	£1344.26		£1943.11
ADD EXCESS OF INCOME OVER EXPENDITURE	598.85		
	£1943.11		£1943.11

BALANCE AS PER LAST BALANCE SHEET	£2210.13
ADD EXCESS OF INCOME OVER EXPENDITURE	£. 598.85
TOTAL ASSETS AS AT 30 JUNE 1974	£2808.98

PROFIT ON TRADING ACCOUNT: 1973 - 9.4%
1974 - 8.85%

CERTIFIED THAT THE ABOVE ACCOUNT IS A TRUE EXTRACT FROM THE AUDITED ACCOUNTS OF THE ROYAL SIGNALS AMATEUR RADIO SOCIETY.
SIGNED :-

G Tidiswell TREASURER. CALL-SIGN — RSARS 149

AUDITOR. CALL-SIGN G4DBF RSARS 437

AUDITOR. CALL-SIGN G3VYZ RSARS 173

DATED THIS 16 DAY OF JULY NINETEEN HUNDRED AND SEVENTY-FOUR

FLASH

SATELLITE PREDICTIONS

The following predictions have been received from The Appleton Laboratory and are reproduced here by kind permission of the Director.

Satellite No.	Name	Frequency MHz Tracking	Telemetry (1)	Telemetry (2)	Rev Change (Mins)	Daily Change (Mins)
68 114A	ESSA 8	136·77	136·77	137·62	115	+50
69 9A	ISIS A	136·08	136·58	136·41	128	–28
71 18A	CHINA 2		19·995		102	–16
71 24A	ISIS B	136·41	136·08	136·59	114	+38
71 58A	SOL-RAD 10	137·71	137·71	136·38	95	–18
72 58A	ERTS A	137·86	2229·50	2265·50	103	+6
72 82A	NOAA A	136·77	136·77	1697·50	115	+54
72 82B	OSCAR 6	29·45 - 29·55	145·9 - 146·0		115	+54
72 97A	NIMBUS 5	136·50	136·50	1702·76	107	–44
73 86A	NOAA 3	136·77	136·77	137·41	116	–45

The following table gives time of approach nearest to 51°N, 2°E, the frequencies used in MHz and the Revolution and Daily change details, The Rev, change is the correction to be applied in order to find the time of the next pass, and the Daily change is the correction, in Minutes, to be applied each day to find the time of corresponding passes on following days. To find the time on previous days the correction should be applied using the opposite sign. Since the predictions are issued at weekly intervals, no more than three days corrections need be applied to any satellite.

Satellite	Internat. Desig.	Dir.	4 Sep.	11 Sep.	18 Sep.	25 Sep.	2 Oct.
ESSA 8	68 114A	SN	2118	2132	1953	2006	2019
		NS	1015	1029	1042	1055	1109
ISIS A	69 9A	SN	0458	0555	0443	0332	0429
		NS	1808	1657	1547	1646	1536
CHINA 2	71 18A	SN	0502	0453	0257	0059	2242
		NS	1351	1158	1002	0949	0749
ISIS B	71 24A	SN	0744	0628	0705	0548	0431
		NS	1931	1815	1851	1734	1617
SOLRAD 10	71 58A	EQ	0428	0221	2355	2008	1759
		EQ	0607	0042	0014	2147	1620
ERTS A	72 58A	SN	2045	2124	2021	2100	1958
		NS	1047	0944	1023	0920	1000
NOAA 2	72 82A	SN	1850	1929	2009	1856	1936
		NS	0937	1017	0904	0944	1024
OSCAR 6	72 82B	SN	1855	1933	2021	1858	1936
		NS	1943	1021	0907	0946	1024
NIMBUS 5	72 97A	SN	0956	0959	1003	1007	1010
		NS	0120	0124	0127	2301	2304
NOAA 3	73 86A	SN	1835	1902	1930	1957	1831
		NS	0917	0945	1012	0846	0913

SN = Northbound, NS = Southbound, EQ = West to East. All times GMT.

More detailed predictions for OSCAR 6 (Daily rev. numbers, Longitude crossing points, Times of crossing, corrections for other latitudes, Height, Sunlight/Shadow operation, etc.) available from HQ for SAE.

'FLASH' SHEET ISSUED WITH SUMMER 1974 'MERCURY'.

DARC DX-AWARDS.

For those members interested in obtaining Awards, the following details, recently received from DARC, of some European Awards are included.

DARC General Rules.

1. DARC's official DX-Awards EUROPA DIPLOM, WAE and EU-DX-D can be obtained by licensed radio amateurs and SWLs all over the world, The specific rules of these awards are given below.

2. All contacts must be made from the same country. Awards for Club stations will be issued to the Club and not to an individual operator.

3. The DARC-DX-Awards are based on the "European Countries List".

4. All amateur bands for which the applicant holds a valid license may be used.

5. A set of application forms for DARC-DX-Awards is available for a large size SAE plus 3 IRCs at the address below. The use of these official forms is obligatory.

6. QSL cards for all contacts claimed must be submitted with the application. All cards must be presented in their original form. Any altering or forging will result in disqualification.

7. The service charge of 10 IRCs or equivalent per award or 3 IRCs or equivalent per endorsement covers the mailing of the award and the return of cards by registered mail. All applications should be sent to :-

DARC-DX-AWRDS, P.O. BOX 262, D 895 KAUFBEUREN, GERMANY (FRG).

8. New certificate holders names will be published in "CQ-DL", the Club magazine of DARC.

9. The decisions of the DARC-DX-COMMITTEE are final.

EUROPEAN COUNTRIES LIST.

C31 - CT1 - CT2 - DL - DM - EA - EA6 - EI - F - FC - G - GC (Guernsey) - GC (Jersey) - GD - GI - GM - GM (Shetlands) - GW - HA - HB9 - HB0- HV - I - IS - IT - JW (Bear Island) - JW - JX - LA - LX - LZ - M1 - OE - OH - OH0 - OJ0 -OK - ON - OY - OZ - PA - SM - SP - SV - SV (Crete) - SV (Rhodes) - SV (Athos) TA1 - TF - UA1 3 4 6 - UA (Franz Josef Land) - UA2 - UB5 - UC2 - UN1 - U05 - UP2 - UQ2 - UR2 - YO - YU - ZA - ZB2 - 3A - 4Ul - 9H1.

1. EUROPA DIPLOM.

1.1 The ED is awarded for working/hearing amateurs in European countries.

1.2 Applicants must prove a total score of at least 100 points by submitting QSLs. The score is computed as follows:

1 .2.1 Contacts :

The basic idea of the award is to work as many European countries as possible on different bands in different calendar years. There are no restrictions as to modes of operation or specific amateur bands.

1.2.2 Multiplier.

Confirmed contacts of the current and preceding year count 1 point (multiplier 1.0). Older confirmations are devalued by a quarter point per year (multiplier 0·75, 0·5 or 0·25). QSLs dating back more than four years have lost their value for the certificate.

1.2.3 Annual score:

The sum of all confirmed European countries on different bands in a calendar year multiplied by the respective multiplier produces the annual score.

1.2.4 Total Score:

The total score is the rounded sum of all the annual scores.

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1.2.5. Example:

Date of application: June 17 1972.

	1972	1971	1970	1969	1968	1967	
1.2.1 Confirmed QSOs	8	48	36	41	21	7	
1.2.2 Multiplier	1·0	1·0	0·75	0·5	0·25	0·0	
1.2.3 Annual Score	8	48	27	20.5	5.25	0	
1.2.4 Total Score	8	48	27	20·5	5·25		= 109

1.3 EUROPEAN DIPLOM HONOR ROLL.

1.3.1 Each certificate holder with an actual score of at least 100 points will be listed in the ED Honor Roll. The ED-HR arranged according to the scores will be published in DARCs "CQ-DL" twice a year. Members of the Honor Roll are awarded an additional sticker.

1.3.2 To improve the score suitable QSL cards may be turned in twice a year. Make sure that the Awards Manager receives them before the end of June or December to be considered in the subsequent publication.

2. WAE.

2.1 WAE stands for "WORKED ALL EUROPE", a certificate awarded to amateur radio stations for contacts with almost all European countries and islands on different amateur bands. The WAE is also available to SWLs. The rules apply accordingly.

2.2 The Award is issued in three classes : WAE III, WAE II and WAE I. The classes are based on the number of European countries worked and a score of country points added up from the different bands (sec 2-3). Applicants for the WAE III have to submit QSL cards proving two-way contacts with at least 40 different countries shown on the "European Countries List". At the same time the cards must prove a minimum of 100 country points. WAE II requires 50 countries with a total of at least 150 points. For WAE I 55 countries and 175 points are needed. After receiving the basic award only the necessary additional confirmations are required for a higher class.

2.3 Each European country counts ONE country point on each of the six HF bands (1·8 MHz, 3·5 MHz, 7 MHz, 14 MHz, 21 MHz and 28 MHz). Only four bands per country, however, are eligible for the points score. FIVE points per country can be achieved by working the same station on five bands. Two additional points per country can be obtained by a contact on ONE of the VHF/UHF bands. Stations outside Europe may claim TWO points for each European country on 1·8 and 3·5 MHz.

2.4 The WAE is issued in two divisions :

2-4.1 Exclusively telegraphy, i.e. two-way CW contacts.

2-4.2 Exclusively telephony, i.e. two-way AM/FM/SSB contacts.

2.5 Holders of WAE 1 get a special WAE-badge.

3. EU-DX-D.

3.1 EU-DX-D is an award that may be claimed annually. The first year of issue is 1964.

3.2 The EU-DX-D is issued in the following classes :
Telegraphy - Telephony - Mixed Modes. Telephony may be AM/FM/ SSB and for 'Mixed' modes at least 30% of the contacts must be made in a different mode.

3.3. The basic idea of the award is a proportional combination of European and Non-European contacts worked in the course of one calendar year.

3.3.1 A minimum of 50 points is required for the EU-DX-D. 20 points must be obtained by contacts with European countries and 30 points by contacts with countries outside Europe. All these contacts have to be made within ONE calendar year.

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3.3.2 All amateur bands (HF and VHF/UHF) may be used. Each different country counts ONE point (on 1·8 MHz and 3·5 MHz TWO points). A country can only be counted ONCE regardless of the bands used. The countries are determined by the "European Countries List" and ARRL's "DXCC Countries List"

3.3.3 Stickers are available for each additional block of 4 European plus 6 non-European countries in the same calendar year.

3.4 The EU-DX-D may be claimed every year anew. Each years score may be added to obtain the EU-DX-D 500 and EU-DX-D 1000, The DARC Issues a seal to merit for 500 points and a trophy for 1000 points. There is no time limit as to the number of years.

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NON-MEMBERS MAIL.

A letter from WN2TSD, Louis Kruh" 17 Alfred Road West, Merrick, New York, 11566, U.S.A. reads "… Although I was not in the Signal Corps I am very much interested in cryptography. I collect obsolete cipher devices and cryptologic material of all types. I would very much like to correspond with anyone who might be able to help me to add to my collection". A letter has been sent to Louis saying that no such material or information is available through RSARS - Ed.

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CAN YOU HELP?

Members will already have heard of the death of Jack Drudge-Coates, G2DC. Evan, G5YN, has been helping Mrs Drudge-Coates with the disposal of G2DC's station equipment. Evan mentions a recent letter received from the XYL of G2DC saying "… Well, although the den is practically clear, I am still at a loss to know what to do with all the transformers, from small to very large, 5 speakers, Top Band Receiver Convertor, the latter in the garage on the bench with the Linear Amplifier c/w PSU. The last two items are marked £5 and £15 respectively. There are also other small boxes which mean something I suppose but not to me. Have you got any suggestions? There is also a rotary Transformer HT 31 Watt, input 11·5 volts, output 250 volts @ 125 mAs. The Linear Amplifier has a 4CX250B valve in it. There is also a box of valves but I don't know if they were 'throw-outs' or not..." If any member can help Mrs Drudge-Coates with disposal please contact her at :

"MORSEDEN", FOREST LANE, HIGHTOWN HILL, RINGWOOD, HANTS, BH24 3HF.

The telephone number is RINGWOOD 3962.

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ANDORRA TAPE/SLIDE LECTURE.

A letter from Chris Eley, G8DNF/A, 6 Barncliffe Drive, Upper Fulwood, SHEFFIELD, South Yorkshire, S10 4DE, reminds us that the Tape/Slide lecture on the recent Andorra DX-pedition is available to RSARS groups. This lecture runs approx. 2½ - 3 hours and Roger G4BIA and/or Chris G8DNF are prepared to deliver the lecture with distance no object providing they can cover expenses. For the smaller Club that may not be able to afford to have Roger or Chris visit a taped version is available. Contact Chris direct at the above address.

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'FLASH' SHEET ISSUED WITH SUMMER 1974 'MERCURY'

KEEPING TABS ON THOSE RSARS CONTACTS!

A letter from Jim, GM3HGA, to acknowledge receipt of his Special Award plaque, tells how he copes with checking his RSARS contacts.

"...I have tried several ways of keeping a check on members worked, QSLd, etc. My latest is a wall-chart 30" X 24" with sufficient space for 1,200 membership numbers and about 60 AFF numbers. Each members space measures 1" X 0·5" and can accommodate RSARS number, Call-sign and space for two stickers (here Jim attaches a black circular disc for SSB and an orange disc for CW together with a yellow disc for 'Overseas'. These are approx. 5 mm in diameter and obtainable from most stationery stores - Ed.). A contact is indicated by a dot made with a felt-tipped pen of the relevant colour, this being overlaid by the sticker when a QSL is received. I keep a separate book to record membership details in greater detail. One side of each page only is used. Pages are in membership number order and give details such as call-sign, QTH, name, dates of initial contact on CW and/or SSB. I also indicate the date QSLs were sent to and received from the RSARS Bureau, Direct, etc. In addition there is a bit of space for additional cross-referencing to articles in 'Mercury', Letters, Flash Sheets, etc. Other members may have different systems and it would be interesting to hear about them in "Mercury". There is one additional Op-Aid I employ - all members contacted in a given month are recorded on a card (about the size of a QSL). As QSLs are received the call-signs are obliterated with a felt-tipped pen. A quick shuffle of the cards shows up outstanding cards very quickly. I usually send out repeat cards after 6 months have elapsed since the contact...". It would be interesting to hear of any other systems used by members. From listening on the Nets it is apparent that some members have highly efficient systems, some mediocre ones and some virtually none at all!! HQ are thinking about producing file cards similar to those previously sold by CHC to record details of contacts, QSLing, etc. These would take the following (approx.) form: -

CALL-SIGN								
NAME				QTH				
RSARS No.		WAB		DOK				
FIRST CONTACT		QSL SENT			RECD			
DATE	TIME	FREQ	MODE	RPT OUT	RPT IN			
OTHER DETAILS :								

The reverse would be divided vertically with one half for recording subsequent contacts and the other half clear for individual use. The card would be a standard 5" X 3" for which filing cabinets are available (see 'Exchange and Mart'). Prices would depend upon quantities ordered by the Society. Members views would be welcomed.

'FLASH' SHEET ISSUED WITH SUMMER 1974 'MERCURY'

THE RSARS CW NETS.

Part of a long letter from Chas, G3XTL/G3SIG makes the following comments : "...The G3SIG Net is bringing in up to a dozen members each Wednesday evening and now that conditions have improved the operating standards have likewise got much better. The use of 'Q' and 'Z' Codes is still a point of conversation on the CW Net and perhaps when the paper situation allows you could conduct a poll in 'Mercury' to find out if the CW enthusiasts see a need for further procedure signals when working a Net such as with G3SIG. Please bear in mind what has been said on this matter about regimentation etc., as well as the reply from The (then) Ministry of Posts and Telecommunications and what is allowed. It would seem that there were some strong voices shouting down any form of procedure but these people are seldom heard on the CW Nets and perhaps they do not appreciate our needs. As with other forms of communication we need very little in the way of discipline until we meet with adverse conditions, but I feel that some Net members would like to see the use of a few of the 'Z' Codes (not normally heard on our bands) during difficult Net working on 3·575 MHz. I again say that any changes made should be towards making the Net more efficient and economical in time. If we agree on the aims of the Net we should look towards a higher QSO rate and the satisfaction of more members. Most of the regulars are very tolerant indeed but I did hear a member saying "the Net is a couple of KHz higher up but I get fed up with waiting for my turn" just as we were ending the other night. The old idea of splitting a large CW Net to allow several QSOs to continue at the same time may well be a worthwhile trial but this would require some direction and perhaps the extra procedure signals to save time.

The standard of operating has certainly improved and perhaps the only niggle I would say is that some are still apt to repeat things over and over again, even the most obvious things are sent several times and then often confirmed by several more repeats from the other end...".

If you are a CW type and have any suggestions on the points raised by Chas, please send them along to HQ - Ed.

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MAIL FROM AFAR. letter dated 4 March 1974 has been received from Harry, VQ9HCS, one of the more remote members on Astove Island in the Indian ocean. Harry writes "...Although I was able to find., eventually, most of the extra gear I needed, I had to shop around (before leaving UK - Ed.) for just about every item. The gears arrival here on Astove was a bit of an anti-climax, four sections were missing from the beam, there was no power lead. with the DC PSU, and the generator had not even been despatched from the UK being held back for one item of the many spares ordered for it. This left me with the two island generators which are so old I almost had to supply them with crutches, two Hondas which had only been used for battery charging and which very quickly gave up the ghost, before which, their voltage regulation was so bad that with the KW nobody knew which band to look for my reply on. It was that bad that comments like "I don't hear him" by one voice would prompt another to say "He's 2 KHz down when he returns", made anything other than local contacts a waste of time. So, in many, ways, it was a good thing when they both gave up the struggle and, I think with some relief on their part, died on me. This left me with the DC PSU which, with some luck and. an unexpected ship calling, I managed to get fixed up with plugs on a piece of my rotator lead. So I used to set up a table alongside the tractor and keep a few skeds, hoping that it wouldn't rain as I had not enough heavy duty cable to take the battery leads into the house and not using it enough to make the rigging of a shelter worth while. So, although I did manage to make contact with the Commonwealth Net, I heard nothing on the RSARS 14·280 MHz frequency - which is just as well, perhaps, with my signal!.

I hope the genny will be on this boat and, if it is, I should get cracking with a decent signal and, perhaps, the Linear, but I have some doubts as you will see later in the letter. Still I am hoping for the best soon, I have the beam sections replaced, thanks to some kind person who left a set of tent poles here without the tent and that's now up at 40 feet with rotator. It could have been up at 60

feet if I had had enough sensible labour here to help put it up. As it was they let it drag through a tree in getting it up to 40 feet (I being on the tractor pulling it up). They should have been guiding it but weren't, so it ended up a little bent before I had even used it, and I haven't the heart, or courage, to take it down again to straighten it. The two Hondas are going off for repair to Mahe and with luck, will be back on the Government ship coming round for the voting, also the DC PSU which also decided to give up the unequal struggle, due, I think, to overheating problems. They don't inspire me with much confidence for continuous operation in this climate without some forced air cooling... ...but I have no cards of my own here and ships are so few and far between that I discourage direct QSLing... ...I have the well-known KW2000B well known also for its instability without a well regulated power supply. It was chosen because I thought that repair of valve-type equipment would he easier out here than more modern transistor equipment. I understand there is a modification kit (not available when I was last in the UK) to cure this fault - Will it, in fact??. A new 2000E just in to Mahe and on a large genny still has this FM. I had it also on Aldabra with a 7·5 KVA genny and the coming 1·8 KVA genny is going to be running pretty close to maximum load if I use the Linear. The advised solution by most hams is "Change the equipment" but soaring costs prohibit and I would like to stay with British equipment, show the flag and all that. I received a lot of help from KW's Service Department but they didn't seem too interested otherwise. This surprised me somewhat as whether they like it or not their equipment is very much on show from here and if I have to modify everything to get it to produce a good signal it might well be cheaper to completely change equipments...".
If G8KW or KW Communications would like to take this up with Harry, or any member has any suggestions, please write to Harry at :
HARRY STICKLEY, VQ9HCS, ASTOVE ISLAND, C/O K.S.A., P.O. BOX 84831, MOMBASA, KENYA.

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MORE BITS AND PIECES.

Bill, G3SMG, writes to say that he lost the XYL back in March. Our condolences, Bill. He used to he a Commercial Artist with Iliffes. Bill later became a Draughtsman with 1st Air Formation Signals at Matruh and wonders if any members know what happened to a Captain Thompson of that Unit. G3SMG has a daily sked with WA1KYW at 1045 GMT on 14250/60. He invites RSARS members to join in. *** Gordon, G3ZFZ has returned to Kirkby Fleetham and expects to be there for some time. *** Ron Truen, RSARS 1004 is now ISWL G-14801 also *** Len Crooks, RSARS 830, is looking for a Morse course on records or tapes. Anyone help? *** RSARS 637, Cpl B.F. Swindells is now in GI *** G3LLJ, RSARS 250, is now in Johannesburg S.A. Write to P.O. Box 469.

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A.G.M. PHOTOGRAPHS

ENCLOSED WITH THIS 'MERCURY' ARE PROOFS OF THE PHOTOS TAKEN AT THE 1974 A.G.M. THESE ARE AVAILABLE TO MEMBERS IN TWO SIZES - 6½ X 4¾ INCHES AT 35 PENCE PLUS SAE AND 8½ X 6½INCHES AT 45 PENCE PLUS SAE. WE ARE INDEBTED TO JIM, G4CFN, WHO DONATED TO THE SOCIETY THE COST OF PRODUCING THESE PROOFS.
ORDERS TO GEN. SEC. AT H.Q

'FLASH' SHEET ISSUED WITH SUMMER 1974 'MERCURY'

NEW MEMBERS.

We welcome the following new members to RSARS.

RSARS 1001 - ERIC W. DERRINGTON, G3RLP, 42 HIGHER WARBOROUGH ROAD, GALMPTON, BRIXHAM, DEVON, TQ5 0PF. Eric joined the Territorial Army about Easter 1939 and became a member of 48th Divisional Signals (Birmingham). He went to France in January 1940 and served with 143 and 144 Infantry Brigades. May 1940 saw his rapid exit from the Continent via Dunkirk. After a spell with 38th Welsh Division he was posted to The Guards Armoured Division as an Operator Wireless and Line BII. After service in France (again), Holland and Germany he was demobbed in 1946.

RSARS 1002 - CECIL R. PLANT, G5CP THE COTTAGE, MILLTOWN, ASHOVER, Nr. CHESTERFIELD, DERBYSHIRE, S45 0EZ. If you were around on the bands between 1927 and 1930, you may well have met Cecil as XNU7EFF. He is a member of The Institute of Electronics, The RSGB, RAFARS, RNARS and an Associate of the I.E.E. A check of 'The History of C.R. Plant' will show how he qualifies for all Service Societies. "Served 1923/29 as a Marine Radio Operator with Alfred Holt Ltd (Blue Funnel Line). On the last voyage to Australia via the Cape (as Senior Operator) we were sent by the Admiralty for one month searching uninhabited islands to the South from Capetown to look for possible survivors from the ill-fated Danish Training Ship "Kobenhavn". We found none. We were in ice fields part of the trip but finally came North to Kerguelen and then on to Freemantle before continuing our normal voyage, Joined the RAF Civilian Wireless Reserve in 1938 and appointed Pilot Officer in February 1939 and Flying Officer on outbreak of hostilities. Had a short period of service as Duty Signal Officer, Bomber Command HQ at Iver, Bucks., before being told to resume my civilian employment. My Company had many large chemical contracts and I was their Senior Electrical Engineer - hence the RAF released me. I then offered my services to R.S.S. at Preston, Lancashire and was a Section Leader for the War period under Captain Stanfield. I retired from the National Coal Board 1st February 1969 where I had been Divisional Electrical Engineer in their Coal Products Division for 15 years. Now live in a 300 year old stone cottage at the bottom of the Amber Valley very beautiful and relaxing!".

RSARS 1003 - KELVIN SMITH, G3ZSN, 37 ELLESMERE ROAD, STOCKTON HEATH, WARRINGTON, CHESHIRE. Details short and sweet but to the point. Kelvin states "Served as a Wireless Operator in Royal Engineers 1916 - 1920 (prior to formation of Royal Signals)". Welcome OT.

RSARS 1004 - RONALD C. TRUEN. Details withheld at member's request.

RSARS 1005 - ROY F. WILKINS, G2ALM, 36 OFFINGTON GARDENS, WORTHING, SUSSEX, BN14 9AU. Roy served in Royal Signals throughout World War II although he does not give too much information on units, etc. He now has a Hi-Fi and TV business in Worthing.

RSARS 1006 - A.R.D. MURRAY, 11 ARDRESS AVENUE, NORTHWOOD, MIDDLESEX, HA6 3DS. 1006 bumped into the Society (or vice versa) at the Aldershot Army Display. Unfortunately, he gives us no Christian names, but 'Welcome' just the same. He served in Royal Signals from 1940 until medically discharged in 1944. During this time he saw service as an Operator Wireless and Line later being a Lieutenant with the Wireless Sections of 36 (W) Divisional Signals (wonder if you ever met G3RLP/RSARS 1001?) later serving with 6th Armoured Divisional Signals.

(All the room we have at the moment - lots more details to follow. Ed.)

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ROYAL SIGNALS AMATEUR RADIO SOCIETY.
GREAT CIRCLE BEARING AND DISTANCE CHART.

The R.S.A.R.S Great Circle Bearing and Distance Chart has been designed as a computer program and gives the bearing to and from (with respect to TRUE NORTH) a given geographical position (the Home QTH) and approximately 1,500 other locations throughout the world. Great Circle (Short Path) distances are given in Statute Miles, Nautical Miles and Kilometres as well as the Latitude and Longitude of the distant location. Locations have been chosen as follows ;-

a) Towns, Cities, etc., of 50,000 inhabitants and over.
b) Capitals of each U.S. State.
c) Largest Town/City in each U.S. State.
d) Capitals of each Canadian Province.
e) Largest Town/City in each Canadian Province.
f) Smaller places of amateur radio interest.

Each Chart is prepared for a specific location, and it is important that the Home QTH location is accurately quoted in Latitude and Longitude (Degrees and minutes only) and NOT as a map reference. Locations in the following countries are included in the chart.

AFGHANISTAN ALASKA ALBANIA ALGERIA ANDORRA ANGOLA ANTIGUA ARGENTINA AUSTRALIA AUSTRIA BAHAMAS BAHRAIN BALEARIC ISLANDS BANGLADESH BARBADOS BELGIUM BHUTAN BOLIVIA BRAZIL BRITISH HONDURAS BRUNEI BULGARIA BURMA BURUNDI CAMBODIA CAMEROON CANADA CANAL ZONE CANARY ISLANDS CENTRAL AFRICAN REPUBLIC CHAD CHILE CHINA COLOMBIA CONGO COSTA RICA CRETE CUBA CYPRUS CZECHOSLOVAKIA DAHOMEY DENMARK DOMINICAN REPUBLIC EASTERN GERMANY ECUADOR EGYPT EIRE EL SALVADOR ENGLAND ETHIOPA FINLAND FRANCE FRENCH GUINEA FRENCH SOMALILAND GABON GAMBIA GHANA GIBRALTAR GREECE GREENLAND GUATEMALA GUINEA GUYANA HAWAII HONDURAS HONG KONG HUNGARY ICELAND INDIA INDONESIA IRAN IRAQ ISRAEL ITALY IVORY COAST JAMAICA JAPAN JAVA JORDAN KASHMIR KENYA KUWAIT LAOS LEBANON LEICHTENSTEIN LESOTHO LIBERIA LIBYA LUXEMBOURG MALAGASY REPUBLIC MALAWI MALAYA MALI MALTA MARTINIQUE MAURITANIA MEXICO MONACO MONGOLIA MOROCCO MOZAMBIQUE MUSCAT NEPAL NETHERLANDS NEW ZEALAND NICARAGUA NIGER NIGERIA NORTH KOREA NORTH VIETNAM NORTHERN IRELAND NORWAY PAKISTAN PANAMA PARAGUAY PERU PUERTO RICO PHILLIPINES POLAND PORTUGAL RHODESIA ROMANIA RWANDA SABAH SAN MARINO SARAWAK SARDINIA SAUDI ARABIA SCOTLAND SENAGAL SICILY SIERRA LEONE SIKKIM SINGAPORE SOMALIA SOUTH AFRICA SOUTH ARABIA SOUTH KOREA SOUTH VIETNAM SPAIN SRI LANKA SUDAN SUMATRA SWITZERLAND SYRIA TAHITI TAIWAN TANZANIA THAILAND TIBET TOGO TRINIDAD TUNISIA TURKEY UGANDA UNITED STATES UPPER VOLTA URUGUAY U.S.S.R. VENEZUALA WALES WEST GERMANY WESTERN SAMOA YEMEN YUGOSLAVIA ZAIRE ZAMBIA.....

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NEW STORES.

TRIO pocket ball pens. These are triangular in shape., blue and white plastic with chrome pocket clip and retractable refill. Engraved "ROYAL SIGNALS AMATEUR RADIO SOCIETY" in gold letters. Blue ink only. Ideal gift or addition to the shack (being triangular they don't roll off the table!!)

RSARS Key Fobs. Plastic fobs with strong metal key ring attached. Fob stamped with "ROYAL SIGNALS AMATEUR RADIO SOCIETY" and RSARS badge in gold.

For the VHF member. A special computer print-out of all frequencies from 144·000 to 146·000 MHz in 0·001 MHz steps showing frequency divided by 2, 4, 8, 16 and 18. i.e.

145·5480 72·7740 36·3870 18·1935 12·1290 9·0968 8·0860

Printed as required. Further information from General Secretary.

Don't forget the R.S.A.R.S. Log Books. 40 pages, 1,000 entries, manilla covers, with special column for RSARS Number, etc.

All stores available from HQ. It helps to use an order form but orders will be accepted by letter, post-card, etc.

LATE NEWS - STOP PRESS - ETC.

KEN ELLIS, G5KW/RSARS 0099 IS REPORTED TO BE IN THE LAND OF SAND AND SUN AGAIN AND OPERATIONAL AS HZ1KE AROUND 21·300 + OR – . NO TIMES GIVEN.

G3TDW IS LOOKING FOR OLD BUDDIES FROM 23RD ARMOURED BRIGADE OR 10TH ARMOURED DIV. SIGNALS. DROP A LINE TO CAPTAIN (RTD) W.G. WESTERN, 72 BEDFORD ROAD, SANDY, BEDS.

THE SOCIETY HAS RECENTLY ACQUIRED ABOUT 90 RECEIVE ONLY CREED PRINTERS, TYPE 75R MK4. THESE HAVE BEEN IN STORE AFTER BEING TAKEN OFF NEWS AGENCY CIRCUITS AND HAVE BEEN RATHER LIBERALLY OILED. HOWEVER, TWO SELECTED AT RANDOM AND CLEANED UP HAVE PRODUCED GOOD COPY ON A TELEPRINTER TEST SET. MOTORS ARE FOR 230 VOLTS AC AND PAPER FEED IS OF THE FRICTION TYPE. THESE ARE AVAILABLE TO MEMBERS ON A FIRST COME FIRST SERVED BASIS AT £5 FOR TWO. NO GUARENTEES CAN BE GIVEN WITH THIS EQUIPMENT AND, AT PRESENT, MEMBERS SHOULD ARRANGE COLLECTION WHERE POSSIBLE. THESE MACHINES ARE APPROX. 15" X 12" X 11" AND HAVE NO COVERS. ANY MEMBERS WHO CAN FORWARD A SUITABLE PACKING CRATE TO CONTAIN TWO MACHINES WILL HAVE THEM DESPATCHED ON RECEIPT OF CRATE.

NOTE - MEMBERS ARE EXPECTED TO PAY CARRIAGE! MACHINES WEIGH APPROX. 40LBS EACH

BILL, UNTIL NOW G4CKP, HAS MOVED 'OVER THE BORDER' AND IS NOW GM4CKP. HIS NEW QTH IS CAPT. (RTD) W.M.C. MACDONALD MC, "TIGH-NA-BRUAICH", 23 GLENFIELD, CARNOCK, DUNFERMLINE, FIFE, KY12 9JW, SCOTLAND. BILL HAS NOT YET MANAGED TO GET THE ANTENNA UP BUT SHOULD DO SO IN THE NEXT TWO OR THREE WEEKS. HE WILL BE JOINING THE NETS AS SOON AS POSSIBLE AND SENDS REGARDS TO ALL, INCLUDING NET CONTROL, GW3ASW, AND APOLOGISES FOR HIS ABSENCE FROM PLACE ON PARADE!

JACK, K2JFJ, WRITES FROM BUTLER NEW JERSEY "…..I'VE BEEN WORKING QUITE A FEW OF THE RSARS FELLOWS LATELY (ALL ON 20 METRES). COME THIS AUTUMN AND WINTER I'LL TRY 80 METRES SINCE I'M AWARE THERE IS QUITE A BIT OF SOCIETY ACTIVITY ON THAT BAND. RIGHT NOW THE STATIC LEVEL IS TOO HIGH FOR ANY REASONABLE AMOUNT OF DX ON THE LOWER FREQUENCIES…..". ANY MEMBER WHO WOULD LIKE TO ARRANGE 80 METRE SKEDS WITH JACK SHOULD WRITE : J.M. JANICKE, K2JFJ, 122 BELLVUE AVENUE, BUTLER, NEW JERSEY, 07405, U.S.A.

G5LZ, ARTHUR, WRITES TO SAY THAT HIS QTH HAS CHANGED AND HE HAS NOT YET MOVED AN INCH! DUE TO THE COUNTY BOUNDRY CHANGES HE IS NOW IN DORSET AND NOT HAMPSHIRE.

A LONG DISTANCE QSY FOR G2BQ, FROM PRESTON TO "MARYLAND", WILVERLEY ROAD, BROCKENHURST, HAMPSHIRE, SO4 7SP.

HAVE PLANNING PERMISSION - BUT NO TOWER!!! RAY, G3KOJ, IS LOOKING FOR A TILT OVER AND/OR CRANK UP TOWER, ABOUT 30 - 40 FEET. ANY NEWS AND VIEWS TO : RAY EZRA, G3KOJ, 30 FERNHURST CLOSE, HAYLING ISLAND, HAMPSHIRE.

HOWARD, G8FG, IS LOOKING AROUND FOR A MORSE TAPE AUTO TRANSMITTER OF THE GNT VARIETY. IDEAS TO : H. CUNNINGHAM, G8FG, 235 STATION ROAD WEST MOORS, WIMBORNE, BH22 0HZ.

FROM GEORGE BEASLEY, G3LNS, "…..MAY I SAY HOW DELIGHTED I WAS TO RECEIVE THE TWO PLAQUES RELATING TO THE R.S.G.B. JUBILEE CONTEST. THESE BEAUTIFUL TROPHIES WILL RECEIVE A PLACE OF HONOUR IN MY SHACK AND I WOULD LIKE TO EXTEND MY HEARTIEST THANKS TO THE PRESIDENT, MEMBERS OF THE COUNCIL AND THE SOCIETY…."

THE RSARS CW NET ON WEDNESDAY EVENING HAS ROOM FOR A FEW MORE "ON PARADE". THANKS TO G8FG, G4RS HAS MADE A FEW APPEARANCES AND HOWARD PROMISES THAT THIS WILL BE A REGULAR EVENT FROM NOW ON "UNLESS THE SNOW GETS MORE THAN FOUR FEET DEEP!".

HARRY, G5HB, HAS MOVED SOUTH FROM YORKSHIRE AND IS NOW AT 16 WELLINGTON SQUARE, CHELTENHAM, GLOS., GL50 4JY. HE IS ACTIVE ON 3·750 BUT TREADING CAREFULLY UNTIL HE IS CERTAIN THERE IS NO TVI "STILL A LOT OF TV'S ON VHF IN THIS AREA".

DOMINIC SMITH, RSARS 919, HAS A PYE VANGUARD AM25T AND IS SEEKING HELP WITH MODS FOR 2 METRES PARTICULARLY REGARDING MAKING THE RX TUNABLE, ETC. IF YOU CAN HELP IN ANY WAY DROP A LINE TO DOMINIC AT "BRUNSWICK", CORNWALL GARDENS, PRESTON PARK, BRIGHTON, BR1 6JR OR GIVE HIM A TINKLE ON BRIGHTON (0273) 551958.

JOHN THE INK, OUR PRINTER, IS LEAVING THE SERVICE AND MOVING FROM THE DISTRICT. ARRANGEMENTS FOR PRINTING OF RSARS QSL CARDS ARE BEING INVESTIGATED. IN THE MEANTIME, SOME DELAY IS INEVITABLE, SO PLEASE BEAR WITH US. WE WISH JOHN, XYL AND FAMILY ALL THE VERY BEST FOR THE FUTURE AND EXTEND OUR THANKS FOR THE WORK DONE IN OVERPRINTING MANY THOUSANDS OF RSARS CARDS.

LATEST INFORMATION ON SATELLITE ORBITS HAS JUST BEEN RECEIVED. SAE TO HQ FOR INFO. FREQUENCY PREDICTIONS FOR NOVEMBER, DECEMBER, JANUARY AND FEBUARY ARE NOW IN. IF YOUWOULD LIKE A PREDICTION FOR A PARTICULAR PATH (UP TO 6,000 KMS) SAE TO HQ PSE. 73

R.S.A.R.S. CALL-SIGNS

A recent check of the records at HQ produced the following list call-signs held by R.S.A.R.S. members past and present. If you have ever held a call-sign which does not appear below, please let HQ know. It is intended to complete a display board when all such call-signs are known.

A4XFP AC4YN AP5B AP5B/YA AX6PG AX9LV BV1US CE3ZO G3BID/CN D2AE D2CA D2DA D2GN D2HB D2IJ D2IZ D2KW D2LZ D2SC DA1BS DA1DU DA1QD DA1QI DA2PS DA2WA DA2XC DA2XF DA2XH DA2XN DA2XX DA2YC DA2YD DA2YK DA2YR DA2YS DA4BO DC0AA DJ0AA DJ0BU DJ0GU DJ0LJ/M DL2AB DL2AD DL2AH DL2AM DL2BB DL2BC DL2BH DL2BJ DL2BK DL2BL DL2DA DL2DD DL2DO DL2DR DL2HO DL2IJ DL2KW DL2LZ DL2PN DL2PW DL2QT DL2TX DL2VK DL2VM DL2XM DL2YN DL2ZA DL4DU DL4KW DL4MI DL4RI DL4UV DL5AA DL5XB DL5XF DL5XG DL5XH DL5XN DL5XR DL5XV DL5XW DL5XX DL6AA G2DHV/DL G3BID/DL EI2VAQ EI2VCL EI3AH EI5BH EI6BB EI9BR EIZVCJ F00AQT F0JA F0KI F0RT G5HB/F F0RT/FC G2ACA G2ACD G2AHL G2ALM G2ANG G2AOK G2ATM G2AUA G2AVR G2AYQ G2AZW G2BAR G2BIM G2BPC G2BPW G2BQ G2BTO G2BUC G2BUJ G2BYM G2CDN G2GKQ G2CPM G2CVV G2CVY G2CX G2DFH G2DHV G2DJM G2DPQ G2DPY G2DTD G2DTO G2DWN G2DX G2EC G2FAS G2FCI G2FHF G2FRY G2FWA G2FWZ G2FYT G2HDO G2HDY G2HHD G2HKU G2HLL G2HNL G2HNP G2IO G2JF G2KI G2KK G2MI G2NJ G2OC G2QB G2RT G2TA G2TN G2TP G2TT G2UV G2UX G2UZ G2WH G2WQ G2XI G2XQ G2YS G2ZA G2ZZ G3AAK G3ABM G3ADS G3ADZ G3AEF G3AES G3AFD G3AGO G3AHB G3AJP G3AKF G3ALI G3AMR G3AQC G3ARM G3AVH G3AWZ G3BA G3BEC G3BEZ G3BG G3BGP G3BGR G3BHC G3BHT G3BIC G3BID G3BIN G3BJA G3BKK G3BOE G3BSW G3BTM G3BWV G3BWX G3BY G3BZO G3CAA G3CDM G3CIO G3CIV G3CLJ G3COL G3COP G3CRP G3CVY G3CXE G3DAN G3DAQ G3DBU G3DCA G3DCZ G3DHB G3DMK G3DNF G3DOJ G3DPS G3DSS G3DWS G3DWW G3EAX G3EBH G3EBO G3ECV G3EDG G3EDW G3EFY G3EHZ G3EJF G3EKL G3EMO G3ENE G3ENG G3EUR G3EYD G3FD G3FDU G3FGN G3FK G3FMW G3FNK G3FOP G3FPC G3FQN G3FTV G3FWD G3FWR G3GBS G3GEJ G3GHE G3GIE G3GJH G3GLQ G3GSW G3GUE G3GUV G3GVV G3GWD G3GWG G3HBE G3HCM G3HEV G3HJI G3HKR G3HMY G3HN G3HPJ G3HSE G3HUM G3HW G3HWL G3HZP G3HZW G3IAR G3IBB G3IDG G3IES G3IFM G3IGI G3IMI G3INA G3IOI G3IR G3IRP G3IRR G3IUD G3IUH G3IV G3IZP G3JAO G3JBA G3JDJ G3JFE G3JFW G3JHS G3JIL G3JIY G3JKO G3JME G3JMO G3JNO G3JPU G3JVD G3JKL G3JZP G3KAE G3KAM G3KBN G3KBQ G3KJW G3KKF G3KKI G3KKU G3KLX G3KOJ G3KPQ G3KVD G3KWN G3KYF G3KYU G3LAT G3LCG G3LCJ G3LCK G3LDS G3LHJ G3LLJ G3LMX G3LN G3LNC G3LNS G3LO G3LOV G3LPS G3LQC G3LUN G3LWQ G3LWS G3LXP G3LZN G3LZO G3LZR G3MAY G3MBQ G3MCG G3MEF G3MIZ G3MJK G3MKR G3MLM G3MOW G3MUU G3MVT G3MYF G3NAK GENCZ G3NDJ G3NET G3NJM G3NKO G3NKR G3NL G3NOB G3NOF G3NOL G3NOT G3NQT G3NQV G3NT G3NUE G3NUI G3NUT G3NVK G3NWQ G3NWZ G3NXB G3NXM G3NZY G3OAZ G3OEK G3OFB G3OFV G3OFW G3OHJ G3OKB G3OKM G3OKX G3OLE G3OLV G3OMH G3OMT G3ONU G3OOB G3OOD G3OOQ G3OPL G3ORY G3OSY G3OTY G3OUF G3OYP G3OYS G3PC G3PCG G3PCI G3PCV G3PDS G3PFC G3PGM G3PHG G3PHK G3PIC G3PJB G3PL G3PMC G3PNE G3PNF G3PNH G3PNM G3PNR G3PNU G3POA G3POC G3POY G3PPK G3PQ G3PQF G3PQY G3PRN G3PTP G3PUW G3PWK G3PYN G3QI G3RAQ G3RAZ G3RBB G3RBS G3RCJ G3RCO G3RDX G3RFC G3RFI G3RFP G3RGE G3RGF G3RHN G3RII G3RKD G3RKN G3RLM G3RLP G3RNL G3RNR G3RPJ G3RPV G3RQN G3RDV G3RUS G3RVO G3RWF G3RWM G3RWS G3RYF G3RYV G3RZE G3SAE G3SDD G3SDM G3SGH G3SIG G3SIQ G3SJB G3SJF G3SJZ G3SKL G3SL G3SMG G3SMV G3SNN G3SQB G3SRC G3SRH G3STM G3SUK G3SWO G3SYT G3SYW G3SZQ G3SZR G3TAN G3TBP G3TDW G3TKI G3TKL G3TKX G3TLV G3TNMG3TSR G3TTH G3TUM G3TXJ G3UAA G3UCT G3UDU G3UDX G3UGW G3UEV G3UJW G3ULJ G3UMI G3UNC G3UOL G3UOT G3UPT G3UPY G3URG G3UTI G3UTW G3UTX G3UUA G3UUG G3UUO G3UXH G3UXZ G3UYM G3UZB G3UZD G3UZL G3VA G3VAN G3VBE G3VBL G3VDF G3VDR G3VDU G3VED G3VGN G3VIR G3VIS G3VIY G3VNN G3VNX G3VOO G3VPI G3VPM G3VQF G3VRK G3VSA G3VSD G3VSF G3VTU G3VUC G3VVE G3VVH G3VWK G3VXE G3VYF G3VYT G3VYZ G3VZP G3VZQ G3WBA G3WBL G3WCP G3WDG G3WEB G3WEO G3WEQ G3WER G3WET G3WGD G3WGM G3WHS G3WJL G3WJO G3WME G3WMZ G3WNG G3WNH G3WNI G3WOD G3WOV G3WPW G3WQH G3WQI G3WQQ G3WRA G3WRQ G3WRU G3WRY G3WTA G3WTJ G3WUT G3WXX G3WYN G3WZQ G3WZS G3XAJ G3XAV G3XBA G3XBR G3XBU G3XCS G3XEE G3XFG G3XFV G3XGT G3XGQ G3XHA G3XHJ G3XHR G3XHX G3XIP G3XLJ G3XMC G3XRS G3XRY G3XSN G3XT G3XTL G3XUC G3XUR G3XVO G3XWI G3XWS G3XWY G3XYF G3XZT G3YBK G3YBO G3YBP G3YCN G3YEU G3YHB G3YHL G3YIF G3YIP G3YJO G3YJS G3YJU G3YMN G3YMR G3YNB G3YNT G3YOB G3YOS G3YOY G3YOZ G3YQK G3YQQ G3YRQ G3YRT G3YRX G3YSD G3YSK G3YSZ G3YYD G3YYQ G3YYU G3YZO G3YZQ G3ZC G3ZCG G3ZCV G3ZCY G3ZDB G3ZDM G3ZDP G3ZEE G3ZFD G3ZFN G3ZFZ G3ZKA G3ZKD G3ZMT G3ZOJ G3ZPW G3ZSN G3ZUM G3ZVD G3ZW G3ZYE G3ZYV G4ACF G4ACT G4ADF G4ADT G4AEJ G4AGN G4AGR G4AH G4AKN G4AKQ G4AMF G4AMX G4AMZ G4ANH G4AOE G4AOF G4ARB G4ASW/W2 G4AUP

G4AWI G4AWS G4AXS G4AXW G4AXZ G4AYH G4AYZ G4BC G4BEG G4BEX G4BEY G4BHV G4BIK G4BIZ G4BKQ G4BKU G4BKX G4BMJ G4BMZ G4BNI G4BOS G4BOU G4BTW G4BU G4BUS G4BWS G4BX G4BXF G4BXQ G4BXV G4BYJ G4BZC G4BZP G4BZQ G4CAO G4CBT G4CDH G4CDK G4CFN G4CGT G4CHT G4CJ G4CKP G4CMG G4COF G4COQ G4CQA G4CRI G4CVY G4CWA G4CWG G4CZJ G4DAP G4DBF G4DBR G4DCN G4DDA G4DFQ G4DR G4JT G4KG G4LO G4PX G4QD G4QX G4RB G5BM G5CP G5FA G5FG G5GH G5HB G5HZ G5KW G5LZ G5NF G5PM G5PX G5RV G5RY G5TV G5UP G5VO G5XB G5XL G5YM G5YN G5YY G5ZC G6ACP/T G6AEJ/T G6DV G6HB G6JB G6LC G6LL G6LV G6MA G6MB G6QM G6QN G6RC G6SN G6TQ G6UC G6VQ G6XM G6ZO G6ZT G6ZY G7AE G8AFT G8AHH G8AIH G8ANQ G8APT G8AQT G8ARA G8ARZ G8BAI G8BBP G8BEI G8BHL G8BKU G8BLI G8BOF G8BRU G8CCE G8CDQ G8CFM G8CIA G8COM G8CQZ G8CSD G8CWA G8DCT G8DEU G8DIB G8DK G8DTM G8EFJ G8EOO G8FG G8FLF G8FUG G8FYJ G8GDD G8GKK G8GLS G8GMJ G8GXE G8HCM G8HDR G8HID G8HOY G8HZH G8INN G8IQB G8JAC G8JU G8KW G8LT G8NY G8PG G8PL G8QO G8QZ G8RB G8RF G8SC G8TKG8TN G8TO G8VG GB2AAD GB2CHC GB2FF GB3AAC GB3AAD GB3HRH GB3RCS GB3RSC GB3RSJ GB3SJY GC4BSL GC5TU GD4BEG GD5GH GD8IQM GI2BZV GI2DZG GI3ALT GI3HXV GI3IJD GI3IWD GI3JEX GI3KVD GI3NQH GI3OUE GI3TZX GI3VYZ GI3WME GI3WMZ GI3WXX GI4BRJ GI5DX GI8AYZ GM2CQI GM2HIK GM2MG GM3ARN GM3ARW GM3AVA GM3AWF GM3DPS GM3FGN GM3FIZ GM3FSV GM3GFO GM3HGA GM3HXF GM3IAA GM3JIG GM3JKOGM3JOA GM3KLA GM3KNX GM3KPQ GM3KVD GM3LWS GM3LYI GM3NKO GM3NXA GM3OFV GM3OJC GM3PFQ GM3PFUG GM3PIP GM3PWK GM3SAE GM3TBP GM3TDS GM3TLR GM3UZB GM3VBL GM3VIO GM3VJW GM3VNN GM3VVM GM3WFJ GM3WHS GM3WKM GM3YQK GM3ZHG GM4ABO GM4AEA GM4AGS GM4ABF GM4GK GM5GH GM6RI GM8EUS GM8FVC GM8HVE GM8MQ GM8SQ GW2HIN GW2OP GW2RV GW3ASW GW3AX GW3BGP GW3CVY GW3DIX GW3DRV GW3GHC GW3HUM GW3LAD GW3MSY GW3OAZ GW3OFV GW3OKM GW3ONU GW3OPL GW3PDD GW3POD GW3PPS GW3QN GW3RGE GW3RVG GW3SVY GW3TMH GW3VBP GW3XHJ GW3YPF GW4ANK GW5BI GW5GH GW5NF GW8MQ GW8PG GW8SC HB9AMS HZ1KE G6ZO/I JA5AI JA5JM K2JFJ K2QPS K4OO K9CUA KL7CJA KL7FCD LA9YC DL5YT/LX G3DPS/LX G3UOL/LX MD1C MD5AJ MD5DA MD5EB MD5KW MD7DA MP4BGF MP4BHA MP4BHT MP4TAF MP4TBM MP4TBU MP4TBW MP4TCM MP4TCQ MP4TCR MP4TCV MP4TCW MP4TCX MP4TDA MP4TDD MP4TDF MP4TDI MP4TDJ MP4TDX MP4TDU MP4TDY OE1ZWW OE9ZUH ON4IE/2 ON5ZE ON5ZO ON5ZQ/M ON8GB ON8ID ON8IR ON8IT ON8IY ON8XX OZ8YS P29MC PA9BID PA9DHV PA9XX PA0XKH PA0XKI PK1RW PY2PA DL5YT/PX ST2KO SU1AQ SU1BA SU1DA SU1HS SU1KE SU1SW SU3GM SV0AL TA7DR TXK VE1ADQ VE2AWO VE2ZM VE2BOE VE3AHQ VE3BFC VE3BUS VE3CDM VE3CQH VE3DDR VE3EMQ VE3EW VE3FKV VE3GFX VE3GNM VE3RCS VE3ZH VE4AI VE8CB VE8MB VK1EM VK1EM/P/W4 VK2AED VK2AND VK2APH VK2BBD VK2BEL VK2BZ VK2EL VK2EM VK2OK VK2OV VK2PF VK2PP VK2XL VK3AEL VK3AEM VK3AYH VK3BEQ VK3EQ VK3ET VK3EW VK4IV VK5AV VK6HI/T VK6II VK6JR VK6MK VK6PG VK6WO VK6ZCU VK8AW VK9EH VK9EM VK9LV VP1B VP1DW VP1HN VP1JR VP1MT VP2EQ VP3A VP3C VP5GM VP5HN VP7NV VP8CZ VP9MI VQ2BC VQ2W VQ4IQ VQ4IV VQ4SC VQ4WLH VQ8CR VQ8CZ VQ9HCS VQ9JW VQ9MI VS1AF VS1BA VS1BJ VS1CX VS1FC VS1FF VS1HD VS1HG VS1KD VS1LB VS1LL VS1LO VS1MB VS1ML VS1RS VS1YN VS2AL VS2DF VS2DJ VS2DL VS5JC VS5JS VS5MC VS5PW VS5RCS VS6AA VS6AC VS6AF VS6AL VS6AX VS6BA VS6DB VS6FX VS7CX VS9ABT VS9AHN VS9AIS VS9AJB VS9ALD VS9ALV VS9APR VS9ARV VS9ASS VS9HRV VS9K VS9KRV V69MAX VS9PRV VUQ VU2AN VU2HS VU2MD VU2BK VU2YC VU2YN W2NTK W2QPQ W2UN W3RX WA3JHB W4NIC W4VOI WA4VAN W5AI W5LVK W5VW W6UVW WA6CEB WA6HAI WB6BPA WB6JXC WA7TDM W8KXA WA8AYL WA8PCT WA8PKG W9IWI WA9HXQ W0CYM G8KL/W6 XAHV XARM XAZO XU8DI YI3GM YU7LCT ZB1A ZB1AR ZB1BE ZB1CP ZB1HB ZB1LP ZB1PP ZB2BC ZB2WW ZC4BA ZC4BG ZC4CA ZC4CP ZC4CZ ZC4FB ZC4GY ZC4HB ZC4HR ZC4HS ZC4IM ZC4JH ZC4LK ZC4MK ZC4NX ZC4OS ZC4PB ZC4RB ZC4SC ZC4SS ZC4TJ ZC4UC ZC4WW ZC4XA ZC4XX ZC5FF ZC6AQ ZC6DZ ZC6JK ZC6NX ZD2HJG ZD2JKO ZD3F ZD6SC ZD8TV ZL1ACL ZL1AUI ZL1AXM ZL2AAV ZL2ACE ZL2AUI ZL2AZT ZL2BBT ZL2BJW ZL2DD ZL3VJ ZL4IJ ZL4MI ZS1JB ZS1KZ ZS3MS ZS4BA ZS5JF ZS5NB ZS6NX 3A2CK 3B8CR 5A2TX 5A4T0 5A44TZ 5B4CA 5B4CZ 5B4FF 5B4GY 5B4JW 5B4NO 5B4OS 5B4PB 5B4SS 5B4TG 5B4TJ 5B4TX 5N2AAF 5N3HJG 5N2JKO 5N2NAS 5N2RSB 5Z4IR 5Z4IV 5Z4LS 6JB G3BID/6W8 6Y5JR 7Q7BC 9H1A 9H1AW 9H1BE 9H1BN 9H1BX 9J2BC 9L1JJ 9M2DG 9M2DL 9M2DQ 9M2ER 9M2EZ 9M2GF 9M2NF 9M2PO 9M2RH 9M2SR 9M2XX 9M4LL 9M4ML 9M6AJ P/9M6JO 9M6LW 9M8JC 9Q5US 9V1HD 9V1FF 9V1ML 9V1MS 9V1PF 9V1PZ.

Please add 3D6AZ 5B4JN 9H1BB 9H1BX 9M2DL 9M2DQ 9V1RL.

ROYAL SIGNALS AMATEUR RADIO SOCIETY

STORES ORDER FORM

From (Init.) _____ Surname _____

Call-sign _____ RSARS No. _____ Date _____

Address _____

_____

_____

_____ Postal Code _____

Please supply the following RSARS Stores :-

Qty	Item	Price £ p	Save! £ p	Cost £ p	For Office Use
100	Sheets of Headed Notepaper	50	Nil	___	
500	Sheets of Headed Notepaper	2-25	25	___	
1000	Sheets of Headed Notepaper	4-25	75	___	
100	Basic QSL Cards	60	Nil	___	
500	Basic QSL Cards	2-00	1-00	___	
1000	Basic QSL Cards	3-75	2-25	___	
500	Overprinted QSL Cards (See a))	3-25	Nil	___	
1000	Overprinted QSL Cards (See a))	6-25	25	___	
___	Plain Lapel Badge(s)	25	___	___	
___	Call-sign Lapel Badges (See b))	40	___	___	
___	RSARS Ties	1-35	___	___	
1	RSARS Log Book	25	Nil	___	
2	RSARS Log Books	45	5	___	
3	RSARS Log Books	65	10	___	
4	RSARS Log Books	85	15	___	
5	RSARS Log Books	1-05	20	___	
6	RSARS Log Books	1-25	25	___	
1	RSARS Plastic Ball Pen	5	Nil	___	
5	RSARS Plastic Ball Pens	20	5	___	
10	RSARS Plastic Ball Pens	35	15	___	
15	RSARS Plastic Ball Pens	50	25	___	
1	RSARS Trio Retractable Ball Pen	13	Nil	___	
2	RSARS Trio Retractable Ball Pens	23	3	___	
3	RSARS Trio Retractable Ball Pens	33	6	___	
4	RSARS Trio Retractable Ball Pens	43	9	___	
1	RSARS Dymo Badge (See c))	13	Nil	___	
2	RSARS Dymo Badges (See c))	23	3	___	
3	RSARS Dymo Badges (See c))	33	6	___	
4	RSARS Dymo Badges (See c))	43	9	___	
1	RSARS Key Fob	13	Nil	___	
2	RSARS Key Fobs	23	3	___	
3	RSARS Key Fobs	33	6	___	
4	RSARS Key Fobs	43	9	___	
1	RSARS Windscreen Sticker	23	Nil	___	
2	RSARS Windscreen Stickers	44	2	___	
1	RSARS Great Circle Bearing and Distance Chart (See d))	1-25	___	___	

PLEASE TURN OVER

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Total cost of goods £_____.

a) Overprinted QSL cards. Normal overprint consists of: RSARS No., Call-sign, Name and Address. Extra overprint is subject to agreement and possible extra cost. WHERE NO COLOUR IS STATED FOR OVERPRINTING THIS WILL BE DONE IN RED. Please complete the following boxes when overprinted cards are ordered. These are the details that will appear on your cards. Colours: RED, GREEN, BLUE, BLACK.

RSARS No. ☐☐☐☐ CALL-SIGN ☐☐☐☐☐☐

NAME ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

ADDRESS ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

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Post Code ☐☐☐☐ ☐☐☐

COLOUR ☐☐☐☐☐ Quantity ☐☐☐☐

OTHER DETAILS :

b) Call-sign Lapel Badges. Badges can be engraved with six figures and/or letters. This may be your call-sign, RSARS No., BRS No., ISWL No. etc.

PLEASE ENGRAVE MY BADGE ☐☐☐☐☐☐

c) RSARS Dymo Badges. These are double-row pin-fixing white plastic badges. Tape colours RED, BLUE, BLACK, GREEN, ORANGE, PURPLE, YELLOW, WOOD GRAIN OR ANY COLOUR AVAILABLE IN THE DYMO TAPE RANGE. Each row can be 16 letters/figures/spaces only. Where no colour is stated BLACK tape will be used. All letters/figures stand out in WHITE.

Badge 1. Badge 2.

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Badge 3. Badge 4.

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d) Great Circle Bearing and Distance Chart. These are computer produced for each individual QTH. All we require is your loaction in Latitude and Longitude (NOT MAP REFERENCES).

PLEASE PRODUCE MY CHART FOR LATITUDE ☐☐☐ DEGS ☐☐☐ MINS N/S (*)
LONGITUDE ☐☐☐☐ DEGS ☐☐☐ MINS E/W (*)

(*) Delete as necessary.

All stores are Post Free.
I enclose Cheque/Money Order/Postal Order/Cash to cover total amount.
(Cheques and Postal Orders crossed /& Co/ and cash registered pse)
Please make all monies payable to THE ROYAL SIGNALS AMATEUR RADIO SOCIETY and NOT to individuals.

Date _____ Signature _____

SOF/3/9/74


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