ROYAL SIGNALS AMATEUR RADIO SOCIETY
(Affiliated to the Radio Society of Great Britain)

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(Director of Telecommunications)

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78, Brocklehurst Street
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London S.E.14
(Cards for members ONLY)

RSARS AWARDS MANAGER: G3VIS
"Heatherlea"
12, Linosa Rise
Catterick Camp
Yorkshire

HEADQUARTERS STATION: Normal - G3RS
Special Event - GB3RCS

STATION MANAGER: WO 1 (F of S) J. Cooper (G3DFS)
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Q LOCATION: 1st Ordnance Survey Sheet 175 CR 921091

MEMBERSHIP FEES: Annual membership: 10/- per annum
Life membership: 25/-
Club Affiliation: 10/- per annum

SUMMER 1969

CONTENTS
EDITORIAL

It has been said that an Editorial is a place for an Editor to comment upon things he knows little about and to apologise for errors he made in the previous issues. I will try not to do the first, and, as this is my first Editorial, I won't have to do the second.

My first duty is, I am sure, to thank Ray (G3EKL) on behalf of all members for the good work he has put into the Society, and I am very happy to do this. Some members will be aware of the variety of problems which present themselves at the Secretarial desk, problems which I know exist but which I would have thought would have been beyond the realms of Science Fiction. Anyway, thank you Ray for a job well done. You can now sit back in the Middle East sunshine, a cool can in one hand and a mic or key in the other. We'll all be listening for you.

Apart from wearing a Secretary's Hat and a Treasurer's Hat, Ray also donned a cold water bandage and edited "Mercury". This is the first edition that has not seen the magic fingers of G3EKL - I certainly hope that it approaches, in as many ways as possible, previous editions. If not, please do not hesitate to let me know.

It is hoped to see as many of you as possible here at Blandford on August the 24th, at the Mini-Rally. This is more of a get-together than a true Rally, and it is hoped to lay on a bumper edition next year for the Corps Anniversary. Details will be found elsewhere in this issue. But come along and have a look at G4RS, the Corps Museum, etc., etc., etc.,

Having mentioned the Anniversary year prompts the question - how can we, as Society Members, commemorate this event. Well, let's set ourselves a target - shall we say 1,000 members by the end of 1970? The Society membership now stands at 600+ and with effort we could probably make it. As an incentive, the Society (based on the "Kings (or Queens) Shilling") will grant one years free membership for every 10 members introduced. In the case of Life Members, QSL cards to the value of 10/- will be awarded. Lists will be compiled from new member applications WHICH MUST BE ENDORSED "INTRODUCED BY RSARS No. .....". Starting date 1st September 1969. Also the Society intends to run a Jubilee Award Contest. Details are not finally fixed yet but a rough outline is given in this issue. Any suggestions comments etc. will be welcome. Two plaques have been donated by a member which will be awarded to the leading "Home" and "Overseas" stations, and if any further donations are forthcoming these will be used to include our SWL members.

Talking of our SWL members - a call for a volunteer! As all members will know we already have two volunteers doing first-class jobs with the QSL Bureau (G3HSE) and the Awards Scheme (G3VIS). As we have a large SWL content how about an SWL Section Manager to look after the interests of the SWL? The object of the Section would be to cater for the SWL in all aspects, Listeners Ladders, SWL Section Notes for "Mercury". Etc.. If this is acceptable to members, a volunteer would be most welcome. Preferably an SWL, but a license would not debar. I am waiting for the flood of letters!!!

Finally, looking through back numbers of "Mercury" it is gratifying to see details of donations to the Society. These are, indeed, fine gestures, and I don't need to remind members that every penny helps. Compared with some organisations our membership fee is very low, but such running costs as postage are ever with us (and, it would seem ever increasing). To all concerned - many thanks.

G3DPS
NETWORDS No. 1
By Kay of Le Touquet
You may find it too hard - you may find it too easy. In any event, a good working knowledge of the
Royal Signals IF Net will certainly help - Kay

Clues Across
1. Heard at Redcar, Scarborough, Exmouth and on the Net (8)
7. Usually in control. If you step out of line hell have you over a barrel. (6)
11. He fixes weights and measures. (7)
13. This sculptor made 'em think. (3)
14. Initially, the Imperial German Emperor. (3)
15. This seems to be done with ease, otherwise dirt. (5)
16. Could be Magna Carta, or at the end of an over. (7)
17. Keep your fingers crossed and he might bring you that new liner.
It's part of his stock-in-trade, anyway! (5)
19. It's Saturday shortly. (3)
20. An invitation to transmit. (4)
22. Effusiveness. (4)
24. Mass., Conn. and Rhode Island are examples of these. (4)
26. A prefix of great parental concern in Dartford. (2)
28. Expand to know purpose. (5)
29. Take over, initially. (2)
30. Getting this to talk on the Net is handy. Words, words. It's all words. (5)
31. If you let this off, you'll get your all confused. (3)
32. - - and behold. (2)
33. See 39 Across.
34. Our forerunners were a Royal lot. (2)
35. (3). There this and you should be heading in the right direction. (4,5)
36. Eros?, Rose?. Who cares? It's a mixed-up kid, anyway. (4)
37. Sounds dotty but it's simple enough. (4)
38. Hugh has, apparently, moved to G-W-land. (3)
39. Stations seldom seen on the Net when 7 across is around. (3)
40. What 6 and 36 Down aim to do. (7)
41. Wonder if this chap has a musical note. At least T9. (5)
42. Disappointing if the bag of new ones from the Net amounts to this. (3)
43. This representative is likely to appear on the Net with a B2 TX. (5)
44. Wonder if it is Will's red one. It ought to be! (7)
45. The spots to search in for the minima. (7)
46. Runs to S.E. (Anagram). Evidently, they are uncertain. (3,5)

Clues Down:
1. The chap from here is well heard, but is hardly one of the herd. (10)
2. AR, SK, VA. Amen. It's all the same. (6)
3. What a state to be in. Clearly a number 9 is needed. (6)
4. And otherwise. (2)
5. The Corps is cut down to size. (1,4)
6, 36. Usually a time for nostalgia and fat heads. (7,7)
7. Seems ifg. mighly cold in Zone 12. (2)
8. One of the sevens. (5)
9. In the main. Three. (6)
10. Add some hesitation and you go to pot. A likely place for a DX-pedition. (4)
11. Sometimes a DLS would likely keep his eye on. (4)
12. Struggles. (7)
13. Cavity or small entrance. (7)
14. Sounds like a Red Indian "hams" greeting. (2)
15. The veterans will think of MB8. (2)
16. Does this bit of Lincolnshire count for DXCC. Not 'aff it don't! (10)
17. Hardly a ham. (3)
18. Is he successful in battle? He certainly emerges as Victor! (3)
19. Everything stops for it! (3)
20. He's confused in the party, but probably OK in the RNARS. (3)
21. Used to very good effect by a gent in the town with a crooked spire. (2)
22. See 6 Down.
23. Call CQ DX and he will most likely answer. (2)
24. Excluded. (6)
25. Sounds like a character from Shakespeare, but you can't get far without him. (6)
26. The 5Z4's know all about these, especially if they collect the points. (6)
27. Wasting time on the Net will not ------ you to the boys. (6)
28. Do you wear a red coat in your .... for a new one? (4)
29. Evidently in agreement. (5)
NETWORKS No. 1 - Contd.
Chas Byrne - Contd.

48. In your search for the crystal you are getting warm if you try this place! (4)
54. Looks like we all originated States-side. (2)
31. This station for the "ham". (2)

The answers a little further on - but no cheating, try it first!

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DO YOU KNOW ............?

1. Where No. 351 (J.A. Smythe, 14 Lansdowne Park North, Antrim Road, Belfast N. Ireland) can obtain valves for his R 109?

2. If "Digger" (of "Diggers Riggers" fame) went back to Australia at the end of the war? Any news to No. 478 Capt. F.H. Chambers, R. Sigs., 25, The Crescent, Hanlere, Bristol

3. The whereabouts, or any details of, the following members:
   No. 41 - R. BAINS - No address held.
   No. 154 - I.C. STEVENSON - No address held.
   No. 267 - G.F. WILLIAMS - "Mercury" returned from HAMPTON, BURNLEY, marked "Gone away"
   No. 567 - G.W. WEARE - "Mercury" returned from ALVASTON, DERBY, marked "Not known"
   No. 572 - H. CLAYTON - "Mercury" returned from BEDALE, YORKS, marked "Gone away"

4. Anyone who serve in 45th (WR) Infantry Division (no dates given but believe WW II). If so, Tom Gates (No. 310), Flat 2, "Bridles", 10, Wimborne Road, Bournemouth, BH2 6NG would like to know.

5. Any cure for "BCI" on a Rogers Hi-Fi Set. Its a tough case, at least, the G.P.O. thinks so. Any ideas to G3PQF, 6, Rye Close, Cove, Famborough, Hants

6. Where G3BTM can find any Old Timers from the P&M Sections, particularly any who served in the Far East. The Unit in U.K. was located in Esham in Surrey. Info to G3BTM, 8, Marconi Bungalows, North Weald, Epping, Essex

7. The whereabouts of any ex-members of 6 Special Wireless Section (Type A), 14th Army and 12th Army Group, GM3NXA, P. Gordon (101), Kintillo, Road, Bridge of Earn, Perthshire, Scotland, would be interested in any info.

8. Any details regarding any past members of 5 L of C Signals (Middle East) particularly any who were absorbed into the Cheshire Yeomanry. (They had the distinction, like Monty, of wearing two cap badges at one time!). Also any of the Old Timers who trained at Wirral after disembarking from the Middle East prior to moving to Norway and becoming 96 Medium W/T Section to provide the links between Norway - Germany - England. If you can't help there, how about details of any members of the World Group in Jerusalem 1942 - 1945. Drop a line to: - John R.M. Hewitt, G3SCH (151), 114, Canterbury Road, Kennington, Ashford, Kent
**DID YOU KNOW……….?**

1. H.R.O. stands for "Helluva Rush Order". According to a letter from Steve (VE2ZM), and he checked with National, when the H.R.O. (as we now know it) first appeared on the market, National were inundated with orders, and someone (possibly in the Shipping Dept.) spoke about the "Helluva Rush Order" and it stuck. Sounds reasonable - any other ideas, members?

2. A prize of £7,500 awaits the first person to "communicate with the inhabitants of one of the heavenly bodies". The money was left to the French Academy of Science for this purpose by Mme. Mare Guzman - in 1908. (Quoted in Short Wave Magazine from "Electronics Weekly")

3. With over 600 members on the books, it is possible to pass another RSARS member in the street and never know. Why not wear the lapel badge - obtainable from the Gen. Sec. (see Order Form at the end of "Mercury")

4. "A radio engineer is a person who passes as an expert on the basis of being able to procreate with prolific fortitude an infinite series of incomprehensible formulae, calculated with micromatic precision from vague assumptions, based on debatable figures taken from inconclusive experiments carried out with instruments of problematical accuracy, by a person of dubious reliability and questionable mentality". (Quoted in June 1965 "Short Wave Magazine" from "QTC" East Africa).

5. The European Scout Net is active every Saturday morning at 0930 GMT on 14,290 Khz with HV3SJ "in the chair" (chance of a new one!). Also U.K. Scout Net every Saturday on 3740 Khz at 0800 GMT MC'd by G3BHK or G3FXC.

6. That Les Dicker G3VYT completed all 9V1OS/VR2FS QSLs over the Easter period via RSGB. Les apologises for the delay due to two changes of QTH since 9V1OS. (G3VYT)

7. G3WME, Mike Groom is now at Seremban, Malaya, and is licensed as 9M2DG and holds the Club call 9M2SR (17 Gurkha Signal Regiment). His arrival in 9M2 allowed 9M2XX to QSY to G-land just in time to become Gen. Sec.!!! (9M2DG)

8. When preparing to wind coils using plastic formers, place the Former in the fridge, and the wire in the oven. The result is that when wound, the coil windings will be nice and even, and tight, because of the expansion of the Former against the contraction of the wire. (From The Civil Service Radio Society publication CSRS).

9. Gordon Gibson (Member No. 53) is now in 9V1-land, but can't take license exam until October this year. With luck, he may replace 9V1PF who QSYs to Catterick in May and then Blandford in October this year. Hopes to get a "G" call and will possibly work /A and /P.

10. The first public demonstration of Radio Telephony across the Atlantic took place from the Standard Telephones and Cables Ltd, New Southgate Factory in 1923. (From "Reference Data for Radio Engineers" - S.T.C. Ltd)

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**AFFILIATED SOCIETIES TOP BAND CONTEST**

Members reading the April Edition of "Radio Communication" will probably have seen the results of the above contest. Although our overall position was not high, we enjoyed the short time we operated. Interesting to note that our 23rd position just pipped the RNARS at 26th, with the RAFARS disqualified. To the winner we offer congratulations, and to the organisers and all who took part, our thanks.
The scene is the Clubroom at G4RS on a recent Tuesday Activity Night. In the background, Les, G3VYZ is desperately tuning around 3780 to avoid the QRM on the Society Net with one hand, keeping the log up to date with the other, and drinking coffee with the other (?). Peter, G3PNM, is to be found next door, muttering about "45 or 50 Bauds" and still trying to extricate himself from yards of apparently useless ("It's got all holes in it, anyway!") paper tape. The Workshop is a hive of industry with more solder on trouser legs than on contacts.

Another member sits at a tape recorder spilling endless dots and dashes at a fantastic speed. I think he's been there three weeks without a break but nobody has got the heart to break his concentration and ask him!

Enter G3DPS. Thinks - "Bedlam". Leaves centre of activities, proceeds to Magazine cupboard, and starts ploughing through a variety of Magazines, Catalogues etc. Enter G3EKL who, when told that the object of the search was '68/69 copies of "Radio Communication", takes a book from the top shelf with "can offer you this in lieu" (A typical QM remark if ever I heard one!). "This" turns out to be a bound copy of the "T & R Bulletin", one of many presented to the Society by G2WH, dated "Volume Four 1928 - 1929".

Now G3DPS is certainly not an Old Timer, despite membership of the Old Timers Club, but he can remember when SSB was a commercial "gimmick", bands were relatively clear and B.A.O.R. calls were all D2, but 1928 was an era almost before G3DPS (Not quite, but it would have been a different call and, no doubt, "/Pramobile"). It must be admitted that the first thought was to return it to the shelf as a "lot of antiquated rubbish", but a glance through the now-yellowing pages proved much more interesting than expected.

As it is more than likely that not everyone has access to such historical Treasures as the T & R Bulletin for the Roaring Twenties, let's take a look through and see what was happening in those days.

Page 1 is for July 1928 and the heading shows Captain Iain Fraser, M.P. C.B.E. as President with Gerald Marcuse (2NM) as Vice-President. Society Notes contain remarks on the "new" licence and comments favourably on the fact that the use of raw A.C. and I.C.W. is to be prohibited (Pity everybody didn't take note of this). An extract from the same notes reads "Other recommendations of the Society include the granting of the 20, 40 and 152 metre bands to all transmitters, while those holding the special Trans-oceanic permits issued upon the recommendation of the Society will obtain, in addition, the use of the 5 and 10 Metre bands". It goes on to say that one band, "The 75 to 84-9" will be exclusively reserved for special experimental work, but permits will only be issued "to members of experience" and on recommendation of the Society. Over the page a "Forthcoming Events" reads "July 17th London Hamfest, 6.30, Pinoli's Restaurant, Wardour Street, 5/-" (Five shillings? - times AND PRICES certainly have changed).

An interesting article by GI6WY (don't be fooled by the prefix - he was probably in Wales) was on Double Modulation. The suggestion basically, was to modulate the carrier with a supersonic fixed frequency whose amplitude would in turn be modulated by the speech. One paragraph reads "The benefit of this type of transmission is that many fone stations can use the same wavelength without interference, but probably some frequency control in the form of a Master Oscillator or Crystal Control will be required". Circuits are suggested and the receiver is a simple two-valve arrangement.

The Hamfest mentioned above apparently went off well and the August Society Notes inform us "We are also extremely interested in the excellent speech given" by Mr. F.S. Huddy (NU7SW) (Dig that crazy call-sign, man) when he told us some of the conditions under which American amateurs get transmitting licences. We have often wondered how so many get licences in the States. Now we know. (Times don't change, do they?).
An advertisement on page 33 offers a free "Radio Control Booklet". Thoughts of cavorting "Pups" and "Camels" in miniature were soon dispersed on reading further. Apparently, it was all about operating a receiver in the correct manner. Page 37 tells us that 2AK is waiting for cards from 5RU, G6VP, EB4CO,EK4XR, ED7LK, EF8FBM and GW11Z (yes, GW Eleven Z). No prizes for knowing (or guessing) where these were located, but there were QSL problems even then!!

It was usual in the late twenties to include reports from various geographical areas of the UK (and abroad). On turning over page 41 a name caught the eye. Under "South Western Area" it is noted that the area manager is (or was) G. Courtenay-Price (2OP). Nothing unusual? - then take a look at the Membership List.

A letter from BRS 15 tells us that "the NC prefix has now been altered by the Canadian Government to VE .....". Another letter informs all readers of a change of address. It is signed J. Clarrtcotts (G6CL).

Another familiar call-sign appears across the page under an advertisement reading "Those new call-signs!! Hams, have your new QSL's printed by 6MN Worksop" Prices? - for three colours and a border, £1 per 1000!!! A term long since gone but personally considered better than that which replaced it is included in a report that 6JV was on holiday in Ireland and was enjoying "CHIN-SKEDS" with the locals (Chin-skeds, Eyeball QSO's a matter of choice I suppose). Occasionally the out-of-the-ordinary type of advert appears in all magazines, and the 1928 T & R Bulletin was no exception. On page 49 we read "For Sale, on or before 15 October, complete amateur station. Owner taking up rabbits" (I wonder why?)! Underneath this advert is a short note stating the 5WH (our donor) was leaving England for Iraq and would appreciate reports from there when operating as AQ5WH.

All readers, whether amateur or SWL, will no doubt be familiar with "Standard Frequency Transmissions" and will immediately think of WWV, WWVH, MSF etc. The paragraph in the October 1928 edition is certainly headed "Standard Frequency Transmissions" but contains no mention of such high-power and sophisticated stations as WWV. Instead, it tells us that these transmissions will be radiated on October 28 by G5YK. As follows: -

1400 GMT - 7,050 KC
1405 GMT - 7,250KC

The call was R.S.G.B. DE G5YK and the transmission was the frequency in use followed by a one minute dash.(What, no Ionospheric Forecasts, Time Signals etc?).

An advertisement which might be of interest to those who didn't quite make the grade on the Amateur Exam or Morse Test reads. "Has your licence been refused? If so you haven't consulted the Oscillating Crystal Company". Apparently, a licence could be refused if one could not show a means of accurate frequency control methods. (Pity this was ever dropped ! - Ed)

As some may remember, in 1927 a Radiotelegraph Convention was held in Washington and signed by representatives of 79 nations. This detailed many changes in a lot of communications aspects including those applicable to Amateur Radio. Most of these were due to be incorporated in 1929, and October 1928 2QY wrote an article under the heading "1929 - Operating Procedure". Many of the changes which took place were still in use or still accepted today. For instance, the form of call is laid down as follows: VE2BE VE2BE VE2BE DE G5HS G5HS G5HS. Other points of interest :- No amateur monopoly of the 1715 - 2000 and 3500 - 4000 - Kc/s bands; Amateur station operation by qualified persons only; prohibition of CQ calls in regions where traffic is intense, except in an emergency(!); examples of callsign block allocations ("CNAAA - CNZZZ are Moroccan "Aeronefs" or things that fly), Distress Signals (SOS or MAYDAY) Urgency (XXX or PAN) and Security (TTT), "Q" Code amendments such as deletion of such codes as "Increase your spark frequency", and the discontinuing of such abbreviations as C, BN, CL, SA and TR.

Back to the correspondence columns again to peruse a letter from H. Marshall Swann of Lytham Lancs., who writes as follows :-
"I received the following message by radio from OA2NO this morning: To R.S.G.B. Airplane "Spirit of Australia" call-sign VZGX wavelength 34 Metres, flown by Capt. Frank Hurley. leaving here to attempt record flight to London and back on approximately October 15. Request co-operation from world-wide amateur stations. Signed Knock OA2NO. Technical Editor "Radio", Sydney." (Wonder if he ever made it - any memories of this, you Old Timers?). Co-operation with various "Aerial flights" seems a regular habit in those days, for, over a couple of pages, we read of amateur assistance given to Capt. Courtney with his attempt to fly the Atlantic. Unfortunately, the attempt (at least in this instance) was unsuccessful ending in the plane being damaged by fire and the subsequent rescue of the crew by "Minnewaska"

More on the Washington Convention in the December 1928 issue. This time we deal with the allocation of call-sign blocks in rather more detail. Generally speaking most of these could (and do) apply today, but there are one or two strangers. For instance, Territory of the Saar, - TSA - TSZ, Hedja, UHA - UHZ, Luxemburg, ULA - ULZ, Kingdom of the Serbs, Croats and Slovenes, UNA - UNZ, Free City of Danzig, YMA - YMZ, and so on.

Into January 1929 with Vol. 4 No.7 and as one would expect, a list of Officers, Council and Committee members for the year. On the Council we find G6LL (have a look at the membership list - 393) and on the Committee G2OP (15). There is no doubt that the R.S.A.R.S. has a wealth of experience within its ranks.

With the wind of change from the 1927 convention still blowing lightly in our faces we find another list of "New Prefixes" on page 150. These show prefixes virtually as they are today with two exceptions, i.e. Roumania - CV, Australia - VM. Nearer home, the change of callsigns within the Irish Free State are noted, ranging from GW11B (GW Eleven B) becoming EI2B to GW13D becoming EI4D.

Having become completely indoctrinated with "P.O. Box 88" for Russian QSL's it was a little surprising to find that in the bad old days of 1929 the following QSL information is given: Russia, Azerbaijan, Turkestan, etc - "QSL Bureau, CSKW ODR, Moscow, Ipatievsky per 14."

As with most Society Magazines a list of new members was a regular feature and in the February 1929 T & R Bulletin we find the following entries, (among others), G2BMT, G2ARL BRS 229 and BRS 230. Nothing unusual about that? No, except that all those identifications referred to Viscount Carlow, the first three in respect of his Chesham Place QTH in London, and the last when he was in the Tower of London, or should we say "at" the Tower of London.

Another letter from Don B. Knock (Now VK2NO instead of OA2NO as we saw earlier on) gives details of the high power experimental station he was organising in conjunction with VK2AW. Perhaps the most interesting point was "A great deal of experimental work will be done in conjunction with television .... (!)."

A paragraph headed "Can you beat this one?" is produced as printed. What do you make of it? "G5QF sent a test call on the 14MC band one afternoon recently. On searching he heard an OK station replying to him. Nothing very wonderful about that, but what would you say if you were told, as QF was, that the station he was listening to was on 28 MC, and transmitting on that wave as well. Exactly - you would pinch yourself. Well QF (you all know his nickname) did that and more, but the more he pinched, the more certain he became that he was party to one of the most curious freaks short wave radio has yet given us. Mr Buckingham's input was 7 Watts - no, not Kilowatts."

FAX appears to be nothing new, as the March 1929 edition has the following "Stray": G5MU and 2BFA have evolved a method of facsimile picture transmission and would like to arrange schedules with any person interested; they aim at getting sufficient modulation to work machines off R3 signals". And further over we see "G2HH has been doing some very good work on picture reception from 5XX"

And so it goes on. It is impossible to cover all the many interesting aspects that appear in a magazine such as "T & R Bulletin", whether ancient or modern, but if an "Award" had to be made, based on detail contained in Volume 4, my vote would certainly go to another of our members -
CLUB CALL
This time the Club is 9M2RH located at Terendak, Malacca, Malaya. A letter from Bob Salisbury (G3SRH/9M2RH) received in early April tells us that the Club is flourishing but getting its share of Club-type ups and downs. On the "up" side, the FT-DX-400 is now in use, and, to quote Bob, "it is proving to be a very fine piece of equipment". Sadly, European QSOs have been few and far between. (Guess you will have tried the 21·380 Khz Net by now, Bob) but local QSOs have produced good reports. Since Gordon left Terendak, a potent 9M2 signal has been missing from the bands, (9M2PO) but Gordon left behind at least two things - 1) a history of some FB operating in the true "ham" spirit, and 2) A Quad Antenna. This Quad now makes a total of two in use at the Club. On the "down" side, Club members who sat the last RAE didn't quite make it (hard luck chaps, but it only goes to show that RAE is not a give-away, and when you finally do make it, as you surely will, you will certainly have achieved something). QSL returns at the Club are a little disappointing (about 10% according to Bob), so anyone who owes 9M2RH a card ………

On the "up" side again - the Club now has another room adjacent to the main Clubroom which now serves as a Workshop/Lecture Room complete with blackboards and fitted workbenches. The blackboards are put into good use in preparation for the next RAE.

R.S.G.B. - R.S.A.R.S.
To mark the close association between the Royal Signals Amateur Radio Society and the Radio Society of Great Britain, the President of R.S.A.R.S. Brigadier A.D. Brindley MBE, FIEE, Vice-President Major-General E.S. Cole CB, CBE (G2EC) (Past President of the R. S.G.B.) and MoD Secretary Major D.A. Barry R. Signals (G3ONU) visited the new Headquarters of the Radio Society of Great Britain on 14th April 1969 to present a suitably engraved plaque and a copy of the Corps history.

In a short speech Brigadier Brindley reviewed the value of Amateur Radio to the Corps and referred to the number of members of the R.S.G.B. who serve in the Corps during the War and after. He also gave some interesting details of hand speed morse traffic passed during a recent operation.

The President of the R.S.G.B. Mr J.W. Swinnerton, in reply, referred to the fact that he was commissioned into the Corps at the outbreak of War, and had twice served under General Cole. He would therefore ensure that the plaque would be placed in a prominent position in the Council Chamber. He then presented to Brigadier Brindley a copy of the latest R.S.G.B. publication "VHF and UHF Communications", to be placed in the Library of the School of Signals.

After the formalities had been concluded the many R.S.G.B. Council members present at the time "refreshed" and entertained the officers of the Corps Society.

(G3ONU)
"THIS ISSUE REPRINT"

(Listening around the bands a lot of information - some good, some mediocre and some downright codswallop - appertaining to antennas can be heard. A typical example is the chap who talks about his "50 feet long wire on 20. Some time ago an interesting "Quiz" article appeared in "CQ" Magazine written by Kenneth W. Judge Glencoe (K7GCO). The R.S.A.R.S. is indebted to Richard A. Ross (KCM1GA), Managing Editor of "CQ" for granting permission to reprint this article in "Mercury".

Have a go and see if your answers compare with those given elsewhere. No cheating - and award yourself one point for every correct answer - G3UPS).

WHATS YOU'RE A I.Q. (ANTENNA INTELLIGENCE QUOTIENT)

1. The basic impedance of a dipole is 72 Ohms only at:-
   (a) all quarter wave multiples,
   (b) all half wave multiples,
   above electrical ground?

2. If a dipole is at such a height where its impedance is 50 Ohms what will the impedance be if the radiator is changed to a folded dipole, maintaining the same height?

3. With the dipole in question 2, what will the impedance be if it is changed to a folded TRI-pole (Three wires)?

4. How much gain in dB is realised from 2 half-waves in phase?
   (a) 10dB,
   (b) 15dB,
   (c) 19 dB,
   (d) 30 dB.

5. What is the general range of the impedance at the centre feed point of two half waves in phase?
   (a) high,
   (b) low.

6. If a quarter wave of open wire line is connected to the centre feed point of two half waves in phase, what configuration of antenna tuner will best match the impedance at the end of the feedline.
   (a) series,
   (b) parallel.

7. What is the S.W.R. on a 50 Ohms feedline terminated with a 100 Ohms load?
   (a) 1.0 : 1
   (b) 1.5 : 1
   (c) 2.0 : 1
   (d) 3.0 : 1

8. What is the S.W.R. on a 50 Ohms feedline terminated with a 25 Ohms load?
   (a) 1.0 : 1
   (b) 1.5 : 1
   (c) 2.0 : 1
   (d) 3.0 : 1
5. Will an accurately calibrated S.W.R. bridge at the end of, say, 100 feet of feedline actually read this value?

6. Does tuning the feedline change the S.W.R.?

7. The most important point for the impedance matching insofar as transfer of power is concerned is:
   - (a) at the antenna
   - (b) at the end of the feedline

12. Is the reflected power as read on many S.W.R. bridges actually lost?

13. What impedance value will a bridge read at the end of a quarter wave of 300 Ohms line if the other end is open (no load)?
   - (a) 75
   - (b) 150
   - (c) 300
   - (d) 450
   - (e) none of these

14. When stacking aerials vertically, increased gain occurs as a result of the plane pattern becoming sharper in the:
   - (a) vertical pattern,
   - (b) horizontal pattern.

15. What is the approximate additional gain in dB of stacking two 3-element beams at an optimum spacing of \( \frac{\lambda}{8} \) wavelength:
   - (a) 2.0
   - (b) 2.4
   - (c) 2.9
   - (d) 3.3

16. If the vertical spacing of two horizontal beams is increased beyond the optimum spacing, the width of the main free space vertical lobe decreases substantially. Does the gain increase?

17. We have two typical 2-element yagis, one with large diameter low-Q parasitic element tubing and one with smaller diameter high-Q tubing. Both are tuned for maximum gain. Which one will have the highest gain?

18. If a Cubical Quad is fed such that the polarisation is vertical, will its angle of radiation be:
   - (a) higher,
   - (b) lower.
   than if it were horizontally polarised at the same height?

19. What is the approximate gain relationship in dB of a Cubical Quad driven element compared to a regular dipole?
   - (a) 0 dB,
   - (b) 1 dB,
   - (c) 2 dB,
   - (d) 3 dB,
   - (e) 4 dB.

20. Does increasing the gain of a horizontally polarised yagi lower the angle of radiation?
21. If a dipole and a yagi are erected at the same height will they have the same angle of radiation?

22. The average ground is more lossy to:
   (a) horizontally,
   (b) vertically.
   polarised waves?

23. Will the angle of radiation from two stacked beams be lower than that of the top beam alone?

   (YOU WILL FIND THE ANSWERS A FEW PAGES ON - Ed)

RSARS QSL BUREAU

A QSL Bureau for use BETWEEN RSARS members only is available.
Any member wishing to clear QSL cards to other member stations, please despatch cards in bulk to G3HSE.
Any member wishing to collect cards from the bureau should send SAE's of sufficient size and with sufficient postage thereon to G3HSE.
Please put on the reverse of the envelope your callsign, membership number and the minimum number of cards to be despatched (i.e., one or more).
A list of unclaimed cards will be published in each edition of "Mercury".
Address of the Bureau, and any enquires (with SAE) is:
RSARS QSL Bureau,
78, Brocklehurst Street,
New Cross,
LONDON, S.E.14.
Tel: 01-639-1594

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SINCE THE PUBLICATION OF THE LAST "MERCUKY" MEMBERS WILL, NO DOUBT, HAVE HEARD OF THE PASSING OF TWO SOCIETY MEMBERS, G3UP AND G6SN, (NOs. 401 AND 389). IT IS ALWAYS A SAD TASK TO HAVE TO DELETE MEMBERS' NUMBERS UNDER THESE CIRCUMSTANCES, AND TO ALL RELATIVES AND FRIENDS THE SOCIETY OFFERS ITS SINCERE CONDOLENCE. AS A MARK OF RESPECT NO SUCH NUMBERS WILL BE RE-ISSUED. PERHAPS OUR ONLY CONSOLOATION IS IN KNOWING THAT AMONG OUR RANKS WE HAVE MANY UP-AND-COMING YOUNG RADIO AMATEURS WHO WILL, WITHOUT DOUBT, CARRY ON THE HOBBY IN THE TRUE TRADITIONS SO ABLY SET BY THE LIKES OF G3UP AND G6SN.
THE PARKINSON EFFECT

Our learned friend Professor Sparkinson, who gave up the active side of Amateur Radio while he still held the call-sign SPK (1911) has spent most of his time since then studying the ethical and metaphysical aspects of the subject. Although he has not yet been able to formulate a simple law, he has made a preparatory statement. The complex variables involved have made his work difficult, but the following specimen phenomena can all be grouped under the heading of the "Sparkinson Effect" mostly derived from the Law of the Perversity of Inanimate Objects.

OPERATION : The amateur's practicable hours of operation are such that the station he most wishes to work is either a) Inaudible because of propagation conditions, or b) Unconscious on account of the time difference.

AERIALS : The amateur's garden will normally run at right-angles to the direction in which he wishes most to erect an aerial. Arising from this if he acquires a house with a large enough garden to take ALL the desired wires, he will find that he has to spend so much time gardening that he is never on the air.

INTERFERENCE (TVI) : The amateur's neighbours will be interested only in that TV channel on which his most troublesome harmonic is audible. This still holds good if they have to change their entire outlook and switch from BBC to ITV or vice versa.

COMPETITION : After the amateur, displaying patience and restraint beyond the call of duty, finally seizes an opportunity to call the rare station that he has stalked for hours, the said station will sign "CL" and go off the air until next day.

CONSTRUCTION : The one variable condenser in the cupboard that will fit the apparatus being built will tune the selected coil to a frequency just short of that which it is desired to cover.

SIZE AND VALUE : If, for example, a 50K 2-Watt resistor is urgently needed, the resistor box will yield a) several 50K 1/10th-Watt specimens, and b) One 50K 14-Watt type, six inches long and one inch thick.

SOLID GEOMETRY : A used chassis, requisitioned for a new piece of work, will display a) The right number of holes in the wrong place, or b) The wrong number of holes in the right places, or c) The right number of holes in the right places, but all the wrong size.

CONNECTIONS : A two-pin plug, tried in a two-pin socket for the first time, but unidentified as regards polarity, will be the wrong way round at least 80% of the time, although the theoretical odds are 50%.

GRAVITY : A valve accidentally dropped was a good one if it flies to pieces. If it remains undamaged, it was unserviceable in the first place.

POWER FAILURE : When a house fuse blows, it will be the last to be investigated. Even if the usual order is deliberately reversed, this will still hold good. Starting at the middle and working out to both ends does not help matters, either.

These are but a few of the better-known effects, selected at random from a catalogue which has taken years to prepare. Every active amateur can think of several more, but it is difficult to summarise them all and to formulate a Law.

Our own private summary consists of three words - "You can't win". Others will, no doubt, suggest themselves. But a pre-knowledge of the effects will always be helpful, and even if you can't win, you can occasionally cheat, and thus save a little time and money. Whether the Inanimate Objects will hit back in the long run, making you wish you hadn't flouted the laws of nature, is, at present, difficult to determine. Perhaps a volunteer study group - or even that body beloved of a certain organisation, a small AD HOC Committee - may eventually be formed.

(The above article, by "L.H.T." is reprinted, with permission, from "The Short Wave Magazine", Volume XVIII, Number 8 dated October 1960. No doubt, members can add to the list of examples of The Sparkinson Effect, such as, "The member-station who is needed for Award QSO No. 100 will go QRT immediately before it is my turn on the Net" - Ed.)
PERSONALITY PARADE

(With each issue it is hoped to publish a "potted history" of those members who would like to contribute. You don't have to be an Old Timer to participate, and histories should be a balance of amateur, military and personnel happenings. Date can be important, as a long-lost friend may be reading it!. This issue it's the turn of G3HCM, Dennis Dumbleton, of 11, Eoodburn Close, Allesley Park, Coventry, CV5 9LZ, RSARS No. 16)

Dennis tells us "I joined up in May 1945, and after 6 weeks "training" in Glasgow (at the notorious Maryhill Barracks!) went to Eastern Command Signals at Tatmore Place, Hitchin, to train as an OWL. From there I went to 3 OTB at Whitby, where I eventually became OWL B III. When 3 OTB moved to Catterick I went with them, temporarily as Cadre, until passing WOSB and going to the pre-OCTU Wing at Marne Lines. From there I had a spell at basic OCTU at Aldershot but was RTU'd later on in the year.

After a spell at Pocklington (happy days!) I went to BAOR, to 2 L of C Signals at Herford, where I learnt to swim, and obtained my first "ham" license as D2II. The authorisation was signed by Rowley Shears, who was then (October '47) Major Shears and i/c P & T Germany.

In the December I was posted to Ceylon, to 14 Wireless Squadron, having changed my trade to Radio Mechanic A III by this time. Ceylon was an idyllic posting, lots of swimming and lots of 14 Mc/s CW as VS7FG. In December 1948, with the closure of the Ceylon Garrison, I went to Cyprus to 2 Wireless Regiment at Famagusta. A Club station was very soon set up, well known throughout the world, under the call-sign MD7RCS. After a while, the authorities changed the call to MD7DC, but we were still sought after, and operated nearly 24 hours a day, exclusive CW.

When I came back to the UK in August 1950, MD7DC was still going strong, and I had the pleasure of QSOs with them from time to time.

I then became G3HCM and was posted to 10 WTS at Garats Hey near Loughborough. The club callsign there was G3CHR, and with a dedicated bunch of operators, lots of DX was worked with an ET4336 transmitter which we bought for £15. Two 813's in the final (!) plus some good aerials and two superb AR88D's (selected by the NCO i/c Workshops - guess who?) gave us lots of really good contacts which were made mainly on 20M and 40M.

I was demobilised in January 1953, and then had to "ham" the hard way with 25 watts and a very indifferent aerial system, and it is only very recently that I have graduated to a beam. I still work CW, with an El-Bug, but mostly operation is on SSB, with the Old Faithful 20 Metres as the preferred band.

I meet old comrades from time to time, Eric Davies G3PGM (No. 27) and John French G3LGL (I have sent him an Application Form) (Thanks - Ed.) and hope to meet others at the Reunion on the last weekend in June.

"Mercury" provides a link with the past, with the Corps to which I am proud to have belonged - and still do belong really, if only through the RSARS and I look forward eagerly to the receipt of each issue.

Thanks, Dennis, for your "potted history" and nice words about "Mercury")

-------------------------

CQ ENVELOPES!!!

Notification of the Society QSL Service appears elsewhere in this issue and all members are invited to use the Bureau. However, it would be a great help if members would ensure that SAE are always with Dave (G3HSE). Cards, without envelopes, are held for the following. G3HS, G3LOV, G3LNS, G3ONU, G3PKH, G3POY, G3RGE, G3UUG, G3UZL, G3VBL, G3VZP, G3YB0, G5HZ, G6VQ, GW3SVY, GW3POD, GW3VIO, GW3GHC, GW3AX, 9V1PF, MP4TCV, MP4TCQ, MP4BHT, MP4TCX, ZB2A, 5Z4LS, VS6AC, VS6FX, DL5YX, and DL5XN. Envelopes, please?
1. Actually, both are right, but (a) is more right as 72 Ohms is repeated every quarter wave in height.
2. A folded dipole will raise the impedance 4 times, or to 200 Ohms in the case cited.
3. A folded tripole (three wires) will increase the impedance NINE times. Thus from questions 2 and 3 we see that the impedance rises as the square of the number of wires used.
4. (c) 1.9dB
5. High impedance, as the feedpoint is at a current minimum and a voltage maximum.
6. Antenna feedpoint is a high impedance and feedline is quarter wave, thereby presenting a low impedance to the tuner. A low impedance tuner configuration is required to match.
7. and 8. The S.W.R. is 2:1 in both situations since the existing mismatch is in a 2:1 ratio in both cases.
9. No, as resistive losses in the co-ax will decrease the amplitude of the reflected component and the S.W.R. Bridge will read a lower value of S.W.R.
10. No. Tuning the feedline is the process of matching the impedance at the end of the feedline with an antenna tuner or pi-network. Actually, all feedlines are tuned in one sense regardless of S.W.R.
11. At the end of the feedline. No matter how good the match is at the antenna, the antenna tuner or pi-network must match the impedance presented at the end of the feedline or no transfer of power will occur.
12. No. A small percentage of it is lost due to the I^2R losses in the feedline, which will vary. All the reflected power does is create standing waves on a feedline and if it were all lost there would be no standing waves.
13. (e) None of these. A dead short or zero Ohms will be read by an Impedance Bridge at the end of a quarter wave line with no load at the other end.
14. (a) Vertical pattern. Vertical stacking sharpens the vertical pattern.
15. (c) 2.9 dBs.
16. No. The gain stays about the same even though the vertical pattern narrows. The side lobes increase in amplitude.
17. In parasitic arrays the highest gain is realised with the highest-Q parasitic elements, but at the expense of bandwidth.
18. (b). Lower. In the ideal case, vertical antennas always have one lobe next to the ground. In the case of a lossy ground, phase shift suffered by the vertically polarised wave will raise the angle of radiation to about the same angle of the horizontally polarised wave then both are above a wavelength in height. However, the vertically polarised wave is attenuated more at the point of reflection which results in the horizontally polarised lobe being stronger.
19. (b) 1 dB.
20. Yes. Higher gain results in a sharper vertical pattern. Graphical analysis (multiplying the free space vertical pattern by the reflection factor at that height) will show a resultant lower angle of radiation.
21. No. Sharpness of the vertical pattern also controls the final angle of radiation for a given height.
22. (b). Vertically polarised waves.
23. No. For normal stacking distances the sharper vertical pattern of both will not lower the resultant angle of radiation as low as the angle of the top beam alone, but the top beam also has a high angle lobe of fair amplitude.

OK - tot up the points (one for each correct answer) :

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</tr>
<tr>
<td>6 - 10</td>
<td>Average</td>
</tr>
<tr>
<td>11 - 15</td>
<td>Good</td>
</tr>
<tr>
<td>16 - 23</td>
<td>You have been reading pages 30 and 31 of the March 1964 copy of &quot;CQ&quot; Magazine</td>
</tr>
</tbody>
</table>
SO NEAR AND YET SO FAR

Not a discussion on 2 Metre DX. So what has this to do with RSARS and the "Mercury"? Like this --- on the Membership Application Form there is a six word command - "Give brief details of your service..." Mine was but brief, but I could not detail it on the back of that or any other form.

So here it is, --- But brief --- and NOT for the record.

Summer of 1938 saw all but one of my friends and I in the 48th Div. Sigs. Display Team, so one bright day "Happy" and I decided we would go that very night at 1830 and join the Signals. ----- We did -----
At least, we went. What I mean is, we started out on the two mile walk to the Barracks. (At the age of 19, I had not learned that the good Lord had given me two feet, one for the clutch and one for the brake, and I used to wear them out by walking on them!) See authors call-sign for explanation - Ed.)

Now, walking two miles on a hot summers eve used to be a thirsty business (and still is) and at the first pub we decided that a pint to slake our thirst and celebrate our joining the boys would be a good investment. So good, in fact, that we had a couple. At the next pub we only had one, but, by 2100 hours, which was when we arrived at the Barracks, we had improved on that.

There was this Sergeant, the first real live one I had seen. And complete with three gold stripes. Natty. This part was, is and always will be perfectly clear----- THAT Sergeant!!!. Right on the ball, he was. "Could we join the Unit". "But of course, we are looking for bright fellows like you two, I can see you are perfectly fit, so just sign here and you're on".

We did. We were.

In retrospect, I distinctly remember that the wooden boxes serving as a table, normally sharp-cornered, were most pleasantly rounded, and that the normally straight kerb edges had been slightly wavy, and it is a well known fact that on hot summer evenings, due to sweat in the eyes, it is difficult to read small print. So we did not try: until next morning ---- oh yes!, he was on the ball alright ---- and we were in the R.A.M.C.!!! Which proves the truth of the old saying "Don't burn your bridges until you have jumped off them". Or something. Transfer? - could we heck. Oh, yes, we tried. In fact we tried everything. But that Sergeant, right on the ball he was - and we were still in the Medics on Sept 3rd 1939. That was after Gladstone (or was it Pitt) - anyway, the P.M. - had been to see His Nibs in DL-land and been told to QSY, to stop QRM, and go QRT. But the P.M. went QRO. For all that has been said about the powers that be not being ready for that War, someone was because Happy and I were called up three days before it started. Yes, I know --- that Sergeant!

And there we would have stuck, except for that splint --- and that stew. Not forgetting the lamb.

First came the splint. A Thomas splint they called it. Like this. First they told us about bones; all kinds of bones; Femur, Ulnar, Radius, Humerus (not half), Fibular, Tibia. Craniums and Pelvises. Coxsixes (and sevens), Spatuals and Sternums. And then the man said that there was a bone in the tongue!!!. Well, I ask you, who wouldn't have made rude comment. I did --- and we were put on the Thomas splint. By THAT Sergeant!

Hart was his name. Stone Hart (among other things) to us. A Regular. Never been known to even smile they said. But he always grinned whenever he saw Happy or me. No-one knew why. Except us.

Now this splint. Made of 3/8-inch round steel rod, bent in a U-shape the legs about three feet long, the bottom bit 3-inches wide, the top a large steel ring, padded with leather. Like this :-

The scheme was this. At some time during ones service one was expected to be walking across a field and find there a bod with a broken leg. One would then produce this splint from somewhere, complete with a load of bandage, a bigger load of padding and (don't laugh) a pencil.
One then bunged the bod's foot, the one on the end of the broken leg, Army boot and all, through the big ring at the top. One then slid the splint up his leg until the padded ring came to rest around the top of his thigh and in his groin COMFORTABLY - Then a bandage was put round his ankle and the kink in the bottom of the splint, the pencil pushed through the loop formed by the bandage and twisted tight to apply extension to the leg, we were NOT told how to keep the patient quiet during this operation.

And that Sergeant put us on practising this. It was all pretty clear. Except this "comfortable" bit --- but we tried. The patient was a volunteer (without a broken leg).

I don't think we got the "comfortable" bit right at all. The patient was sure we hadn't --- he told us so --- in 'C' two octaves above High 'C'. But nature always compensates. I later learned that thereafter he became famed as the best Soprano in Southern Command.

I think it must have been about this time (the War had now been going at least a week) that our Company Officer came to the conclusion that Happy and I were not somehow going to make it as Orderlies. So he ordered us to volunteer as cooks. Unit Cooks. We did. That Sergeant was optimistic. He was. He said that even we could not make a worse job of it than the present cooks --- and that's where the stew comes in!

Due to the lack of cooking equipment we ate stew each day for lunch. And dinner. And Supper. And Breakfast, warmed up from the previous day. The Unit was billeted in a Church Hall and the cooking gear was four Soya boilers, rather like wash coppers, and a gas stove in the cookhouse (the Vestry). This stove was a huge thing, the top being about three feet square with four burners as big as tea plates and an even bigger grill. The space below the grill was lined with white enamel and would have accepted an AR88 let alone a grill pan. Below that, just four legs - no oven. We never found out why a Church Hall needed such a gadget. But I digress.

We were cooks. As from that moment. Which was about 2000 hours. And we would be on duty at 0500 hours for early morning tea. At least I would be. Happy could not be as he was the Unit Bugler. The only one we had. On a trumpet --- his own. So I made the tea for 94 blokes. It was at that first tea hand-out that I learned from one of the ex-cooks that they had both reported sick. They could stand the smell of stew no longer. Their method had been to put all the meat in one boiler, the potatoes in another, and so on. Then fill up with as much water as possible and boil. That was the sum total of our culinary knowledge. For breakfast that morning we warmed up the stew. After that the stores arrived from the Q.M. There was bacon there for the next day's breakfast. And always had been. The other bods had always chucked it into the stew as they had nothing on which to cook it. And legs of lamb. Probably mutton. And all the usual gubbins. We then showed our initiative. Backing on to our vestry cookhouse were two houses and we knew the Mums because they had daughters. And these Mums thought we were all heroes about to die. True --- I'll tell you why. At 1400 hours on Sunday September 3rd the Unit paraded outside the Church Hall in full Battle Order, three deep, and moved off in column of route complete with band (Happy and his trumpet) to the resounding cheers of the people along our route, standing on their doorsteps and exorting us to do all kinds of 'orrible things to you know who when we got there, and assuring us we would be back in weeks. Little did they know........

(Tune in to the next edition of "Mercury" for a further thrilling instalment in the Service life of G3NET/M, or meet him on the Net. In Part II, Promotion, Disaster, Reveille, "a wet doormat steaming the sun", That Thomas splint again, Transfer - Ed.)

=====================================================================
Coil formers 3/8-inch Aladdin with iron dust cores.

ROYAL SIGNALS "JUBILEE" AWARD

It is intended to organise a 'Jubilee' Award for 1970. Plans are well under way, but, at the time of going to press, final details are not complete. Full details in the next issue, but, generally speaking, the idea is to encourage QSOs between home and overseas members. Many thanks to all members who have assisted, and are assisting, in formulating a set of rules acceptable to all.

(G3DPS)

RSARS OPERATING AWARDS

1. The following RSARS Operating Awards are available free of charge to ordinary and associate members and to clubs affiliated to the Society, with effect from 1 Jan 69.

Class 3 - Certificate
Class 2 - Certificate
Class 1 - Certificate
Special Award - Engraved Plaque

2. Transmitting members located at "Home" (defined below) must submit confirmation of two way contact with other member stations, including G4RS, as follows:

Class 3 - 25 Confirmations
Class 2 - 50 Confirmations
Class 1 - 100 Confirmations
Special Award - 200 Confirmations

3. Listener members located at "Home" (defined below) must submit confirmation of having heard transmitting member stations as in para 2 above.

4. Transmitting members located "Overseas" (defined below) must submit confirmation of two way contact with other member stations, including G4RS, as follows:

Class 3 - 12 Confirmations
Class 2 - 25 Confirmations
Class 1 - 50 Confirmations
Special Award - 100 Confirmations

5. Listener members located "Overseas" (defined below) must submit confirmation of having heard transmitting member stations as in para 4 above.

6. "Home" member stations are defined as those located in the UK and continental Europe, excluding Gibraltar, Malta and Islands in the Mediterranean (Zone 14, excluding Gibraltar, the Azores and Islands in the Mediterranean and Zone 15 excluding Malta and Islands in the Mediterranean).

7. "Overseas" member stations are those located outside the "Home" area as defined in para 6 above.
12. Members will ensure that operating practices are maintained to the highest standards. Unassisted two-way contact must be made between the stations concerned, Relaying of reports by a third station is not permitted for Award purposes. Terms of licences must be strictly observed, and members who are granted temporary licences for operation in other countries may be asked to submit proof of authorisation to the RSARS.

13. Members are required to exchange signal reports, membership numbers, names and QTH to qualify for confirmation of contact.

14. Claims for Awards will be made to the Awards Manager only, whose details are published below.

15. Claims for awards must include the following:
   a. Written confirmations (e.g. QSL Cards)
   b. A check list of the Call Signs and Membership Numbers.
   c. S.A.E. with adequate return postage.

16. The Awards Manager will retain the check list, returning the confirmations and the Certificate awarded to the member, which will be forwarded under separate cover.

17. Subsequent claims need not include the previous confirmations.

18. The Awards Manager will submit the checked Claim lists from members claiming the Special Award to the Field Secretary who will order and dispatch as necessary. The Claim list will be returned to the Awards Manager.

19. Contacts for the RSARS Operating Awards are effective from 1st January 1969 ONLY.

20. Claims for Awards on the previous Scheme, which ceased as at 31st December 1968, may still be sent to the Society Awards Manager.

**AWARDS MANAGER:**

G3VIS
"Heather Lea"
12 Linton Rise
CATTERICK CAMP
Yorks.
# LIST OF AWARDS ISSUED BY G3JZG WHILST AWARDS MANAGER

<table>
<thead>
<tr>
<th>CLASS I</th>
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<td>39. G3WEQ</td>
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<tr>
<td>14. G3LJU</td>
<td>G3WMZ</td>
<td>18. G3CIO</td>
</tr>
<tr>
<td>17. VEOHL</td>
<td>G3WQ</td>
<td>21. G3ORY</td>
</tr>
<tr>
<td>G3ONU</td>
<td>55. G3FTV</td>
<td>22. G3VIS</td>
</tr>
<tr>
<td>18. Member 33</td>
<td>G3KRO</td>
<td>23. G3POY</td>
</tr>
<tr>
<td>20. G4QD</td>
<td>G3SWY</td>
<td>25. ZCJLK</td>
</tr>
<tr>
<td>G3XBA</td>
<td>G3XBA</td>
<td>27. G3FTV</td>
</tr>
<tr>
<td>23. GM2NF</td>
<td>G3VYJ</td>
<td>29. G2W20</td>
</tr>
<tr>
<td>24. G3QV</td>
<td>V3CQVL</td>
<td>30. Member 33</td>
</tr>
<tr>
<td>26. G3VIS</td>
<td>G3WMZ5A</td>
<td>32. G3VQ</td>
</tr>
<tr>
<td>27. G3JO</td>
<td>Listening Member -</td>
<td>G3WMZ5A</td>
</tr>
<tr>
<td>28. G3EMO</td>
<td>G3ARV</td>
<td>33. G3VX</td>
</tr>
<tr>
<td>29. G3W20</td>
<td>G3WMZ</td>
<td>34. G3VX</td>
</tr>
<tr>
<td>30. G3AVR</td>
<td>34. GM2NF</td>
<td>35. G3KRO</td>
</tr>
<tr>
<td>32. G3SIQ</td>
<td>36. G3AN</td>
<td>37. DL2AH</td>
</tr>
<tr>
<td>33. G3VX</td>
<td>37. DL2AH</td>
<td>38. G3BA</td>
</tr>
<tr>
<td>35. G3VIO/A</td>
<td>38. G2UZ</td>
<td>40. SN2AUF</td>
</tr>
</tbody>
</table>
I should have spent more time listening to the travel agent instead of leering at his assistant and then
I wouldn't have been so surprised to find myself in Iceland with an eight hour wait on my hands. 
REYKJAVIK, the capital, was only an airport bus-ride away, but being loath to part with any of my
hard-won foreign exchange, I decided on walking tour of the airport.

Seeing the festoon of antennas all over the building reminded me that a couple of TF2's I'd
worked had said that they lived in barracks, and as the airport is shared by the U.S. Navy (I don't think
that's classified, Mr Editor - the letters which proclaim this looked sixteen feet high and could be read
in Moscow on a clear day), I decided to explore.

Working on Wellington's well established military principle that the "best beaten paths are
short-cuts to the billets" I struck out across vast wastes of volcanic ash. (I'm a bit suspicious about that
ash as it looked very much like the output of any barrack store I've ever seen - still there was such a
lot of it).

Three OFF LIMITS signs and a brush with a policeman later - it turned out that he wasn't shouting
at me but at the guard-house dog that was following me - I spotted a trapped vertical on top of a tall
building. I tried to trace the down lead but lost it somewhere and found a 20 Metre dipole instead.
Nearby ball-pitchers allowed "as how it belonged to the fella on the first floor".

Having sorted out which was the first floor I found that the "fella" was RICK WA9IPK, heavily
disguised as TF2WKH - whom I hadn't worked! I introduced myself and he took it like a man and the
rig was fired up while we talked DX and antennas.

One of the first people we heard was TF2WKM - the owner of the vertical - and Rick said that
although they only lived 200 yards apart they had never met. So after looking around 20 Metres we
went to visit VIC since he had gone off the air.

I don't know if many of you have visited a foreign shack, and seen your QSL card on the wall, but I
can tell you its a great feeling - like meeting an old friend in a strange place!. I was delighted to
autograph it once more and was able to assure Vic that I had got his in good time.

Soon it was time for me to slosh back to the terminal building full of a well-known fizzy drink and
promises to keep a sked in September. I had time to grab a bite to eat and a picture postcard of the
geysers before piling into a plane which had just arrived from LX-land and was on its way to New
York. I slept most of the way across the Atlantic, but was woken for a huge breakfast, and so can
claim to have been in full possession of my faculties when I saw this 6 element 20 Metre beam near
the approach to Kennedy Airport. I've questioned many a W2 about it, but no-ones heard of it. It will
just have to remain one of life's mysteries, like the Marie Celeste!.

After chasing all over Kennedy International for 90 minutes in a heat and humidity that would not
have disgraced Aden, I collapsed into an air-conditioned Boeing 727 which whisked me off to Detroit
inside an hour.

Once at the home of the folks with whom I was staying, I was given a couple of days to settle in and
find out which way North was, before being hurled into the Great American Wilderness. My friends
were not radio-orientated, but keen bird-watchers, canoeists and campers and I had to keep up or be
left behind for the bears. The amount of wildlife in the forests astonished me. Here in England you
could travel all day without even seeing a rabbit, but in Michigan wildlife just threw itself at you - like
having a walk-on part in a Walt Disney true life adventure.

I saw many signs of (ham) Radio-Activity as we motored furiously up and down the state. Michigan
is pretty flat and it is easy to spot the antennas. Besides being flat, Michigan also has a very sandy soil
which is great for growing beans (for whoever it is that cans them) but it makes for high ground losses
and it pays to get the beam well up and away from it. I suppose it could be said that the sandy soil is
good for growing beams too!. I am told that the height record stands at 300 feet and that the owners
nickname is SKY!. The very poor soil conductivity tends to explain the variation in signal strength
noticeable between inland W8's and those on the lakeside. Whose signals take off over an expanse of
water. Quads didn't seem too popular though (I could only have
seen about six), the rest being beams, beams and more beams.

While travelling by car I gathered a thirty or forty strong list of call-sign vehicle registrations and one of these days I hope to be able to call up one of these and take his breath away by asking him "where-he-was-going-in-such-an-all-fired-hurry-southbound-on-Route-31-near-SCOTTVILLE-at-3.20pm-on-Saturday-26th-August". It might be quite effective. On the other hand, it might prove to be very embarrassing!

I was struck by the number of 11 Metre verticals which sprouted on houses and water-towers and cars. The Citizens Band has come under fire from many sources, and I must admit that the fearful bedlam which can occur is horrific - complete with CQ DX calls and the promise of a QSL! However, I did see something of the other side of the coin. We stopped at a small weather station and the head man explained how it was used as a back up to the country telephone system, and gave examples of how it had saved time, property and, very probably, lives. Incidentally, we learned that the previous night's temperature had dropped to 32°F - in August and North of the Equator! What a place to holiday.

One thing that couldn't be avoided was television, of course. I won't say anything about the programmes - or should I say programs - except that I think our commercials are vastly superior (to their commercials - stupid). The TV antennas grew in great profusion, X's, Y's, W's, Z's and bow-ties as well as the conventional H's, and all on the same mast, too. But order is emerging from the chaos, and like all good solutions is elegantly simple - a rotatable VHF/UHF Log Periodic!.

When I had been in the country for two or three weeks my hosts thought I had mastered the money and the language sufficiently well enough to be allowed out on my own and I was driven to the station to board a train for the big city of Detroit, there to meet K8LSG - Roger.

I must grudgingly admit that I take back many of the rude things I may have said in the past about British Rail. For someone brought up on the Hollywood Technicolor version of the Great American Railroad the reality of the Cinderella-like passenger service was a poor sad thing. As I recall there were only four trains per day between Chicago and Detroit. I think the only point where the New York Central scored was on the smoothness of the ride. One sight I really did enjoy was to stand by the tracks and watch the freight trains go by, made up of cars bearing the names of every railroad I had ever read about. This, and being allowed to walk across the tracks, were the highlights of the ride.

Roger met me at the station and had no difficulty recognising me. I had deliberately dressed as much like a Briton as my wardrobe would allow - blazer, grey flannels and a white shirt with tie - the lot. I was a little put-out to discover that Roger had recognised me by the fact that I had no luggage! However, we "flashed" QSL cards and were away in the car, registration number K8LSG, to his home near the lakeside. As we drove, Roger told me that he would never go mobile, but he got the call-letter license plates because it was so convenient. The normal owner-driver has to queue up at City Hall to pay his fee and collect his plates each year, but these plates were sent through the post for a small "consideration".

He showed me his rig when we got to his house and we tuned across Twenty, as Fifteen was dead by then. The only G we could hear through the famous Stateside QRM was a G5 plus 3 (poetic justice!) so we packed up and I was treated to an enormous steak at a roadside steakhouse, whose dim lighting seemed positively indecent so early on a summers evening. While we ate Roger regaled me with stories of his work at the Hospital and his early days as a bush pilot in the far Canadian North. We discussed DX personalities that we both knew, together with DX conditions and what have you, then we went to call on a buddy of Rogers - Ted, W8ONA, who lived a couple of blocks away (a "block", I found out, is one eight of a mile, a definition, I think, that made the whole trip worth while. It had long puzzled me) We spent a very enjoyable couple of hours chatting together and then I had to dash for the train.
True to form, I had an hour to wait and decided to have a Hamburger and a cup of coffee. The snack bar was fresh out of Hamburgers and, since it was eleven p.m., they didn't seem too keen on re-stocking. Instead of phoning the President of the NYC I went out to a small "All-Nite Eatery" and didn't give a thought to Black Power or Riots until I sat down with my order. I'm happy to say that absolutely nothing happened, but light-headed with the success of this single-handed foray, I rushed off with Nickels at the alert, and phoned W8OTC, Bill, who, luckily, was at home. He was normally away from home quite a lot, driving all over the States as an electronics salesman, but he agreed to come out on the town with me. We did a little bar-hopping - purely for local colour - and Bill showed me a few of the roadside establishments on the Old Chicago Road used by the Anti-Prohibitionists - shades of Al Capone and the Roaring Twenties. This illusion was shattered by a waitress from Manchester, but it was good to hear a Lancashire accent again and Bill was intrigued to hear that we had both heard and seen Reginald Dixon at the Organ in Blackpool. It seems that Bill, among other things, is a staunch preserver of theatre organs and that Reg Dixon is quite a favourite of his gang!.

Time was running short and there were many things to squeeze into the few remaining days - like a day trip to Canada, for instance!.

I would have liked to stay longer, as everyone was coming home for the Fall and I would have been able to meet many other "local" amateurs, but as the College was due to start another Winter Term, I left America on September the sixth and did the rest of my travelling on Twenty.

(GC41M)

GOOD DESIGN PRACTICE.

(This article first appeared in "CQ" some years ago by Sumner Weisman W1VIV. It is the type of article that will not go "out-of-date" for a very long time and is included (by permission of the Editor of "CQ") in "Mercury" as it is felt that everyone will find at least one point of interest contained therein - Ed.)

If there is one thing that in absolutely unique about this hobby of ours, it must be the fact that we are the only consumers of commercially manufactured electronic equipment who absolutely demand good design practices. If any manufacturer attempted to sell us equipment in which poor design became evident, it would immediately be all over the amateur bands for everyone to hear. Therefore, just about all manufacturers of amateur equipment honestly attempt to incorporate as much good design practice as possible, as they could not stay in business very long any other way. Also they have found that many good features cost very little extra to include, but greatly enhance the equipment.

Even with the great choice of commercial gear on the market today, many of us still prefer to build our own. In many cases it is a matter of finance, and in others merely a desire for individuality and rank non-conformity. This is as it should be, of course.

Many amateurs, however, when designing and building their own equipment have only the vaguest ideas of what good design practice means. Often, the finished product leaves much to be desired both electrically and mechanically. While the average constructor is not expected to be a design engineer, there are many easy and inexpensive ways to give a piece of gear the look and operation of commercial equipment.

The U.S. Naval Electronics Laboratory has put out a booklet called "Suggestions for designers of Electronic Equipment". While written mainly with military equipment in mind, many of the suggestions are directly applicable to ham gear, and certainly worth reviewing.

COMMON DESIGN FAULTS

Technical Faults

1. Operation of parts above rating. This is probably the most common error committed by hams. It is much less expensive to put in adequately rated components in the first place.


3. Inadequate power line filter.
4. Excessive radiation producing interference.
5. Inaccessibility of parts for maintenance.
6. Relays open under vibration. A quite common fault in mobile rigs.
7. Electrical instabilities caused by mechanical parts of insufficient rigidity.
8. Inadequate protection of wires and cables passing through metal partitions, or where hinged chassis are used.
9. Calibration (or scale) markings lacking on controls.
10. Cable harnesses not adequately supported to prevent fatigue failures at rigid termination points.
11. Parts not secured, allowing damage during shock and vibration. For example: terminal boards or other assemblies cantilever mounted, and massive parts secured with screws of insufficient length, or by wire leads only. You wouldn't hang a power transformer by its leads alone so why do it to a heavy electrolytic?
12. Inadequate ventilation. Many a mobileer has scratched his head when the transistors in his power converter went out even though they were adequately heat sinksed.
13. Poor selection and location of controls. This is another very common fault. Many hams greatly underestimate the importance of operator comfort.
15. Inadequate clamping and cooling of electron tubes.
16. Failure to use lock washers where required, or use of incorrect types. Such things as beam antennas, and all mobile and portable equipment should use lock washers. How many of us do?.

EQUIPMENT FAULTS
1. Visual indicators mounted so that operators cannot adequately see scales, pointers, numbers etc.
2. Fineness of scale gradation, design of numerals and pointers, and scale progression poorly represented for accurate reading.
3. Controls work contrary to operators expectations. Naturalness of movement direction is derived from previous experience as well as certain factors. For example, how would you like to rotate your a.f. gain control clockwise and have the gain decrease?.
4. Maintenance is complicated by stacking assemblies and parts so that many must be removed to repair or replace one or a few.
5. Handles seldom provided; chassis or units too heavy to move without undue strain.
6. Calibration adjustment controls - especially screwdriver adjustments are too sensitive.

DESIGN SUGGESTIONS.
Electrical.
1. Choose top quality, standard electronic parts.
2. Reduce stress on parts to improve reliability.
3. Minimise use of parts known to have high failure rates, such as connectors and relays.
4. Fuse or otherwise protect both sides of the power line and provide spare fuses in convenient locations.
5. Design equipment so that interference and undesired radiation are minimised. The FCC (and GPO - ED.) is quite strict about this, and with excellent reason.
6. Do not series connect pilot lights. Not only is it harder to find the defective one, but a higher voltage than expected is lurking across the open light.
7. Where possible, avoid use of friction or pressure contacts. Where used they should be designed to prevent erratic operation under service conditions.

Mechanical.
1. Secure all electron tubes, large fuses and other plug-in items by easily released, positive holding clamps. A clamp only at the base is seldom successful.
2. Avoid the use of cantilever mounting for parts.
3. Wire lead-connected electronic parts which are large in comparison with a standard 2-Watt composition resistor (having a diameter greater than 0.4 inches) should be secured to the chassis or parts board to prevent lead breakage.
4. In mounting parts by wire leads, the clearance between the soldered connection and the body of the part should not be less than ¼-inch and should not exceed ½-inch in length.
5. Do not use rivets for mounting parts which may be subject to replacement or for maintaining electrical continuity.
6. Self-tapping screws should not ordinarily be used.
7. All set-screws should have one type of head.
8. Do not use flat-head (countersunk - Ed.) screws on thin panels.
9. Internal wiring should be combined into a cable and held by lacing or other suitable means. This cabling should be clamped to the chassis at frequent intervals to prevent conductor breakage.
10. Protect wires and cables running through holes in metal partitions from mechanical damage by use of grommets or other suitable means.
11. Stranded copper wire that has been soldered to a terminal should be secured so that vibration does not cause the conductor to flex near the area where the individual strands have been soldered together.
12. Do not join leads without a support at their junction. How many of us are guilty of this.
13. Secure glass windows to panels with clips, snap rings or other positive means. Do NOT use cement alone.
14. Avoid threading aluminium alloy into aluminium alloy parts.
15. Do not use dissimilar metals in contact where corrosion can be expected.
16. Do not use acid or corrosive soldering fluxes. Rosin is the only non-corrosive flux.

(The next part of this article will deal with Thermal problems, Forced Air Cooling, Part Considerations etc.)

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CATALOGUES. LISTS. ETC.

The Society has recently received the latest catalogues (1968/69) and specification sheets of most of the Heathkit range. The International Edition runs to well over 100 pages and the standard edition to 35. In the standard edition details are given of a multitude of interesting kits etc., including Solid-State Stereo Receivers, Tuners and Amplifiers, Record Players and Tape Deck, Heathkit Speaker systems, Intercomms, Digital Proportional Radio Control Systems, Servos, etc. Among the Test Gear is included Valve voltmeters, Multimeters, Wattmeters, Volt-Ohm-Milliammeters, Regulated High Voltage Supply, Transistor Tester, Sine/Square Wave Generators, Harmonic Distortion Meter, Resistance/Capacitance Bridge, Signal Generators, Alignment Generators, Audio Signal Generators, Oscilloscopes, Electronic switches, Servo Chart Recorders, Capacitor and Resistance substitution Boxes, Digital Instruments, and even an Analogue computer. "Ham" equipment includes the SB-101 (as in use at G4RS), the HW-100 (All-band transceiver 180 Watt PEP input), the HW-30 (a 5 Watt transceiver for 2 Metres), SB-310 Receiver, SB-610E 3" Monitor Oscilloscope, SB-620 Spectrum Analyser, HN-31 Dummy Load, HD-10 Electronic Keyer, HW-12A, HW-22A and HW-32A (All single band transceivers), SB-301E Amateur Band receiver with the matching SB-401E Transmitter, SB-200 1 KW Linear, Reflected Power Meters, the GD-1U Grid Dip Meter, and the Old Faithful DX-100U. Write : Daystrom Ltd., Gloucester, or ring Gloucester 29451.
HRO REBUILD.

G3JXL

(259)

Part IV - The Crystal Controlled Front End

(This article concludes the series by G3JXL on the HRO rebuild. It should be read in conjunction with previous articles published in "Mercury". Many letters have been received at HQ complimenting G3JXL on a FB series, to which I would like to add the thanks of the Editor (past and present) and Society members as a whole. Well done Bill - Ed.)

No great difficulty should be experienced in the building of this Crystal controlled front end. A little ingenuity is required in getting all the components neatly into the small aluminium box which fits onto the right hand side of the main chassis (see page 5 of the Spring 1969 "Mercury").

The two controls of the front end are made to mate up with the two holes in the front panel which in the original HRO were used for "Selectivity" and "Phasing". The two front end controls are the Range switch (which is a Radiospares 8-pole 6-position "Make-A-Switch" with the long shaft), and "Band Peaking" which is a 50 picofarad plus 50 picofarad ganged tuning capacitor. This just allows the bringing of the RF circuits into resonance as the main tuning is moved some distance. A front panel layout is shown on page 17 of the Spring issue of "Mercury".

The block diagram of the front end is shown in Fig.1.

The RF Amplifier is a quite conventional EF 92. This was chosen as being quite satisfactory and easily obtained and not requiring any neutralising as some of the more exotic high-slope types do. AVC is applied to this stage and also manual RF Gain control (see page 6 of the Spring 1969 "Mercury"). The RF Choke in the anode is a standard 2-5 mH (as small as possible). Grid and anode circuits must be screened. The Mixer is an ECC 85 double triode which is both quiet and free from cross-modulation (or as free as one can be). Care must be taken to wire up as shown in the diagram and Table 1, (page 27). Coil details are not given in the circuit, but are shown on Table 2, (page 27). All coils are wound on 3/8-inch diameter Aladdin polystyrene formers with dust iron slugs for resonating. The Oscillator is a Butler circuit which is suitable for overtone or fundamental oscillation. The crystal frequencies are shown in Table 3, (page 27).

Any surplus crystals will be suitable as with the Butler circuit third overtone operation is quite easy with old type crystals. It is not necessary to have the special B7G overtone crystals. Some care is necessary with the oscillator-tuned circuit L6 (see Table 2, page 27) so that 3rd overtone operation is achieved. A valve voltmeter is useful here but, failing that, a general coverage receiver can be used and the "S" Meter will give an indication of resonance on correct frequency. If neither of these is available, then a 1 mA FSD milliammeter in series with the grid resistor (earthy end) R10 will indicate resonance, but care must be taken to avoid tuning to the wrong overtone.

The Mixer stage is quite conventional using an ECC 85 double triode mixer and is more or less the same as the Mixer in the 3-5 to 3-8 Mhz tuneable IF amplifier in the main receiver. The tuned transformer in the anode of the Mixer is resonated at 3-65 Mhz and should be enclosed in an aluminium screened can. The original was made from an Octal valve screening can complete with base - it was shortened from five inches to two inches.

Fig. 1.
### V2/V3 - ECC 85 Pin connections

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HT+ Decoupled.</td>
</tr>
<tr>
<td>2</td>
<td>Signal Grid.</td>
</tr>
<tr>
<td>3</td>
<td>strapped to Pin 8. Cathodes for mixing across 1,000 Ohms resistor.</td>
</tr>
<tr>
<td>4</td>
<td>Heater.</td>
</tr>
<tr>
<td>5</td>
<td>Heater) Decouple with 0.1μfd disc ceramic.</td>
</tr>
<tr>
<td>6</td>
<td>L.F. Transformer (resonated at 3.65 MHz).</td>
</tr>
<tr>
<td>7</td>
<td>Oscillator Injection Grid.</td>
</tr>
<tr>
<td>8</td>
<td>strapped to Pin 3.</td>
</tr>
<tr>
<td>9</td>
<td>Earth</td>
</tr>
</tbody>
</table>

### Table 1.

<table>
<thead>
<tr>
<th>Band</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
<th>L5</th>
<th>L6</th>
</tr>
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<tbody>
<tr>
<td>160</td>
<td>10 Turns</td>
<td>120 Turns</td>
<td>120 Turns</td>
<td>60 Turns</td>
<td>4 Turns</td>
<td>45 Turns</td>
</tr>
<tr>
<td></td>
<td>40 SWG at</td>
<td>40 SWG</td>
<td>40 SWG</td>
<td>32 SWG</td>
<td>20 SWG</td>
<td>32 SWG</td>
</tr>
<tr>
<td>80</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>L4 &amp; L5 are common to all bands</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>3 Turns 24</td>
<td>36 Turns 24</td>
<td>36 Turns 24</td>
<td>15 Turns</td>
<td>22 SWG</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SWG</td>
<td>SWG</td>
<td>SWG</td>
<td></td>
<td></td>
<td>with 50 pfd</td>
</tr>
<tr>
<td>20</td>
<td>2 Turns</td>
<td>14 Turns</td>
<td>14 Turns</td>
<td>7 Turns</td>
<td>22 SWG</td>
<td></td>
</tr>
<tr>
<td></td>
<td>22 SWG</td>
<td>22 SWG</td>
<td>22 SWG</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wound</td>
<td>Wound</td>
<td>Wound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>2 Turns</td>
<td>9 Turns</td>
<td>9 Turns</td>
<td>6 Turns</td>
<td>22 SWG</td>
<td></td>
</tr>
<tr>
<td></td>
<td>22 SWG</td>
<td>20 SWG</td>
<td>20 SWG</td>
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</tr>
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<td></td>
<td>1 turn spacing</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>1 Turn</td>
<td>7 Turns</td>
<td>7 Turns</td>
<td>5 Turns</td>
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<td>20 SWG</td>
<td>20 SWG</td>
<td>20 SWG</td>
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<td>1 turn spacing</td>
<td>1 turn spacing</td>
<td>1 turn spacing</td>
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</tr>
</tbody>
</table>

All formers 3/8-inch diameter Aladdin with dust iron core

### Table 2.

<table>
<thead>
<tr>
<th>Band</th>
<th>Crystal Frequency</th>
<th>Mode</th>
<th>Output Frequency</th>
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<tbody>
<tr>
<td>160</td>
<td>5.5 MHz</td>
<td>Fundamental</td>
<td>11.0 MHz</td>
</tr>
<tr>
<td>80</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>11.0 MHz</td>
<td>Fundamental</td>
<td>18.0 MHz</td>
</tr>
<tr>
<td>20</td>
<td>6.0 MHz</td>
<td>3rd Overtone</td>
<td>24.0 MHz</td>
</tr>
<tr>
<td>15</td>
<td>8.0 MHz</td>
<td>3rd Overtone</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>10.56 MHz</td>
<td>3rd Overtone</td>
<td>32.0 MHz</td>
</tr>
</tbody>
</table>

27
All aerial connections and feeds to the 3.5 MHz tuned IF stages must be in co-ax, as indicated in the diagram or otherwise breakthrough on 80 Metres may be experienced.

When completed a very good performance indeed can be expected on the six main HF bands on both CW and SSB with the receiver as described in this and the three previous copies of "Mercury". Unfortunately, its performance on A3 (phone) is not good due to its high selectivity, but if the A3 signal is a stable one it can be taken as an SSB signal, the receiver taking whichever sideband is free of interference. The performance of the receiver is such that one can be quite critical of a transmission, any trace of FM on a signal and the receiver will not be able to demodulate it at all. Providing some satisfactory method of calibration is used on the 'S' Meter then a useful report can be given on sideband suppression. Providing reasonable care is taken in the constructional work, anyone who rebuilds an HRO (or any other similar receiver) to the standards described will end up with a very worthwhile amateur bands receiver.

(G3JXL)

**XTAL CONTROLLED FRONT END Component List**

<table>
<thead>
<tr>
<th>Resistors</th>
<th>Capacitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1 220K Ohms</td>
<td>C1 0.04 µfd</td>
</tr>
<tr>
<td>R2 270 Ohms</td>
<td>C2 0.04 µfd</td>
</tr>
<tr>
<td>R3 4.7K Ohms</td>
<td>C3 0.01 µfd mica ceramic</td>
</tr>
<tr>
<td>R4 2.2K Ohms</td>
<td>C4 0.04 µfd</td>
</tr>
<tr>
<td>R5 5.6K Ohms</td>
<td>C5 50+50 pfd tuning</td>
</tr>
<tr>
<td>R6 22K Ohms</td>
<td>C6</td>
</tr>
<tr>
<td>R7 100K Ohms</td>
<td>C7 100 pfd mica</td>
</tr>
<tr>
<td>R8 1.2K Ohms</td>
<td>C8 0.1 µfd disc ceramic</td>
</tr>
<tr>
<td>R9 100K Ohms</td>
<td>C9 47 pfd mica</td>
</tr>
<tr>
<td>R10 12K Ohms</td>
<td>C10 47 pfd mica</td>
</tr>
<tr>
<td>R11 390 Ohms</td>
<td>C11 0.1 µfd disc ceramic</td>
</tr>
<tr>
<td>R12 390 Ohms</td>
<td>C12 0.1 µfd disc ceramic</td>
</tr>
<tr>
<td>R13 10K Ohms</td>
<td>C13 0.1 µfd disc ceramic</td>
</tr>
<tr>
<td>R14 23K Ohms</td>
<td>C14 0.1 µfd disc ceramic</td>
</tr>
<tr>
<td>R15 22K Ohms</td>
<td>C15 0.1 µfd disc ceramic</td>
</tr>
</tbody>
</table>

C13, C14 and C15 are across V1, V2 and V3 heaters for RF decoupling.

RFC 2.5 mH RF Choke (as small as possible)

Range Switch 8 Pole 6 Position Radio-spares "Make-a-switch".

V1: EF92
V2, V3: ECC83
MEMBERSHIP LIST - AMENDMENTS

Members are asked to amend their Membership Lists as follows :-

<table>
<thead>
<tr>
<th>No.</th>
<th>Call-sign</th>
<th>Name</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>43</td>
<td>G3CRP</td>
<td>J. Pigou</td>
<td>52, Rowan Road, Bexleyheath, Kent</td>
</tr>
<tr>
<td>46</td>
<td>MP4TDA</td>
<td>R. Webb</td>
<td>Quartermaster, HQ British Troops, BFPO 64.</td>
</tr>
<tr>
<td>57</td>
<td>M. Morsley</td>
<td></td>
<td>Co Bristol University OTC, Whitesands Rd., Bristol.</td>
</tr>
<tr>
<td>83</td>
<td>DLJYB</td>
<td>D.A. Bowden</td>
<td>'A Troop, (Comcen), HQ RAF, BFPO 40.</td>
</tr>
<tr>
<td>90</td>
<td>G3DFS</td>
<td>J. Cooper</td>
<td>15, Valley Road, Blandford Camp, Blandford Forum, Dorset</td>
</tr>
<tr>
<td>106</td>
<td>G30RY</td>
<td>R. Titteyton</td>
<td>'Elenwood', Church Farm Lane, Willoughby Waterless, Leicester.</td>
</tr>
<tr>
<td>127</td>
<td>G3FU</td>
<td>J.A. Beadon</td>
<td>Apartment F23, 1000 Airport Road, Huntsville, Alabama 35802, U.S.A.</td>
</tr>
<tr>
<td>141</td>
<td>VE3ZI</td>
<td>J.J. Jarvie</td>
<td>(Apartment 1605), 60 Holly Street, Toronto 7, Ontario, Canada.</td>
</tr>
<tr>
<td>173</td>
<td>G3VYZ</td>
<td>L.W. Thompson</td>
<td>93, Scotton Gardens, Catterick Camp, Yorks.</td>
</tr>
<tr>
<td>216</td>
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<tr>
<td>221</td>
<td>G3BJA</td>
<td>M.A. Bonnett</td>
<td>47, Patens Lane, Chatham, Kent</td>
</tr>
<tr>
<td>276</td>
<td>G3MCQ</td>
<td>H.P. Dadd</td>
<td>32, Keswick Road, Bexleyheath, Kent</td>
</tr>
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<tr>
<td>293</td>
<td>S3ILS</td>
<td>P.N. Henwood</td>
<td>Chinga Secondary School, P.O. Box 445, Nyeri, Kenya</td>
</tr>
<tr>
<td>329</td>
<td>MP4TCQ</td>
<td>J. Hamilton</td>
<td>Radio Troop, 222 Signal Squadron, BFPO 64.</td>
</tr>
<tr>
<td>347</td>
<td>G3YCN</td>
<td>W. Kent</td>
<td>72, Bower Mount Road, Maidstone, Kent.</td>
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<td>G3DBQ</td>
<td>R. Braithwaite</td>
<td>60, Oakfield Avenue, Birstall, Leics.</td>
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<td>G3BM</td>
<td>N. Shires</td>
<td>8, Marcoo Bungalows, North Weald, Epping, Essex.</td>
</tr>
<tr>
<td>421</td>
<td>G3WQI</td>
<td>A.L. Hildt</td>
<td>Church End, North Somersets, Nr. Louth, Linns.</td>
</tr>
<tr>
<td>429</td>
<td>G3NZC</td>
<td>K. Heap</td>
<td>&quot;The Gables&quot;, 18, East Park Road, Blackburn, Lancs.</td>
</tr>
<tr>
<td>430</td>
<td>G3PQ</td>
<td>M.P. Bayslie</td>
<td>2, Albion Street, Kenilworth, Warwickshire, CV8 2FW</td>
</tr>
<tr>
<td>433</td>
<td>G3NET</td>
<td>L. Morley-Taylor</td>
<td>91, Lower Bristol Road, Weston-super-Mare, Somerset</td>
</tr>
<tr>
<td>436</td>
<td>G3HDD</td>
<td>H.W. Heath</td>
<td>29, Dorking Road, Epsom, Surrey</td>
</tr>
<tr>
<td>437</td>
<td>MP4TCR</td>
<td>C. Hall</td>
<td>2 Plt., The Queens Company, 1st Battalion, Grenadier Guards, BFPO 64.</td>
</tr>
<tr>
<td>438</td>
<td>G3RIO</td>
<td>W.C. Booth</td>
<td>15, New Road, Bovingdon Camp, Nr. Wareham, Dorset.</td>
</tr>
<tr>
<td>439</td>
<td>G3SRH/9M2RH</td>
<td>R. Salisbury</td>
<td>MQ 1, Terendak Garrison, Malaca, Malaya.</td>
</tr>
<tr>
<td>440</td>
<td>VS6AL</td>
<td>K. Young</td>
<td>148, Waterloo Road, Kowloon, Hong Kong.</td>
</tr>
<tr>
<td>441</td>
<td>R.J. Larkin</td>
<td></td>
<td>42, Stafford Street, Norwich, NOR.93G</td>
</tr>
<tr>
<td>Number</td>
<td>Call Sign</td>
<td>Name</td>
<td>Address</td>
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<tr>
<td>442</td>
<td>G3VIS</td>
<td>R.W. COX</td>
<td>&quot;Heatherle&quot;, 12, Linton Rise, Catterick Camp, Yorkshire</td>
</tr>
<tr>
<td>443</td>
<td>D.G. PLANT</td>
<td></td>
<td>56, Maybank Avenue, Wembley, Middlesex.</td>
</tr>
<tr>
<td>447</td>
<td>MP4TCV</td>
<td>B.A. HOWARD-HIGGINS</td>
<td>13, Squadron, A.A.C., BFPO 64.</td>
</tr>
<tr>
<td>448</td>
<td>G3KYF</td>
<td>K.G. SULLIVAN</td>
<td>&quot;Guy Heritage&quot;, 14, Wigston Road, Blaby, Leics.</td>
</tr>
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<td></td>
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<td>LE8 3FU</td>
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<tr>
<td>451</td>
<td>GW3POD</td>
<td>G.H. FOSTER</td>
<td>9 M.S.Q., T &amp; AVR Centre, Landaff North, Cardiff, CF4 2HJ.</td>
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<tr>
<td>452</td>
<td>G3WHZ</td>
<td>D.E.V. JARRETT</td>
<td>&quot;Twyford&quot;, Newton-le-Willows, Bedale, Yorkshire.</td>
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<tr>
<td>454</td>
<td>G3UA</td>
<td>D A. RAMSEY</td>
<td>28, LOXLEY Road, Glenfield, Leicester.</td>
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<tr>
<td>459</td>
<td>G3EBH</td>
<td>G C. NEWBY</td>
<td>&quot;St Albans&quot;, 25, Sudbrooke Lane, Nettleham, Lincoln.</td>
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<tr>
<td>456</td>
<td>G3NY</td>
<td>L.H. LUCAS</td>
<td>12, Seagrave Road, Folkstone, Kent.</td>
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<tr>
<td>511</td>
<td>G3EYD</td>
<td>E. J. GREEN</td>
<td>61, Norris Road, Sale, Cheshire, M33 3GR.</td>
</tr>
<tr>
<td>516</td>
<td>P.S. LAYBOURNE</td>
<td>37, Barnwood Avenue, Gloucester, GL4 7AE</td>
<td></td>
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<tr>
<td>527</td>
<td>T.C. HICKS</td>
<td></td>
<td>22, Hills Crescent, Colchester, Essex.</td>
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<tr>
<td>532</td>
<td>MP4TCX</td>
<td>J.S. WALDEY</td>
<td>222 Signal Squadron, BFPO 64.</td>
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<tr>
<td>539</td>
<td>G3VVE</td>
<td>H. ROBINSON</td>
<td>190, Vale Road, Mansfield Woodhouse, Mansfield, Notts.</td>
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<tr>
<td>553</td>
<td>G3JUD</td>
<td>R.A. NORTON</td>
<td>58, Kings Road, Pownall Park, Winslow, Cheshire, SK9 5PW.</td>
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<tr>
<td>559</td>
<td>GW3ASW</td>
<td>C.R. MOUNTJOY</td>
<td>&quot;Pant Villa&quot;, 55, Aberdare Road, Cwmbach, Aberdare, Glamorgan.</td>
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<tr>
<td>564</td>
<td>G6SC</td>
<td>C. COLLINS</td>
<td>&quot;Calumet&quot;, New Road, Ridgewood, Uckfield, Sussex.</td>
</tr>
<tr>
<td>566</td>
<td>G6DK</td>
<td>D.A. MACDONELL</td>
<td>&quot;Macmule&quot;, Lower Church Road, Titchfield Common, Fareham, Hants.</td>
</tr>
<tr>
<td>567</td>
<td>G3VHH</td>
<td>G.W. WEALE</td>
<td>2, Shadwell Road, Alvaston, Derby.</td>
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<td>568</td>
<td>G3CKQ</td>
<td>R.S. TRELVLIN</td>
<td>2, Centry Court, Brixton, Devon.</td>
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<tr>
<td>573</td>
<td>G3OQD</td>
<td>D.W.V. RUTTLE</td>
<td>61, Swiss Farm, Henley-on-Thames, Oxon., RG9 2HX.</td>
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<td>585</td>
<td>A. HEAPS</td>
<td></td>
<td>2 Squadron, 9th Signal Regiment, BFPO 53.</td>
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<td>MP4ICW</td>
<td>G. GRAY</td>
<td>222 Signal Squadron, BFPO 64.</td>
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<td>PA0XKI/</td>
<td>P.S. READER</td>
<td>Communications and Electronics Division, HQ</td>
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<td>G3TSR</td>
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<td>AFCENT, BFPO 28.</td>
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<td>603</td>
<td>G3FD</td>
<td>H.T. BROCK</td>
<td>56, Chapel Lane, Hadleigh, Essex.</td>
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<td></td>
<td>AMATEUR RADIO CLUB</td>
<td>2, Squadron, 1 Div. &amp; Signal Regiment, BFPO 32.</td>
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<td></td>
<td>AFF3</td>
<td>G3SIG</td>
<td>92 Signal Regiment, AER.</td>
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<td></td>
<td>AFF3</td>
<td>ZC4GY</td>
<td>Royal Engineers, Cyprus.</td>
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<td>STOP PRESS</td>
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<td>604</td>
<td>G3TLV</td>
<td>G.C. WYNNES</td>
<td>20, Cross Lane, Middlewich, Cheshire.</td>
</tr>
<tr>
<td></td>
<td>AFF4</td>
<td>(Wynnes) Detachment</td>
<td>Royal Signals A.C.F., ACF Centre, Dean Street, Winsford, Cheshire.</td>
</tr>
<tr>
<td>605</td>
<td>I.B. JOLLY</td>
<td></td>
<td>Officer Commanding AFF4.</td>
</tr>
</tbody>
</table>
G3DBU - Glad you like the JR-500-SE RX Bill, and hope you've got that 8 over 8 skeleton slot for Two Metres on the roof now.

9M2DG - Good luck with the new call and tnx for the 9M2SR QSO with HQ Mike.

G3PQF - Hope the TVI situation has improved and that members can help with that Hi-Fi BCI.

G3SIQ - How did the GM-DXpedition go, Arthur? Plenty of 2M, 4M and 70cm QSOs?

DL5YT - Tnx Affiliation of DL2VR and hope to see you both on the Net Ray. Incidentally, Ray one of our new members, G8DK, held the call DL2VR way back in 1954-1956!

G3GEJ - Tnx for the letter. MEMBERS PLEASE NOTE - cards for Les via RSGB only, please.

G3PQ - Hope that the lapel badge and cards were OK OM.

G3CRP - Thanks for the new members introduced Jerry.

G3KBQ - Guess the work on the RX should now be about complete Peter, and glad to hear the HRO article was a help. Many members have written to say they found the HRO articles first class.

PA0XKH - Nice to hear a PA0 member on the Net, Julian, and thanks for giving quite a few members a "new" one for the Awards.

G3MUU - Thanks for the subs OM.

9M2RH - Very interested in details of yourself and Club, Bob. Have run this as a separate article.

G2FYT - Your letter written by "green pencil" received OK. Your request for info on "Digger" elsewhere, Eric.

G3RKD - Welcome to the RSARS, Bill. Hope your stay will be a long and happy one.

G3KAM - As you say Den, it is a long way from 9V1/9M2/VS5 days, but hope a "G" call is providing plenty of DX on 10/15/20.

G3IGI - Thanks for the order for lapel badges OM.

G3XFV - Your interesting comments on many aspects of the Society duly noted, Ian. The "Special" call you suggested will be in use next year - GB3RCS. Many thanks indeed for your FB donation.

G3LUN - Thanks for the info. on G3LUN and G3SIG, Michael.

G3FDU - Change of address duly noted. Hope you are now settled down there in Huntsville, Alabama.

G2DRT - Hope the six months wait for the "Atlanta" was worth it, OM, and thanks for the challenge, which I quote "MAYBE THE ACC CAN SHOW YOU ROYAL SIGNALS CHAPS HOW TO WORK THE DX" Unquote. Well, you Royal Signals Chaps, as they say in the States "Watsa"?

G3IOI - Tnx for your Giro suggestion Ray. I have passed this along to Peter.

ZB2BC - Suggestions duly noted, Jack. How about trying the 80 Metre Net sometime.

G3YCN - Congratulations on the change of call from G8BVG, Ted. C.U. on 80?

G3JVD - Thanks for your regular appearance on the Net, Wilf, and the newsy letters. Hope that operation on 21 is bearing fruit.

G3NET - Contacts (/M) from just about everywhere, QSOs from the home QTH, a visit to HQ and a FB article. Well done, Lionel and many tnx.

G3YBO - Very glad to welcome the Yellow Blue Ocean to the Society Roger.

G8ANQ - Hope that change of QTH is for the better Bill.

G2HKU - Glad you like the HRO articles, Ted, and thanks for the many Net QSOs.

G3VYT - Hope you have managed to overcome the power, antenna and other problems at the new QTH, Les.

G3JPU - Welcome to the Society, Doug, and OK about Top Band and 70 cms only.

DL6AA - Thanks for the letter and subs Heinz. Also your participation in both the LF and HF Nets.
G8VG  - As one of the LF Net stations, many thanks for all your efforts also your letters and helpful comments. Hope the CW Net around 3540 catches on. I'm sure it will.

G3TLV  - Welcome back, Geoff, and hope to be hearing some FB signals from the Middlewich area very soon.

441  - Change of QTH duly noted OM and sorry about the incorrect initials.

G3BTM  - Another welcome, this time to Old Timer G3BTM. Hope the QSL cards were satisfactory.

DL5XG  - Hope that you have managed to resuscitate the old rig, Ray and are once more pushing out the R.F.

G4DR  - Glad you find "Mercury" interesting, Pat, and OK on being one of the SCU boys.

G2WQ  - Archie busy squeezing in work on the cottage between Net QSOs!

G3KYF/M  - An interesting long letter to Ray (3EKL) with details of G3XRS Club Station where Keith is the main operator.

DL5YA  - Another welcome to another DL5 - Barry with 32 Engineer Regiment.

G3SJF  - Glad you enjoyed your visit to the Museum here at the School Peter. It certainly is worth seeing.

G3VVE  - Thanks for the Application Form and welcome to RSARS OM.

G3IUD  - Welcome also to you Mike as a Life Member.

349  - Congratulations on the Award Syd and glad you find the Net interesting.

G8SC  - Thanks, Cyril, for the Application Form and welcome to RSARS.

G8DK  - Two G8's in a row! Welcome to you Dennis. Hope you find many old friends among the readers.

VS6AA  - Your comments duly noted Maurice and keep up the good work around 21 Mc/s (sri! Mhz).

G3SGH  - Interested in your comments, John, on the Awards Scheme. Many thanks.

G3EJF  - Tnx for your order and the good work with the Notepaper etc. Hoping to hear the XYL on the bands sometime.

G2KK  - Nice to hear from you via the GPO as well as the Net, Ken. Tnx for the enclosures.

G3IUD  - Thanks for the badge order, Mike, and glad to hear you are making the RSARS QSOs on 15. We'll be looking for you on 80.

G3XBA  - Letters and enclosures received all OK - many thanks John. Hope your move turns out to be a satisfactory one.

548  - Change of address duly noted, John. Good luck with the next RAE.

G2FHF  - Tnx for letter and renewal OM. Hope to be hearing you on the bands.

G3XBA  - Hope you are now settled in new posting, if it has arrived. Thanks for letter and kind offer, John.

605  - Glad to welcome you and all members of 45 (Winsford) Det. ACF to the Society as No. 605 and AFF4. Hope to hear signals from you soon.

VISITORS TO HQ.

Since the last publication of "Mercury" we have been pleased to welcome several visitors to the HQ station including the President, Brig. A.D. Brindley MBE FIEE accompanied by Col. J.C. Clinch (DL2ZN, DL5XR, G3MJK) (061) and Major D. Barry (G3ONU) (O76). Other visitors included Mick Morphey (057), Jock Burns (DL5YX, G3WHS) (547), Alan Keohane (G3XUC) (368), Lionel Taylor (G3NET/M) (433), Bill Nesbitt (G13TZX) (346), Tony Tabberer (G3WRY) (540), and Bert Donn (G3XSN) (343). Non-member visitors included G3PXD, A.J. Hawkins from Devizes, Ted Baldock (Royal Marine Barracks, Eastney), Norman Hall from Gloucester and Robert Williams, an ex-member of the DL2VR gang. Thanks for calling, gentlemen - please do so again. (P.S. When are YOU going to look in at G4RS???)

(G3DPS

33
NETWORDS No.1 - Answers

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QSL CARDS.
Although the Society still holds a stock of QSL cards, the time will soon come when a reprint will have to be considered. The assistance of all members is requested in deciding the type of card to be produced. In order to keep the printing costs down (and the subsequent resale price) a more "complex" card could not be produced. However, the following points may be worthy of consideration: 1. Do we need a change of design? 2. Should the card be horizontally or vertically "polarised"? 3. Should it be a single or double-sided card (A single sided card is cheaper, and views have been expressed favouring a single-sided card - see "Mercury" 1967) 4. Any other suggestions? Please let the Gen. Sec. know as soon as possible what your opinion is. A post card will do, or include your suggestions with your next article for "Mercury"!

(G3DPS)
QUICK-QUIZ. Do you know the United States?

What State is shown in outline above? Some clues to help you - Situated between 82 and 88 degrees West Longitude. Capital is Frankfort. Entered into the Union in 1792. Highest point is Black Mountain in Harlan (4,145 ft), has a population of 3,160,000+ which rates it 21st in the United States, contains such towns and locations as Manchester, Winchester, Falmouth, Richmond, London, and Somerset.

1. How many of the following are State Capitals? Little Rock, Dover, Springfield, Topeka, Lansing, Helena, Carson City, Columbus, Austin, Olympia.
2. In what State would one find the centre of the Contiguous United States (the 48 mainland states, excluding Alaska and Hawaii)?
3. Where is the United States rated in relation to other world countries in respect of a) population, b) Area?
4. In the United States proper (all 50 States including Alaska and Hawaii) in which States are the following points located? a) the most Northerly, b) the most Southerly, c) the most Westerly, d) the most Easterly?

DONATIONS
The Society gratefully acknowledges the receipt of a donation from Member No. 043. Tax Jerry.

SLOW MORSE TRANSMISSIONS.
Slow Morse is transmitted on behalf of RSGB on the G4RS every Tuesday and Thursday from 2000Z on 1865 Khz aprox. Speeds are approx. 8, 12 and 15 w.p.m. SWLs are invited to use this service and reports will be welcomed and acknowledged.

HELP !!!
A check of the Membership List shows that the following surnames appear more than once (as shown in brackets):


Please help your HQ staff BY ALWAYS QUOTING YOUR MEMBERSHIP NUMBER ON ALL CORRESPONDENCE.
LATE LETTER.

Hong Kong.
27 May 1969,

The Editor,
"Mercury".

Dear OM,

I understand that Ray Webb, G3EKL, is about to leave for MP4T-land, from where I hope to hear his distinctive voice very soon. I would like to express to Ray my sincere thanks for all that he has done for RSARS during his term of office. Some of our members may not be aware that Ray was an extremely busy quartermaster and that the work he did for the Society - a considerable amount by any standards - was done as a sideline. All the more remarkable, therefore, that he was able to achieve so much. The level of activity within the Society is higher than it has ever been - thanks in no small measure to his efforts.

May he enjoy life at the other end of the pile-up. I look forward to blowing the froth off some 807's with him at next years AGM.

73
Maurice Caplan VS6AA.

Thank you, Maurice, for the kind words, duly passed on to Ray via "Mercury" - Ed.)

---------------------------

OVERHEARD ON THE NET. (By a member)

G4RS : "Think you are a bit off frequency OM"
G9XX : "No, I'm alright, Jack, its the other 29 stations who are off"
G4RS : "Think you have a bit of carrier in there somewhere OM"
G9XX : "Oh good! I'm pleased about that because I'm using AM"
G4RS : "I'm not getting you very well"
G9XX : "Can't understand why not. It's perfectly Q5 on my monitor"
G4RS : "Think you are radiating Upper Sideband OM"
G9XX : "Sorry about that. I'm not used to this darned thing yet and still tend to talk straight into it".
(Not strictly true, but highly representative!!! - G3DPS)

THOUGHT FOR TODAY

(By the same member)

It's an odd thing that the nearest approach to a perfectly uni-directional antenna is a vertical rod. Erect it at the North Pole and it can only radiate South.

THOUGHT FOR TOMORROW.

Have I ordered my Notepaper/QSL Cards/Lapel Badge/ Society Tie? If not, I suppose I should. Let's see, there's an order form in this "Mercury" somewhere and should be able to borrow the cash off the XYL/YL/Mum/Dad. Yes, good idea, I'll do it today. It'll make the Gen. Sec. Earn his keep!.

SOCIETY TIES.

At the time of writing the sample material has been received and it looks really good. It is hoped that by the time you read this the ties will be available. Only a limited quantity has been ordered so why not send along YOUR order now - and keep an eye out for anyone wearing a Society Tie - its your introduction to another Society member!
QUICK-QUIZ - Answers.


NET NATTER NOTES.

Both the LF and HF Nets continue to provide a common on-the-air meeting point for members as well as providing those additional points towards the Awards Scheme. Net Control has been taken by several members and, generally speaking, the LF and HF Nets have settled down quite well. Far too few members appear around 21·380 Khz in the afternoons (although it is appreciated that not everyone has a "Sports Afternoon" on Wednesday or any other day), but the overseas boys would certainly like to talk "back home" so how about it?. Look for MP4TAF, ZC4HS or 9M2DQ doing the honours at the distant end. On the LF Net the usual stations have appeared regularly together with a few non-members, including EA4, 5A2 etc. DL2VR (the Club at Verden) looked in with Ray (DL5YT) piloting. A YL visitor turned out to be G3NOB, an ex-Service type, but an invitation to join so far has not borne fruit. G6LL also looked in and gave quite a few points to Net members. On Activity Sunday 30th March 15 metres provided an 18 station Net with a couple of visitors in the shape of W3RX (who did so much for the VS5RCS trip) and 4S7PB (Net Control station of the South East Asia Net). April Fools Day produced a bumper crop of stations for the Net, 29 in all. This night a QSY was necessary due to a couple of Continental stations both of whom appeared to have transmitters but no receivers. Despite the size of the Net the QSY went well. 8th April found G3DPS away at Brighton and listening to the Net on a R 107 (with the BFO on, of course!). It sounded good. PA0XKH and, more recently, PA0XKI have been welcome representatives of PA0 on frequency. (Both members, by the way). G3JIL, normally busy in the Club with things like Slow Morse etc., surprised Control by appearing on the Net on 15th April. April 18th produced two other surprises - G3XUC appeared through the door instead of through the loudspeaker (and did a good job as Net Control) and G3NET/M booked into the Net at 5 and 9 plus and then created some sort of record by personally handing in a QSL card to HQ for the QSO! all within a few minutes. Space does not permit further details of the many interesting hours spent on the Net, but why not join in, remember, 3·780 + or – from about 1800Z Tuesdays and Thursdays, or 21·380 + or – any afternoon. To the many SWLs who have sent in Net reports, many thanks - glad you could join us.

(G3DPS)

RSARS LAPEL BADGE

Each badge - 2/6 inclusive of postage
Your callsign can be added beneath the badge for an extra 5/- incl.

Orders to Gen. Secretary : - See inside cover.
WELCOME!
With this issue we say "Welcome" to several new members including :-

**G3RKD - 438** - W.O.II "Bill" Booth, who is with the Queens Royal Irish Hussars, and is located not too far away from HQ. In fact, Bill brought his membership application, QSL card etc in person. The QSL shows previous activity as DL2BH, DL5YB, MP4BFR and MP4TBW. Hope to hear you often, Bill.

**DL5YA - 536** - From 32 Engineer Regiment in BA0R we welcome Barry Grainger, whom you might have worked in the past as ZC4BG, ZC4GY, 5B4BG, or 5B4GY. Barry is also license holder for the "QRZ" Club, and tells us he is active "all bands Top to Two".

**G3VVE - 539** - Located now at Mansfield Woodhouse, Notts., Harry Robinson served with the Signal Platoons of the Royal Lincolns and Royal Anglian. Hope to hear plenty of you Harry.

**G3IUD - 553** - Ronald A. (Mike) Norrington now settled in Wilmslow, Cheshire after Service with 42nd Div. Signals (TA) back in 1939, followed by further Service with 59th Div. Sigs., 66th Div. Sigs., Sudan Defence Force Signals (Khartoum), various Signals Units in M.E.F., then with Military Liaison Signals in Greece. Introduced by VS6AA to whom, many thanks.

**GW3ASW - 559** - Cyril R. Mountjoy, whose QTH now contains a beautiful Welsh word CWMBACH, started way back with the Queens Royal Regt where he rose to the rank of Signals Sgt, followed by Staff Sergeant. He was then commissioned in the Indian Army with the 10/10th Baluch Regiment as Depot Sigs Training Officer. Transferred to the Indian Signal Corps at Mhow and then as Company Commander etc., at Jubbulpore as Tech Training. Certainly an interesting history Cyril, welcome to the Society and thanks for already joining in the LF Net.

**G8SC - 564** - First licensed in 1937, another Cyril, this time Cyril Collins, now living at Uckfield in Sussex started with RAOC and joined REME on formation in 1942. Now with D.W.S. Cyril gives an interesting list of call-signs including D2SC, GW8SC, G8SC, ZC6JK, VQ4SC, ZD6SC, ZC4SC and for 4 years was Custodian of G3IHH, S.E.E. Arborfield. Cyril retired after 37 years service - well done! Welcome to you Cyril.

**G8DK - 566** - D.A. Macdonnell ("Mac") is pipped at the post as regards length of service by G8SC - Mac completed a total of 36 years, during which time he collected such exotic call-signs as XU8DI (Shanghai), SU1DA (Cairo), D2DA (Germany), MD5DA (Canal Zone), ZC6DA (Palestine), ZD6DA (Cyprus), DL2DA and DL2VR (Germany). G8DK started in Liverpool in 1935 and has been heard from Catterick and now Fareham in Hampshire. Mac runs a "Reporter" on "2", a Ranger and L67 on "4" and a DX40U on the HF bands. A Naval B40C serves to bring in the RF. Mac is a member of RAEN and RSGB. Welcome, Mac.

**G2CKQ - 568** - The Chief Training Officer of the Decca Navigator Company joined us recently in the guise of G2CKQ - Richard S. Trevelyan in Brixham Devon. The reverse of Richards Application form makes very interesting reading, and includes: 1939, transfer from SRO Royal Tank Regiment to Royal Signals (anyone who remembers personal numbers, try 923621). From then on the history reads like a travel brochure - Armoured Brigade Signals, Western Desert, Special Duties in Abyssinia, Eritrea, Somalia and Sudan. Signal Security duties with PAIFORCE, Libya, Tripolitania, Algeria and Tunisia. Then Special Duties Sicily and Italy. Commanded Op. Coy AFHQ Signals, then to Command 23 Armoured Brigade Group Signals in Greece. Then to Norway (that must have been a change Richard, even if only in temperature!) Then to SEALF in 1947. Later transferred to the RAF Regiment as Signal Officer (p.c.) Finally to (a no doubt well-earned) Service retirement in September 1957. A big welcome, Richard, and hope to hear a lot of you.

**G3OOD - 573** - Dave Ruffell. Now at Henley-on-Thames and often on the LF Net. Dave has had long connections with the TA including Princess Louise's Kensington Regiment TA (Formerly 13th London Regiment) and 41st Signal Regiment TA. Personal number - 6205390. Welcome Dave to the Society and the Net.

**G3FD - 603** - Harold T. Brock saw service during the War with SCU3 (‘nuff said!). Now operating from Hadleigh in Essex we extend to you Harold a hearty welcome.
MP4TCW - 601 - A new member operating in the sunshine is George Gay with 222 Signal Squadron BFP0 64. One of the Trucial Oman gang George has been a Tg Op in the Corps since 1960. To you, George, a hearty welcome and hope to hear from you from MP4T - if the new MP4TDA keeps you away from the other 807's!. PA0XKI - 602 - Perhaps better known as G3TSR, we extend a welcome to P.S. Reader, now with Communications and Electronics Division, HQ AFCENT, BFPO 28. Located in Holland with our other PA0 (Julian PA0XKH) we hope to hear from you on the LF Net when conditions permit. G3TLV - 604 - We welcome to the fold Geoffrey C. Wynes from Middlewich Cheshire now with us as a Life Member. Geoff was one of the 92nd Signal Regiment boys. 605 - I. B. Jolly is the Officer Commanding 45 Det. Royal Signals ACF and joins us as member 605, bringing with him the Detachment as AFF4. Not active on the air at the moment but this should be rectified in the near future. The Det, operates one of the few ACF stations on the ACF/CCF Net under the call-sign 22B. Welcome to you Ian and all the boys.

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OTHER AWARDS SECTION
As and when material allows, it is intended to pass along information on some of the various Awards available. For this, of course, we still rely upon our membership. If you have any up-to-date information (and we do stress UP-TO-DATE) on Awards that are new, rare, different or just routine please pass them along to the Editor. To start off with here are three Awards in which members might be interested.

SPECIAL 73 AWARD
The North Japan DX Club will award an attractive certificate attesting honorary membership to any licensed radio amateur having two-way communication with a "7" prefix in three countries in each Continent, plus three members of the NKDXC (JA7 prefix). Any amateur band may be used and contacts can be made in CW or 'phone or any combination of both. All contacts must have been made since January 1st 1953. Applications to be accompanied by the 21 QSL cards, a list of claimed stations and 10 IRC. Send application to: NJDXC Awards Manager, P.O. Box 70, Sendai, Miyagi, Japan. Some members of NJDXC are JA7AD, JA7JI, JA7MJ, JA7MN, JA7OD, JA7IH, JA7JW and JA7FC. It is not known if this award is available to SWL's but probably worth a try.

BRA AWARD
Another Award, this time a little nearer home, is the BRA Award. Offered by the Bollnas Radio Amateurs it consists of The Bollnas Needle (It is not known exactly what this is!) and is awarded to any station gaining 8 points by working BRA members. European stations get one point per contact and DX two. Contacts after 1st January 1966 are valid, and this Award IS available to SWL's. Applications showing a list of contacts and a fee of $1:00 (U.S.) or 10 IRC should be send to: BRA Awards Manager, SM3BCZ, John Waag, Box 6036 Bollnas, 1., Sweden. This information was taken from a SM3 QSL card which shows BRA members as: SM3's ALW, CFV, UL, AGO, DYB, DSO, BCZ, BWU, ANA, CAG, CHE and DXC.

5N2 AWARD
Lastly, taken from 5N2ABG card, are details of the 5N2 Award. This certificate is issued to amateurs and SWL's who have worked/heard 5 different 5N2 stations on any bands. There are three classes of this Award, 'phone, CW and Mixed. Applicants should forward full details, (NOT QSL CARDS) of the 5 contacts plus 5 IRC to: Nigerian Amateur Radio Society, Post Office Box 2873, Lagos, Nigeria.
THE LATE, LATE SHOW.

A last minute letter from W. Moorcroft, 8 Kensington Place, Burnley, Lancashire (Member No. 278) admonishes us (quite rightly) for omitting to mention his call-sign. Please amend your membership lists after No. 278 to read G3WFW. G3WFW tells us that he is keen on the Award scheme and would like QSOs with members. If you hear him please give him a shout. Sorry OM! Member - 548 - J. M. Cliff; didn’t get the posting he expected and now has a new address - Alpha Troop, 12 Infantry Brigade HQ and Signal Squadron, SFPO 36. Just missed out on the last RAE but will be successful in the December attempt we are sure. MPO has arrived so the RAE should soon be operational. Good luck, John.

AWARD ARENA.

The RSARS Award situation as at 31st May 1969 is as follows:

<table>
<thead>
<tr>
<th>CLASS III</th>
<th>CLASS II</th>
<th>CLASS I</th>
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</thead>
<tbody>
<tr>
<td>G2KK</td>
<td>G3WE0</td>
<td>G2KK</td>
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<tr>
<td>G3JVD</td>
<td>G2HKU</td>
<td>G3VG</td>
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<tr>
<td>G3HSE</td>
<td>G350</td>
<td>G3JVD</td>
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<tr>
<td>G3VG</td>
<td>G3WMZ</td>
<td>G3XSN</td>
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<tr>
<td>G3HWL</td>
<td>G3XSN</td>
<td>G3HV</td>
</tr>
<tr>
<td>G3JPI</td>
<td>GM3NKO</td>
<td>G3HLW</td>
</tr>
<tr>
<td>G3JBE</td>
<td>G3XIL</td>
<td>G3WMZ</td>
</tr>
</tbody>
</table>

Congratulations, Ken, (G2KK) on three “Firsts” – guess this entitles you to some sort of Award!

Overseas.

The following overseas members have qualified for the following RSARS Awards:

<table>
<thead>
<tr>
<th>CLASS III</th>
<th>CLASS II</th>
<th>CLASS I</th>
</tr>
</thead>
<tbody>
<tr>
<td>G3HBE</td>
<td>VS6AL</td>
<td>VS6AA</td>
</tr>
<tr>
<td>VS6AA</td>
<td>VS6AL</td>
<td>VS6AA</td>
</tr>
</tbody>
</table>

Congratulations also to the above overseas members – it’s much more difficult to qualify from overseas, but 5 out of 6 calls prefixed VS6 must prove either a) conditions in Hong Kong are much better than elsewhere, b) VS6s are much keener, or c) they do nothing but operate the rig!!

Thanks also to Ron (G3VIS) for looking after the Award Scheme so well.

“CO OVERSEAS MEMBERS”

In order to plan any changes in the Activity Periods operating times that may be found necessary, Overseas members please let the Gen. Sec. know times/frequencies when the G’s are best heard in your part of the world. A Post Card will do, or put details in with your next article for “Mercury”!

(T. G. 2DZG)

STAMPS, STAMPS, STAMPS.

The Radio Amateur Invalid and Bedfast Club collects used British and Foreign stamps for sorting and making up into packets. Will all members please bear this in mind when receiving any mail and tear off any stamps (leaving a portion of the envelope attached) and include them in the envelope the next time you write to the Gen. Sec., Treasurer, the Editor or G4RS. The Gen. Sec. will collect pack and despatch on behalf of the Society. Remember, they don’t have to be exotic stamps from far away places. British stamps are wanted by overseas collectors.
PETERS PAGE

LSD

The problem of LSD addiction is one with which we are all deeply concerned, for it would seem that we have a considerable number of addicts among our members.

Surprised? - Then before you reach for pen and paper to write out your resignation, I should explain that I do not refer to "Purple Hearts" or "Black and Greens" but to a far less sinister commodity - £. s. d. - or, in plainer terms - MONEY.

For, despite two reminders from Ray, we have, as at 6 July, about 70 subscriptions still unpaid. This figure represents about 12% of our total membership, and hence a large proportion of our basic income. Now, chaps I am well aware that money is scarce, and that the taxman, the YL/XYL, the Barman, the Mess Sec. And the rest are all squeezing you for every penny you've got, but if anybody is so hard up that he can't afford Ten Bob, let me know and I'll arrange for you to pay it in 52 weekly instalments of 2½d each. (Hope nobody takes me up on that!!!).

Joking apart, a list of members whose subscriptions are overdue appears on this page - just to remind you! If you have not paid by 1st October 1969, I'm afraid that it will be assumed that you have resigned from membership. If you wish to resign, it is but common courtesy to let the Secretary know.

73
PNM

THOSE WHO ARE STILL WITH US..........

Receipt is acknowledged of subscriptions from the following members between 28 February 1969 and 6 July 1969:


AND THOSE WHO ARE LEAVING..........

Subscriptions for the following members have not been received by 6 July 1969 (Licensed members underlined):


If subscriptions are not received from the above members by 1st October 1969 the above numbers will be withdrawn and then re-issued.

(A lot of work is done by Peter, our Treasurer. and a lot more work is made when there are overdue subscriptions. Peter has put a lot of thought into this problem and is hereby given the "Freedom of the page" to appeal, once more, to all members regarding the payment of these subs. - Editor)
The Blandford Rally, to be held in conjunction with the Amateur Radio Mobile Society at Blandford Camp on August 24th 1969, is intended to provide a "get-together" for all members of both Societies. G4RS and GB3RCS will be operational with Top-Band talk-in around 1.865 KHz and also 2 Metre talk-in. It is hoped that the Transmitter Site, Receiver Site and System Control at the School of Signals will be open, together with the Royal Signals Museum. Other static displays are planned and you are invited to bring along the YL/XYL. If coming from Salisbury (A354) look for TX site marks away to left after Tarrant Hinton, then follow Rally signs to Check-in point. From A31, take B3082 from Wimborne Minster and look for Rally signs on approaching Blandford. From Dorchester via A354 and look for Rally signs at traffic lights in Blandford. From North and North-West (A350 and A337) pick up signs at traffic lights in Blandford. Please bring membership card and/or QSL card, and all members are asked to check in at the Official Check-In point. Ample Car park space available. Why not give the mascot and kids a day out ?????

FREE! FREE! FREE!
The following components are offered to any D.I.Y. S.S.B. constructor member :
1. L.F. (462 KHz) crystal lattice filter including four crystals, carrier crystal, transformers, conversion crystals for 80/20/15/10 Metres plus circuitry.
3. 10 MHz crystal, suitable for the G6JP 144 MHz converter. (See R.S.G.B. "Bull" December 1967)
4. 6CW4 Nuvistor and base.
For any of the above, apply to the address below. They are all free, just return postage when the goods arrive. (This is a very generous offer by Eric and all members who write are asked not to forget that S.A.E. - postage these days can be very expensive! - Ed.)

FOR SALE

WANTED
The following information/components etc., would be very much appreciated.
1. Information on how a Notch Filter can be fitted to the TRIO JR500S RX. (It's not as easy as it might appear!)
2. WANTED URGENTLY - Two B5E bases for QY3-125 valves. Can anyone help, please.
3. HC6U crystal 457.5 KHz.
Address for all the above - Eric Lawrence G3BIC, 121 Wallall Road, Four Oaks, Sutton Coldfield, Warwickshire. Telephone: 021-353-4119

And so we come to the end of this edition of "Mercury". I trust you have found it interesting and readable - if not, drop me a line with any suggestions - remember, you write it, you read it, I only put it together!

(G3DPS)
ROYAL SIGNALS AMATEUR RADIO SOCIETY
APPLICATION FOR MEMBERSHIP

I hereby wish to apply for membership of the Royal Signals Amateur Radio Society, and, if elected, agree to abide by the rules of the Society. I include, on reverse of this form, brief details of my Service/Qualifying connections. I wish to apply for ANNUAL/LIFE/CLUB MEMBERSHIP (delete where inapplicable). I include Cheque/Money Order/Postal Order/cash (crossed and made payable to "THE ROYAL SIGNALS AMATEUR RADIO SOCIETY") for £ - - -.

Rank (if any) _______ Surname ___________ Christian Name(s) ___________

Call-sign _______ Other calls held ______________________

Address _________________________________________

________________________________________________________________

Telephone No. : __________

Membership Fees :  Annual Membership : 10/- per annum
Life Membership : £5-0-0.
Club Affiliation : 10-5

Date _______________ Signature _______________

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Rank (if any) _______ Surname ___________ Christian Name(s) ___________

Call-sign _______ Other calls held ______________________

Address _________________________________________

________________________________________________________________

Telephone No. : __________

Membership Fees :  Annual Membership : 10/- per annum
Life Membership : £5-0-0.
Club Affiliation : 10-5

Date _______________ Signature _______________
ROYAL SIGNALS AMATEUR RADIO SOCIETY
ANNUAL GENERAL MEETING
1969

The Annual General Meeting of the Royal Signals Amateur Radio Society for 1969 will take place at the R.S.G.B. International Radio Engineering and communications Exhibition, on Saturday 4 October 1969 at the Royal Horticultural Society's New Hall, Greycoat Street, Westminster, London, SW1 at 1400 hours with the President, Brigadier A.D. Brindley MBE FIEE presiding.

The Agenda for the A.G.M. is as follows:-

1. Presidents Opening Address.
4. Election of Officers/Confirmation of Posts.
5. General Secretarys and Station Managers Report.
9. Amendments to Award Rules.
10. Amendments to Membership Rules.
11. Any other business.
ROYAL SIGNALS AMATEUR RADIO SOCIETY

Members Note-paper - This is good quality white note-paper, headed in blue with "ROYAL SIGNALS AMATEUR RADIO SOCIETY" and "Members Correspondence" and a "Jimmy". 8 1/2 per 100 sheets post free.

Members QSL Cards - Basic Cards at 37 6p per 500 post free or 10/- per 100 post free. We can overprint your call-sign, name, address and membership number (in lots of NOT LESS than 500) in Black, Red, Blue or Green for a further 15/- per 500, i.e. 500 overprinted QSLs for £2.12.6 post free (about 1/- each!)

Lapel Badges - In Light Blue, Dark Blue and Green, with RSARS initials at 2/6 post free. With your call-sign 5/- extra.

Society Ties - In "Crimpolene" material, dark blue, with "Jimmy" and Society badge in silver. 25/6 post free.

Please order from General Secretary, 15, Valley Road, Blandford Camp, Blandford Forum, Dorset, on Society Order Form (below).

ORDER FORM.

To: W.O. 1 (F of S) Cooper, J.,
15, Valley Road,
Blandford Camp,
Blandford Forum,
Dorset.

From: ____________________________________________

Call-sign ______ No. ______

Please supply the following goods: -

<table>
<thead>
<tr>
<th>Item</th>
<th>Qty</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
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<td>8/4 per 100</td>
</tr>
<tr>
<td>Basic QSL Cards</td>
<td>3</td>
<td>10/- per 100</td>
</tr>
<tr>
<td>Basic QSL Cards</td>
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<td>QSL Cards overprinted as below</td>
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<tr>
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<tr>
<td>Call-sign Lapel Badge (s)</td>
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<td>7/6 each</td>
</tr>
<tr>
<td>Society Tie (s)</td>
<td>2</td>
<td>25/6 each</td>
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</tbody>
</table>

I enclose Cheque/M.O./P.O./Cash to cover total cost of: £______

QSL Card overprint: (a) Standard (i.e. Society No., Call-sign, Name and Address),
(b) As per enclosed sample (please fix firmly to order).

Date ____________ Signature ____________

For Off. Use. Rcvd: Cash: Print: Order: Desp.: ____________