MERCURY

THE JOURNAL OF THE ROYAL SIGNALS AMATEUR RADIO SOCIETY

NUMBER 40 SUMMER 1972

ROYAL SIGNALS AMATEUR RADIO SOCIETY

(Affiliated to the Radio Society of Great Britain)

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RSARS/RAIBC STAMP SECTION
All used or unused foreign stamps for use by the Radio Amateur Invalid and Bedfast Club should be sent to ;

Mr. A. HERRIDGE, G3IDG, 96, George Street, Basingstoke, Hants.

HEADQUARTER STATION
Normal call-sign G4RS. Special call-sign ; GB3RCS
Location ; Blandford Camp, Dorset.
Grid Reference ; 1" Ordnance Survey Sheet 179 - GR 921 091
W.A.B. area : ST 90

SOCIETY FEES
Members : Annual - 50p. Life (after 3 years Annual) - £5.
Clubs : Annual - 50p. Life (after 3 years Annual) - £5.
Annual membership fees become due on January 1st each year and can be paid by Standing Order (Bank, Giro etc.). In the event of non-payment of Annual fees, no "Mercury" after the Winter (January) edition will be forwarded. The Editor reserves the right not to forward "Mercury" in the event of two or more editions being returned undelivered indicating an un-notified change of address.

MERCURY ARTICLES
Unless specifically implied, views and opinions expressed, or statements made in any Mercury article do NOT represent the views of the Society and/or its Officers. Copyright of all articles remains with the author unless otherwise stated. Material for publication should reach the Editor at least three weeks before the 1st of the month in which publication is due.

EDITOR "MERCURY"
Capt. (TOT) J. COOPER R. Sigs., G3DPS, Army Apprentices College, Harrogate, HG3 1RP, Yorkshire. England

Publication ; Spring - April, Summer - July, Autumn - October, Winter - January

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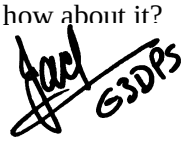
FROM THE EDITOR.

A recent telephone call from Blandford to Harrogate resulted in a land-line QSO between G3KPQ and G3DPS. As we all know, Bill is rather 'pushed' at Blandford at the moment as he is now virtually alone in running the Society (I am not forgetting Gordon who is a very efficient and quiet 'background' worker who has done wonders with the thankless job of Treasurer). However, with Colin now exploring fresh fields in CIO-land, Bill has been left with the task of running an organisation of nearly 1,000 members single-handed. I am sure you will agree that this is a monumental task. Therefore, when Bill asked, during the above QSO, if I would help out and take the editorship of "Mercury" I was only too glad to agree. I regret that this edition is not quite up to the standard of more recent editions regarding layout, etc., but every endeavour will be made to get things back to normal. Luckily, Bill was able to pass along to me quite a bit of 'filler' for this edition, but the file will be looking a bit thin by the time you receive this. So, if you have anything at all that could be included in "Mercury" please send it along. Don't worry about layout or size or even about typing it. If I can read it, I'll sort it out.

I would be very interested in finding out just what you think of "Mercury", what you would like included, what you would like left out, what you would like changed, etc. For instance, talking to a member recently, he stated that he felt strongly that we should not include anything about Awards. A very valid point, as organisations and publications do exist to cater for the Award Hunters. But the same could be said for technical articles. Do you think that a 'run-down' on new members, including any service history is of interest? Should a page be reserved for Station Descriptions, or Potted Histories? Should Letters to HQ and/or the Editor be discontinued? The Society aim, as far as "Mercury" is concerned, will be to please the majority. Will you be one or the majority and drop a line to say just what you would like to see in "Mercury"? The address is inside the front cover.

We are trying hard to get this edition to you before the AGM. This is an important event, when the whole future of your Society can be remoulded, if necessary. If you can get to Blandford, please do so everyone will be most happy to see you. If you can't, why not send you idea, suggestion, complaint etc. to Bill at HQ.

All for now, my 'In' tray is large and empty - how about it?



ABSENT FRIENDS - or WHERE ARE THEY NOW?

The following members have failed to inform Headquarters of their change of address. If you know the whereabouts of the members concerned the General Secretary will be pleased to hear from you.

G3KPQ

W. WHYTE Esq., GM3OJC/RSARS 128. 43, Middlefield Place, ABERDEEN, Scotland.
T. QUIN Esq., G3RCJ/RSARS 157. 242, Rowan Place, NEWTON AYCLIFFE, Co. Durham.
R.H.E. ROBINSON, OBE, ERD, RSARS 314. "Noel", Fridays Hill, FERNHURST, Sussex
E.J. SMART Esq., RSARS 455. T.E. Workshops, T.M. Troop, 2 Squadron, 18 Signal Regiment, c/o GPO, Singapore.
T. SUGDEN Esq., DL5ZS/RSARS 459. 12 Inf Bde HQ & Sig Sqn, (212 Signal Squadron), Quebec Barracks, BFPO 36.
P.C. BURNS Esq., DL5YX/RSARS 547. 7 Signal Regiment, BFPO 15
G.W. WEARE Esq., G3VVH/RSARS 567.21, Church Road, Mosley, BIRMINGHAM 13.
G. GAY Esq., MP4TCW/RSARS 601, 222 Signal Squadron, BFPO 64.
S.W.T. NEILSON Esq., RSARS 677. 75 A/C REME, c/o GPO KLANG, Johore, Malaya.

Addresses shown are the last known address.

SOCIETY AFFAIRS

BILL GRAHAM G3KPQ

First the good news. I would like to welcome, on your behalf, two newly appointed officials of the Society. MP4TDA that callsign should ring a bell. The owner is Capt. Ray Webb Royal Signals, who has now returned to a home establishment and is operating under his U.K. Callsign G3EKL. Ray has taken over Awards from Ron Cox G3VIS, and Contest Management from Dave Llewellyn G3TAN. His official title is Contests and Awards Manager. Claims for Awards should be sent to Ray, you will find his address in the inside front cover. You will also find a new name under Editor "MECURY", Capt. Jack Cooper Royal Signals. Jack, G3DPS (Double Pole Switch) is now at Harrogate - did I say new names? Both Gentlemen served a term as General Secretary and will be known to a large number of members. Let me assure those who have not had the pleasure of meeting Ray and Jack they are enthusiastic members and will serve us well.

My thanks to Dave French G3HSE, our QSL Manager, who travelled down from London to help me organise and run the RSARS stand at The West of England Mobile Rally at Longleat. The Bristol Group of the RSGB are to be congratulated on a very well organised Rally.

Collin, G3YBT has departed from Blandford leaving the sum of one at HQ station, namely your General Secretary. There are the odd visitors who very kindly help me to put G4RS on the air when they are in the area. Recent visitors, DA2XO Peter Dowdall and G3EKL, Capt. Ray Webb.

Tony Tabberer, G3WRY (RSARS 540) has changed his place of employment as a result he is unable to continue to overprint the Society QSL Cards. Tony has carried out this work efficiently for a number of years. On your behalf I would like to thank him not only for his service over the years, but also for the printing machine and technical advice which he gave so willingly to our new Overprinting Manager Capt. John Daw, BEM. Royal Signals (RSARS 935) who is now a competent printer. Thanks Tony. John Daw is now in a position to despatch overprinted QSL cards, within 7 days of an order being placed.

On June 17th the Sunday Observer Transatlantic Yacht Race started. One of the entries was a 46ft Ketch called "Flying Angel" (No.20) Sailed by Lt. Col. "Jock" Brazier, Royal Engineers. I was asked if I could provide a Radio Link to the yacht during the race using our "clever" amateur antenna system. Unfortunately Lt. Col. Brazier is not a radio amateur so it was decided to make it a military link using professional frequencies. Having worked out the frequencies and completed sea trials "Flying Angel" set sail beating hard into gale force winds heading for the Atlantic. As he moved west so the working frequencies increased. At the time of writing, Flying Angel is 900 miles from Newport using a frequency just below the 15 metres Amateur Band, our antenna is the three element beam fed by Marconi equipment with an output of 500 watts PEP, USB Voice. Flying Angel has a vertical monopole running up the Mizzenmast terminating in a horizontal section running to the main mast and the power output is 30 watts PEP.

Members of the Society, Cyril GW3ASW (559), and Bill G2CVY (270) who live on the Western Seaboard of the United Kingdom, have monitored the transmissions and have helped me to correct the "copy".

Now the bad news. For the past year the Treasurer Gordon Titchmarsh and I have been looking carefully at the books. A substantial number of members have not paid annual subscriptions for 1971, some have not paid since 1969. The figures read as follows. 79 have not paid, 12 members are deceased. Total membership is 843, of these 8 addresses are unknown. In addition there are 29 affiliated Clubs. Mercury is distributed by Headquarters staff to 907 addresses. This includes complimentary copies.

73 DE BILL

CALL-SIGN LIST

CORRECTIONS

Against 298 insert G4AGN
" 528 insert DA2XN
" 660 delete 3B8CR insert G3LCJ

Against 084 delete G3WUT
" 832 insert GD4AMZ

ADDITIONS TO CALL-SIGN LIST

IN NUMERICAL ORDER:- (showing members WITH call-signs)

891	G4ANH	899	G3LCK	907	GM4BAF	915	SWL	923	G3ULJ	931	SWL
892	G3VYT	900	VK5HI/T	908	G4AXW	916	SWL	924	SWL	932	G4ADT
893	G3DX	901	SWL	909	G3VED	917	G4AWS	925	G4AXZ	933	G8DCT
894	G3RHN	902	G3WYN	910	SWL	918	SWL	926	SWL	934	SWL
895	G4ACT	903	SWL	911	G4AOE	919	SWL	927	SWL	935	SWL
896	SWL	904	G3AEF	912	G4AXS	920	SWL	928	G3BEY		
897	GW2RV	905	DL4RI	913	GW3CVY	921	SWL	929	G3JAO		
898	G3VOO	906	GW4ANK	914	G3ZW	922	CCF47	930	CCF46		

TREASURESR PAGE

1972 SUBSCRIPTIONS PAID (last entry 28 May 1972)

014 037 103 108 117 260 265 271 298 331 394 406 435 436 482 488 517 528 542 563 592 599 615 626 669 672 687 703 706 728 744 776 805 821 822 823 839 853 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926

1973 SUBSCRIPTIONS PAID

065 488 and (1974) 563 853 907

LIFE

251 671

DONATIONS

I would like to thank David Jones GI3KVD (671) for his donation of 50p to the Society funds. Dave extends an invitation to any member who is posted to Northern Ireland to visit him. His address is 6, Mullagh Place, Limavady, Co. Derry.

OUTSTANDING SUBSCRIPTIONS

It is with regret that I have to report that there are still 114 members who have not paid their 1972 subscriptions. THIS IS THEIR FINAL WARNING. The Society rule about outstanding subs will apply to any member who is still in arrears on 30 JULY 1972.

PROPERTY

Recent additions will be reported in the next edition of "MERCURY".

GENERAL TOPICS

It is with regret that I hear that Tony Tabberrer has had to give up the Society printing. I am sure that you will endorse my thanks to him for the yeoman service that he has given the Society.

The AGM is once more upon us. I am closing the books on the 30th June 1972 for audit and preparation of the annual balance, so would be grateful if members would co-operate and let me have their outstanding subs, before this date.

DON'T FORGET TO PAY YOUR SUBSCRIPTIONS WHICH ARE NOW DUE

NET NATTER NEWS

The regular "get-togethers", particularly on 80 and 40 have continued thanks mainly to Cyril, GW3ASW, who has held the reins (and occasionally cracked the whip) and generally kept things in order whilst Blandford has been "a little thin on the ground" as regards manpower. The meeting points are 3·720 MHz on Tuesdays and Thursdays from about 1930 hours clock time, 7075 KHz on Saturdays from about 1030 hours clock time and on Sunday mornings (to keep you out of the way of the XYL whilst she is preparing Sunday lunch!) on 3·720 MHz about the same time. Little else need be said as most points are covered in Cyril's letter which follows, except, perhaps, to say that all members are very welcome to these Nets. Don' t be shy, if you have not operated on a Net such as ours before, sit on the frequency for a while and listen to the proceedings. Net Control will always give you any assistance you need, and, remember, there will be probably several people on frequency who need a QSO with you. As regards procedures, all you have to remember is to check in with a quick break, giving your RSARS number if it is your first visit. You will be placed "on the list" and called in as your turn comes around. Keep it short, particularly if the Net is large or busy. You MUST, however, pass the following information UNASSISTED : Name, QTH, Report and your RSARS Number. If you have passed and received these details, you have made an Official RSARS QSO which is valid for all Society Award purposes. If you want to have a 'natter' with a particular station on Net, tell Net Control and both QSY (Don' t forget to check in on return).

G3DPS's 4·372 words per minute on the low end of 80 has produced some very interesting QSOs with a few 'new' ones. It is well known that some members prefer the key, others don't like SSB Nets and a lot need some CW QSOs for the more senior Awards. Does this mean that we could all use a RSARS CW Net. If so, it means seeking out a volunteer to man a CW frequency for say 1 hour per week (Wednesday?) just to keep things going and in order. You don't have to be a high speed man (12 w.p.m. is ample) and names, etc., please to HQ.

A remark heard on 80 recently that "the Sun now sets seven times per day on the British Empire" may not be strictly true but it does explain to a certain extent how the RSARS HF Net has run down in sympathy with the run down of British Troops abroad. However, Jimmy (9M2DQ, Norman (9H1BX), Bill (W3RX) and several others have kept the RSARS flag flying. In a recent QSO Jimmy suggested that several members could be found on the Commonwealth Net and members might like to meet there. As we now have a good representation in various overseas countries would members appreciate a local LF Net? Again, the inevitable 'volunteer' would be called for in each area. What think?.

Now over to our Deputy Net Controller, Cyril, GW3ASW .....

GW3ASW - QTHR.

The Editor,
"Mercury"
Dear Sir,

"Stewardship" report...Saturday 40 Metre and Sunday 80 Metre Nets.

By the time this letter gets into print the 40 Metre Net (fortnightly, as far as I am concerned) has been operating for just about 12 months. The running of this Net has been a pleasure, resulting in contacts with many members who otherwise would be unable to operate in ANY of our Nets. To date, the number of 'new ones' found and confirmed by QSL has been 42. This is not a bad average when the number of times that I've "squired" the Net to date is 23. The number of new contacts - 47. So the average return is still very high (I only wish that some of those other 125 outstanding who OWE me a card would QSL, then I could perhaps get up there with G8VG !).

SPECIAL REQUEST - A VOLUNTEER, to operate on alternate Saturdays with me is still required, even if you can only afford 1 hour to come up at around 1030 hours (Local time) to start off the Net as someone or other will keep it going afterwards. PLE-A-SE! N.B. The QRG is 7075
as the normal frequency of 7050 usually gets clobbered by the DL, etc., AM boys. (Note aside- why is it so difficult to get a volunteer).

And now details of the Sunday COFFEE Natter Net on 3720 ±. A few weeks before Christmas in an effort to combat the very adverse conditions prevailing on 80 Metres on Tuesday/Thursday evenings 'Joe' again volunteered, in desperation, to get something going on a Sunday. I really thought I'd have trouble getting things going as on the Saturday, when the matter was mooted on 40 only a few members were left in the Net. Yet the following day 8 members materialised - the word had got around!

The biggest number of members materialising on this Net during the morning has been 22. Yes - TWENTY-TWO. It's a long time since I have heard a Net of that number, but -- this is how it should be. The Net, from the beginning, has been 'loosely' controlled with the tacit understanding that no one member 'hogs' it. If he's in a rush and wants to get away, then, if he's a new one, strict Net discipline is applied and everyone who wants can work him. He then gets his say and is allowed to return to the cooking or whatever. Of course, 'Yours Truly' is in the background at all times to take over and/or keep things in line. I think that even when conditions return to more normal working this Net should now continue as one of the domestic Nets (Agreed - Ed.) If nothing else it forms a focal point, and I think that this, in itself, is of extreme importance.

I would also like to thank you for the advance information of new members which is duly 'promulgated' and is appreciated by us all. I hope you will continue the information. Again, thank you.

Finally, to those members, who have joined the Net and made things worthwhile a big 'Thank You'. I can assure you that it has been very worthwhile and I sincerely hope that the Net will go from strength to strength, and your cards will come in 100s (via Dave's Bureau, of course!).

Fraternally,
Yours (without wax)
(Signed) Cyril R. Mountjoy RSARS GW3ASW 559

****

RSARS NETS.

RSARS Nets operate on Tuesdays and Thursday evenings around 1930 local time on 3·720 MHz, with an alternative frequency around 3·700 MHz. The Net is usually within - 10 KHz of nominated frequencies dependant upon the QRM. The Saturday morning Net operates around 1000 hours local time on 7·050 MHz and is normally run by Deputy Net Control GW3ASW. On Sunday mornings members are to be found around 3·720 MHz.

The DX Nets operate as member availability and propagation conditions permit as follows :

SSB 20 Metres - 14·180 MHz and 14·280 MHz.
SSB 15 Metres - 21·180 MHz and 21·380 MHz
CW and RTTY 20 Metres - 14·075 - 14·085 MHz
CW and RTTY 15 Metres - 21·075 - 21·080 MHz

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Remember to keep a stock of envelopes with Dave, the QSL Bureau Manager. Support the RSARS Awards Scheme - if he asks for a QSL why not send one in the next batch to Dave - it can save you something on postage!

****

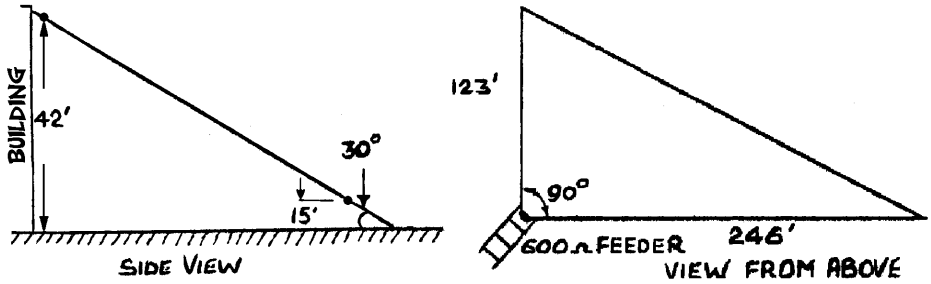
Heard on 80 - "..... So I called this bit of DX and he came straight back. Mind you, he had my name, call and QTH Wrong but he did give me 5 and 8....." .

NEWS FROM OVERSEAS.

The General Secretary recently received a very interesting and 'newsy' letter from Norman Polan 9HIBX/413 part of which is reproduced here. Now that Norman has set the ball rolling again, how about dropping a line to one of the Society officials and include a bit of news. (They will pass any information for publication on to me and I'll certainly try and fit it in - Ed.). Norman mentions that until February 22nd this year he was operating as G4AJI/A and the following three weeks from ZB2CG. Norman continues .....

"For 'Mercury', the following info. 9H1BB (No 171) and myself (No 413) presented the Snowball Award to the Malta Amateur Radio Society. This consists of a small shield on which is engraved the name and callsign of the station in Malta mentioned most often in claims for the Malta/9H1 Award each year commencing September 21st. Last year No 413 won it outright! (Congratulations, Norman - Ed.).

Recently I have been getting out very well on 10 to 80 Metres with a horizontal Delta Loop. It is especially good on 80 and 20 Metres, and I have worked 5X5NA on 80, 40, 20 and 15 (also on 10 but using a TH3) as well as other 5-band QSOs. The antenna configuration is roughly as follows : -



9H3 call-signs are now issued for Exhibition stations and visiting amateurs. To date the following have been granted - 9H3A (alias G8KW), 9H3B (Ex W2GBX, TA2GB. 3A0B) and 9H3WPD (World Peace Day station operated by 9H1R). 95 9H1 Award Certificates have been issued since 1964 so it is still quite rare and I'll be glad to arrange skeds on all bands from the end of March when I return to Malta. The only three-letter suffix call-signs in the 9H1 series are my own - 9H1SWA (our Silver Wedding Anniversary), 9H1ITU/M, Malta one and only /M SSB station, 9H1BSJ (Boy Scout Jamboree - held jointly with 9H1BB) and 9H1IEE (Institute of Electrical Engineering Centenary Exhibition - held with 9HIR). We have lost 1·8 MHz here in Malta but I hope to have worked on 1·8 MHz whilst in G-land and ZB2.

Have worked several members recently including 9M2DQ (often on the Commonwealth Net on 14·170 Mondays to Fridays at 1430 GMT) and 5N2ABG on 3 bands.

I would especially like to contact more members from G-land on 80 - I scream myself hoarse on 3·720 and G4RS comes through with the rest loud and clear often enough. I think that to give us a chance you must give a break for DX members, say at 1900 GMT and 2000 GMT on Tuesdays and Thursdays.

Finally, I hope it is not too late to wish all members a Happy 1972.

73

Norman (9H1BX)

Thanks for the letter, Norman - keep up the good work. I am sure that Net Controls will bear your 80 Metre Net suggestion in mind - Ed.

LETTERS FROM HOME.

5 Ferncroft Avenue,
LONDON
N.W .3

17 May 1972.

The Editor,
Mercury,
RSARS,
School of Signals,
Blandford Camp,
Dorset

Dear Bill,

Heartiest congratulations. RSARS leads the return to sanity.

I was delighted to read on page 27 of April 1972 Mercury that Headed Notepaper costs 8/4d. per 100 sheets; Basic QSL cards 37/6d. per 500. Overprinted QSL cards 52/6d. per 500; Call sign Lapel Badges 7/6d. each.

At last we have got rid of the d... fool nonsense of Decimalisation!

Congratulations Mercury! Carry on with the good work, I'm all with you.

Yours Sincerely
(Signed) Edgar
E.M. Wagner
G3BID

(I would like to think that that was the reason Edgar. The plain truth is, a 'orrible mistake was made when an old price list was hurriedly 'stuffed' into the Mercury folder just before it went off to the printer. - Bill Graham, Ex-Editor).

****

Scarborough A. R. S,

J. Cutter Hon. Sec.
G3VAN/RSARS 543
124 Briercliffe,
Scarborough.

16th May 1972

Dear Bill,

Very sorry I'm late with news of the Mobile Rally at Burniston Barracks on Sunday 16th July.

Rally opens at 1000 hours with the usual Trade Stands and also a display of equipment by local electronic firms. Refreshment, etc., will be available (not NAAFI brew!).

All RSARS members, XYLs and junior ops welcome. Plenty of local attractions for the family whilst Dad has a rag-chew. Beach, Zoo, Marine-land, miniature railway, boating and parks all within 5 minutes of the Barracks. Talk-in: 160 Metres - 1980 KHz, 2 Metres - 145·8 MHz.

Beat 73
(Signed) John

LETTERS FROM HOME.

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Beat 73
(Signed) John

COLLECT FIRST DAY COVERS?

(The following letter was received from the Secretary of the Barry College of Further Education Radio Society, and is reproduced here for the information of all members).

BARRY COLLEGE OF FURTHER EDUCATION

Colcot Road,
Barry,
Glamorgan, CF6 8YJ
Tel. : Barry 3251/2

To all Affiliated Radio Societies

May 1972

Dear O.M.,

On September 13th next, the Post Office will issue a set of four Commemorative stamps. Three of these will commemorate the 50th Anniversary of broadcasting by the BBC. The fourth stamp - valued at 7½p - commemorates the 75th Anniversary of the first wireless transmissions across water. These were the tests conducted by Marconi and Kemp from Lavernock Point near Barry in South Wales, to Flatholm Island in the Bristol Channel and then to Brean Down in Somerset, England.

The Barry College of Further Education Radio Society commemorates these tests annually by operating amateur radio stations from these historic sites. The Society was responsible for suggesting to the Post Office the issue of this stamp and we are justifiably proud of our association with its issue.

Among the many events the Society is organising to celebrate the 75th Anniversary of the 'birth of wireless telegraph' is the issue of a special commemorative envelope which will be posted from Flatholm Island on the first day of issue of the stamp. The envelopes are beautifully designed and printed in magenta and blue and show Flatholm Island in the Bristol Channel. Envelope size is 8½" x 4¼" approx. The postmark will contain an amateur radio call sign I believe this is the first such time that this unique combination has been offered to the public, and is a very special occasion for radio amateurs.

I should be grateful if you would draw the attention of your members to this issue. The Barry College of Further Education Radio Society will provide the special commemorative envelope the 7½p commemorative stamp and post with a Flatholm postmark on the first day of issue (September 17th 1972) for 20p.

I feel that this is such a unique and rare event that your members will surely wish to participate in it.

Remittance should be made by crossed Postal Order or Cheque. In order to reduce costs to a minimum no receipt or acknowledgement will be issued.

Cheques and Postal Orders should be made payable to: BARRY COLLEGE F.E.R.S.

Name and address should be printed clearly and orders forwarded to:

The Secretary, Barry College of Further Education Radio Society.
Barry College of Further Education.
Colcot Road,
Barry, Glamorgan.

To arrive not later than 11th September 1972

Thank you for your co-operation.

73

(Signed) D. H. Adams GW3VBP
Secretary
Barry College of Further Education Radio Society

Editors note - Further details are included elsewhere. Will interested members please note the address to which orders should be sent (NOT TO HQ), the need to print names and addresses clearly, and the dead-line date.

MORE MAIL-BAG.

(Due to shortage of space some letters have had to be a little condensed. However, all letters are appreciated - Ed.)

From 23686389 Sgt. G. MacNaught, HQ Squadron, 26 Engineer Regiment, BFPO 24. "..... I have instructed my Bank to pay (my sub) by standing order payable on the first of January each year. Please also note my change of address above ....." (Thanks for the Standing Order it certainly helps the Treasurer and good luck over there in DA2-land as DA2XN).

From G3CXE Member No. 821. Douglas Brabnar, A.M.A.S.E.E., 33 Peashill Close, Sileby, Leics. LE12 7PT. "...Haven't been able to get on the RSARS Nets because they clash with Football Coaching but occasionally work the odd member..." (Fine, Doug, how about going FM - Football Mobile).

From GM3IAA, Jim MacIntosh, C. Eng. M.I.E.R.E., F.C.I.S., "Broom Park", Cradlehall, Inverness. "..... P.S. No wonder I 'took' to WIRELESS in 1916, having been born in MAY 1897....." (If you are not "with it", take a look at page 12 et seq., April 1972 Mercury - Ed).

From G3XIP RSARS 669. D.J. Aspinall of Solibull "..... To keep you up to date - I have left King Edwards School CCF (Birmingham) and I am now a member of the Royal Signals Wing of Cambridge University,....." (Congratulations, OM. hope to hear you from University when studies permit - Ed).

GM4BAF, RSARS 907, M. J. Stepney, 35F, Kelbourne Street, Glasgow G20 8PF. "..... The copies of "Mercury" are most illuminating and make very interesting reading. I find the constructional articles and those describing test gear to be at least the equal of those in the more sophisticated glossy magazines. (Both Bill, G3KPQ and Evan, G5YN, along with other contributors can, justifiably, "take a bow" - Ed.)….during all my Army services I came across only one amateur "Doughy" Baker who operated VU2BM In India. I wonder if he still operates?....." (No knowledge of "Doughy" at the moment, OM, but no doubt members will be dropping you a line if they have any news - Ed.).

From G3UOL RSARS 156, W.F.M. Hahn, 91 The Chesils, Styve Chale, Coventry, CV3 5BE. "…..

Re "Mercury". I wonder if anyone in RSARS, besides me, has a YU call? - YU7LCT - it seems to be unique and often raises a few eyebrows. My other calls include EI6BB, ON8IT, F0JA, G3UOL/LX, G3UOL/VE1, G3UOL/VE3, C31CZ….". (Well on the way to your own personal DXCC, Bill. I don't think we have another YU in the Society so it certainly is unique as far as we are concerned. - Ed.).

From GM4BAF (again!) "..... The wire lengths I asked for will be very handy although last night I was very pleasantly surprised to get a 559 report from PY-land. Considering my aerial is the proverbial "lump" of wire about 85' long nailed to one of the roof timbers (living in fire station means that I'm prohibited from using an outside antenna) and my TX is a very ancient DX-100 I have a feeling that it might be just a fluke....." (The fire station certainly makes it hard on aerials Mike, but, I guess, handy if something goes up in smoke! - Ed.).

From A6603, RSARS 728. R.P. Snow, 22 Thoresby Street, Hull, HU5 3RD. ….." thanks for the regular delivery of "Mercury". My copy goes to my Dad's work-place, to be read by several members of Royal Signals circa 1935-46 ("Up the Khyber with the set on the back of a mule", "We were in wean they were needing them, not feeding them", "There was this girl in Cairo/Alex/ Colombo/Delhi/Calcutta/Milan/Rome etc., etc."). (Soldiers don't change OM, just the place names! - Ed.).

From R.J.E. Mills 3B8CR, RSARS 660, NP 4321, Admiralty Office, Vacoas, Mauritius. "...Having now returned to the U.K. could you please change my call-sign and address in the records to: R.J.E. Mills, G3LCJ, 5 Cleave Crescent, Woodford, Near Bude, EX23 9NJ, Cornwall. (Welcome home, OM, and we'll be looking for you on the 89M Net m- Ed.).

From B. R. (Ray) Chambers. WA7TDM/W4NIC, RSARS 807, Sierra Vista, Arizona, U.S.A. "..... So far, I have not decided on a definite location in which to settle down, because I have yet to locate a permanent job. Hopefully, though, my wife and I will remain here in "sunny" Arizona. In line with this hope, I have acquired an additional station licence and am now signing with the call-sign WA7TDM. I have also joined several Nets on the 75-Metre band, so, together with rag-chews, I spend a good deal of time on the air. I brought only the KWM-2A and a 75-Metre antenna with me, so I'm a bit limited as to my operating spectrum. Please pass my best regards to all RSARS members. ....." (We'll be waiting for you to get an antenna for 21, Ray, and looking for you when you do. Ray was DA1DU - Ed.).

From G3RKN RSARS 588, 4 Harefield, Harlow, Essex. ".....I am only active on 2 Metres at the moment owing to TVI on the other bands....." (Sorry to hear that Derek. Keep an ear open for G3DBU who is active on 2 Metres from up here in Harrogate. - Ed.).

From K.G. King G3RGE previously at 'Foxwood'. 129 Chatsworth Road. Hazel Grove, Cheshire, SK7 6BL. "..... Will you please note my change of address to:
Boathouse Inn, High Street, Connahs Quay, Deeside, Flintshire, N. Wales.
Not active at moment - too busy pulling pints - Hi!....." (Sounds a real interesting QTH you have there, Ken, and no doubt some of the members will be dropping in this summer. How about it, fellahs? - Ed.). (P.S. Dropping in to the Boathouse Inn NOT Connahs Quay - Ed.).

From Peter Huntsman, G3KBQ RSARS 482, 16 Crescent Avenue, Hexham, Northumberland. "..... been busy with household redecorating and have had very little time for radio. The only contacts I have been able to keep have been with my brother G3KBR who has been operating from Kenya as 5Z4MG. I have been working him from G3VNE as I am busy building a new TX when time permits....." (Sorry to hear about the household QRM, Peter, and good luck with the TX - Ed.).

****

15 Metre Conditions.

G3YBT.

On the 16th March this year at 15.00 GMT on 21.030Mhz I had been working a few W's with the beam towards VK, looking for VK members. Bill, K6CJF, gave me a quick report at 15.10 GMT of 589. He was 569, with the beam still on VK which is Long path for W6. Then at 1530 GMT I had a natter with Cliff. K6KII. 589 both ways, I told him I had the beam on Long Path, so he turned his beam to Long Path also and signals went down to S4 with much more echo, so we carried on with one on Long Path and one on Short Path.

At 16.00 GMT, Gene, W6EGB, called me. He had been listening to me during the last couple of QSOs. He said that he could not understand the conditions either and that I was the strongest G signal on the band. So off we went again, both Short Path, then both Long Path, and finally to give the best signals myself on Long Path and he on Short Path. He was 599, I was 57/89.

(Had a similar experience last week-end, Colin. during the CHC QSO Party. Thought I would catch a few of the early birds from the States on Sunday morning so put the beam that way and called CQ. Got a reply from DL-land at 5/8. Put it over to him and started to turn the beam. At due North I suddenly lost him with nothing at all when on DL. Gave it up and went back to the States. There he was at 5 & 8 just putting it back to me Ed.)

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REPRINT OF SPECIAL SUPPLEMENT OF THE ROYAL ENGINEERS JOURNAL. MAY 1st 1899.

(The society is indebted to The Royal Engineers for permission to reprint the following article, taken from The Special Supplement of The Royal Engineers Journal dated May 1st 1899. - Ed.)

WIRELESS TELEGRAPHY

(By G. Marconl M.I.E.E.)

"Wireless Telegraphy" or telegraphy through space without connecting wires, is a subject which has attracted considerable attention since the results of the first experiments I carried out in this country became known. It is not my intention to give my views on or discuss the theory of the system, with which I have carried out so many experiments, and by means of which I have worked various installations, but I hope to put before you some exact information of what has been done by myself and my assistants during the last twelve months, and also some reliable data as to the means employed to obtain such results. Much has been published on the subject, I must say with varying accuracy, and there can hardly be anyone here altogether ignorant of the general characteristics of the system.

Before I go into this subject further I wish to state that any success I have met with in the practical application of wireless telegraphy has been in a large measure due to the efficient co-operation which has been rendered by my assistants.

I think it will not be out of place if I give a brief description of the apparatus.

TRANSMITTER - When long distances are to be bridged over and it is not necessary that the signals should be sent in one definite direction, I employ as transmitter an arrangement as shown in Fig. 1., in which two small spheres connected to the terminals of the secondary winding of an induction coil (c) are connected, one to earth, and the other to a vertical conductor (w), which I will call the aerial conductor.

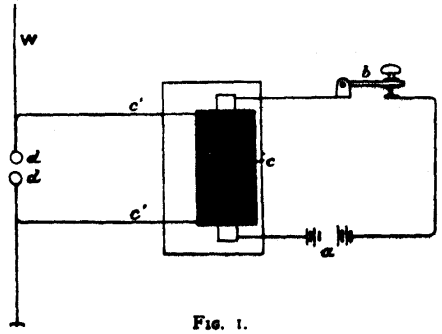


FIG. 1.

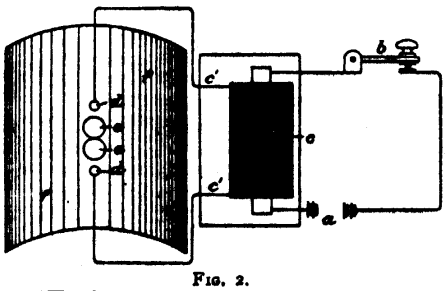


FIG. 2.

Should it be necessary to direct a beam of rays in one given direction I prefer to use an arrangement similar to a Righi oscillator placed in the focal line of a suitable cylindrical parabolic reflector (f) Fig. 2. The transmitter works as follows :- When the key (b) is pressed the current of the battery is allowed to actuate the spark coil (c) which charges the spheres of the Righi oscillator or the vertical wire (w) which discharges through the spark gap.

The discharge is an oscillating one and the system of spheres becomes a radiator of electric waves. It is easy to understand how, by pressing the key for long or short intervals it is possible to emit a long or short succession of waves, which when they influence the receiver, reproduce on it a 1ong or short effect, according to their duration, in this way reproducing the morse or other signals transmitted from the sending station.

RECEIVER - One of the principle parts in my receiver is the sensitive tube or coherer or radio-conductor, which was discovered. I think I am right in saying, by Professor Calzecchi Onesti, of Fermo (See NUEVO CIMENTO, Series 3, Volume XVII, Jan - Feb 1885, and ditto Jan - Feb 1886) and was improved by BRANLY and modified by Professor LODGE and others. The only form of coherer I have

found to be trustworthy and reliable for long-distance work is one designed by myself and shown in Fig. 3. It consists of a small glass tube, four centimetres long, into which two metal pole pieces, j_1 and j_2 are tightly fitted. They are separated from each other by a small gap, which is partly filled with a mixture of nickel and silver filings. This coherer forms part of a circuit containing the local cell and a sensitive telegraph relay actuating another circuit, which circuit works a trembler, p, or decoherer and a recording instrument, h.

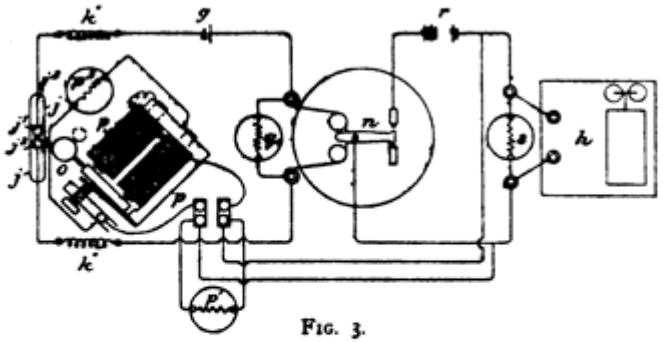


FIG. 3.

In its normal condition the resistance of the filings in the tube, j, is infinite, or at least very great, but then the filings are influenced by electric waves or surgings, cohesion instantly takes place, and the tube becomes a comparatively good conductor, its resistance falling to between 100 and 500 Ohms. This allows the current from the local cell, g, to actuate the relay, n.

One end of the tube is connected to earth and the other to a vertical conductor similar to that of the transmitter, Fig.1, or if reflectors are used a short strip of copper is connected to each end, Fig.5. The length of these strips of copper must be carefully determined, as good results cannot be obtained unless they happen to be of the proper length, which will cause them to be in tune or syntony with the transmitted oscillations.

All the electro-magnetic apparatus in the receiver is shunted by non-inductive resistances in such a manner that there may be no sparking at contacts and no sudden perturbations or jerks caused by the local battery current near the coherer.

I find that the relay tapper and telegraphic instrument, if not properly shunted, produce disturbing effects, the result of which is to prevent the coherer from regaining its sensitive condition after the receipt of electrical oscillations.

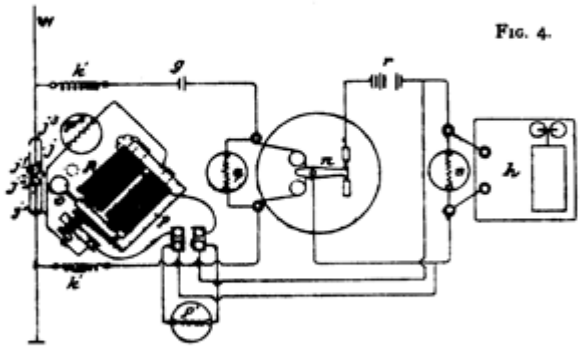


FIG. 4.

No such trouble is experienced when suitable shunts are used, and I attribute to their action in very great measure the success which has been attained with this system.

Small choking coils, k' k' are introduced between the coherer and the relay. They compel the oscillating current due to the electric waves to traverse the coherer rather than waste its energy in the alternate path afforded by the relay.

The oscillations induced on the stripe, k k, or aerial conductor, w, which acts as resonator, by the radiation from the oscillator affect the sensitive tube. This effect on the tube consists, as we have said, in a great increase of its conductivity, thus completing the circuit and allowing the current from the cell to actuate the relay. The relay in its turn causes a larger battery, r, to pass a current through the tapper or interrupter, p, and also through the electromagnets of the recording instrument, h.

The tapper or trembler is so adjusted as to tap the tube and shake the filings in it. If in the instance during which these various actions take place the electrical oscillations had died out in the resonator, the shake or tap given to the tube by the hammer, o, would have restored it to its normal high resistance condition and the Morse instrument or recorder would have marked a dot on the tape, but if the oscillations continue at very brief intervals, the acquired conductivity of the tube, j, is destroyed only for an instance by the tap of the trembler and immediately re-established by the electrical surgings, and therefore the relay tapper and telegraph instrument are again actuated, and so on until the oscillations from the radiator have ceased.

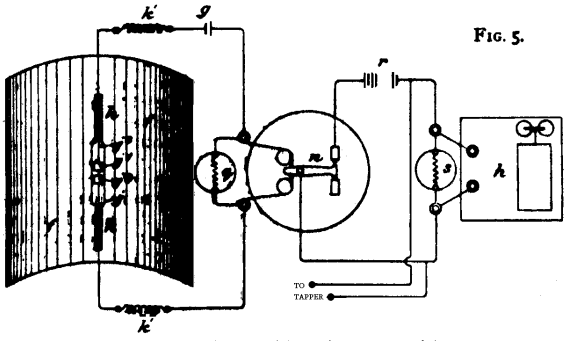


FIG. 5.

The practical result is that the receiver is actuated for a time equal to that during which the key is pressed at the transmitting station. For each signal, however short, the armatures of the relay and tapper perform some very rapid vibrations dependant on each other. For it is the action of the relay which starts the tapper, but the tapper by its action interrupts the relay.

The armature of the Morse recording instrument being rather heavy and possessing a comparatively large inertia, cannot follow the very rapid vibrations of the tongue of the relay, but remains down all the time, during which the rapidly intermittent action of the receiver lasts. In this way the armature of the inker gives a practically exact reproduction of the movement of the key at the transmitting end, dashes coming out as dashes, and dots as dots.

Much has been said and written about coherers being very unreliable and untrustworthy in their action, but I must confess that this has not been in any way my experience. Provided a coherer is properly constructed and used on a suitable receiver, it is just as certain in its action as any other electrical apparatus, such as an electromagnet or incandescent lamp. I have coherers which were made three years ago that are now quite as good, if not better, than they were at that time and we have had tubes working for months in most important installations without ever giving trouble. At the installation my Company have erected at the South Foreland Lighthouse, which, as you probably know, is working to the East Goodwin Lightship, the coherer was mounted on the receiver when we first started in December of last year and has done its work in a most satisfactory manner ever since.

I must call your attention to the object and function of the vertical wire, w. It has been by means of this addition to the apparatus that we have been able to telegraph over distances which have been so far unattained, I think I am right in saying, by any other method of space telegraphy. The way I came to appreciate the great importance of the addition of the conductor, w, and earth connection, E, to the apparatus was as follows-:-

(I take this data from a copy of a letter I wrote to Mr Preece in November 1896). When carrying out some experiments in Italy in 1895, I was using an oscillator having one pole earthed and the other connected to an insulated capacity, the receiver also earthed and connected to a similar capacity. The capacities were, in this case, cubes of tinned iron of 30 centimetres side, and I found that when these were placed on the top of a pole 2 Metres high signals could be obtained at 30 Metres from the transmitter. With the same cubes on poles 4 Metres high signals were obtained at 100 Metres and with the same cubes at a height of 8 Metres, other conditions being equal, Morse signals were easily obtained at 400 Metres. With larger cubes of 100 centimetres side, fixed at a height of 8 Metres, reliable signals could be obtained at 2,400 Metres all round, equal to about one mile and a half. These results seemed to point out that a system of transmitter and receiver designed

according to the lines on Fig.1, i.e. a radiator of the Hertzian type having one pole earthed and the other connected to a vertical, or almost vertical, conductor, or to a lofty capacity area, and a resonator consisting of a suitable receiver having similarly one terminal connected to earth and the other to an insulated vertical conductor, constitute a system of transmitter and receiver capable of giving effects at far greater distances than the ordinary systems of Hertzian radiators and resonators.

The results I have referred to also show that the distance at which signals could be obtained varied approximately with the square of the distance of the capacities from earth, or perhaps with the square of the length of the vertical conductors. This law has since been verified by a careful series of experiments and found correct and has furnished us with a sure and safe means of calculating what length the vertical wire should be in order to obtain results at a given distance. It is well to know that the said law has never failed to give the expected results across clear space in any installation or experiment I have carried out, although it usually seems that the distance obtained is slightly in excess of what one might expect. I find that with parity of other conditions a vertical wire 20 feet long at the transmitter and receiver is sufficient for communicating one mile, 40 feet at each end for 4 miles and 80 feet for 16 miles, and so on. An installation is now working over a distance of 18 miles with a vertical wire 80 feet high at each installation station.

Professor Ascoli (See "Elettricisto" August number, 1897 (Rowe)), has confirmed this law, and demonstrated mathematically, using Neumann's formula, that the inductive action is proportional to the square of the length of one of the two conductors if the two are vertical and of equal length and in simple inverse proportion of the distance between them. Therefore, the intensity of the induced oscillation does not diminish with the increase of distance if the length of the vertical conductors is increased in proportion with the square root of the distance. That is, if the height of the wire is double, the possible distance becomes quadrupled.

Should it be necessary to rig up an installation at a distance of, say, 32 miles, such as is about the distance between Folkestone and Boulogne, it is easy to find that a vertical wire 114 feet long would be quite sufficient for that purpose.

Such laws are applicable only when apparatus properly constructed is employed. With apparatus in which some or several improved details are omitted I find it quite impossible to obtain anything like the results above mentioned. If, say, the impedance coils, k" k" are omitted the distance (other conditions being equal) is reduced to almost half its original value.

I must also call your attention to such cases as when obstacles like hills or mountains, or large metallic objects, happen to intervene between the places between which it is desired to establish communication. With all other forms of Hertzian transmitters and receivers with which I have experimented I find it to be quite impossible to obtain any results if a hill, mountain or large metallic object intervenes in any way between the two stations. I am not aware if any satisfactory results have been obtained by others where such obstacles have intervened, but when the vertical wire system is employed it becomes easy to telegraph between positions screened from each other by hills or by the curvature of the earth. In such cases it seems to be a marked advantage if the aerial conductor is thick, or if a capacity area is placed at the top of it.

I am rather doubtful as to the correct explanation that can be given to this effect. I think there can be very little doubt as to the complete opacity, to electric waves, of a hill three miles thick, or of, say, several miles of sea water. A solution of this difficulty might be given by attributing the results to the effect or the diffraction of such long waves as those radiated by a conductor 100 feet long, but in that case it is difficult to explain why other forms of Hertzian transmitters and receivers, also giving log waves, do not act when such obstacles intervene. A way out of the difficulty may be arrived at if we suppose that the electrical oscillations are transmitted to the earth by the earth wire, E, of the transmitter, and travel in all directions along the surface of the earth till they reach the earth wire of the receiving instrument, and by travelling up the said wire to the coherer thus

bringing about its action. This was the first explanation I came to during my early experiments. I, however, do not wish to say that I hold entirely to this view at present, although I have not yet found any other perfectly satisfactory explanation of the phenomena.

It is well, also, to note that a horizontal wire, even if supported at a considerable height from earth, seems to be of little or no practical utility in increasing the range of signals. If, say, a vertical wire 30 feet long is employed at both stations, and to the top of this is added a horizontal length of 300 feet, as shown in Fig. 6, the distance obtained is greater with the vertical wire without the horizontal length than it would be if both were employed. These results show that with this system it is not sufficient to use a horizontal radiating or collecting wire, as such a wire would be of no utility for long-distance signalling.

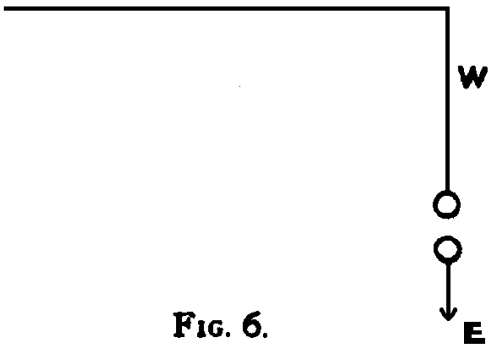


FIG. 6.

I believe that the exceedingly marked advance made by the adoption of the vertical conductor is due to the fact that the plane of polarization of the rays radiated is vertical, and that therefore they are not absorbed by the surface of the earth, which acts as a receiving conductor placed horizontally. As the maximum effect is obtainable when the conductors of the transmitter and receiver are parallel, this makes it necessary to have a vertical conductor connected to one pole of the coherer.

Before proceeding to describe the results obtained under various conditions by means of what we may call the vertical wire system, I think it desirable to bring before you some observations and results I have obtained with a system of Hertzian Wave telegraphy which was the first with which I worked, and in which parabolic reflectors are used to control the propagation and intensify the effects obtained when comparatively short electric waves are employed for signalling. As in ordinary optics, so also in the optics of electro-magnetic oscillations, it is possible, as has been shown by Hertz, to reflect the waves radiated from the oscillator in one definite direction only. This can be done, as you know, by using convenient reflectors, similar to those used for projectors but preferably for economical reasons, made of copper or zinc, instead of silver amalgum or silver. Except when very small radiators of the Righi or Lebedew type are employed, it is desirable to use cylindrical parabolic reflectors, and it is with reflectors such as I here exhibit that the trials to which I am alluding have been carried out. The advantages obtainable by their use are obvious.

In any other system intended for the transmission of telegraphic signals by means of electric waves through space the waves have been allowed to radiate in all directions, and would affect all suitable receivers within a certain radius, which of course is dependant on the power of the radiator or transmitter and on the sensitiveness of the resonator or receiver. It is, however, possible by means of syntonizing arrangements, to prevent, to a certain extent, messages affecting instruments or receivers for which they are not intended, and therefore to select any receiver by altering the wave length of the transmitter. By means of reflectors it is possible to project the waves in one almost parallel beam which will not affect any receiver placed out of its line or propagation, whether the said receiver is or is not in tune or syntony with the oscillation transmitted. This would enable several forts, or hilltops, or islands to communicate with each other without any fear of the enemy tapping or interfering with the signals, for if the forts are on small heights, the beam of rays would pass above the positions which might be occupied by the enemy. An illustration of the possibility of directing these waves can be shown by the action of the receiver, which in this case rings a bell only when the radiator in the reflector is directed towards it. These results are much more marked in an open space than in a lecture theatre, as the walls, gilt hangings, etc., tend to

reflect the rays in all directions, and may alter the results.

In experiments carried out over a distance of 1-3/4 miles I noticed that only a very small movement of the transmitting reflector was sufficient to stop the signals at the receiving end, which could be only obtained within a latitude of 50 feet to the right or left of what was believed to be the centre of the beam of reflected radiations.

There exists a most important case to which the reflector system is applicable, namely, to enable ships to be warned by lighthouses, light-vessels, or other ships, not only of their proximity to danger, but also of the direction from which the warning comes. If we imagine that A is a lighthouse provided with a transmitter of electric waves, constantly giving a series of intermittent impulses or flashes, and B a ship provided with a receiving apparatus placed in the focal line of a reflector, it is plain that when the receiver is in range of the oscillator the bell will he rung only when the reflector is directed towards the transmitter, and will not ring when it is not directed towards it. If the reflector is caused to revolve by clockwork or by hand, it will therefore give warning only when occupying a certain sector of the circle in which it revolves. It is therefore easy for a ship in a fog to make out the exact direction of point A, whereby, by the conventional number of taps or rings, she will be able to discern either a dangerous point to be avoided or the port or harbour for which she is endeavouring to steer.

I have not up to the present attempted to signal any greater distance than about 2 miles with reflectors, but I am of opinion that across clear space it will be quite possible to obtain satisfactory results at far greater distances, especially if the reflectors are accurately made any larger than those I have used. By means of the same apparatus exhibited here I have succeeded in signalling over a distance of 2½ miles, without, of course, the use of any real "base" lines, which were supposed to be essential for any distance greater than a few feet.

It was by means of reflectors I obtained the results over 1-3/4 miles mentioned by Mr. Preece at the British Association meeting in 1896.

I have, however, dedicated more time to the other system, i.e. the vertical wire system.

A station at Alum Bay, Isle of Wight, and another at Bournemouth, the distance between them being 14½ miles, was erected at the beginning of last year in order to test the practicability of the system under all conditions of weather and also to afford an opportunity of proving that "Wireless Telegraphy" was not a myth but a working reality. I believe some details of the special conditions of these stations would be of interest. The installation at Alum Bay is in the Needles Hotel, and the Bournemouth station (which has lately been transferred to the Haven Hotel, Poole, thereby increasing the distance to 18 miles) was at Madeira House, South Cliff. At each station a pole 120 feet high was used, which supported the aerial conductor, usually a stranded copper of 7/20 copper wire insulated with rubber and tape. A 10" induction coil was used at each station, worked by a battery of 100 Obach cells, "m" size, the current taken by the coil being at 14 Volts from 6 to 9 Amperes. The spark discharge takes place between two small spheres about 1" in diameter, this form of transmitter having been found more simple and more effective than the Righi oscillator I had previously used. The length of spark is adjusted to about 1 centimetre; this, being a much shorter spark than the coil can give, allows a good margin over for any irregularity that might be caused by the break. No care is ever taken to polish the spheres, d,d, at the place where the spark occurs as the results seem decidedly better with dull spheres than with polished ones.

The first tests were made between the Isle of Wight and a steamer, the height of the mast on the boat being about 60 feet. Readable signals were obtained up to a distance of 18 miles from Alum Bay. During the course of these experiments I had the pleasure of the company and assistance of Captain Kennedy R.E. who was good enough to draw a map showing the course of the steamer. It had apparently been thought that weather or varying conditions of atmospheric electricity may interfere with or stop the signals transmitted by this system, but experience of over fourteen months

of continual everyday work has brought me to the conclusion that there is no kind of weather which can stop or seriously interfere with the working of such an installation. We have given demonstrations to several eminent scientists, who came down and wanted a show, often when we did not expect them, but on no occasion have they found any difficulty in the work of transmitting and receiving messages between the two stations.

In September of last year, in consequence of the expiration of our Lease at Madeira House, Bournemouth, we transferred that station, as I have said, to the Haven Hotel. Poole, thereby increasing the distance to 18 miles. Experiments and teats are carried out daily between the two stations, the improvement in apparatus having allowed us to reduce the height to 80 feet at each end. An average of fully 1,000 words are daily transmitted through the ether each way.

In the Spring of last year Lord Kelvin inspected our station at Alum Bay, and he was kind enough to express himself as highly pleased with what he saw. He sent several telegrams to his friends, including Mr. Preece and Sir George Stokes and insisted on paying 1s royalty on each message, wishing in this way to show his appreciation of what was done and to illustrate its fitness at that time for commercial use.

We are now working at experiments directed towards still further reducing the height necessary for a given distance, and also a good deal on syntonic systems.

In May of last year Lloyds desired to have an illustration of the possibility of signalling between Ballycastle and Rathlin Island in the north of Ireland. My assistants, Mr. Kemp and the late Mr. Glanville, installed the instrument at Ballycastle and at Rathlin Island. The distance between the two positions is 7½ miles, of which, about four are overland and the remainder across the sea, a high cliff also intervening between the two positions. At Ballycastle a pole 70 feet high was used to support the wire and at Rathlin a vertical conductor was supported by the lighthouse 80 feet high. Signalling was found quite possible between the two points, but it was thought desirable to bring the height of the pole at Ballycastle to 100 feet, as the proximity of the lighthouse to the wire at Rathlin seemed to diminish the effectiveness of that station. At Rathlin we found that the lighthouse-keepers were not long in learning how to work the instruments, and after the sad accident which happened to poor Mr. Glanville that installation was worked by them alone, there being no expert on the Island at the time.

Following this, in July we were requested by a Dublin newspaper the Daily Express, to report from the high seas the results and incidents of the Kingstown Regatta. In order to do this we erected a land station, by the kind permission or the harbour-master at Kingstown, in his grounds, where a pole 110 feet high was placed. A steamer, the Flying Huntress, was chartered to follow the racing yachts, the instruments being placed in the cabin. The height of the vertical wire attainable by the mast was 75 feet. A telephone was fixed from our land station at Kingstown to the Express office in Dublin, and as the messages came from the ship they were telephoned to Dublin, and published in succeeding editions of the evening papers.

The relative positions of the various yachts were thus wirelessly signalled while the races were in progress, sometimes over a distance of 10 miles, and were published long before the yachts returned to harbour. During the several days the system was in use between the tug and the land station, over seven hundred messages were sent and received, none requiring to be repeated. On trying longer distances it was found that with a height of 80 feet on the ship and the same height as already stated on land it was possible to communicate up to a distance of 25 miles and it is worthy of note in this case that the curvature of the earth intervened very considerably at such a distance between the two positions. On one occasion, on a regatta day, I had the pleasure of the company of Professor G. F. Fitzgerald, of Trinity College, Dublin, on the ship, who, as would be expected, took a very great interest in the proceedings.

Immediately after finishing at Kingstown I had the honour of being asked to install wireless telegraph communication between the Royal yacht Osborne and Osborne House, Isle or Wight, into

the Royal yacht in Cowes Bay, and during the trips His Royal Highness frequently took. The working of this installation was a very pleasant experience for me, and it afforded also an opportunity of more thoroughly studying the effect of intervening hills.

In this installation induction coils capable of giving a 10 inch spark were used at both stations. The height of the pole supporting the vertical conductor was 100 feet at Osborne House.

On the Royal yacht Osborne the top of our conductor was suspended to the main mast at a height of 83 feet from the deck, the conductor being very near one of the funnels, and in the proximity of a great number of wire stays. The vertical conductor consisted of a 7/20 stranded wire at each station.

The Royal yacht was moored in Cowes Bay at a distance of 1-3/4 miles from Osborne House, the two positions not being in sight of each other, the hills behind East Cowes intervening. This circumstance would have rendered direct signalling between the two positions impossible by means of any flag, semaphore, or heliograph system. Constant and uninterrupted communication was maintained between the Royal yacht and Osborne House during the sixteen days the system was in use, no hitch whatever occurring.

One hundred and fifty messages were sent, being chiefly private communications between the Queen and the Prince. Many of these messages contained over one hundred and fifty words, and the average speed of transmission was about fifteen words per minute.

By kind permission of the Prince I will now read to you some of the telegrams which passed between the Royal yacht and Osborne House.

.....To be concluded in the next issue.

****

NORTH WEST AMATEUR RADIO CONVENTION.

A Week-end Residential Meeting at LANCASTER UNIVERSITY on 23/24 Sept 72.

The Convention has been organised to provide an opportunity for amateurs to meet one another and discuss their common interests and problems in comfortable and attractive surroundings. The aim has been to provide interest, information and relaxation to suit a wide cross section of the amateur community, at a cost which would allow both husband and wife to escape for an autumn week-end.

The programme includes a wide choice of lectures, exhibitions and demonstrations. A day outing to the Lake District and Levens Hall will be available for ladies and any others who may wish to go.

A feature of the Convention will be the Dinner on the Saturday evening, at which there will be a well-known guest speaker.

The Convention will be held on the Campus of the University of Lancaster, alongside the M6 Motorway and easily accessible from all parts of the U.K. The wooded site is particularly attractive and is a complete and compact community offering a range of facilities and interests to suit all tastes. The site is two miles south of the City on high ground overlooking Morecambe Bay, the Lakeland Hills and the Pennines. Residential accommodation on the site is in comfortable study/ bedrooms. If there is enough support there will be a home constructors competition, for which the entries would be displayed in the Exhibition Hall. Further details from : The Convention Secretary, Lancaster University Radio Society, Department of Environmental Sciences, Lancaster.

ANNEX A

The Q of a Tuned Circuit (Ref: 1)

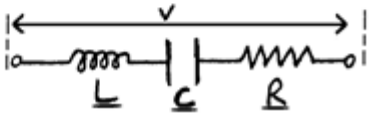
The ratio of reactance to resistance represents the ratio of energy stored per half cycle to the energy dissipated per half cycle. The quantity used to represent the quality which defines the selectivity of a circuit is denoted by the letter Q and is properly defined as 2 times the ratio (energy stored)/(energy dissipated) per half cycle. For a simple tuned circuit $Q = \frac{\omega L}{R}$, the ratio of inductive reactance to resistance.

The value of Q varies with frequency and it is important to distinguish between Q at any given frequency and the value Q_o at resonance.

At the resonant frequency f_o $\quad Q = Q_o = \frac{\omega_o L}{R}$. SINCE $\omega_O{}^2 LC = I$

It may also be written as $\quad Q_o = \frac{I}{\omega_o CR} = \frac{I}{R}\sqrt{\frac{L}{C}}$

At resonance the magnitude /Z/ of the impedance of a series circuit,

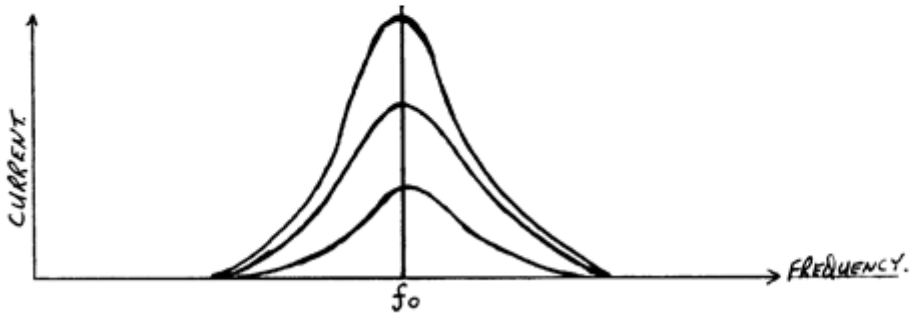


IS GIVEN BY

$$/Z/ = \sqrt{\left[R^2 + \left(\omega L - \frac{I}{\omega C}\right)^2\right]}$$

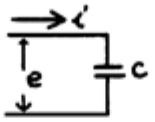
At resonance which, by definition, is when $\quad \omega L = -\frac{I}{\omega C}$ AND $/Z/ = R$

Thus at resonance the current flowing in the circuit is purely controlled by R and $= \frac{V}{R}$. Off resonance, when either ωL or $-\frac{I}{\omega C}$ becomes large compared with R, the latter has only a small effect on the current flowing. We thus get the conventional selectivity curves:-



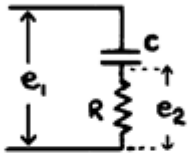
Ref:- The Services Textbook of Radio, Vol.1 Electrical Fundamentals, page 447.

Theory of the Reactance Valve



Where q is the charge on the capacitor $q = Ce$ $\quad i = C\frac{de}{dt}$

In the differentiating circuit

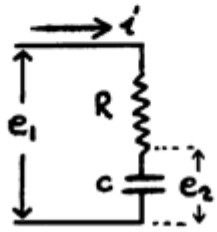


$$e_2 = R \cdot C\frac{de}{dt}$$

Note this is a true differentiating circuit when $T \gg RC$

i.e. when $\frac{1}{\omega C} \gg R$

In the integrating circuit



$$q = Ce_2$$

$$i = \frac{e_1 - e_2}{R} = \frac{Cde_2}{dt}$$

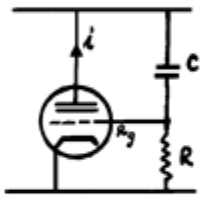
When $e_2 \ll e_1$

$$e_2 = \frac{1}{RC}\int_0^t e_1\, dt$$

Hence $T \ll RC$

i.e. $\frac{1}{\omega C} \ll R$

Thus in the circuit where e is the voltage from the oscillator, $eg = RC\frac{de}{dt}$



when $R \ll \frac{1}{\omega C}$

and $RC \ll T$

Hence the current through the valve

$$i = \frac{1}{Ra}\left[e + \mu RC\frac{de}{dt}\right]$$

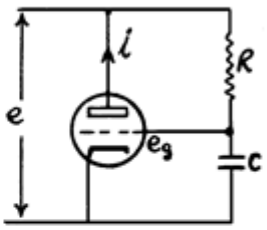
Since $\frac{\mu}{Ra} = gm$

$$i = \frac{e}{Ra} + gm\ RC\frac{de}{dt}$$

Thus the valve looks like a capacitance Co of gm RC

In the circuit
(e = oscillator voltage)

$$eg = \frac{1}{RC}\int_o^t e\ dt$$



when $\frac{1}{\omega C} \langle\langle R$

and $T \langle\langle RC$

hence the current through the valve is given by

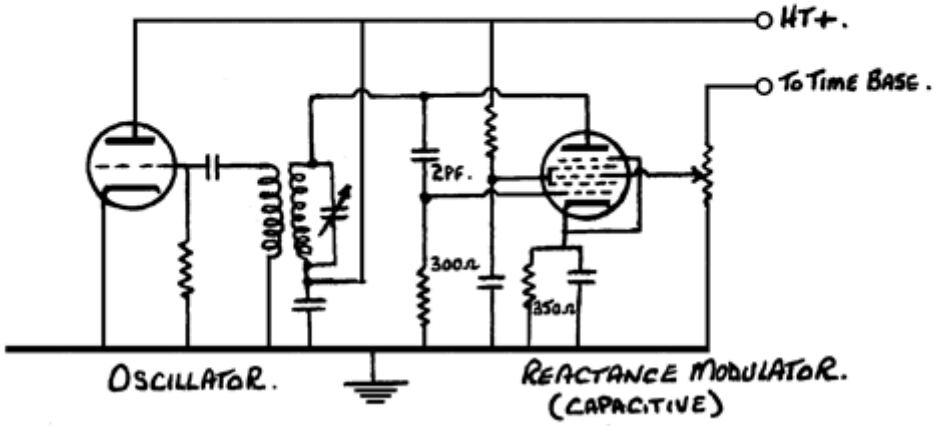
$$i = \frac{1}{Ra}\left[e + \mu \frac{1}{RC}\int e\ dt \right]$$

$$= \frac{e}{Rc} + \frac{gm}{RC}\int e\ dt$$

Thus the valve looks like an inductance of $\frac{gm}{RC}$

In the figure 32 V_2 looks like a variable inductance in parallel with the oscillator tuned circuit. The gm of the valve and hence the inductance to which it is equivalent is varied by varying the potential of the suppressor grid.

A basic circuit using a hexode as a variable capacitor would be as follows: -



For those of you who are contemplating constructing items of test gear that have appeared in this series here is some additional information and a list of corrections prepared by the author: -

Fig 3 At the end of the caption $R_m - \frac{V}{I} = R_g$

Fig 21 Resistor Q is a variable resistor. The letters VVM should appear in the middle of the bridge.

The second equation should read $R_L = \frac{QP}{S}$

Third instalment (Jan.'72) Page 20 Heading 'Measurement of Q' has been omitted.

Fig 23 Equation should read $i = \frac{e}{R}$

Fig 24 Insert trimmer on tuned cct. value 2.5 to 6pf across the 450pf Cap.
Connect Galvometer as follows: -

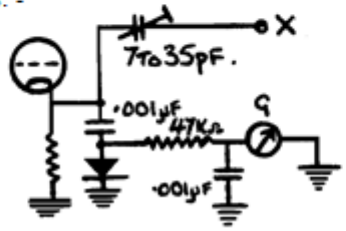


Fig 25 Connect capacitor from T_1, to ground

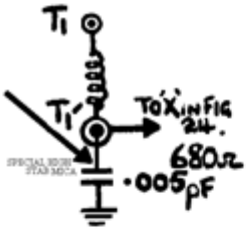


Fig 26 Suitable valves: - Double Triode 12AU7, Double Diode 6AL5.
Resistor between point X and the left hand grid is 3·3Mohm.

Fig 27 The rectifier is a 6X5, second valve heater is the 12AU7, and the resistor in series with the 6AL5 is 5·6 ohms at 1watt. From the anode of VR 150/30 connection goes to HT +180, RV has a slider U.

Fig 28(b) There should be a capacitor between the cathode of the first valve and the grid of the second.

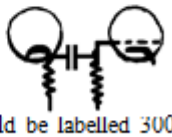


Fig 30 Socket 1 should be labelled 300/250V, 0-25mA unstabilised. Socket 2 should be labelled 150, 0-20mA, stabilised.

Component values are as follows: - C1, C2 8+8 mF 350Vw Electrolytic. D1 to D4 8000V PIV DIODES. L is a small choke, P a wander plug T Stern Radio Type 653M.

WELCOME - WELCOME - WELCOME.

In this edition we extend a hearty welcome to the following new members Numbers 910 to 921 inclusive.

I.P. LINEHAN Esq., RSARS 910, 2, The Woodlands, London Road, BRIGHTON, BN1 8WA Sussex. (CCF).

G.D. WOODCOCK Esq., G4AOE/RSARS 911, 6 Meadow Close, Beltinge, HERNE BAY, Kent.

P.W. WILBERFORCE Esq., G4AXS/RSARS 912, "Little Yaffles", Womenswold, Near CANTERBURY, Kent.

Lieut. Col. J. J. DAVIES, GW3CVY/RSARS 913, Tygln Mansion, Ciliau Aeron, LAMPETER, Cards.

J.W. CARTER Esq., G3ZW/RSARS 914, 15 Goudhurst Road, GILLINGHAM, Kent.

D. MURRAY Esq., RSARS 915, 66 Friern Park, NORTH FINCHLEY, London N 12. (CCF)

I.A. STANTON Esq., RSARS 916, 49 Stockers Avenue, WINCHESTER, Hants (CCF)

A.J. FOSTER Esq., G4AWS/RSARS 917, 16 Parkside Drive, WATFORD, Herts.

A.H. CASH Esq., RSARS/918, 20 Alamein Street, MORWELL, Victoria 3840, Australia. (SWL)

D.J.P. SMITH Esq., RSARS/919, "Brunswick", Cornwall Gardens, BRIGHTON, BN1 6RJ, Sussex. (CCF)

J. GRANT Esq., RSARS/920, 19 St. Mungo Road, DALMEIGH, Inverness Scotland. (SWL)

WOI A.C. GRAHAM (BRS 32817)RSARS 921, HQ Northern Ireland, LISBURN, Co. Antrim, Northern Ireland.We all trust that your stay with us will be a long and happy one - ED

****

PFU QUIZ*

(* Page Filler Up)

A small quiz for all those members who may be interested in Awards. To make it easy the answers are below the questions.

1. Which country issues the PLOVDIV Award?
2. Where does the WORKED 15 MAUI STATIONS AWARD come from?
3. Which country issues the ELIZABETHAN AWARD and why is it so named?
4. Who issues the KING AWARD?
5. Where does the TIN LIZZIE AWARD originate?
6. How many trains must one contact to gain the CHATTANOOGA CHOOCHOO AWARD?
7. What must one do to gain the TVI AWARD?
8. Does Sicily issue the ETNA AWARD?
9. What must you do to become a BACHELOR OF AMATEUR RADIO?
10. For all U.S. County hunters - how many counties in the State of Kansas?

1. Bulgaria, 2. Hawaii (Maui is an Hawaiin Island), 3. Australia, by the Elizabethan Radio Club in W.A., 4. Keihanshin Information Net Group - of Japan, 5. You've guessed it! The Ford Amateur Radio Club of Dearborn Mich., 6. None, its for QSOing stations in Chatanooga, 7. Work a given number of Tennessee Valley Indians, 8. No, issued by W3VWL of ETNA Pennsylvania, 9. Work 5 members of The City College of New York ARC, 10. 105.

AN OPEN LETTER TO ALL MEMBERS.

(The following letter was received by the General Secretary. Bill has requested that the letter be published in full before any decision is taken at HQ as it is felt that members might like to "have a say" on the proposals enclosed -Ed.)

R. H. McGill G3WZQ
No. 3 Five Houses,
51 Mill Road,
Stock,
Nr Ingatestone.
Essex.

April 30th 1972

The Secretary , R.S.A.R.S.,
Blandford,
Dorset.

Dear Bill.

At long last pen to paper, or fingers to keys, re certain proposed changes in RSARS. First of all however let me say that these proposals in no way reflect on the very hard work and efficiency that has been carried out and will continue to be carried out at H.Q. on behalf of all Members of RSARS, on the contrary, they are designed to lighten the burden of G4RS and with luck reactivate the society and make it the most desirable organisation with which one wishes to be associated.

Secondly I do realise that the implementation of any part or the whole of these proposals could take upwards of one or two years before full fruition and will involve in the initial stages a lot of hard work, thinking and planning.

Very basically the proposal is one of rationalisation, a word much used in commerce today, and is designed to take a lot of the work load off the backs of Blandford. I propose therefore that the Society be broken down into four, or five, or more if necessary, regions each with a regional manager. In the initial stages each elected regional Manager is given a list of names and addresses of association (Society? -Ed) members so that person to person or radio contact can be made with members within the region. From these contacts regular nets on bands and frequency best suited to a particular region can be established. From this situation arrangements can be made for quarterly or half-yearly or even yearly meetings so that members can get to know other members better, also by the establishment of regular region nets I imagine it would be much easier to recruit new members and so swell the membership. Regional Managers could also be responsible for the collection of Annual subscription, editorials for Mercury, regional competitions, etc., etc. Regional Mangers could also be directly responsible to H.Q. and keep them informed by radio contact or otherwise of the regional activity. This information to be included in each edition of Mercury for the benefit of all Members.

Now we have, I am sure, relieved Blandford of a lot of hard work but you do not get away that lightly. I propose that Blandford establishes a Society Shop for the benefit of its members where components and equipment can be bought at a considerable saving to Society members, this would necessitate much keener negotiation with suppliers by an elected member who would have at his elbow the bargaining power of over one thousand members.

With the facilities there are at Blandford arrangements could be made for designing all types of equipment, even an RSARS Mobile rig or fixed station economically priced and purchased by members in kit form from the RSARS shop. Blandford would also be responsible for the final editing and publishing of Mercury, final collection of subscriptions Society Awards and competitions, overseas activity, etc., etc.

Obviously the AGM would be arranged by Blandford, but I propose that it be held yearly in different parts of the country thereby enabling more people to attend. Suggested venues being London, Birmingham, Manchester, etc. Perhaps G4RS could arrange to have two or three Open Days a year so that members wishing to visit HQ could do so.

Finally I propose that the Society subscriptions be increased and that the following methods be adopted.

1. At a date to be decided, i.e. 1st January 197? the subscription be increased to £1 per annum.
2. New members to pay on enrolment £1 plus their annual subscription or part there of depending on the month in the year.
3. All current life Members to be given five years free Membership and thereafter pay full annual subscriptions.
4. On attaining the age of 65 years automatic life membership is granted providing the member has 10 years unbroken service, and no further subscriptions are paid.
5. Life membership subscription to be increased to £15/20 (to be decided). Members can only apply for life membership on completion of 5/7 years unbroken and active membership. Application to be made to Blandford and this is considered once a year by a Committee selected by Blandford and consisting of life and honorary members.
6. Honorary membership. The adopted system in use at this time to be continued.

The collection of subscriptions can be in the initial stages the responsibility of regional managers but I would suggest that a full page reminder be included in the year's final copy of Mercury telling members to send their subscriptions to their regional managers. Where subscriptions are not received by April 1st a letter can be sent by the regional manager to the member as a final reminder and no reply within one month will render the membership void, and the RSARS membership number would be re-issued after a period of one or two years.

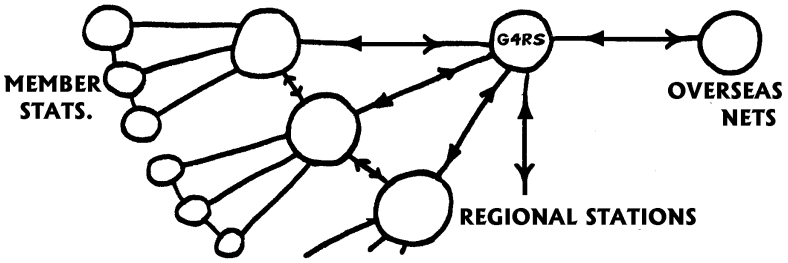
I believe that the foregoing in relation to subscriptions to be fair to all members both annual and life and I do not think that there is a member who does not consider that he is getting a £1 worth of good value at this moment of time for only 50p.

Finally in relation to the type of membership RSARS Nos. could be prefixed A361 = Annual, L352 = Life, H090 = Honorary. (There an Award there for the working out!).

With regard to the RSARS radio links, perhaps Blandford could apply to the GPO so that special call-signs could be given permanently to regional stations. i.e. G4RS (Blandford), G4RSA, G4RSB, G4RSC, G4RSD. In addition members numbers could indicate from which region the station is in, i.e. A361A, H090B, L352C.

Lastly, Bill, if it is thought worthwhile these proposals or parts thereof could be printed in Mercury and a type of voting form included so that members can comment and the enclosed form is just a suggestion.

(A separate voting form is included. If you wish to use it please complete it and send to the GENERAL SECRETARY at BLANDFORD as soon as possible. Ron's Net idea is shown below (Editor).



ROYAL SIGNALS AMATEUR RADIO SOCIETY
APPLICATION FOR MEMBERSHIP

I wish to apply for membership of the Royal Signals Amateur Radio Society, and, if elected, agree to abide by the Rules of the Society as published and/or amended. I understand that, if elected as an Annual Member, membership fees are payable on joining and thereafter on the 1st January each year, except in the case of members joining on or after 1st September when Annual Membership is free for the remainder of the current year. I also understand that it is necessary to have completed three consecutive years as an Annual member before I qualify for Life membership, and that membership fees are as follows :-

Annual Membership	:	50p per Annum
Life Membership	:	£5.00
Club Affiliation	:	50p per Annum or £5.00 Life Affiliation after three years annual affiliation

I enclose Cheque/Money Order/Postal Order/Cash* (Cheques and Postal Orders crossed and cash Registered, please)) to the value of £ - -, in respect of Annual/ Life membership. Please make all monetary documents payable to "THE ROYAL SIGNALS AMATEUR RADIO SOCIETY" and NOT to individuals.

The Society reserves the right to publish details of all members unless any member expressly wishes otherwise.

I DO/DO NOT* object to my membership details etc., being published by the Society.
(Failure to delete will be taken as the applicant having NO OBJECTION).

****

PLEASE GIVE DETAILS OF YOUR SERVICE/QUALIFYING CONNECTIONS ON THE REVERSE OF THIS FORM

****

RANK (if any) _____ SURNAME _____ FORENAMES _____

CALL-SIGN OR SWL No. _____ OTHER CALLS HELD _____

ADDRESS FOR CORRESPONDENCE _____

_____

_____

_____

DATE _____ SIGNATURE _____

****

Membership if approved, becomes effective from the 1st of the month in which membership is approved.

When completed, please return this form, with membership fee, to :-

GENERAL SECRETARY, ROYAL SIGNALS AMATEUR RADIO SOCIETY, SCHOOL OF SIGNALS, BLANDFORD CAMP, BLANDFORD FORUM, DORSET, ENGLAND.

****

For Office use : Recd. Chkd. Treas. Card. Mercury. No.

****

SUPPORT YOUR SOCIETY - THE ROYAL SIGNALS AMATEUR RADIO SOCIETY

CORNWALL HAM-RADIO HOLIDAY CENTRE.

A note from Bernard and Dorothy Broughton gives all Members some information on their 'Ham-radio Holiday Centre. This is situated at Hi-Beams, St. Tudy, Bodmin, Cornwall and Bernard (G3XBR) and Dorothy say:

AN INVITATION to come and enjoy the complete freedom of furnished, self-catering accommodation. (Stay bed all day if you wish). Situated in the delightful unspoilt village of St. Tudy, adjoining "BROUGHTONS Post Office General Store" and opposite the Cornish Arms. Everything you need right at hand. Just bring your pyjamas and GPO transmitting licence and operate G3BR. Maximum legal power (Occasional TVI). 6 element beam, 65ft tower. Over 400 feet above sea level. See write-up in Short Wave Magazine February 1972, page 723. Our aim is not only to make you welcome and comfortable but also to make you want to come again, and to recommend your friends.

GENERAL INFO. All within 15 miles from St. Tudy (WAB SX 07) you find blue sea and golden sands, Golf courses, Sea and River fishing, Safe Bathing, Surfing, Water Ski-ing, Boating, Sailing, River and Sea trips, Horse Riding and Pony Trekking. Gliding at Perranporth - 30 miles.

Your daily needs can be purchased at BROUGHTONS store. Milk at the garage - 1 minute walk. Butcher - 2 minutes walk. There is ample car parking space. Secluded garden. Washing, drying and ironing facilities. Children and babies welcome but unsuitable for dogs.

ACCOMODATION comprises: Ground Floor - fitted and fully equipped kitchen with electric cooker. Dining room/Lounge with small TV set. Radio room with 7ft console. First floor: three double bedrooms all H & C basins. Bedroom 1 = 12' 6" X 13'. Bedroom 2 = 11' X 12'. Bedroom 3 = 9' Sq. Close carpeted bathroom/WC. Cot available with mattress but no sheets, etc. All other bed linen and towels provided.

INCLUSIVE WEEKLY TERMS August £25. July and September £22. May, June and October £20. Other times by arrangement. If only two of the bedrooms are required deduct £2. from these prices. Deposits when booking 20% NO Slot meters or other annoying extras. Bookings from Saturday to Saturday. Please vacate rooms by 10a.m. to enable preparation for new arrivals by 3p.m. An order for bread, milk, groceries, provisions, etc.. can be posted on in advance.

CENTRAL FOR TOURING. Mileages : Bodmin 7, Camelford 7, Dartmoor 45, Fowey 18, Looe 25, Mevagissey 23, Newquay 23, Padstow 15, Plymouth 36, Polperro 23, Port Isaac 9, St Ives 39, Tintagel 11 and Wadebridge 7.

All enquires direct to Bernard and Dorothy and NOT TO HQ. If you wish to 'phone, it's St. Tudy 201.

****

CRISSCROSSWORD No. 1. G3VIS

In the forthcoming editions of "Mercury" you will find a Crossword puzz1e of sorts. Over a period of several months I have devised some easy, reasonably hard and fiendish puzzles, one will appear in each edition of our magazine, and, to add interest, there will be two prizes, a first prize of £1 and a second prize of 50p. These prizes can, or course, be used for membership fees (some now long overdue!), buying QSL cards or notepaper, or even better still, for buying a couple or noggins. Prizes will be paid to the first two correct solutions opened. No entries will be opened before the closing date. Please don't send your entries to Blandford! and as entries will not be opened, please do not include any other items with your entry which require action before December! Good Luck, de Ron Cox.
(The rather late closing date is to allow for overseas members to "have a bash" - Ed.)

HORIZONTAL	VERTICAL	DIAGONAL
1 -3 Flavouring	1-12 Tramp	1 -14 Old Serviceman
3-5 Bloodless	2-13 Accuse	3-12 Try
5-7 Unite	3-14 Indict	3-1 6 Abashed
8-9 Italian City	4-15 Unsettled	5-14 Vehicle
9-10 Courteous	5-16 Leapt about	5-18 Hues
10-11 Ratify	6-17 Incorporated Town	7-16 Revealed
12-14 Tauten	7-18 Anticipates	12-25 African Country
14-16 Nicked	12-23 Flourishes	14-23 Tyros
16-18 Titled Woman	13-24 Frequenter	14-27 A new thing
19-20 Touch upon	14-25 Popular Flower	16-25 Perplexity
20-21 Specialist	15-26 Painstaking	16-29 Gowns
21 -22 Carnal	16-27 Compactness	18-27 Financial support
23-25 Part of Russia	17-28 Kneeling cushion	23-36 Break into pieces
25-27 Briskness	18-29 Lays aside	25-34 Harsh
27-29 North Americans	23-34 Imagine	25-38 Revenged
30-31 Tract of raised land	24-35 Self-importance	27-36 Not as old
31-32 Tool	25-36 Charger	27-40 Crying out
32-33 Song of small children	26-37 Make a great fuss over	29-38 Issue forth
34-36 Captivate	27-38 Succumbed	
36-38 Fell back	28-39 Assassins	
38-40 extinguishing	29-40 Remaining	

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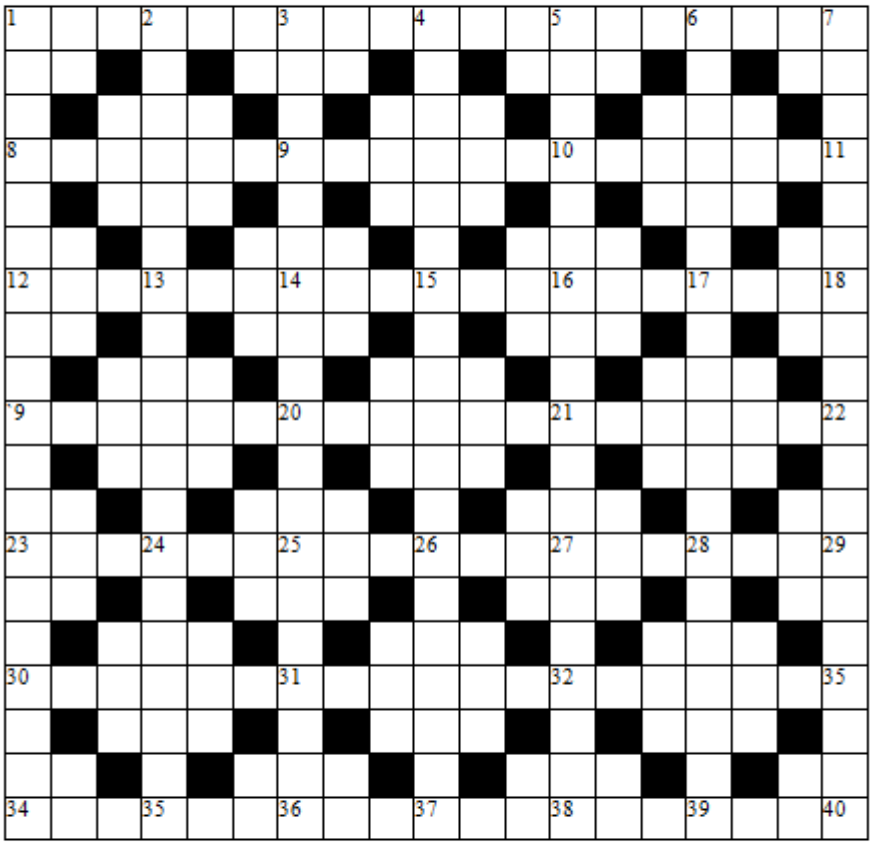
CRISSCROSSWORD No.1.

Name_____
RSARS No._____
Address_____
_____
_____
_____



Rules: You must be a member of RSARS if you wish to enter this competition. All entries to reach the Editor (address inside front cover) by 30th November 1972. Outside of envelope to be marked "Entry X Word". Results and correct answers will be published in "Mercury".

LOOSE SUPPLEMENT
MERCURY
SUMMERY 1972

Please provide and forward to the following address……covers at 20p each

Name …… Remittance should be made by crossed P.O. or Cheque made payable to The Barry College, F.E.R.S.

Full Address ……

No acknowledgement of receipt will be issued.

…… VIA R.S.A.R.S.

Print in BLOCK CAPITALS. If additional addresses are required please attach separate list.

FIRST DAY COVER SERVICE -- 13th SEPTEMBER 1972

75th Anniversary of the First Wireless Transmission across Water
by Marconi and Kemp

(Rough Draft of Cover Design)

LOOSE SUPPLEMENT MERCURY SUMMER 1972

- In 1897 Marconi and Kemp conducted experiments in 'Telegraphy without wires' from three locations on the Bristol Channel - Lavernock Point, Flatholm Island and Brean Down. During these tests wireless signals were transmitted for the first time across water and between two countries.
- The importance of these tests has been widely publicised by the Barry College of Further Education Radio Society, who operates amateur radio stations annually from these historic locations.
- To mark the 75th Anniversary of these tests the Post Office is issuing a 7½p stamp on Sept. 13th. Other stamps issued in the series commemorate the 50th Anniversary of the B.B.C.
- To mark the 75th Anniversary of these tests the Society is issuing its own First Day Cover, and is providing a special postmark from Flatholm Island.
- The cover is a most attractive two colour design showing the three locations on the Bristol Channel.
- The postmark from Flatholm is believed to be unique, in as much as there has never been a postmark from the island before. The postmark will bear the special radio call sign used by the Society on Sept. 13th operating from Flatholm Island.
- It is confidently predicted that these covers bearing the Marconi stamp and the Flatholm Island postmark will quickly appreciate in value.
- Total charge for supplying the Marconi stamp, the First Day Cover and posting on the day of issue at Flatholm Island ..... 20p.
- Completed application, with remittance, must be sent to:
- The Secretary, Barry College of Further Education Radio Society, Colcot Road, Barry, Glam. CF6 8YJ, to arrive not later than Sept. 11th 1972.

Postage Stamps & Coins will not be accepted

ROYAL SIGNALS AMATEUR RADIO SOCIETY MEMBERS SUPPLIES

Members Notepaper - Approximately 6½" x 8" good quality notepaper, headed "ROYAL SIGNALS AMATEUR RADIO SOCIETY, "Members Correspondence" and a figure of Mercury in Blue. Also space for Call-sign and RSARS No.

Members QSL cards - The cards have a "Jimmy" with "Royal Signals Amateur Radio Society" and "Member Station" on the front and printed details on the reverse permitting the card to be used as a) A QSL for a QSO b) A SWL report and c) to acknowledge a SWL report. This is the basic card which can be overprinted with your membership number, call-sign, name and address etc., in RED, BLACK, GREEN or BLUE at a small extra charge. Minimum order quantities : Basic = 100, Overprinted = 500.

Members Lapel Badges - In light blue, dark blue and green, with RSARS initials in black. All brooch fitting. Plain at 12p or with your call-sign or membership number on an attached scroll - 37p

RSARS Ties - In good quality Crimplene and Terylene, dark Blue, with alternate angular rows of "Jimmy" and RSARS badge. Manufactured by a leading London Colour House at £1. 28p post free.

Log Books - By N.W. Electronics. Good quality white paper, with over 100 pages. "Q" Codes, Reporting systems etc. 37p post free

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ORDER FORM.

To : General Secretary
R.S.A.R.S.
School of Signals
Blandford Camp,
Blandford Forum,
Dorset.

From : _____
_____
_____
_____

Date : ___/___/19___ Call-sign : _____ RSARS No. : _____

Please supply/accept the following :

			£ s d
_____	Sheets of Members headed Notepaper	@ 42p per 100	_____
_____	Basic QSL cards	@ 50p per 100	_____
_____	Basic QSL cards	@ £1. 88p per 500	_____
_____	Overprinted QSL cards in (Colour) _____	@ £2. 63p per 500	_____
_____	Plain lapel badge(s)	@ 12p each	_____
_____	Call-sign lapel badge(s) (_____)	@ 38p each	_____
_____	Society Tie(s)	@ £1. 28p each	_____
_____	Log Book(s)	@ 37p each	_____
Annual Subscription(s) for_____		@ 50p/year	_____
		Total :	_____

All Post Free. Overprint colours RED, BLACK, GREEN or BLUE only.
I enclose Cheque/ Postal Order /Money Order/ /Cash to cover total cost.
Please cross Cheques and Postal Orders and Register cash.

Signature : _____