

**R·S·G·B**

# **BULLETIN**

JOURNAL OF THE RADIO SOCIETY OF GREAT BRITAIN

**October 1946**

*The original front cover for this edition was not available.*

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# AROUND



# THE DISTRICTS

## DISTRICT 1 (North Western)

Scribe: A. B. Wright (G6FW), 106 Knowsley Road, St. Helens.

**Bury.**—Fourteen members attended the September meeting when G6AI delivered a very interesting talk on R.A.F. ground radar gear. The next meeting will be held at the Textile Hall, Bury, on Thursday, October 17, at 7.15 p.m. when G3YJ will demonstrate his new audio equipment. All local members are now active on one or other of the bands as well as feverishly building up new QRO rigs!

**Carlisle.**—A junk sale was held at the meeting on September 7 with 3HJ as the auctioneer. Fortnightly meetings continue to be fairly well attended and efforts are being made to draw up a programme which will meet the diversity of interests of local members during the winter months. The next meeting will be held in the Y.M.C.A., Fisher Street, on October 18, at 7 p.m. G3HJ.

**Lancaster.**—G3UC has closed down and is going back to the Army. As a result of the notice in the August BULLETIN BRS5848 and BRS11,774 have been contacted. BRS5848 has just undergone an operation and making good progress towards recovery, helped by the loan of radio books. BRS5018.

**Liverpool and Merseyside.**—Weekly meetings and Morse classes at the new premises at 14 Colquitt Street, Liverpool, are now well established. Those interested please contact Mr. G. Sanderson. All wishing to use testing instruments, now available, must apply to a member of the Committee during meetings. Books for reference library will be gratefully accepted. Mr. H. Caunce (G6KS) has been nominated for T.R. whilst Mr. R. A. Spears (G8AZ) retiring T.R. has been nominated for C.R. G8AZ.

**Manchester.**—The next meeting of the Manchester and District Radio Society will be held at the Reynold's Hall, School of Technology, Manchester, on Thursday, October 31, at 7 p.m. and all amateurs who would like to become members of the Society are cordially invited to attend. Mr. C. R. Plant (G5CP) has, unfortunately, had to resign the Secretaryship of the Society for business reasons and Mr. H. Marshall of 14, Greenway Close, Sale, Cheshire, has been appointed in his stead. Mr. H. C. Daynes (G5YD) has been elected Vice-Chairman of the Society.

**Preston.**—Fifty members attended the September meeting of the Preston Radio Society—now affiliated to R.S.G.B.—when a most informative practical demonstration of u.h.f. transmitters and receivers was given by G6OG, as a result of which there has been added still more zest to the already great interest in u.h.f. work by local amateurs. On October 18, G3TN will lecture on the C.R. Oscilloscope. There are now 25 local licensed stations in the area and all are busy on the various bands. The T.R. was glad to welcome several new members at the last meeting and extends a warm welcome to any in the area who may not as yet, have contacted the group. G5AD.

**Rochdale.**—Eight members attended the September meeting held at the home of G6QA after which a visit was paid to G3HM. Future meetings will be held monthly at 82 Molyneux Street on the Sunday nearest to the 20th of each month at 3 p.m. BRS7083.

**St. Helen's.**—The inaugural meeting of the St. Helen's Society was held on September 17, ten members attending. After the election of officers (G6FW Chairman, G2FOS Secretary and 2FCO Treasurer) future programmes designed to cover all radio interests were outlined. Will all local members give us their full support? Meetings are held each Tuesday at 8 p.m. at 100 Kirkland Street. G2FOS.

**Stockport.**—The first meeting of the winter season was held on September 2, when 34 members attended. An interesting talk on aerials was given by G3LX. Meetings are held in the Textile Hall, Chestergate (near Bus Terminus) every Monday during the winter months and are alternately Lectures and General Discussion meetings. Morse classes are also held on General Discussion evenings. The Secretary of the Stockport Society is Len Chappell, G2AAY, "Heathfield," Buxton Road, Disley, Nr. Stockport. BRS10,287.

## DISTRICT 2 (North Eastern)

D.R.: C.A. Sharp (G6KU), 56 Moore Avenue, Wibsey, Bradford. Bfd. 10772. Scribe: H. Beadle (G8UO), 13 Chandos Street, Keighley, Yorks.

**Bradford.**—The meetings held at Cambridge House have now been organised and the Bradford Amateur Radio Society has been formed. Meetings will continue fortnightly and a syllabus is being arranged. Full particulars from the Hon. Sec. Mr. J. H. Macdonald (G4GJ), Mayfield, Wagon Lane, Bingley. G6KU is being kept busy providing permits for electronic scrap! Most local members are active on 1.8.

**Doncaster.**—The local society continues to flourish and the surplus gear sale on September 18, provided bargains for most buyers. The Society now boasts three new lady members in Mrs. R. A. Flintham and Misses Y. and M. Bottom. A party visited Finningley Air Station and was conducted through the Radar School and Signals Section. Will new members please contact the T.R. at 73 Hexthorpe Road? Phone Doncaster 49155.

**York.**—2ADR is now resident in York. Congrats to G6KC and his wife on the arrival of a daughter. G6KC wishes to form a local club so intending members should contact him at the address given last month. He sends 73 to G2CP, G6P and 8KU.

**Skipton.**—BRS8676 of R.A.F. is home from Gibraltar on leave with first hand gen. on ZB2A.

**Huddersfield.**—The meeting on September 18, was attended by 3CD, 3VP, 4PH, 5VD, 8CD, 8NF, 2AND, 3ABS, BRS9744, 12441, 12654, 13046, 13211 and 13352. Meetings are held on the third Wednesday of each month at 7.30 at the White Hart Hotel.

**Hadifax.**—In an endeavour to start a local society the TR sent out 40 letters and received 9 replies. His enthusiasm deserves a better response than that, so how about it OMs? 5GI, 8CB, 8SJ and 3UI are active on 1.8.

**Sheffield.**—The meetings at the Dog and Partridge, Trippit Lane, continue to be well attended. ON4AD addressed a recent meeting on current activity in Belgium. Mr. E. Stubbs displayed some interesting H.F. gear and G3FA demonstrated an Army type portable transmitter.

**Barnsley.**—See "Forthcoming Events" for meetings of the Barnsley Club. 4JJ, 5KM and 8NM are active on 28 Mc/s. 5IV was nominated as T.R. for 1947. G8UO.

## DISTRICT 3 (West Midlands)

D.R.: V. M. Desmond (G5VM), 92 Worcester Street, Birmingham, 5. Scribe: E. J. Wilson (G2FDR), 48 Westbourne Road, Olton, Birmingham.

**Stoke-on-Trent.**—The local society is still meeting regularly on Thursday evenings and is now over 40 strong. Mr. Bloore G3UD has been appointed Chairman.

**Wolverhampton.**—The W.A.R.S. continues with an ever increasing membership and some interesting lectures have been arranged for the near future.

G2ADJ and 8UR have been particularly successful with DX. G2FDR.

## DISTRICT 4 (East Midlands)

D.R.: L. Ridgeway (G2RI), 90, Romway Road, Leicester. Phone 24295.

**Mansfield.**—Sixteen members were present at the meeting on September 15. G3ANT is held by M. Osler, Forest Town, Mansfield. BRS2777 is awaiting his call whilst 5092 and 11,996 are taking a Morse test shortly. G8GO had an interesting contact recently with VESMJ, Baffin Island, who receives mail once a year. Most members are active and there is growing interest in 58.

**Northampton.**—The T.R. has heard from several new members and has visited 3BA, 3RF, 2SY, 5LP and 4KS during the month. 3BA, 2AAA and others are active on 3.5. 2AAA has been successful in obtaining a new licence for full power and phone. 3BA is using a Franklin oscillator which is unusually stable. 4KS and 3RF are also going ahead with improvements.

**Kettering.**—The D.R. received an appeal from the Kettering Amateur Radio Society for assistance in the collection of equipment for their station. The response was immediate amongst the Leicester lads who turned in a lot of useful gear, which together with a receiver from the Naval Scrap has given them a very good start.

**Nottingham.**—A combined meeting for Nottingham and Notts, was held at the Swan Hotel, Mansfield, August 25, to nominate a County Rep. G8SA opened the meeting at which Nottingham members were conspicuous by their absence and after a few remarks asked 8DZ to take over. 8DZ explained the new post and what was to be expected of a County Rep. with a request that members nominate a suitable member for the post. SMR proposed and 8HX seconded the nomination of 8DZ. The meeting closed with a very good tea for which we thank SSA. 2FXV has agreed to stand as T.R. for Nottingham if elected. At the Nottingham meeting on September 15, a new scheme was put forward by 3DG, who suggested that groups be formed in order to cover the needs of members as a whole. After some discussion the following groups were formed with a member in charge: Transmission, G3DG; Reception, A. Sissons; Aerials, 8QZ; Test Equipment, B. H. Singleton; Construction, 8DZ. Members were formed into groups and one in each group will be required to give a short talk on his own subject at future meetings. We are now installed in new H.Q. with plenty of room and all members are invited to attend the fortnightly meetings.

**Leicester.**—At the September meeting discussions covered the

nomination of 21X as T.R. and 2RI as C.R., whilst future plans were made against the next Council nominations and voting. Various members have visited the Naval stores with varying results. The standard of equipment available appears to be depreciating and the monthly share-out was smaller than usual. The dissemination of news in this area is an easy matter as most members appear on 1.8 during the evening and multiple QSO's are the order of the day (or evening). We are glad to welcome back 3TW who put in an appearance at the last meeting.

The D.R. is receiving a lot of correspondence from members who ask for "particulars" of Naval junk sales. Much time would be saved if the said members read the full announcement in the May BULLETIN, gave ample notice of the date they wish to operate and make sure they have both the official letter and a covering letter before paying their visit. G2RI.

### DISTRICT 5 (Western)

*D.R.:* R. A. Bartlett (G6RB), 31 King's Drive, Bishopston, Bristol. Bristol 46960.

*Bristol.*—Among the 43 members who attended the August meeting was the T.R. for Torquay, G2GK, whom we were very pleased to meet. G2IK, Chairman of THE BULLETIN Sub-Committee read a letter sent by them to H.Q. and members expressed approval of its contents. A reply received by the D.R. was also read. 3RQ has been nominated as T.R. for 1947 and 10,762 as Deputy. A CRT given by 10,762 was auctioned, resulting in an addition of 32s. to the club funds.

On Saturday, August 31, twenty-five local members took advantage of the opportunity to visit the Burden Neurological Institute, Bristol, and were amazed at the interesting and instructive demonstrations carried out there.

Two of the items aroused particular interest. First, the four graph charts upon which the most minute pulses of the brain could be shown and reproduced with the aid of electrical apparatus, all of which had been evolved and built there. Second, the lie detector, which caused much amusement. Many members were cross-questioned as to their DX contacts, but even this was not enough to break some of the claims made!

After a pleasant afternoon, a vote of thanks was accorded to Dr. Gray Waters, Principal at the Institute, and to Mr. H. Shipton, BR510762, who conducted the tour. G2BAR.

*Gloucester.*—At the meeting held on September 19, the following were present: 2AZT, 2BJF, 3MA, 3PZ, 4GN, 5WA, 5394, 5508, 6864, 6890, 7857, 13,135, 3383. It is intended to start up the local club again with fortnightly meetings. Efforts are being made to obtain a room at the Gloucester Technical College. 3MA was nominated at T.R. for 1947 and 2AZT as scribe.

*Swindon.*—The following report active: 2BUJ, 2FZK, 3HC, 3HS, 3JO, 4AP, 5DF, 6NW and 8VP. The two first named are looking for contacts on 58 Mc/s. Good luck to 5DF who is shortly leaving for Reading. We welcome 3AEW to our ranks. 3HS recently worked VE2BV at 1130 on 7 Mc/s. phone using 20 watts, no one being more surprised than 3HS himself! The locals say they will believe it when the QSL arrives!

*Mareton-in-Marsh.*—G2FZO reports active on 7 with a short period on 14 where he found it very hard going with only 25 watts (Doubt if you would get any better luck with 150 watts D.R.). He reports a newcomer in 3ACS and also GW4CK, stationed at the aerodrome nearby.

*Hereford.*—7820 reports from Singapore, saying he has applied for a Malayan Amateur licence. He has obtained permission to use service equipment. G6RB.

### DISTRICT 6 (South Western)

*D.R.:* W. B. Sydenham, B.Sc. (G5SY), Sherrington, Cleveland Road, Torquay. Torquay 2097.

*Exeter.*—The Exeter members, at their last meeting, were treated to a very excellent talk on V.H.F. mobile equipment by Sgt. Bishop of the Exeter Police. Results obtained on the 70-80 Mc/s. range were excellent. Meetings are held on the third Wednesday of each month.

*Taunton.*—On September 6 in the presence of seven other members, G2DRW was duly installed as the new Acting T.R.—complete with chain of office. In a short speech 2DRW thanked 5LM for all he had done, and 5AK received his due share of praise for his efforts during the past twelve months. (The D.R. also offers his very sincere thanks to these two gentlemen.) Plans were made for visits to the Somerton Beam Station, the B.C.C. Station at Washford, and the local automatic telephone exchange. Those present were G5AK, 5LM, 6LY, 2DRW, BR510,230, 10,253, 12,283, and 15,050.

The new T.R. hopes that as many members as possible will support the winter session meetings, thereby enabling the best possible plans to be made. The possibility of meetings at Bridgwater is being considered.

*Plymouth.*—Activity and enthusiasm are high here, and about eight members foregather at the home of the T.R. every Saturday. G6RF is now back in harness. A big attendance is expected at the meeting on October 19. (See Forthcoming Events).

*Penzance.*—A meeting was held at Penzance on September 5, when G2JL, 2NL, 2WW, 4IV, 40A, 6BC, 2DDR, 2DFH, 2FQD, 3ADB, 3AGA, VSIBH, BR5222, 10,083, 10,498, and 13,412 were present. G5IJ and YF were welcome visitors. Discussions were held on Electronic scrap and local activities. It was decided to start informal weekly meetings in each town. Due to accommodation difficulties connected with the holiday season and the

shortage of food, it has not yet been possible to fix a permanent venue for either Penzance or Falmouth meetings. Members should therefore ring G2JL at Penzance 59 (day) or 925 (evening) before the meetings until the problem is solved. Falmouth meetings are generally held at G2DDR, Hatfield House, Ponssharden, near Penryn.

*North Devon.*—A meeting was held at the T.R.'s house on September 8, the main items on the agenda being Admiralty scrap, a crystal register, and the election of a T.R. Those present were G3AM, 3BO, 8US, 2CVY, 2DOW, BR52442, Mr. Weeks (junior associate), and a visitor, Mr. A. B. Jones. Letters of apology were received from G2ID, 3GH and 6GM, the latter due to the illness of Mrs. Merriman. We all hope that she will soon be restored to complete health. Earlier in the day 8US was in QSO with 6FO who passed on his 73 to all the old brigade. Several members are active on 3:5 and doing well.

*Torquay.*—A very successful meeting was held at the Y.M.C.A. on Saturday, September 21, when there was a total attendance of seventeen. At the business part of the meeting Admiralty scrap, future events (including R.S.G.B. contests, and representation) were discussed at some length. Several new members to the area were welcomed, and an especially hearty welcome was given to G6OM, the T.R. for Manchester, who was on holiday in Torquay. G6OM gave a very interesting and instructive outline of Society affairs in the North. G5SY.

### DISTRICT 7 (Southern)

*D.R.:* W. E. Russell (G5WP) "Milestones," Mayford, Woking, Surrey. Woking 1589.

*Reading.*—Two successful meetings were held during August: a junk sale occupied the attention of members at one whilst at the other, a well-informed talk was given by G4CY on A.C. supplies. BR84573.

*Bournemouth.*—G3BM and 3XP made the local headlines in a good amateur radio article. "BM's rotary became airborne, damaging the roof and windows on landing." "XP, nothing daunted, continues construction of a similar device!" We were pleased to welcome visiting T.R.s in G2BAR and SCK. Congrats to new licencees, 3ADG and 3ALW. G2DBF.

*Portsmouth.*—The September meeting passed enjoyably with a typical ham rag-chew. G2XC still going strongly on 58. Considerable interference is still experienced locally on 29.7 and also on 65 to 62, the latter rendering 58 useless at times.

*Coulsdon.*—G2ANS and 2BCI have returned after service in the Far East with the R.A.F. G2BQR has received his phone licence. G2MV gave his talk on propagation and aerials for the U.H.F. to 55 members of the S.R.C.C. in September. The T.R. enjoyed the hospitality of G3NQ and 5UL whilst on vacation. BR53003.

*Croydon.*—G2FWA tried QRP portable from Eastbourne without success. G2HGT finds scarcity of parts is stopping him getting on the air in VU where he is stationed. He would like to contact G4PS (QRA from 2DP). G2DP.

*Guildford.*—With the presence of two Old Timers in the persons of G2DX and 2NM, the success of the September Treasure Hunt meeting was assured. We learned with regret that ZC is moving shortly and there will be no more "Hunts" at "Three-ways."

*Southampton.*—Informal meetings continue to be held at the home of the T.R., 17 Colmore Gardens, Totton, when all are welcome. G8WC.

The reference in these notes in August to G2FN, should have read, G2FM. G5WP.

### DISTRICT 8 (Home Counties)

*D.R.:* S. J. Granfield (G5BQ), 47 Warren Road, Cambridge. Tel.: Cambridge 54644.

The District Meeting held on September 20, brought forth an earnest discussion of interference with Television reception which is curtailing the amount of operating that is possible in some areas on the fringe of the service-area. A round-the-table "Brains Trust" followed, when a variety of questions, some not to be taken too seriously, were dealt with, 2 PU acting as question-master.

*Cambridge.*—5DQ is doing some fine DX work from his new QRA. 2XV is putting the finishing touches to his three-element rotary. 5JO, 2XV, 2PU, 2DT, 5BQ, 8PB, and 6PH are contributing to the QRM on 14, while 8SY is doing good work on 28, using his rotary beam. 5IG is adding to a lengthy list of stations heard and worked on 58.

*March.*—3BK and 3WW, the latter using a Rhombic of the 5 OV pattern, are doing well on 14. There has been no news of other stations in this area recently.

*St. Ives.*—5RL has been fortunate in securing a National HRO, but is looking out for band-spread coils. Congrats to Ron Harding who is now G3AKU and is active on four bands. 2FQP has worked quite a lot of DX on CW using 350v. H.T. 50V is active on 14. Attendance at meetings fell off somewhat during the holiday season, but a full muster is hoped for now that the next date is known. G5BQ.

### DISTRICT 9 (East Anglia)

*D.R.:* H. W. Sadler (G2XS), The Warren Farm, South Wootton, King's Lynn, Norfolk. Castle Rising 233.

*King's Lynn.*—On August 28, the first post-war meeting was held at the Duke's Head, when 100 per cent of the membership

was present. Business (under the chairmanship of the D.R.) was the election of the T.R. and nomination of the C.R. under the new regional scheme. Others present were G2HBZ, 2DCP, 5UD, 2X8, 3SZ, 3IP, 2J8 and 2DT. Will all BRS men contact the T.R. for details of future meetings? 2HBZ has a 1155 receiver working from a D.C. vibrator with excellent results. First post-war contact on 3.5 Mc/s. from 3IP was 6CL at 12.01 a.m. 3SZ has installed a high voltage power pack. 4LM is still trying various aeriols, other stations are active on all bands.

Will members please note that Mr. C. G. Bayes, G2JS, 58 Crosswell Street, King's Lynn, will be acting as Area Representative for the remainder of this year.

*Gl. Yarmouth*.—There are now seven active calls on the air in this area: 3RW receiving excellent reports due to an efficient counter-poise system. 2FAO using phone and CW is active on all L.F. bands. 3AJJ and 6LG confine their work to 1.7. L. Richardson, BR83558 has now become 3AKM. The T.R. has his mast up and has procured a small shed and hopes to be on the air shortly. G2XS.

### DISTRICT 10 (South Wales & Monmouthshire)

*Deputy D.R.*: D. Alan Dyer (GW8UH), 29 Ladysmith Road, Penylan, Cardiff. Tel.: Cardiff 2691.

*Swansea*.—The outstanding event of the month was the PDM which proved to be one of the most successful held in District 10, and a good time was had by all. At the local meeting held on September 4, a very interesting lecture was given by Mr. M. Thomas of the Post Office Engineering staff on "Twelve Channel Transmission as used by the G.P.O." GW4CC.

*Cardiff*.—A successful meeting was held at the Park Hotel on September 9, when nominations were put forward. The Acting T.R. for Cardiff is now Mr. P. Jenkins, GW3VL and local members are asked to contact him for information. The eighteen members from the area who went to Swansea for the P.D.M. had a most enjoyable time and thank their hosts for the fine arrangements they made. GW8UH.

### DISTRICT 11 (North Wales)

*D.R.*: F. J. E. Starkey (GW6KY), "Endon," Gronant Road, Prestatyn, North Wales. Scribe: C. Spillaine (BR81060), 14 Queensway, Prestatyn.

As reported elsewhere in this issue a small but most enjoyable P.D.M. was held on September 8 at Prestatyn. Photographs taken by BR82731 are now available, price 9d. each for postcards and 6d. each for quarter plate sizes. Orders should be sent to BR81060, who will arrange for a blank order to be sent to BR82731. GW4CK, GW4CX and GW2CSX have returned to Civity Street and are busy preparing for activity.

*Flint*.—GW4CX has worked VSL, VS4 and VK and has also found a 1000-0-1000 transformer by hand. His contact with VS4JH was first between Wales and Labuan.

*Prestatyn*.—GW4CK, with the assistance of GW4CX, is building some QRO transformers. GW3CF and BR81060 are busy on the erection of garden sheds, plans for which incidentally, passed through GW6KY's hands in the Local Council Office. GW6KY is busy preparing for his finals but hopes for some real activity as soon as these are over.

*Bangor*.—Congrats. to W. J. Parry, BR811,125 (recently demobbed), who has been granted a full ticket with GW3ARB as his call.

*Llandudno*.—Now that premises have been found GW3JI and the Llandudno group are hoping to arrange some winter meetings. It is hoped that all who found travelling to the Prestatyn meetings difficult will support the Llandudno members in their efforts. Support will also be forthcoming from the Rhyl and Prestatyn area.

*General*.—The Scribe apologises for the absence of notes last month but this was due to lack of news from members. We get our quota of BULLETIN space each month, but we can't accumulate it if we miss an issue. Another meeting will be held at the Savoy Cafe, Prestatyn, on Sunday, October 20th, at 3 p.m. Will all who can, please, come along. BR81060.

### DISTRICT 12 (London North and Herts)

*Deputy D.R.*: S.A. Howard (G8TY) 92 Arlington Rd., Southgate, N.14. (Enterprise 3219). Scribe: E. H. Laister (BR83388), 22 Church Hill, Winchmore Hill, N.21.

*Southgate*.—Thirty-two members attended the September meeting, when 2CIN and 6NV, of Berrys Short Wave Radio, exhibited a wide array of up-to-the-minute amateur equipment and components. They also gave a convincing demonstration of the Labgear 3-element rotary beam, using a scale model energised at 300 Mc/s. Many thanks 2CIN and 6NV. They were followed by BR83425 with a lively and absorbing description of Radar operation in bombers.

Several nominations were received for Area-Reps., and 8TY was also nominated with acclamation as County Representative for next year. Members will be sorry to hear that G5QF, our present D.R., is still a very sick man. Best of luck, O.M.

*Enfield*.—The group have held another successful meeting at which troubles were discussed, and Admiralty Scrap distributed among all members, who were agreeably surprised and delighted. 65VY was again nominated as A.R., and a programme of lectures arranged for the next three months.

*St. Albans*.—Owing to a misunderstanding, the August notes were too late for the last BULLETIN. Sorry O.M.'s. Twenty members attended the August meeting, when 3412 was re-

nominated T.R. with G5UM as Chairman. Twelve members inspected the B.B.C. Station at Brookmans Park on August 24, 7238 interrupting his holiday especially for the visit. Several B.R.S. members have been adopted by full call members for practical operating experience, and arrangements for others will be made in rotation. 4GT, 5UM, 8FJ and 8TK are all on the top band with Franklin oscillators. Congrats to G3ABT (ex11959) on obtaining his full call. GC2NC sends 73 to all via G2AWT.

Slow Morse will be transmitted by G8TK on 1912 kc/s. every Wednesday at 21.30 hours in addition to the Sunday exercises by G5UM who is also on this frequency, and not on 1900 kc/s. as announced.

*Welwyn Garden City*.—A successful meeting was held on September 17, at which over 20 members and intending members were present. Mr. C. B. Cleland (G2CN) was elected Chairman of the Group, and Mr. J. B. Wadham (9857), 124 Parkway, Welwyn Garden City, acting T.R., Tel: Welwyn Garden 245.

Monthly meetings will be held on the first Tuesday of every month at 8 p.m. in the Committee Room of the Council offices, Welwyn G.C.

A programme is being arranged which will include lectures, demonstrations, visits to places of technical interest, etc. BR83386.

### DISTRICT 13 (London South)

*Deputy D.R.*: P. W. Winsford, 63, Erlanger Road, New Cross, S.E.14. Scribe: W. D. Gilmour (G2VB), 35 Grangecliffe Gardens, South Norwood, S.E.25.

It is with regret that we learn of the resignation of our D.R. (Mr. D. A. Griffith, G3ST) due to pressure of private business. We thank him for all the good work he has done for the district in general and especially for the help he gave us during the war years.

At the combined District 7 and 13 Meeting, held in September, Mr. D. A. Griffith gave an interesting talk on transformer core materials for L.F. and H.F. work.

*South Eastern Area*.—The attendance at meetings held at G4DC is still good.

*South Western Area*.—The support given to meetings at G4CG is very disheartening, in fact G2VB was the only one present at the September meeting. The Scribe has been to great pains and trouble to arrange meetings throughout the district and it is up to members to support them. The parents of G4CG have welcomed us, so please don't let them down.

*Woolwich and Plumstead*.—A letter from L. Buckmaster, BR87589, of 9 St. Merryin Close, Plumstead Common, indicates that meetings have started in that area. A good attendance is expected.

*General*.—In preparation for the new Area system of Representation which comes into force in January, the question of Area Representation was discussed at all local meetings. Several members have agreed to act as T.R.'s and the Scribe has written to several others for their support. G4DC.

### DISTRICT 14 (Eastern)

*D.R.*: L. J. Fuller (G6LB), Meadow Brook, Vicarage Lane, Great Baddow, Chelmsford, Essex. Tel.: Gt. Baddow 224.

*Grays*.—Eleven members were present at the September meeting. The local Society are losing their Secretary to the R.A.F. and all members wish him luck. Correspondence from Mr. A. E. Watts (R.S.G.B. Liaison Officer) was read, dealing with phone permits for new Licences. Whilst it was felt that our criticisms regarding the issue of such permits were justified, it was agreed that the R.S.G.B. could go no further with the matter, and it was therefore dropped. The Society's recent Circular dealing with off-frequency operation was read, and the T.R. laid urgent stress on this important matter. G2YH gave a much-appreciated lecture on voice operated carriers. G2CIW has a phone licence, and is busy on the top-band. At the next meeting, Mr. Spokes will speak on the recognition and elimination of standing waves. G4FN has been re-nominated T.R. for 1947.

*East London*.—About 200 tickets were sold and over 100 attended the Concert on September 18. On September 22, at Ilford Town Hall, a very lucid and instructive talk on voice control and break-in was given by Mr. E. Hobden, G2YH. G2CD brought matters up-to-date by giving a detailed statement on past and future activities. A discussion on Methods of Eliminating 'phone/C.W. QRM brought the following voting:—Amendment (1). "Nothing be Done": 18 for, 1 against. Amendment (2). "Band Splitting as against alternative Days": 25 for; 1 against. No vote was taken on a proposal "That odd days be used for phone and even for C.W." Everyone was urged to use and tune the whole of the 1.7 and 3.5 Mc/s. bands.

More—far more—members, particularly BRS, should attend these regular monthly meetings. Good things to come are:—October 20, G6LL on "Present Day Problems Are Not New." and November 17, G4AL, subject to be announced. For special reservation, January 3, District Dinner Social and Dance (see, always, "Forthcoming Events"). G2CD.

*Chelmsford*.—Many matters were discussed at length at the September Meeting, when it was agreed to nominate G2AAU as T.R. for 1947. Morse Code classes are to be run this winter. It is interesting to note that those members concerned have difficulty in receiving the Society's Official Slow Morse transmissions.



A regular series of "discussions" is to be run during the winter, the first, on November 4 is to be opened by G6LB—subject Amateur Receiver Requirements: second, December 2, G2AAU, on DX, and third, January 6, G2KG, on V.F.O.'s. We were very glad to see Jack Ridley back again after a long period overseas, during which he had some exciting times dodging Johnny Jap. Jack, who still holds his old pre-war identity, 2AJF, only wants to pass his Morse test to take a G in front. G2KG has an impressive list of DX phone contacts on 14 and G2SA is going well on 14 and 3.5. He, the D.R., and G5RV, had a most enjoyable reunion, and much DX was discussed, prior to G5RV's anticipated early return to Chelmsford. The D.R. has "grenlins" squatting in almost every section of the station, and it is feared that it will be a considerable time before G6LB is heard again. Will all Chelmsford and District members please note that after October, all meetings will be on the first Monday in each month, commencing November 4.

**Romford.**—There has recently been considerable criticism from this area, directed against the present administration of the Society, and while the D.R. naturally regrets this state of affairs, he is anxious to have it known that Council have invited a deputation from this area to meet them at Headquarters and discuss their grievances. G6LB.

### DISTRICT 15 (London West, Middlesex and Buckinghamshire)

**D.R.:** H. V. Wilkins (G6WN), 539, Oldfield Lane, Sudbury Hill, Greenford, Middlesex. **Byron** 3369. **Scribe:** E. Holt, 36 Bulstrode Road, Hounslow, Middlesex.

Congrats to Mr. and Mrs. T. P. Auzeon (G2TJ), on the arrival of a daughter Madeline, and to Miss Stratton, BRS11849 and Mr. E. G. Filby (G4AQ) who were recently married.

**Harrow.**—Meetings continue to be well supported and some very interesting discussions have taken place.

**Ashford.**—Many matters have been discussed at meetings, including the question of district finances, which it is considered should be on a national basis (even to local meeting expenses) and covered by H.Q. It was decided to support the District fund and contributions were made. It was decided to invite Hounslow members to the next meeting to discuss, with them, the contents of their recent circular letter.

**Twickenham.**—G81P and 4JF have completed ten valve communication receivers of new design, with equal sensitivity, but somewhat higher gain than the H.R.O.

**Edgware.**—In future the meetings of the Edgware and District Radio Society will be held every Wednesday at the Noretta Cafe, 20 North Parade, Mollison Way, Edgware.

**Ruislip.**—There is plenty of activity here and the promised programme for the winter looks good.

**Hounslow.**—After a well-attended meeting had discussed District finances it was decided to send certain resolutions to H.Q., and to circularise them to all T.R.'s and A.T.R.'s in the District, for consideration and discussion among local members.

**West London.**—The four meetings held over the past month were not at all well supported and arrangements for further meetings have not yet been made.

**High Wycombe.**—All usual call signs are active—mostly on 28 Mc/s.

**General.**—A very interesting letter has been received from Sgt. G. J. Smith (D2BM), R.A.F., B.A.O.R., the full contents of which will appear in "The Rag." It is with regret that we announce that our Scribe has met with a bad accident from which he sustained injuries. We send him our good wishes for a speedy recovery. G6WN.

### DISTRICT 16 (South Eastern)

**D.R.:** W. H. Allen, M.B.E. (G2UJ), 32, Earls Road, Tunbridge Wells, Kent. **Scribe:** E. H. Truwell (G2HKU), 27, Unity Street, Sheerness, Isle of Sheppey, Kent.

**Bromley.**—On September 6, at Eden Park Hotel, 25 members met and agreed to form a local radio society, with G8DN as chairman and 2AVI as secretary. Next meeting is October 25. Details from 2AVI, 18 Upper Park Road.

**Kemsing.**—BR86940, The Chantry, Pilgrims Way, is anxious to meet local members and is building a receiver.

**North Kent Group.**—An interesting lecture and demonstration of a home constructed superhet was given recently by 2CCD. Good progress is being made in Morse instruction. 4MB is on 1.8; 4CW on 3.5 and all BRS members are active. It is hoped to arrange a series of lectures for the winter meetings.

**Chislehurst.**—Cpl. Vickery (R.A.F. Malaya) has been operating as VS2BA portable VSI and has now received his Singapore call VS1AA. He has worked most of Europe and was WAC in one and a half hours recently. He says there are twenty VSI stations active on the Island. He hears G2PU and 8TH consistently.

**Eltham.**—G2DHV now living at 2 Purneys Road, is a B.B.C. engineer on Television Outside Broadcasts. He has worked five countries on 1.8 Mc/s.

**Chatham.**—Forty members of the M.A.T.S., were present at a meeting on September 9 when Mr. Bentley of the Telegraph Condenser Company, gave an interesting illustrated lecture. Welcome visitors included 2VB, 400 and 8TX. 8TK recently visited the club whose transmitter 2FJA is not yet on the air, due to difficulty in obtaining permission to erect an aerial. BRS12770, 12806 and 12870 are welcomed. The M.A.T.S. had a stand at the local Model Engineering Society's Show at the Town Hall which attracted much attention. A party of members attended the P.D.M. at Tunbridge Wells.

**Brighton and Hove.**—The first post-war meeting was supported by 54 members (including 20 full calls) many of whom came from considerable distances, including Haywards Heath and Worthing. Wing Cmdr. H. W. St. John took the chair and addressed the gathering with a lively account of the early days of the R.A.F., C.W.R. for which organisation he was largely responsible.

Local officers and a committee to manage affairs were elected and arrangements made to hold future meetings fortnightly on alternate Mondays.

The following are active: G2CQJ, G5ZQ, G3HP, G3APO, G3VD, G3WR, G8AC, G8HV, G6SU, G2FA, G4JH, G4NY, G2ALM, G3YY, and G3KW. As the membership in the area totals over 180 even bigger attendances can be expected at future meetings.

**Sheppey.**—3GW is trying new aerials. 40U is active on 3.5 and 2HKU on 7. The latter is building a receiver with 3GW. 2DCG is on 1.8 and attended the P.D.M. with 2HKU.

**Herne Bay.**—2BIB, 4BY and 3NQ are active. 4GA, 6VY and three BRS members together with XYLs recently visited 3NQ. 12824 is busy learning Morse and building gear.

**Maidstone.**—4HG has had success with his "bleiche wheel" loaded aerial on 1.8 (Details for the BULL, please, O.M.—D.R.). 8UC is on 1.8 and 58. Congrats to 13095 who is now 3ALF. He is on 3.5 and has built a very nice 8-valve superhet. Best wishes for a rapid recovery to 10997 who is at present in hospital. We are sorry to lose 3APA, but wish him the best of luck in his new job in Coventry. 2CBA was well off the mark on the opening of 3.5 and has a PA card reading 00.00 hrs! 200, BMP, 3ABZ, AGV and 11147 are all active. G2UJ.

### DISTRICT 17 (Mid East)

**D.R.:** A. C. Simons (G5BD), "The Elms," Church Road, Mablethorpe. Phone 69.

G4DP (R.A.F.), again in the district, has two transmitters ready for action, and will shortly be active. 6LH is on 14, but little DX as yet, 2UK (now demobbed) and the rest of the Boston group are also active. 5RT is collecting gear towards making a start and may be the first Lincoln station on the air. 2LX is expecting to leave us shortly and may eventually be VQ2LX. 6LI is on demob leave, so will no doubt be extremely busy during the next few weeks.

**Grimsby.**—G4GX is working nice DX on 14. 8VI active with receiver only. 6YN is still successfully working 7 Mc/s. DX with five watts from dry batteries. 4GZ active on 7 and 14 is building a "scope. 2VY has not yet forsaken the top band for DX. 2QA will be at sea again shortly, but is doing a little 7 phone. 3TZ unable to find time for transmitting but is hearing some nice DX. 2AJB working on 7, 14 and 28 with no outstanding DX to report. 2DN1 has contacted the States on 7 which is pretty good for present day conditions. 2HOJ suffering from receiver trouble until the new one arrives. 8PV practically inactive for same reason. 8KH on 1.8, 7 and 14 experimenting with gridmod. on an 807. 5LL has finished his latest receiver using EF50s in RF stages. The five metre end can be used with 2Mc/s. 1.F. or as a double super. Details may appear in the BULLETIN one of these days. (We should welcome them, Ed.) 30S has achieved an ambition; he has an AR88. 3WB has at last decided to purchase a 354. 40F still working on the top band has a battery charger and may be able to squeeze a slight QRO out of his batteries. 2FT is hoping to be active at home during weekends and in District 3 during the week. 5CY very carefully building his new receiver. The only special news on 59 Mc/s. is a CW contact with 5TX Isle of Wight, by 5LL and 5BD.

G5BD.

### DISTRICT 18 (East Yorkshire)

**D.R.:** A. G. Dunn (G3PL), 79 Hayton Grove, Hull.

**Hull.**—New licensees include G3AIN, 3AK1, 3ALD and 3AOL. The Post Office has granted a licence for the club-room, for full power and telephony, with the call G3AMW, and construction of the rig is under way. 2KM, 2QO, 60S and others are working DX on 14. 5GX worked G5KW in Rhodes with half a watt on 28. Interest in 60 seems to have declined again but we hope this is only temporary. G2BIP is now licensed and giving 7 a trial. We were glad to see our former C.R. and D.R. G5FV at the September meeting.

**Scarborough.**—G8KU in a breezy letter reports that the Scarborough Short Wave Club has not been able to start up again owing to difficulty about premises. G2CP is active on 1.7 and has worked OZ1W; 8SI is working DX on 14. 2DSB is struggling to work DX with 6 watts on 14. G2TK, 3KS, 5MV, 6CP, 8BB and 4DY are getting ready to go on the air. 5TG is still in the south of England. 8KU is active on 1.8, 7 and 14 and sends his 73 to all in Hull.

**Withby.**—BR85796 is now licensed as G3AJB. The only other station known to be active is G2AZU.

**General.**—G3ANL is now licensed in Cowden though not yet on the air. G3ALY is active at Keyingham, working from batteries. His nearest neighbour in the radio sense is the 800 kW. B.B.C. station! G3PL.

**LONDON REGION MEETING** FRIDAY 18th OCTOBER, 1946 at the Institution of Electrical Engineers  
Subject:- Recent Observations on the Propagation of 60 Mc/s. Signals  
TEA 5.30 p.m. — — COMMENCE 6.30 p.m.

## Scotland

Scottish Records Officer: J. Hunter (GM6ZV), 51 Camphill Avenue, Langside, Glasgow, S.1. Langside 237.

"A" Area (Glasgow and surrounding counties).

A.R.: D. R. Macadie (GM6MD) 154 Kingsacre Road, Glasgow, S.4.

As 58 Mc/s. activity is on the increase in the area, a timely lecture on gear for that frequency was given by Mr. J. Kyle, D.F.M., A.F.M. (GM6WL), at the August meeting. 6WL explained the phenomena to be expected and later described transmitters, receivers and aerials giving details of advantages and disadvantages of the various types. Many questions were put to the lecturer. It is interesting to note that ex-GM6ZX and GM6MD listened for GM6WL on 56 Mc/s. as far back as 1932. BRS2689 is now GM3ANV. GM6MD.

"B" Area (Aberdeen and North of Scotland).

A.R.: A. G. Anderson, B.Sc. (BRS5857), 87 Braemar Place, Aberdeen. Aberdeen 2676.

At a meeting in Aberdeen on September 2, the Aberdeen Amateur Radio Society was formed. Members interested should contact the A.R. who is the temporary Secretary. Congrats to Mr. Davidson, BRS3011, on obtaining his full call. GM2FHH is active on 14 and is making many fine contacts. 58L (ex GW2NF) is experimenting with a 1154 transmitter on 1 7, 3 5, 7 and 14. His QTH is Lossiemouth. BRS5857.

"C" Area (Dundee, Forfar, Perthshire, etc.)

A.R.: T. Roay (GM3IX), 36 Park Avenue, Dundee.

At the August meeting 20 members were present. Representation was discussed at some length and it was decided to take a postal vote for the nominations of C.R. from all Corporate members in the district. G2ABR expresses his thanks to all who made his stay in "C" so pleasant; he has now returned to G. GM3IX was nominated T.R. for Dundee. Seventeen members attended the September meeting, when 3NH gave an able lecture on aerials. By a very large majority 2FXN was nominated as C.R. for Angus and Perthshire. BRS7994 is now GM3AOR. GM2FXN, 2HFV, 3NH, 3IX, 4NR, 4HR, 5SC, 6RI, 8MN and 3KC are active. GM3IX.

"D" Area (Edinburgh and Midlothian, etc.)

A.R.: J. Wilson (GM6XT), 52 Macdowall Road, Newingtons, Edinburgh 9. Edinburgh 42153.

Meetings were resumed in September. It has been agreed to form a Lothians Amateur Radio Society and an announcement will be made in due course. Members welcome the nomination of 6JH as C.R. and 6LS as T.R. Both are well fitted for these tasks. Local activity continues at high level, some new calls will shortly be heard. GM6XI.

"E" Area (Ayrshire and Southwest Scotland).

A.R.: D. A. MacQueen (GM4PW), 3 Ayr Road, Prestwick, Prestwick 78375. Scribe: Miss J. A. C. Rainie (GM3AKR), 6 Montgomery Terrace, Ayr. Ayr 2375.

Twenty-five members and eight prospective members were present at the September meeting; GM4PW presided. BRS6140 is continuing his Morse instruction. 30L who was present, hopes to convene a meeting soon in Dumfries as there are about 16 members in or near that town. He and 2MP are on 14 and 2BMJ is on 7. BRS12592 gave an interesting talk on the Cathode Ray Tube with a practical demonstration. He showed an instrument he had built himself. 12986 is doing well. 6RV will talk about aerials at the meeting on October 9, in Eldon House, 14 Eglinton Terrace, Ayr. GM3AKR.

"G" Area (Borders).

A.R.: J. P. Blair (GM5FT), 35 Market Place, Selkirk.

At the meeting held in Galashiels on September 15, enthusiasm was most marked. J. B. Duncan, 6JD, was the winner of the loud-speaker, kindly presented to "G" Area by GM6UU. Next meeting at the Kings Hotel, Galashiels at 2.30 p.m. on October 20.

"H" Area (Fife, etc.)

A.R.: W. N. Craig (GM6JJ), 2 Aberdour Road, Burntisland, Fife.

We welcome 3AAE and BRS12565, who are stationed in the area. Our best wishes to GM3LG whom we look forward to working soon as a VP6. BRS12486 is now GM3AEY—congrats, O.M. GM4AN has volunteered to conduct slow Morse transmissions for the benefit of local members—thanks Bill. 4FK still contrives to raise DX from a "dead" 28 Mc/s. band, and 4GK is doing well on 17 phone now that much of the QRM has gone to the higher frequencies. 3SW is designing a "fixed rotary" beam which is to be discussed at a forthcoming meeting. GM6JJ.

## FORTHCOMING EVENTS

- |         |  |         |   |
|---------|--|---------|---|
| Oct. 16 | District 1 (Liverpool), 7 p.m. at 14 Colquitt Street.  | Nov. 1  | District 15 (Hounslow), 7 p.m. at The Scouts Hall, Sutton Estate, Great West Road.      |
| " 16    | District 6 (Exeter), 7 p.m. at Y.M.C.A.  | " 4     | District 14 (Chelmsford), 7.30 p.m. at 184 Moulsham Street.                             |
| " 17    | District 6 (Falmouth), See District Notes.   | " 5     | District 12 (Welwyn Garden City), 8 p.m. at the Council Offices.                        |
| " 18    | LONDON MEETING, 6.30 p.m. at the I.E.E. Short papers on 60 Mc/s. work contributed by Messrs. D. W. Heightman (G6DH), W. A. Scarr (G2WS) and E. J. Williams (G2XC). | " 7     | District 6 (Penzance), See District Notes.  |
| " 18    | District 8 (Cambridge), 7.30 p.m. at Jolly Waterman.   | " 7     | District 7 (Portsmouth), 7.30 p.m. at Cosham Civic Centre.                              |
| " 19    | District 6 (Torquay), 6.30 p.m. at Y.M.C.A.  | " 8     | District 2 (Barnsley), 7 p.m. at 30 Market Street.                                      |
| " 19    | District 6 (Plymouth), 7.30 p.m. at 84 Embankment Road, Prince Rock.   | " 8     | District 14 (Grays), 7.30 p.m. at Bairds Cafe Orsett Road.                              |
| " 20    | District 12 (Enfield), 3 p.m. at the A. & B. Cafe, Southbury Road.   | " 8     | District 15 (Harrow), 7 p.m. at 153 Belmont Road.                                       |
| " 20    | District 13 (S.E. Area), 3 p.m. at G4DC, 63, Erlanger Road, New Cross, S.E.14.   | " 9     | District 7 (Reading), 6.30 p.m. at Palmer Hall, West Street.                            |
| " 20    | District 14 (East London), 3 p.m. at Town Hall, Ilford.  | " 9     | District 15 (Ashford), 6.30 p.m. at G5RD, 118 The Avenue, Sunbury-on-Thames.            |
| " 21    | District 14 (Chelmsford), 7.30 p.m. at 184 Moulsham Street.  | " 11    | District 2 (Bradford), B.A.R.S., 8 p.m. at 66 Little Horton Lane.                       |
| " 21    | District 18 (Hull), 7.30 p.m. at 30 Princes Avenue.  | " 12    | District 7 (Bournemouth), 7.30 p.m., Lodge Room, Branksome Arms Hotel, Commercial Road. |
| " 22    | District 1 (St. Helens), 8 p.m. at 100 Kirkland Street.  | " 12    | Surrey Radio Contact Club, 7.30 p.m. at Blacksmiths' Arms, South End, Croydon.          |
| " 24    | District 15 (Ruislip), 7.30 p.m. at 2HDZ, 22 Highfield Avenue, Pinner.   | " 15    | London Meeting, 6.30 p.m. at the I.E.E. Lecture by A. F. Pearce, Ph.D., F.Inst.P.       |
| " 24    | District 12 (St. Albans), 7 p.m. at Jack's Cafe, Verulam Road.   | " 15    | District 8 (Cambridge), 7.30 p.m. at Jolly Waterman.                                    |
| " 25    | District 2 (Barnsley), 7 p.m. at 30 Market Street.   | " 15    | District 13 and 7. Combined meeting, 7.30 p.m. at Brotherhood Hall, West Norwood.       |
| " 25    | District 5 (Bristol), 7 p.m. at Keen's Cafe, Park Row.   | " 17    | District 13 (S.E. Area), 3 p.m. at G4DC, 63 Erlanger Road, New Cross, S.E.14.           |
| " 25    | District 14 (Grays), 7.30 p.m. at Bairds Cafe, Orsett Road.  | " 17    | District 12 (Enfield), 3 p.m. at the A. & B. Cafe, Southbury Road.                      |
| " 26    | NORTH EASTERN P.D.M., 3 p.m. at WEST HARTLEPOOL.   | " 17    | District 14 (East London), 3 p.m. at Town Hall, Ilford.                                 |
| " 26    | District 7 (Reading), 6.30 p.m. at Palmer Hall, West Street.   | " 18    | District 18 (Hull), 7.30 p.m. at 30 Princes Avenue.                                     |
| " 26    | District 7 (Guildford), 2.30 p.m. at York House Cafe, Hangar Hill, Weybridge.  | " 18    | District 4 (Kettering), K.R.S., 7.30 p.m. at Ivy Cafe, Gold Street.                     |
| " 26    | District 1 (Liverpool), 2.30 p.m. Colquitt Street.   | " 19    | District 3 (Birmingham), M.A.R.S., 6.30 p.m. at Imperial Hotel.                         |
| " 27    | District 15 (Twickenham), 6 p.m. at G8IP, 23 Warfield Road, Hampton.   | " 22    | District 2 (Barnsley), 7 p.m. at 30 Market Street.                                      |
| " 27    | District 13 (S.W. Area), 3 p.m. at G4CG, 57 Kingswood Road, Wimbledon, S.W.19.   | " 24    | District 13 (S.W. Area), 3 p.m. at G4CG, 57 Kingswood Road, Wimbledon, S.W.19.          |
| " 29    | District 7 (Bournemouth), 7.30 p.m. at Lodge Room, Branksome Arms Hotel, Commercial Road.  | " 25    | District 2 (Bradford), B.A.R.S., 8 p.m. at 66 Little Horton Lane.                       |
| " 30    | Scotland ("A" Area), 7 p.m. in Institute of Engineers and Shipbuilders, 39 Elmbank Crescent, Glasgow.  | " 29    | District 2 (Barnsley), 7 p.m. at 30 Market Street.                                      |
| Nov. 1  | District 12 (N. London), 7.30 p.m. at Merryhills Hotel, Oakwood.   | Dec. 20 | ANNUAL GENERAL MEETING, 6 p.m. at the I.E.E., Savoy Place, London, W.C.2.               |
|         |  | Jan. 3  | District 14 (East London), Social, Dinner and Dance.                                    |

A cordial invitation is extended to Society members to attend any of the above meetings

## NEWS FROM HEADQUARTERS

### COUNCIL 1946

#### President:

ERNEST LETT GARDINER, B.Sc., G6GR.

Executive Vice-President: S. K. Lewar, B.Sc., G6LJ.

Honorary Secretary: H. A. M. Clark, B.Sc. (Eng.), G6OT.

Honorary Treasurer: A. J. H. Watson, F.S.A.A., G2YD.

Honorary Editor: Arthur O. Milne, G2MI.

Immediate Past President: A. D. Gay, G6NF.

\* \* \*

Members: P. C. G. Bradley, G8KZ, C. H. L. Edwards,

G8TL, R. H. Hammans, G2IG, F. G. Hoare, G2DP,

S. E. Langley, G3ST, Capt. J. W. Mathews, G6LL,

K. Morton Evans, O.B.E., GW5KJ.

G.P.O. Liaison Officer: Arthur E. Watts, G6UN.

General Secretary: John Clarricoats, G6CL.

### August Council Meeting

*Resume of the Minutes of a Meeting of the Council of the Incorporated Radio Society of Great Britain, held at New Ruskin House, Little Russell Street, London, W.C.1, on Monday, August 19, 1946, at 6 p.m.*

*Present.*—The President (Mr. E. L. Gardiner) in the Chair, Messrs. Bradley, Clark, Edwards, Morton-Evans, Gay, Hammans, Hoare, Langley, Lewar, Mathews, Milne, Watson, Watts and John Clarricoats (General Secretary).

#### Membership

It was resolved to elect 284 Corporate Members, 44 Associates and 9 Junior Associates. Seven Associates applied for, and were granted, Corporate Membership. Total elected 344.

#### Affiliated Societies

It was resolved to grant affiliation to the Bournemouth and District Amateur Radio Club, the Kettering Radio and Photographic Society, the Preston Radio Club, and the Watford and District Radio and Television Society. It was further resolved to grant Honorary Affiliation to the Radio Society of East Africa.

#### Finance

It was resolved to accept and adopt the Cash Account for the month ended 31st July, 1946.

#### Northern P.D.M.

Messrs. Bradley, Edwards, Hammans and the Secretary were appointed delegates to the Northern P.D.M. to be held in West Hartlepool on October 26, 1946.

#### I.A.R.U. Calendar

An "aye" vote was cast by the Society in favour of the election to membership of the International Amateur Radio Union, of V.E.R.O.N., the newly constituted Dutch Society. It was agreed to support a suggestion put forward by Colombia, that transmitting facilities should be made available to foreigners on a reciprocal basis.

#### Radio Amateurs' Examination

It was agreed to suggest to the City and Guilds of London Institute that Radio Amateurs' Examinations be held once every six months and not annually.

#### Representation

It was agreed to adopt a suggestion put forward by Mr. Dunn that for the purposes of the new scheme of Representation, the three Ridings of Yorkshire shall rank as three separate counties.

#### Off Frequency Operation

An editorial dealing with the subject was approved for publication in the September issue of THE BULLETIN. It was also agreed to issue a circular to D.R.'s and C.R.'s drawing attention to the widespread off-frequency operation taking place on the 7 and 14 Mc/s. bands.

#### QSL Bureau

Mr. Milne was authorised to write to those who have cards but no envelopes at the Bureau.

#### Use of M.C.W.

The members of the Technical Committee were asked to express their views regarding the types of emission which should be permitted on the various bands allotted to U.K. amateurs.

#### District 14

It was agreed to invite certain District 14 members who nurse grievances to attend a meeting at Headquarters.

#### Use of GW Prefix by Amateurs in Monmouthshire

It was agreed to request the G.P.O. to state clearly in every licence issued by them, the call sign which the licensee is authorised to use. The view was expressed that the present permissive arrangement which allows an amateur in, for example, Monmouthshire, to use the prefix G or GW at will, is most unsatisfactory.

#### Channel Islands

It was agreed to accept a nomination on behalf of a Corporate

Member for the position of Channel Islands Representative. It was agreed that the Channel Islands cannot be included in the new Regional scheme.

#### Contests Committee

It was reported that Messrs. Greenaway, G2LC, Kirk, G6ZO, and Watson, G6CT, had agreed to serve on the Contests Committee, and that Mr. Hallett, G3CQ, had declined the invitation.

It was agreed to extend invitations to Messrs. W. H. Matthews, G2CD, and R. Joss, G2AJ.

#### London Region Lectures

The lecture programme was submitted and approved for publication.

#### Bulletin

It was agreed to make further inquiries regarding a suggestion that the Society should publish a new monthly technical journal.

#### Television Interference

The attention of the Council was drawn to the dangers of interference with television reception which may arise now that amateur transmitting is restricted to the band 58'5-60 Mc/s. compared with 56-60 Mc/s. prior to the war. It was pointed out that the third harmonic from a crystal oscillator, operating between 14625 and 15000 kc/s. and employed for controlling a 58'5-60 Mc/s. final amplifier can produce bad interference in nearby television receivers.

#### Release of the 1715-1800 kc/s. Band

It was reported that the G.P.O. had accepted the Society's recommendation that the full Cairo Convention allocation 1715-2000 kc/s., be released to amateurs forthwith. It was agreed to give immediate publicity to the release and to advise the technical press.

#### New Zealand Amateurs

It was reported that as the result of representations made by the W./T. Board, the New Zealand Government had agreed to restrict amateur activities in the Dominion to 7150-7300 kc/s. and 14100-14300 kc/s. Previously New Zealand amateurs were permitted to use the full Cairo Conference allocations, viz. 7-7'3 Mc/s. and 14-14'4 Mc/s.

The meeting terminated at 9.10 p.m.

### Apology

Due to an oversight our printers omitted to distribute with the September issue, the programme of I.E.E. meetings. Immediately the mistake was discovered all South of England D.R.s were notified and requested to make known the fact that the first meeting would be held on October 18.

Our printers apologise for the inconvenience caused to members as a result of the oversight.

### September Bulletin

For some reason which is still obscure, many members did not receive their copy of the September BULLETIN until the 26th of that month. Our printers assure us that all copies were posted from Eastleigh, Hants, on the 17th. If this is correct, then, presumably the G.P.O. held up delivery for several days.

Members will appreciate that once Headquarters have passed the proofs and despatched the wrappers, the responsibility then rests with our printers. The page proofs for the September issue were passed by the Editor on the 6th, and the wrappers collected from H.Q.'s on the 10th.

### District 13 Representation

The Council has accepted with regret, the resignation of Mr. S. E. Langley (G3ST), Representative for South London. The Council wish to place on record their warm appreciations to Mr. Langley for his past invaluable services to the Society.

Mr. P. W. Winsford, G4DC, 63 Erlanger Road, New Cross, S.E.14., has been appointed Acting D.R.

### I.E.E. Radio Section Meetings

The following meetings of the I.E.E. Radio Section have been arranged:

- |         |  |
|---------|--|
| Oct. 30 | Symposium of Papers on Direction Finding Work.                   |
| Nov. 6  | " The Pulse Testing of Wide Band Networks."                      |
| Nov. 20 | " The Voltage Characteristics of Polythene Cables."              |
| Dec. 4  | " The Elements of Wave Propagation using the Impedance Concept." |

Society members are cordially invited to attend these meetings, all of which are arranged to commence at 5.30 p.m. Tea at 5 p.m.

### STAFF VACANCIES

Vacancies exist at Headquarters for qualified Clerks, Typists and Shorthand Typists. All communications should be addressed to the General Secretary and marked **Staff**



## M.A.R.S.

At the M.A.R.S. Annual General Meeting, held at the Imperial Hotel on Tuesday, September 24, Mr. E. J. Wilson, G2FDR was elected President, Mr. W. J. Vincent, G4OI Hon. Secretary, Mr. W. N. Follis, G3AY, Assistant Hon. Secretary and Mr. L. Metcalf, G3AU, Hon. Treasurer. Messrs. John Clarricoats, E. L. Gardiner, C. Naylor Strong and E. G. Brown were elected Vice-Presidents. The following were elected to the committee: Messrs. F. E. Barlow, G5IW, J. Bazley, G2BOZ, W. Butler, G5LJ, A. R. Cruxton, B. K. George, G2BKZ, A. G. Lapworth, G6DL, C. H. Young, G2AK. Squadron Leader J. Rockall, O.B.E., G2ZV, was elected an Honorary Member of the Society.

Mr. B. K. George, G2BKZ, was awarded the Naylor Strong Cup. Sixteen members and visitors were present at the meeting and at the subsequent dinner.

## St. Helens &amp; District Radio Society.

The inaugural meeting of the above Society was held at 100 Kirkland Street, St. Helens, on Tuesday, September 17th, 1946, at 7.30 p.m. The Secretary is Mr. Ken Birch, G2FOS, 19 Knowsley Road, Rainhill.

## FOR THE SHACK

The following publications, etc., are available to members from stock.

Amateur Radio Handbook	...	...	...	4/-
In Cloth Cover	...	...	...	6/-
Radio Handbook Supplement	...	...	...	2/9
In Cloth Cover	...	...	...	5/-
The Transmitting Licence	...	...	...	1/-
Kilocycles to Metres Booklet	...	...	...	1/3
Webbs' Great Circle Map of the World	...	...	...	4/6
Car Plaques	...	...	...	3/6
With Call Sign	...	...	...	4/6
Call Sign Badges	...	...	...	3/6
Members' Note Paper (quarto)	...	...	...	4/6

All above items are post free. Remittance must accompany orders.

R.S.G.B. Sales Dept.,  
New Ruskin House,  
Little Russell Street, London, W.C.1.

## Channel Islands

*Jersey*.—GCSNO is now on 3.5 as well as 28 Mc/s. and has given many G's their first post-war contact with GC. 4EI, 3GS and 2FMV are also active. 2CNC's QSL card in "Wally's" continues to produce visitors of whom G2AMT was the latest.

*Guernsey and Alderney*.—Still no news. What about it, you local hams? GC2CNC.

## VS7JB

Mr. J. Burgess, VS7JB, now on holiday in England would be glad to renew acquaintances with those members who visited him in Ceylon during the war years. He can be contacted c/o Major Chalk, G3IC, 30 Ripon Road, Lytham St. Annes, Lancs.

## 'Ee Lad

L.R./Mech. E. G. Wells, of Cheshire holds the first G call embodying two E's—G3AEE. Who will get G3EEE?

## Coincidence

Mr. W. E. Williams, of Birmingham, now licensed as G3ANN, claims to be the only amateur in the world who can boast of having his wife's Christian name—Ann—for his call.

## Type 53 Set

The General Secretary will be pleased to hear from any member who has had practical experience in operating the Type 53 Set.

## The York and Lancastrian

We understand from Mr. L. Lewis, BR81040S, that the York and Lancastrian civilian air liners use T1154 transmitters and R1155 receivers for their main communication channels. The Lancastrians also carry an auxiliary set—the Bendix TA2J transmitter—the frequency-change inductances for which are carried on a drum rotated by an electric motor—each inductance having a tapping for anode and aerial loading.

## Around the Trade

After a lapse of six years *Stratton & Co. Ltd.* are again able to offer to the Amateur Radio world at large, a new catalogue of short-wave components. Beautifully produced and edited by someone who knows his job, this new publication fills an urgent need for up-to-date details of the Eddystone range. We warmly commend it to the attention of all who support the "Buy British" policy.

## Can You Help?

Mr. A. Cuff, BR84599, 2 High St., Wimborne, Dorset, would like to hear from any member who has constructed a 75 ft. lattice mast.

Mr. J. B. Clark, G2BIB, 2 Gloucester Road, Whitstable, Kent, requires the loan of the circuit diagram for the National 1-10 Receiver.

Mr. J. Sears (Associate) 22 Cotton Road, Potters Bar, Middlesex, seeks details of the characteristics of valves in the button-base series.

Felix Kwast, PA0MZ, Appeldoorn, has an HRO receiver, but no short wave coils. Owing to the difficulty of sending money abroad he cannot purchase them in the U.K., but is willing to arrange an exchange of radio gear with any one willing to cooperate. He is in urgent need of the 14-30 Mc/s. coil.

Mr. R. W. H. Benson, G8NF, 3 Dartmouth Street, Slaithwaite, Huddersfield, seeks information on the R.A.F. TR5043 U.H.F. transmitter and receiver. The transmitter section is a T5017 (American BC625A) and the receiver an R5019 (American BC624A).

Mr. J. G. McIntosh, VU2LJ, Bukhial T. E. Letekujan P.O. Assam, requires the loan of a handbook or technical data dealing with the Triumph Model 840 Oscilloscope.

## Congrats

● To Mr. Frank G. Rylands, G2VF, of Southampton, who was married on August 3, 1946, to Miss D. T. Brook.

● To Mr. and Mrs. C. P. Inman, G2DRA, of Harrogate on the birth of a son on August 4, 1946.

● To Mr. J. Naisbett, BR810,883, of Sanderstead, Surrey whose wife presented him with a daughter on June 23, 1946.

● To Mr. R. J. Simpson, BR810481, of Anstey, Leicester, whose wife presented him with a junior operator—Frederick Peter—on August 7th last.

● To BR89063 on the arrival of a junior op., John Edward George, at Penzance.

## An Offer

Mr. G. J. Lewis, BR813008, Craven House, Barker Road, Sutton Coldfield, offers to translate from English to Italian and *vice versa*, for any member. A stamped and addressed envelope should be included.

Mr. E. Watkin, BR812312, 46 College View, Waterhouses Co. Durham, offers to loan the circuit diagram of the R.C.A. Liaison Receiver to any member who has had the good fortune to acquire one of these sets.

## Silent Keys

We record with regret the passing of the following members:

Roy Dinham, G5FC of Bristol.

Leslie Edwin Fragle, BR84818, of Ashton-on-Ribble, Preston, Lancs.

Robert Knight, BR86291, of Warrington, Lancs, whilst in Rangoon.

Clifford Warner, BR86866, of Lincoln.

Roy Dinham was well known to members in the Bristol district and he will always be remembered for his great work in providing lectures at the local meetings. Sympathy is extended to his widow and two sons.

## OUR FRONT COVER

NOTHING much of real experimental worth in radio can be accomplished without accurate measurement. The Model 7 Universal AvoMeter is a 50-range B.S. first-grade combination measuring instrument giving direct readings of A.C. and D.C. Voltage, A.C. and D.C. current, Resistance and Capacity. Audio-frequency power output and Power Level readings are also provided for.

It is but one of the comprehensive range of "AVO" high-grade electrical measuring instruments—a range which includes something to meet the needs of every amateur, service engineer and serious experimenter.

Fuller particulars obtainable from The Automatic Coil Winder & Electrical Equipment Co., Ltd., Winder House, Douglas Street, S.W.1.

## EXCHANGE AND MART SECTION

Due to paper restrictions small advertisements can only be accepted on the understanding that they will be inserted as soon as space becomes available. Until further notice no advertisement exceeding 50 words can be accepted.

**RATES: Members Private Advertisements 2d. per word, minimum charge 3/-.** Trade Advertisements, 6d. per word, minimum charge 9/-. An additional charge of 1/6 is made for the use of a Box Number. All copy and payments to be sent to **PARRS Advertising Ltd., 121 Kingsway, London, W.C.2.**

**A**TTRACTIVE Amateur Apparatus. Moving coil hand microphones, 25s. Twin bakelite fuse-boxes, 2s. Stand-off insulators, 6d. 4 and 5-pin paxolin valve holders, 3d. 2-pole heavy duty change-over switches (rotary) 3s. Cash with order.—R.C.M. Limited, Barracks Lane, Cardiff.

**A**MATEUR, long standing, P.M.G. certificate. Student I.E.E., wide experience, radio engineering and teaching, seeks permanent post with prospects.—Box D/13, PARRS, 121 Kingsway, London, W.C.2.

**C**RYSTALS.—Following power type crystals, in dustproof, plug-in holders, £1 each. 3526, 3535, 3571, 3590, 3605, 3640. All guaranteed perfect.—G8UA, 469 Higher Brunshaw, Burnley, Lancs.

**C**HOICE of unused valves, R.C.A. 9002, 9003 (2), 6F6; 6F8G, 12A6, 12SG7 or two T/C Eliminators for AC/DC multi-range testmeter.—HUGHES, 81 Kingshurst Road, Birmingham 31.

**E**AST Anglian Hams.—Components for transmitters, receivers, etc., in stock. Agents for Hamrad, Raymart, Eddystone, Labgear. If you cannot call send your order by post. Delivery against cash with order or C.O.D. S.A.E. with all enquiries.—NEWSON, G3GY, ex-G2GF, 28 Market Place, N. Walsham, Norfolk. Phone 219.

**F**ERRANTI.—275-0-275 120mA, 6v. 4a, 4v. 2a, 25s. B1 Chokes, 10s. AF5c, 15s. Pye 110H, 7s. 6d. Valves: 1A7, 1P5, 3S4, 1S5, 10s.—Box C/41, PARRS, 121 Kingsway, London, W.C.2.

**F**OR SALE.—Ex-R.A.F. R1132 communication receiver, 100-124 Mc/s. 11 tubes. Separate 230v. A.C. power pack. Perfect condition. What offers?—BR55274, 75 Elwyn Road, March, Cambs.

**F**OR SALE.—SX28 receiver, perfect condition, re-valved recently, fine performance, complete with 500 Watt, auto-TRANS, instruction book and best 8000 ohm. lightweight phones, £85 complete; no offers.—136 Andover Road, Newbury, Berks.

**F**OR SALE.—"Walkie-Talkie" set, No. 58, unused, £12; also Avro-minor, 4d. Free delivery. J. TILLET, 36 Salisbury Road, Thorpe Hamlet, Norwich, Norfolk.

**G**4KN. Closed down. His widow would like to sell one Transmitter, complete and in working order, and one Hallcrafters SX25 (brand new), £100 or nearest offer for complete station. "Brentor," New Road, Watchet, Somerset.

**G**8FA, 8 Fore Street, Teignmouth, Devon. Ham gear. Raymart stockist—Hamrad shortly. Good range of constructors components. Trade information invited.

**H**ALLICRAFTER S27. 27.3 to 143 Mc/s.; in perfect order, complete with spare set of valves, £85.—Box D/17, PARRS, 121 Kingsway, London, W.C.2.

**H**ALLICRAFTERS SX23. 34 to 54Mc/s. 8's to 556 metres; recently aligned; no speaker. What offers?—G2NA, Shrubbery, Wood Road, Codsall, Wolverhampton.

**H**ALLICRAFTERS SX24, £35. New transmitter, 10, 20, 40 meters with power pack, 80 watts, £55 or offer.—G51K, Keyhaven House, near Lymington, Hants.

**H**AM SPECIALISTS.—May we quote for any apparatus built to your specification, Transmitters, Receivers, Modulators, etc. Agents for Eddystone, Raymart, Hamrad. Orders accepted for Eddystone 504 Receiver, why not use our by return Mail Order Service.—J. G. BARNES & Co., G3AOS, 4 Victoria Road, Hale, Altrincham, Ches.

**H**R.O. coil wanted, 14 to 30 Mc/s.; will exchange for valves—6HG, 6AC7, 6SH7, 12A6, 12SK7, EF50, RL7, K7G, etc., or for cash.—G3AHT, 15 Oswald Road, Oswestry, Shropshire.

**H**R.O., 4 Coils and Power Pack, £35. Also National 1-10 complete, £20. Valves: 5J7, 6K7, 6V6, 5Z46, 6s., 807, 15s. Wanted: Hallcrafters SX28, also H.R.O. Coils.—WILLETS, Bungalow, Bishop Sutton, Nr. Bristol.

**M**ARCONI C.R.100 as new, 11 valves, 2 R.F., 3 I.F. BFO, Xtal. 10-5000 metres, etc., £62. Also SX28 as new, £75. 100 Meg Megger, £16. (Robt. Paul) 13 valve quality amplifier. £35. Write for lists of other goods for sale, transformers, resistors, valves, condensers, rectifiers, etc.—J. WIMBLE, Romany Ridge, Challey, Sussex.

**M**IDGET 3-gang short wave tuning condensers, 8s. 6d. Pyrex insulators, 1s. Co-axial cable 45 and 72 ohms 7/16in., 4d. foot. Transmitting antennae wire, 7s. 6d. 100 feet. S.A.E. Sample.—DRURY AND BEARDOW, 45 Wangey Road, Chadwell Heath, Essex.

**M**ODIFIED R.A.F. R1155, fitted internal A.C. power pack, 6v6 output, var. BFO, separate R.F., L.F., gain, phone and I.S. jacks, new front panel, grey finish, red DX set, few hours use. Also new "Meico" M.C. Mike on table stand: Offers to G3LB.

25 Clothholme Road, Ripon, Yorks.

**M**ONOMARK service.—Permanent London address. Letters redirected. Confidential. 5s. p.a. Royal Patronage. Key tag. 9d. Write BMM/ON07A, W.C.1.

**M**UST sell.—Going overseas.—FB 60 watt phone/CW, professional rack transmitter, as new, 7/14 Mc/s., Four M.C. milliameters, complete less mike and crystal; bargain, £45. S.A.E.—G8NT, 49 Westfield Avenue, Woking.

**P**ATENTS and Trade Marks. Handbook and advice free.—KINGS PATENT AGENCY LTD. (B. T. KING, G5TA, Mem. R.S.G.B. Reg. Pat. Agent), 146A Queen Victoria Street, London, E.C.4. Phone: City 6161. 50 years' refs.

**Q**S/L's and log books (P.M.G. approved). Samples free; state whether G or BR5.—ATKINSON BROS., Printers, Elland.

**R**.C.A.—A.R.77 Communication Receiver. Offers, or exchange miniature camera.—152 Eltham Palace Road, Eltham.

**R**CA A.R.77E Receiver, cabinet unscratched; aligned and tested, black trackle cabinet speaker to match, £50. 2 new mod. transformers, 250w audio, 90s. 100w, 50s. New RCA 807's and RK 34's, £1 each. De Luxe McElroy bug key, 50s. RCA Electron multipliers, complete, 50s.—G3HZ, 57 Briarlands Avenue, Sale, Cheshire.

**R**ICH & Bundy Transformer. 550-0-550, 300mA, 4v., 2x6v., size 8in. x 8in., x 5in. £5. Ditto choke, 300mA, size 9in. x 6in. x 5in., £3. B.T.H. Transformer; 1000-0-1000, 250mA, 2x7.5v., size 9in. x 5in. x 6in., £6. All very heavy duty 200-250 input. Philco 4v. SH midgrid, nearly new Canada, 110/230, £10. All working order, or offers.—FORBES, 58 Thornton Avenue, Croydon.

**R**OTARY converter, 220v. D.C. to 230v. A.C., wanted by amateur moving to district, using D.C. mains.—BR55795, 134 Cheam Road, Cheam, Surrey.

**S**ALE.—Unused 813, £2 10s. 807's, £1 each. 6L6's, 10s. 9001's, 9003's, 15s. Weston 0-100 Microammeter, £2.—Box C/34, PARRS, 121 Kingsway, London, W.C.2.

**S**ALE.—Eddystone 3-tier rack and panel assembly. One panel complete with 25 watt transmitter 6L6G CO-T21 Pa. 7 and 14 Mc/s from 3-5 Mc crystal. Three meters, finest components and construction. No power pack.—Offers to RATCLIFF, Warren, Dorridge, Birmingham.

**S**ALE.—Hallcrafters SX9 Super Skyrider, crystal gate, £8, overhaul by McElroy-Adams fortnight ago. Offers over £35.—G4HU, 34 Birch Avenue, Romley, Cheshire.

**S**ALE.—Brand new unused H.R.O. Two power packs, 230v. A.C. and 6v. D.C. Full set of coils, £95.—WATERS, GW3GO, Relay Station, Kenfig Hill, Glam. (Tel. 104).

**S**ALE.—Unused valves; (4) 805, (5) 35T, (2) 808, 50s. each. (5) 813, £3 each. (1) 803, (1) 826, (1) 832, £4 10s. each. (1) PT15, (4) 807, (4) GU50, (1) 219, 20s. each. (4) TZ40, (2) 8019, £2 each.—BM/AMATEUR, London, W.C.1.

**S**ALE.—Miscellaneous components, including brand new Triplet multi-range meter and acorns. S.A.E. to 10 Hastings Road, London, N.11.

**S**ALE.—R.M.E. DM36 5/10 metres, band expander, as new, £16. Filament transformer 7.5v. @ 3A, 6.3v. @ 3A, primary 231v, 25s. New valves: 12SA7, 117Z6GT, 6A6, 12s. 6d. each. 12K7, 12SQ7, 7A7E, 7B5, 7H6, 25Z6, 6X5, KTZ63, 80, 1A7GT, 6K7, EFS, 10s. each.—G4GQ, Roslea, Carlton Road, Ryde, Isle of Wight.

**S**ALE.—Mains transformer 250-0-250 70mA 4v, twice, 17s. 6d. Six range 0-500v AC/DC voltmeter, 50s. Philips trickle charger 6v. at 1/5amp, 15s. M.C. meter 0-2mA, 45s. .05µF tubulars 500v wkg, 6d. 3pc DSC wire, 2s. per lb., post extra.—BR512698, Bennington Dean Row, Wilmslow, Cheshire.

**S**ALE.—Unused; (3) 955's, (1) 956, (2) 954's, first reasonable offer secures.—BALLARD, 341 Old London Road, Hastings, Sussex.

**S**ALE.—New Valves: (4) 813, £3. (4) 866, £1. (2) 5PG1 6" CRT. £3 10s. (4) 807, £1. (6) FG27, £1 10s. (1) RK34, £1. (12) 1616 £1. (6) 1T4, 12s. 6d. (6) 1S5, 12s. 6d. (3) 1R4, 12s. 6d. (6) 1299A, 12s. 6. (6) 6L7, 10s. (6) 2A3, 10s.—Box D/14, PARRS, 121 Kingsway, London, W.C.2.

**S**ALE.—Two valve CW Transmitter (5Y3G rect. 6L6 CO). Will be sold to licensed ham for £12. S.A.E. for details.—Box D/16, PARRS, 121 Kingsway, London, W.C.2.

**S**ALE.—National 81X, 10 valve crystal gate receiver; hand spread 17 to 28 Mc/s amateur bands. Purchased 1941, used few hours only. Offers to BENSON, 3 Dartmouth Street, Sluithing UP.—E.C.O. 50 watt transmitter (807 PA), built-in power supply, offers. Valves (unused) 807, £1. RK34, £1. EF50, 15s. 6L6, 10s. 6SJ7, 6SK7, 6C5, 80, 5V4, 6L7, 6K6, 6V6, 6J7, 6K7, ECH35, all 7s. 6d. each. "Q-Max" dial, 10s. H.R.O. dial-drive, £3. D104 crystal microphone, £3. Chassis, cabinets, components.—G4GD, Warrington Road, Rainhill, Lancs.

**S**USSEX Hams and all interested in Amateur Radio can now obtain Raymart, Hamrad, QCC, Denco, and most other components locally.—Catalogue free—better still visit the Ham Shack of BOWENS & WILKINS, LTD., 1 Becket Buildings, High Street, Tarring, Worthing.

**S**URPLUS gear for disposal. Transmitters, S20 receiver, transformers and numerous components. S.A.E. for list.—G3PV, 28 Cross Oak Road, Berkhamsted, Herts.

**T**RANSMITTING Variables.—0001, 9s. 6d.; 6K8, 7s.; 3A4 11s. 6d.; 2v. Triodes, 2s. 6d.; 35Z4, 7s.; S.A.E. List.—Box C/42, PARRS, 121 Kingsway, W.C.2.

**T**X.—Steel Racks, 39in. Take four 19in. x 8in. international panels. Fb Exciter, P.A., Mod., Power combination. Drilled complete. Eggshell black finish. 16 chromium fixing screws for panels. 42s. 6d., carr. paid.—GM6LS, 15 Corstorphine Hill Road, Edinburgh.

**U**NIVERSAL Avomitor, £7. Triplet multimeter, £10. 1, 10 and 25 milliameters m/coil, 30s. each. 9001, 9002 and 9003 valves, unused, 15s. Various American valves. Exchanges considered. Gram-motor and pickup wanted.—Box C/26, PARRS, 121 Kingsway, London, W.C.2.

# R.S.G.B. BULLETIN

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## EXPERIMENTERS' CONTACT BUREAU

WAY back in the 1920's Mr. T. P. Allen, G16YW, conceived the idea of forming a special section of the Society the purpose of which would be to provide facilities for members interested in specific aspects of Amateur Radio to be placed in contact with one another. The idea was well received and under Mr. Allen's guidance the new section, known as *Contact Bureau*, was established. In those days the membership of the Society was small and the enthusiasm considerable. With the passage of time, however, there were some who felt that the Society should sponsor a more comprehensive scheme which would have as its primary object the preparation for publication of papers produced by groups of members. The idea was accepted and *Contact Bureau* duly changed its name to the *Research and Experimental Section*. Good work was done by those who joined, but as the membership increased it became apparent to those closely in touch with the Section that the time would eventually arrive when it would no longer be possible for it to operate on group lines. The failure of members to pass on quickly the excellent letter budgets prepared by the Group Managers led to many difficulties, whilst apathy on the part of certain members tended to discourage the more enthusiastic supporters of the Section.

At the outbreak of hostilities the Section (now known as the *Experimental Section*) suspended its operations except for a few keen groups who were kept in existence mainly because they were led by zealous Group Managers.

During the seven years that have lapsed since the Section ceased to function as a corporate body the membership of the Society has increased four-fold, a state of affairs which makes it no longer practical to operate the Section on pre-war lines.

After most careful consideration the Council, in consultation with the pre-war Group Managers, have decided to revive the original scheme with certain modifications. The new *Experimenters' Contact Bureau* will enable those keenly interested in the various aspects of experimental amateur radio to be placed in contact with one another through Headquarters.

Those who wish to contact others interested in specific subjects will submit their names to the General Secretary. The names and addresses so received will be published in THE BULLETIN so that every member in a particular Group will know to whom he can write to exchange ideas on his pet subject.

It is hoped that when the Bureau becomes properly

established the Town Representatives will do their best to encourage members to form local groups, each specialising in a specific subject and under the direction of a qualified leader. It is also hoped that T.R.'s and others will encourage local members to offer the results of their experiments to Headquarters in the form of technical contributions for publication.

The following is a list of the groups, together with the specific subjects covered by each :—

- (1) Aerials—
  - (a) Below 100 Mc/s.
  - (b) Above 100 Mc/s.
  - (c) Construction.
- (2) Audio Equipment—
  - (a) High-Fidelity.
  - (b) Microphones.
- (3) Control Equipment.
- (4) Construction Methods—
  - (a) Workshop Practice.
  - (b) Materials.
- (5) Direction Finding.
- (6) Measuring Equipment—
  - (a) Oscilloscopes.
  - (b) Frequency Meters.
  - (c) Miscellaneous.
- (7) Modulation Systems—
  - (a) Amplitude Modulation.
  - (b) Frequency Modulation.
  - (c) Pulse Modulation.
- (8) Portable-Mobile Equipment.
- (9) Power Supplies.
- (10) Propagation.
- (11) Receivers—
  - (a) Below 30 Mc/s.
  - (b) Up to 600 Mc/s.
  - (c) Above 600 Mc/s.
- (12) Sound Recording Equipment.
- (13) Telearchies (Control of Models).
- (14) Television.
- (15) Transmitters—
  - (a) Below 100 Mc/s.
  - (b) Above 100 Mc/s.
  - (c) Construction.

Members interested in joining the new *Experimenters' Contact Bureau* are asked to send a postcard to Headquarters, marked E.C.B., giving the following information.

Name .....  
Address .....  
Call Sign (or B.R.S.).....  
Subject Group Number.....  
(as per list.)

# AN AMATEUR-BUILT EIGHT-VALVE COMMUNICATIONS SUPERHET

By EDWARD W. NIELD (BRS5882)\*

THE firm conviction exists among some amateurs that the construction of a receiver of this type, comparable in performance with commercial standards, is too formidable a task without access to a laboratory full of test gear, years of experience, and a great deal of time and patience. In the writer's view this is not so, since, at the time when this receiver was built, his only test-gear was a multi-range test meter and an open uncalibrated oscillator, "hooked up" for the purpose. As for experience, this was the first attempt at building a superhet of

any sort, and as for patience, he is no more generously endowed with this virtue than the next man!

The circuit is of original design in so far as the features considered desirable were adapted from other circuit diagrams and combined to form the final circuit. Various component values have been experimented with and those specified were found most satisfactory. The optimum values of such components as anode and grid stoppers will no doubt vary from one model to another depending upon layout.

## Circuit Features

Fig. 1 shows the circuit. An R.F. stage (6K7G) precedes the frequency changer (6K8G) which is

\* 6 Hazel Road, Uplands, Swansea, Glam., South Wales.

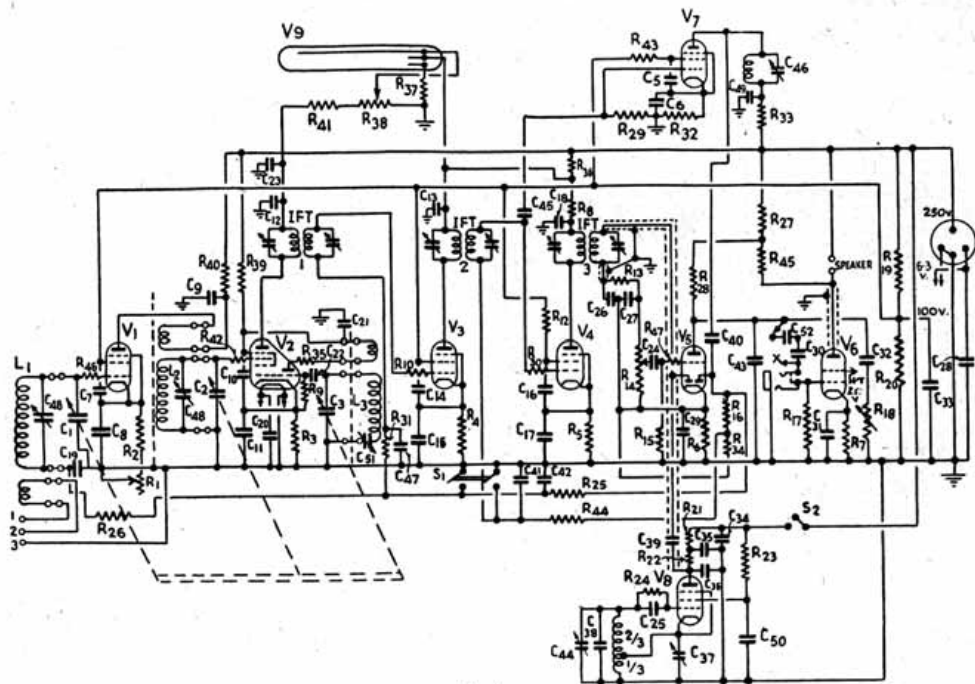


Fig. 1.  
Circuit Diagram of Receiver.

### Resistances.

R.1	10,000 ohms.
R.2, 4, 5	(pot.).
R.3, 42	300 ohms.
R.6	350 ohms.
R.7	4,000 ohms.
R.8	90 ohms.
R.9, 13, 23, 24	1,500 ohms.
R.10, 27	50,000 ohms.
R.11, 21	7,500 ohms.
R.12	10,000 ohms.
R.14	3,500 ohms.
R.18	0.5 meg. pot.
R.15, 17, 25, 29, 34	50,000 ohms.
R.16, 44	1 megohm.
R.19, 20	4,000 ohms.
	(4 watts).
R.22, 32	1,000 ohms.
R.26, 31, 43	100,000 ohms.
R.28	150,000 ohms.
R.30, 36	5,000 ohms.
R.33	15,000 ohms.
R.35	10 ohms.

R.37	250,000 ohms.
R.38	25,000 ohms
	(pot.).
R.39	15,000 ohms
	(2 watts).
R.40	1,100 ohms.
R.41	75,000 ohms.
R.45	30,000 ohms.
R.46	680 ohms.
R.47	2 megohms.
Condensers.	
C.1, 2, 3	.00005 ganged.
C.4	.02.
C.5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 28, 30	.1.
C.9, 19, 24, 34, 42, 47	.01.
C.20, 35, 43	.001.
C.21	.0035 mica.
C.22, 23, 25, 26	.0001.
C.27, 40, 45	25 (12 volts).
C.29, 31	.05.
C.32, 49, 50	

C.33	8 (125 volts).
C.36	.00035.
C.37	25 $\mu$ F.
C.38	.0001 approx.
	(lumped tuning).
C.39	5 $\mu$ F.
C.41	.005.
C.44, 51	.0002 Trimmer.
C.46	.0001 Trimmer.
C.48	30-40 $\mu$ F. Trimmer.
	(lumped tuning).
C.52	.0005.
V.1, 3, 4	6K7G.
V.2	6K8G.
V.5	607G.
V.6	KT61.
V.7, 8	6J7G.
V.9	3180 or 3184
	(Cossor) Neon
	T1.
	465 kc/s. Litz-
	wound Iron-
	cored (Prem-
	ier).



followed by two stages of I.F. amplification (6K7G's). Then follows a 6Q7G second detector, A.V.C. diode, and first L.F., driving KT61 output tetrode. Other stages are the A.V.C. amplifier (6J7G), which is fed from the grid of the second I.F. stage, and the B.F.O. (6J7G), which feeds a small fraction of its output into the signal diode. The power supply is a separate unit. There is also a resonance indicator which acts in addition as a very satisfactory S-meter. A 'phone jack is provided which renders the output stage inoperative when the plug is inserted.

Fig. 2 shows the receiver installed and the controls from the left to right are: R.F. gain (the vertical slot above reveals the resonance indicator); main tuning; A.V.C. ON/OFF switch; audio gain; and treble cut. Above these latter two controls is the B.F.O. ON/OFF switch, and above this the 'phone jack. Three other controls are shown in Fig. 3. A small knob on the extreme left of the photograph is the B.F.O. tuning; in the middle of the back is the bass-cut control, and on the extreme right side of the chassis is the control by which the resonance

diode. For this reason, maximum amplification (compatible with stability) was sought after in V7 and a tuned circuit was used as load instead of a choke. C40 couples the anode of V7 to the A.V.C. diode anode. The A.V.C. control voltage is developed across R16 and R34 in series, and the whole of this voltage is applied to V1 and V3. Only the voltage across R34 ( $\frac{1}{3}$ rd of the total) is applied to V4. If more is applied, this results in (a) over-compensation, when a decrease in output accompanies an increase in signal level! and (b) modulation rise in V4, which causes audio distortion on modulation peaks. A double-pole switch (S1) renders the A.V.C. inoperative.

The B.F.O. uses the electron-coupled Hartley circuit, and the values of anode and screen resistors have been chosen to eliminate frequency drift with changes in supply voltage. It will be seen that most of the output is by-passed by C35 and C36 and only a small fraction fed to the signal diode via a  $5\mu\mu\text{f}$  ceramic condenser (C39). In order to ensure that the only R.F. reaching the detector anode passes via

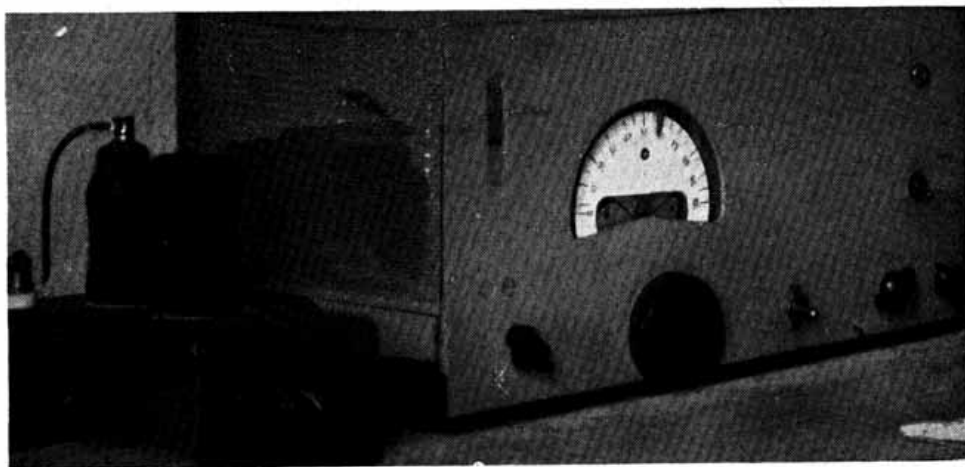


Fig. 2.  
Receiver installed showing position of controls, etc.

indicator is set to a reference level for use as an S-meter. (The flexible lead and plug should be ignored as these constitute the connecting lead to a pre-selector stage used on the writer's model.)

The 6K8G frequency changer was chosen because of its excellent performance on high frequencies (the conversion gain rising at very high frequencies), and for its stability when used in the correct circuit. In this connection it is important to note that the oscillator anode and hexode screen are fed from a common dropping resistor (R39). Since the change in oscillator frequency with changes in anode and screen voltage is respectively positive and negative in this type of valve, the above method of connection results in almost complete cancellation, and the resultant drift is the difference of the two changes considered separately. (The anode stopper R35 was found necessary only on the 28 Mc/s. band and was made from cotton covered manganin wire, wound on a short glass rod. The correct length of wire was first determined and then folded double and wound on in this manner, resulting in a non-inductive component.)

Amplified A.V.C. is incorporated because only in this manner can a perfectly flat A.V.C. characteristic be obtained, i.e. when the gain between the grid of V4 and the A.V.C. diode is greater than the gain between the grid of V4 and the signal

this condenser, the connecting lead is well screened, and the coil and valve enclosed in screening cans. The grid leak (R24) and condenser (C25) are included in the can housing the coil.

The resonance device is a Cossor "No. 3180 Neon Tuning Indicator," which is actuated by the voltage developed across R36 in the anode circuits of V3 and V4. R38 sets the height of the glow to a suitable level in the absence of any signal. This device has been found infinitely superior to the "magic eye" type of indicator because (a) the length of change possible is much greater (about 2in.), and (b) the glow is many times brighter. A further consideration in this case is that it lends itself to calibration for use as an S-meter, by the simple means of sticking a paper scale along one side of the tube (Fig. 4).

The screens of the controlled stages are supplied from a large potential divider (R19 R20) of good regulation, since greater A.V.C. control is possible at fixed screen voltages. R12 decouples the screen of V4 from that of V2. No other screen decoupling should be necessary.

#### Constructional Details

The receiver is built on a chassis measuring 16in.  $\times$  7 $\frac{1}{2}$ in.  $\times$  2in., though if it were to be built again, an extra inch in length would be allowed, since the present size makes it rather difficult to fit in every-

thing easily. The panel is  $7\frac{1}{2}$  in. high, and is self-supporting, made from  $\frac{1}{4}$  in. sheet. A hinged screen made from perforated zinc sheet completely shrouds the receiver. This may be seen in Fig. 2 but has been removed in Fig. 3.

The 3-gang condenser of approximately  $50\ \mu\text{f}$  per section was made from a small  $0.0005\ \mu\text{f}$  3-gang assembly by removing 9 of the 10 rotor vanes from each section. In selecting this component, care must be taken to avoid using one which has shaped stator or rotor vanes in the oscillator section, as this impairs tracking. (Prior to the war Wingrove and Rogers manufactured a 3-gang  $0.0005\ \mu\text{f}$  condenser.—Ed.). The method of drive is a matter best left to the constructor's ingenuity, since condensers differ so widely in dimensions and construction. The one used by the writer had an incorporated epicyclic drive, the fast-moving spindle of which was fitted with a 3 in. pulley, driven through an elastic band by a  $\frac{1}{4}$  in. diam. spindle journaled below the chassis.

The 6J7G A.V.C. amplifier valve is mounted horizontally above the chassis in order to provide a short (screened) lead from its grid cap through a hole in the chassis to the grid tag of the 2nd I.F. transformer (*via* C45). The grid leak of this stage (R29) should not be increased much above 0.5 Meg. as instability will result. The anode tuned circuit is mounted between V3 and V4 and is unshielded. A trimmer (C46) is mounted on top. The coil was made from half of an old 465 kc/s I.F. transformer.

The B.F.O. coil was also made from half of an old I.F. transformer (465 kc/s) the can being retained. The tapping was secured by unwinding a third of the coil and attaching the tap. The coil was then rewound. Note that the tap is one third the way from the *earthy* end. The replaced end may be secured with wax. C38 and C44 are mounted below the chassis, the latter providing the coarse adjustment. C37 shown on the left of Fig 3, is the fine control fitted with a small knob.

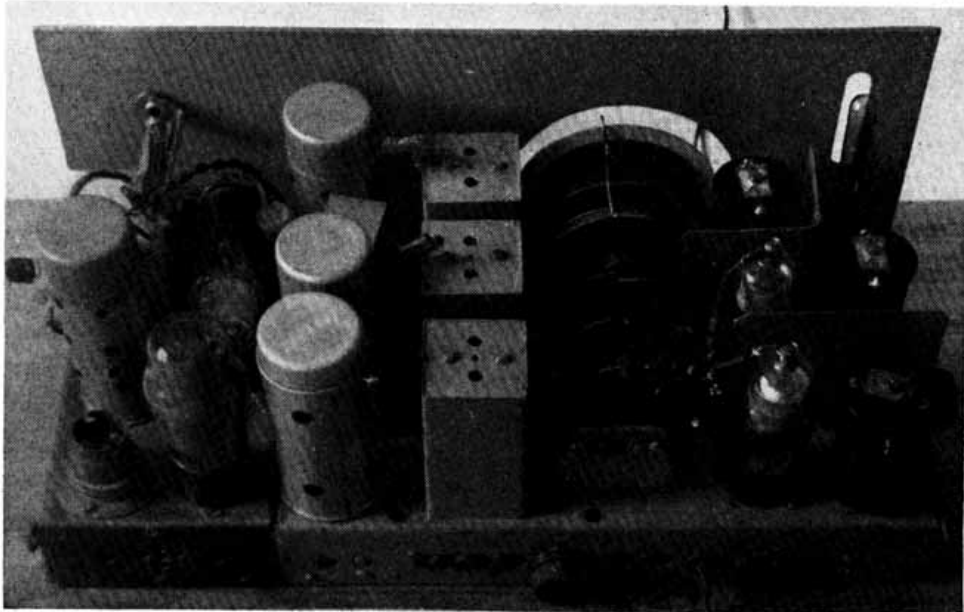


Fig. 3.—Receiver chassis showing layout.

Another disc was attached to the rotor spindle to which was soldered the pointer. These may be seen in the photograph in Fig. 3. Here, too, is seen the layout of components, which are also shown diagrammatically in Fig. 5. The assembly was mounted on sorbo rubber to avoid microphonic effects.

Complete screening of the R.F. coils and valves was found unnecessary: simple screens of aluminium sheet, as shown, proved quite satisfactory—and essential—particularly between the 6K8G and the R.F. stage. Screening cans were found to be necessary for the I.F., double-diode-triode and B.F.O. stages.

The earth returns in the R.F. and F.C. stages were taken to a common earth point at the base of the valve (or coil) concerned. This was found well worth while for the sake of the 28 Mc/s band.

The I.F. transformers are 465 kc/s Litz-wound iron cored type tuned with mica trimmers. At least  $\frac{1}{4}$  in. should be allowed between when assembling them, as the cans seldom provide 100 per cent. screening. I.F. bypass condensers are mounted at the valve socket concerned in order to ensure stability. (Wright and Weaire list a range of suitable I.F. and B.F.O. coils.—Ed.).

The R.F. coils are wound on  $1\frac{1}{2}$  in. diameter formers (threaded, except for those bearing the 3.5 and 1.8 Mc/s windings) with octal bases, this latter feature greatly speeding up coil changing. Trimmers are mounted on the tops as shown in Fig. 3. Coils have been wound for all amateur bands except the 1.8 Mc/s band, and details are given in Table 1. The coupling turns are wound below the grid windings, the latter having their "hot" ends at the top. The number of turns on the coupling coil is not critical, varying between 80 per cent. and 20 per cent. of the grid winding for the 28 and 3.5 Mc/s bands respectively. In the interests of noise reduction ceramic holders are used for the R.F. circuits.

#### Resistance Values

Readers may find it more convenient to use "preferred" values of resistance as these are now more readily obtainable. The values listed are those actually used.

#### Alignment Adjustments

As correct alignment of the receiver is the factor which contributes most towards its good performance,

careful attention should be paid to this matter. If a calibrated oscillator is available, the alignment of the I.F. circuits follows normal practice. Adjustment should be carried out on a weak signal of about 465 kc/s.; no direct connection between oscillator and receiver being necessary. The first adjustment should be made to the diode circuit of the last I.F. transformer, working back. On all but the last two tuned circuits, resonance is indicated by maximum length of glow in the resonance indicator. This renders an output meter and modulated input unnecessary, and greatly simplifies adjustment. When fairly accurate alignment has been achieved, the A.V.C. amplifier anode circuit should be tuned to resonance as indicated also by maximum glow in the indicator. All circuits should then be checked over again. If a calibrated oscillator is not available, the following procedure is recommended. First set the I.F. trimmers to approximately half capacity and inject a signal of, say, about 3.5 Mc/s into the aerial socket 1. (2 and 3 are connected by a bridge of wire for single wire feed.) The 3.5 Mc/s. coils are plugged in—no matter that they are not adjusted. The main tuning condenser should be set to half scale and the test oscillator tuned until a signal is heard. After allowing about five minutes for the receiver and oscillator to settle down, alignment of I.F. and A.V.C. tuned circuits may be carried out as described. (Note that the exact value of the I.F. is unimportant). If a quartz frequency sub-standard is available, a suitable harmonic may be used instead of the oscillator eliminating the possibility of drift in the latter during the alignment process.

Alignment of the B.F.O. should be performed as follows. With a weak unmodulated signal tuned in (or a signal of I.F. injected) the A.V.C. should be switched off. C37 is then set to half scale, and the B.F.O. switched on (S2). The trimmer C44 is adjusted to zero beat. When the receiver is tuned "dead on" a signal, it should be possible to vary the beat note by means of C37 by several hundred cycles either side of zero beat.

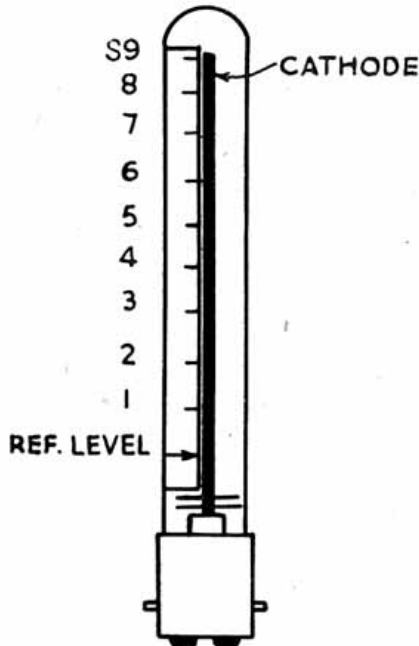


Fig. 4.  
Method of calibrating S-meter.

Normally, no padding condensers are used in the oscillator circuit. This is because the maximum tuning range required for a given set of coils is only the width of one amateur frequency band. In the case of the 1.75 and 3.5 Mc/s bands where the relative change of frequency across the band is greatest, it has been found advantageous to mount a padding condenser in the former of the oscillator coil. Alignment of R.F. and oscillator circuits is best carried out as follows. With the R.F. gain at maximum, the receiver should be tuned to the middle of the band concerned and the test oscillator tuned to this frequency and coupling adjusted so that the glow in the resonance indicator reaches about half-way up the tube (corresponding to an S4-S5 signal). The trimmer on the frequency changer grid coil is then adjusted to maximum glow. The trimmer in the R.F. coil is then similarly adjusted. (Note that there is normally no need for a trimmer on the oscillator coil provided that the turns data in Table 1 is followed carefully. The oscillator frequency is higher than the signal frequency.)

Coil Winding Data

Band Mc/s	L1, L2, L3	S.W.G. (Enamelled)
3.5	33 (Close wound)	24
7.0	22	20
14.0	8	18
28.0	3.5 (double spaced)	18

Table 1

In the case of the 1.75 and 3.5 Mc/s. bands where a padder is used, this should be of 0.0002  $\mu$ f maximum capacity. The procedure is to adjust the padder until such a value is reached that no adjustment in the trimmers is necessary when tuning across the band. (The frequency of the test oscillator being shifted as required.) If it is found that a greater trimming capacity is required on the L.F. end of the band, then the capacity of the padder has been set too high and *vice versa*. Instead of using a test oscillator for these adjustments, the normal background noise when an aerial is attached may be used, though this is not so accurate and necessitates finding a silent spot, which is by no means an easy matter! On no account should the trimming be carried out without a load of some kind connected to the aerial socket as the resonant frequency of the R.F. stage tuned circuit will be different under these conditions.

#### Power Supply

The requirements of the power supply are as follows: 250 v. at 120 mA., 6.3v. at 3.4 A. The unit used by the writer incorporates a 20H. choke and an 8 $\mu$ f input condenser. A 50 $\mu$ f smoothing condenser follows the choke, giving absolutely hum-free performance. In practice, a source of hum was found to be the heater wiring and was completely removed by connecting a 0.1 $\mu$ f condenser, C28, between chassis and one side of the heater supply, the correct side being found by experiment. The other side of the heater supply was grounded.

#### Conclusion

It can be said that the performance of this receiver is well up to commercial standards. Sensitivity is <math>1\mu\text{V}</math> for 1 watt in the speaker (30 per cent. sine wave modulation), and the A.V.C. is substantially flat above an input of about 5 $\mu\text{V}</math>. or less. The two$

I.F. stages provide ample selectivity, whilst second channel interference, although unmeasured, compares well with all other commercially built communication receivers with which the writer has had any experience. Together with a single tuned circuit pre-selector unit, second channel interference is almost completely absent on a frequency of 14 Mc/s and lower. The receiver was built during the war, yet the total cost was less than £15. In addition has to be reckoned the constant satisfaction of operating a self-constructed receiver. The writer will be pleased to hear from any member who builds this receiver and will gladly supply any further information if required.

vides variable control of the delay voltages to suit different levels of interference.

The cathodes are biased to an extent controlled by the setting of R1—the panel control—and limited to 1.5v. by the battery connexions. The principle of operation is as follows. Any signal whose peak value is less than 1.5v. will be unaffected by the limiter, but the arrival of a signal in excess of this voltage, such as a loud peak of interference, causes the diodes to become conducting for a time equal to the duration of the impulse, thereby practically short-circuiting the signal which would otherwise have passed on to the grid of the output valve or the 'phones. Therefore, instead of a loud "plop" being heard,

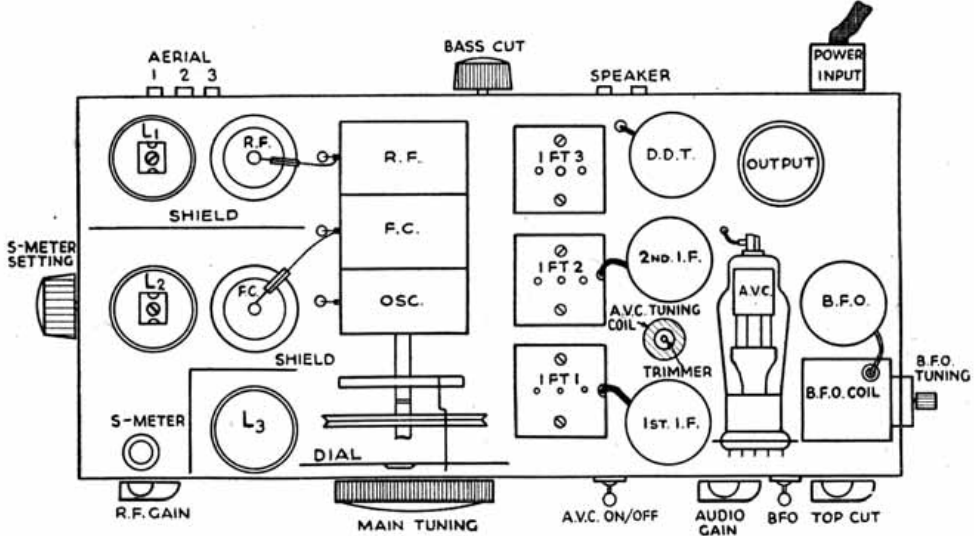


Fig. 5. Plan of chassis showing layout.

**Appendix**

(a) Since the above article was written, an additional feature has been incorporated into the receiver. This is a noise limiter stage using a 6H6 double diode. The extra connections are simple and are shown along with the circuit in Fig. 6. An external grid bias battery is required to provide delay voltages, but since very little current is taken, the life of this battery will not be far short of its shelf life. A panel control switches the device in and out, and also pro-

vides variable control of the delay voltages to suit different levels of interference. Proper operation occurs when the bias voltage equals the peak voltage of the wanted signal. If it exceeds this value, then some of the noise will pass the limiter; if it is less, then the peaks of the wanted signal will be clipped, causing some distortion. This circuit provides full-wave suppression (both negative and positive noise peaks are suppressed) and is far more effective than some systems using only a single diode.

The switches S1 and S2 are both incorporated in the potentiometer R1 and open together when R1 reaches its maximum resistance position. S1 opens the battery circuit and S2 puts the limiter out of operation.

The 6H6 is situated in the rear right-hand corner of the chassis (as seen from the front) in the position previously occupied by the batten holder (Fig. 3). The panel control was placed about 1½ in. to the left of the 'phone jack.

This extra stage has been found well worth while and is most effective in dealing with the car ignition type of interference.

(b) Should the band-spreading be considered inadequate on the 7, 14, and 28 Mc/s bands, this may be easily improved by decreasing the L.C. ratio of the R.F., frequency changer, and oscillator tuned circuits. This has been done by fitting a fixed condenser across each of the three coils (retaining in addition the trimmers on L.1 and L.2 for ganging purposes). By this means the bands have been spread

(Continued on page 57)

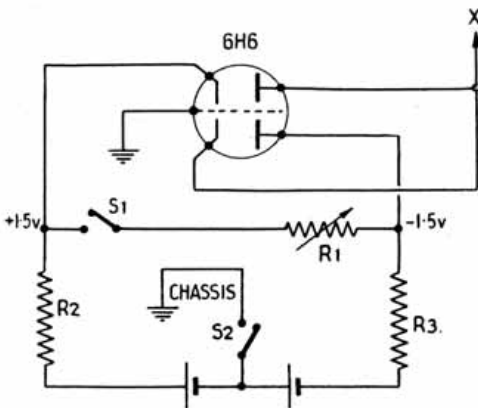


Fig. 6. Circuit of noise limiter.

R.1 5,000 ohms. (pot.), R.2, 3 1,000 ohms. S.2, 3 See text.



# ADJACENT CHANNEL INTERFERENCE

By A. G. DUNN (G3PL).

*This article, which follows up views expressed in recent editorials, will no doubt arouse considerable interest in amateur circles, if only for the reason that the author puts forward some forthright suggestions for the future. The views and comments of readers will be welcomed.*

ONE result of the war has been a considerable increase in interest in Amateur Radio, and already a large number of new licences have been issued both here in Great Britain and abroad. Prior to September 1st, 1939, the total number of licensed amateur stations was in the neighbourhood of 80,000 of which 75% were in the U.S.A. and possessions. This number was several times greater than the total number of all other civil radio stations of all classes. It is interesting to note that although very few amateur licences were issued during the war years, the number of commercial frequencies registered to date is still considerably less than 80,000 despite the large increase in the number of commercial stations that has taken place since September, 1939.

Prior to the war the 80,000 amateurs were allotted frequencies totalling in all to about 3400 kc/s., up to 30 Mc/s., whilst the commercial frequency bands totalled some seven or eight times this width of spectrum. Thus, on a pre-war basis alone, the amount of interference likely to be experienced from stations working on nearby channels is at least 16 times greater for an amateur than for a commercial operator.

With the piecemeal release of frequencies during recent months the position is very much worse. For example U.K. amateurs at the present time have only 2885 kc/s. at their disposal (on a shared basis) up to 30 Mc/s. of which 2000 kc/s. fall within one band (28-30 Mc/s.).

In spite of the low average power of amateur stations, the congestion experienced on those bands, upon which world-wide working is possible, is very considerable, and a substantial increase in the number of such stations will inevitably mean a corresponding increase in interference. It is, therefore, very necessary to consider ways in which the number of amateur stations using our limited bands may be increased without causing an increase in mutual interference. The problem may be tackled in three different ways.

- (i) By improving apparatus.
- (ii) By improving operating technique.
- (iii) By more drastic methods.

## (i) Apparatus

(a) *Transmitters.*—A transmitter must emit no energy on frequencies which are not involved in the system of communication employed. This means that all harmonics, key clicks, splatter (due to over-modulation), parasitics, etc., must be eliminated. Whatever system of transmission is being used, the width of the transmitted signal must be no greater than is necessary to obtain the desired results. For instance, the use of high-fidelity amplitude modulated telephony signals for long distance work is unnecessary. The frequency of the emissions must be as constant as possible; where C.W. is used, there must be no chirps, clicks or tone-modulation of the carrier. All the above requirements may be met fully in modern radio practice, and in pre-war days the amateur used to pride himself upon his "pure D.C. carrier." It is noticeable, however, that some commercial and other non-amateur stations are not so particular.

Since the early days of radio, transmitter design has passed from "plain aerial" spark to loose coupled spark, then to the self-excited valve oscillator, through the MO-PA, to the crystal-controlled multi-

stage transmitter, and finally, as far as present amateur technique is concerned, to the multi-stage transmitter consisting of a very low-power exciter comprising crystal control or a variable-frequency oscillator (with the same stability) at the turn of a switch, followed by a power output stage with extremely high power gain and efficiency. It can safely be said that the best practice of 1939 was good enough to eliminate all unnecessary interference from the transmitter end.

(b) *Receivers.*—The main characteristic of the modern communications receiver, which distinguishes it from less elaborate sets, is its extreme selectivity. The design of receivers in the period around 1920 was mainly in the direction of sensitivity. Selectivity was a very minor factor in the days of crystal detectors. The introduction of the regenerative triode detector led to a big increase of receiver selectivity, which was further improved by the introduction of the first really effective radio-frequency amplifier stage using the screened grid valve. Selectivity, sufficient to cope with the growing congestion on the amateur bands, was not obtained until the introduction of the super-heterodyne receiver, which had been invented much earlier but did not come into general use until about 1930. The extreme selectivity of modern receivers was not attained until the quartz crystal resonator was introduced for C.W. reception. The 1939 receiver employing a band-pass crystal filter which could be used for telephony reception as well as C.W. provided the maximum usable selectivity. It would thus seem that no big reduction in interference can be expected, except that more amateurs may be able to make use of receivers of this type than was the case in 1939.

(c) *Beam Aerials.*—When two stations are in communication, it is obvious that energy sent in any direction other than that of the distant station, is wasted, and may cause interference to stations in other parts of the world. This could be avoided by the use of a highly directional aerial, and in commercial practice it is often achieved by the erection of extensive fixed beam aerials. However, as most amateurs desire to contact stations in any direction, the best solution is to use a type of beam aerial which may be rotated, either mechanically, or electrically, *i.e.*, by altering the phase in which various elements of the aerial are excited. Unfortunately this type of aerial is out of the question for the lower frequency bands, as the dimensions would be too great, especially for mechanically rotated types.

The same factors apply to the use of beam aerials for reception. Two stations may be on exactly the same frequency, yet provided they are not in the same direction, a rotary beam may be used to receive either and eliminate the unwanted signal.

(d) *Power Reduction.*—The use of more power than is needed to provide easily readable signals at any required location is clearly to be avoided. This was very evident in pre-war days on the 7 Mc/s. band where quite a number of 50 or 100 watt stations could be heard working over distances where 10 watts would have been ample.

## (ii) Operating Procedure

(a) *Good Operating.*—It is essential that all amateur operators shall become good operators; that is, they shall be able to read Morse at a reasonable speed, to

make no unnecessary requests for repetitions; in brief, to operate intelligently and unselfishly. Let such practices as the continual sending of "doubles," when not requested by the other station, die out. Whilst not advocating that any attempt be made to introduce a rigid system of amateur procedure signals—for after all, most amateur contacts are in the nature of personal conversations between the operators, and are not written messages which need to be copied exactly, word for word—a certain amount of conventional procedure is desirable to avoid unnecessary transmissions. In particular the sending of long CQ calls, or calling up other stations for several minutes before signing, are practices to be avoided.

(b) *Correct Choice of Frequency.*—The various amateur bands have different characteristics, some being more useful for long-distance work, whilst others are more suitable for short-distance communication. The use of the DX bands for short-distance work is bad practice normally, but it is permissible when conditions on that particular band are poor for long-distance work. Misuse of the 14 Mc/s. band for local work, when the band was wide open for DX used to be a frequent cause for complaint; it may be suspected that those who did so did not want to go to the trouble of changing their transmitters for operation on another band—admittedly a lengthy process at some amateur stations. The answer to this problem is, of course, some system of coil switching, or easily accessible plug-in coils.

(c) *Break-in and Duplex.*—The traditional method of working, which has become known to the general public by the phrase "Over to you" has the obvious disadvantage that if interference should start up whilst a station is transmitting, the receiving station has no means of informing the transmitting operator, and must wait until he signs over. If the interference is very bad he may not know whether the other station has gone over or not.

By using the "Break-in" method for C.W., each station is able to hear the other during the periods when the key is up, so that if interference should spoil reception of one station, the other has merely to press his key and the first operator will hear and stop sending immediately. The great advantage of this system over the old can only be realised fully by actual experience; "break-in" saves much time and effort and should become the standard procedure in the future.

It is possible to work a form of modified "Break-in" system on telephony. This may be done by using a very quick manual change-over system, known as "push-to-talk," in which a press button controls a change-over relay giving almost instantaneous change from transmission to reception and *vice versa*. The same effect may be obtained by an automatic system in which the act of speaking into the microphone operates the relay. This method may also be combined with a "controlled-carrier" system, in which the carrier is always proportional to the amplitude of the modulation. The latter system by itself is very useful for reducing interference even when the "over-over" system is used, as the carrier drops to a small percentage of its fully modulated value during pauses in the speech input.

The term "duplex" was originally applied to a system of line telegraphy which enabled a message to be sent in each direction simultaneously over a single pair of wires. As such, true duplex has very little application to Amateur Radio. The system which went under the name of "duplex" consisted of allowing the station carrier to remain on during the whole of a contact, and arranging matters so that the other

station, whose carrier was likewise left running all the time, could be received continuously. It would thus have been possible to send different messages simultaneously in opposite directions, but this was never done, the object of the system being to allow the operators to converse as on an ordinary land-line telephone. If some method similar to those previously outlined could be used to remove or reduce the carrier during silent periods, the method would cause no more interference than "break-in"—in fact it would be "break-in" working—but with both carriers running at full power the whole time, the two stations cause just twice as much interference as they need. Not very clever!!

(d) *The Use of Variable Frequency Oscillators.*—As has already been mentioned, the earliest valve transmitters were of the self-excited type, where the frequency was controlled by one or more tuned circuits. By altering the constants of the latter, the frequency could be varied continuously and smoothly, so that alteration of frequency to avoid interference was easy. The same was true of the MO-PA type of transmitter which came later. Quite early, the application of the piezo-electric quartz crystal to transmitter frequency control was adopted eagerly by amateurs, especially in this country. It gave a stability of frequency and a purity of "tone" unattainable by any other means at that time. It has been truly said that of the first 1,000 crystal controlled transmitters in existence, at least 800 belonged to amateurs. The large gain in stability was attained only by sacrificing the ability to change frequency. With crystal control, only very slight changes of frequency were possible, unless many crystals were available, and since most amateurs could not afford more than one or two crystals, they had to be content with operation on one or two fixed frequencies in each amateur band.

The return to the variable frequency oscillator began about 1935, when the E.C.O. (Dow oscillator) arrived on the scene. Many of the early attempts with this type of oscillator were not successful, due to poor mechanical construction, lack of knowledge of the correct circuit adjustments, etc., but some "E.C.O.'s" were made which were almost as good as crystal oscillators. By 1939, variable-frequency oscillators had been designed with frequency stability superior to that of normal amateur band crystals.

The most important use of a V.F.O. is in avoiding other stations and thus reducing interference. It is anticipated that the great majority of amateurs will eventually use V.F.O.'s though crystal control will probably be retained as a stand-by, and where excessive mechanical vibration might make the use of a V.F.O. undesirable, such as in portable and portable-mobile transmitters.

(e) *Netting.*—This term, which originates in the U.S.A., is applied to a system where two or more stations in communication with each other work on the same frequency. It is used extensively in commercial and other radio communication systems. The general use of V.F.O.'s by amateur stations would make netting a feasible system for amateur use, but the writer does not consider it to have a great deal of application here. In the systems where netting is used, a limited number of stations using the same frequency are in intercommunication, and there is no provision for contacts outside the limited group. In the crowded 14 Mc/s. band, it frequently happens that a DX station is called by perhaps thirty stations simultaneously. It becomes customary for those stations with V.F.O.'s to set their frequencies close to that of the station they desire to call. Some operators go further and set their oscillators to the exact frequency of the required station. The resultant

interference may perhaps be imagined, and quite frequently the DX signal is completely smothered in other signals; to make matters worse, the V.F.O.'s are often not re-tuned to another frequency once the contact has ended, so that it becomes almost impossible for the remote station to make itself heard.

The indiscriminate use of netting for calling-up purposes should, therefore, be discouraged, but there are good reasons for using it after contact has been established. If the use of netting is combined with "break-in" operation, so much the better. One disadvantage of the system is that any interference on the frequency in use interrupts both sides of the contact simultaneously. The chance of this happening when different frequencies are in use is only one quarter as great.

Another point which must be considered is the exact meaning of "the same frequency." Owing to the high selectivity of modern receivers, a frequency separation of less than a kilocycle is sufficient in most cases for satisfactory elimination of adjacent signals, when C.W. telegraphy is in use. For "netting" to have any meaning at all, under these conditions, the frequencies of the stations concerned must be identical within a few hundred cycles. If the frequencies are more than a couple of kilocycles apart they might as well be twenty or two hundred when crystal gate receivers are in use. It should be pointed out that commercial systems do not usually work to such a high degree of accuracy, especially on the most important "net" frequency—the marine calling and distress wave of 500 kc/s.—where discrepancies of  $\pm 10$  kc/s. from the nominal spot frequency are common, even in the case of Government coast stations.

(f) *Calling and Working Bands.*—Another system used extensively by commercial stations is the use of separate frequencies for the initial calling-up and the actual exchange of messages. This might be extended to amateur use by establishing a channel, say, 50 kc/s. wide at the lower-frequency end of each amateur band, for use in calling up other stations and for sending CQ calls. Once the contact has been established, both stations would then change frequency to points in the remaining part of the band. If both use the same frequency, we have "netting." The following example may perhaps make this clearer. Assume that the low-frequency end of the 7 Mc/s. band is used as a calling band. All stations calling Test or CQ do so between 7,000 and 7,050 kc/s. Station A calls CQ. Station B hears him, and calls him, also between 7,000 and 7,050. Station A replies and sends "QSU 7125" meaning "Transmit on 7,125 kc/s." Station B then changes frequency to 7,125, and Station A follows.

#### AMATEUR-BUILT SUPERHET—(continued from page 54)

across the whole dial. It was necessary, of course, to reduce the number of turns from those given in the table to the following:—

28 Mc/s. Band.—L.1 and L.2 1½t. L.3 1½t. (triple spaced): Parallel capacity 0.0001µf.

14 Mc/s. Band.—L.1 and L.2 2¾t. L.3 2¾t. (triple spaced): Parallel capacity 0.00025µf.

7 Mc/s. Band.—L.1 and L.2 5½t. L.3 6½t. (single spaced): Parallel capacity 0.00025µf.

The same turns-ratio of coupling coil to grid coil was used. In the case of the 7 Mc/s. coils the oscillator works on the L.F. side of the signal frequency.

The results of lowering the L.C. ratio are (a) to reduce the dynamic resistance of the circuits, which results in a slight loss of sensitivity; (b) to increase the

To make good use of such a system would mean accurate frequency measuring apparatus, or at least an accurately calibrated and stable receiver at each station. The main advantages of the system would be that it would only be necessary to search over the 50 kc/s. calling band when listening for replies to CQ calls, instead of the 300 or 400 kc/s. of the whole band. A great deal of unnecessary interference used to be caused by prolonged CQ calls and replies. The method would make the sending of very short CQ calls and answers possible.

#### (iii) More Drastic Methods

The methods previously mentioned should all be taken into consideration either partly or wholly, and there should not be much difference of opinion amongst amateur operators as to their merits and disadvantages. The following two suggestions are highly controversial, and are put forward without comment.

(a) *Time Sharing.*—It has been suggested on several occasions that amateurs should be limited to certain hours for the use of certain bands; the permitted hours for the amateurs in different Districts should be staggered so that only a portion of the total number of amateurs is allowed to use the band at any given time. The idea could be extended to the international sphere by arranging for each country to have exclusive use of the band for a limited period of time. Such an arrangement could be made for the European area, another for the North American area, etc.

(b) *Frequency Sharing.*—In the same way, each country could be limited to a small part of any amateur band, thus leaving the rest of the band free for other countries.

#### Conclusion

It thus appears that to reduce congestion on amateur frequencies, it is essential that the apparatus at each station should be as up-to-date and as skilfully adjusted as possible. Beam aerials should be used where possible. Means should be provided in all but the lowest-power transmitters for the reduction of power to the minimum necessary for communication. A high standard of operating will be required, the stress being on *intelligent* operating, though speed is also of importance. The use of "Break-in" C.W. working, and "Controlled Carrier" or "Break-in" 'phone must be encouraged. The variable frequency oscillator should be used as widely as possible, always with the proviso that it is well designed and produces a pure C.C. note. The possibilities of commercial types of working, such as Netting, and the use of separate calling and working bands should be investigated.

As for the Time and Frequency sharing proposals, these were not invented by the writer, so please direct any brickbats elsewhere!

Q, which results in a greater degree of rejectivity to signals to which the circuit is off resonance and, consequently better image suppression and (c) to greatly improve the stability of tuning. It will be appreciated that (b) and (c) greatly outweigh (a). The condensers should be preferably of the negative temperature co-efficient type in order to minimise drift due to temperature changes.

#### Admiralty Electronic Scrap

Members are again reminded that the letter of authority which they must hold before visiting an Admiralty Depot, should be returned to their D.R. immediately after the visit. Considerable inconvenience has been caused as the result of members retaining a letter of authority for a long period.



# RADIO COMMUNICATIONS AND THE HIGH SPEED FLIGHT

By SGT. D. R. TERRY, (BRS6813)

TOWARDS the end of June last, a small party of specially selected R.A.F. ground staff found themselves posted to R.A.F. Station, Tangmere, Sussex, to form the R.A.F. High Speed Flight, under C-in-C Fighter Command. The writer had the good fortune to be one of the team. At that time our duties and the job in hand were a matter for conjecture, but very soon we discovered that an attempt was to be made to improve on the existing world air-speed record of 606 m.p.h., but until the Air Ministry chose to announce the fact, we had to keep this information to ourselves.

## The Aircraft

We were soon introduced to the "finest aeroplane in the world" (to quote the Sgt. fitter), and were duly impressed with its fine, highly-polished, finish. We used three (known locally as "hacks") for trial runs, at high speed. They were standard models as used by R.A.F. Squadrons and the V.H.F. R/T transmitter-receiver (TR.1143 for the benefit of Service readers) was located centrally inside the fuselage, about level with the trailing edge of the wing. The set was, of course, remote controlled to the cock-pit, where the pilot had the choice of four pre-set frequencies selected by press buttons. Provision was also made for I.F.F. (Radar) and Beam Approach Equipment, but these items were not fitted. A rigid vertical aerial fitted above the fuselage completed the installation. The set was "got at" by removing a panel underneath the aircraft and standing up inside the opening. This tended to make maintenance (which was the writer's responsibility) fairly easy.



Fig. 1.

The author (with cap) installing the V.H.F. pack set at "Hoot Owl" Littlehampton—the beginning of the 3KM course—prior to a test run.

During the month of July, when flights were made almost daily, the three pilots put their radio facilities to full use with no major snags. We were on guard for any unusual effects in a set that was itself travelling nearly as fast as sound waves in air, but nothing of undue interest was noted, however.

It was now time to make a public announcement on the Flight's activities, and suddenly we found that we were besieged by pressmen, newsreel cameras, and photographers who proceeded to take innumerable photographs, ask questions and turn the "erk" into an amateur film star. Surreptitious tidying of the hair, and hasty toilets were noticed in the crew-room on the advent of the newsreels.

The three "hack" Meteors dropped into the back-

ground on the arrival of the two "star" aircraft, which were to make the actual attempt. These machines were fitted with special jet engines and all surplus equipment removed, including the radio and its associate wiring, trays and aerial.

And so Meteors EE.549 and 550 were made ready and waiting for a hot day to smash the record.\*

## The Course

The "timed course" was laid down at Littlehampton, along the Sussex coast. A distance of 3 km. (accurate to 3 cms.) was marked by steel posts set in concrete for the camera timing, and by captive balloons for the aircraft. V.H.F. R/T pack sets were installed at each of these points. The master camera point at Kingston Gorse received timed impulses which originated at Teddington, and which were transmitted to it by G.P.O. land-line. From there, connection was made to the second camera 3 kms. away by high quality screened cables, laid overhead by the Royal Signals. As it was necessary to have some warning of the approach of the aircraft in order to start the cameras, two further V.H.F. pack sets were installed at a distance of 7 km. either side (E. and W) of the measured stretch. R/T communication was thus maintained all along the coast. The four pack sets were positioned at Felpham (Nr. Bognor), Littlehampton, Kingston Gorse, and Worthing. The first on the verandah of a house, the second and third on the foreshore, and the fourth on Worthing Pier. Their positioning and siting were important considerations as it was essential to keep them within optical range. Furthermore, each station had to "hear" all other stations clearly. The transmitter frequency used was 113.94 Mc/s. (crystal frequency 6330 kc/s.). Also on this frequency were two air-sea rescue launches and an amphibian—a Sea Otter—using TR.1143. The *Joy-Bell*, a ship for the use of newsreel companies and the Press, had a V.H.F. receiver only, which fed into a loudspeaker, so that all transmissions were picked up. All stations were controlled from the master camera at Kingston Gorse which used call-sign "Iceberg Control."

This, then, is a brief account of a most interesting few weeks spent as a member of the High Speed Flight. The photographs illustrating this article were taken by G6CL during a visit to Littlehampton.

\* As all readers now know, Group Captain Donaldson, D.S.O., D.F.C., broke the record on September 7, 1946, at a speed of 616 m.p.h.



Fig. 2.

One of the Air-Sea Rescue Radio-Equipped Launches returning to Littlehampton after a test run





# THE MONTH ON THE AIR

By A. O. MILNE, (G2MI)\*

It is a sad fact that G stations are nowadays by far the worst offenders in the sending of long CQ calls, signing only once or twice. Comment has been made about this from several non-amateur quarters. This sort of thing gets us nowhere and only results in exasperation to the listener and a bad name for U.K. amateurs in general. In the words of G2 Emma Toc of Writtle, "Don't do it CQ, don't do it!"

## DX

September has brought us two of the biggest fade-outs in history and some of the queerest conditions ever experienced. In particular, on the night of the 23rd signals even on the 1.7 Mc/s band had a hollow ethereal sound about them like early morning W6's on 14 Mc/s. The general sound of signals was uncanny. A sort of music of the spheres, reminiscent of "Uranus" in Holst's *Planets*.

The very few DX stations heard were accompanied by a flutter fade, so rapid that it hardly affected intelligibility.

GM3ANY records an intense burst of hiss at 1210 B.S.T. on September 21st lasting until 1225. Hiss occurred at about the same time on the previous day but at nothing like the same intensity.

## Notes and News

GM2UU gives the QTH of YI1CX as No. 6 FBU, Basrah. PK1RW is P. Balestrini, 14410918. 11 W/T Det. type "M" Attd. 15. Ind. Corps Sigs. Batavia, S.E.A.A.C. PK1AM is at the same address. PK1AF is in the Dutch Air Force. Status of PK1RI is unknown. PK1RW QSL's promptly. G6QX tells us that CM2BA, 14060 is on every night 2300-0100 looking for contacts with the Isle of Man. G8KP has made 550 contacts on 14 Mc/s in 8 weeks, 460 of them outside Europe. G5VU reports VP8AI, chirpy signal on 14010. QTH A.S. Betts, Pebble Is. Falkland Is. G5VB supplies the following:—KA6FA, 19 Ortiz St., Ilo Ilo, Panay, P. Is. LZ1XX has had some cards printed and hopes to QSL everyone soon. PK6HA is Lt. Hamers, Biak Is., Dutch New Guinea. W9CAC/TF is 136. A.C.S. Sqdn. A.P.O. 610 c/o P.M. N.Y.C. HH3L is Franck Lannoix, Port au Prince, Haiti. VP8AD is active again using 8 watts on 28 Mc/s. Mail is infrequent. QTH R. Melaren, South Georgia Is. ZC6FP is genuine. He is G5FP and QSL's. QSL's are to hand from F9 stations. Are F7's genuine?

G2YS and G2PT have both worked UD6KBA who is at Baku, Azerbaijan. G2YS also heard two stations calling CQ de UA6LC on almost the same frequency; one C.C., the other R.A.C. but signing at different speeds.

G2PT received an S8 report from UD6KBA who went over to 'phone. QSL via R.S.G.B. UA1 is the Leningrad district.

G3VA says that ZB2B is using 20 watts to an 807. ZX2B claims to be on a ship in the central Mediterranean. Asks people to QSL via R.S.G.B. We have no idea who he is so save your QSL cards. LLKV gives QRA as the yacht *Skandia* at Las Palmas.

From G2PL comes the following:—OX1A, 14070, is W2MHW. Richard Eidel, A.P.O. 858, c/o P.M. N.Y.C. KL7CR, 14120. YS1X 14140. ZA2D, 14160, QSL via A.R.R.L. EL5B, 14170, Jesse Bell, A.P.O. 605, c/o P.M., Miami, Florida. J2AAK, 14160, KH6CT, 14210; YI2XG, 14170. QSL's are coming in from U.S.S.R. We have had one which carries a portrait of "Popov" inscribed "A. Popov inventor of radio"—Sez you!

BRS191 has been pulling them in, including several J9's.

## General

BRS7855 comments on the queer conditions particularly on the 10th, when at 2140 B.S.T. the South of England stations, like G6AG, etc., were S9 on 28 Mc/s in Liverpool. Others heard, all on 'phone, were G5TP, 5JY, 60A, and 8SY.

KH6CGK says G's roll in every evening (morning our time). He pleads for a little closer attention to weak signals near your own frequency. He recently called 18 Europeans before making a contact. He uses 1 kW. to a three element rotary.

VS4JH should be home by the time this appears in print. He thoroughly enjoyed his spell in Labuan and wonders what it is going to be like being "just another G"!

VK6RF would like to run a schedule with a G station on 28 Mc/s. Preferably between 8 and 10 a.m. G.M.T. His frequency is 28068. QTH, 8 Robin Street, Mt. Lawley, Western Australia.

## Excess Postage

V.E.R.O.N., the Dutch Society, draws attention to the fact that they receive a large number of cards direct from British amateurs upon which excess postage has to be paid. Please note that postcards abroad cost 2d. each. Better still, send them via the R.S.G.B. Bureau. Cards are sent in bulk to V.E.R.O.N. at least twice a week. Save your time and money.

## Italian 5-Metre Contest

A.R.I., the Italian Society, advises us that they are organising a DX contest to run from September 15, to July 31, 1947 on 58.5-60 Mc/s. The winner will be the Italian station who is heard at the greatest distance. They ask for the co-operation of British Empire amateurs.

## Local Magazines

We have received a copy of an excellent little local group magazine, published by the District 15 members. Known as "The Rag" it is available to any member at a cost of 5/- per annum and is published monthly. Send your orders to G4AQ, 36 Boston Gardens, Brentford, Middlesex.

## QSL Bureau

Thanks to those of you who have taken heed of our requests in the September issue. A plea to the rest to do the same. Yes, we handle cards for all parts of the world.

If you cannot read, ask some friend to tell you what we said in the September issue. Don't mind us, but that's how we feel sometimes when the mail arrives by mail van, in a bag as it did the other morning! Why is Monday our heavy day? Can you ease things over the week a bit, please? Once again. Don't send cards or envelopes to H.Q.'s. Don't send anything else to G2MI.

## If the Cap Fits

Ken Ellis, ZC4NX/G5KW, has QSL'd 100 per cent., but one or two cards may have been overlooked, so if you have not received a card, first make sure that you have envelopes at the Bureau and then if still no card, apply for another. Ken says some clever people may wonder why he could not hear them, he asks us to state that he does not work stations who operate outside the licenced bands.

G8LO corrects the address of CN8MZ; the street number is 38, not 28.

\* 29 Kechill Gardens, Bromley, Kent.

# THE MONTH ON FIVE

By W. A. SCARR, M.A. (G2WS)

WITH the general release of new bands during recent weeks, there has, as anticipated, been a decrease in activity on those frequencies which were first restored to us. Nevertheless, most of those who regard "five" as their favourite band are still keeping regular schedules and watching for the rare moments when the unexpected occurs.

For those whose chief objective is DX the period of marked temperature inversion most favourable to long-distance inter-G contacts, is over for this year. Sporadic E-layer reflections, giving much sought-after European contacts, are likely to continue, however, in coming months and may in fact produce outstanding results during the next year or two. As G6DH says, "watch ten" and use that band as an indicator of likely skip on the higher frequency.

Incidentally, with a 58 Mc/s. contest scheduled for February next, there will be plenty to do in coming weeks to ensure that all the gear is capable of peak performance when the time arrives. Those who, like the writer, specialise in outdoor work will, now that portable facilities are once more available, be busy during the dark months building portable rigs for next summer. With the introduction of midget button-base valves and the new pocket-size H.T. batteries, there is much scope for the design of fly-weight receivers for the band. (May we look to the BRS members to follow up?)

## Activity Reports

Reports received during the month indicate that conditions have not been exceptional since the breakthrough on August 22 when a record number of European contacts were made. As G2XC (Portsmouth) says, "the long succession of depressions (atmospheric!) has had a very adverse effect." Stations worked from Portsmouth during the month include G2AK (Birmingham), G5BY (Devon), G5IG (Cambridge), G6DH (Clacton), G6YU (Coventry) and G2BMZ (Torquay).

G5IG (Cambridge) wishes it known that he is on the

band every evening from 10 p.m. to midnight. Early operation is not possible owing to the likelihood of interference with nearby television sets. Stations worked recently by 5IG are: G2WS (Beckenham), G4IG (Beckenham), G5MA (Surrey), G5TX (Isle of Wight), G6LK (Cranleigh), G6VX (West Wickham), G8GX (Northwood Hills) and G8SK (Enfield).

G2UJ (Tunbridge Wells) is now back on the band, using a pair of 807's in a push-push double circuit. Choke-modulation is employed and the aerial is a 2-element beam, rather badly screened. Nevertheless, 2UJ has recently given many of the London 5-meter men their first contact with the "South-East corner."

G2YL (Walton-on-the-Hill) made an unexpected, though nevertheless welcome appearance on the band recently, but disappeared again with equal suddenness. We trust that she will give us the opportunity of further QSO's before long.

The Mablethorpe enthusiasts, G5BD and G5LL, are as constant as ever and have recently begun a nightly schedule with their nearest neighbour, G8JV (Nottingham), 70 miles away. This is timed for 2000 G.M.T. and contacts are made almost daily at strengths varying from S2 to S7. Full opportunity was taken of the exceptional conditions on August 22 and several Italians were worked. 5LL asks why sporadic-E effects always occur between the 20th and the 28th of the month. In addition to the usual rapid fade on these DX signals, 5LL reports a long echo at times. Has anyone else noticed this effect on signals from Europe?

G5BD and G5LL are on every evening from 1930 to 2230 B.S.T. and ask that G stations will swing their beams in the direction of Mablethorpe occasionally during this period.

G6DH (Clacton) now has regular skeds with G2MV (Coulson) and G2XC (Portsmouth) at 0630, 1200, 1730 and 2130 G.M.T., daily and would welcome reports. He is planning to work F, PA and ON stations if skeds can be arranged.

## Another Release

As the result of further discussions which have taken place between the Society and the G.P.O., permission has now been granted for United Kingdom amateurs to use the band 2300-2450 Mc/s. Frequency Modulation, but not Pulse, may be employed. Input power 25 watts.

\* \* \*

The Society has continued to press for the release of the remainder of the 7 and 14 Mc/s bands by 1st November next, but at the time of going to press no decision had been reached.

## Establishment of Amateur Wireless Stations on Board Ship

The G.P.O. has advised the Society that after giving careful consideration to the suggestion that permission might be given for amateur stations to be used outside the territorial waters of countries other than Great Britain, on frequencies within the 7 and 14 Mc/s. bands, with power of 150 watts, they cannot agree.

## Amateur Call Signs

Following discussions which have taken place between the Society and the G.P.O. the following

revised arrangements have been made for amateur call signs in the United Kingdom.

- All amateurs in parts of the United Kingdom other than England will be allotted the following letters in their call signs following the standard letter G :-

Scotland	..	..	..	M
Wales	..	..	..	W
Northern Ireland	..	..	..	I
Channel Islands	..	..	..	C

- These letters will not as hitherto be optional, but must be used by these amateurs at all times to avoid confusion.
- Amateurs in Monmouth will, in the first instance, be given the option of adopting the letter W, but having once made their choice the call sign will be allotted to them in their licence accordingly and it must always be used or always omitted without variation.
- New applicants for licences from these places will be dealt with as above as they apply; amateurs already licensed and affected by the changes will be notified by the G.P.O. at the next convenient opportunity that occurs when other notifications affecting frequencies have to be sent to them.

# AROUND THE PROVINCES

*Brief accounts of recent Provincial District Meetings*

**W**ITH an attendance of no less than 95, all records to date for a District 16 function were broken on Sunday, September 1 when the South-Eastern P.D.M. was held in Tunbridge Wells. We were pleased to welcome Mr. Arthur Milne, G2MI, and several other members of Council, and it was gratifying to see quite a number of ladies present. The accommodation of so large a party presented some difficulties in the rather restricted space available in the restaurant, but everyone appeared to take this in true "ham" spirit, and no serious discomfort was caused thereby.

An excellent lunch having been partaken, and the usual group photograph arranged, the business meeting commenced. The D.R. welcomed those present, and after introductions by call-sign, an important part of the business was disposed of, viz. the raffling of a number of useful radio articles kindly supplied by *Messrs. Webbs Radio* who, in addition, staged an interesting display of "Eddy-stone" and other components.

Mr. Milne then proceeded to talk about Society matters, and stressed particularly the alarming number of cases which had come to light recently of off-frequency working on the 7 and 14 Mc/s bands. This is a serious matter, coming as it does at a time when the Society has assured the licencing authorities that British amateurs can be trusted to keep to their allotted frequencies without the need of "guard bands," and the opinion was expressed by many of those present that drastic action should be taken against the offenders, and that their irresponsibility should not be allowed to prejudice the amenities enjoyed by the large number of law-abiding operators at present using these bands.

A lively argument took place regarding the disposal of surplus Service radio equipment, and many suggestions as to how this might be done to the best advantage were put forward. Mr. Scarr, G2WS, made a definite appeal for more home construction of station equipment as opposed to the wholesale usage of commercial and ex-Service apparatus: a view which, we are pleased to say, was supported by many of those present. Unfortunately, further discussion on these interesting subjects had to be cut short, as tea time had already been reached.

The D.R. wishes to extend his thanks to all who attended for their support, and particularly to Messrs. Lawrence, G2LW, and Leonard, G5KV, for transporting the Webbs exhibition and handling the financial side of the proceedings respectively.

G2UJ.

**B**Y a happy coincidence, summer arrived in North Wales just in time for the Prestatyn meeting on September 8, and although comfortable accommodation was available indoors at Nant Hall Hotel, a unanimous vote in favour of the sunshine resulted in the meeting being held on the spacious lawn.

Besides visitors from neighbouring districts, some 30 members were present, which, in view of the scattered population of North Wales, indicates a lively enthusiasm in that area. Headquarters were represented by the Vice-President, Mr. S. K. Lewer, G6LJ, and two members of Council, Mr. P. C. Bradley, G8KZ, and Mr. C. H. L. Edwards, G8TL. Mr. Lewer addressed the meeting and surveyed the Society's activities, the licence situation, the difficulties of BULLETIN production arising from the severe paper restrictions, the plans for future publications and other matters of current interest.

When the D.R., Mr. F. J. E. Starkey, GW6KY, opened the meeting for questions, it was immediately evident that the subject which is occupying most members' attention is Admiralty Electronic Scrap. Mr. Edwards, who has maintained personal contact with the Admiralty throughout the negotiations, was able to reply to the points raised in an authoritative manner.

Thanks are due to Mr. Starkey and to his energetic assistant, Mr. C. E. Spillane, BR51060 (T.R. for Prestatyn) for their work in organising the meeting and for the hospitality they afforded to the Headquarters representatives in the face of irksome shortages and restrictions. G5LJ,

**S**WANSEA'S P.D.M. on September 14, was an outstanding success, and in the words of the Deputy D.R., who has attended quite a few, "it was one of the best." In addition to the President—Mr. E. L. Gardiner, G6GR—Mr. Peter Bradley, G8KZ, Mr. F. G. Hoare, G2DP and Mr. K. Morton Evans, G5KJ, there were 52 members present including G6RB, the District 5 Rep., who was a welcomed visitor. Mr. H. G. Gammon of the local G.P.O., and Mr. Tom Wood of *Stratton & Co., Ltd.*, were also present.

Most of the visitors arrived in time for lunch, when the Guest of Honour was the Chief Constable of Swansea—Mr. D. V. Turner—who, although not a ham, expressed a keen interest in the Society's activities. At the business meeting Mr. Gardiner made a very interesting speech which lasted an hour during which he dealt with the new system of representation, licencing conditions, frequency allocations (including off-band working!), the thickness (or should we say thin-ness?) of THE BULL, and the Society's plans for the future. G5KJ, whose return to the district was warmly welcomed, also had a few words to say, and at Question Time the QRM really got going. Several points were satisfactorily dealt with including the question of Neath and Port Talbot members who stated that they were sufficient in number to warrant a T.R. for those towns, especially in view of the distance from Swansea and transport difficulties.

The meeting closed at 5 p.m.,—for tea, and this is where the proprietors and staff of the Grand Hotel excelled themselves. Dinner, which was scheduled for 7 p.m., had to be postponed to 8.15 p.m., wholly on account of capacity problems!

The next item on the agenda was an inspection of the "Eddystone" equipment including the "504," and lots were drawn for ten variable capacitors. G4BI also sent down some excellent cabinets and chassis for display.

By kind permission of the Chief Constable, some of the party then visited the Swansea Police Station to inspect the radio operating panel, later ascending the hill overlooking the town to examine the main rig which is operated by relays and works on 80 Mc/s.

The Transmitter is still intact and working!

Gentlemen of the Press were also present at the meeting and an excellent write-up was obtained in the Cardiff and Swansea papers. All present had a thoroughly good time, and upon departure expressed the hope that Swansea would have another P.D.M. next year. GW2HDX

## P.D.M. Photographs

Due to pressure on our limited space the group photographs taken at Tunbridge Wells, Prestatyn and Swansea have been held over from this issue.



## DX PEARLS—No. 1

## ZC2 — COCOS ISLANDS

By RAYMOND EVANS (G6CU/ZC2) \*

**B**Y now many amateurs throughout the world will be displaying with pride a QSL confirming their contact with the Cocos Islands, one of those rare DX pearls which came and went within three months. Some used high power, others very low power—but that end of the story is well known. The other part began way back in November, 1945, on a typical hot wet night such as only the tropics can produce.

Having little else to do, the writer and two other men of the Unit (later to become the famed Ken and Alec) had been exploring 14 Mc/s. listening to dozens of Yanks "chewing" away on their islands in the Pacific—the bug bit again and the decision was made to get something going however poor it might be.

**D**URING recent months, amateur stations have operated from remote corners of the earth. Here is the story of one such station—a story of perseverance against great odds.

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**R**AY Evans placed Cocos Islands on the map, and in recognition of his achievements he has been awarded the coveted ROTAB Cup for the year 1947.

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**F**URTHER articles in this series will be published from time to time.

### The Hunt Begins

A survey of the available material soon showed that Loran stations possess remarkably few things with which to build a transmitter or a receiver and so the hunt was on. A small ten watt oscillator was unearthed from the remains of an old M.R.U. radar station, power supplies were "borrowed" from a G.C.I. while the aerial, a plain folded dipole, was slung on 600 feet of rope between two of the 105 foot Loran masts, but still the receiver remained a problem. The home built domestic job was definitely unsuitable, so it was that during the hunt for pieces, G6CU jokingly asked the C.S.O. for an A.R.88—needless to say the request was politely declined but a very old Hallicrafter S.27, much cannibalised, was found and presented to him. At first sight it looked passable, but an inquest held that afternoon revealed the lack of all valves including acorns, the output transformer, electrolytic condensers, choke, almost all the 0.1 condensers, a host of resistors and the loud speaker! In view of this and the fact that optional F.M. reception was not required, it was decided to make a complete rebuild job. Components came from a varied sources of supply. The output transformer was the mains transformer from a turbo boost amplifier of a crashed Liberator, the smoothing condensers were from some gear salvaged from a Mosquito in the Lagoon, 717.A.'s were obtained from a disused light-warning-radar, to replace the acorns, the 'speaker—"devious means"! and the remainder of the valves and spares came from the R.E.'s and any junk that was on hand.

### First Contacts

One week later almost to the hour, amid heaps of hay-wire-connected-junk the first CQ went out on C.W. from the island to be answered by W6TMH. Changing from transmit to receive was a major operation requiring at least two people to untwist and retwist the many "switches"! During the next few days, in between contacts, relays were fitted and things generally straightened out. Then on January 26, G8IG gave us our first G contact which brought in many "half-interested" people who were then only too willing to help in the construction of a giant sterba array to boost the signal from our twelve watt transmitter.

As DX conditions during the next few days were not good the time was spent in building a regenerative preselector and adding a further stage to the transmitter, using a pair of 807's in push pull, thereby giving about 40 watts of R.F. power output. After operating for one more day with this gear it was decided that ten was a 'phone band, especially so because many of the Pacific stations were not equipped for C.W. working. The modulator was built in four hours, using a carbon mike from our crashed Liberator. The transformer came from a Tele.F., the output valves from a spare cinema unit whilst an OPMIC was used as modulation transformer (ex-CHL transmitter).

With this set-up it became relatively easy to work the U.K. for about 3½ hours, three days out of five. Other DX was coming in from all corners of the world but this was unworkable with the sterba array. There was nothing for it but to build a rotary. Like everything else this was very hay-wire and made from wood and copper tube scrounged from the now sorry-looking M.R.U. No insulators were used as the only ones available weighed 20oz. each and our 2 x 2 mast would not stand them.

By this time more snags came to light in the form of poor selectivity in the receiver. Under good conditions U.K. stations just could not be separated, especially in the first 150 kc/s. of the band. Attempts to open the IF's gave little improvement, but with the possibility of good contacts into England no one on the unit complained about the suggestion of requisitioning the B.C.L. receiver in order to convert the SX27 to a double superhet. After shifting the IF's to 315 kc/s. to clear a harmonic of the mixer oscillator, the set worked better than was hoped.

### DX Conditions

To most of you the queue outside G6CU/ZC2 is an old story, but DX conditions will probably be of interest. The first thing noticed was that conditions were definitely reliable. Quite different from experience in England. Contacts made round the centre of the earth were more consistent from day to day and only places north of Italy or South of Central Australia seemed to suffer from the normal whims of ten. The only continent that was difficult to work was South America, apparently due to the skip being too long. The only contacts made were the "long way round" and these appeared to be of the three-hop variety.

Shortly after the departure of G6CU, Ken Frost, who took over the station, went into hospital as the result of an accident, and due to the imminent closing of the island, "ZC2CU" was dismantled and returned to its many owners.

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### Representation

In view of the very large membership the Council has agreed to approve the appointment of County Representatives for both East and West Lancashire.

As from January 1, next, the newly elected C.R.s will mutually agree to the boundaries of their respective areas.

### Band Planning

Appreciating the wide interest which is being shown in the subject of Band Planning, the Council wish to inform members that all suggestions submitted to them will be referred to the Codes of Practice Committee, with a view to that Committee submitting recommendations to the Council at an early date.

The Hon. Secretary of the Committee is Mr. G. P. Anderson, G2QY, 16 Latimer Gardens, Pinner, Middlesex.

### Farewell DHDA/2!

We are pleased to announce that station DHDA/2 which, until recently, operated on 14115 kc/s, has changed frequency to 14910 kc/s. This move followed a complaint made by the Society that DHDA/2 was causing wide-spread interference to amateurs using the 14 Mc/s band. DHDA/2 is located in the Berlin area.

### Model Control Group

The organiser of the group (F/Lt. J. Oswald Dykes, Sunnybank, Llanthony, Nr. Abergavenny, Mon.), will be pleased to hear from those members who have not yet seen the first two letter budgets. The fourth budget is now in circulation. Material for the fifth and subsequent budgets is urgently required.

The present membership of the group is 54 and growing steadily.

### Air Ministry Daily Weather Report

For the information of those members who are interested in meteorological information we give below brief details of the Air Ministry Daily Weather Report Service.

The Report is reproduced by Lithography and is issued daily in three sections, viz.: (1) *British Section*. (2) *International Section*. (3) *Upper Air Section*.

A monthly Supplement is issued on the first day of each month.

Subscription rates including postage, are as follows:

	<i>Any one section.</i>	<i>Any two or all three sections.</i>
One Calendar Month ..	5s.	9s.
One Quarter .. .. .	13s.	25s.
One Year .. .. .	50s.	90s.

Subscriptions should be sent to H.M.S.O., Kingsway, London, W.C.2, from which address fuller details can be obtained.

### New Belgian National Society

Mr. L. Richard, ON4UF, advises that a new Society, which will group together all Belgium amateurs, has been formed under the title U.B.A. (Union Belge des Amateurs émetteurs—Unie van de Belgische Amateurzenders).

The new Society replaces the Fédération des Emetteurs Belges (F.E.B.) and the two former amateur societies, Réseau Belge and Vlaamsche Radio Bond.

The address of U.B.A. is P.O. Box 634, Brussels.

### Norwegian Radio Relay League

The following have been elected to the Board of the Norwegian Radio Relay League:—

*President*: Mr. O. G. Larsson, LA1V. *Vice-President*: Mr. O. Johannesen, LA9K. *Secretary*: Mr. C. Amundsen, LA7Y. *Editor of "LA"*: Mr. L. R. Heyerdahl, LA6A. *Sales Department*: Mr. C. Baumann, LA3D. *Treasurer*: Mr. S. Tomter, LA8K.

### Radio Society of East Africa

At an Annual General Meeting of the Society held in Nairobi on June 22nd last, the following were elected to office:—*Patron*: Mr. H. J. Walker, VQ4CRC; *President*: Mr. S. Pegrume, 4CRE; *Vice-Presidents*: Messrs. Robson, 4ERR, Ball, Willoughby and Patterson Jones; *Hon. Secretary*: Mr. J. Scott, 4CRM; *Hon. Treasurer*: Mr. H. K. Ball; *Committee*: Messrs. James, Moy, 4KYB and Robinson.

Through the efforts of Coun. E. Robson, VQERR, the Society was successful in obtaining the use of the Nairobi Town Hall for a meeting on July 27th, when the President delivered a lecture on amateur transmitters.

East African amateurs are still limited to an input power of 5 watts, although an assurance has been given to them by the P & T authorities that they will shortly come into line with the U.K.

### Londex Aerial Change-over Relays

One item of equipment which deserves consideration when planning an amateur transmitting station is an aerial change-over switch. With the higher frequencies we have been allocated, directional aerial arrays will become more popular, and these arrays should be used with the receiver as well as with the transmitter, if the full benefit of them is to be obtained. *Messrs. Londex Limited*, 207 Anerley Road, London, S.E.20, have placed on the market two relays which are eminently suitable for this purpose. In both types the insulation material carrying the contacts is of polystyrene, the contacts themselves are very heavy and of pure silver, and the solenoid can be supplied for any normal voltage A.C. or D.C. to suit customers' requirements.

The smaller type A.E.C.O.4 is capable of handling up to 4 amps., and is especially suitable for small stations. The larger type A.E.C.O.15 handles up to 15 amps., and has been designed for large transmitters, police mobile radio, aircraft, high frequency heating, etc.

### TECHNICAL ARTICLES WANTED

Technical, and especially constructional, articles are urgently wanted: Members willing to contribute are invited to send for a copy of 'Hints to Contributors' and to submit a synopsis of the ground to be covered.

### ~ TO THE EDITOR ~

#### Appreciations.

DEAR SIR,—There does not appear to have been any letter of thanks in THE BULL, or public recognition of the commendable efforts of G2MI in rescuitating the QSL Bureau—an undertaking for which 90 per cent. of Amateurs are glad to avail themselves. I hasten to repair this omission and to acknowledge that we do not always just take things for granted. So I say, "Hats off to 2MI, 2UV and the rest of them, who have so altruistically stepped into the breach to furnish us with this convenience."

Yours faithfully,

(REV.) A. B. TREWIN, G2AT (ex-VQ5NTB).  
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