

R·S·G·B **BULLETIN**

JOURNAL OF THE RADIO SOCIETY OF GREAT BRITAIN

January 1946

The original front cover for this edition was not available.

The original front cover for this edition was not available.

AROUND



THE DISTRICTS

DISTRICT 1 (North Western)

D.R.: H. W. Stacey (G6CX), "Sandless," Eddisbury Road, West Kirby, Cheshire. **Boyake** 337.

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

Burnley.—G31Y who has been demobilised from the R.A.F. was awarded the M.M. in the early part of the war. G3KT, 38J and 2BFB hope to be back soon. G2RB, 3VO, 3WU, 3XK, 8TD, and 5ZN are active. **G5ZN.**

Bury.—G3BN, 5TR, 6AI, 8NL, 8QS, 4891, 8230 and one prospective member were present at the meeting on December 8. The next meeting will be on Saturday, February 2, at 7 p.m., at 120 Tottington Road, Bury. As this is to be a business meeting, local members are urged to attend. **4891.**

Oldham.—Present at the last meeting were: VU2AN, 2HXC, G3PD, 5714, 7460 and 8616. 60 and 28 Mc/s. equipment formed the main topic of discussion. Meetings will be held on Friday, January 18, at 26 Bargap Road, Oldham, and on February 1, at 94 Burlington Avenue, Oldham, both to commence at 7 p.m. **G3PD.**

Rochdale.—Future meetings of the Rochdale Society will be held on the third Sunday of each month, at 331 Manchester Road, Sudden. **BR87083.**

West Cumberland.—G3SY, 3BW, 4NS, 6WR, 8DP, 8RZ, 2AUM, 2DWG, 2HHP, and Mr. Bewick were present at an enjoyable meeting, held at 8RZ on December 15. The next meeting is on January 18, at Whitehaven. All members will be advised of the exact venue beforehand. **G3BW.**

DISTRICT 2 (North Eastern)

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

Barnsley.—The first meeting of the local club was held at 51V's home and not at 51U's as reported. The general meeting will be held at 22 Market Street, at 7 p.m. on January 18. At a recent meeting there was much adverse criticism of the new QSL system. A successful meeting was held at 8TZ's on December 14. Those present were 2BH, 4JJ, 5IV, 6LZ, 8IJ, and 8TZ. 8XM is now demobbed.

Bradford.—G6KU is rebuilding and does not expect to be active for at least three months. 6807 hopes to have his oscilloscope working shortly. Sq./Ldr. A. Smith, BAFO, who hopes to be demobbed by February, says his BULL is eagerly read by a wide circle. 10588 (R.E.M.E., M.E.F.) spends most of his time reading the Handbook which he purchased in Cairo. He recently met GW2GV and 2JH. 5HB (R.E.M.E., B.A.O.R.) is near Hamburg and busy planning his new rig. He sends regards to 2QM, 6BX and 8UO (heartily reciprocated, OM). 8JD, Chief R.O., is now at Durban where he attended the A.G.M. of the SARRL and met some Z85's and Z86's. 3HA will reside in Thornton when he is demobbed.

Brighouse.—A new member, Mr. J. Spencer, late of R.E.M.E., is interested in small transceivers. He has information on Philips and Telefunken valves (Continental) also a few radio and electrical novelties picked up in Germany. Anyone interested in these items can contact him at 47 Raistrick Common.

Doncaster.—BR8193 reports that only three local members have been demobbed. 4DP is back on police radio.

Huddersfield.—Will all local members write to 5VD, 12 Langley Terrace, Crosland Road, Oakes, giving their present address, so that he may invite them to the next meeting.

Keighley.—Sympathy is extended to 2VO on the death of his father. Reports from local members would be welcomed.

Leeds.—4927 was recently demobbed. He sends greetings to all who served at Nos. 1, 2, and 6 Radio Schools. 4349 is still in Bermuda and sends regards to 5VD, 6KU, 8GI, and GW4CK. A T.R. is still required, offers to D.R. please.

Sheffield.—At the December meeting, Mr. I. S. Christie gave a talk on Signal Generators, which was followed by an exhibition of some interesting gear given by Mr. Stubbs. Only three members report having received their gear from the G.P.O., the lucky ones being 2LT, 3FN and 3VY.

Skipton.—Congrats to 8676 on his promotion to Squadron Leader. He is building a three valve receiver.

General.—BR88994, in VU with S.E.A.A.F., is interested in high quality audio amplifiers and recording and microphone technique. 4MC is believed to be back in England.

The Scribe wishes to thank all those who sent him seasons greetings and heartily reciprocates same. **G8UO.**

DISTRICT 3 (West Midlands)

D.R.: F. M. Desmond (G5FM), 90 Worcester St., Birmingham. **Scribe:** E. J. Wilson (2FDR), 48 Westbourne Road, Olton, Birmingham.

Birmingham.—At a meeting of M.A.R.S. held on December 18,

Chief Inspector G. Brown, G5BJ (Birmingham City Police) lectured on the Birmingham City Police Radio Communication System; 58 members and visitors were present. BR84497 hopes to be demobbed in January. The D.R. and Scribe extends to all members of District 3 their best wishes for 1946. **2FDR.**

DISTRICT 4 (East Midlands)

Deputy D.R.: Albert E. Clipstone (G8DZ), 77 Julian Road, West Bridgford, Nottingham.

Derby.—Mr. Murfitt, BR84071 has been appointed acting T.R. A questionnaire, dealing with future meetings is being sent to all known local members; those who fail to receive one should get in touch with BR84071, at 17 Ravenscroft Drive, Chad-desden. **BR84071.**

Leicester.—At the December meeting, members were pleased to welcome their D.R., S/Ldr. L. Ridgeway, G2RI, who has just returned from India and is now demobbed. Also demobbed is Mr. D. Barlow, who is planning to get on the air shortly.

Future meetings will be held on the third Sunday in each month at the offices of Mr. R. Frisby, 27 Belvoir Street, near the City Centre. A cup of tea can be obtained, but no food. **G2IX.**

Nottingham.—It was agreed at the last meeting to endeavour to rent a small office or workshop which can be used as a meeting place and workshop. To defray the cost of this project it was suggested that a local Society be formed. This will be further considered at the next meeting. Other matters considered included provincial representation on Council, and the formation of a signal survey section to report on conditions. This work was entrusted to Messrs. Sissons, Lane and Craig. Plans are in hand for further visits to works.

The D.D.R. has received news from WSTBD that he is now demobbed and busy fitting up a workshop and collecting gear for 2S and 56 Mc/s. He sends his best wishes to all old friends and says he will be returning on a visit in 5 years time. **G8DZ.**

DISTRICT 5 (Western)

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

Bristol.—Twenty-nine members attended the November meeting, the first at our new venue. We were very pleased to welcome W7IV from Idaho, also three members of the Bristol University Radio Club. 6VF described a C.R.O. which he brought along, after which 5UH gave a preliminary talk on Radar. At the conclusion of the meeting a vote of thanks was extended to 2BAR for his work as T.R. At the December meeting which produced an attendance of 25, we were pleased to welcome Mr. Sutton from the G.P.O. who gave a short talk. 2BAR was awarded the Bristol District Cup for his excellent work as acting T.R., which work he has agreed to continue. A letter was read from 4SL regretting his inability to attend meetings owing to a spinal injury, but offering to help members who wish to learn Morse. 5UH continued his talk on Radar.

Cheltenham.—Meetings are now being held again, 36 attending the first on December 7. These are now held weekly. Among the activities are Morse instruction and radio talks. **G6RB.**

DISTRICT 6 (South Western)

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

A very Happy and Prosperous New Year, with plenty of contacts, to all members of No. 6 District, and particularly to the considerable number of new members.

Penzance.—The attention of those present at the last meeting (attended by G3CC, 3IV, 3KO, 6BC, 6LV, 6ZT, BR88748, 9063, 10038 and R.A.F. personnel) was held solid, first by a lecture given by G6LV, on crystals and manufacturers' methods of production here and in America, and later by a contrasting demonstration of amateur methods. A lecture was then given by G3KO on electrical recording, including a demonstration of practical methods, during which all the members present recorded their names, home towns, and call signs or BR8 numbers. The meeting ended with the recording of a "Rag Chewing" session. We were particularly glad to see G6BC at the meeting. He was the only 'local' all the others being Servicemen, stationed hereabouts. **G6ZT.**

[What about it, you 'locals' in the Penzance area? We do hope you will make an effort to back up these excellent meetings, especially as someone will be needed to take over 6ZT's duties when he leaves.—D.R.]

Taunton.—Members met at the Y.M.C.A. on December 9. After the usual formalities it was decided to arrange Morse lessons at future meetings for the benefit of new and old (!) members. Welcome was given to a new member, BR81023. Most of the time was taken up with a discussion on 56 Mc/s.

(Or should it be 58.5 Mc/s) Those present were G5AK, 5LM, 6LY, 2DRW, BRS10253 and Mr. Bass. G5AK.
Azminster.—G. Newbery, BRS10199, Melody House, King Edward Road, Azminster, would like to contact other members living in this area. G5SY.

DISTRICT 7 (Southern)

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

Bournemouth.—We were pleased to welcome G3NX of Manchester at our November meeting. The next meeting will be on January 31, at 7 p.m., at 45 Parkwood Road, Boscombe. 2HNO feels obliged to give up the job of acting T.R. owing to other commitments, and G2NS (26 Southale Avenue, Tuckton) has agreed to act as Scribe until the election of a T.R. can take place. The locals were promised the return of their impounded gear by Christmas and are busily preparing for "five and ten."

G2NS.

Coulston.—The T.R. recently had the pleasure of meeting VS2AK who now resides in this area. He has returned safely to this country after three years in a Jap P.O.W. camp. 4458. has completed a new Receiver for 28 and 56 Mc/s. BRS3003.

Reading.—The December meetings were well attended: we were pleased to welcome CM2CT, G6FZ and 2DBT. An interesting evening was spent visiting the Reading Power Station. See "Forthcoming Events" for details of meetings. G5XB will talk about Telegraph Printers on January 26. BRS4573.

Southampton.—The 16 who attended the December meeting afterwards had tea at the T.R.'s home and did justice to an excellent cake provided by G8OV, which was decorated with local calls. Members will be welcome on Sundays at G8QW, 17 Colmore Gardens, Totton.

Petersfield.—Tel. Williams, 8613, sees several BULS delivered at the Signal School and would like to get in touch with the owners, with a view to arranging local meetings.

Weybridge and Guildford.—At the next meeting which will be at Weybridge on January 27, it is proposed to hold a sale of surplus gear. See "Forthcoming Events" for details. Do not omit to book for tea, by dropping a card to G6NK, 6 Waverley Road, Weybridge.

Portsmouth.—The December meeting of the S.H.R.T.S. was given over to arrangements for the forthcoming Reunion Dinner, when it is hoped about 50 members and guests will be present. Impounded apparatus has been returned and members are anxiously awaiting their tickets. See "Forthcoming Events" for date of next meeting. G5WP.

DISTRICT 8 (Home Counties)

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

Cambridge.—Members will learn with regret of the serious illness of Mr. Frank Nunn, G2DT. As the local G.P.O. Radio Engineer, he was busy on a task to which he had looked forward with much pleasure—that of returning the gear—when he had to enter hospital for a major operation. He is progressing fairly well, and we all trust that his recovery may be speedy and complete.

Those of us who have experienced some delay in taking delivery can only envy 2XV, who has reconstructed on the most workmanlike lines. If the new TX works as well as it looks, we can rely on this station maintaining its pre-war reputation. 2PU, 5DR, 5JO, and 88Y are known to be active, as are 2CDX, 2CAM, 6529, 3240, 7820, and 6284. G6DX.

St. Ives.—We were pleased to have news of Ft./Lt. Pat Crisp, D.F.M., G6DX, who has just returned from Norway, and is now stationed in the King's Lynn area. He was recalled at the outbreak of war, and is now considering the possibility of staying in the R.A.F.

Peterborough.—G2NJ appears to have been one of the first amateurs in the country, to receive his gear back from the Post Office. It arrived on December 1. Both 2NJ and 5NP are awaiting delivery of new masts. It would be interesting to know when 5NP erected his first wireless aerial, for he was almost the first enthusiast to have a receiving set in the city. Business calls are preventing 2UQ from doing much to his TX, which he reports, is as good as the day on which the Post Office took it into their custody. He hopes to have a shot at 28 Mc/s., however, and contemplates building a receiver for this band. He reports a visit from 3BK and states that both 3BK and 3DY are thinking of "10" and what it holds in store.

Luton.—G3GK reports that Sgt. Buckley is now out of the R.A.F., and that they are co-operating in rebuilding, and in getting things moving in the town. 2MD of Dunstable has contacted 5036, and 8824 of that town, so that he does not feel quite as isolated as previously.

The D.R. would be very grateful for news of the many members in the District who have not yet contacted him. New members are assured of a cordial welcome at District Meetings. G5BQ.

DISTRICT 9 (East Anglia)

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

Norwich.—The acting T.R., Mr. Briggs, of 58 St. Stephens Road, is trying to arrange a meeting at his house in January and will be glad if members who do not receive notice of date, will get in touch at once. Mr. Briggs who reports contacts with 3AH and 2BZN has received an interesting letter from Major

J. V. Warner, G2WR, who hopes to be operating with a VU call on 14 Mc/s. shortly.

Ipswich.—The acting T.R., Mr. Pepler, of 162 Sidegate Lane, will be glad if new members and any who have returned home will get in touch with him. 8MU is moving to Chantry Close, London Road; 2AN has been building a Lattice Mast; 2JD is busy with test equipment.

Yarmouth.—2BXJ is teaching the "junior op." the code and has been in touch with 3RW, 2FAO, and 2HFK; 3RW informs the D.R. that he is now back as a civilian and nearly recovered from troubles contracted in the M.E. G2XS.

DISTRICT 10 (South Wales & Monmouthshire)

Acting D.R.: H. H. Phillips (GW4KQ), 80 Cottrell Road, Roath Park, Cardiff. (Cardiff 4512 during business hours.)

Cardiff.—Advance arrangements have been made to hold regular meetings throughout 1946, on the second Monday of each month, commencing at 7 p.m., at the Park Hotel, Park Place, Cardiff. The next will take place on February 11, 1946. A programme of lectures is being drawn up and it is hoped to arrange for visits to places of interest to be renewed in the coming year details of which may be obtained from the Acting T.R., whose address appeared in the December Notes.

Following the return of impounded apparatus, many locals spent an enjoyable Christmas on renovations and an early "spring clean" is foreshadowed in many directions.

A hearty welcome is extended to those members whose names have appeared in recent supplements and to whom a cordial invitation to local meetings is extended.

Swansea.—An attendance of 25 created a record at the December meeting, at which the announcement of the re-issue of licences received an enthusiastic reception. Future meetings are to be held fortnightly on Wednesdays, commencing at 7 p.m., in Room 7, Y.M.C.A., St. Helens Road, Swansea, the next taking place on January 23, and February 6, 1946.

GW4NZ has recently been demobbed, whilst 5LV has been on leave from Scotland. Greetings are to hand from 2UL, also from the land of the Haggis. Congrats to 5TW upon the recent arrival of another junior operator. GW4CC.

Cardiff.—Appropos the notes in the last issue, GW8MQ reports that he is now located at 53 Little Water Street, Carmarthen (telephone 242 Carmarthen), and is anxious to commence meetings at an early date. Will all members in this area who are desirous of activating local interest please communicate with Mr. J. Millie at above address. This is a chance to put the Western end of the District on the map, so don't delay, do it now.

Newport.—News is to hand of 2JL, pre-war T.R., who is now at Penzance. He asks that his best regards be conveyed to all friends. He does not expect to be returning to Newport.

LONDON MEETING

A MEETING of the Society will be held on
FRIDAY, JANUARY 18th, 1946

at the

INSTITUTION OF ELECTRICAL ENGINEERS
 Savoy Place, Victoria Embankment
 London, W.C.2

LECTURE

"THE BIRMINGHAM POLICE RADIO SYSTEM"

by

Chief Inspector George Brown,
 G5BJ

TEA 5-30 p.m.

COMMENCE 6-30 p.m.

Last month's appeal for support of proposed local meetings has gone unanswered and Newport, once almost the home of amateur radio in South Wales, seems to have become a "depressed" area. Renewing the appeal, the writer would be pleased to hear from anyone interested in a revival of activities.

General.—G5FN, who has returned to the Medway towns, sends greetings to all with whom he became acquainted during his war-time domicile in the District, and a similar request also comes from 2BBO, now stationed with R.A.F. in Austria.

New Year Greetings to all members of District 10 from the Acting D.R., and T.Rs. GW4KQ.

DISTRICT 11 (North Wales)

Deputy D.R.: C. Spillains (BRS1080), 14 Queensway, Prestatyn, North Wales.

Prestatyn.—During Christmas many old friends were contacted in the town, including G5YP on leave from Italy, GW4CK and 2HIY on leave from the R.A.F. and ex-1156 and 4762. 4CK, 3CF and 2HIY are getting ready for the air. GW6KY is demobbed and is returning to his pre-war job in the town. G2GZ called in to say goodbye to the locals. He is leaving for a short spell in Anglesey, prior to demob., and hopes to look up members in that area. 2HIY is now at 15 R.S. Cosford on 11 weeks Land Course.

Rhyl.—GW5FU is trying out some of his gear, and hopes soon to be active. 5520 is back ashore after a long trip and is hoping to visit us shortly. He is taking a shore job after his leave. 4073 is on an Electrical Officer's Course, at Pwllheli.

We extend a warm welcome to our ten new members.

Please let us have word as soon as you resume activity.
BRS1060.

DISTRICT 12 (London North and Herts)

D.R.: Seymour Buckingham (G5QF), 41 Brunswick Park Road, New Southgate, N.11. (*Enterprise* 3112). *Scribe:* C. R. Stevens (2DHF), 22 Bramford Court, Southgate, N.14. *Palmer's Green* 0548.

North London.—The highlight of the meeting held on December 2, was provided by Ft./Lt. Thomson, whose description of some of his R.A.F. experiences, were both interesting and amusing. We are indebted to Mr. and Mrs. F. J. Taylor, BRS4249, for their hospitality.

The next meeting will be held on Sunday, January 20, at the home of Mr. E. H. Laister, BRS3386, (see Forthcoming Events). Congrats to Mr. A. Matthews, G6QM, on his engagement to Miss F. Kenyon, BRS11168. 2DHF.

St. Albans.—The T.R. has been trying, unsuccessfully so far, to arrange a meeting on a Thursday evening to accommodate those who are unable to attend on Sundays. Contact has been made with G2MD of Dunstable and letters are acknowledged from 8LX and 4659. Visits have been received from 8FJ, 9265 and new member 10630. The T.R. thanks all those who sent Christmas Greetings.
BRS3412.

DISTRICT 13 (London South)

Acting D.R.: S. E. Langley (G3ST), 52 Dumbarton Road, S.W.2. *Scribe:* W. D. Gilmour (G2VB), 35 Grangecliffe Gardens, South Norwood, S.E.25.

Forty-two members attended the December meeting held at the home of BRS4324 Clapham. We thank our host for the accommodation and refreshments provided. Four members brought along apparatus in connection with the "Ann Cup" competition which was won by BRS6894, who exhibited a cathode ray tube, complete with time base and power pack. BRS8996's exhibit, (a 3-valve mains operated regenerative receiver with plug-in coils and band spread) was placed second. G2VB's daughter, Ann, presented the cup, which will be held by BRS6894 for the first six months, and by BRS8996 for the second six months of 1946. Will members please note that the Cup is open to BRS members only and is presented for the best workmanship displayed in the construction of amateur equipment.

Some of the late W/Com. John Hunter's gear was disposed of among those present at the meeting. Letters of thanks from Mrs. Hunter have been received by G3ST and G2VB.

South Eastern Area.—The monthly meeting held at the home of G4DC, 63 Erlanger Road, New Cross, was attended by 12 members.

District 13 was well represented at the social evening held on December 10, in Gillingham, under the auspices of M.A.T.S. The Acting D.R. and Scribe thank all members for their support during 1945. G3ST.

DISTRICT 14 (Eastern)

Scribe: L. J. Fuller (G6LB), "Meadow Brook," Vicarage Lane, Great Baddow, Chelmsford, Essex. Telephone: Gt. Baddow 224.

Chelmsford.—The December meeting was poorly attended, but the six members present found much to discuss regarding the forthcoming renewal of licences. Our thanks are due to one of

our BRS members, Mr. F. E. Smith, for kindly providing us with a permanent H.Q., in a room above his radio shop, containing a very fine workbench and test instruments. All members leaving with bulging pockets will be regarded with suspicion!!

Brentwood.—G3LA and 3MV are now "bowler hatted" and are reorganising local activity (see "Forthcoming Events.")

Chingford.—Local meetings are being continued and future lectures will cover Wave Propagation, Oscillography, and Square Pulse Recording.

Southend.—The first post-war meeting was a great success, and showed that the "Seasideers" will very soon regain their place as one of the District's leading towns. Thirty members and ladies were present, and post war activity was the main item of interest. In this respect it was generally regretted that out of the two hands to be given back to us, half the spectrum in each has been lost. The possibility of increasing membership, making the meetings too large for private dwellings, was also discussed, but it was agreed to continue the present arrangements pro tem. A local crystal register is also being compiled, as in the "Good Old Days," and intending purchasers are advised to contact the Acting T.R. to see what "spots" are vacant.

Members having surplus gear are requested to bring a list (not the gear, please note) of sound and good gear to the next meeting.

Until such time as official arrangements are made, G5UK is acting as T.R. 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 (2FZG), 36 Bulstrode Road, Hounslow, Middlesex.

Some controversy has arisen concerning the proposed dates for District Meetings. It is felt by some that they could, with advantage, be held on similar days as those chosen for the locality for Town Meetings. This would permit members to attend those convenient to them, whereas as arranged, they might be precluded altogether. What do the T.R.s. and members think?

Mr. Holt, 2FZD, 36 Bulstrode Road, Hounslow, Middlesex, having now taken over as Scribe, all future news and fixtures should be sent to him. Without the help of all concerned, he will not be able to keep members posted with dates of meetings and copy for THE BULLETIN.

G2KI, 3XI, 8FA, 8IH, 2BMY, 2DZN, 3311 and 4699, have returned to "Civvy Street." 3311 is now working again with the D.R. at E.M.I. We congratulate him on being awarded the O.B.E. and the American Bronze Star for his work with the R.A.F. We are sorry to lose 3TT who has taken a new post in Birmingham (Congrats O.M.D.R.). 8033 leaves us for North London. 4999 has joined the district and we welcome him. SPD is to be married to Miss Stratton early in March.

West London.—In spite of being in bed with bronchitis, the A.T.R. insisted that the meeting be held. Such is the spirit of Amateur Radio. 6275 is now about again. The meeting was well attended and 9094 kindly took the chair. Many will remember that cold meeting, during the early part of the war, held in a bomb-damaged house in Harley Street. Well, we are holding another meeting there at the hospitality of 3318, who has since graduated as a Doctor, and he says the house will be warmer this time!

Ashford.—Eleven members attended the last meeting when future plans were discussed.

Hounslow.—A welcome to all members in Hounslow and Twickenham awaits them at local meetings.

Edgware.—Several well-attended meetings have been held at the E.S.W.S. A Junk Sale and a Quiz Night have been enjoyed. The society now has 55 members.

Hayes.—G8FA, who has recently returned home, is no longer residing in the locality and has resigned the office of T.R. We thank him for his efforts in pre-war years.

The D.R. would like to take this opportunity of thanking all those who have assisted him during the years of war and particularly during the past year when we made this district one of the most go-ahead in the country. With the continued co-operation of both officers and members, 1946 should be an outstanding year in our history. As these notes are the last from the pen of the D.R., who has written them for the past sixteen years, he would like to thank all those who have made it possible for them to be compiled. G6WN.

DISTRICT 16 (South Eastern)

D.D.R.: W. A. Scarr, M.A. (G2WS), 8 Beckenham Grove, Shortlands, Bromley, Kent. *Scribe:* E. H. Trowell (2HKU), 27, Unity Street, Sheerness, Isle of Sheppey, Kent.

Beckenham and Bromley.—Eleven members attended the meeting held at the home of 2WS on December 1. Those present were 2IG, MI, NK, WS, 3BR, GK, 8DN, IG, 2AVI, 5935 and 10465. Mr. L. Gregory, 2AVI, was elected Acting T.R., and after a discussion on licences and local affairs 8DN was put in charge of the junk sale. So much gear was available that the sale only came to an end when, after two hours hard work, 8DN was exhausted, and everyone had as much as they could carry away! Members wishing to attend future meetings should contact the A.T.R., at 18 Upper Park Road, Bromley.

NOW WE ARE BACK—

**IDENTIFY YOURSELF
AS AN AMATEUR**



**LAPEL BADGES
WITH CALL SIGN
3/6 Post Free**

**CAR PLAQUES
WITH CALL SIGN
5/- Post Free**

**DELIVERY
ABOUT
FOUR WEEKS**

RADIO SOCIETY OF GREAT BRITAIN

**NEW RUSKIN HOUSE, LITTLE RUSSELL STREET,
LONDON, W.C.1**

Sidcup.—2DHV recently passed the exam. of the I.P.R.E. He has found a shack in S. Italy where local hams operate with varied calls.

Tunbridge Wells.—2UJ has built an E.C.O. frequency meter covering 1.7 to 4 Mc/s., (6SJ7), an absorption wavemeter and is building an eleven valve receiver. He has received all his gear from the G.P.O. in perfect condition.

Gillingham.—The M.A.T.S. held a social on December 10, when 80 members and visitors were present, including 2VB and wife, 2LW and son from Croydon, 20 members of the Maidstone club and 2VA and wife, 3GW and 2HKU from Sheerness. It is hoped that the many new BRS members in the area will try to attend and they are assured of a hearty welcome. 6QC the Vice-President, is leaving for District 4 where he hopes to join in the activities and 5FN is welcomed home again.

Sheppey.—2VA and 2HKU helped 3GW to raise his 48ft. mast during a recent rainstorm! 5FN recently visited all three.

Ashford.—3SL in Nairobi is planning a V.F.O., and sends his 73 to the locals.

Sussex.—No news again!

Mr. W. H. Allen, 2UJ, 32 Earls Road, Tunbridge Wells, will be resuming duties as D.R. shortly, and joins with the D.D.R. and Scribe in wishing District members a Happy and Prosperous New Year. 2HKU.

DISTRICT 17 (Mid East)

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

66GH, 6LH, and 8BQ, wish to put on record their appreciation of the care taken of their apparatus by the G.P.O. during the war years. Early signals are expected from Boston. G4GX heard an R9 pirate on 7 Mc. recently, signing G1AB and giving his QRA as near Louth. Associate member Woodedd is being posted to the District and on his demob will be settling in Skegness. G2FT was on duty over Xmas, but was home for the New Year; he does not think he will have either time or room to get on the air from his present location. G5LL (R.A.F.) is expecting to be back in civvie street shortly; his portable experiences have whetted his appetite for the next NFD! 2AUR is back and his QRA will in future be Spilsby where he hopes to get on the air. G3OS still holds informal meetings at his home. G4GX has been visited by 4GZ, 4IF, 2HXX, 3FP, and gives news of G8FN and G2HU.

G3OS has made arrangements for a meeting on January 27; a large attendance is hoped for. To ensure sufficient food, a line to him or the D.R. would be appreciated. G5BD.

DISTRICT 19 (Northern)

D.R.: R. J. Bradley (G2FO), 36 Raby Road, Stockton-on-Tees.

Catterick Camp.—The Catterick Society has secured a new Club-Room in a central location. All R.S.G.B. members arriving in the Camp area, should inquire for details of meetings, etc. at the Baghdad Lines Y.M.C.A., Keurnel Bus Terminus, three minutes walk from the Club Room. Since the last appearance of these notes, the following lectures have been given: "The Sonosphere and its effect on Radio Propagation" BRS5274. "The Amateur Bands, Past, Present and Future" SRF. "Sound Film Recording and Reproduction" BRSS768. "An Introduction to Plastics" BRS10548. "Super-regeneration and Superhet Techniques" 2TA, and BRS6583. "Mixing in Superhet Receivers, Purposes and Techniques" BRS9844. 5WG also gave an informal chat on his pre-war amateur experiences.

South Shields.—G5SG hopes to have his mast up soon, and sends 73 to 6CJ and XYL. 6PB has been demobbed. The T.R. would like to hear from 8JO, 8KK and other South Shields members. His address is 60 Lemon Street, Tyne Dock.

Newcastle-on-Tyne.—G3SD has completed a 56 Mc/s. superhet, and is now planning an audio amplifier. He expects to be on 28 and 56 Mc/s. shortly.

Tees-Side.—2CKN has built a new receiver. 2HMK is experimenting with Tritet oscillators in anticipation of 28 Mc/s. BRS-6904 is at present in the district and expects to be demobbed shortly. G2FO.

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. Scribe: J. D. Gillies (2FZT), 3 Berridale Avenue, Glasgow, S.4. Merrylee 4060.

Good wishes for 1946 are extended to all members and to those who are still in the Forces—a speedy return home.

The November meeting of the Glasgow Amateur Radio Club was attended by 29 members and 4 visitors who were entertained by Mr. Gilmour, BRS9591, who spoke on DC/AC converters. His lecture was followed by a film entitled "Mica," lent by Messrs. Micanite and Insulator Company Limited, of Walthamstow. After tea, P./O. Tel. Cook, BRS3754, spoke on "Service Life with regard to Radio." Thanks are due to those who delivered the talks, also to 2DPW for the film, Mr. James for loaning the screen, and Mr. T. D. MacKenzie for the film projector. Present were: 2KP, 2WV, 3AR, 3NK, 3YS, 4JQ, 4NK, 6CM, 6ZV, 8RJ, 8RM, 2DAB, 2DPW and 2FZT. In the area recently, were 6MS, 8MJ, 3YV, 5CF, 6WL, and 2CHN. The Scribe has received letters from 2HHX in Germany, also BRS4847 now in Corsham,

Wilts. Sig. McNab, 2CQI, writes from Malta, his group is 25—we look for his early support. If you are now demobbed, please advise the Scribe. 2FZT.

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

A.R.: Jas. Gouck (GM3NH), 4 School Drive, Downfield, Dundee. Fourteen members availed themselves of the visit to the Dundee Automatic Telephone Exchange. Welcome visitors were GM2NQ and Mr. R. L. Webster, representing the Forfar Group. Visitors to the area have been GM3LG of "H" (who is now at Leuchars after a long spell in the Middle East.) GM4AN and Mr. Brown from Kirkcaldy. GM3NH.

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

A.R.: J. Wilson (GM6XI), 52 Macdonell Road, Edinburgh, 9. Edinburgh 42153.

At the first meeting, with 15 members present, GM6XI was elected A.R. A committee of five members was appointed to organise future activities. 6XI has been fortunate in obtaining an invitation for members to attend certain meetings of the local branch of the Institute of Radio Engineers. The first of these was a lecture given by Professor Say, on "Ultra Short-Wave Developments." Twelve members accepted the invitation and all were impressed by the high standard of the lecture given. Also attending were 5FT and 6JD from the "Borders" and old friendships were cemented. The next Area meeting will take place in the Chamber of Commerce Rooms, 25 Charlotte Square Edinburgh, on Thursday, January 17, at 7.30 p.m. First "Brains Trust" session. 3BZ has returned from the forces and sends 73 to all old friends. Members congratulate 6UU on the useful job he did recently—see last month's BULL—and are glad to learn of the safe return of 3 Big Apple and 2ALJ, although they are no longer stationed in this part of the world. 6XI thanks all who have written to him and hopes to catch up on arrears of correspondence in the near future. GM6XI.

"H" Area (Fife and Kinross).

A.R.: A. W. Lawson (GM2NQ), "Makora," Kinghorn, Fife. The meeting at Kirkcaldy on December 19, was well attended. Matters of importance to all members in the area must come under consideration and the Annual General Meeting will be held at 4A, Bank Street (near Junction Road), Kirkcaldy, on Sunday, January 27, 1946, at 3 p.m. Every available member is urged to attend. GM2NQ.

Calling B.A.O.R.

A.Q.M.S. H. Biltcliffe, G5HB, 46 (H) Inf. Bde., W./S. R.E.M.E., B.A.O.R., is anxious to meet other members serving with the B.A.O.R. He is stationed 15 kilometres from Hamburg. G5HB has some comprehensive technical data regarding Continental valves which he will be pleased to supply to any member on request.

You Need Them NOW—

The Amateur Radio Handbook

and

Radio Handbook Supplement

CLOTH BINDINGS

The Pair 10/6 (Post Free)

Radio Society of Great Britain

NEW RUSKIN HOUSE

LITTLE RUSSELL ST., LONDON, W.C.1

R.S.G.B. BULLETIN

OFFICIAL JOURNAL OF THE INCORPORATED RADIO SOCIETY OF GREAT BRITAIN

Published on or about the 15th of each month. Issued free to members.

General Editor : JOHN CLARRICOATS.

Editorial Office:

NEW RUSKIN HOUSE,

LITTLE RUSSELL STREET, LONDON, W.C.1

Telephone: Holborn 7373.



Advertisement Manager : HORACE FREEMAN

Advertising Office:

PARRS ADVERTISING LTD.,

121 KINGSWAY, LONDON, W.C.2

Telephone: Holborn 2494

Honorary Editor : ARTHUR O. MILNE.

VOL. XXI

JANUARY, 1946

No. 7

THE NEW LICENCE

WE concluded the postscript to our December editorial with the remark: "We shall have more to say about the new licence next month." The month has passed—sufficient time we think for any member with practical knowledge of pre-war Amateur Radio to have registered disapproval if any one of the new conditions had appeared to him to be unreasonable. The fact is that no criticism of any kind has been received. This surely is a good omen. Even more important perhaps is the implied approval, given by the membership in general, to the policy laid down by the Council during the war that every effort would be made when the time came to obtain improved licence conditions. The full story of how that success was

achieved may never be told, but it is of interest to record that during the past year an average of two and a half hours was devoted at every Council meeting to post-war licence matters during which time every aspect of the particular problem under discussion was fully considered and vigorously debated.

The most important fundamental change recorded in the new licence is the acceptance by the G.P.O. of our claim to be regarded *officially* as amateurs instead of experimenters. For years the Council pressed for this change of status chiefly on the ground that as experimenters we were not legally entitled to operate on frequencies within the exclusive International bands (*viz.* 7 and 14 Mc/s.). Moreover, it had been recognised

RE-ISSUE OF LICENCES

Applications can now be submitted from those who have not previously held either a Radiating or Non-radiating Licence

AS the result of negotiations which have taken place between representatives of the Society and the G.P.O., we are pleased to announce that persons of *British nationality* who have not previously been licensed can now apply for an Amateur Wireless Transmitting Licence.

HOW TO APPLY

Those who wish to apply should address a letter in the following terms to:—

Engineer-in-Chief,
Radio Branch, W5/5,
G.P.O., London, E.C.1.

Dear Sir,

I wish to make application for an Amateur Wireless Transmitting Licence, and shall be glad if you will send me a copy of the Conditions of Issue.

- (a) Name (in full).....
- (b) Address to which correspondence should be sent.....
- (c) Qualifications to be considered for exemption from:—
- (i) Technical examination.....
- (ii) Morse test.....

It is hoped that an announcement will be made in the February issue regarding technical examinations for those who cannot claim exemption by reason of service in H.M. Forces in a Radio Trade of approved standard or other qualification. It is also hoped to publish in the same issue a revised list of Radio Service Trades which will carry exemption from the technical and/or Morse examinations. Members will appreciate that some time may elapse before applications submitted in accordance with this announcement (which incidentally will not be acknowledged at this stage) can be proceeded with, because the G.P.O. propose to deal first with those who have previously been licensed.

by the Society that the G.P.O. would ultimately find it extremely difficult to adhere strictly to the requirements of Section II of the Wireless Telegraphy Act. This Section, it will be remembered, states that:

"Where the applicant for a licence proves to the satisfaction of the Post Master General that the sole object of obtaining a licence is to enable him to conduct experiments in wireless telegraphy, a licence for that purpose shall be granted."

It was fully appreciated in official circles before the war that many applicants for a transmitting licence were primarily interested in radio communication but because licences were granted solely for experimental purposes they were compelled to state lines of experiment. It would be manifestly unfair to suggest that even the most ardent DX enthusiast was not an experimenter. In fact it is well known that such men and women have in past years made outstanding contributions to the science of radio communication, yet the fact remains that a good proportion of pre-war amateurs were more interested in two-way contacts than in solid experimental work.

Because of our new status we are now permitted to depart from the traditional "Test" call and to use the more common "CQ" call. Although a large number of British Isles amateurs will no doubt adopt "CQ" it seems likely that many of the real "old timers" will stick to "Test." The word "Test" has, from time immemorial, been associated with the activities of the amateurs of England, Northern Ireland, Scotland and Wales and its use by them has provided an almost infallible clue to their identity. Tradition dies hard in this progressive year of grace!

Let us now briefly review some of the other changes that have taken place. One of the more important is the removal of restrictions on the length and height (except near aerodromes) of an aerial system. The Council pressed strongly for the pre-war length limitation of 150 feet to be removed as it was felt that its retention would place unnecessary restrictions on those interested in the use of certain types of aerial arrays.

The new licence omits all reference to frequency-tolerances or guard-bands. This is an important and useful concession as it means that when things become normal we shall be able to use the full width of the International bands. It should however be borne in mind that the post-war amateur will be required to select a frequency such that *no appreciable energy* is radiated on any frequency outside the limits of the band, making *due allowance for the inaccuracy of the calibrating device*. The last few words are signifi-

cant, for they mean that from now on, no amateur can afford to depend upon a poorly constructed frequency meter to keep his transmissions within the band in use. It is hoped that stations will be spread throughout the bands, thereby avoiding overcrowding at the ends—a state of affairs which was very noticeable before the war.

Those who plan to use V.F.O.'s and E.C.O.'s must study carefully the second paragraph of Condition 3, for they will now be required to use frequency-measuring apparatus which will enable them to measure the sending frequency to an accuracy of ± 0.1 per cent.

Condition 4 is interesting because it allows a visiting amateur to operate our station, provided it takes place under our direct supervision. Prior to the war the owner alone was officially permitted to operate, except in those rare cases where the employment of a qualified second operator was authorised.

The pre-war condition which restricted sending to four hours during any consecutive period of 24 hours has gone, but in common with services generally we shall still be required to limit individual transmissions to not more than ten consecutive minutes.

Condition 8 contains several interesting changes. For example, under the terms of the old licence messages had to relate solely to the licensee's experiments or to his personal (other than business) affairs. The new licence, recognising our changed status, permits us to exchange messages which are related to our private (but not business) affairs or to those of the person with whom we are in communication.

The telephony enthusiast who in the past has used such terms as "Juicy Kipper" to identify himself, will now be required to choose words which are neither facetious nor capable of undesirable misinterpretation. 'Phone merchants, you have been warned!

Condition 12, which deals with the question of interference, should be studied carefully by every amateur, for it is of the utmost importance that we take all reasonable steps to work in harmony with our neighbours. Strict adherence to the requirements of Condition 12 will avoid friction, and will enable us to maintain a position of dignity in a world which is becoming increasingly more conscious of the value of Amateur Radio.

These then are some of the high spots of the new licence. Frankly we think we have done very well, thanks to the excellent co-operation afforded by the representatives of the G.P.O. during their negotiations with the Society.

J.C.

Visits of R.S.G.B. Members to R.A.F. Stations

As the result of discussions which have taken place between the Director of Signals, Air Ministry (Air Commodore C. S. Cadell) and the General Secretary, arrangements have been made for parties of Society members to visit certain R.A.F. Stations and Schools during the coming year.

The following points must, however, be observed in connection with the projected visits:—

- (1) All applications must be submitted to the General Secretary in writing for transmission to the Under Secretary of State, Air Ministry.
- (2) All costs, *e.g.* transport, messing, etc., must be borne by those participating in the visits.
- (3) Parties should normally consist of British subjects and should not exceed 25–30 in number, one person being placed in charge.

- (4) A list of full names of visitors, their dates and place of birth and National Registration card number must be forwarded with the application.
- (5) Two or three alternative dates for each visit should be stated.

In order that adequate time may be available for making the necessary arrangements applications should be submitted to the General Secretary at least two months in advance of the proposed date of the visit. The name of the station it is proposed to visit should also be stated.

It is not possible at present to publish a complete list of the R.A.F. Stations and Schools included in this plan, but in general it is believed that all Radio Schools (such as Cranwell, Compton Bassett and Yatesbury) will be open to receive official parties during the coming year.

STATION DESIGN AND PLANNING

By W. H. ALLEN, M.B.E. (G2UJ).*

PART II.—THE POWER AMPLIFIER

It has been stated in Part I that oscillators should not be expected to provide much R.F. power as this is incompatible with good frequency stability. In addition, an oscillator is not particularly "efficient," that is to say the ratio of R.F. output to D.C. input cannot be made very high, and as the G.P.O. licence limits the D.C. input power to the last stage of the transmitter, the maximum permitted output cannot be obtained by using the oscillator to feed the aerial direct.

Good practice demands, therefore, that the oscillator be employed for frequency determination and to provide the drive for exciting another valve which will produce R.F. power at higher efficiency for transference to the aerial.

Triode, tetrode or pentode valves may be used in the P.A. stages of the transmitter, their respective advantages and disadvantages being as shown below.

Triode

Advantages.

Cheaper.
Less critical as to output circuit.
Easier to modulate.

Disadvantages.

Requires neutralising.
Requires more grid-bias and drive than other types.

Tetrode and Pentode

Advantages.

No neutralising except in special cases.
Sensitivity (i.e., ratio of R.F. output to input much higher than triode, therefore less drive needed).
Lower grid-bias requirements.

Disadvantages.

Initial cost greater.
Less simple to modulate.
Anode circuit rather more critical.
D.C. screen supply has to be provided.

Neutralising

In a P.A. the anode and grid circuits of a valve have to operate on the same frequency, and even if they are so placed as not to inter-react on one another, there will always be sufficient coupling via the grid-to-anode capacity of a triode valve to result in continuous oscillation.

With tetrode and pentode valves the internal construction is such that this capacity is reduced to a very small value, and under normal conditions feed-back is insufficient to cause oscillation.

This disadvantage of the triode is overcome by neutralising, typical circuits being given in Fig. 2.

In Fig. 2 (a) plate neutralising is shown, while in (b) a circuit for grid neutralisation is depicted.

It will be seen that in (a) the anode coil is tapped at the centre, X, and the D.C. anode voltage fed in at this point, which so far as R.F. is concerned, is at earth potential. The instantaneous R.F. voltage at A and B will, therefore, be of equal magnitude but opposite in polarity; A being positive when B is negative and so on.

If C_n (the neutralising condenser) be made equal in capacity to C_{ag} (the internal capacity between the anode and the grid of the valve), then feed-back via the two capacity paths will be equal and opposite, and the effect of C_{ag} will be cancelled out.

In Fig. 2 (b) the grid coil, and not the anode coil is centre tapped, X is again a point at earth potential to R.F., and the instantaneous R.F. voltages at A and B are again equal and opposite. C_n is made equal to

C_{ag} , and for the reasons previously given oscillation is prevented.

The circuit of Fig. 2 (a) is the one most frequently encountered, but both have their advantages and disadvantages. With one end of the grid coil at earth potential, coupling-in from the previous stage is somewhat easier, but as the anode circuit is balanced to earth the aerial coupling must be symmetrical about point X.

With grid neutralisation the opposite state of affairs exists. Coupling to the aerial is simplified but the R.F. grid drive must be symmetrical about point X in Fig. 2 (b).

For the sake of completeness, a typical tetrode or pentode P.A. stage is illustrated in Fig. 3. A pentode valve is shown, but the tetrode circuit is similar with the exception that the suppressor grid and its connections are missing.

Grid Bias

In Figs. 2 and 3 the position for inserting the grid-bias supply is shown. This voltage may be derived from ordinary H.T. dry batteries or from a mains unit. It is necessary for this voltage to be particularly constant, and as this is not easy of attainment with mains supply, it is recommended that battery bias be employed in a simple transmitter.

In practice a proportion of the required bias voltage is often obtained by utilising the voltage-drop across a resistance placed in parallel with the grid circuit. Part

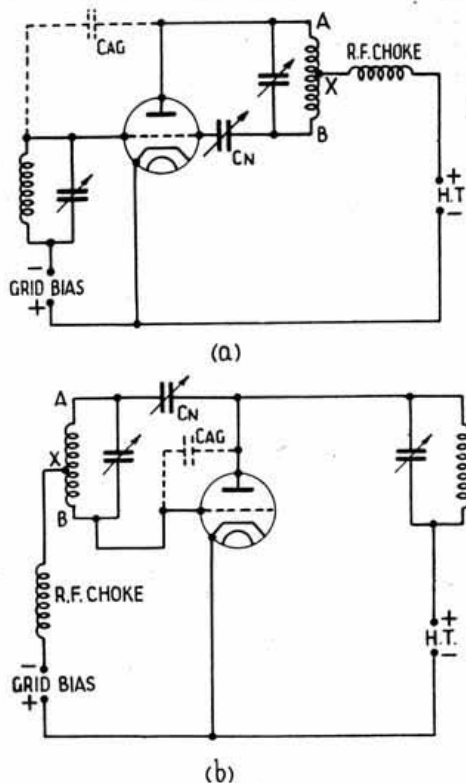


Fig. 2.
Two methods of neutralising a triode P.A.:
(a) Anode neutralising. (b) Grid neutralising.

of the R.F. drive is rectified by the grid and cathode of the P.A. acting as a diode, and the bias so produced thus depends upon the R.F. input to the stage.

Operation of the Power Amplifier

Reference will doubtless be seen in technical publications to Class A, B or C working of power amplifiers.

These three classes refer to the conditions under which the valve is operated as regards grid-bias and drive, and are as follows:—

Class A

The valve is biased so that the operating point is in the middle of the straight portion of

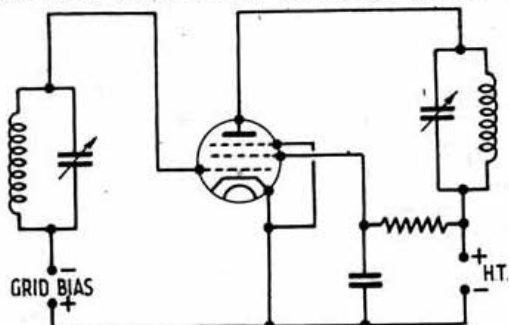


Fig. 3.

A typical pentode power amplifier circuit.

the grid-volts/anode-current curve as in low-frequency amplifier practice.

This is shown in Fig. 4, and it will be seen that anode current flows throughout the R.F. grid voltage cycle, and the waveform in the anode circuit is an amplified version of the grid voltage waveform. In this case the "operating angle" is said to be 360° .

Class B

The valve is biased to cut-off, i.e. just sufficiently negative to prevent anode current flowing, the R.F. grid voltage is made sufficiently high to cause pulses of anode current to flow, corresponding to the positive half-cycles of grid voltage as shown in Fig. 5. As anode current flows during half the time of operation the operating angle is 180° .

Class C

For Class C operation the grid-bias is increased beyond the point of cut-off so that anode current does not commence to flow until well on in the positive half-cycle of the R.F. grid voltage. This results in sharp pulses of anode current with more time between them than is occupied by the pulses themselves. This

is shown in Fig. 6. Anode current flows for less than half the cycle and the valve is "resting" between. The operating angle is, therefore, always less than 180° , and is made less by still further increasing the negative grid-bias and the drive. Practical operating angles lie between 120° and 150° , because angles less than this would demand such high driving power that any increase in the P.A. efficiency would be offset on that score.

Normally a P.A. is operated Class C, as under these conditions the average D.C. input to the valve is least, and high efficiency is obtained.

Class B is employed when modulation has taken place in a previous stage, and Class C operation would result in serious distortion of the modulated waveform. The efficiency is not so great, but much less grid drive is required than with Class C.

The employment of a Class A amplifier would be extremely wasteful of power, as the valve would have no "rest" period at all, and the D.C. input would have to be limited to the normal plate dissipation, whereas in Classes B and C this is not the case.

Consider, for example, a typical triode valve with a permitted Class C input of 750 volts at 80 mA., or 60 watts. The maximum anode dissipation of such a valve would be around 20 watts only, and in Class A the input would have to be limited to this figure. When working Class C the difference of 40 watts between the anode dissipation and the D.C. input represents the power available for transmission.

Efficiency

When applied to power amplifiers the term efficiency can be interpreted in two ways.

- (1) R.F. output to D.C. input power.
- (2) The ratio between R.F. output and input.

When considering tetrode and pentode valves the D.C. power supplied to their screen grids should, of course, be taken into account.

Comparisons between the different types of valves on the basis of R.F. output to D.C. input are somewhat difficult to make because the various types, and makes vary considerably, but on average, good examples of all classes show efficiencies ranging from 60 per cent. to 80 per cent.

Where the tetrode (or pentode) scores heavily over the triode is in a comparison between R.F. grid drive and R.F. output power. Here a good figure for a triode is 10 to 20 times, whereas tetrodes and pentodes show gains from 30 to 100 times or more, while in at least one example the truly phenomenal gain of over 500 times is obtained.

Summarising the above it may be said that tetrodes and pentodes, owing to their higher sensitivity, enable a transmitter to be constructed with fewer stages for a given power, and in that way will probably show an

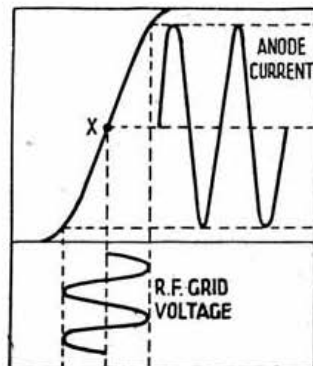


Fig. 4.

Class A operation of a valve.

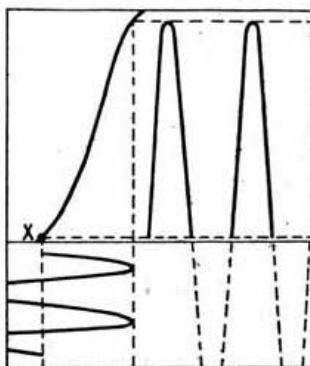


Fig. 5.

Class B operation of a valve.

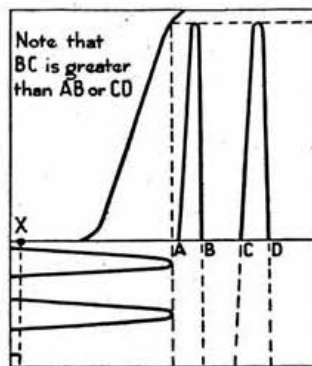


Fig. 6.

Class C operation of a valve.

overall saving in cost despite the fact that the valves themselves are more expensive.

At the same time it is recommended that the amateur should first make himself familiar with the triode P.A. and the art of neutralising, before graduating to the tetrode and pentode.

The Anode Circuit

This tuned circuit has to perform several functions

- To provide a satisfactory impedance for the valve across which R.F. power is developed.
- To transfer power to the aerial.
- To suppress so far as possible harmonics of the working frequency.

It has already been stated that the power contributed by a valve working under Class C conditions is in the form of sharp pulses of anode current which "kick" the circuit into oscillation. The circuit has to provide the necessary "flywheel effect" to maintain such oscillations during the intervals between the pulses, very much as a pendulum is maintained in motion by successive and correctly-timed impulses.

The ability of a circuit to provide such energy-storage depends upon its ratio of reactance to resistance ("A.C. resistance" to D.C. resistance, to put it in an easily understood form), and this is known as its "Q" or quality factor.

The better the "Q" the more selective and sharply-tuned is the circuit, which assists in the suppression of harmonics and in securing efficient coupling to the aerial.

To obtain the minimum value of "Q" which will fulfil these requirements with any given P.A. valve, a certain minimum of parallel capacity is necessary in the anode circuit, and this may be determined in the following manner. It is emphasised that the value of capacity so obtained is a *minimum*, and may be

increased somewhat without causing trouble in other directions.

(1) Divide the anode voltage in use by the *working* anode current.

(2) Divide this figure into 2000.

The result will give, in micro-micro farads, a suitable capacity for operation on the 1.7 Mc/s. band. To find the appropriate capacity for other bands, divide the 1.7 Mc/s. figure by:—

2 for the 3.5 Mc/s. band.

4 " " 7 " "

8 " " 14 " "

16 " " 28 " "

The value so found is correct when the valve is connected across the whole of the tuned circuit, but where the coil is centre-tapped for neutralising or other reasons the value should be divided by 4.

Example

H.T. voltage to P.A.	500
Watts input to anode with stage fully loaded	25
∴ P.A. current	50 mA.
anode volts	
∴ anode current	= 10


Dividing this into 2000 will give a figure of 200, which is the number of micro-micro farads suitable for 1.7 Mc/s. operation, provided the circuit is of the type shown in either Fig. 2 (b) or in Fig. 3. If anode neutralisation is used (see Fig. 2 (a)) the minimum capacity for 1.7 Mc/s. becomes 50 $\mu\mu\text{F}$, and about 7 $\mu\mu\text{F}$ for the 14 Mc/s. band.

Capacities found by the foregoing method are also applicable to P.A. grid circuits, as well as the input and output circuits of frequency-doublers.

(To be continued)

Get this Catalogue NOW!

3rd



BERRY'S
(SHORT WAVE LTD.)

25 HIGH HOLBORN
LONDON, W.C.1.
(Opposite Chancery Lane)
Telephone: HOLborn 6231

The House for
Quality Radio and Electronic products

Amateur Band Quartz Crystal Units



Q.C.C. Frequency Control Unit. Type P5. This unit uses the well known Q.C.C. Power type Crystal, mounted in the type U dustproof mount, with $\frac{3}{8}$ in. pin spacing. The crystal has a t.c. of approx. 20 cycles per Mc. per degree C. change. Used with the 6V6 beam tetrode it will give 5 watts r.f. power on its fundamental frequency and from 3 to 4 watts on its second harmonic in the Tritet circuit. Available with fundamental frequency in the 3.5 or 7.0 Mc. bands.

PRICES: Ground to your specified frequency in the above bands ... £1 17 6
Or ground to a frequency not specified by you but taken from our stock ... £1 12 6

Q.C.C. Frequency Control Unit. Type Q5. This unit uses a low temperature co-efficient of the AT or BT type, AT cut being used for the 3.5 Mc. band and BT cut for 7 Mc. The t.c. is very low, being less than 5 cycles per Mc. per degree C. change. Used with the 6L6 valve it will give over 10 watts r.f. on the fundamental frequency or from 6 to 8 watts on the second harmonic in the Tritet circuit, without exceeding the maximum rated r.f. crystal current of 150 ma. The crystal is mounted in the type U dustproof interchangeable mount, with standard $\frac{3}{8}$ in. pin spacing.

PRICES: Ground to your specified frequency in the 3.5 or 7.0 Mc. band ... £2 7 6
Or ground to a frequency not specified by you but taken from our stock ... £2 0 0

NOTE:—As the new frequency allocations are not in harmonic relationship, please specify whether the crystal is for use in the 28 to 29 Mc. or 58.5 to 60 Mc. band.

An official certificate of calibration is sent with each unit giving the frequency under stated operating conditions to an accuracy of 0.025 per cent.

THE QUARTZ CRYSTAL CO. LTD.

(Directors: E. A. Dedman, G2NH, N. H. R. Munday, G5MA, W. J. Thompson, G2MR.)

63.71 KINGSTON ROAD, NEW MALDEN, SURREY
Telephone: MALden 0334.

PLASTICS FOR THE AMATEUR

By A. G. CHAMBERS, M.I.R.E., A.M.(Brit.), I.R.E. (G5NO).

In this article the Author deals with the Manipulation of Plastic Materials.

PART II

CONSIDERABLE literature has been published recently on the manufacture and the use of plastic materials, but little is available dealing with the actual manipulation of these materials. Whilst a large number of people say that no special tools are required, the writer feels that workmanship in general could be improved by the use of special tools, or at least properly "finished" tools, where special tools are not available.

Thermo-Setting Plastic Materials (Bakelite, Paxolin and Tufnol)

For the Thermo-setting plastics, the makers recommend that special tungsten carbide-tipped tools should be used, although this is not essential. Drill speeds should be about 1,700 r.p.m.; the included angle of "twist," slow, with wide flutes, and the cutting edges well "backed off." For lathe work, a clearance angle of 12° with a top rake of 25° and a speed of 200 ft./min. is suggested for bakelite and paxolin, while for laminated materials, such as Tufnol, a clearance of 10° is recommended.

Thermo-setting plastics cannot be welded, but a number of synthetic resin adhesives are available. These adhesives are primarily intended for bonding wood in the manufacture of ply-wood, furniture and decorative veneers, but other uses, such as book-binding, have been developed. For applications where the surfaces do not afford good physical contact over their whole area, "Mouldrite" Gap-filling Cement is recommended. Other glues, based upon aqueous thermo-setting resins prepared by the partial condensation of urea or phenolic materials with formaldehyde, are supplied under the trade names of "Mouldrite" U.F. Syrup 232, U.F. Syrup 235, Phenolic Glue 500 and Cresylic Glue 500/C. The action of glueing is to bring the chemical reaction of the resin to completion by adding a specific amount of a hardening agent, by heating the resin, or by a combination of both methods. The resin sets to a hard infusible solid, resistant to water and many chemicals, and so forms a strong durable joint between the glued surfaces. For more detailed information on these adhesives, the reader would be advised to write for a copy of "Plastics Technical Bulletin No. 9" produced by I.C.I. (Plastics).

Thermo-Plastic Materials (Perspex, Distrene or Alkathene)

Thermo-plastics soften sufficiently for bending in boiling water. Drilling can be done cold with any type of drill. When turning tough thermo-plastic materials, a speed of 800 r.p.m. is advised, with an angle of clearance about 5°. For celluloid this angle should be increased to about 30°.

When working any thermo-plastic, water should be used freely on the cutting-tool to keep down the heat generated. Thin plastic materials can be cut like glass by scoring a line with a sharp knife, the sheet breaking easily along the line when the material is bent. Surfaces can be repolished by buffing, using pumice first, followed up by buffing soap.

It is interesting to note that Polyvinyl Chloride can be welded by using a jet of hot air in place of the usual welder's flame, or by clamping together and applying heat to the metal clamp. This system of welding might also be applied to other thermo-plastic materials such as "Perspex," "Distrene" and "Alk-

athene," although the latter can be worked by application of a soldering iron.

As the amateur will be particularly interested in the thermo-plastic materials, due to their excellent electrical properties, information supplied by the manufacturers follows.

Perspex

"Perspex," or Methacrylate, manufactured by I.C.I. (Plastics), is supplied in sheets protected by paper stuck to the surface with gelatine. This paper should be left on, until all cutting and drilling is finished; after which it may be removed by easing one edge and pulling gently. The small remaining patches should be removed by washing in warm soapy water and wiped dry with cotton-wool. The article should then be dipped completely in clean cold water and left to dry.

"Perspex" can be cut by a high-speed band-saw, or failing this, an ordinary wood saw with fairly fine teeth and preferably having little "set." Water should be used as a lubricant. The risk of cracking can be lessened if the material is first slightly warmed all over, local heating being avoided. The best means of accomplishing this is to immerse the material in water which has been heated previously to about 80°C.; alternatively, it may be placed in an oven.

Drilling can be accomplished in the ordinary way, but the drills should be ground rather flat, to prevent cracking when the drill emerges from the other side. If the drill is ground so that the point is slightly off-centre, the resulting hole will be larger, but less binding results, which helps when drilling deep holes. The manufacturers recommend paraffin or water containing soluble oil as a lubricant.

For hand turning, standard wood-working tools with flat tops and ground to an angle of 55° are suitable, and for slide-rest turning a similar type of tool should be used, set at an angle of 60° with the spindle. A cutting speed of 65 ft./min. and a feed of 0.010 in. per revolution is advised.

"Perspex" can be shaped by heating to approximately 110° to 120° in an oven, and manipulated by hand or pressed into moulds. Moulds can be made of wood; if, however, iron is used, it should be heated to about 40°C. first, otherwise it will chill the material. It is interesting to note in passing, that "Perspex" may be blown similar to glass, only the heat required is naturally very much less.

Prepared cements are now available and sold under the trade names of "Diakon Cement No. 2" and "Perspex Cement No. 6." The former is quick drying, requiring only 3 hours. Home-made cements can be made by dissolving flaked "Perspex" sheet in Amyl-acetate but this is not so good as the manufactured article.

Distrene

"Distrene" (or Polystyrene) is slightly more difficult to work, but can be readily machined, milled and turned, provided certain precautions are observed in methods and selection of material.

"Distrene" softens at 70-90°C. and it is therefore of the utmost importance to keep the material as cold as possible during working. In all machining and cutting operations a plentiful supply of cooling lubricating liquid must be available. A satisfactory solu-

tion is soluble oil diluted with about 20 parts of water.

Standard milling machines and cutters can be used, speeds up to 800 r.p.m. being employed. It will be found that materials vary somewhat in softness and the tool has to be varied accordingly. The top rake should be from 10-15° and the side rake about 20°, increasing with the softness. The clearance is from 5 to 10. If the material is rather soft and shows feed marks, this can be overcome by using a tool with a small radius at the top. Owing to the rather brittle nature of "Distrene" only light cuts should be taken in order to avoid chipping. It is important to note that for machining purposes, "Distrene" rods and sheets require to be supplied in a "strain free" condition to avoid cracking.

When threading and tapping, the chief point to be observed is that the principle of variation of rake with the softness of material holds. The softer the material the greater should be the backing-off of a cutting edge. In general, pitches should be coarse and threads not too sharp.

Again, home-made cement can be made by dissolving flaked "Distrene" in benzene. The writer has found this a very useful H. F. varnish which can be used on H.F. coils without causing any noticeable loss. Several samples were measured at 60 Mc/s. using a standard commercial "Q" meter, and while other cements caused a noticeable change in "Q" none was noticed with this varnish.

Alkathene

"Alkathene," or Polyethylene, being a softer material, is comparatively easy to handle, although the manufacturers state that a harder material known as Grade 2 is now available. Unfortunately the writer

was not supplied with a sample, so no information can be supplied.

It is important to note that heating must be carried out with great care. The material becomes soft at 115°C. and can be shaped easily, but this temperature should not exceed 120°C. in air. Decomposition occurs about this temperature and increases as the temperature is increased. The rate of oxidation is also dependent on the ease of access of air. Not only does this oxidation give rise to an increase of the power factor, but the material becomes stiffer, and after a time "sets up." The time of heating should be kept down, and the lowest possible temperature used.

The writer endeavoured to make an "Alkathene" cement by dissolving small pieces of the material in hot carbon tetrachloride. The varnish so obtained was not, however, satisfactory as it held no adhesive properties, and therefore cannot be recommended.

Acknowledgements

The writer acknowledges his indebtedness to Mr. E. G. Couzens for permission to utilize information contained in his monograph entitled "Plastics in the Radio Industry" (Electronic Eng., price 2/6); and to Messrs. I.C.I. Ltd., and B.X. Plastics, for additional information.

Plastics—Correction to Part I

Dr. George Bloomfield has drawn attention to the fact that it is incorrect to couple together in the same classification Alkathene and Polyisobutylene (P.I.B.). Actually they are quite different, although some properties and uses are very similar. The author (Lt. G. Chambers) concurs in the views expressed by Dr. Bloomfield.

INTERFERENCE SUPPRESSION on the SHORT WAVE BANDS...

The new "EXSTAT" aerial (comprising two H.F. transformers and screened cable) will give inaudible losses averaging no more than 3 db between 6 and 44 Mc/s. There is actually signal gain over the whole of the medium wave-band.

This is remarkable—but we guarantee it!

Antiference for Aerials

ANTI-STATIC · TELEVISION · CAR RADIO · SHORT-WAVE

ANTIFERENCE LIMITED

PLENDER PLACE PLENDER STREET LONDON N.W.1

Telephone: Euston 5613-4-5

A LOW DISTORTION DIODE DETECTOR

By R. KNOWLES, B.A.*

THE two major disadvantages of the conventional diode detector are the low input impedance and the limit set by "peak clipping" to modulation depth. It will be seen that the conventional diode detector must inevitably compromise between these two factors.

The input impedance of a diode detector is given approximately by the equation

$$Z_{in} = \frac{R_L}{2\eta} \quad \dots \quad (1)$$

Where Z_{in} = Diode input impedance

R_L = Diode load

η = Detection efficiency

In order to increase the input impedance, R_L must be increased. The other consideration, however, prevents this factor being increased indefinitely. The peaks of output waveform begin to be clipped when the degree of modulation exceeds the value given by

$$M = \frac{2Z_0 + R_d + R'}{2Z_0 + R_d + R_L} \quad \dots \quad (2)$$

Where Z_0 = Source impedance at carrier frequency

Z_0 = Source impedance at sideband frequency

R' = Load impedance at modulation frequency

R_d = Forward impedance of diode valve

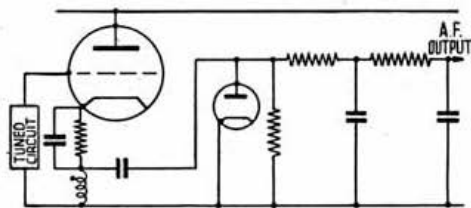


Fig. 1.

Cathode coupling to diode detector.

The degree of modulation permissible, without distortion, is also governed by the equation

$$\frac{M}{\sqrt{1-M^2}} = \frac{1}{\omega R_L C} \quad \dots \quad (3)$$

Where ω = Angular modulation frequency

C = By-pass condenser capacity

M = Maximum permissible modulation depth

These factors combine to fix the optimum value of R_L at about 1 megohm, giving an input impedance of the order of 400,000 ohms and causing serious "peak clipping" at the higher modulation frequencies.

An escape from this dilemma was provided by the infinite impedance detector. This detector does not appreciably load the tuned circuit, and it is capable of reproducing fairly accurately the modulation envelope. The great drawback for commercial use is that the output is "positive going" and, therefore, unable to supply A.V.C. voltages to the control grids of previous valves.

A Probable Solution

In the circuit about to be described the writer believes that he has to a great extent solved the detector problem. From equation (2) it can be seen that if $R_L = R'$ and $Z_0 = Z_0'$, then no "peak clipping"

will occur. In practice it is found that it is the ratio of R' to R_L which limits the value of M . If R_L is made 18,000 ohms, then the ratio of $\frac{R'}{R_L}$ will not be far

removed from unity, with a by-pass condenser of 500 μF . The input impedance of the detector will be extremely low. A circuit known to possess a low output impedance is the cathode follower. Combining the two valves gives the circuit of Fig. 1 which is not very original or convenient. There is, however, no reason why the circuit should not be slightly rearranged so that one valve, a standard double diode triode, can be used. There is one point of interest, the cathode of the double-diode triode "sits" at about 6 volts positive, and for the A.V.C. diode this provides the delay, if required. The detector diode must be returned to a point of the same potential and this can be most conveniently derived from the H.T. through a potentiometer network.

The cathode of the double diode triode has some interesting possibilities. It can be seen from the well-known equation

$$Z_{(input)} = Z_{GC} Z_L \left(\frac{R_a + Z_{GC}}{R_a + Z_L} \right)$$

that if Z_L has a capacitive reactance, then the real part of $Z_{(input)}$ may be negative. In other words the effective damping of the tuned circuit can be made as

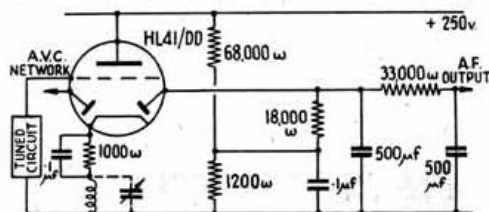


Fig. 2.

Circuit modified to use double diode triode. If delayed A.V.C. is not required the diodes should be strapped.

small as is desired by placing a condenser of the correct magnitude in parallel with the cathode load of the double diode triode.

In conclusion it can be said that this circuit, which uses standard components, provides a detector which is as efficient as the normal diode detector, which can be made free from "peak clipping" and which does not damp the previous tuned circuit. The values given have been determined theoretically and verified practically. It may be asked, since the output impedance of a valve of the HL41/DD class is of the order of 500 ohms, why a relatively high value of diode load is adopted. The reason for this is to be found on reference to the maker's curves for the diode sections of such valves. The forward impedance of these types is not very low and the detector efficiency falls when the diode load is decreased below about 15,000 ohms. The writer is aware that diodes such as D1 and EA50, have a forward resistance of the order of 200 ohms. To use one of these would defeat the object for which the above detector was developed, namely a low distortion detector embodying standard and easily obtainable components.

Swiss Licences Restored

Swiss amateurs have been relicenced to operate on all bands except 1.7 Mc/s. This news was given in a letter from Dr. R. Stuber, HB9T, of Zurich, dated November 8, 1945.

* 218, Preston Road, Preston, Weymouth.

ANNUAL GENERAL MEETING

Minutes of the Nineteenth Annual General Meeting of the Incorporated Radio Society of Great Britain, held at the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, London, W.C.2., on Saturday, December 29, 1945.

Present:—Mr. E. L. Gardiner (President), in the Chair; Mr. A. J. H. Watson (Hon. Treasurer); Messrs. H. Bevan Swift, E. Dawson Ostermeyer, Arthur E. Watts and A. D. Day (Past Presidents); F. Charman, D. N. Corfield, S. E. Langley, E. H. Laister, K. Morton Evans, and W. E. Russell (Members of Council); Mr. John Clarricoats (General Secretary); Miss A. M. Gadsden (Assistant Secretary); and about 200 members.

Apologies:—The General Secretary presented apologies for the absence of Messrs. S. K. Lewer (Executive Vice-President); H. A. M. Clark (Hon. Secretary); and Arthur O. Milne (Hon. Editor).

(1) Previous Minutes

The President called upon the General Secretary to read the Notice convening the Meeting, after which Mr. Cullen proposed, Mr. Ostermeyer seconded, and it was unanimously resolved that the Minutes of the Eighteenth Annual General Meeting, as published in the January, 1945 issue of THE R.S.G.B. BULLETIN, be taken as read and approved.

(2) Audited Annual Accounts

The Honorary Treasurer, in moving the adoption of the Accounts, drew attention to the increased clerical work which is caused when members fail to renew their subscription promptly. He also commented on the thoughtlessness of a small number of members who detach their name and address from the official statement of accounts when forwarding their renewal fee to Headquarters.

The motion having been seconded by Mr. Bevan Swift, (who congratulated the President, Council and Headquarters' Staff on the excellent progress made by the Society during recent years), it was unanimously resolved to approve and adopt the Audited Accounts of the Society for the year ended 30th September, 1945.

(3) Report of the Council

Mr. W. E. Russell proposed, Mr. S. E. Langley, seconded and it was unanimously resolved to accept and adopt the Annual Report of the Council for the year ended September 30, 1945, as published in the December, 1945, issue of THE R.S.G.B. BULLETIN.

(4) Council Elections

The President announced that the following Corporate members had been duly elected to serve on the Council for the year 1946:—

Officers:

President: Mr. E. L. Gardiner, G6GR	Returned unopposed.
Executive	
Vice-President: Mr. S. K. Lewer, G6LJ	
Hon. Secretary: Mr. H. A. M. Clark, G6OT	
Hon. Treasurer: Mr. A. J. H. Watson, G2YD	
Hon. Editor: Mr. A. O. Milne, G2MI	

Members:

Mr. R. H. Hammans, G2IG	..	1534	votes
Mr. C. H. L. Edwards, G8TL	..	1334	"
Mr. F. G. Hoare, G2DP	..	1257	"
Mr. S. E. Langley, G3ST	..	1237	"
Lt.-Col. K. Morton Evans, O.B.E., GW5KJ	..	1209	"
Capt. J. W. Mathews, G6LL	..	1200	"
Mr. P. C. G. Bradley, G8KZ	..	1103	"

The President reported that 1904 Ballot Forms were accepted and 11 rejected by the Scrutineers. He also announced that the following members were unsuccessful in the Ballot:

Mr. W. E. Russell, G5WP	..	1066	votes
Mr. E. H. Laister, RBS3386	..	995	"
Mr. L. Spriggs, G4KG	..	724	"
Mr. L. Sanderson, G8TN	..	609	"
Mr. L. Blanchard, BRS3003	..	567	"

Mr. Gardiner expressed his personal appreciations to the unsuccessful candidates for allowing themselves to be nominated. He welcomed the new members of Council and thanked the retiring members for their loyal support during the past year. Thanks were also recorded to the Scrutineers, Messrs. W. H. Allen, G2UJ, W. G. Irwin, G5DI, A. M. Rix, BRS7509, P. R. Solder, G5FA and P. W. Winsford, G4DC.

(5) Auditors

The President announced that Mr. John Ockleshaw had, during the past year, resigned from the office of Honorary Auditor, a position which he had held for upwards of 25 years. The firm of Edward Moore & Sons had been invited to fill the casual vacancy thus created.

Mr. W. A. Scarr moved, Mr. Parsons seconded, and it was unanimously resolved, to appoint the firm of Edward Moore & Sons, Auditors for the current year.

The President moved and it was unanimously resolved that a hearty vote of thanks be recorded to Mr. John Ockleshaw for his past services to the Society as Honorary Auditor. It was further unanimously resolved, on a motion from the Chair, that a cordial vote of thanks be recorded to Mr. S. E. Taylor for his past services to the Society in connection with the auditing of the annual accounts.

(6) Vote of Thanks to the I.E.E.

Mr. Bevan Swift moved, and it was unanimously resolved, to record a cordial vote of thanks to the President and Council of the Institution of Electrical Engineers, for allowing the Society to continue to use the Institution building for meetings.

There being no further business the meeting was closed at 2.20 p.m. * * *

Following the Annual General Meeting, Dr. R. L. Smith-Rose (Honorary Member) lectured on the subject of "Radio Location." During the lecture (which was illustrated by numerous slides), a highly successful and novel demonstration of the principles of radio location (employing acoustic methods) was given by Messrs. W. R. Piggott and R. G. Chalmers, members of the N.P.L. staff. (It is hoped to publish the lecture in the March and April issues of this Journal, Ed.).

Messrs. Hammans, Cullen, Bevan Swift, Gay and others took part in the discussion, after which Mr. Charman moved, Mr. Langley seconded, and it was unanimously resolved to record a hearty vote of thanks to Dr. Smith-Rose and his colleagues. The resolution was carried with acclamation.

THE MONTH ON THE AIR

By ARTHUR O. MILNE (G2MI).*

Licence News

THE writer offers his apologies for a rather short and scrappy article this month, but it has been prepared under rather difficult personal conditions. At the time this is being written there is no further news regarding our return to the air, but there are signs from all parts of the world of a slow official re-awakening.

New Zealand amateurs are back (as from December 8) on 3.5-3.96 Mc/s. and 58.5-60 Mc/s., but at present no contacts are allowed outside N.Z. This news comes from a very old friend, Bob Stanton, ZL3AZ, of Christchurch.

Denmark's amateurs have been reactivated on 58.7-59.8 Mc/s. and 28.1-28.9 Mc/s., but the maximum power is limited to an absurdity of 5 watts! What chance these fellows will stand—totally within the U.S. phone band with the extra 400 kc/s. which the Americans have appropriated to this purpose (as usual with no prior consultation with the R.S.G.B. or anyone else)—it is difficult to see!

Our Honorary Editor in Hospital

MEMBERS will be sorry to hear that Mr. Arthur Milne, G2MI, our Honorary Editor and Contributor of "The Month on the Air" feature, spent Christmas and New Year's Day in Bromley Hospital, recovering from an operation carried out on the thumb of his right hand. The script of his "M.O.T.A." article was written left-handed under conditions of great difficulty.

On behalf of his many friends we wish him a speedy recovery.
J. C.

It is confirmed that the Norwegians are back on 28 Mc/s. and 56 Mc/s., but we have no details of actual bands or powers authorised.

2DTQ writing from Sind in India, says that a notice recently appeared in station orders to the effect that persons with P.O. licences would be allowed to have transmitters in their billets but that they must have the C.O.'s permission.

General Notes on the Month

Very many thanks to those of you who have sent in notes on the month's activities. Please accept this acknowledgment and overlook any shortcomings this time in regard to individual replies.

The spate of "phoney" and "semi-phoney" calls on 14 and 7 Mc/s. continues unabated. Some of them have also found their way to 28 Mc/s. G5HB sends a typical list which includes many already recorded, plus XQ4BB, HA4EA (with a disgusting note) and G7TR.

W9VND was heard recently telling someone that he was in ZC6 and had been operating in Syria as AR8VN and would shortly be in Cyprus as ZC4VN, would then be in Malta for a day as ZB1VN, then in France as F8VN and would soon be back in the States from where he would be sending out QSL cards! No mention was made of working as G9VN, but it just shows what can be done in British territory by the right people! Subsequent reports confirm that ZC4VN has been working.

2AOW, hoping to be on the air from Schlesweg-Holstein, sends some dope on the following:—EP5SO, 50 watts in South Persia, LI3JU near Tripoli, XQ4BB (3500 miles from Berne!). On 7 Mc/s. he heard AN4B (U.S. signals, Cherbourg)

150 watts; CYU (U.S. Signals in Cassel, Germany), with Hallicrafter HT4 transmitter using 600 watts, GD4AA (Bremen) using 20 watts phone and 40-50 watts C.W. GF7AD (Dieppe), 10 watts and EI8H (East England). Several well known G calls are being pirated, G6WY amongst them. No guarantee is offered that any of the above information is genuine or correct; it is just what has been heard on the air.

A number of SU's are active, but we have no knowledge as to their status. A5XO says he is on a ship in the Gulf of Oman. M. Cramayel, a member in Switzerland, reports very many Italians on 7 Mc/s. As an interested and rather puzzled neutral, he wonders who won the war! G3CQ, has overheard a contact between XW3DZ on 'phone, and VO2Q, when the former was airborne between the Azores and Bermuda.

A few QRA's come from BRS7493; FM8RR (Oran), GD1DZ (Rhineland), CV1JJ (Harz), PC3VS (Amsterdam), F81A (Lille), GD7AA (Detmold). BRS4786 offers 12N8G, said to be in North Italy, working VO1S. 2HNC, Kunning, S. China, reports considerable activity out there including VK9EG, XZ3AL, VS7RS, VS6AN and many others. EK1AF in Tangier has been heard on 28 Mc/s. by G2MI.

G8WL heard KB6EL say he is in a ship off Guam, and 2FYT has heard VU2VSA working amateurs from a plane over Tripoli. 2AVF says MX3AG is W3AG in Mulestao, Manchuria. PA6AD claims to be in North Borneo. G4MR is the first to report D4's on 28 Mc/s. with D3JWW, D4MAC and D4QQM.

BRS5045 sent in a very full list of pirates heard too late for the December issue. This was, however, put to good use in another quarter. BRS4692 at present in British Somaliland has heard many of the DX pirates. As those with VU calls predominate it is some confirmation that they really are in that part of the globe. VU5SB, in particular, is a terrific signal.

Ft./Sgt. Ernie Dolman, 2DCG, until recently at 159 M.U., R.A.F., C.M.F. (near Naples), but now back at his new home QRA, 14 Beckley Road, Sheerness, Kent, operated for a time last month under the call XABF. He tells us that WIMLB is the operator of XABF, and that BRS3766 (Caserta) is using the call XAAZ.

Argentina.—Colin Gratton, well known before the war as LU9BV, is now operating on the DX bands as LU9EV from Rivera Indarte 271, San Isidro F.C.C.A. Argentina licences were re-issued on November 20. Recent 14 Mc/s. QSO's have been with ST4RX (G4RX) and VS5JH (Borneo. QRA wanted). Others heard or worked include J6RB and W8RUO (Japan), XU8PL and XU3N (China), VU5SB (India), MX3AG (Manchukuo), ZB4AG (Gold Coast), EL4S (Liberia), W71QZ (Marianas), KB6AA (Guam), ZP9CN (Paraguay), and OA4D (Peru). LU9EV is using an input of 70 watts.

PRIVY is operating from an R.A.F. seaplane base in the Andaman Islands. He was heard in contact on December 26 with G6EZ, probably a first contact.

Turkey.—BIKX like B1C is in Turkey, both are American amateurs. The former is a W4 who enjoyed his Christmas Dinner at the British Consulate.

Brazil.—On several occasions during the latter part of December, Brazilian stations were heard at moderate signal strengths as early in the day as 17.00 G.M.T.

*29 Kechill Gardens, Hayes, Bromley, Kent.

NORTH-WESTERN P.D.M.

THE first peace-time North Western Provincial District Meeting, was held at the Stork Hotel, Liverpool, on Saturday, November 17, and was attended by 47 members, including a very satisfying number of old-timers.

Representing Headquarters were Mr. E. L. Gardiner (President), G6GR; Mr. John Clarricoats (General Secretary), G6CL, and Mr. A. O. Milne (Honorary Editor), G2MI. After luncheon, the D.R., Mr. H. W. Stacey, G6CX, opened the meeting by introducing the President, who gave a brief résumé of the Society's work during the war years. Mr. Clarricoats then took over, and after an outline of the greatly augmented work of the Society, owing chiefly to the gratifying increase in membership during the past six years, went on to the all-important subject of Licences.

The attention of members was drawn to the way in which the Society had co-operated with the G.P.O. in endeavouring to obtain an early re-issue of Licences, and it was stressed that the difficulties and delays were not wholly due to the British Authorities. Owing to the number of Service "hams," particularly American, now operating in the International bands, strong representations had been made to the G.P.O., and it was hoped, "Clarry" continued, that the position would be regularised by the issue of Licences much sooner than was originally anticipated. The proposed terms of the new Licence were outlined, and particular gratification was felt that Amateurs had been, at long last, officially recognised, as such, by the "powers that be."

Members were amused by "Clarry's" references to the present size of the BULL, and the miracles of improvisation which had been made to give readers the full benefit of the small amount of paper at his disposal.

The problems of Provincial Representation on Council also came under discussion, as did the question of election of T.R.s., especially as so many members were now resuming civilian life, after service with the Forces.

Unfortunately the General Secretary could hold out no hope of an early Convention being held in London, owing to the acute problems of accommodation and catering.

The Council had agreed that some form of permanent

memorial should be established in memory of those members who had lost their lives on Active Service during the war, the exact nature of which was to be decided later.

With the alleviation of the paper shortage, G6CL hoped that members would help restore the BULL to its pre-war "consistency" by submitting articles, technical and otherwise, and appreciation was expressed at the high standard achieved by past contributors.

Whilst the General Secretary was unable to hold forth for his usual 80 minutes, owing to the necessity for an early return to London, members felt at the conclusion of his address that no topic of importance had been overlooked.

The problems attendant upon the establishment of an efficient QSL Bureau formed the main subject of Mr. Milne's address. Storage space and staffing difficulties were problems which it was hoped that an early return to more normal conditions would eliminate. Some interesting information was also given by G2MI regarding the return of impounded apparatus by the Post Office, and his sidelights on the progress of negotiations with that department bore witness to the sympathetic attitude of the authorities towards the Amateur, a fact which bodes well for the future of amateur radio in this country.

Mr. Stacey concluded the meeting with a brief review of District activities during the past year, and on behalf of all members, expressed appreciation of the valuable work done by Headquarters' staff, particularly in regard to the efforts made to obtain a re-issue of our "tickets."

Tea was served at approximately 4.30, and with the departure of the Headquarters' representatives at 5 p.m., general "rag-chewing" became the order of the day.

The following is a list of members who attended :—
SU1WM, G2IF, JC, KZ, OA, 3PT, SX, VF, 4BO, PF, 5MQ, RY, WR, 6CX, DF, FA, FW, GD, 6HQ, IL, 8GAZ, DI, NL, OC, QS, RP, 2BGG, DGX, DVF, FHB, FOS, HKA, BRS3520, 4658, 4673, 4891, 6594, 6665, 7355, 7976, 10396, and three BRS members whose numbers were not obtained.

In conclusion, credit must be given to our D.R., Mr. H. W. Stacey, for his efficient organisation of a most successful gathering. G6FW.

MONTH ON THE AIR—(continued from page 110)

on 14 Mc/s. PY7AD was heard to give his QRA as P.O. Box 237, Pernambuco. On evenings when the PY's were logged, very few other DX signals were audible, a hark back to the winter of 1938-9 when similar conditions frequently prevailed.

Miscellaneous.—XABC (Undine, near Venice) probably a G, is expected home shortly. He and IIGB (another G who used 'phone successfully) have been heard frequently on 14 Mc/s. at different times of the day. YI6JS presumably a G in Iraq, although consistently weak was often the only signal on the 14 Mc/s. band.

The 28 Mc/s. Band.—After the sudden spurt of North American DX heard during October and November, 28-Mc/s. signals have recently been conspicuous by their absence. Did anyone in Great Britain log an American station on this band during the last two weeks in December?

Applications for Amateur Licences

All correspondence relating to the issue of Amateur Licences should in future be addressed to :—

Engineer in Chief,
Radio Branch W5/5,
G.P.O., E.C.1.

The address given in recent issues of THE BULLETIN, should only be used by those wishing to make inquiries regarding Experimental licences.

Appreciations

The General Secretary and Miss Gadsden wish to thank the many hundreds of members who sent them Christmas and New Year greetings. They were especially pleased to hear from old friends now serving in Europe, Africa, Asia, Australia and the Far East.

THE AWAKENING OF UNCLE TOM

The Bulletin's most hated contributor has come back to life after a break of nearly eight years.

WELL, my chickadees, it is here again (or just round the corner). One of the things we have been fighting this war for—freedom of the air. And, now we have got it, what do we propose to do with it? Now that we are officially amateurs—not experimenters—we have got to live with each other with as little friction as possible.

Your Uncle has always been dead nuts on Rotten Operating; and, from several weeks of listening to the Pirates, it is already obvious that Rotten Operating, and not QRM, is going to be our worst enemy. There they were, W's and G's in the Forces among them, doing all the old things that we have spent years telling them not to.

So let us start clean in our own house and stamp this thing out. I hope the Society will eventually boast some sort of Good Operators' Club, or at least an award for Good Operating. 'Phone, C.W., high power or low, it does not matter—either you are a good operator or a rotten one. Your Morse may not be so hot; your fist may sound a bit like a back-firing jelly; but you can still be a good operator if you will just avoid doing damn silly things.

I spent one Saturday listening on the air, and the following day had to drive 200 miles or so. And I thought how much the Rotten Operator resembles the Road-Hog. That little fat man in the powerful American car, tearing up behind you and blasting a loud horn although he ought to be able to see that the road is crowded—how like the high-power "get there or bust" merchant. That twerp who parks on a blind bend and leaves his door open—how like the merchant that leaves his carrier on while he answers the telephone or takes the dog for a walk.

The bloke who cuts in dangerously in front of you to save a fifth of a second—he would pinch a QSO

from anyone. The driver of the unsafe car, wobbling about the place and exuding vile blue fumes—shocking note he has got, probably with a chirp and all.

But there is no road-hog equivalent of the crazy, stupid, unspeakable little mutt who sits and calls CQ or somebody else 43 times, signs his call twice very shoddily and then starts all over again. I am delighted to see that the new licence says "three times three." Let us stick to it, and leave all the long-call business to those who like it—but do not, for Heaven's sake, answer them. That is the only way to stop them.

So let us summarise, this time, with a Child's Guide to Good Operating—just the foundation stones.

The Rules

- (1) A clean note (for C.W.) and good modulation at a reasonable level (for 'phone).
- (2) Short calls—three times three and another one if that does not do it.
- (3) No sending of "doubles" unless you are so weak that the chap at the other end asks for them.
- (4) No exaggerated or misleading reports.
- (5) No padding to a QSO. If all you want is a report and the promise of a QSL, say so and shut up.
- (6) If you want to chew the rag, have a look on your frequency from time to time.
- (7) No local rag-chews on the DX bands unless they are dead and everyone else is doing it!

We could go on like this for columns, but if you can honestly say that you feel strongly about all these points, and are going to observe them, you will be a Good Operator. And it is a snowball effect—the bad ones will soon fall into line or get weeded out—and they can always be told at meetings!

FORTHCOMING EVENTS

- Jan. 17 Scotland "D" Area, 7.30 p.m. in the Chamber of Commerce Rooms, 25 Charlotte Square, Edinburgh. First "Brains Trust" session.
- Jan. 18 District 14 (Chelmsford), 7 p.m. at Smith's Radio Shop, 184 Moulsham Street.
- Jan. 18 London Meeting, 6.30 p.m. at the Institution of Electrical Engineers.
- Jan. 19 District 4 (Leicester), 2.30 p.m. at 27 Belvoir Street.
- Jan. 20 District 12, 3 p.m. at BR83386, 22 Church Hill, Winchmore Hill, N.21.
- Jan. 20 District 14 (Chingford), 4 p.m. at A.T.C. Headquarters, Pretoria Road.
- Jan. 21 District 14 (Brentwood), 7 p.m. at G3LA, 27 Mount Crescent.
- Jan. 21 District 18 (Hull), 7.30 p.m. at the Imperial Hotel, Paragon Street.
- Jan. 21 District 3 (Coventry), 7.30 p.m. at the John Hough Mission Schools, (Room 8).
- Jan. 22 District 14, 7.30 p.m. at G5VQ, 168 Westbourne Grove, Westcliff on Sea.
- Jan. 23 District 2 (Sheffield), 8 p.m. at the "Dog and Partridge," Trippett Lane.
- Jan. 24 District 4 (Nottingham), 7 p.m. at The Foresters Hall, Peachey Street.
- Jan. 24 District 5 (Bristol), 7 p.m. at Keen's Cafe, Park Row.
- Jan. 26 District 1 (Liverpool), 2.30 p.m. at the Stork Hotel, Queen's Square, "Waveguides and Lines for Amateur Purposes" by T. H. Turney, Ph.D., A.M.Brit.I.R.E.
- Jan. 26 District 7 (Reading), 6.30 p.m. at Palmer Hall, West Street.
- Jan. 26 District 15, 3 p.m. at the Labour Hall, Uxbridge Road, Southall, Middlesex. Short-wave Aerials by Mr. F. Charman, G6CJ.
- Jan. 27 District 7 (Weybridge), 3 p.m. at York House Cafe, Hangar Hill.
- Jan. 27 District 17 (Gainsboro.), 2 p.m. at the Cine Club, Neptune Inn, Bridge Street.
- Jan. 27 Scotland "H" Area, 3 p.m. at 4A Bank Street, Kirkcaldy. Annual General Meeting.

- Jan. 29 T.R.E. Amateur Radio Society, 8 p.m. at Piers Plowman Club, Holyrood Terrace, Worcester Road, Malvern. Lecture by Dr. L. G. H. Huxley, on "The Luxemburg Effect."
- Jan. 30 Scotland "A" Area, 7 p.m. in the Institute of Engineers and Shipbuilders, 39 Elmbank Crescent, Glasgow.
- Feb. 1 District 15 (Hounslow), 7 p.m. at The Scouts Hall, Sutton Estate, Great West Road.
- Feb. 3 Districts 7 and 13. Combined meeting, 3 p.m. at the Y.M.C.A., North End, West Croydon.
- Feb. 4 District 3 (Coventry), 7.30 p.m. at the John Hough Mission Schools, Room 8.
- Feb. 6 District 15 (Hayes), 7 p.m. at Townfield School, Central Avenue. "High Frequency Transmitter Design," by G3SU.
- Feb. 7 District 7 (Portsmouth), 7.30 p.m. at the Masonic Hall, Waterloo Road, Havant.
- Feb. 7 District 4 (Nottingham), 7 p.m. at the Foresters Hall, Peachey Street.
- Feb. 8 District 15 (Harrow), 7 p.m. at BR85627, 153 Belmont Road, Harrow.
- Feb. 9 District 7 (Reading), 6.30 p.m. at Palmer Hall, West Street.
- Feb. 9 District 15 (Ashford), 6.30 p.m. at G6RS. "Digswell," The Avenue, Sunbury on Thames, Middlesex.
- Feb. 15 London Meeting, 6.30 p.m. at the Institution of Electrical Engineers. Lecture "The Amateur Bands, Past, Present and Future," by Mr. Arthur O. Milne, G2MI.
- Feb. 17 District 13 (South Eastern Area), 3 p.m. at 63 Erlanger Road, New Cross Gate.
- Feb. 17 District 15 (West London), 6 p.m. at Dr. R. F. Williams, BR83318, 25 Harley Street, W.1.
- Feb. 18 District 3 (Coventry), 7.30 p.m. at the John Hough Mission Schools, Room 8.
- Feb. 18 District 18 (Hull), 7.30 p.m. at the Imperial Hotel, Paragon Street.
- Feb. 19 District 3 (Birmingham), 6.30 in the Chamber of Commerce, New Street.

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

R.A.F. W./T. Emergency Fitting Parties (1939)

The first and probably the chief war-time activity to bring together a great number of amateurs in one unit was that of the R.A.F. Emergency Fitting Parties. Immediately on the outbreak of war, 15 such Parties were formed, situated at strategic points up and down the country. The sergeant-in-charge of each Party was an amateur whilst the technical staff were all drawn from the Civilian Wireless Reserve whose members, if not all possessors of full calls, certainly possessed the "Ham Spirit." It was this spirit, and their radio knowledge and experience, that enabled them to do all that was asked of them in those days of strange conditions, shortage of equipment and information, the only preparation for which, for most of them, was a two weeks' course at Cranwell.

From these small beginnings has grown a great Installation Section, under 26 (Signals) Group. Many of the Officers and a proportion of the Senior N.C.O.'s are founder-members of the old E.F.P.'s. It was hoped at this time to tell the full story of the work done by these parties, but this will have to be left to a later date. However, it can be said that in the course of the war these Fitting Parties have been called upon to instal every imaginable type of W./T., Radar, and electrical equipment, from flea-power battery sets to B.B.C. transmitters, on the ground, in aircraft and afloat, under all conditions and in all parts of the world.

The amateur background of these men paid huge dividends in getting a vast amount of work done quickly under difficulties—the enthusiasm and ingenuity of the true "Ham" being well to the fore.

The following is a list of the 1939 Emergency Fitting Parties together with the Civilian Wireless Reservists who formed the strength of these parties.

Headquarters: H. A. M. WHYTE (G6WY), A. E. LAMBOURNE (G5AO).

No. 1 E.F.P. (Darlington)

W. Blyth (G6MYX), H. Bramwell (G2RF), H. C. Broom (2CWV), W. R. Eadie (GM4JO), J. P. Male (GM6IS), H. M. Ross (2DYP), L. G. Spencer (G4LX), A. B. Starks-Field (G6YG).

No. 2 E.F.P. (Wetherby)

B. D. Alexander (2COX), S. R. Cooke (2CTC), A. G. Davies (G2PC), F. J. Ireland (2FFX), R. Morgans (G4GV), G. Walker (2AWR), K. B. Whittaker (2FXL), E. Wood (2FKD).

No. 3 E.F.P. (Market-Weighton)

J. C. Aldred (G8UQ), A. W. Atkinson (G6KN), G. Beaumont (G4OY), F. W. Benson (G5GJ), F. B. English (G6AZ), W. L. Grummitt (2CMP), T. A. Lewis (2FTO), R. W. Rogers (G6YR), J. Wood (G3VG).

No. 4 E.F.P. (Honington)

V. T. S. Cribb (G3AN), C. H. Gould (2FQH), G. Hutson (G6GH), C. E. McLean (2CLS), C. G. Morrison (2ADJ), A. Oughton (G8BQ), A. D. Roek (G8PI), S. Russ (G8UR), H. G. Smith (BR8284), W. O. Sturmy (G8KL).

No. 5 E.F.P. (Holton-le-Moor)

J. M. Buchanan (BR85358), J. M. Fleet (GW8JY), W. H. Graham (G4BJ), W. Johnson (G2IN), A. Leese (G3UP), T. Read (2FFQ), G. W. Reeves (BR84168), S. G. Smith (2ALS), J. S. Worthington (BR84062).

No. 6 E.F.P. (Drayton)

E. S. Booth (G8OR), J. R. Fennessy (G5ZI), J. A. Hobson (G5BX), H. E. Mead (BR84278), E. Ratcliffe (2DXA), R. W. Roberts (BR83704), T. O. G. Tallboys (2ATK).

No. 7 E.F.P. (Ingham)

P. E. L. Bailey (2CGN), J. W. Barnes (2DHK), M. B. Buckwell (G5UK), K. R. Bunker (2DFY), R. C. Kenny (BR83825), E. Murphy (G2MY), L. F. Steel (2BBB), J. P. Williams (2CPV), P. A. Tremaine (G8PB).

No. 8 E.F.P. (Barnwell)

R. H. Bailey (2CQU), C. B. Ellwood (2FSO), F. Inchley (G3AG), E. F. Lawden (G8SS), I. D. McDermid (BR82689), J. McAvenna (BR83455), F. Perkins (2BXH), C. H. Pomeroy (2DUH), G. A. Wood (2FKD), F. E. Weyer (G8RY), J. N. Donnachie (BR89884).

No. 9 E.F.P. (Oakley)

D. R. Aston (G8DR), W. C. Barnes (G3JO), A. L. Browning (G8TK), L. S. Davies (G3ZF), R. W. Dilworth (BR84369), C. N. Meade (2DTY).

No. 10 E.F.P. (Eastcote)

W. Burrows (G5PZ), A. W. Frazer (G3OW), A. E. Knight (G6IB), L. G. Mays (2CWR), C. H. Ranft (G5RF), P. G. Spary (2FVU), A. O. Stephenson (G2LF), D. L. Werscher (G8WR).

No. 11 E.F.P. (Harlow)

D. F. Davies (G3RQ), R. T. Hewson (G3RH), B. A. Parson (GW4FW), W. G. Wilby (2BSU).

No. 12 E.F.P. (Kidlington)

J. D. Budd (2BKD), G. Bull (2AYP), G. W. Cooke (BR84002), G. W. Guy (G8TH), L. A. Hensford (2BHS), F. Hill (2FZI), M. F. Owen (BR84359), C. Mortimore (G8KI), F. B. Wilford (G4IO), E. Wake (G5RP).

No. 13 E.F.P. (Ashford)

P. A. Achurch (G2PA), S. F. Barnard (G8AC), W. R. Day (2FQZ), S. C. Hedges (2CSH), G. A. Lambourne (2DQI), F. G. Maynard (G4OU), R. Nicholas (G8BJ), R. G. Lane (2BYA).

No. 14 E.F.P. (Addington)

S. W. Clarke (2AMW), S. T. Hall (G3BR), E. R. Henman (G6HM), B. A. Herbert (G2WI), I. L. Kedge (2BKS), E. J. Laker (G6LK), W. G. Pyke (G6PK), J. D. Wightman (G3AH).

No. 15 E.F.P. (Havant)

A. E. Beeson (G4PD), F. P. Cawson (2ART), J. J. Downie (BR82935), W. B. Gilhespie (G6GS), A. J. Herridge (2DRK), C. L. Thomas (G2NT), A. E. Whitehead (G2PR).

G3BR.

Play in One Act

Characters: AA2FB (Ship with 600 watts input MCW).

ZB1VN (Another ship).

Frequency: 14090 Kc/s. **Date:** December 27, 1945.

11.15 G.M.T.—CQ CQ CQ de ZB1VN ar K

11.17 G.M.T.—ZB1VN de AA2FB ar K

11.18 G.M.T.—AA2FB de ZB1VN = Ur RST 578 and why in hell dont u get the hell off wid A/2 = U just ruin the whole band = I am on a ship also hr in Malta es am using 20 watts as most of the poor hams in Europe = Ur sure no real ham es still blot out the boys wid ur A/2 so if you still use it never mind QSO wid me. ar (etc)

11.20 G.M.T.—ZB1VN de AA2FB = R es if you can read my sigs widout modulation ok = We have frequency modulation es almost unreadable from vibration = If you are so gud why use ur call now when U.S.A. is not authorised to use 20? = Well vy QRL hr so 73 SK. (CW this time).

11.22 G.M.T.—AA2FB de ZB1VN = solid OM es tnx fer dope Hi = ok es Fb Xmission = Dont get so het up Hi = It has been bad habit wid sum of the ships boys to use hi pwr A/2 es real ruin what little is left of the band = Sri I got on at U = so tnx es vy 73 es luck es DX fr 1946 ar (etc) SK

11.24 G.M.T.—R = Ur RST 559x 73 SK.

11.24 G.M.T.—AA2FB de ZB1VN = R SK

(Curtain)

G5BM.

Congrats

● To Capt. E. S. Shackleton, G6SN, of Ilkley, Yorks, on his recent marriage to Miss Editha Priestley, of Harrogate. Mr. J. Croysdale, G5US, was best man.

● To Mr. L. R. Williams, BR86626, of Walton-on-the-Naze, Essex, who was married on Christmas Day to Miss Peggy Philpott.

● To Mr. D. R. Aston, G8DR, and his wife on the birth of a second son, Roy Vernon, on September 28, 1945.

● To Cpl. H. G. Chandler, G6BP, and his wife on the birth of a son, Henry John, on May 16, 1945. G6BP is now at Bonn on the Rhine.

Silent Keys

WE record, with deep regret, the passing of the following amateurs:—

Flying Officer W. G. Cadman, D.F.C., R.A.F.V.R., G4BV, of Chorley Wood, Herts., who was missing from night operations over Germany on February 7, 1945, and is now officially reported as believed to have lost his life on that date.

Flight Lieut. Harry Groves, R.A.F.V.R., 2BGN, of Reigate, Surrey, now known to have lost his life whilst a prisoner of war in Japanese hands. Buried at sea on November 24, 1942.

Mr. W. Skidmore, G8JS, formerly of Manchester, who died on December 4, 1945.

Prisoners of War returning from Thailand have brought with them the sad news that Sergeant Charles Davies, R. Signals, died in a P.O.W. camp there in October, 1943.

As a regular soldier Charlie was stationed in Quetta, India, at the time of the great earthquake disaster and his amateur station VU2EP was instrumental in establishing communications at a time when these had completely broken down. Many lives were saved as a result of his promptitude. On completing his service in the army he returned to Edinburgh where, as GM3IK, he quickly established himself as an active and popular member of Scottish "D" District. He was recalled to the colours at the outbreak of war and was finally captured at Singapore.

His passing constitutes a real loss to amateur radio and the sympathy of his fellow members is extended to his wife and parents who have only recently received the sad news.

GM6XI.

HEADQUARTERS CALLING

COUNCIL 1946

President:

ERNEST LETT GARDINER, B.Sc., G6GR.

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

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

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

Honorary Editor: Arthur O. Milne, G2M1.

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,

Lt.-Col. K. Morton Evans, O.B.E., GW5KJ.

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

General Secretary: John Clarricoats, G6CL.

November Council Meeting

Resume of the Minutes of a Meeting of the Council of the Inc. Radio Society of Great Britain, held at New Ruskin House, on Monday, November 12, 1945, at 5.30 p.m.

Present.—Messrs. E. L. Gardiner (President, in the chair), S. K. Lewer, A. D. Gay, A. J. H. Watson, H. A. M. Clark, A. O. Milne, A. E. Watts, D. N. Corfield, K. Morton Evans, F. G. Hoare, E. H. Laister, S. E. Langley, W. E. Russell and John Clarricoats (General Secretary).

Apology for Absence.—Mr. H. A. M. Clark presented an apology for the absence of Mr. F. Charnan.

1. It was unanimously resolved to elect one Life Member (Mr. F. S. Adams, G2YN), 273 Corporate Members, 17 Associates, 7 Junior Associates and 7 Junior Associates to Corporate membership. Total elected 305.

2. It was reported that of the 1017 persons elected since July, 1945, only 72 had failed to follow up their application.

3. It was unanimously resolved to accept and adopt the monthly Receipts and Payments account as prepared by the Honorary Treasurer.

4. It was reported that stocks of paper covered Handbooks and Supplements had been reduced to 232 and 454 copies respectively. These copies would be held in reserve against urgent orders. Several large orders for the new printings had been received.

5. An estimate for printing 16 pages of advertising in the new printings of the Handbook and Supplement was accepted. The advertising section will appear only in copies assigned for the Export Market.

6. It was unanimously resolved to approve for publication, in the December issue of the Society's Journal, the Annual Report of the Council.

7. The Auditor's report was read and the audited annual accounts for the year ended September 30, 1945, were adopted and signed.

8. It was announced that arrangements were being made to present to Mr. John Ockleshaw, the former Honorary Auditor, a broadcast receiver suitably inscribed in appreciation of his past services to the Society.

9. It was resolved to purchase Tax Reserve Certificates to the value of £650.

10. A report of a meeting between representatives of the Society and the G.P.O., held on November 12, 1945, was presented and approved.

Correspondence which had passed between the Society and the G.P.O. on current licence matters was read and approved. The letters dealt with the revised Licence form, amateur licences, unauthorised transmissions in the 7 and 14 Mc/s. bands, and the operation of "amateur" stations in the 7 and 14 Mc/s. bands by military personnel.

11. A copy of Hansard dated November 1, 1945, was tabled in which was printed the replies given by the Assistant Postmaster General to questions relating to the return of impounded amateur equipment, and the restoration of licence facilities. It was reported that both matters had been referred to in the announcement published in the November Bulletin.

12. It was reported that the P. M. G. had now signed the order rescinding the regulation which prevented British Isles residents from holding or purchasing transmitting equipment without a licence.

13. Letters were read from Mr. K. B. Warner, A.R.R.L., dealing with current licence matters. Mr. Warner also announced that WIAW, A.R.R.L. Headquarters Station, was broadcasting information of interest to amateurs on spot frequencies within the 3.5, 7 and 14 Mc/s. bands.

14. The Technical Committee were asked to prepare a notice

for publication in THE BULLETIN dealing with methods of measuring very high frequency transmissions.

15. Unconfirmed Minutes were presented of the first meeting of the Exploratory Committee appointed by the C. & G. of London Institute, to consider whether it is desirable and feasible to set up an examination for those wishing to obtain an amateur licence.

It was announced that a Special Committee had been appointed to draw up regulations and syllabus for the proposed examination, it having been agreed that such an examination was both desirable and feasible. Mr. W. A. Searr had been appointed to serve on the sub-committee to represent the Society.

16. The Secretary was authorised to obtain additional female clerical assistance, and to advertise the vacancies in the Society's Journal.

17. It was announced that 5 additional members had been nominated to serve on Council for the ensuing year. Their names, together with the names of the 7 members nominated by the retiring Council, would be submitted to the membership for election in December.

18. It was agreed to hold a D.R.'s Conference in Birmingham in March or April, the meeting to take place on a Saturday commencing at 2.30 p.m.

19. It was agreed to arrange a meeting in London, preferably on a Saturday afternoon during January, 1946, to discuss the future of the Experimental Section.

20. A letter was read from a member in which he drew attention to the wanton destruction of surplus radio equipment which is taking place in certain service depots. The Secretary in his reply had asked that concrete evidence of the destruction be produced for submission to the M.A.P.

STAFF VACANCIES

at

R.S.G.B. HEADQUARTERS

Vacancies exist at Headquarters for an experienced SHORTHAND TYPIST and a GIRL CLERK. Applicants should communicate with the General Secretary in writing stating age, salary required and qualifications.

Attention was also drawn to an advertisement published in the October issue of *Wireless World* dealing with the sale of surplus R.A.F. Radio equipment. The M.A.P. had been advised of the announcement but apparently they were unable to take action. Several attempts had been made to obtain information from the M.A.P. regarding the policy which is to be adopted by the Government in dealing with surplus radio equipment, but so far this had not been forthcoming.

21. Mr. Shankland wrote to suggest that the Society should form a Technical Library. Council recalled that similar suggestions had been made in the past by other members and agreed to give the question careful consideration when a suitable opportunity occurs.

The meeting closed at 9.20 p.m.

"Radio" Handbook

We have been advised by *Editors and Engineers*, Los Angeles that, for reasons beyond their control, the 10th Edition of the "Radio" Handbook will not be ready until March.

We much regret any inconvenience caused to members who ordered this edition last November under the impression that publication was imminent.

New Year Honours

Heartly congratulations are offered to the following members whose names appeared in the New Year Honours List.

To be Additional Officers of the Military Division of the Most Excellent Order of the British Empire:—

Wing-Commander Austin James Esselmont Forsyth,

R.A.F.V.R. (G6FO).

Acting Wing-Commander Peter Claude Mortimore,

R.A.F.V.R. (G8KI).

To be Additional Members of the Military Division of the Most Excellent Order of the British Empire:—

Flight-Lieutenant William Herbert Allen, R.A.F.V.R.

(G2UJ).

Captain Ernest Shackleton, Royal Signals (G6SN).

We shall be glad to hear from other members who have recently been honoured by H.M. The King.

Romford Radio Society

Meetings of the above Society are now held at 8 p.m. on Thursdays in the Y.M.C.A. Red Triangle Club (formerly the Masonic Hall), Western Road, Romford, near Romford Station.

The Hon. Secretary is Mr. R. C. E. Beardow, G3FT, 3 Geneva Gardens, Whalebone Lane North, Chadwell Heath, Essex.

Grays and District Amateur Radio Club

Mr. E. F. Read, G3GF, 26 Hillside, Little Thurrock, Grays, Essex, is convening a meeting to consider the formation of a Radio Club in the Grays area. Interested members are asked to communicate with Mr. Read.

Radio Society of Northern Ireland

The Radio Society of Northern Ireland extends a cordial invitation to all those interested in short-wave transmitting and receiving to become members. It is hoped that at an early date a permanent Headquarters will be established in a central part of the city, where members can meet on any week night. At present the Society meets in the Church of Ireland Young Men's Society, Donegall Square East, Belfast, on the last Friday of each month. The next meeting will be held on Friday January 25, 1946, when Mr. S. K. Richards, of London, will give a lecture on Radar Receiving Equipment.

Any further information may be had from the Hon. Secretary, Mr. A. T. Kennedy, 38 Donaghadee Road, Bangor, Co. Down.

Subscription: Members 7s. 6d., Associate Members 4s.

AN AMBITION REALISED.

THE TOTAL SOCIETY MEMBERSHIP AS AT
31st DECEMBER, 1945, WAS

10,209

REPRESENTING AN INCREASE OF 7,000
SINCE 1940.

R.S.G.B. Prisoners of War Fund

Readers will be aware that a considerable sum of money (approximately £700) is available for disbursement to ex-prisoners of war. In order to enable the Council to proceed with its plans, it is essential that information be sent to Headquarters immediately regarding the whereabouts of all members who were held captive by the Japanese.

To date the following members have notified the Society of their safe return.

Lt.-Col. T. Whimster	..	..	..	..	G8UJ
Lt. T. Douglas	..	..	..	..	G3BA
F./Lt. A. C. Brown	..	..	..	..	GM6ZY
Sig. J. H. Bolton	..	..	..	..	BR84034
Cpl. R. E. Maddison	..	..	..	..	BR84441
L.A.C. S. Saddington	..	..	..	..	2FXQ
L.A.C. E. Wake	..	..	..	..	G5RP
Sig. S. H. G. Weeden	..	..	..	..	BR83812
L.A.C. R. Healey	..	..	..	..	G6HY
Mr. J. McIntosh	..	..	..	..	V81AA
Mr. E. Blomfield	..	..	..	..	V82AL

As soon as the Council are satisfied that every ex-prisoner of war has been accounted for, arrangements will be made for a reunion to take place in London.

According to Society records the following members are listed as "missing believed prisoner of war":

A.C.1 D. E. Blow	..	..	..	..	G3TL
Cpl. G. Jones	..	..	..	..	G4KW
Pte. A. Wales	..	..	..	..	BR83644

The following members are listed as "missing":

F./Lt. H. Bean	..	..	..	..	BR85816
Ft./Sgt. J. D. Cameron	..	..	..	..	GMSCN
Sgt. K. Hallstone	..	..	..	..	BR84705
Sgt. C. R. MacGregor	..	..	..	..	BR84521
Sgt. H. G. Scragg	..	..	..	..	BR86821
S./Lt. W. W. Taber	..	..	..	..	G3GU
Sgt. G. Zedy	..	..	..	..	BR83732

Can You Help?

Ft./Lt. R. R. Waite, G3PZ, R.A.F. Dunkeswell, Honiton, Devon, seeks operating data of the Telefunken KV12P/2000 valve.

Radio Remote Control Group

Ft./Lt. O. Dykes, 2A1J, who is in charge of the above group, thanks members for their prompt replies to his letters. Owing to the amount of correspondence involved he intends to reply to most of the points raised through the medium of letter budgets, the first of which is due to be circulated this month.

The question of affiliation to the Society of Model Aeronautical Engineers is under consideration as is the matter of the insurance against third party risks of large petrol-engined models which, as Ft./Lt. Dykes points out, can cause a considerable amount of accidental damage. Members of the group are being advised that the National Guild of Aero-modellers can affect insurance at the nominal rate of 2s. 6d. per annum for any number of models.

All correspondence regarding the Group should be sent direct to Ft./Lt. Dykes, No. 1 Officers Mess, R.A.F., Cranwell, Lincs.

To date 25 members have signified their desire to support the activities of the Group.

Congrats

● To Colonel W. H. Lloyd, G5TV, who was awarded the C.B.E. for "gallant and distinguished services in Italy." His home is in Harrow Weald, Middlesex.

Lids' Corner

(or Tales from the Terrible Thirties)

I.—"It's the Amps that Kill"

*A fine new rig he proudly built,
With dials and meters by the score,
And mammoth tubes and coils all gilt,
Oh what a shame 't will work no more.
"It's the amps that kill."*

*For Johnny Lid forgot one thing,
When tuning up this super gear,
That volts ten thousands have a sting!
They scrapper him up both far and near.
"It's the amps that kill."*

*Without a body as foundation,
No amount of resuscitation,
Could restore his circulation.*

*And now celestial keys he taps,
And contacts all the pioneer chaps,
But when he tell of earthly skill,
They just reply: "Tis Amps that Kill."*

J. P. HAWKER (G3VA).

OUR FRONT COVER

THE valves illustrated on the front cover are the currently available Mullard octal-based types in the "E" Series for A.C. operated receivers. The ECH35 triode-hexode frequency changer has a short-wave performance which makes it particularly suitable for Amateur receivers designed for use up to the 14 Mc/s. band. The EF39 variable- μ pentode can be used as an R.F. or I.F. amplifier in such receivers. The EBC33 double-diode-triode functions as detector, A.V.C. rectifier and audio frequency amplifier driving the EL33 output pentode, which, under normal conditions, will provide an audio output of 4.3 watts. The AZ31 full-wave directly-heated rectifier is available for use in the power supply of receivers of this type.

FOR YOUR BOOKSHELF

THE Society is in a position to accept orders, from persons resident in the British Isles for the following publications which are ordered individually from America.

"QST" (Official monthly publication of the American Radio Relay League). By subscription per annum	17/6
"The Radio Amateur's Handbook" (A.R.R.L.)	10/6
"The Radio Amateur's Handbook"—Special Defence Edition. (A.R.R.L.) ...	8/6
"The Antenna Handbook" (A.R.R.L.) ...	4/-
"A Course in Radio Fundamentals" (A.R.R.L.)	3/6
"The Radio Handbook" (Published by Editors and Engineers)	12/-
"Radio" (Monthly publication of Radio Magazines, Inc.). By subscription per annum	21/-
"CQ" (Monthly publication of Radio Magazines, Inc.). By subscription per annum	17/6

Orders must be accompanied by a remittance made payable to the Society. Rates and prices are subject to alteration without previous notice. Delivery can be expected in about 12 weeks from date of order. Single copies only may be ordered.

Radio Society of Great Britain
NEW RUSKIN HOUSE
LITTLE RUSSELL ST., LONDON, W.C.1

