THE T&R
# BULLETIN
A JOURNAL FOR
# RADIO EXPERIMENTERS

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# THE T. & R. BULLETIN

OFFICIAL JOURNAL OF THE RADIO SOCIETY OF GREAT BRITAIN

DEVOTED TO THE SCIENCE AND ADVANCEMENT OF AMATEUR RADIO

Hon. Editor: JAMES W. MATHEWS. Secretary-Editor: JOHN CLARRICOATS

Advertisement Manager: HORACE FREEMAN

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## CONTENTS



## A.A.S.F.

**"An honest tale speeds best, being plainly told."**

*Shakespeare, Richard III.*

FOR nearly four months after the outbreak of hostilities, those mystic letters—A.A.S.F.—remained a close secret. Our first encounter with them dates back to October 1939, when after receiving our first batch of mail from the Front, we perceived that they were nearly all addressed from No. . . Wing, A.A.S.F. We puzzled over them, as did countless others, for we felt sure they concealed the identity of an important section of the R.A.F. in France.

Those early letters from the B.E.F. caused us further thought, because gradually it became clear that "A.A.S.F." also provided a clue to the sudden "disappearance" of quite a number of close friends of ours who had been members of the Civilian Wireless Reserve.

Several more months, however, had to elapsed before the full significance of their disappearance became apparent. Then we discovered that a little group of hams—all C.W.R. members—had been transported to France at the very outbreak of war on a special mission. We dubbed them "The Early Birds," for early birds they were. Long afterwards one of their number wrote a brief story for this Journal in which he described some of their adventures—but gave no hint of the job they had been called upon so suddenly to undertake.

Now, thanks to Charles Gardner, the well-known B.B.C. commentator, who represented that organisation in France, the true story of the Advanced Air Striking Force has been unfolded in a new book from his pen.

"A.A.S.F." (for that is its name) is alive with interest from first page to last but the chapter which will appeal most, to many of our members, is the one entitled "Observer Screen" for it was to serve with the Screen that those Early Birds, and their followers to fame, journeyed during the first few weeks of the war.

For many months now we have been itching to link up those "veterans" of September–October, 1939, with the Screen, but hesitated to do so. Charles Gardner's new book, however, provides us with the opportunity of recording that this important communications network was manned by "enthusiastic wireless amateurs who had transmitting stations of their own, and who were rushed across to France at five minutes notice."

It is no part of our present pleasant task to discuss the technical aspects of the Screen, even if we knew them—which we assuredly do not—but we feel fully justified in making one important observation—namely that the Air Ministry must have held a pretty high opinion of the capabilities of those C. W. R. lads, who, within four days from the time of putting aside their civilian clothes, were on the way to man a *front line* system of radio communication. We say

(*Continued on page* 276.)

# THE YEAR IN REVIEW*

By JOHN CLARRICOATS (Secretary-Editor)

WHEN, on September 10, 1939, the Council met to decide upon future policy, it would have required a prophet to predict that the year ahead would be one of the most outstanding in Society history. Yet such has been the case. In presenting its Annual Report the Council desires at the offset to record that the success of the first year of operation under war conditions can be attributed very largely to the fine support given by members generally. Without that support, coupled with the successful outcome of the economies effected, this report would not reveal throughout a feeling of confidence for the future.

## Membership

In keeping with precedent, reference will first be made to the actual strength of our membership. Up to the end of September, the year under review, the total was a little short of 3,000, representing a nett loss, since the peak month of August, 1939, of about 600. It is necessary to point out, however, that nearly 50 per cent. of this loss occurred in the overseas section. Our European membership has practically disappeared, whilst a decline has taken place throughout the Empire due to the difficulties of maintaining contact.

The balance of the loss can be attributed to the effects of the war, but it is interesting to record that many members, who allowed their subscriptions to lapse earlier in the year, are now applying for re-instatement. The bulk of the home membership loss has been among recently elected members, *i.e.* those of only 1–4 years standing.

One of the most gratifying features of the year's work has been the number of elections to membership. For the 12 months ended September 30, no less than 278 new members were elected, some 50 per cent. of whom are serving in H.M. Forces.

As has been emphasised in the Hon. Treasurer's report, approximately 1,000 members availed themselves of the reduced subscription rates introduced at the outbreak of war. These reductions amounted to what in effect was a loss of £300 in revenue.

## With the Services

It is fitting that early reference should be made to members on active service, for at the present time they represent practically one-third of the total membership. From the commencement of the war it has been one of the chief tasks of the Council and Headquarters staff to maintain the closest possible liaison with members in H.M. Forces. The success of that liaison cannot be fully estimated, but from the evidence which has reached the Council it is clear that to a considerable extent the Society's successful year of work can be attributed to the efforts which have been made in that connection.

During the year, an average of 200 letters have been received each week from members on active service and in spite of depleted staff the Council records with some pride that no letter has remained unanswered when an answer has been required.

Realising the need for organised gatherings of service members, arrangements were made to hold meetings at important Army and Air Force camps. The success of these meetings will have been apparent to all who read the published accounts. The Secretary-Editor represented the Council at R.A.F. meetings held at No. 1 and No. 2 Signals Schools, whilst a much fuller official representation was recorded at the numerous Army meetings, arranged under the auspices of District 7, at Farnborough.

The Council records its thanks to all who co-operated with Headquarters in organising these meetings.

It has been with pleasure that the Council has authorised the continued publication of lists of amateurs on active service. To date (December, 1940) more than 1,000 names have been recorded. The Council is firmly convinced that, apart from its historic value, this documentary proof of the part played by British amateurs will prove of inestimable value in the future.

Appreciating that no adequate facilities existed until recently, in Canada, for the publication of lists of Canadian amateurs who have answered the call

COUNCIL CARRIES ON AT "CIEL"

**Since the air "Blitzkrieg" began, Council has often met on Sunday mornings at R.S.G.B. Temporary Headquarters—the home of G6CL. Here we show seven of the 1940 Council members after a recent meeting. *Left to Right:* G6LL (our new Hon. Editor), G6CJ Aerial Wizard of Stoke Poges (now in "retirement" after three years' service), G6WN (District 15 Representative), G6GR (our new Executive Vice President), G6OT (Hon. Treasurer), G5CD and G6LJ. Incidentally, six members of the Handbook Committee appear in this photograph—the remaining member was behind the camera!**

* *Being the Report of Council read and adopted at the Annual General Meeting, held on December* 14, 1940, *at The Institution of Electrical Engineers, London.*

to service, the Council has been honoured to include in its Journal a record of their names. To Mr. Fred Saxon, VE3SG, Hon. Secretary, Canadian Operators Association, thanks are recorded for providing the lists for publication. A similar expression of thanks is recorded to Mr. Eric Trebilcock who has furnished lists of Australian amateurs on active service.

Under the title " Ham Hospitality," the names, addresses and telephone numbers of over 100 members, who offer hospitality to amateurs visiting their town, have appeared in the Society's Journal. From letters received, the Council is convinced that this demonstration of friendship, on the part of civilian members, has been most warmly welcomed by those on active service who have found themselves in strange surroundings.

### Silent Keys

The Council has to record with deep regret that the following amateurs have died in the service of their country.

| | |
|---|---|
| Telegraphist J. Hamilton .. | G5JH |
| Telegraphist, K. Abbott .. .. | G3JY |
| Flight-Lt. G. Zech .. .. | GM8TT |
| Lt. W. G. P. Brigstocke .. .. | G5ZQ |
| A.C.1 R. W. Hunter .. .. | G3FL |
| A.C.1 J. Buchan .. .. .. | G4QA |
| Flight-Lt. E. J. Allway .. .. | G5AU |
| Wireless Officer J. Vyse .. .. | G4IR |
| L.A.C. D. Biggs .. .. .. | G6BI |
| Sub-Lt. L. E. H. Scholefield .. | G5SO |
| Wireless Officer H. S. Simmons .. | G5SI |

### Prisoners of War

The Council has learned that Capt. E. Shackleton, G6SN, Lt. A. W. Lister, G5LG, and 2nd-Lt. E. M. Frost, BRS2692, are prisoners of war. It trusts that all will shortly be repatriated to their homes.

### The T. & R. Bulletin

For the first 15 years of publication the Society's Journal was accepted as a monthly periodical dealing almost exclusively with the more serious side of experimental amateur radio work. Suddenly in September, 1939, those responsible for its production were faced with the problem of offering a new type of monthly Journal. The success or otherwise of their efforts can best be judged by the membership, but sufficient has been written to indicate that the type of material offered to-day is greatly appreciated. The high technical level has been fully maintained, and in addition features of special interest to those on active service have provided a link which the Council knows is of the greatest value. The unique feature " Khaki and Blue " has received warm commendation from the membership in general, as well as from many outside sources. The topical accounts of service meetings, and the publication of photographs with a service appeal, have also been appreciated.

Radio Cross Word Puzzles and a greetings column were introduced during the year.

The technical aspects have been well catered for by the publication of important articles ranging from the construction of frequency meters to the use of concentric line tuned circuits for V.H.F. operation. To all contributors the Council records its thanks.

### Experimental Section

Although deprived of the services of many of its most prominent leaders, the Society's Experimental Section has, by dint of great perseverance, maintained its full existence. All four pre-war Groups continue to function and although the majority of the activity has centred around the Propagation and Receiver Groups, much useful work has been achieved by the Aerial and Transmitter Groups. Special thanks are recorded to Messrs. Heap, G5HF, and Williams, G2XC, for their outstanding work on behalf of the Receiver and Propagation Groups and to Capt. A. M. Houston Fergus, G2ZC, the Section Manager.

Thanks are also due to Mr. Williams for his monthly Cosmic Notes contribution, and to our two lady members, the Misses Corry, G2YL, and Hall, G8LY, who have kept up their monthly commentaries.

### Month " Off " the Air

Mr. Arthur Milne, G2MI, is anxious to maintain this record of amateur activity on the bands above 10 metres, but co-operation is essential. The cartoons which have been a regular feature of the " Month Off the Air " column have been much appreciated.

SUBURBAN SUNDAY

**At an hour when in peace time most of them were calling " Test DX," Council members have met once a month at R.S.G.B. Temporary Headquarters. Here is part of a recent car parade. The " mighty atom " in the foreground has probably visited more " ham gatherings " than any other in the country—the owner is G6LL.**

The Council desires to record its thanks to Mr. Milne for the very fine work he has carried out on behalf of the Society over a period of many years. With his transfer to Harrogate his place as Hon. Editor will in the New Year be filled by Mr. J. W. Mathews, G6LL, but the Council trusts that Mr. Milne will continue, as hitherto, to render the same invaluable service as in the past. His work as BULLETIN draughtsman has continued, for which voluntary service the Council is greatly indebted.

### Advertising

The excellent support given to the Society by advertisers has been very greatly appreciated.

Throughout the year an average of nine pages of advertising were booked each month, a figure which compared very favourably with the pre-war level.

The Council wishes to thank Mr. H. Freeman of Parrs Advertising Ltd., for his co-operation in connection with advertising.

### The Amateur Radio Handbook

In presenting their last Annual Report Council recorded that a reprint of the first edition of the Society's handbook had made its appearance during the first weekend of September, 1939. Although the Council anticipated that the 3,000 copies ordered would ultimately be sold, they could not at that time visualise the enormous demand which would arise, particularly from the Services. As most members are aware the whole of the reprint was exhausted before January, 1940.

The Council were then faced with the problem of deciding whether a second reprint should be ordered, or an attempt made to produce a new and enlarged edition. After the most careful consideration it was decided to prepare a new edition. No praise is too high for those members of the Handbook Committee who co-operated with the Secretary-Editor in the production of the new edition which was placed on sale at the end of July.

Although a slight increase in selling price became necessary, the demand again exceeded every expectation, with the result that nearly three thousand copies had been sold up to the end of the financial year. A reprint of 5,000 copies has recently been put in hand.

Thanks are recorded to two new Handbook contributors, Capt. E. Shackleton, G6SN (now unhappily a prisoner of war) and Dr. S. O'Hagan, G2CR.

### District Meetings and District Notes

Only one properly constituted Provincial District Meeting was held—and that at Birmingham, but the 70 members who attended, which included a contingent from No. 1 Signals School, R.A.F., were unanimously of the opinion that it was one of the best ever held in the provinces.

Numerous District meetings were organised, but due to prevailing circumstances, attendances, except in certain areas (notably District 4) were small. Praise is due to the members of District 15 who met monthly until recently at the Excelsior Hotel, Ladbroke Grove, London.

The Council records its thanks to those Northern Ireland members who have consistently extended hospitality to service members on duty in their country. The splendid work undertaken by the Radio Society attached to the Belfast Branch of the Y.M.C.A. has been equally appreciated.

The Council trusts that as a result of the Editorial appeal made in September members will endeavour to furnish their D.R. or Scribe with news of their activities.

The Council records its thanks to all D.R.'s and others who have in any way contributed to the social aspect of Society life.

### Liaison with the G.P.O.

Throughout the year the President has maintained a close personal liaison with the G.P.O. Numerous matters, most of concern only to individual members, were discussed, and in general, satisfaction was obtained. The Council after very careful consideration of suggestions made to them privately, decided that no useful purpose would be served by discussing with the G.P.O. matters concerning post-war licence facilities. The membership may, however, rest assured that at the appropriate time, steps will be taken to press for the early return of licence facilities.*

### Liaison with the Services

A very close liaison has been maintained with the fighting services, and valuable assistance given as occasion demanded.

### Bankers' Orders

Commencing in January a new form of statement of account was issued. This included a Bankers' Order for the benefit of members with current accounts. The success of this innovation can be judged by the fact that during the nine months up to the end of September 116 members had availed themselves of the new arrangement. The Council trusts that as many members as possible will co-operate with Headquarters by placing a standing order with their bankers for the annual payment of their subscription.

### Subscriptions to A.R.R.L. and Radio

Due to the fact that private persons may not send money to the U.S.A. the Society undertook to arrange Mail Transfers, to cover subscriptions for American publications. The arrangement, whilst calling for considerable clerical effort, has proved beneficial to many members.

### QSL Service

Although the sending and receiving of QSL cards has fallen off considerably during the year, the Council records its thanks to Mr. and Mrs. A. O. Milne for their services in connection with the distribution of cards received at the Bureau.

### Censorship Delays

The Council feels it should record that delays in sending Society literature (including the Society's Journal and The Amateur Radio Handbook) to Northern Ireland and Eire, have been brought about by the introduction of a Military Censorship.

Delays in the receipt of letters and reports from Ireland can also be attributed to the censorship.

### Changes of Address

During the year it is estimated that over 1,500 changes of address have been advised to Headquarters. Whilst appreciating the difficulties which have been brought about by evacuation and other war contingencies, the Council would urge all members to use a permanent home address wherever possible. Provided redirection takes place promptly no extra postage is required. In an attempt to oblige Service members, Headquarters has frequently, against its better judgment, arranged to send the Society's Journal to Service addresses, only to find that within a few weeks copies have been returned, as the addressee has moved without sending advice.

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* In this connection the attention of Members is drawn to the Article on page 256 entitled "The Future of Amateur Radio."

### Certificates of Achievement

Although the number of certificates issued has been comparatively small, the Council has been pleased to see that interest is being maintained. It was with regret that the Council learned that the A.R.R.L. was unable to agree to a reciprocal arrangement being made, whereby the R.S.G.B. approved DX Century Club claims in exchange for the A.R.R.L. approving B.E.R.T.A. claims.

### London Meetings

During the winter months a few fairly well attended meetings were held at the Institution of Electrical Engineers, but in view of prevailing difficulties, the Council is unable to make similar arrangements for the present season.

### Council Meetings

The Council records its thanks to the Television Society for permitting Council meetings to be held at their premises in Featherstone Buildings, High Holborn. The news that enemy action had caused serious damage to the Television Society Headquarters was to some extent minimised when it was learnt that the historical records had been saved.

### Future Policy

It will be the aim of the Council to continue, as far as circumstances permit, to maintain the same services as were rendered last year. No effort will be spared to include a maximum amount of informative technical and topical material in each issue of the Society's Journal, whilst the same careful attention will be given to the individual requests of members.

In so far as it lies within the power of Headquarters staff every effort will be made to continue close contact with Service members and with District Representatives.

The friendly relations which have been established with Government and Service Depts. will be continued, and no opportunity will be lost in obtaining recognition for the work being done by amateurs generally.

In concluding its Report the Council wishes to extend greetings and best wishes to all members especially to those who are on active service.

# ANNUAL GENERAL MEETING

*Minutes of the 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, at 2 p.m. on Saturday, December 14th, 1940.*

Present :—Mr. A. E. Watts (President), Mr. A. D. Gay (Executive Vice-President), Mr. H. Bevan Swift (Past President), Mr. H. A. M. Clark (Hon. Treasurer), Messrs. Corfield, Gardiner, Mathews, Wilkins (members of Council), Mr. John Clarricoats (Secretary-Editor) and about 30 members.

An apology was received from Mr. S. K. Lewer (Member of Council).

* * *

The President called upon the Secretary-Editor to read the notice convening the meeting, after which, on a motion proposed by Capt. G. McLean Wilford, G2WD, seconded by F/Lt. H. C. Page, G6PA, it was unanimously agreed that the Minutes of the last Annual General Meeting, as published in the January, 1940, issue of the Society's Journal, should be taken as read and adopted.

On a motion proposed by Mr. H. A. M. Clark, G6OT, seconded by Mr. H. Bevan Swift, G2TI, it was unanimously agreed to adopt and approve the Annual Balance Sheet and Report.

The Secretary-Editor read the Report of Council at the conclusion of which he asked to be allowed to record his personal appreciations and those of Miss Gadsden, to Mr. Arthur Watts (the retiring President) for his past assistance to Headquarters Staff. He referred to Mr. Watts' outstanding work during his six years in the Presidential Chair and spoke of his unfailing interest in all phases of Society activity.

Mr. Bevan Swift in proposing the adoption of the report associated himself wholeheartedly with the views expressed by Mr. Clarricoats, and recalled that when he installed Mr. Watts as President for the first time in December, 1933, he had assured the membership that the welfare of the Society would be in good hands. The accuracy of his prophecy had become apparent during the past seven years—the most successful in Society history.

F/Lt. Page seconded the motion for the adoption of the report, which was carried unanimously.

The President thanked the previous speakers for their remarks and then announced that the following had been duly elected to serve on Council as Officers and Members during 1941 :—

*President* : Mr. Alfred D. Gay, G6NF.
*Executive Vice-President* : Mr. E. L. Gardiner G6GR.
*Hon. Treasurer and Hon. Secretary* : Mr. H. A. M. Clark, G6OT.
*Hon. Editor* : Mr. J. W. Mathews, G6LL.
*Members* : Messrs D. N. Corfield (G5CD), E. A. Dedman (G2NH), S. K. Lewer (G6LJ), W. H. Matthews (G2CD), W. A. Scarr (G2WS), A. J. H. Watson (G2YD), and H. V. Wilkins (G6WN.)

Mr. Watts mentioned that the retiring Council had recently approved emergency arrangements for carrying on the work of the Society, if, for any reason, a quorum of Council members is unable to meet.

Mr. Watts also stated that the Council was in communication with the G.P.O. regarding claims for damage to members' apparatus, whilst in their care.

On a motion proposed by F/Lt. Page and seconded by Capt. Wilford it was agreed to appoint Mr. John Ockleshaw the Hon. Auditor for 1941.

On a motion proposed by Mr. Swift, seconded from the Chair, a vote of thanks was passed to the President and Council of the Institution of Electrical Engineers, for allowing the Society to use the Institution for meetings.

This concluded the official business.

(*Continued on page* 276.)

# A FIELD OPERATOR'S 'VADE MECUM'

## PART I.

By B. W. F. MAINPRISE, B.Sc.(Eng.), Diploma Electrical Engineering, (G5MP).

*Here is the first of a new series of articles which will take their place alongside those entitled "The Helping Hand." The helpful advice presented should prove of use to many members, both in and out of the services.*

THE operator of communications equipment in the field has a task which is both unenviable and enjoyable. Unenviable because difficult transit, hasty erection and hostile action is bound sooner or later to put the equipment out of action—enjoyable because repairing or improvisation with only rough articles at hand always gives one a feeling of satisfaction on its successful conclusion.

Often a repair to a damaged component seems almost impossible. When one has thought out a suitable method it perhaps appears to have been so self-evident all the time that one is amazed it took so long to devise. As repairing and improvising are essentially practical subjects, the various hints below are given in a practical rather than in a more formal way, on the lines of the Question and Answer system so popular in oral examinations in such matters as Board of Trade certificates for seamanship, etc.

In many cases, there are doubtless neater methods of accomplishing the desired result than those given by the writer, and it is hoped that other readers will send in details of emergency repairs which they have had to effect.

1. *You are given a receiver and its power supply, but no aerial wire. How would you remedy the deficiency?*

The receiver would almost certainly have some flex leads, for connections to the batteries or to the mains. I would remove some strands from the flex, choosing those leads which carry only a few milliamps, such as H.T. leads, and not touching those heavily loaded such as L.T. current leads where an increased voltage drop would impair the working of the equipment. For instance three flex leads a yard long, of 7-strand conductor, could safely each have four strands removed, and these, joined end to end would provide an aerial wire of nearly 36 ft. The leads should have the braided insulation replaced; if this is impossible they can be taped, or even bound with paper till they can be replaced.

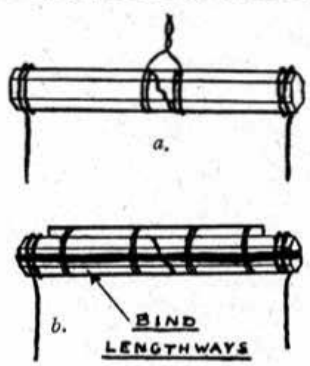


**Fig. 1a (above) illustrates a method of repairing a small carbon resistor. Fig. 1b (below) shows how a defective coated resistance may be made serviceable.**

2. *How would you repair a 1-watt carbon resistor, broken in the middle?*

I would scrape away the surface enamel of the resistor near the break; then bind wire tightly round the resistor as close to the break as possible, and twist together the two binding wires. (Fig. 1a.)

3. *If the resistor were coated with ceramic or vitreous insulation, how would you proceed?*

I would first place a splint such as a used match along the resistor and bind tightly in place. Then, pressing the broken surfaces firmly together, the resistor must be bound lengthways with tape or thread—not wire, unless this is insulated from the ends of the resistor. (Fig. 1b.)

4. *Would you place anything between the broken surfaces to improve the contact?*

Yes, if the contact seemed very poor, I would try a drop of conducting liquid such as salt water. One might even use a drop of the acid electrolyte from an accumulator, but the salts deposited in the break may give trouble unless kept moist till the resistor can be replaced.

5. *How would you proceed to repair a wire-wound resistor which has a break in the winding?*

Examination of the vitreous coating of the resistor for a small bubble will generally locate the break. The winding around this point should be scraped clear, using caution, as the gauge is normally very fine. A small piece of silver paper from the wrapping of cigarettes or sweets should then be placed over the exposed portion and bound tightly in place.

6. *If the break cannot be located by eye, what procedure could be adopted?*

Scrape clear a small portion of the winding in the centre of the length. Test for continuity between the centre and each end; this will show in which half of the winding the fault lies. Scrape clear a small portion one quarter along the winding in the faulty section. Test for continuity between this quarter tapping and the end, then the centre of the winding, so as to find in which section of the winding the fault exists. If the value of the resistance is not of great importance, the faulty quarter length can be shorted with silver paper as in the previous example, but if the resistance must be kept as close as possible to its former value, then a continuity test to discover which eighth part of the winding is faulty, must be applied and the shorting by silver paper accomplished there.

7. *The output transformer of your receiver or amplifier is damaged. What could you substitute for this?*

A spare mains transformer makes an excellent emergency substitute for an output transformer. For instance, one with secondaries of 250–0–250 volts, 3–0–3, and 2–0–2 volts with primary tapped for 200/250 volt mains will provide a wide range of ratios, such as 200/250, 200/500, 200/6, 200/4, 200/3, 200/2, 250/10, 230/7, etc.

8. *What would be average figures for the resistance of primary and secondary windings of a mains transformer?*

As a general rule, the smaller the transformer, the smaller must be the gauge of wire employed for the windings. Also, the smaller the transformer, the greater must be the number of turns per volt. Thus a small transformer may have a primary resistance of perhaps 200 or 300 ohms, while a larger one, of say, 100 watt rating, may have a primary resistance nearer 50 ohms. These figures are considerably below those of the average small output transformer of the 3-or 4-watt type, where 500 ohms seems a very common figure for the primary.

9. *What about the secondary resistances of the mains transformer?*

The high-voltage secondary has to carry a smaller current than the primary. Consequently a smaller gauge wire will normally be used, and its resistance per turn will be somewhat higher than that of the primary, perhaps 30 or 40 per cent. higher. The resistance of a filament winding will be only a fraction of an ohm, for these windings consist of perhaps 20 turns of gauge 16 wire.

10. *You have some receiving equipment rated for 220 volt A.C. mains. What would be the effect of plugging it into a 220 volt D.C. supply?*

The primary resistance of the mains transformer is, say, around 200 ohms. If connected to 220 volt D.C. mains the primary current would be 220/200 amps, = 1·1 amps. The power dissipated in the primary winding would be 220 × 1·1 watts. The error would be shown by serious over-heating of the transformer, accompanied by smoke and smell from the insulation and varnish.

11. *Suppose your equipment is rated for 220 volt D.C. supplies, and it is accidentally connected to a 220 volt A.C. supply?*

The current taken from the A.C. supply would not be greater than when connected to the D.C. mains, and thus there would be no overload. The equipment would merely not function, but would not be damaged, unless the A.C. reached electrolytic condensers, which would break down.

12. *You have to set up hurridly some receiving equipment designed for A.C. operation. A house supply of correct voltage according to its lamps is available, but it may be either A.C. or D.C. You have no time to test it. What precaution would you take?*

As there is no time to test it, or to search for the meter where the mains enter the house, I would be obliged to switch on for a few seconds, carefully watching the heaters of the valves, and the dial light—if any. If the glow of the heaters just above and below the cathodes is not visible within three seconds, I would immediately switch off, as a D.C. supply would be indicated. Probably there would be a distinct " thump " from the mains transformer when switching on and off, due to the heavy magnetisation of the core on the large D.C. current, though this by itself is not conclusive, since even on A.C. there is often a " thump," masked by the click of the switch.

13. *Your equipment is rated for operation off A.C. supplies. No A.C. being available, you arrange to supply the heaters of the valves with D.C. from an accumulator (duly remembering to disconnect the heaters from the heater winding), and to provide an H.T. battery for the anode supply. On connecting the H.T. battery however, the fuse in the H.T. lead blows. The fuse was satisfactory just previously on A.C., and checking the connections shows nothing amiss. What reason would you suggest for the blowing of the fuse?*

Probably it is merely the charging current of the filter condensers, and there is no actual fault in the equipment. On A.C. the heater of the rectifier takes perhaps a second before reaching full emission. Therefore the charging current of the condensers is not in the form of a sudden surge. On connecting to an H.T. battery however (or to D.C. mains) the full voltage is immediately applied to the condensers, and the charging current is a violent surge, which frequently is heavy enough to blow the H.T. fuse. One remedy is to insert a resistor of 200 ohms or less in the H.T. positive lead to damp down the surge. A 1-watt or even a ½-watt resistor should suffice in most cases. If none is available, then the first filter condenser should be disconnected, so that the current first passes through the smoothing choke of the filter system; the resistance of the choke, and especially its inductance, will effectively damp out the surge.

14. *You say the resistance should be connected in the H.T. positive lead. Could it not equally well be connected in the H.T. negative lead?*

As far as reducing the surge is concerned, it does not matter in which lead the resistor is placed. But there is another point to consider. Suppose there is a drop of 5 volts across a resistor in the H.T. positive lead. This reduction of 5 volts in the anode supply of perhaps 200 volts is a very small percentage, and is negligible. But if the resistor is transferred to the H.T. negative lead, then the 5 volts will in some positions act as bias. The 5 volts increase may well be a 100 per cent. increase for the early stages of a receiver or amplifier, and may seriously impair normal operation. Therefore, it is wise practice only to place resistors in H.T. negative leads after careful consideration of their biasing effect.

*(To be continued.)*

## Pico and Micro!

Tel. J. H. Brazzill, G3WP, raises an interesting point in regard to the symbols used to distinguish the capacity of condensers.

He points out that now the letter " *m* " has been universally adopted to signify " milli- " some confusion is likely to arise among the " younger generation " when condensers are marked in accordance with the old practice " MF " or " MFD."

Whilst this Journal, *QST* and *Radio* consistently use the symbols " μ " and " μμ " to signify " micro- " and " micro-micro " he finds that certain English publications use terms such as ·002 mF., which strictly speaking means ·002 *milli* farads and not ·002 *micro* farads.

He also inquires whether the abbreviation *pF.* (pico-Farad) signifies " milli-micro farad." This term (seldom used in England) signifies " micro-micro farad " written " μμF."

## " All Clear " at G4CI

It was recorded in District 7 notes last month that the home of Mr. Derek Babbage (G4CI) at New Malden had been wrecked. We are happy to be able to report that this statement was incorrect.

# LOGS—

## But not Winter Ones

*Very shortly our "Maths Master" will be helping us to rub up our faded knowledge of Logs. To pave the way for this coming ordeal Douglas Gordon Bagg (VP4TO ex G6BD), author of the Handbook Chapter entitled "The Measurement of Great Circle Distances" has forwarded a contribution in not too serious a vein. We hope you like it—we do!*

WHEN you have to carry out some intricate mathematical problem, such as the calculation of capacities or inductances or wavelengths, don't you often feel how nice it would be if you could do them by simple addition and substraction instead of by multiplication and division? If you have the energy or patience to read through to the end of this article, you should be enabled to forget all about long division and do your sums by the simple use of logarithms.

### A Little Algebra

Suppose we go back to the days when you did a little algebra and learnt all about $x^3$ and $x^2$ and so on. If you wanted to multiply these two numbers together, what did you do? You just added the 2 to the 3 and got the answer $x^5$. Likewise, if you wanted to divide $x^3$ by $x^2$ you subtracted 2 from 3 and got the answer 1, which is understood when you write x. If you wanted to divide $x^3$ by x, then you subtracted 1 from 3 and got $x^2$. Isn't it easy? Perhaps you did a little more complex algebra and multiplied $x^{2.5}$ by $x^{1.3}$. By the same simple process the answer was $x^{3.8}$, and if you wanted to divide the first by the second instead of multiplying them together, the answer was $x^{1.2}$.

### The Logarithm—A Power!

All that, is the principle upon which logarithms are founded. Any number can be created by raising an arbitrary number to a "power," as the 2 or the 3 or the 1·2 is called. If your number is 4, then it can be created by raising 2 to the second power, that is $2^2$. If your number is 27, it is equal to $3^3$, and if it is 100, it is equal to $10^2$. One thousand is $10^3$, 10,000 is $10^4$, and so on. This power is called the "logarithm." Well, it is obvious that if we want to have a system which everyone can use for these logarithms we must have a fixed figure to raise to some power to get our number, and the easiest one for our purpose is 10. That is, the logarithm of the number, is the power to which 10 must be raised, to be equal to the number.

This 10 is called the "base," and the whole thing can be concisely expressed by the equation

$$\text{number} = \text{base}^{\text{logarithm}}$$

or, the number equals the base raised to the power of the logarithm.

### Logs of Numbers Greater than 1

Keeping to the base 10 henceforth, we can see from some of the examples given above that the logarithm of 10 is 1, the log of 100 is 2, the log of 1,000 is 3, the log of 10,000 is 4, and so on. But what about the log of 1? Perhaps you remember that any number to the power nought is equal to unity. Hence 10 to the power nought is equal to one, and the logarithm of 1 must be nought.

Now, what about the logs of numbers between these multiples of ten? It is evident that they must be fractional numbers. The logs of numbers between 1 and 10 must be between nought and 1, and a few which can be easily remembered are log 2, which is 0·3010300, log 3, which is 0·4771213, and log 5, which is 0.6989700. As a matter of interest to check these logs, add log 2 to log 5. The answer is 1, which is the log of 10, the product of 2 × 5. These few logs are given to seven decimal places, but it is generally sufficiently accurate to use only four decimal places, and most of the tables of logarithms which you see are so compiled.

The logs of numbers between 10 and 100 must be between 1 and 2. Suppose we want the log of 20. This number can be factorised into 2 × 10, so working on the rules given above, the log of 20 will be equal to the log of 2 added to the log of 10. The former is 0·3010300, and the latter is 1·0000000, so that the log of 20 must be 1·3010300. Similarly the log of 30 is 1·4771 (to four decimal places), the log of 300 is 2·4771, the log of 2,000 is 3·3010, and the log of 50,000 is 4·6990.

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If you look carefully at these logs, you will see that the figure to the left of the decimal point is equal to the number of noughts following the single figure, or one less than the number of digits to the left of the decimal point in our original number. This figure is called the "characteristic" of the logarithm, and tells us where to place the decimal point in the number. If this characteristic is 4, then we must have *five* figures to the left of the decimal point, and if you haven't enough digits, you must make up with noughts. That is, your number must be in the tens of thousands. If your characteristic is 5, then your number must be in the hundreds of thousands.

The part of the log to the right of the decimal point is called the "mantissa" and is the part given in the tables of logs. When you are looking up the mantissa you ignore the decimal point in your number, since that concerns only the characteristic which you can work out for yourself at a glance.

### Logs of Numbers Less than 1

We said above that the log of 1 was nought, so what about the logs of numbers less than 1? They must be negative quantities. The log of 0·2 is minus 0·6990, and the log of 0·5 is minus 0·3010,

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*Illustration shows S.P. with cover removed.*

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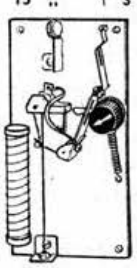

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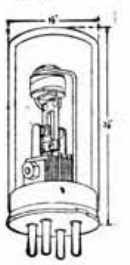

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but these minus quantities are not so easy to handle, because if we want to add a negative quantity to a positive quantity, we must actually subtract the former from the latter. If we want to subtract a negative quantity from a positive one, we have to add the two numbers together. This changing of signs is apt to be a little confusing, and if you look carefully at the two logs given you will see that we can obtain them by adding the logs of 2 and 5 respectively to minus 1. In this way we can write log 0·2 as $-1 + 0{\cdot}3010$, which if you work it out comes to $-0{\cdot}6990$. Similarly, we can write log 0·5 as $-1 + 0{\cdot}6990$, which comes to $-0{\cdot}3010$. The usual way to write these logs with a negative characteristic is to put a bar over the characteristic to indicate that it alone is negative, leaving the mantissa positive. In this way, we have log 0·2 as $\bar{1}{\cdot}3010$, and log 0·5 as $\bar{1}{\cdot}6990$. In a similar way, the log of 0·03 would be $\bar{2}{\cdot}4771$, and the log of 0·005 would be $\bar{3}{\cdot}6990$. You see that in this case, the negative characteristic is one *more* than the number of noughts following the decimal point. In words, this last log is " bar three point six nine nine nought."

## Multiplying and Dividing

Now, suppose we want to multiply 20 by 0·005. The two logs are $1{\cdot}3010$ and $\bar{3}{\cdot}6990$. Both mantissae are positive, so we just add them together and get 1·0000. Then we have to add together this 1 and the two characteristics, which are 1 and $-3$. This becomes $2 - 3$, which equals $-1$, and so the log of our answer is $-1{\cdot}0000$. As 0·0000 is the log of 1, the only figure in our answer will be 1, and as the characteristic is minus 1, the decimal point will be just to the left of the 1 without any noughts, and our final answer is 0·1. As another example, let us multiply 300 by 0·02. Our logs are $2{\cdot}4771$ and $\bar{2}{\cdot}3010$, and adding them together as we did before, we get the log of our answer to be 0·7781. There is no characteristic since the plus 2 and the minus 2 cancel out, the mantissa is the log of 6, and so our answer is 6·0.

In many books of log tables, especially four-figure ones, you will see a table called " antilogs." These are the same things, but put the other way round with the logs at the side and top, and the numbers in the main columns, so that when you have finished adding the logs together you can get your answer more easily than by using the tables of logs.

Suppose we want to do some division by logs. Then we do just as before, but we subtract the logs instead of adding them. If we want to divide 5 by 2, we subtract 0·3010 from 0·6990 and get the resultant log 0·3980, which we find from the table of antilogs to be the log of 2·5. (The log of 2·5 is really 0·3979, but the shortening of the logs to four figures sometimes introduces an error of 0·0001 in the log.) If we want to divide 20 by 0·05, we take the two logs $1{\cdot}3010$ and $\bar{2}{\cdot}6990$ and subtract the latter from the former. This is not quite so straightforward, and is best written out as below:

$$\begin{array}{r} 1{\cdot}3010 \\ -2 + 0{\cdot}6990 \\ \hline +2 + 0{\cdot}6020 \\ \hline \end{array}$$

During the subtraction the negative characteristic $-2$ changes its sign to plus, so that the log of our answer is plus 2·6020. The antilog of this is 400, which is our final answer. (Again there is a slight error of 0·0001 in the log, for the same reason.)

## Squares and All That

If we have a number multiplied by itself, or " squared," we should, by the above procedure, add two exactly equal logs together, but it is simpler just to multiply the log by two. Similarly, if the number is to be cubed, we multiply the log by three. The log of 3 is 0·4771, so that the log of 3 cubed is $3 \times 0{\cdot}4771$, or $1{\cdot}4313$, the antilog of which is 27. If we want the square root of a number we divide the log by two and take the antilog. The log of the square root of 3 is therefore 0·2386, the antilog of which is 1·732. The log of the square root of 2 is 0·1505, and the antilog of this is 1·414.

## The Proof is in the Working

Let us work out an example to demonstrate how easy logs really are. Suppose we want to calculate the wavelength of a tuned circuit consisting of an inductance of 38 microhenrys and a capacity of 0·00025 microfarads. We know the formula for this calculation is

$$\lambda = 1{,}885\sqrt{LC}$$

so we take the logs of 38 (1.5798) and 0·00025 ($\bar{4}{\cdot}3979$) and add them together. We then get

$$\begin{array}{r} 1{\cdot}5798 \\ -4 + 0{\cdot}3979 \\ \hline -4 + 1{\cdot}9777 \\ \hline \end{array}$$

or $-3 + 0{\cdot}9777$, which is usually written $\bar{3}{\cdot}9777$. To get the square root of LC, we have to divide this $\bar{3}{\cdot}9777$ by two. This is not quite a straightforward operation, as we have an odd number for our negative characteristic. So we make our negative characteristic into an even number, $-4$, by adding $-1$ to it, and to balance this we add plus 1 to our mantissa. Thus we get

$$-4 + 1{\cdot}9777$$

This is quite easy to divide by 2, when we get

$$-2 + 0{\cdot}9889 \text{ (to four figures)}$$

or $\bar{2}{\cdot}9889$. Now we have to get the log of 1,885 and add it to this log to get the log of our wavelength. The log of 1,885 is $3{\cdot}2754$, so that the log of our answer is

$$\begin{array}{r} -2 + 0{\cdot}9889 \\ 3{\cdot}2754 \\ \hline -2 + 4{\cdot}2643 \\ \hline \end{array}$$

which is 2·2643. The antilog of this is 183·8, so that the wavelength of our circuit is 183·8 metres. All this takes much longer to describe than it does to carry out in actual practice.

Isn't it easy? Aren't you glad you know how to use logs?

# AERIAL POLARISATION ON THE ULTRA-HIGHS*

By E. H. CONKLIN (W9BNX)
(*Associate Editor "Radio"*)

FOR a reason that may have been a good one, vertical aerials were the custom on 56 Mc. back in the days when 5 miles was good DX and aerial systems were relatively low. As time went on, the range was extended well beyond the horizon but, presumably due in part to the fact that a good signal is generally produced only by a receiving aerial, when erected in the same plane as the transmitting aerial, most tests resulted in confirmation of the superiority of vertical arrangements. Recently, a statement appeared in a well-known amateur journal to the effect that all tests show vertical polarisation to be better than horizontal. At this date there is some reason to re-check old experiments and give some weight to experimental work conducted by *R.C.A.*, the *Bell Laboratories*, and others.

## Commercials prefer Horizontals

The television transmissions in Europe have mostly been radiated on vertical arrays whereas in America horizontals have been favoured. Television involves problems not present in other types of work, such as for example, the reduction of "ghost images" caused by reflected signals, and the possible need for separate sound and vidio aerials, both of which cannot be mounted at the very top of a building.

On the other hand, numerous frequency modulation transmitters are now using horizontal aerials, as are the several 100 Mc. circuits used by *R.C.A.* to connect their New York City offices with Rocky Point and, by two relays, with Philadelphia. Certainly, there must be some reason for not using verticals for these purposes.

## Making Tests

It is not enough to know that one type of polarisation produces the best signal or the least fading. If the other polarisation is not greatly inferior, it will be well to consider whether outside noise, such as ignition, can be reduced even more, thus producing a better ratio of signal to outside noise.

An important consideration in making any tests of aerial polarisation is the comparison of actual aerial power at the necessary low vertical angles. If two aerials are erected and tested results obtained will show only which one is better when used with the particular aerial of the station being worked. If one has a better low angle output, this should be given proper weight in the results, unless it is an inherent fault of that type of polarisation which cannot be remedied by a rearrangement of the radiating system. Diagrams showing theoretical aerial patterns over "perfect ground" are not true for vertical polarisation even over sea water.[1] Another important factor is the nature of the terrain between the transmitting and receiving stations.

It appears that the effect of aerial polarisation will show up in one of the following forms :—

(*a*) A difference in the relative power radiated by the aerial at useful low angles above the horizontal.

(*b*) Loss or cancellation due to ground reflection at either end of the circuit.

(*c*) The direct diffraction effect around the earth's curvature and over the tops of intervening hills.

(*d*) The amount of atmospheric refraction in the direct diffracted signal.

(*e*) The effect upon the air mass boundary reflection ("bending") in the atmosphere.

## Some Experimental Results

The results of careful experimental studies are summarised below :—

"The superiority of vertical as compared with horizontal polarisation over salt water with low aerials has been pointed out. However, this should not be misconstrued to indicate that such a relation necessarily holds true for high aerials. Previous tests in the Hawaiian Islands have indicated no appreciable difference between vertical and horizontal polarisation tests when using high aerials located several thousand feet above sea level."[2]

A second comment is :—

"The available data are based on overland transmission, for which case there seems to be little difference between vertical and horizontal polarisation. Over sea water, vertical polarisation is superior to horizontal polarisation, at least for moderate distances with relatively low aerials."[3]

One of the best of the more recent studies (made by the engineers of the *Bell Telephone Laboratories*) and one which is worthy of considerable note[4], will be summarised here.

Over a period of two years, measurements were made on wave-lengths between 1·6 and 5·0 metres, using a transmitting site in New Jersey near Sandy Hook at an altitude of 119 ft. A central 60-ft. mast surrounded by four 30-ft. poles supported

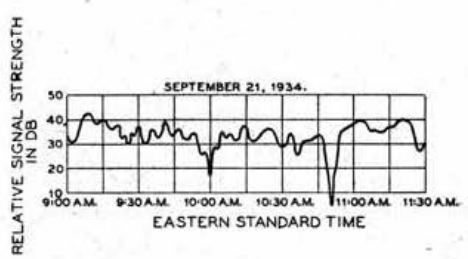



**Fig. 1.**
**An Oscillogram illustrating the "Roller" type of fading experienced on 4·7 metres with vertically polarised transmission and reception.**

* *Published by kind permission of the Editor of "Radio," 1300 Kenwood Road, Santa Barbara, California, and with the agreement of the author.*

a group of transmitting aerials which included both a vertical and a horizontal rhombic (each terminated in its surge impedance with carbon lamps), an unterminated inverted "Vee," and a half-wave doublet. The receiving site with the same aerial equipment was nearly at sea level, 70 miles east, at East Moriches, Long Island.

### Fading

It was found that fading was present almost all of the time, one particular type termed "roller," because of the long periods of high signal separated by short and sharp fades, being particularly noticeable on signal strength records (Fig. 1). A second type was described as "oscillating" as it was sometimes as rapid as five times a second (Fig. 2). The worst fading was 40 dB., a condition which made simultaneous recordings necessary when comparing two aerials or frequencies. In general, the horizontal component showed the worse fading (more per minute and of greater amplitude range), especially when fading on vertical polarisation was also bad. Generally, however, there was no coincidence between the fading on the two types of polarisation, but it was usually worse on the lowest wavelengths. As the distance between transmitter and receiver was increased, fading increased as the signal fell. Using two horizontal doublets 14 and 52 ft. high, a signal level difference of 12 dB. was observed in favour of the higher aerial, but fading was identical. When a test was made on two aerials 150 ft. apart and substantially broadside to the radiation, identical fading was recorded.

If the experiment had ceased at that point, it would have been but another observation of conditions with an attempt neither to analyse them for their causes, nor to find if the results are general. Happily, it went much further, and portions of the study can be reviewed here.

### How Signals are Propagated

By "wobbling" the frequency of the transmitters over a band several megacycles wide and by observing the received signal on an oscilloscope, the signal level at each frequency in a wide band could be seen instantly. Some of these patterns were simple enough to allow the investigators to determine the difference in path lengths that caused wave interference, and to calculate the height of the reflecting boundary in the atmosphere. It was found that some of these boundaries were as high as 5·5 kilometres, but most reflections were characteristic of boundaries below an altitude of 2 kilometres. Aeroplane flights made by the U.S. Weather Bureau provided temperature and water vapour data at various altitudes, from which the dielectric constant of the air could be calculated. The measured heights of the reflections agreed quite well with the height of the discontinuity of the dielectric constant, inversions in temperature, and of water vapour pressure. These appear as "jumps" in the curves as shown in Fig. 3. It will be noted that the temperature inversion below an altitude of 400 metres was not the cause of the reflection.

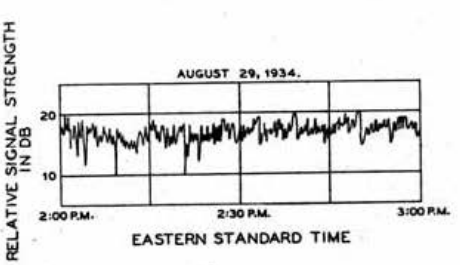



Fig. 2.

**Illustrates the "Oscillating" type of fading experienced from a vertically polarised transmitter operating on 4·7 metres.**

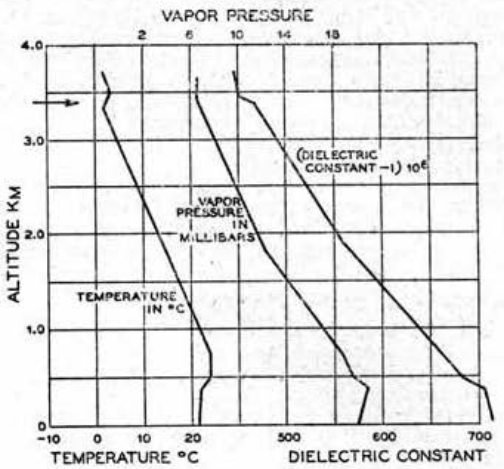



Fig. 3.

**Air mass boundary heights given by U.S. Weather Bureau compared with measured heights from frequency sweep patterns on ultra-high frequencies**

In arriving at the direct diffracted field strength, a correction for refraction was applied. Signals fall off with distance, partly because the earth drops below the horizon of the transmitting aerial. This is less than the expected amount, the actual condition being very much as though the earth's diameter were about 1–1/3 times what it is actually. The amount of refraction of the direct signal depends on the season and the type of air mass, as given in the following table:

| Air Mass Type. | Effective Earth Radius. | |
|---|---|---|
| | Summer. | Winter. |
| Tropical Gulf ... ... | 1·53 × R | 1·43 × R |
| Polar Continental ... | 1·31 × R | 1·25 × R |
| Superior ... ... | 1·25 × R | 1·25 × R |

R = Actual earth radius.

### Air Mass Boundary Reflections

The above types of air masses are also involved in the form of reflection (low atmosphere bending) which brings about most of the 200 mile DX on the ultra-high frequencies. The boundaries between air masses furnish discontinuities in the dielectric constant adequate for reflections at grazing angles and for very high frequencies. The greater the

stability of the boundary, the more abrupt it is likely to be. Generally, it will be stable when a superior air mass overlays one of the other two types mentioned above.

Formulæ are now available with which to calculate field strength, at increasing distances from a transmitter, resulting both from the direct refracted-diffracted signal transmitted along the earth's surface, and the " low atmosphere bending " signal reflected from an air mass boundary. A chart of these components for horizontal and vertical aerials, under specified conditions, is given in Fig. 4. The

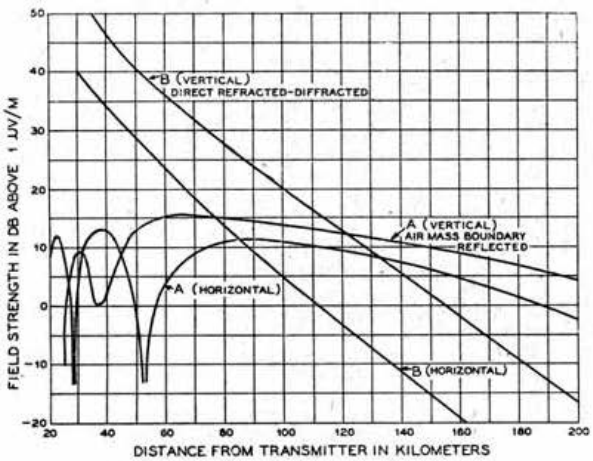



**Fig. 4.**

**Calculated curves for air boundary reflected, and earth refracted-diffracted, radiation components, in both vertical and horizontal polarisation. Short doublet aerials, 1 kW. power radiated, wave-length 4·7 metres, ground conductivity $5 \times 10^{-11}$ E.M.U. and dielectric constant 80 for sea water. Height of transmitter aerial 42 metres, of receiver aerial 5 metres, air boundary height 1,500 metres, effective radius of earth 8,500 kilometres.**

*B* curves indicate how sharply the " local " signal drops off beyond the horizon (the decline is sharper at higher frequencies), they also indicate that for this type of propagation, the vertical aerial produces a signal about 15 to 18 dB. greater than a horizontal, *over sea water*. The *A* curves, however, indicate that beyond 50 miles—and still over sea water—the advantage of the vertical aerial may be as small as 3 dB., which will hardly be noticed, especially in the presence of slight fading. Furthermore, if the horizontal array discriminates against outside noise, it may be preferred. Over earth, which is less conductive than sea water, or in the case of a difference in power output at angles near the horizon the advantage in signal strength may also lie with the horizontal case.

Fig. 4 will explain fading. When the direct refracted-diffracted field strength is roughly comparable with that of the air boundary reflected signal, wave interference may be expected to produce severe fading if there is any change in the reflected path length. At greater distances, fading in the boundary-reflected signal alone may arise from the fact that there will usually be several reflecting boundaries permitting wave interference between the several signal paths.

Contemporary technical literature attributes an important advantage to vertical aerials, at ultra-high frequencies, only when used for local work, or for low aerials, over a sea-water path. It seems too early, therefore, for amateurs to abandon horizontals—just when commercial transmitters are installing them almost universally.

**References**

1 *E. H. Conklin, " Effect of Average Ground," " Radio," March*, 1938, *p.* 36.

2 *Trevor and Carter, " Notes on Propagation of Waves below* 10 *Metres," " Proc. I.R.E.," March*, 1933.

3 *H. H. Beverage, " U.H.F. Propagation," " R.C.A. Review," January*, 1937, *p.* 86.

4 *Englund, Crawford and Mumford, " Ultra-Short Wave Transmission and Atmospheric Irregularities," " Bell System Technical Journal," October*, 1938, *p.* 489.

## An Ode to ZC6

*Just a few brief words from the Mystic East*
*Where the perfumed Hebrews dwell,*
*And where Camel mixed with Garlic*
*Is a most peculiar smell.*

*Just a few words from the Wilderness*
*From the Land of the Midday Sun,*
*Where the Mad Dog of an Englishman*
*Is twisted, swindled and stung.*

*Just a line or two from ZC6*
*From the Land of Rock and Sand,*
*Where Scottish men with Scottish Names*
*Live, in a Scottish Land.*

*Just a few lines from an Arab land*
*Where to greet a man with tact,*
*Shake both hands, 'cause the other hand*
*Holds a knife behind the back.*

*Just a word or two from the Holy Land*
*Where historic places lay,*
*And the poor, misguided Sightseer*
*Has to pay and pay and pay.*

*Just a few lines from the land of Bugs*
*And things that crawl and climb,*
*From the land of snakes, where, I've found out*
*Flies go, in the Winter-time !*

2BIL.

# THE W3EDP AGAIN

By D. A. Dyer (GW8UH.)

FURTHER to the contributions from Messrs. Derrick and Tomlin published in the October and November issues of The Bulletin the writer's experience with an unorthodox adaptation of this aerial may prove of some interest.

The aerial at GW8UH normally ran N.W.-S.E. therefore, in order to put a good signal into North America it was necessary to employ some type of full wave aerial, but owing to space limitations it was not possible to erect a full 66 ft. top. After some consideration it was decided to test out a W3EDP with a 50 ft. top and 34 ft. down lead. This was installed one evening, but after completion it was found that it would not be possible to couple the aerial coil inductively to the transmitter owing to lay-out difficulties. Consequently it was decided to try link coupling the aerial coil, with the following results.

### 14 Mc. Operation

On 14 Mc. an aerial coil, the same size as the tank coil, was coupled by a two turn link at each end, and the coupling varied at the P.A. tank to draw 20 watts. The insertion of a thermo-couple ammeter in the aerial, close to the coil, gave a reading of ·6 amp.

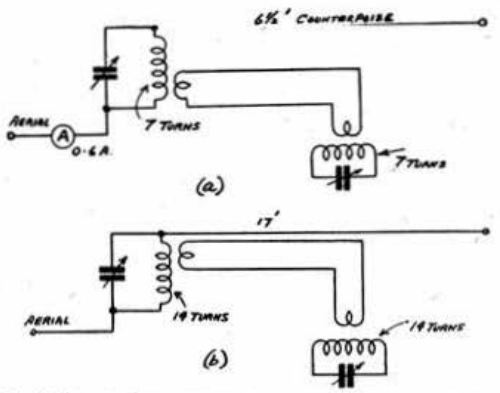
The results obtained, compared with those of the 66 ft. end-on aerial previously used, gave an increase of 2 S points in W1, 2, 3, 4, 8, 9, VE1, 2 and 3, the average report being RST 579, whilst the readability was also better.

### 7 Mc. Operation.

The aerial and P.A. tank coils were changed and tuned to 7 Mc. with the same two turn coupling link. On this band it was found impossible to obtain any reading on the aerial ammeter, but a neon could be struck on both aerial and counterpoise, showing that it was voltage-fed on this band. Results were, however, disappointing, the average report being RST579 from G and the nearer European countries with an input of 20 watts.

During a telephony contact with G4GH the experiment was tried of placing the link on the counterpoise side of the aerial, after which G4GH reported an increase from R5, S7 to R5 S9+. The experiment was carried out with a number of other amateurs, all of whom reported a similar increase in signal strength, reports being S9 to S9+.

Tests using this arrangement were made on 14 Mc. but in this case it was found that the signal strength dropped, instead of increasing.




The link coupling arrangement used by the author in conjunction with a modified W3EDP aerial.
(a) 14 Mc. (b) 7 Mc.

### B.C.L. Interference

Using the link coupling method no complaints were received, although when an ordinary 66 ft. end-on aerial (clipped on the tank)* was employed several reports of interference were received, which confirms the writer's opinion that link coupling definitely reduces B.C.L. QRM.

### The Counterpoise

The counterpoise at GW8UH ran across the shack at right angles to the aerial, and in the case of the 17ft. counterpoise was doubled back and fore. Unfortunately current readings were not taken on the counterpoise side but on 14 Mc. it was found difficult to strike a neon on the counterpoise.

When the counterpoise was removed on either band, difficulty was experienced in persuading the aerial to draw, and results were very poor.

It will be noticed from the sketches that the aerial and tank coils contained more turns than are usually specified for the W3EDP aerial. This was due to the fact that the original tank circuit possessed low C requiring a large number of turns.

The writer would like Mr. Tomlin to record the results which he and G4JW obtained on 14 Mc. He also hopes they will try the link coupling method when they are once more " on the air."

[* *This method was prohibited by the G.P.O. before the war.*—Ed.]

## A Ham Coincidence with a Moral.

The scene is the third floor of Birmingham University one afternoon early in November. The great " attraction " is the Intermediate Examination of the Law Society, and about thirty-five very nervous law students are pacing up and down the corridor outside the Examination Hall waiting for the word " go." Leslie Morgan, 2HNO, of Bournemouth, wearing his R.S.G.B. badge as usual, reaches one end of the corridor and is about to turn back for the ninety-ninth time, when he senses someone eyeing him curiously. Looking up, the first thing he notices is an R.S.G.B. badge announcing to all and sundry that G3SB is attached thereto ! Naturally enough the owner of the badge *is* G3SB, Charles Bryant of Minehead, Somerset, who is bent on the same mission as 2HNO. The rest of the story is a natural result of this strange meeting—high-pressure ragchews take place between the exams, cards are exchanged and another firm ham friendship is born and set well on its way. The moral is obvious—*never fail to wear your badge !*

# EXPERIMENTAL SECTION

Just before the outbreak of war it was the intention of the writer to prepare a series of full length articles dealing with signal generators, but due to business pressure there has not been time to complete the necessary work. It is hoped however during the next few months to publish in this section some of the data collected for the articles.

With the enforced postponement of transmitting experiments many amateurs are turning to their receivers in a way they have never done before, for instead of looking upon a receiver as merely a link in the chain of a contact, they now find that interesting experiments can be carried out with it. This remark applies not only to home-built models but also to commercially built communication receivers of the less expensive type, to which many alterations and additions can be made with a view to improving their performance. It must, however, be emphasised that the beginner should not attempt to modify a communications type receiver before he has gained some experience with receivers generally and has, preferably, built a superhet himself.

*The Importance of a Signal Generator*

In order to carry out receiver tests and adjustments satisfactorily, an amateur should possess some form of signal generator which will provide a signal that can be controlled at will. These notes are intended to help would-be constructors with suggestions and hints on the design and theory of such devices.

The construction and operation of signal generators is, in itself, an interesting subject to study, and involves many problems common to both transmitters and receivers. It is hoped therefore that some readers will be able to build up and experiment with a few of the circuits mentioned, as no complicated or expensive laboratory apparatus is required for the simpler designs suggested.

*Requirements*

The following requirements, may be taken as a goal at which signal generator designs should aim to satisfy :—

(1) Good frequency stability, and the ability to hold calibration. This entails care in both electrical and mechanical construction.
(2) Range of frequencies from 60 Mc. to say, 100 kc.
(3) Absence of frequency modulation.
(4) Purity of wave-form of modulation frequencies.
(5) Efficient shielding and an attenuator allowing outputs to be reduced to absolute zero.
(6) The output should reach one volt on Broadcast frequencies if A.V.C. is to be tested. The output should be as uniform as possible over a wide range of frequencies.
(7) Ability to hold calibration when modulation is switched on.
(8) Provision for frequency modulation in order that selectivity curves may be read directly on an oscilloscope.

Meters for measuring voltage output and percentage modulation can also be included for a de luxe instrument.

Many experimenters will fell that an instrument fulfilling all these conditions is unnecessary for their work, but it will be found that requirements (1), (5) and (7) apply to nearly all forms of signal generator.

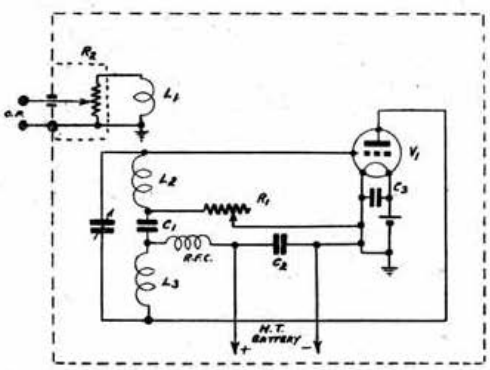
*Practical Circuits*

The first circuit to be described employs a single valve oscillator which can be used for rough work on receivers and can be constructed without much difficulty. The circuit consists of an Armstrong oscillator with a variable grid leak to provide modulation. It will be noticed that the circuit is similar to that used in many old-fashioned 56 Mc. transceivers except that the grid leak is adjusted so that the time constant of $R_1$ and $C_1$ gives an audio frequency modulation instead of the supersonic "quench." At low values of $R_1$ the output is unmodulated, whilst at high values the output is modulated at a frequency, depending on the time constant of $R_1$ and $C_1$. Any triode, such as an LP2 can be used. The H.T. voltage should be kept as low as possible so that the valve only just oscillates.

This circuit, which can be built up into a biscuit tin, complete with batteries, is recommended to beginners who will gain valuable experience from its use before proceeding with more advanced circuits. Although it can be used for lining-up superhets, too much faith should not be pinned to it for accurate work, although it is specially suited for V.H.F. work.

In future issues it is hoped to include further circuits ranging from simple oscillators to an advanced design. Notes will also be published on attenuators and audio modulation oscillators, as well as advice regarding constructional precautions. Readers interested in signal generator design should write to the G.M. giving their ideas and comments, as these may be of value in preparing further notes on the subject.

G5HF.




**Circuit of a Single-Valve Oscillator suitable for use as a Signal Generator.**

V1 = LP2 or similar type. C1 = ·0003 μF.
R1 = 5 megohms variable. C2 = ·004 μF.
R2 = 200 ohms variable (R.F. shielded resistor). C3 = ·002 μF.
L1 = Mounted between L2 and L3 with loose coupling.
The dotted outline represents a complete shield.

# "THE FUTURE OF AMATEUR RADIO"

UNDER this title "Navigator" contributes an article to the February issue of a contemporary which will no doubt have surprised any of our members who read it. We say "surprised," because throughout its length not one reference is made to the work of the only national organisation in existence to-day, which can effectively tackle post-war matters relating to British amateur licence facilities—namely the R.S.G.B.

"Navigator" has much to say about pre-war difficulties but his comments in regard to the future leave one with the impression that he has no knowledge whatsoever of the work which has been done, and is being done, by the R.S.G.B. in preparation for the opening up of transmitting facilities after the war.

For his benefit we would point out that from 1913 onwards the R.S.G.B. has consistently maintained the closest liaison with the G.P.O. on all matters relating to amateur licences. From 1921 to 1939 the R.S.G.B. was privileged to recommend members for high power permits and other special facilities, whilst during 1939 the Society, at the request of the G.P.O., submitted views to them in regard to the revision of licence forms, examination methods, frequency control, artificial aerial permits, the morse test, inspection of stations, etc.

Since the outbreak of war the R.S.G.B. has maintained the same close liaison with the G.P.O. as in peace-time, dealing, through its representatives, with many problems which, in the national interest, cannot be disclosed at present.

During December, 1940, representatives of the R.S.G.B. discussed with the G.P.O. the question of compensation for damage to amateur equipment impounded by the G.P.O.

During the same month the G.P.O. expressed the hope that the Council of the R.S.G.B. would co-operate with them, *prior to the cessation of hostilities*, in the examination of matters relating to the post-war issue of amateur licences.

It may come as some surprise to "Navigator" to know that the R.S.G.B. sent its past President (Mr. A. E. Watts) to Cairo on the occasion of the 1937 Telecommunications Conference. Mr. Watts also represented the Society at the Madrid Conference held five years earlier. Again, "Navigator" may not know that the R.S.G.B. was represented on the permanent Sub-Committee set up by the G.P.O. to prepare for each of the C.C.I.R. Conferences which took place on dates between the main Telecommunications Conferences, in fact, up to within a few weeks of the outbreak of hostilities the R.S.G.B. representatives were regularly attending these Sub-Committee Meetings.

"Navigator" may also like to know that the R.S.G.B. was in regular contact prior to the war with the Wireless Telegraphy Authorities of the three fighting services, a liaison which is still being maintained. The R.S.G.B. was represented up to the outbreak of war on the R.A.F. Civilian Wireless Reserve Committee and it was also very closely associated with the Royal Naval Wireless Auxiliary Reserve, now the R.N.(W.)V.R., when it was inaugurated in 1932.

"Navigator" suggests that "as soon as possible *after* the cessation of hostilities a committee, including some pre-war amateurs, should be set up and should be given full powers to advise the G.P.O." (the italics are ours). To this suggestion we would state :—

1. Neither the R.S.G.B. nor the G.P.O. intends to wait until hostilities have ceased to tackle post-war amateur problems.
2. The R.S.G.B. represents 80 per cent. (at least) of the active pre-war fully licensed amateurs, and as such is well fitted to negotiate with the G.P.O.
3. The R.S.G.B. continues to enrol new members at the rate of 40–50 per month thereby bringing into its organisation a leavening of new blood most of whom, whilst interested in experimental work, have had little or no pre-war experience of amateur transmitting. These new members are joining the Society to-day because they wish to help forward the work of an organisation which they know can, and will tackle resolutely every problem likely to arise in connection with the future of amateur radio.

The Society, proud of its past record, regrets that so valued and so long established a contemporary should have permitted a contributor to ignore completely, or display such ignorance concerning, the work being done by the Society, whose efforts are, and always have been, directed to the task of obtaining the maximum benefit for the radio amateurs of Great Britain.

J. C.

## Air Training Corps

Considerable interest has been shown in the new Air Training Corps, judging by the number of members who have written to the secretary-editor (G6CL) in his private capacity. Whilst the need for Signals Officers will undoubtedly arise, as soon as Squadrons are formed in towns and boroughs where no A.D.C.C. Squadron is now operating, it is a little early to make any announcement.

The best advice we can give at the moment is to recommend members, who have a good all-round knowledge of basic radio theory, and some experience in lecturing, to write to the Chairman of their local A.T.C. Committee, and ask for their name to be registered as an instructor. Instructors will normally be required to be between the ages of 32 and 55, but consideration may be given in special circumstances to those under 32 if they are employed in reserved occupations or are unfit for military service.

Officers of the Training Branch of the A.T.C. will, we understand, be required to pass a Selection Board at the Air Ministry and will be granted commissions in the R.A.F.V.R. Such Officers will not be liable for general service under the National Service (Armed Forces) Act, while so employed.

Members who write to G6CL for information would oblige by sending a stamped and addressed envelope.

# RANDOM REFLECTIONS

By COMMENTATOR

*Our new anonymous contributor, in a style which has already earned for him warm praise from many quarters, again draws attention to certain aspects of Society work in war-time, which deserves the closest attention of all readers.*

AWAY back in " the good old days," I remember a certain evening ham " do." It was just a local affair, nothing official; just a gathering of all the local hams, R.S.G.B. members and " others interested." These meetings happened to be pretty popular. They were well attended. Once a month, twenty or so folk managed to cram themselves into a modern front room intended to accommodate about a quarter of that number. Some of the YL's and YF's used to turn up trumps by providing sandwiches and coffee at the right moment and if the " barrage " presented by those climbing up and down the stairs could be safely negotiated, the latest developments in the shack above could be inspected during the course of the evening. The rest of the time was spent rag-chewing. Very interesting these rag-chews were, too, as the gang was sufficiently cosmopolitan to present a pretty good cross-section of ham opinion. One came away knowing just what DX was to be heard, just what really was thought about 'phone on the 20-metre band, just what young G8– really was doing when he made all that QRM that night you thought a W6 replied to your " Test DX." You heard how old so-and-so was getting on on 56 Mc.—" amazing fellow, hasn't had a contact yet and still keeps on." You heard what the gang thought of conditions on 40. They were grand evenings. Someone would always turn up with a copy of *QST* and the current *Bull.*—just in case anyone hadn't seen them.

One evening I remember someone, rather bombastically, boasting that " he never bothered to even open his *Bulletin* nowadays." I've forgotten what reasons he gave. They were no doubt so trivial as to fail to register themselves on my memory. I do however remember the discussion which these foolish remarks precipitated. And I remember coming away from that meeting with the feeling that practically no one seemed to read their *Bulletin* through from cover to cover. As with the " great dailies," each reader looked for one particular feature. Having read it, he just perused the rest of the paper and laid it aside. In the case of the *Bull.*, some seemed to look first at the DX notes. Others always read the Editorial first. Some went for the technical articles. Others never read them. One fellow who had recently come to us from another part of the country said he always looked for the notes from his old District first. One fellow seemed to get his copy solely for the adverts. When I came to think of it I had to confess that there was much in bygone issues which I had passed unread. I must turn up my back numbers and read up some of the stuff I've missed, I thought. But like most of the others at that meeting I had too much on in those days. If I wasn't rebuilding the TX, I'd be doing something to the RX, and if a rebuild wasn't in progress I'd be chin-wagging or trying to work some DX.

But now the shack doesn't take so much of our time. There's no TX to rebuild and little to be heard on the RX and anyway the air raid shelter seems our second home nowadays. So the other night as the siren went, I gathered up an armful of those *Bulls.* I'd been meaning to read. I needn't have taken an armful. One of them kept me going until the " all clear " sounded.

You know, there is an amazing amount of interesting material to be found in our Society Journal, not only as feature and technical articles, but in the form of letters and paragraphs in the correspondence columns. You may be one of those chaps who religiously reads your copy from cover to cover each month. If you do—good for you. More likely you don't. Well, now is the time to get out those back issues and read them at your leisure. Go back a few years if you can—particularly you newcomers—and see how this hobby of ours has developed. Read the letters in the correspondence columns and the Editorial remarks and get hold of the questions of policy and procedure which have come up for an airing from time to time. If you've never read the 56 Mc. notes take a look at them sometime and see how those chaps were steadily pushing ahead. Read some of the more technical contributions and try and catch up with them.

We were all so busy during those pre-war days, building and rebuilding, experimenting and testing, rag-chewing and DX-ing, that we never really gave ourselves time to think, time to realise where it was all leading to, time to look around and see what the other fellow was doing. Things developed so quickly that no sooner had we heard of one new advance, than another was upon us. Now for most of us there's been a bit of a hold-up. New developments are no doubt taking place just as fast if not faster than ever. For the moment they are closely guarded Service secrets. The day will come when we shall look to those who have been " in the know " to help those of us who are not serving in the wireless branches of H.M. Forces or in the trade, to catch up with these developments. For the present our duty is to make sure we acquaint ourselves with, and assimilate thoroughly all the knowledge which has already been laid before us, so that when the time comes for revealing the new, we shall have a good foundation to build on.

At the beginning of the war a lot was being said and written about our National War Aims. We know what they are pretty clearly now—to win this war and win it quickly. Our prime duty as amateurs, no matter in what capacity our services are being used, is to do all we can to help in this aim. But sometimes in our off-duty periods, let's devote a little time to thinking what we're going to make of this hobby of ours when peace comes again. No one will say it was perfect before the war. There was much room for improvement. But before we can improve on a thing we must have clearly fixed in our minds what the deficiencies were. We do not know what difficulties face us, but an acquaintance with our past will dispel any fears for future difficulties. We have a little breathing space now from our more normal activities. Let's devote it to contemplating our past and planning our future.

# KHAKI AND BLUE

*Items for inclusion in this exclusive feature should reach the Secretary-Editor not later than the first day of the month preceding date of publication.*

A little bird whispers that R. Lansley, G4KV, of Bournemouth, has recently been granted a commission in recognition of outstanding work in the evacuation from France. G4KV, who saw service as a lad at Jutland in 1915, left his job at the outbreak of war and was eventually accepted in the "pick and shovel mob" (Pioneer Corps). We understand that during the evacuation he brought back safely a boatload of *Lancastria* survivors as a result of his knowledge of signalling. He is now a 2/Lt. with a working party somewhere near the Capital of Empire.

* * *

Tpr. V. Collins, 2HOF, of Great Yarmouth, who is serving in Yorkshire with the Royal Tank Regiment would like to meet local members. As we cannot publish Service addresses we suggest that 2HOF and others stationed in Yorkshire should follow the off-repeated advice contained in District 2 notes, namely write to G2MI or G8UO. 2HOF sends 73 to G2UT and all Norwich amateurs.

meetings held in R.A.F. camps are not organised by the Society. 2HKS, who is now probably on the high seas, wishes to be remembered to all old friends, especially those whom he met at No. 2 School.

* * *

Congratulations to L.A.C. A. N. Simmons, G3AD, who was recently married to Miss "Peggie" Jamieson. May they soon be operating a joint station, for, like her husband, Mrs. 3AD is a keen ham.

* * *

Eric Knowles, G2XK, late of Barnsley and formerly a F./Sgt. in the R.A.F., has now been commissioned as a Pilot Officer. He is one of the few amateurs to win the Distinguished Flying Medal, which he earned during his many Coastal Command flights against the enemy.

* * *

A.C.2 R. Buckstone, G5JR, who is serving as a sea-going W./Op. in the R.A.F., sends 73 to G2KU, 2UA, 5XH and 8TB. He asks whether the A.M.

PROBLEM PICTURE No. 2
Where was it taken? Who is featured? The answers appear on page 260.

A.C.2 R. P. B. Udall, 2HKS, after passing out as a W./Op. from "Tumuli," was recently engaged on a D.F. course preparatory to going East. 2HKS much enjoyed the meetings held at No. 2 Signals School, but like many others (including G6CL) he was amazed to find that the meeting arranged for November 10 did not take place. For the benefit of the 30 odd members who arrived for the meeting at the scheduled time we would explain that we were especially requested to give full publicity to the arrangements and were assured of full support from the semi-permanent staff. No word of explanation has been sent to Headquarters. As 2HKS says, "this let-down was a great setback for our R.S.G.B. recruiting movement."

To those who made the long journey from No. 3 School in heavy rain we extend our regrets. We feel sure, however, they will understand that

would agree to issue a special badge, similar to the V.R. badge, to those who were members of the C.W.R. We doubt it, because the V.R. badge embraces all branches of the Volunteer Reserve. C.W.R. was a peace-time civilian organisation which was later merged into the V.R.

* * *

The attention of service members located in the neighbourhood of Salisbury is directed to the notice appearing elsewhere in these columns. F/Lt. J. N. Walker, in arranging a meeting in that town, has in mind providing an opportunity (such as was given last year at Farnborough) for overseas amateurs as well as Home members (civilian and service), to meet together informally. It is hoped that any member in touch with overseas amateurs in the neighbourhood of Salisbury, will pass on the details of the meeting.

Desmond Alimundo, G4HK, now serving with the R.A.F. as a Radio Mechanic, would like to hear from G6KS of Liverpool, and G6SO of Scarborough. Letters should be addressed to 6 Devonshire Road, Heaton Moor, Stockport.

* * *

F./Lt. Ham Whyte, G6WY, who for the past six months has been "hiding" himself in a certain neutral country, is now back in England as Chief Signals Officer to a Midland Balloon Group. His colleague is P./O. J. F. Mortimer, G2MF.

* * *

L.A.C. Don Duthie, GM6IW, writing from S. Rhodesia early in December, foreshadowed an early move to a station where he hoped he would function as a Radio Mechanic, and not as an ACH! He has already met ZE1JA, 1JR and 1JZ.

**A**

# Ham Gathering

will be held at

## THE COUNTY HOTEL SALISBURY

on

**Saturday, March 1st, 1941**

*At 3 p.m.*

*All intending to be present are asked to advise F/Lt. J. N. Walker, G5JU, South Lodge, Churchfields Road, Salisbury, by February 26th. A small charge will be made for refreshments.*

North London members will be interested to hear that Sig. A. Blow, G2TT, of Enfield, is now in Egypt, or rather *was* when he wrote on October 19. Shortly after arriving in SU, he met a couple of ZL's and a VK, but possibly by now his "bag" has increased. He asks that his 73 should be conveyed to all old friends and his congrats. passed to Jim Kirk, G6ZO, upon obtaining his first pip.

* * *

Early Birds still at home will be glad to hear that L.A.C. Harold Willets, 2FPI, arrived safely in SU with a new W.I.S. He sends his regards to all old friends. On the way out East he had the pleasure of a personal QSO with Charlie Rieder, ZS1T.

* * *

News has just reached Headquarters that Petty Officer H. Cunningham, ex-ZB2A, of Alresford, Hants, is now a prisoner of war, having been shot down in flames over Norway in June last. He has only met one other ham in captivity—an SP.

Friends who wish to communicate with him must write legibly or type their letters, which should be addressed P.O. H. Cunningham, FX76292, Prisoner of War No. 63, Stalag Luft, Germany.

We should very much like to send THE BULLETIN to all our members who are prisoners of war, but regret that is impossible.

Glad News! Sad news! Friends of F/Lt. Tony Chapman, G2IC, will be "delighted, overjoyed, surprised, sorry," (delete which does not apply) to hear that way back in August 1940, he joined the ranks of the Benedicts, The news came as a great shock to all at "Ciel" who had imagined him to be immune. However, heartiest congratulations are extended to them both and may they soon return to a nice little home in the south. G2IC is in charge of an R.A.F. station in Scotland.

* * *

2/Lt. T. Simpson, BRS2761, whose home address is Glenesk, Balmoral Place, Leven, Scotland, is anxious to contact any member serving with the Cameronians (S.R.) He sends his 73 to GM6TF and to 8MQ whom he missed meeting during his Christmas leave by a few minutes.

* * *

A.C. 2 J. D. Lambert, G3TA, late of Battersea, has changed his home address to 327, The Parkway, Iver Heath, Bucks. He is at No. 3 Recruit Centre, R.A.F. but has yet to meet an amateur at that station. He sends greetings to ZD4AB, G3AD and 6NH, and forwards news of G2DL, 3HG, 8QV, 2FFM and 2FRM.

* * *

A.C.2 Harold Collard, 2CVA, late of Prittlewell, Essex, and now with a home address at 105 Walton Way, Aylesbury, Bucks, sends greetings to all old friends of the Southend Society especially to G4GT and 6IF. Letters for him can be dispatched direct or *via* Headquarters. He is at present at a Yorkshire station in company with G3VG and 6KN, and has met several other hams in the course of his duties, including G3RQ, 4AO and 6YR.

* * *

A.C.1 H. W. Darvill, BRS3856, sends his greetings to all who entertained him whilst stationed in GI. He was due to leave for the Middle East early in February.

* * *

Old friends of F./Lt. Sam Pollard, G2GB, will be interested to hear that just prior to leaving for abroad, he announced his betrothal. We extend our best wishes and trust it will not be too long ere a Mrs. G2GB is heard on the air.

* * *

Pte. Reddock, BRS3355, who is stationed in Gibraltar, appeals for reading material. Any member in a position to send him magazines or radio books should write to H.Q. for his address.

* * *

Friends of N. H. Meanwell, 2BIC, of Caister-on-Sea, will be interested to hear that he is serving as a Sergeant-Observer in the R.A.F. Several of his colleagues have expressed an interest in THE BULL, including F3NF, whom he met at an O.T.U. "At the risk of appearing to emphasise the obvious," he writes, "I have never encountered a hobby which breaks down the supposed insularity of Englishmen so completely as does Amateur Radio." Sgt. Meanwell's observation of the fall of eggs from the basket is, we suspect, as keen as his observation on Ham radio!

* * *

Writer T. L. Stevens, G3XV, who can be found in 8AA Mess, Royal Naval Barracks, Portsmouth, writes enthusiastically about THE BULLETIN. "We members," he says, "are very fortunate in having such a good team of workers at Headquarters who

give us a very splendid issue each month. I get a grand thrill when I receive, and an even greater one when I read it."

G3XV, whose home address is Post Office, Donnington Wood, Wellington, Shropshire, hopes to assist in running local activities after the war.

* * *

Thomas Douglas, alternatively G and GM3BA is now a fully fledged subaltern in the R. Signals. He expects to be going on a DX journey before he is much older, but before doing so wishes to pass on his greetings to all old friends, especially to those who were with him in the 151st O.C.T.U.

Letters should be addressed Officer I/C 40 W/T Station, c/o A.P.O. 750.

* * *

Tom Arnold, VU2AN, has been transferred to Royal Signals, Jubbulpore, with the rank of L./Sgt. His present job is that of instructing native troops at the S.T.C.—a pleasant change from the routine work on the W/T station at Fort Sandeman which occupied his attentions for some time.

We understand from VU2AN that 2ED and 2EU are together at Abbottabad, whilst BERS371 and 458 (R. Signals) have been promoted to L./Sgt. and Sergeant respectively. VU2DR and 2FH are both believed to be in G. If they should see this note VU2AN sends his 73 to them both.

* * *

Chief P. O. Tel, L. A. J. Deadman, ZBIX, is now back in England and can be reached at 32 Albemarle Avenue, Elson, Gosport. He hopes to meet local members when on leave.

* * *

G. F. Keen, 2BIL, an erstwhile V.H.F. enthusiast who is now serving as Sergeant Air Gunner-Observer, sends greetings via G3YY to 2CMH and all old friends. He has met more than 100 G hams since joining up, in addition to about a dozen VE's and ZL's. He is now at an R.A.F. station in Palestine with 10 VK amateurs.

* * *

From No. 3 Signals School, Cpl. Edwards, BRS3855 writes to advise us that VE3AKH and VE4ADI, are at No. 2 School on a Radio Mechanics Course. We hope they will meet plenty of hams in the land of the tumuli!

* * *

Reg. Cross, G2FZ, of Liverpool, who is now an Acting Corporal in the R.A.F., tells us that there is still a reasonably good "ham school" at No. 3. Recent arrivals have included G4AI, 4CG, GW2XZ, BRS3851 and VP5MK. "It makes life a lot better," he says, "when there are hams around and you can talk about old times on the air," a view which we all endorse.

* * *

L./Cpl. R. G. Shears, G8KW, who is serving with the R.C. of S. in Egypt, has met SU5KW, who is apparently now an instructor in Cairo. He sends 73 to all old friends in District 12 and elsewhere.

## Problem Picture No. 2

This historic picture was taken in Metz on May 21, 1940, and provides a record of the last occasion when "The Early Birds" and others paraded as a unit in France. Among those present on that occasion were GW6KY, G4DS, 5OI, 2BVN, 5BR, G4JY, 8GG, 6FZ, 2FNY, 3HG, 2BQC, 2BZQ, 8HB, 4FZ, 8TB and 2MB. The Officer is F./Lt. Boundy.

## Silent Keys

It is with a sense of personal loss that we record the death of George Oswald Marsh, B.Sc., G2GM, whose home was in Norwood, London. Mr. Marsh met his death during a daylight air-raid on January 31, a bomb exploding in the actual room in which he was engaged upon work of national importance.

G2GM was one of the most consistent supporters of the official R.S.G.B. meetings held at The Institution of Electrical Engineers. and it seems but yesterday that we were greeting him at the last A.G.M. He had been a member since 1929 but we believe his interest in amateur radio dated back several years prior to his election. Although not very active just prior to the war his call was well known on most bands from 1929 until 1936. He was keenly interested in Society activities and an extremely brilliant radio engineer, having taken his B.Sc. degree in his early teens.

The news of his death will be received with deep regret by a very large number of members who had the pleasure of his friendship.

We extend to his father, Mr. Oswald Marsh (the eminent philatelist), and to his relatives our very sincere condolences.

* * *

We also record with deep regret the death of Robert Webster (G5BW) of Eastbourne, who passed away on October 18th after a long illness. He will best be remembered for the work he did as organiser of the First Class Operators' Club, and for the fine signal associated with his call on 7 Mc.

Our sympathies are extended to his mother, other relatives and friends.

* * *

The death is also announced of Mr. H. S. Simmons (G5SI) a popular member and librarian of the Gravesend and District Radio Society. Mr. Simmons lost his life as a result of enemy action whilst serving as a Wireless Officer on a salvage vessel. He was 24 years of age. Prior to the war he was employed as a Dock Pilot. We offer our sympathies to his mother, brother and sisters in their sad loss.

* * *

The death has also just been reported of Tel. Gilbert Blackah (G3LI) of the R.N.V.(W) R. Although a non-member, he was well known to Yorkshire amateurs, many of whom have in past days contacted his station at Shipley. We understand he lost his life at Dunkirk. To his parents and relatives we extend condolences.

* * *

From Mr. E. R. Westlake (G6KR) we learn of the death, through accident, of A.C.2 Frank William Green (2DAQ) of Ketley. Frank was well known to all amateurs around the Wrekin and his happy and generous nature was always in evidence whenever a few radio friends gathered together. His colleagues in the R.A.F. and at home, join in extending their deepest sympathy to his mother and father.

J. C.

# ON ACTIVE SERVICE

## SEVENTEENTH LIST

WE publish below our seventeenth list of radio amateurs on active service. Additional details and corrections should be advised to Headquarters as early as possible. The present list contains information received up to February 1, 1941.

| Rank and Name | Regiment or Branch | Pre-war Call or B.R.S. |
|---|---|---|
| A.C.2 R. J. Ager | R.A.F. | 2AGY |
| L.A.C. J. Baigent | ,, | 3171 |
| A.C.1 A. E. Bayley | ,, | 2BMZ |
| Sgt. R. W. Bell | ,, | GM3WC |
| Cadet J. Blackwood | R.C. of S. | G3TG |
| Sig. J. M. Bolton | ,, | 4034 |
| A.C.2 R. C. Brake | R.A.F. | G8QR |
| A.C.2 H. D. Butcher | ,, | 4036 |
| Tel. A. E. Cawkell | R.N. | 4042 |
| Pte. A. L. Chantler | Royal Sussex Regt. | 3490 |
| A.C.2 C. R. Chick | R.A.F. | G3JF |
| A.C.1 R. D. Cox | ,, | 2FFG |
| C.P.O. Tel. L. A. J. Deadman. | R.N. | ZB1X |
| A.C.2 A. J. Dolan | R.A.F. | 2FUQ |
| Cpl. C. R. Downes | ,, | 3879 |
| 2nd Lt. T. P. Douglas | R.C. of S. | GM3BA |
| Sgt. H. J. Ewens | R.A.F. | 4048 |
| A.C.2 E. Fiddian | ,, | 1008 |
| L./Cpl. R. G. Geddes | R.C. of S. | 4023 |
| Cadet N. G. Gologan | O.C.T.U. | 2DOK |
| A.C.1 E. C. Grafton | R.A.F. | 2CGL |
| A.C.1 R. E. Griffin | ,, | G5UH |
| A.C.1 F. Grundy | ,, | 2BGI |
| Ft./Lt. S. W. P. Henton | R.A.F. | G5VU |
| Pte. A. Hilton | King's Regt. | BERS 490 |
| Pte. A. G. Hobson | R.A.S.C. | 2AGH |
| A.C.2 R. J. Jones | R.A.F. | 2BRJ |
| Gnr. P. E. M. Leggat | R.A. | 2255 |
| Cpl. H. Mallinson | R.A.F. | G8TM |
| L.A.C. L. Marsden | ,, | 4040 |
| Gnr. N. Moorcroft | R.A. | 2ABT |
| L.A.C. J. D. Morris | R.A.F. | 2DRR |
| A.C.2 P. T. McArthur | ,, | 2ASP |
| P./O. D. J. Parsons | ,, | 4024 |
| Sig. M. H. Parsons | ,, | G8TC |
| L.A.C. K. E. Phillips | ,, | 3763 |
| L.A.C. A. R. Richardson | ,, | 2CXT |
| A.C.2 E. J. Roberts | ,, | 4021 |
| Gp./Capt. I. M. Rodney | ,, | 4032 |
| Lt. J. B. Scott | R.A.M.C. | 35 |
| A.C.1 G. Sellers | R.A.F. | G8VS |
| L.A.C. H. F. Sheffield | ,, | 2DFS |
| 2nd Lt. T. Simpson | The Cameronians. | 2761 |
| P./O. E. H. Sneath | R.A.F. | 4025 |
| A.C.2 R. Staples | ,, | 2DKD |
| W./C. L. H. Stewart | ,, | EX-VS 1AL |
| A.C.2 D. W. Surman | ,, | 4045 |
| A.C.2 K. Tubb | ,, | 4049 |
| 2nd Lt. J. V. Warner | R.C. of S. | G2WR |
| A.C.2 F. W. Wells | R.A.F. | 4020 |
| P./O. D. White | ,, | 2CDA |
| E.A. J. L. Whittaker | R.N. | 1933 |
| A.C.2 L. A. Young | R.A.F. | 4035 |

## The Olympian Amateur Radio Club

We have heard with considerable satisfaction that as the result of efforts made by a small group of members located at No. 10 (S) R.C. an Amateur Radio Club has been formed under the above name. The inaugural meeting, held on January 28, was attended by 32 R.S.G.B. members, and others interested in amateur radio.

Recognising that the success of the project depends largely upon the support and initiative of R.S.G.B. members on the permanent staff, the meeting very wisely elected Messrs, Marlow, G2FT and Platt, G2GA (Civilian Instructors) to serve on a Committee with Sgt. H. G. Newland, G5ND (Hon. Secretary) and Mr. Musk (Hon. Treasurer) under the Chairmanship of F/Lt. R. Turner, BRS3841.

One of the chief topics discussed at the meeting was the question of organising a representative gathering, to which civilian and service members could be invited to attend. Arrangements were accordingly made for a meeting to take place on Sunday, March 23. Full details will be published next month, but in the meantime we would urge all members residing or located in District 1 to communicate immediately with Sgt. Newland at 121a Church Street, Blackpool, his temporary address. Members will be quick to appreciate that in order to arrange for catering at a suitable venue the organisers *must* know who to expect.

The R.S.G.B. will, it is expected, be officially represented at the meeting by the Secretary-Editor, G6CL, who will be accompanied by Mr. H. W. Stacey, G6CX, the newly appointed District 1 Representative.

We note from the minutes of the inaugural meeting, that the objects of the Club are:

1. To further and keep alive the Spirit of Amateur Radio.
2. To foster that Spirit among all amateurs stationed at, or passing through the School.
3. To keep abreast of all technical developments appertaining to Amateur Radio.

Excellent objects, indeed.

We were also interested to learn from the same source that Mr. H. Jones, G5ZT, of Preston, gave an informal talk on the Amateur movement, stressing in particular the work which has been done, and is still being done, by the R.S.G.B.

Among those present on January 28 were G2FT, 2GA, 3DJ, 3WX, 4PK, 5ND, 5ZT, 8MD, 8VY, 2CUB, 2FAQ, 2HKQ, 2HNL and BRS3481.

Sgt. Newland is very anxious to contact all radio amateurs at No. 10 (S) R.C. so that they may receive advice regarding further meetings.

# CANADIANS ON ACTIVE SERVICE

## FOURTH LIST.

WE have the honour to publish a further list of Canadian amateurs on active service, prepared by Mr. Fred Saxon (VE3SG), 302 Lee Avenue, Toronto, Canada. As in Great Britain the majority of VE amateurs are serving in the Air Force, Mr. Saxon tells us that Mr. J. A. Chambers, W9SAL, is with the R.C.A.F. as an L.A.C.

| Rank and Name | Regiment or Branch | Pre-War Call VE |
|---|---|---|
| A.C.2 N. Abulet | R.C.A.F. | 4QW |
| A.C.2 G. Armstrong | ,, | 5MH |
| A.C.2 T. Bilesko | ,, | 3AGB |
| L.A.C. J. G. Bordeleau | ,, | 2DD |
| A.C.2 R. C. Brighton | ,, | 3AFF |
| A.C.2 T. C. Buller | ,, | 3CO |
| Lt. A. J. Cahill | R.C.C.S. | 3HZ |
| Lt. B. Carveth | ,, | 3BC |
| A.C.2 B. H. Carveth | R.C.A.F. | 3APY |
| Lt. S. I. Comach | R.C.N. | 2EE |
| A.C.2 D. Crichton | R.C.A.F. | 3AWC |
| A.C.2 W. S. Cringan | ,, | 4YG |
| L.A.C. F. W. Darnell | ,, | 4LC |
| A.C.2 F. W. Day | ,, | 3AZZ |
| L.A.C. J. N. Dewar | ,, | 2GR |
| L.A.C. J. T. Dubord | ,, | 4MV |
| A.C.2 W. Easson | ,, | 4JV |
| A.C.2 R. J. Featherstone | ,, | 3AQZ |
| A.C.2 R. S. Ford | ,, | 4NG |
| A.C.2 T. F. Forman | ,, | 4AHH |
| A.C.2 W. E. Forster | ,, | 4AFE |
| A.C.2 C. O. Foster | ,, | 4AET |
| L.A.C. T. E. Frantsi | ,, | 3AKH |
| A.C.2 W. M. Gammon | ,, | 1CK |
| A.C.2 H. V. Gilpin | ,, | 4MO |
| A.C.2 G. W. Goodwin | ,, | 2DQ |
| A.C.2 H. Hipples | ,, | 4AHM |
| L.A.C. Mel. Hill | ,, | 3BAI |
| A.C.2 G. E. Holmes | ,, | 3RI |
| Tel. J. A. Hulbert | R.C.N. | 4QA |
| 2/Lt. Kidd | R.C.C.S. | 3PX & 5II |
| Bdr. R. W. Lane | R.C.A. | 4AKH |
| A.C.2 H. Langstaff | R.C.A.F. | 3FO |
| A.C.2 G. Lawrence | ,, | 5VE |
| L.A.C. P. D. Loosen | ,, | 1KQ |
| A.C.2 G. Low | ,, | 4ARR |
| 2/Lt. A. A. McArthur | R.C.C.S. | 3DJ |
| Lt. G. W. McClain | ,, | 9CD |
| A.C.2 A. R. McDonald | R.C.A.F. | 3ARF |
| A.C.2 M. K. McNaughton | ,, | 4IM |
| A.C.2 T. L. McRae | ,, | 4ARX |
| A.C.2 W. W. MacLean | ,, | 1EY |
| L.A.C. J. L. Maltby | ,, | 3AYR |
| A.C.2 W. McL. Martin | ,, | 3IC |
| A.C.2 I. F. Musselman | ,, | 4AOH |
| A.C.2 L. Nelson | ,, | 4ANN |
| L.A.C. A. J. Nielson | ,, | 4OE |
| A.C.2 B. F. Nilson | ,, | 3ADP |
| A.C.2 G. W. O. Boyle | ,, | 2FE |
| A.C.1 S. Panagapko | ,, | 3AYY |
| A.C.2 W. A. Priddle | ,, | 1IC |
| Tel. H. N. Rees (1) | Merchant Navy | 3AKA |
| Capt. L. P. Reeves | R.C.A.D.C. | 2MM |
| F/O. R. J. Rennison (2) | R.A.F. | 3ADK |
| A.C.2 P. E. Ricard | R.C.A.F. | 2LT |
| A.C.2 C. F. Robinson | ,, | 3ABN |
| Sgt. D. A. Ross | R.C.C.S. | 2PR |
| A.C.2 W. H. Rowed | R.C.A.F. | 3AJH |
| A.C.2 J. G. St. Andrews | ,, | 3AIJ |
| F/O. L. B. Sceales | ,, | 2OA |
| A.C.2 T. V. E. Seeley | ,, | 2IQ |
| A.C.1 Michael Shopka | ,, | 4AFY |
| L.A.C. E. C. Skowby | ,, | 3PE |
| L.A.C. W. Small | ,, | 4AFK |
| A.C.2 A. W. Smith | ,, | 4APU |
| A.C.2 J. W. Spiers | ,, | 4CJ |
| A.C.2 J. E. Staveley | ,, | 4AAE |
| A.C.2 G. W. Storey | ,, | 2FI |
| A.C.2 P. J. Thomas | ,, | 5PT |
| L.A.C. J. H. Tigert | ,, | 4VC |
| F/O. R. Vail | ,, | 4AJZ |
| Cpl. H. Vernon | ,, | 4APQ |
| A.C.2 K. L. Wheeler | ,, | 5AFZ |
| L.A.C. R. H. Wicks | ,, | 4WQ |
| L.A.C. D. L. Wilson | ,, | 4ADP |
| A.C.2 W. J. White | ,, | 1EX |
| W.O.1 J. Whittingham | R.C.O.C. | 3YC |
| A.C.2 J. P. Wood | R.C.A.F. | 2OI |
| L.A.C. H. Woodhead | ,, | 4BJ |

(1) Reported prisoner of war.
(2) Reported missing in sinking of *St. Malo* in October, 1940.

### Congratulations to G8NY

From *The London Gazette*, dated January 24th, we learn that Mr. Leslie Luscombe, G8NY, of Hornsey, London, has been commended by His Majesty, The King, for good services during an enemy air attack.

Sir Leonard Browett, K.C.B., C.B.E., Permanent Secretary to the Ministry of Transport in a letter to Mr. Luscombe wrote: "I am directed by the Minister of Transport to inform you that his attention was drawn to your action on the occasion of the enemy attack on the —— Power sub-station on the 18th October, 1940. The Minister greatly appreciated your good services, and the matter was brought to the notice of His Majesty, The King, who was graciously pleased to give orders for the publication of your name as having received an expression of commendation for your services."

We understand that Mr. Luscombe and a colleague worked for many hours in the face of danger to restore an electricity supply to hospitals affected by the bombing.

Well done Leslie!

### A Welcome to the ZL's

Just before going to press news reached us that the following New Zealand amateurs have arrived at No. 3 S.S., R.A.F.:—ZL1AE, 1AJ, 1GP, 1IU, 1IY, 1JZ, 1NZ, 2IO, 2QG, 2SV, 2TL, 2UG and 3DU. We wish them an enjoyable stay in England and hope to meet them shortly at another properly organised meeting in the "Land of the Tumuli." As a point of interest, our correspondent 2CMR has to thank the new R.S.G.B. sticker on his car for bringing about these interesting contacts.

### H. V. Prince, G3UF, Honoured

Warmest congratulations are extended to Leading Telegraphist Harry Victor Prince, G3UF, who has been made a member of the Most Excellent Order of the British Empire (Military Division) for meritorious service. Mr. Prince is a member of the Royal Naval (Wireless) Auxiliary Reserve, and is, we believe, the first radio amateur serving in that Reserve to be honoured during the present war. His home is in Halifax, Yorkshire, from where he operated an efficient station for some two years prior to being called to the Reserve in August, 1939. He was Assistant Secretary of the Halifax Radio Society, and has been a member of R.S.G.B. since 1939.

# 73.

**G2GB** (R.A.F.), to G2HG, 2IC, 2JB, 2NK, 2UV, 2ZQ, 5JB, 5LB, 6QB, GM6LS, SU1RO, VK2JT.

* * *

**G2MQ** (22 Moor Street, Shaw, Nr. Oldham, Lancs.), to G5LU, 6ML, ZB2A, W1BLO, W1KIU, VS2AK, VQ2CM, VU2FA and all friends of District 15.

* * *

**G2WR** (Royal Corps of Signals); home address, 28 Mount Pleasant, Norwich), to G2PL, 2XS, 5BD, 5CY, 5GS, 5LL, 6AK, 6FB, 6MN, 6YP, 8JV, 8NS.

* * *

**G3AQ** (178 North Street, Coventry), to G2IK, 2LU, 3GA, 3HB, 3IP, 3YO, 6HJ, 8MP, 8PJ, EI2P and all members of C.A.R.S.

* * *

**G3ST** (62 Dumbarton Road, London, S.W.2), to G2GZ, 2JB, 3CI, 3DF, 3TG, 3ZF, 4DC, 5OX, 5PY, 6QN, 8GP, 2FQQ, and all old friends.

* * *

**G3TG** (R.C. of S.), to G2JK, 2JB, 3CI, 3CU, 3ST, 4KY, 5PY, 5OX, 8TN, GM8RJ, 3UU.

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**G3UF** (R.N.V.(W.)R.), to GM3SF, 3SN, 3XZ, 3ZK, GI5DX, G5OU, GI5QX, G5XI, GM8HM, 8RL, 2BYC, BRS3772.

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**G3YK** (32 Emmerson Avenue, Middlesbrough), to G2IW, 3BR, GW3CR, G4DD, 5CP, 6XD, 8RN, 8IT, 8AU, 8TH, 8QX, SU1AF.

* * *

**G3YX** (Knutsford), to G3DN, NZ, OZ, SI, WD, 4CP, 6VQ, GM3LO, GI3ZX, GW8SO, EI3P.

* * *

**G3YY** (1a Dover Road, Brighton, 6), to G2AO, 5CM, 5JZ, 5MA, 5PP, 5SG, 6CY, 6FO, 6LK, 2AAH, 2ASJ and 2DSP.

* * *

**GW4CK** (Romir, Victoria Road, Prestatyn), to G3HB, GW4CX, G5YP, GW6KY, G8DQ, G8JJ, G8MF, W4DTR, W8GFU.

* * *

**G4GD** (31, Englishcombe Lane, Bath), to G2YK, 3XF, 6DT, 8QH, 2FCJ, and all South West London amateurs.

* * *

**G4HK** (R.A.F.), to G3FX, 3HZ, 3MR, 3PD, 4CH, 4NO, 5JB, 6LN, 8HG, 2BKO, 2DRR, 2FPM.

* * *

**GI5TK** ("Hollyvale," Ravara, Ballygowan, Belfast), to G2SO, 5JL, 5UA, 6KQ, 6LR, 6LZ, 8CV, 8FF, 8PF, GI8MI, VK6AK, 6RU.

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**G5ZN** (35 Reedley Road, Burnley, Lancs.), to GM2DI, G2FX, 2KO, 2RB, 3NL, 5CJ, 5MV, GI5QX, GI5ZY, G6QF, GM6RG, 2BFB.

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**G6RM** (c/o Musto, Golf Links Avenue, Stutton Road, Tadcaster, Yorks), to G2RU, 3HP, 3WR, 3YY, 4HS, 6CY, 8CP, 8OQ, 2CIA and all Brighton members.

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**GM8FR** (H.M.S. Brighton), to GM2SL, 6WD, 8AH, 8MJ.

**G8HG** (261 Norris Road, Sale Moor, Cheshire), to G2LK, 3LB, 3LX, 3QV, 6LN, 8IT, GW3AX, 3CR, GM3NG, EI2J, 3P, W9YNB, and all old friends.

* * *

**G8IO** (58 Norfolk Road, Sheffield 2), to GM2MP, G3VY, GM5KQ, GI5ZY, G8FP, GM8KQ, G8TG.

* * *

**G8IX** (97 Gloster Road, Old Woking, Surrey), to G4AP, 5CM, 5MA, 5WP, 5YA, 6NA, 6YZ, 8GS, 8IP, 8NT, 8UG, BRS1535.

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**G8SB** (R.A.F.), to G3LT, 3QK, 6KL, 8IL, VE1EI, VS7RA, VK3BM, 3HG, VU2JG, SU5KW, W1JFG.

* * *

**G8TM** (R.A.F.), to G3CD, 3GT, 3UR, 5VD, 5XK, 6RO, 8CD, 8CW, 8GU, 8OF, 8VF, 8VK.

* * *

**G8VS** (R.A.F.; home address, 37 Toftshaw Lane, Bradford, Yorks), to G2QM, 2SU, 3KF, 5HB, 8WG, 2DFP.

* * *

**2DDX** (R.A.F.), to G3JU, 6BP, 6SO, 8KP, 8VZ, GW4CQ, 4KQ, 8SO.

* * *

**2DRR** (R.A.F.), to G4HK, 2BIB, 2BKO and all Manchester amateurs.

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**2FPI** (R.A.F., Egypt), to G4DS, 6PO, 2ABF, 2ABT, 2BTO, 2DVQ, 2FPA.

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**BRS3797,** (R.A.F.; 2, Myrtle Cottages, St. Michael's, Tenterden, Kent.) to G3BG, 3KB, GW3UD, 3XW, G6JB, 6XD, 8AU, 8BK, 8TH, 2FIZ 2AKQ.

* * *

**EI8N** (Signals, Templemore, Co. Tipperary), to G3AH, 3GR, 8DI, 8OG, GI3JP, 3VQ, 6TK, 8TS, GM3LO, GW3KY, 3XW.

## Gibraltar Radio Society

The news that a group of R.S.G.B. members at present serving at the Rock were about to form a local Society was referred to briefly by G2MI last month. Since then we had heard from Tel. R. Beardow, G3FT, that he has been appointed Hon. Secretary, and that meetings are held on Monday, Tuesday and Wednesday evenings at 8 p.m. A nominal subscription of 3d. per week is paid for the privilege of meeting regularly to discuss matters of mutual interest.

It is the intention of the organisers to extend the activities of the Society to the fullest extent within service conditions.

Already offers of sufficient components for the construction of a receiver and oscillograph have been received, whilst morse instruction is to be arranged by Sgts. Thomson and Brown.

All members serving in Gibraltar should contact G3FT at the Rock W./T. station.

# THE MONTH "OFF" THE AIR—January, 1941

By ARTHUR O. MILNE (G2MI)*

## Notes and News

ZD2H pops up again after a long silence to send New Year greetings to all his old friends. He comments on the reliability of EAN as a marker station for the 14 Mc. band, and says the best DX heard by him in early November was PY7AO working K7EVZ. K5AY had a great time knocking off W's on 7 Mc. during the "sweepstakes." Arthur says 7 Mc. is wide open in Nigeria from 22.30 until 08.00 local time. 3·5 Mc. is full of comic calls, but W8ALP and W1AW have been identified. He would like to hear from anyone with the time to write.

G8UO mentions hearing SV1XA again on 7 Mc., this time from Suffolk. G8TL, who now spends part of the week (Mondays and Tuesdays, to be precise) at 10 Chepstow Crescent, Ilford, and the remainder at "Speedway," Bartholomews Road, Sudbury, Suffolk, extends "Ham Hospitality" at both addresses. He sends 73 to 2XP, 2KT, 3OJ, 3GM, 5MM, 6AB and YF, 8AX, 8PC, BRS1295 and G5QO. (Please send 73 lists to H.Q. and not to G2MI.—ED.) 2XP is now in Hampshire. 2CD is back in his own home again after a satisfactory visit from the bomb disposal unit. 2RR has left the Ilford district, whilst 2CKJ and Rob Coleby are on research work connected with one of the services. (Surely this is District 14 news, not Month "Off" the Air.—ED.)

G3SK, who reports great activity among the Hungarian amateurs on 3·5 Mc., says the following list was compiled from average S8 signals between 22.10 and 22.30: HA1KM, 2I, 3K, 3U, 4T, 6G, 6I, 6K, 7N, 8G, 8M, 8R, 8S, and 9YA.

BRS1157 often listens to GBR on 16 kc., and recommends it for good morse practice.

G4AB found 7 Mc. very good in the early mornings during January, when all W districts were heard. W1, 2, 3, 4, 8 and 9 have also been logged on 3·5 Mc. He reports a new American broadcaster —WLWO, Cincinnati, which shares 19·67 with WRUL. All American short-wave broadcasters have been coming in well, as also have JZI, JZJ, VLQ7 and KZRH.

G5FN, whose address is now 90, Coleridge Avenue, Penarth, Glam., would like to hear from G2VA. BRS3766 has had a letter from W8SSI, Painsville, Ohio, who says 14 Mc. usually closes up about 20.00 E.S.T., and remarks on the growing activity on 7 Mc. Maybe this will help to keep the band clear of the poachers who seem to think war excuses anything! Baker Is. and Howland Is. may also be heard, if you are lucky. 3766 mentions a heavy electric storm on January 18, with an entire fade-out from 1·7 to 11 Mc. and strong flutter on local short-wave broadcasters.

Only three stations of Amateur interest have been heard on 14 Mc.: LUICA, 14380; PY2LM, 14185; and K4GTH phone, on 14250.

G3YK comes up again with some more dope on things in general. He says, however, that GW3KY, way down in Anglesey, blotted his fan mail by asking how much per line it cost him to monopolise the *Bull.*! He refers to KY as "one of those persons who used to occupy a frequency near to the 'three Yorkshire Kilowatts,'" and suggests it is a case of pique!

Righto KY, old man, the next issue is yours!

According to GW3KY *via* 3YK, he also tried to crash into the R.A.F., but, like YK, had to stop in the ranks of the great unarmed! 3YK has had letters from G2FO, 4BO and EI7M. 2FO still does a bit of listening round the bands, says he can read 30 w.p.m. but can't write faster than 27 w.p.m., and wants to know how one learns to write faster. We suggest he asks Clarry, who can write almost as quickly as shorthand! (Clarry says "Use a mill"!) Commenting on the strange lack of visits from Service members, he says, "Apparently when the war started, 'hams' in the R.A.F. were looked upon mainly as 'knob twiddlers.'" After a short time it was discovered that, whereas, so far as professional operators and mechanics are concerned, a transmitter is QRT if, say, a condenser is "dis." and can't be replaced from store, a ham on the job usually got it going. Eventually the "Big Shots" realised that amateurs are a breed who thrive on difficulties and are masters of the art of improvisation. "So," says 2FO, "now amateurs are seldom posted to big establishments where work is mostly routine." Whether this is so or not we don't know, but it's a good yarn and helps to fill our column. (It may even be true!—ED.). 4BO extols the virtues of the HRO. By the way, does anyone know what these letters stand for? EI7M (Ever Irresistible Seven Maidens) writes a letter brimful of humour concerning the adventures of the mythical 7M's. But we aren't that type of magazine—stand out that fellow who said, "Worse luck." 7M is a member of the Local Security Force in Eire, a parallel to our Home Guard, we gather, and sends 73 to all his G friends.

## News from VK9

Eric Trebilcock writes from Box 13, Salamana, British New Guinea, where he has been transferred on civil airway duties. Mails are a somewhat problematical matter, but he is rather lonely and would welcome a few letters. But be careful with this lad; if a few of you strike up a correspondence with this most prolific writer of interesting and lengthy letters there will be a world paper shortage!

On the way up he met VK4KC at Port Moresby, Papua, and went for a short trip round whilst the aircraft was refuelled. He hopes to contact VK9WL shortly. He says Salamana, which is very "junglefied" and mountainous, is supposed to breed quite a variety of choice fevers.

## Y.L.R.L.

Clarry has given us an opportunity of seeing, through the courtesy of "our Dorothy," a copy of No. 1, Volume 2, of *YL Harmonics*, the official journal of the YL's Radio League. This society, which is affiliated to A.R.R.L., has put the ladies on to the amateur radio map in no uncertain fashion under the presidency of W7FWB. YL

* 1, *Kent Drive, Harrogate, Yorks.*

operators in this country may like to get into touch with the Secretary, Enid Carter, W9NBX, Bowbells, N. Dak. (They're all in it as far as we know!—ED.) The society runs an annual contest and issues a YL W.A.S. Something more for us to look forward to after the war! Foto fer foto! and how!

### Blitzbangundgertchernastinen

This month's air-raid story comes from our old friend John Hunter, G2ZQ, who with G6SM is on special duties somewhere in England. He reports the safe arrival of Patricia Mary on December 6. Hearty congrats! He tells us that G2PL also has a junior op. who seems to enjoy life, despite the initials A. R. P.! (News is stale—see November issue. A. R. P. almost a warden by now.—ED.)

Here is 2ZQ's own private blitz story. Whilst staying with his wife's family, two big ones, intended for the docks, landed about 30 yds. and 50 yds. away bringing out all the windows. Exactly a week later, whilst at his own parents' home, to quote his words, "there was the usual whistle, followed by a crump; my estimate was 100 yds. away. We were amazed therefore to find the bomb had come all through the house and burst in the next room! An hour later and two of us would have been sleeping there. My people still live in what is left of their home; the dining-room, where the transmitter used to be, is still habitable and the kitchen workable, so they don't grouse! Experts say the bomb was a 100 kilo., so we were lucky not to have the whole house down on top of us." From the foregoing we think it pretty easy to form an opinion of the extent of Nasty's success in his attempt to terrorise the Hunter family!

Bert Allen, G8IG, is another stalwart who is sticking it out in South London. Most of his windows have gone, and one or two of the doors, but his attitude is "some of the houses near here are now open country since the land mines fell, so why should I grouse?" What hope have the Nazi Robots of beating people like these?

G2MI, whilst on official business in the Liverpool area recently, was entertained by G6CX and his wife at Hoylake. CX, who is very busy these days, was quite unperturbed by the Blitzbarbarians. We offer him our congrats upon his appointment as District Representative.

* * * *

The writer of this column will be glad to hear from any SP amateur at present in Great Britain who is willing to translate an article concerning himself which appeared some time ago in the official journal of the Polish Society.

### Postscript

Towards the end of February G2MI found himself up in the North of Scotland on a job. Just before leaving he had the pleasure of entertaining F-Lt. J. Scholefield, G2TR, who brought along with him VE3AKV and VE3AKH—two young airmen at his station. Such is ham spirit in war-time.



# The 28 Mc. Band

By NELLY CORRY (G2YL)

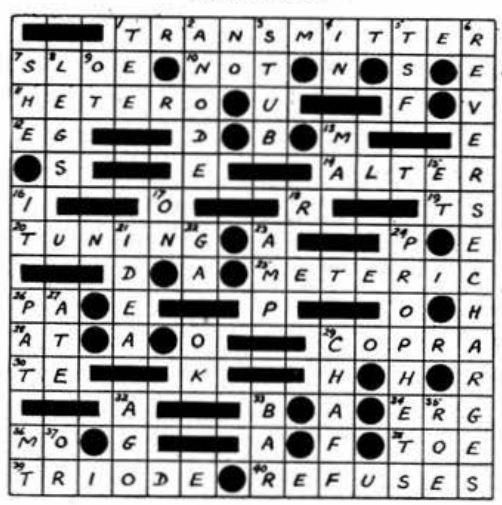
REPORTS show that although conditions were poor during the latter half of January, earlier in the month there was something to be heard on most days, and the band was positively lively on a few occasions.

Amateur signals logged were confined to the continent of North America, but on January 6, G2RC and BRS3893 heard commercial harmonics in Asia, Africa and Europe, viz., JCL, ODD, SUU and seven Russian stations. On December 27 the H.F. limit was unusually high, and G2RC and BRS3893 heard IEU on 43 Mc. and FYM on 35 Mc. at 18.30 and 19.00 G.M.T. respectively. Other commercial harmonics reported during the month were FZM, HAS2, ODE, Moscow broadcast, and other Russians.

From South America the only signals reported were the usual LSA/LSA2 on 31.5 and 27.5 Mc., and one or both of these were heard on ten days. Due to postal delays BRS3003's previous report was too late for inclusion in these notes, but it is worth recording here that he heard the indefatigable PY7VB on one occasion during December, but not in January.

U.S.A. amateurs were reported on January 2, 3, 5, 6, 8–12, 15, 16 and 19, but were confined to Districts 1–4, 8 and 9 on every day except January 5 and 6. These were the two best days of the month, as in addition to the DX commercial harmonics heard on the 6th, G2RC and BRS3893 heard W6MXW, and on January 5 they logged W7RUY and K4GIP. Several W5's and W9's were also reported on these days by G2RC, G4MR and BRS3893. BRS3003 found W's coming in well on January 11 and 16, and remarked signals were unusually strong for a short period during the afternoon of January 11. G4MR heard 26 Mc. U.S.A. broadcast stations on a few days when 28 Mc. amateurs were inaudible, W4XA, W5XAU, W9XPD and others being logged on 14 days up to January 28.

## "TESRXWORD PUZZLE" No. 8
### SOLUTION



# BRITISH ISLES NOTES AND NEWS

**District Notes**

Due to prevailing circumstances we would urge all D.R.'s and Scribes to post their notes in time to reach Headquarters by not later than *February 25.*

## DISTRICT 1 (North Western)

THE writer would like to begin these notes by recording his appreciation of the compliment Council has paid him, particularly at a time when everything points to a remarkable increase in the strength and importance of the Society, in asking him to accept office as District Representative in succession to Mr. J. Noden (G6TW) and by thanking Mr. Noden, on behalf of the members in No. 1 District, for the services he has rendered to the Society and to the members during his seven years of office.

In his former capacity of Scribe, the writer was constantly in touch with Mr. Noden, and knows something of the work he did behind the scenes in connection with N.F.D., District Meetings, licensing applications and similar matters, and whilst these services receive little publicity they are, nevertheless, of considerable importance in the conduct of the Society's business.

Mr. Noden writes :—" Council assuming the time to be ripe for a change in the representation of this District, I agreed. Yet while doing so, and after the number of years I have tried to serve you as D.R., it will be hard to cut adrift, but I have the happy recollections of numerous friends I have made and the assistance given to me. My thanks go to all T.R's, members and to Mr. Stacey, my Scribe, now your D.R. Rally round him.

" I look forward to the pleasure of meeting you all again at our next Annual Meeting."

* * *

Although the D.R. is primarily the representative of Council, it is hoped that members will look upon him as their " M.P." in regard to all things appertaining to their membership and the rights and privileges it carries. It is part of his job to keep Council informed of events and of opinions on Society business in his District, so members and Town Representatives in particular should keep in touch—even criticism will be welcomed so long as it is constructive !

Please try to send in regular reports for inclusion in these notes ; the effort will be much appreciated. The only ones received are as follows :—

*Blackburn.*—An apology is due to G4KT who was the only T.R. to report last month. His notes were kept back in the hope that some would arrive from other towns—with the result that they were too late for publication. Congratulations are sent to 2FUC now an A.C.1. in the R.A.F. Promotion came after many months of hard work. G2QN (ZD2H) reports fit and well ; if any member would like to write to him, G4KT will furnish the address.

The T.R. sends best wishes for 1941 to all old friends and hopes that before long everybody will be enjoying plenty of DX.

*Burnley.*—Mr. W. H. Dyson, G8TD of Healey Mount, Manchester Road, Burnley, has very kindly taken over the duties of T.R. from 5ZN, as the latter will soon be in the R.A.F. G3IY visited 3KT, 5ZN and 8TD, when home on leave. Will members please give the new T.R. their full support and keep him posted with news of their activities? G6CX.

## DISTRICT 2 (North Eastern)

Due to absence from Harrogate during the early part of February, the D.R. apologises for delay in answering correspondence. He would like to hear from members in towns not yet represented who will forward notes for this column.

*Sheffield.*—G8RX recently suffered severe damage to his home from enemy action and had a lucky escape himself. G8IO has moved to a temporary QRA in Derbyshire. 3789 has returned to Bournemouth. 2FOG was busy practising Morse and building a receiver until a D. bomb recently removed half his home. Was it G3FN we saw in town recently ? There are still some local members of whom we have no news. What about it ?

*Barnsley.*—Martin Bourke, 2AOU, formerly of Jersey, C.I., writing from his temporary home in Barnsley, whilst on leave, says he is very happy in the Royal Corps of Signals and has G5YI of Rotherham with him. He is at present in the South, and will be pleased to contact District 2 members. His address can be obtained from G2LT. G4JJ, with the R.A.F. and now a Corporal, reports meeting many " hams " in the course of his travels and sends 73 to all old friends.

*Keighley.*—Notes are very scarce this month, most so far have been from the newer licences. What has happened to the " old guard " of the pre-G8 era ; are they in cold storage for the duration ? G4AV is now with the R.A.O.C. G2VO has been in town on vacation. G8UO's working hours have again increased, but he can still find time to attend to any notes sent in.

News from Halifax members would be welcome.

G2MI.

## DISTRICT 3 (West Midlands)

BRS3831 of Burton-on-Trent reports having constructed two 500 volt power packs for use at a later date in a transmitter. Experiments have also been conducted with a 10-watt modulator whilst a 100 kc. frequency standard has recently been produced. He has a Sky Buddy for sale. Offers to " Thorntree House," Newhall, near Burton-on-Trent.

Would any member with a little free time care to offer his services as District Scribe ? If so, please write to G5VM, 90 Worcester Street, Birmingham.

## DISTRICT 4 (East Midlands)

*Leicester.*—G5ZP and 6VD recently spent a very enjoyable week-end with 5UQ and YF who are both keeping very cheerful in spite of QRM. It is rumoured that the Leicester lads will soon be receiving one of those helpful letters full of good advice as only the " Vicar " himself can give. A letter to hand from Sgt. Sills (G8QZ) struck a cheerful note. Apparently he gets a great kick out of a life that gives him 1½kW. under the key. He snatches a few minutes in the early hours to listen to the W's on 3.5 Mc. and wishes he could QSY for a time to work a few of them. His only grouse is that the place is isolated

and he is inclined to suffer from " petrol feet." As the nearest pub. is 3½ miles away and the " flicks " 6 miles, he should be able to keep sober ! We were very glad to receive from Peter Bramley (2FMX) a résumé of his pre-war activity. He has now volunteered for the R.A.F.V.R. and expects to join shortly. Best of luck O.M.

*Nottingham and Derby*.—Nothing has been heard from these towns. Where has 8DZ got to ?

*Mansfield*.—Local members are asked to note that the next meeting will be held at The Swan, on February 23. Please make an effort to attend. 2DTQ having gone back to duty after 14 days leave, has an idea he may be seeking the promotion reputed to be somewhere across the ocean. His friends will be glad to hear he passed out as W/Op. Those two bright boys, 8NS and 4DS, are both Air Gunners and it is reported that the latter has been to collect a few QSL's from I stations he worked pre-war ! Capt. Vance (G8SA) sends best wishes to local members for the New Year.

At a meeting of Sutton amateurs a discussion took place regarding the new Air Training Corps Scheme. The majority of those present were in favour of assisting in any way possible, and the Scribe was instructed to write to the Air Ministry.

It was agreed that the adoption of this work would keep the amateur spirit alive. 2APT has not sent his QRA ; his previous reason was QRL, so we suppose he is still busy !

If your area and friends are not mentioned in these notes why not write to the D.R. about it and let him have your news. He'll be glad to hear from you. All the best. G2RI.

## DISTRICT 5 (Western)

There are a few signs that Amateur Radio is not quite dead in the district, but while thanking those few who have sent in reports, please let us hear from more of you. How about it Gloucester, Cheltenham, and Bristol ?

*Swindon*.—Mr. W. J. Barker, G3NQ, 46, Dixon Street, Swindon, who has been appointed T.R. would like to meet amateurs in the area once a week at his QRA. Roll up all those who live near.

*Amesbury*.—Mr. E. T. Carter, G4IV, The Bungalow, Boscombe Road, Amesbury is anxious to see some activity in that town. Service or civilian members are asked to get in touch with him with a view to arranging meetings.

*Other Areas*.—G5LR has left Bristol and is now at Longhope, North Gloucestershire. He has no mains but finds his SX24 works well off batteries and thinks it would be ideal for field days. G2HX who left Bristol some time ago for Swanage, has been at home recovering from the effects of a 2000V shock which laid him unconscious. We all hope that he has now fully recovered.

The D.R. having received a visit from G5NC, who is now in Bristol, hopes to see many others who may find themselves in the locality. Congratulations are extended to Jerry Walker G5JU on his promotion to the rank of Flight Lieut. G6RB.

## DISTRICT 6 (South Western)

The D.R. has absolutely no information on which to base a report this month. This is a great pity, as there must still be a few members in the District who are carrying on some sort of radio work. Will home members try to remember that those on active service like to know how they are getting on, and District Notes *should* form an excellent source of such information.

Please let the D.R. know how things are going with you, and remember that with present printing arrangements District Notes should be at Headquarters by the 28th of each month. The D.R. has held these notes up for a day, hoping, like the worthy Mr. Micawber created by C. Dickens, Esq., that something would turn up ! This, unfortunately, has not been the case. G5SY.

## DISTRICT 7 (Southern)

*Bournemouth*.—The town's biggest and brightest war-time hamfest took place on Christmas Eve somewhere in Bournemouth. Present were G2NS, 3BM, 3VY, 4IJ, 4MY, 8KX, 2FHD and 2HNO. Beyond knowing that a good time was had by all, the Scribe can only remember that the main topic of technical conversation was " bottles." 4IJ, however, was loud in preference for one out of the barrel.

Hearty congratulations to G3BM and Mrs. Knott on the recent arrival of their first-born, a daughter. 2XP of Ilford is now in the town and has met the locals. 2HMX had the misfortune to ride his bicycle into a New Forest pony on his way back to Southampton, at 4 a.m. one morning. Luckily he was not badly hurt, but he doesn't see what the rest of the gang find so funny in the incident ! BRS3789 who recently went to Sheffield " for safety " is now back here again. His next move is being speculated on with interest (*via* 2HNO).

*Croydon*.—G8TB, completely recovered from his motor-cycle accident, was recently on a spell of leave. 2CRD and 4BJ have been on a job in the Midlands. 2FWA has now completed a wave-meter and finds it a useful addition to the shack. (We hope its a freq. meter !—Ed.) BRS3179 in the R.C. of S, has been moved much nearer his home. BRS3003 still listens on the 28Mc. band, but finds conditions poor, and longs for the day when things are normal again. 4NI still selling " bottles " at the time of going to press, expects to receive his call-up pretty soon. 4AA was home on leave over Xmas. 3VN is reputed to be sojourning in TF. (*via* BRS3003 and 2FWA).

*Reading*.—A hearty welcome is extended to BRS3848, who gives the information that he is a Benedictine monk, Senior Physics Master, at Douai School, near Reading, and very interested in receiver construction.

4AB, still at Oxford, was a recent visitor to 5HH. Manager of a provision store, 6GT, says he would have more time for radio if it wasn't for food rationing. However, he is experimenting with home constructed talkie apparatus, and getting results. 5HH and 2YB are doing plenty of listening, the latter reporting many K4's on 7Mc. 5HH can be reached during afternoons only, on Reading 3124, so 'phone those reports to him next month *please*. (*via* G5HH.)

*Basingstoke*.—G3NW was called up some time ago. 4AJ has gone into the R.C. of S. G8LY is very busy listening and being a " Jill of all trades." 6OU is giving morse lessons to prospective R.A.F. recruits. (*via* G8LY.)

*Kingston*.—The T.R. wishes to thank 3MF for his report on the activities of the New Malden amateurs. A welcome is extended to 3JG who is now in this area. From N. London, 2DLX wishes to be remembered to all old friends in No, 7 and states he is as active as time will permit. A cheerful letter is to

hand from an old friend—VK2XQ, now an active service. BRS3794 reports that although a bomb landed only fifteen feet from his shack his receivers and other equipment, including valves was rescued from the debris little the worse. (*via* G2GK.)

*Guildford.*—" Spenny " (G6NA) reports that the village pump recently froze solid but he saved the situation by melting blocks of ice with kilowatts of R.F.! Welcome to 2FWB, in town on a short visit. 8IX, recently on leave, has been posted with three other hams to a healthy if exposed spot ! Congratulations to Bill Gilhespy 6GS, now a Flight-Sergeant. He shares a room with 8TK who gets inspiration from the pictures on the wall. 5YA has found a kindred spirit and a regular hamfest is held frequently at the " local." 5WP recently had a visit from 3VB. The D.R. seems to be starting a depository for receivers that are being kept warmed up for the duration.

This month the news from District 7 is much more encouraging and give hope that shortly we shall have 100 per cent representation from all town areas. Best thanks to all who have reported, please keep it up. G5WP.

## DISTRICT 8 (Home Counties)

At least two members have decided that District 8 shall keep its end up, and have decided, in the absence of the T.R.s on active service, to send news from their areas. Needless to say, we are very grateful to G5OV and to BRS3585, the members in question for so thoughtfully stepping into the breach. We can only hope that their example may be imitated elsewhere.

*Cambridge.*—G5DQ has been transferred to the Royal Signals. Although it meant losing his stripe, he should now be in his element. 5JO and 2XV report " All well, but no news," and that goes for the rest of the members in this town.

*Hunts.*—G5RL, training as a radio-op. with the R.A.F., recently reached the dizzy heights of the 10 w.p.m. class ! 6WA has been home on leave, and finds his particular job with the R.A.F very interesting. Pat Crisp, 6DX, who has also been on leave. tells us he has worked England from several countries lately. VE3AEW is associated with 5OV, and they have designed a modulator for use when he returns to Canada. XZ2DY cabled at Xmas, to say that he and his family are all well.

*Beds.*—G8KP has visited BRS3585 and together they have built a 30-watt audio-amplifier from a *QST* design. 8KP, and his YF are leaving this area shortly. 2FFG is in the R.A.F. G4OC has been giving Morse to 2DPQ and BRS3585, so that now all are in the 20 w.p.m. class. The " Shefford Gang " who usually foregather at the QRA of BRS3585, would like to hear how the new superhet functioned, which 2RCD built when stationed hereabouts. (No such call.—Ed.)

BRS3585, whose home is at Meppershall, Shefford, seems to have extended hospitality to many wandering " hams " judging by the above reports. Any other member finding himself in this locality will be welcomed, although notice of a visit is naturally preferable. Will GM8MQ please get in touch with him again ?

Finally, is there anyone in the Peterborough area who will kindly carry on the good work of G2NJ ? G5BQ.

## DISTRICT 9 (East Anglia)

*Great Yarmouth.*—As the result of a paragraph published in a recent issue, BRS3766 reports having had the pleasure of meeting Dr. Vance, R.A.M.C. (G8SA) late T.R. for Mansfield. BRS3821 is listening regularly on 14 and 28 Mc., besides brushing up his Morse. 2BIC, now in the R.A.F., was on leave recently, but nothing has been seen of G3RW who is in the same service.

Meetings of the local Society have recommenced and good attendances recorded. A hearty welcome is extended to all members who visit Great Yarmouth. Visitors are invited to call upon John Baker, BRS3766, at Grimwades, Regent Street, or telephone 2160.

*Other Areas.*—Congrats to G5IX and 5QO who have recently announced their engagements.

From Norwich, G2MN and 6QZ report active. 3UC of Lancaster spent Christmas with 5QO at Lowestoft. 3SZ and 2CFO of King's Lynn were on leave at the festive season, whilst 6FB reports that he is enjoying life on a ship in " Musso's Sea "—oh ! yeah ! No news is to hand from Ipswich. What say, you fellows ? G2XS.

## DISTRICT 11 (North Wales)

Although meetings have been held regularly at the Savoy Cafe, Prestatyn and also at the homes of BRS1060, 4042, and 2HTY, attendances have not been as good as expected. The D.R. appeals to all members living in, or located within reasonable distance of, Prestatyn to put in an appearance at least once a month. A post card to BRS1060, " Woodside " Meliden Road, will bring full details.

The next general meeting will be held at the Savoy Cafe, at 7 p.m. February 18, whilst weekly ragchews will take place on other Tuesday evenings at BRS 4042, 2HIY, and GW4CK in rotation.

GW3CF reports having constructed an excellent " bug key " (article please Ed.) Welcome to Mr. E. Fish, 2HCZ late of Scottish E District who is now living in Bangor. GW4CK employed as booking clerk at Chester Station has been trying to contact members passing through. Although he always wears an R.S.G.B. badge he is still awaiting his first visual QSO. (Try some stickers O.M. Ed.). Congrats to Stanley Higson GW2PH on his promotion to Captain, Royal Signals. He is now at Accra, Gold Coast. GW3CF has left the District to serve in the R.A.F. G6US.

## DISTRICT 12 (London North and Hertford)

A successful meeting was held at G5FA on January 26; fourteen members being present, including representatives from the " out-posts " of the district in the persons of G3NR (King's Langley), 4DC (Hertford) and 2GO (Potters Bar). G8IJ of Barnsley stationed near London with the R.A.F. was welcomed. 2CNC rang to say that he was unable to come over from St. Albans owing to H.G. duties. A good rag-chew was enjoyed by all, especial interest being shown in the new A.T.C.

We were pleased to see G2GO about again after his recent illness. He has just completed a new " superhet " and hopes to obtain the loan of a signal generator to finish off the job properly. Incidentally G2YD and 5FA had an instructive evening with a signal generator recently, using a standby receiver, when 2YD's " Sky Challenger " went up in smoke !

Letters have been received during the month from G3NR, 2DTD, 2CNC, BRS3412, 3760 and 3825 —keep it up fellows ! G3NR has not heard from anyone in the Watford area this month, but is still busy himself on constructional work. 2DTD of

Hitchin, is busy building a straight receiver, and adding a pre-selector. He offers to " look after " a communication receiver for any member, and adds that Hitchin is a safe area. He will be pleased to see Service members who may be nearby. 2CNC hopes shortly to organise a meeting in St. Albans. Herts members please note. We are pleased to report that BRS3412 is making good progress at Ventnor and is now able to get up for a few hours daily, after eleven months in bed. While there he met a friend of G5QF. He tells an amusing story of a ride in the " Black Maria " across to the island when the ambulance was not available, and of the passengers' speculations as to what he was " in " for ! He sends 73 to all district members and hopes to be home in St. Albans during April. Congratulations to BRS3760 on the arrival of a son. He is having quite a lot to do with transmitters as a radio mechanic. After trying for months to contact other hams, G4HK has now come to be stationed with him and they are finding a lot in common. BRS3825 of Enfield, welcomed as a new member, is also a radio mechanic in the R.A.F. He has been more fortunate, having contacted a number of amateurs, and as a result is most enthusiastic about the true ham spirit he found wherever he went. He reports that 2HGQ, also of Enfield, is now an instructor in the R.A.F. at No. 1 S.S.

2FVX has moved from New Southgate, but remains in the District at Hoddeston, and is keeping his eye on the 7Mc. N.F.D. site which is now close handy !

The next meeting will be held at war-time H.Q.'s —G6CL, at 2.30 p.m., Sunday February 23 ('Phone PAL. 3255). Service members on leave in London will be warmly welcomed. G5FA.

### DISTRICT 13 (South London)

The Council has accepted with regret the resignation of Mr. J. B. Kershaw, G2WV, from his position as South London D.R.

For the time being reports should be sent to Mr. L. Sanderson, G8TN, 104, Croxted Road, West Dulwich, S.E.21 (Phone, Gipsy Hill, 1578) who is acting as T.R. for the Norwood–Streatham area. Offers of assistance from members living in the South eastern section of the District will be welcomed by Headquarters.

Friends of Mr. E. C. Ilott, G2JK, will be interested to hear of his recent engagement to Miss Potter, of Wimbledon.

*Norwood–Streatham.*—A very successful meeting was held at G3ST on January 26, when G2DP, 2VB, 3DF, 3FP, 3ST, 4DC, 4KY, 8TN, 2FWA and 2HHB attended. An interesting and topical film show was given by 4KY which was enjoyed by all. 4DC brought along a Preselector which he has constructed and this evoked much interest when it was removed from its cabinet.

Meetings have been arranged to take place at G8TN, on February 23, at 11 a.m. and at G2VB on the following Sunday—March 2.

### DISTRICT 14 (Eastern)

*Chelmsford.*—The meeting at G5RV on January 5, was attended by all the " faithful " with the exception of G5CA who was unfortunately ill. 6LB is testing his new home-built pre-selector. 2SA reports " all quiet " on the Burnham front ! 8PB hopes to obtain leave during February, and may be able to attend our next meeting. 5RV has applied for a commission as Signals Officer in the A.T.C. and awaits results. Still no news from 3BS, but 2KG writes to say he is off to a warmer clime. We wish him the best of luck and success.

*Southend.*—G5XI has left VS7 and is now indulging in further DX, as he has been transferred to ST. While on leave 6CT called upon 2SO so that the note in the December "Bull." did not fall on waste ground. 5VQ returned to Westcliff some weeks ago and is now doing great work with the G.P.O. After five years of concentrated persuasion 2SO's brother (R. Signals) has at last joined the R.S.G.B. ! 73 to the Chelmsford " Gang," we hear so little from them.

* * *

These will be the last notes to appear under my call-sign as your D.R., Council having appointed Mr. R. L. Varney, G5RV, as my successor. In asking members to give their full support to the new D.R., I should also like to take this opportunity of thanking every member in the District for the splendid support given to me in the past, and to express the hope that the District will continue to grow from strength to strength.

I shall look back on many very pleasant memories of personal contacts, and friendships, and hope after the war to again meet many of you personally.

G6UT.

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

The attendance at the January meeting was the lowest ever recorded in the District, only three members being present. The D.R. was one of many prevented from being there owing to pressure of private business. Letters were read from G4PA and 8VM, whilst news came to hand that G3YM and 8ZD had obtained commissions in the Royal Signals.

Reports have been received from the following; G6VP now a full-time A.R. warden and doing his full share to help to win the war, has not lost interest or hope in the great game of " ham radio." 8DG writes from Hereford, to which town he has been evacuated, and asks that his 73 be conveyed to all old friends in the District. 2KI thanks those who were responsible for sending him some much appreciated smokes. 5SR has received a special appointment. 8FA is fit and well, according to 5JL, who has received a letter from him, thus breaking a long silence. 4IH is welcomed as a new member to No. 15. Some cigarettes are awaiting 2FCJ if he will send his address.

If home members will advise the writer of any interesting letters they receive from those on active service it will materially assist him in preparing future notes.

The next District meeting will be held at 2.30 p.m. on Saturday February 22 at G3UQ, 70 Wormholt Road, Shepherd's Bush. We thank him for his help in this connection. G6WN.

### DISTRICT 16 (South Eastern)

The writer regrets that, due to private business which took him away from home during late December, he was unable to forward notes last month.

Letters have been received from G2HV (Brighton's T.R. of pre-war days) who tells us he is busy training naval telegraphists, and from G8RK, Ashford, who asks that his good wishes and those of G2JV and 2KJ be sent to G2QT, 3SL, 5QLs 6SY and 2CJT.

Our regular correspondent, G3YY, of Brighton listens on all amateur frequencies, including 56 Mc.,

and finds the latter band lively at times, whilst 4HS of, the same, town concentrates mostly on 14 Mc. 2BIL, who is with the R.A.F. in Palestine, sends 73 to all old friends. G2WS.

### DISTRICT 17 (Mid East)

After a long absence we are pleased to report news from G4DV and BRS3880. The former, whose QRA is The Rookery, Leasingham, Sleaford, is on Government work near Retford and is designing a battery-operated frequency meter. He would be glad to hear from Bolton members. BRS3880, who has been listening on a midget portable of his own design, says results have been very satisfactory considering the receiver fits into a metal gas mask box! Reception has been mainly confined to 14 Mc. He would like to hear from any member living near Louth. His QRA is 5 George Street. Although a new member BRS3880 has been a keen short wave experimenter for over 8 years. He is on E.S. work.

G5CY is now working at Lincoln, 5BD has had a bad dose of 'flu but is now on the mend, 3ZG, 6LI and the D.R. keep ham radio alive in Grimsby. G5GS.

### DISTRICT 19 (North Eastern)

The D.R. thanks all members who were kind enough to send reports. This is a good start for 1941. Please keep it up!

*Darlington.*—G8HQ and 2CKN have been in the R.A.F. for some time, while 2CMN expects to be called into the same service shortly. In the meantime he would appreciate any assistance from local "hams" to increase his morse speed.

*Newcastle.*—Strange that the only news of the Newcastle group should come from a member stationed at the other end of the country! G5RI wishes to be remembered to the Northumberland "gang" and would very much appreciate a letter from G2YY if he should see these notes.

*Stockton-on-Tees and Middlesbrough.*—Another cheery letter arrived this month from G3YK, who says that although he has no personal "ham activity" to report, he has a "near ham" job to plan out at business, namely, the screening of a diathermy unit to the satisfaction of our pre-war friend, the Engineer in Chief, G.P.O.! 3YK is Secretary of the local Infirmary.

G5AC, of Sunderland, is at present in this District and writes to say that he has come across some interesting TX's recently! BRS3844, who is pleased to see that District 19 has reappeared in the Notes and News pages, is contemplating building a new receiver with T.R.F.

Nothing has been heard of any Sunderland activity —what about it, chaps? G2FO.

## Northern Ireland

Amateur radio has had a quiet month in GI, although there has as usual been several new visitors, including Walter Sellars, VO1T, C. Pomroy, 2DUH, J. M. Fleet, GM8JY and Lt. E. R. Price, G4FP. We also had a few departures during the month the most notable being the Australians VK2KS, 3IR, 3UH and 4CJ who left on the same ship. They had a good time in GI and they have asked us to send 73 to all those who made their stay enjoyable.

Douglas Manson, G8PW, of Manchester, has also left and is now in a well known South Wales town, whilst Dave Harries, G3RF, is now in Londonderry.

Most of the locals are making good use of their receivers and we would again urge that any interesting DX items should be sent to G2MI for his column.

Our congratulations to GI8HS who was married at Christmas; he has moved to a very good QRA for DX. Most GI amateurs are on war work and get very little time for recreation, although several work together and get an odd moment for a rag chew. Congrats to GI5JN on the arrival of a junior operator.

On New Year's Eve a party was held at the Y.M.C.A. Radio Club (GI6YM) at which the following were present:—VK2KS, VK3UH, GM3TR, GW8JY, GW3CR, BRS2754, GI5UW, 2HML, 2HMQ, GI5HU, GI3KN, GI3SG, 2DUH, 2AMW, G8PR, and GI6TK. The Y.M.C.A. Radio Club are to arrange discussions which will be opened by well known members. GI6TK will be glad to supply a list of dates and speakers. All members are cordially invited to attend. *via* GI6TK.

## Scotland

*"A" District.*—At the January meeting Mr. Niven, 2CHN, the District auditor, presented a financial statement for the year 1940. The finances which were found to be in a healthy state, showed that good progress had been made, considering the small attendances at meetings during the year. A suggestion from the D.O. that the liquid assets should be invested in a Defence Bond was agreed to and he was accordingly directed to make the necessary arrangements. In outlining District activities for the current year it was suggested that as only a few members attend the organised meetings and consequently the burden of paying for accommodation falls upon them, those who, if circumstances permitted, would support the meetings, should send to the D.O. a contribution each month, thereby maintaining the District funds for happier times. Mr. Ferguson, GM6WD, proposed that printed notices in several languages should be displayed in all service canteens in Glasgow in order that all amateurs visiting the city may know where to find us. Arrangements are being made to put this suggestion into force.

Congratulations are offered to Jim Stove, GM5ZX, on the arrival of a daughter, and to Jimmy Roy, GM3QM, on a new appointment with the Air Ministry. A welcome visitor to the January meeting was J. L. C. Robertson (R.N.V.(W.)R.) of Dundee. Leslie Hill, G5WI, of Band Occupancy Check fame, wishes to be remembered to the members of the Glasgow B.O.C. Group.

Members are asked to note that as from, and including March, meetings will be held on the *last* Sunday of each month, at the same place and time as before. This change is made in order that the date of the District meeting may be given in the current issue of the "BULL"; at present the date selected often falls too early in the month.

*"H" District.*—The next District meeting will take place at GM4AN, 3 McKenzie Street, Kirkcaldy, on Sunday, February 23, at 3 p.m. As certain members do not appear to be clear regarding these meetings, the D.O. would point out that they are always held on the *last* Sunday of each month at 3 p.m., in the order given in the "BULL" dated December, 1940. Due to illness BRS2757 has, for some time, been unable to put in an appearance, and all were glad to see him at the December meeting. A short visit was paid by GM3ND, who being on leave from some desert wastes in Scotland (which are not by any means short of irrigation of the right kind!) could not let the meeting go by without attending. Unfortunately, owing to the

rest of the " gang " being late, no full QSO resulted. Sorry, ND, but no points awarded! District members extend a welcome to GM4NR, and hope that he will attend some of their meetings. If G2LU is again in this vicinity (as he is quite likely to be) we extend him a hearty invitation to join us at any time. Of course, that goes for any " ham."

The D.O. has received a long and effusive epistle from an old friend—GM3NH. As he regrets the passing of another year without an " H " District Dinner, he appears to feel that everybody should " hear his piece," which was, to quote his own words, " inspired (or caused) by the unavoidable and wholly necessary listening to ' Broadcasts to Schools '." So here it is, chaps!

*I LIKE NOISE.*

*The singing of aerials taut in the breeze,*
*The whine of convertors revolving with ease,*
*The buzz of transformers, vibrant with power,*
*The tick of a clock marking G.M.T.'s hour,*
*The snap of a switch giving power to a rig,*
*The roar of ten watts if the watts are big,*
*The smack a condenser makes when it's discharged,*
*Tinkling electrodes when by heat enlarged,*
*The clicking of key-points spaced by a fraction,*
*The dither and slap of a " Bug " when in action,*
*The note of a B.O. (not the B.O. you think!),*
*The gulp of our D.O. surrounding a drink,*
*The faint piping sound of some distant " CQ,"*
*The musical tone of his " R " back to you,*
*But best of all, at least I'll agree,*
*The noise of a band, full of " VK's " and me!*

* * *

Thanks, Jimmy, you are well applauded! Did I hear someone say, " Encore! " Sorry, chaps, no time! GM6ZV.

# Cosmic Notes

It is regretted that, presumably due to enemy action, no data has been received for the following week-end periods:—October 26, November 2, 9, 16 and December 7. The following is a summary of the information available.

*Magnetic Conditions.* For the weeks ending October 18, November 22, 29 and December 7, conditions generally quiet with small disturbances on October 15, November 21–23, 25 and 29.

*Ionosphere Storms*: Moderate storm began 02.00 October 22 (no data October 23 to November 17 inclusive); mild storms on November 18, 19, 20 and 21; moderate storm 02.00, November 22 to 12.00, November 24; and mild storms November 25, 26, 27, 28, 29 and 30 (no data December 4–11 inclusive); quiet December 11–17. Sudden ionosphere disturbances occurred only on October 18.

*Critical Frequencies.* At Washington for weeks ending midday F2 and midnight F; October 22, 12,100 kc. and 4,860 kc., November 26, 9,410 kc. and 3,430 kc., December 3, 9,890 kc. and 2,970 kc., December 17, 9,486 kc. and 3,930 kc. G6DH.

**HELP US TO SAVE**
**ON POSTAGE BY RENEWING**
**YOUR SUBSCRIPTION PROMPTLY**

# Down Zummerzet Way

## 3.—Granfer and Lord Haw-Haw

By " GRANFER."

I WUZ a-lisnen a foo weeks back on thickee Wirelez, jus' to zee what I cude yer, when a voize zed " Jarmny Calling, Jarmny Calling" an' I stopped coz I'd offen yerd they D3's an' D4's end thur QSO's with " HH " an az I cuden vind thickee 'un in any of me bookz I thoughted as 'ow a veller vrom Jarmny 'eezelf might knaw an' 'ee might 'ave told I, zo as I cude pass it on to zome of you coves.

Wull, to continee wi' ztory, the veller zed t'was news in English, what zeemed most unnacessary coz even the most h'ignorant wude knaw t'wadn't Vrench. But I zoon vormed the h'idea that thickee cove didn't knaw what 'ee be a taakin' abowt, coz 'ee zed sum most turrable things abowt zum of owr blokes up to Parlyment what any veller wude knaw wadn't troo.

Then 'ee zayz we be all ' plooto-blooming-cratz ' or zummat what I 'adn't yerd afore zo I casn't zay what it means. But I reckonz thickee veller 'ad 'is taail veatherz a-ruffled thickee night, coz what 'ee didn't zay bad abowt we, b'aint a-worth zayin'. Zertain t'waz that 'ee didn't like owr Prime Minystur, coz 'ee wur proper rude abowt 'ee an' I velt like zendin' 'ee a porst card tellin' 'un too behave in vuture an' not too tell zuch drefull crammerz.

Afore 'ee vinished un zed a bit abowt 'avin' bombered zum of owr big zitiez, when h'immagine me zurprize when un zayz as 'ow they've been an' gone an' destructed owr pub—the " Blue Ball." Wull, thick be too much vor I, zo I zetz orf down th'igh ztreet to zee what un been abowt.

H'on way down I meetz James. An' I zayz to un, " 'ave 'ee yerd news? " An' 'ee zayz, " naw, Granfer, what be it abowt? 'as Zquire's zun cum 'ome on lave or what? " Zo I tellz un what I'd yerd an' us goez on down village till us cums to " Blue Ball," an' thur an waz jus as uns aways been fer nigh on las' thurty yer. An' I zayz to Jarge the Lan'lord, " zhow I wur thickee bomb as a-landed," and you zhould 'ave yerd un laff, coz 'ee'd yerd zame ztory 'eezelf.

Zo it jus zhows 'ee un casn't belaive what ee yer volks tell of. Proper annoyed I wuz to vind owt 'ow I'd been a-taaken in by thickee cove—I won't lis'n to un any more I ken tell 'ee.

### In These Hard Times

Our small boy walked in to the office the other morning and showed us an envelope which he had resurrected from the W.P.B. It was one of our own which had been used originally to send a " Statement of Account," to Mr. Dash. Pondering over it for a moment it suddenly occurred to us that Mr. Dash was one of the very few members who had had the good sense to use our envelope for the purpose of returning to us his Statement.

Headquarters use unsealed tucked-in window envelopes for Statements, therefore when paying your sub. next time, turn over the envelope, write in our address, include your cheque or P.O., stick down the envelope, affix a 2½d. stamp and hey presto! the job's done. Easy isn't it?

# Book Review

RADIO DESIGNER'S HANDBOOK. Edited by F. Langford Smith, B.Sc., B.E. Published by Iliffe & Sons, Ltd., 7s. 6d.

Originally published in Australia under the title "Radiotron Designer's Handbook," this important textbook is now available in this country thanks to the enterprise of *Iliffe & Sons*, who realising that no similar publication was available here, arranged for its distribution under a slightly different title.

Although of especial value to those engaged in the task of designing radio receivers its 350 pages of tightly packed information will prove of great interest to all who have need of the facts and figures which form part of the radio engineer's craft. Rarely have we seen such a mine of valuable data under one pair of covers, consequently it is impossible in a brief review to mention more than a few of the many subjects dealt with.

The book is divided into sections covering Audio Frequencies, Radio Frequencies, Rectification, Receiver Components, Tests and Measurements, Valves, General Theory, and Sundry Data. Not only are the theory and principles of design of all parts of radio receivers fully covered, but in most cases practical examples of design are worked out fully. The reader is shown how to calculate component values and the predicted performance of all types of amplifiers, from the feed-back audio type to R.F. amplifiers employing delayed A.V.C. The design of tuned circuits and band-pass filters, as well as the calculation of low-loss coils, is covered in a most comprehensive manner.

The use of valve curves, in the graphical design of valve circuits of many types, is stressed in a long chapter on the subject, while every test normally made on a receiver is fully described. There is also a chapter dealing with the design and use of valve volt-meters of many types. Later chapters cover mathematical theory and formulæ of a type which the designer commonly needs, but invariably has to hunt for in odd places when required. The book concludes with a miscellaneous collection of data, including wire tables, resistance colour code, drilling and tapping sizes, reactance charts, fuse wire tables, log, and trig. tables, etc.

Although the book has a slightly unusual "flavour" due to a subtle mixture of English and American practise, it will not prove distasteful to readers in this country. All valves mentioned are of American type, but the descriptive matter is more on English than American lines. It is of interest to readers to note that the bibliography (which is very complete) contains references to articles which have appeared in past issues of this journal.

The only technical criticism worth mentioning concerns the chapter dealing with gramophone recording and pick-ups. Here the author appears to have become somewhat confused with his descriptions of Constant Velocity and Constant Amplitude recording—his statement that the normal records are made with constant amplitude above 250 c.p.s. being incorrect. Neither is it correct to say that constant amplitude recording implies that a constant amplitude is cut on the record for constant" power input "up to the recording circuit. This should of course read "voltage input."

From the editorial point of view the main criticism is that the type face varies several times throughout the book and frequently in the middle of a chapter. Chapter 33 appears in a different type to all others! Such minor criticisms do not however detract in the least from its usefulness. To produce such a book for 7s. 6d. in peace-time would have been a noteworthy achievement, in war-time it is nothing short of remarkable. H.A.M.C.

## Hands Across the Atlantic

Our grateful thanks are extended to Mr. K. B. Warner, Secretary of the A.R.R.L., for his kind and encouraging message to the Society, contained in the Editorial page of January QST.

Writing of the determination of many I.A.R.U. Societies to carry on, whatever difficulties may arise, K.B.W. says:—

"The remarkable thing is the extent to which nearly normal activities are being continued in those countries where the war has brought a halt to operating on the air. It is a fine and inspiring thing to see these societies carrying on despite the temporary loss of transmitting privileges. To the best of their means, varying of course with the circumstances, they are maintaining their old functions. Most of them continue the publication of their official magazines, even though in some cases they're a bit abbreviated. Despite depletions in their ranks and their finances through the absence from home of men in the services, skeleton staffs continue serving ardent memberships and looking after their interests, innumerable affiliated clubs and district groups continue their meetings, and the journals are filled with descriptions of receivers and receiving experiments and observations on reception, and with courses on theory and radio maths.—improving otherwise lost time. We should like particularly to make a bow to the Radio Society of Great Britain, which it seems to us is doing a superlative job under conditions which at best must be very difficult. To read their well-known T. & R. BULLETIN one would scarcely think it came from a country at war, were it not for the service notes and the unhappy list of Silent Keys.

"To us, these things demonstrate anew the unconquerable spirit of the amateur in science, and it pleases us to think that that is particularly true of the radio amateur. He will find a way to carry on. He is nurtured on disappointment; he will discover another solution. He is determined to have his amateur radio, and to pursue it to the utmost that circumstances permit. He keeps his hand in, takes what he can get, plans for a better day. To us in America it is a splendid sight that so many of the amateur societies continue their functioning regardless of handicaps. We extend to them encouragement, congratulations, bravos. Their actions show, as nothing else could show, the affection we all feel for this our chosen art. They leave no room for doubt about our future. There will be a happier day; no war lasts for ever. There will come a day of peace, and of the reopening of our international contacts, and of greater recognition of the value of the radio amateur. We all live for that day. Amateur radio in these countries will be better off then, and will get off faster to a new start, if its organisation meanwhile has been maintained to every extent possible. To the officers and memberships of those amateur societies that still proudly hold the torch aloft, despite the din and clamour, all praise!"

# LETTERS TO THE EDITOR

*The Editor does not hold himself responsible for opinions expressed by correspondents*

## WORKSHOP PRACTICE

SIR,—As a watchmaker's apprentice I have read with especial interest the "Workshop Practice" chapter in the new edition of *The Amateur Radio Handbook*. The chapter is most efficiently compiled and should help all readers who have a flair to do things for themselves.

If I may be permitted, I should like to pass on a few tips in connection with an important part of my job—namely, hardening and tempering silver steel.

Prior to heating to a cherry red, smear the work with soap. This prevents a shell forming on the steel, and avoids flaking. If the piece is rather delicate, and liable to break when polishing before tempering, plunge same into *oil*, instead of water, when hardening. This practice has a slightly toughening effect on the steel, due to slower cooling in oil as compared with water. Always *plunge* the work into oil or water and do so—in the case of a long piece—vertically. Vertical plunging is a precaution—not a cure—against warping.

After the steel has been hardened, polish with emery cloth (or emery sticks) as efficiently as possible, remembering that the brighter and "more shiny" is the work, the easier it is to judge the correct colour when tempering. Another point is to keep the fingers off the steel after it has been polished, as the slightest film of oil transferred from them will dull the colour, and render the tempering inaccurate—from the point of view of perfection.

Instead of holding the steel over a gas jet as is recommended in the Handbook, the whole procedure of tempering can be lengthened from a few seconds to a matter of minutes by heating *slowly* in a copper or other conductive metal pan. Any tin lid will suffice if a copper pan is inaccessible, provided it is clean. If the subject is round and "rollable" then by all means roll it back and forth in the heating pan to ensure uniform heating. Remember to have everything scrupulously clean during the whole operation as much depends upon cleanliness and dryness.

Another word about tempering. If the work is oddly shaped, thin in some parts in comparison with others, then it is understandable that the thin parts will heat up and colour sooner than the thicker. One help is to raise the work on brass filings, supporting by the thick portions, thus heating the thick parts first. It will then be found that the thinner parts will take the heat from the thicker and colour similafly. This procedure is easier said than done.

One tempering idea which the writer is investigating in the workshop is heating the work in melted saltpetre. Great care must be exercised in not exceeding the heat much beyond the melting point of saltpetre, or else sparks fly! So far as can be seen, this method gives very uniform heating, but the snag again is that the whole operation takes place very quickly. Once more the law of cleanliness and dryness is of great importance. Melted lead is an excellent tempering medium but, of course, the *colour* cannot be judged, and the correct heat applied can only be assessed by temperature.

Yours faithfully,
JOHN A. CLARK, JNR. (2HIK).

## AN INTER-HOUSE TELEPHONE PROBLEM

DEAR SIR,—We have, for some time, been endeavouring to improve upon the normal type of inter-house-telephone employing a switched loudspeaker unit as either microphone or loudspeaker.

In such an installation the normal practice is to have a main control point consisting of the line amplifier and "talk" switch, which controls any given number of remote points. However, satisfactory this system might prove, in some installations it is by no means as effective as one would think possible.

It is our desire to provide the line amplifier and talk and line selector switches, separately from any extension point—perhaps a simile could be found in a G.P.O. automatic telephone exchange. However the question of remotely-operated line switching seems to be beyond any simple or reasonable solution.

The consideration is to select from 10 points any given line in any order—either by "dialling" or other means. It seems to us that this can only be effected satisfactorily by some 10 motor operated switches and a hundred odd automatic voltage-relays. By no means a solution that has any appeal to the amateur constructor.

We would therefore claim the indulgence of your correspondence page, to inquire if any other members have tried to develop the "inter-house-telephone" on similar lines with any degree of success, or whether any member has any practical suggestions to offer towards the simplification of this design problem. Alternatively we would be glad to hear from any member who has designed a successful system utilising standard inter-room telephones employing a "dialling" system, with a view to modifying such a device for a speaker-phone system.

In any case we would be pleased to get into touch with anyone else, who is working on a similar problem, for the exchange of ideas.

We are, Sir,
I. B. CLARK, 2BIB, and
J. D. MORRIS, 2DRR.

[*Correspondence in response to the above appeal for co-operation should be sent via Headquarters.*—ED.]

## Thanks

The Secretary of the R.A.F. Amateur Radio Society wishes all members of that Society the best of luck, happiness and success in the New Year, and thanks all those who were kind enough to send him greetings.

### INDEX TO DISPLAYED ADVERTISEMENTS



## RADIO RIDDLE-ME-REES

### No. 2

Prepared by J. IRWIN, G4FD.

My 1st is in Plate but not in Grid.
,, 2nd ,, ,, Novice,, ,, ,, Lid.
,, 3rd ,, ,, Test ,, ,, ,, CQ.
,, 4th ,, ,, Hertz—all honour is due.
,, 5th ,, ,, Line, but not in Phase.
,, 6th ,, ,, Pitcairn, not easy to raise.
,, last ,, ,, Marconi who proved the worth.
Of my whole, a coil and a jolly good earth !

### No. 3

My 1st is in Discharge but not in Spark.
,, 2nd ,, ,, Poulsen—of telegraphy by arc.
,, 3rd ,, ,, Period but not in Cycle.
,, 4th ,, ,, Faraday but not in Michael.
,, 5th ,, ,, Henry but not in Coil.
,, 6th ,, ,, Dubilier—of mica, paper and foil.
,, last ,, ,, Licence—let's hope renewed soon.
And my whole is a scientist whose arc played a tune !

(Solutions on page 276.)

**HELP HEADQUARTERS**
**TO HELP YOU**
**BY PAYING YOUR RENEWAL SUBSCRIPTION PROMPTLY**

# HEADQUARTERS CALLING

## From Our President

*I SHOULD like to take this early opportunity of thanking my many friends in the Society who have written congratulatory letters to me since my election to the office of President.*

*The hints which have been tendered for the future of the Society have also been very helpful, and will be placed before Council.*

*I wish you all good luck during 1941.*

*A. D. GAY.*

## New District Representatives

The Council announces that Mr. H. W. Stacey, G6CX, of "Sandleas," Eddisbury Road, West Kirby, Cheshire, has been appointed D.R. for North-Western England in succession to Mr. J. Noden, G6TW, and that Mr. L. Varney, G5RV, of 184 Galleywood Road, Chelmsford, Essex, has been appointed D.R. for the East of England in succession to Mr. T. A. St. Johnston, G6UT.

Mr. Stacey, who is a solicitor by profession and a Liverpool Councillor, has for several years acted as Scribe for Mr. Noden.

Mr. Varney, who is a lecturer at the Marconi School of Wireless Communication, Chelmsford, is a member of the DX C.C. and holder of many other certificates of achievement.

The Council is confident that under the direction of these two well-known members Districts 1 and 14 will continue to make good progress.

The Council records its grateful thanks to Messrs. Noden and St. Johnston for their past invaluable services to the Society.

## A.R.R.L. and Radio Ltd., Publications

For the benefit of members who wish to communicate direct with the A.R.R.L. or Radio Ltd., concerning non delivery of *QST* or *Radio* we give below the addresses of both organisations.

*A.R.R.L.*, 38, LaSalle Road, West Hartford ,Conn.

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## Members on Active Service in Northern Ireland

If you are in Northern Ireland on active service or expect to go there at a later date you are reminded that your copy of this Journal must not be redirected from your home address in England, Scotland or Wales.

As Northern Ireland is a censorable country all copies for members resident there *must* be sent from Headquarters via the Censor.

## Radio Personnel Wanted

Members serving with the Army or Royal Air Force in a trade or capacity unconnected with radio, and who are anxious to transfer, are requested to write to the Secretary-Editor giving details of their Regimental Number, Rank, Regiment or Squadron. Brief details of radio experience should also be included.

## Prisoners of War

The Council announces that arrangements have been made to send THE BULLETIN each month to the home address of all members who are prisoners of war. The names of such members will be retained on Society records during their enforced absence.

## New Members

HOME CORPORATES

R. C. HORSNELL (G2YI), 125 Dawsheath Road, Rayleigh, Essex.
D. A. HANN (G3UY), 58 Manor Drive, N., New Malden, Surrey.
F. W. R. ROBBINS (G4CY), 41 St. Marks Road, Henley-on-Thames, Oxon.
R. C. ASHTON (GW5YB), 80 Penrhos Road, Bangor, N. Wales.
R. G. BAKER (G6QN), 1 Boundary Road, Colliers Wood, Merton, S.W.9.
R. F. C. BRAKE (G8QR), 115 Goddard Avenue, Swindon, Wilts.
H. BINNS (G8TF), 119 Rastrick Common, Rastrick, Brighouse, Yorks.
N. MOORCROFT (2ABT), 218 Deane Road, Bolton, Lancs.
A. G. HOBSON (2AGH), 99 Woodhouse Road, Doncaster, Yorks.
E. C. GRAFTON (2CGL), 2 Woodlands Road, Harrogate, Yorks.
H. F. SHEFFIELD (2DFS), 148 Abbots Road, Abbots Langley, Herts.
D. L. WITT (2FXM), 122 Mashiters Walk, Romford, Essex.
K. STEPHENS (BRS4018), 92 Amity Grove, W. Wimbledon, S.W.20.
D. V. BINGE (BRS4019), 3 Trevor Gardens, Ruislip, Middx.
F. W. G. WELLS (BRS4020), 24 Walnut Tree Walk, Stowmarket, Suffolk.
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E. H. SNEATH (BRS4025), Vine House, North Collingham, Newark-on-Trent.
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V. ANDERSON (BRS4028), 18 Park Road, Chilwell, Notts.
R. W. HARRIS (BRS4029), Devon Constabulary, Sherwill, Nr. Barnstaple.
L. F. MILLER (BRS4030), 7 Eastbourne Terrace, Seaford, Sussex.
J. F. THOMAS (BRS4031), 153 Seedley Park Road, Salford, 6.
GROUP CAPTAIN I. M. RODNEY (BRS4032), Well House, Great Amwell, Ware, Herts.
A. R. BARRETT (BRS4033), 37 Friars Street, Kings Lynn, Norfolk.
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D. R. DAVIS (BRS4037), 10 Anthony Way, Coventry.
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H. S. JONES (BRS4039), 24 Station Road, Llanelly, Carm.
S. MARSDEN (BRS4040), 24 Tattersfields Yard, Kilpinhill, Dewsbury, Yorks.
W. J. CROSSLEY (BRS4041), Moorview Cottage, Church Road, Plymstock, Devon.
A. E. CAWKELL (BRS4042), Burton Bower, Stansted, Essex.
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O. C. HILL (BRS4044), 3 The Bungalows, Crow Lane, Chesterfield, Derbys.
D. W. SURMAN (BRS4045), 1 Brent Road, Dad's Lane, Stirchley, Birmingham, 30.
D. F. CRAIG (BRS4046), The Manse, Fortrose, Ross-shire, Scotland.
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H. J. EWENS (BRS4048), 5 Dean Park Villas, Radford Road, Plymstock, Plymouth.
K. H. J. TUBB (BRS4049), 7 Gloucester Road, Reading, Berks.
R. R. MORAN (BRS4050), Scafell, Hartley Park, Pontefract, Yorks.
J. R. GOODCHILD (A), 89 Moulsham Street, Chelmsford, Essex.
PTE A. HILTON (BERS490), Gibraltar.

**EDITORIAL.**—(*Continued from page* 241).

front line because *we* know, and Mr. Gardner confirms, that many of the stations were operated from the Maginot Line forts.

The fact that no Blitz came for nearly nine months is neither here nor there. When the first Civilian Wireless Reserve contingent landed in France on September 5, they and everyone else, expected total war at once. The Air Ministry's confidence in the ability of British amateurs to hold their own (without previous service training), was striking proof of the argument we so frequently advanced before the Reserve was launched, that given the chance the radio amateurs of Great Britain could always be depended upon, in an emergency, to undertake any task of responsibility.

It would be grossly unfair to quote from Mr. Gardner's intensely interesting book, but we cannot refrain from expressing, on behalf of all who are serving with the R.A.F., our warm appreciations to him for an honest tale, plainly told. J.C.

**ANNUAL GENERAL MEETING.**—(*Contd. from* 245).

Mr. Watts then addressed the meeting. Whilst agreeing with Mr. Swift that the work of a society President is to-day extremely strenuous at times, he said he had found throughout his long association with the Society that the team work of Council, D.R.'s, members and staff, had been such as to relieve him of that strain, which without their aid, would have been considerable. He re-echoed a phrase used by Mr. Swift many years ago, " Councils come and Councils go, but the members go on for ever." The splendid support given to him by all members, had been greatly appreciated. It is not what we get out of the Society that counts, but what we put into it. The unselfish devotion of Council and Headquarters Staff showed clearly that they, as representatives of the British amateur movement, were determined to put into the Society their best at all times.

Mr. Watts then spoke of his successor, who he said was the essence of an amateur—a keen experimenter and a great worker on behalf of the Society. It was, with great pleasure that he welcomed Mr. Gay as our new President. Mr. Watts then placed Mr. Gay in the Presidential Chair amid acclamation.

Mr. Gay thanked Mr. Watts for his kindly gesture in allowing him to take office a few days prior to the end of his own tenure. He then, made a presentation to Mr. Watts of an inscribed walking stick and fitted dressing case which had been subscribed to by members of the staff and Council colleagues who had served under him as President during the past three years.

Mr. Watts expressed his warm thanks to Mr. Gay and all who had subscribed to the presentation.

Mr. Gay then delivered his Presidential Address.

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