

THE T. & R. BULLETIN

The Official Organ of the

INCORPORATED

RADIO SOCIETY OF GREAT BRITAIN

AND

BRITISH EMPIRE RADIO UNION

Honorary Editor:

H. Bevan Swift (G2TI)

Advertising Manager:

Horace Freeman, Esq.

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STATION LOGS

ONE of our earliest tasks as schoolboys was to learn the right method of keeping notes. As we progressed through the elementary stages of our education to more advanced studies the need for copious notes increased. For many that early training (which brought with it, to use the old phrase, "an orderly mind"), stood us in good stead in our youth, manhood and, if we dare mention it, old age. Every good engineer keeps a careful record of the work accomplished, sometimes that record is no more than a running diary of events, but in other cases it provides at a glance a full account of the phases leading up to the ultimate decision reached. This need for accurate records is no fetish but something which is essential to progress.

We, as radio amateurs, are required by law to keep a record of our transmissions, whether effective or abortive. Within this issue appears a notice calling the attention of our members to the fact that from now on station records must be kept in a bound book of approved type. This is no new regulation as regulations go, but by insisting upon the use of a bound book the G.P.O. have recognised the danger of keeping records on odd scraps of paper.

The maintenance of a good station log should present no difficulties; in fact, we believe that every man who has received a sound technical training already conforms to the requirements. There are, however, some who for various reasons fail to appreciate the need for such records.

A well-kept log is essential if serious experimental work is to be conducted, furthermore it provides an historical document for all time of the progress which has been made by its owner. From experience we know that many an interesting hour can be spent by looking back over the logs of past years and recalling the circumstances surrounding a particular experiment or contact.

Those who have maintained a log for the whole of their amateur career will, we know, agree that the time and trouble expended in keeping it going has been more than compensated for by the pleasure of retrospection.

To-day good log books can be obtained at reasonable prices from several firms advertising in this journal. If there are any amongst us who have yet to fall in line with the new requirements, we would urge them to take time by the forelock and get down to the job in hand without delay.

J. C.

OLYMPIA AND OUR ELEVENTH CONVENTION

SIX months of earnest endeavour—numerous Committee and Council meetings—culminating in a high-pressure burst in the early part of August, brought us to yet another Radio Exhibition. Gone are the days when Olympia was a jam of stands and a nightmare for exhibitors, out of chaos has come decorum and orderliness.

The time when every stand looked alike has also passed, and instead we saw this year individuality in the main hall. The nautical flavour, although it brought no ozone with it, seemed to breathe freshness, for even in our little world upstairs there was clean air all day. Olympia may be degenerating into a display of furniture, but there was proof in plenty this year, that our own stand, because it is different, has an appeal of its own. The sight presented on the first Saturday evening is something we who witnessed it will never forget; literally thousands of keen enquirers striving hard to get a glimpse of what we had to offer. The story of the Guide will be given later, but as a proof of the public interest in our baby of three years, we would record that over 1,900 copies were sold during that one day. To sell £49 worth of Guides in a little over 10 hours is an achievement we feel justified in mentioning, for not only does it reflect very great credit upon the willing workers who acted as salesmen, but it proved to all who had doubts that, providing the public is offered real value, it will buy.

Let us revert back to the opening day, or rather the evening before. What did we find? Tucked in a corner our old friend Bill Hartley (2BTZ), surrounded with sheets of paper and coloured inks, preparing the large posters which can be seen in the photograph; "Buck," the North London D.R., arranging the exhibits; "M.G.," with duster and brush, putting the final touch to each *piece de resistance* as it was uncovered; Reg Loomes supervising the delivery of the Guides; our Treasurer and Editor musing on the way things have moved since the early days, and somewhere within view our Secretary "telling the tale" to the Press.

A busy evening, but one which many of us look forward to each year.

Wednesday morning, August 26, saw us ready for the fray, all sorts of interesting people to meet, all sorts of amusing questions to answer. First arrival and first customer, Reg Radford (G2IM), who was holding the pen to sign the visitor's book as 11 o'clock chimed out through a thousand loud-speakers.

Arthur Milne, our popular South-Eastern D.R., had generously given up a week's leave to help on the stand; he, in company with a sturdy band of members, held the fort day in, day out, and thereby earned our most grateful thanks.

With the passing of each day so did the number of "ham" visitors increase, as all could see by watching the panels of the stand fill up with QSL cards. Each evening, their business day done, came J. B. Kershaw and H. V. Wilkins, the South and West London D.R.'s, to relieve those who had borne the burden of the day. Members of Council

were present whenever opportunity presented itself, and amongst the earliest to arrive was our President, who enjoyed himself selling Guides and answering questions.

It is quite impossible to mention the name of every member who helped us on the stand, but we should be failing in our task if we omitted the names of Messrs. Herbert, Spencer, Goddard, Ingleton, Blaber, Banting, Reed, Pidsley, Exeter, Wilberforce, Hawkins, Heap and Watson. Thanks are also due to the wives and lady friends of members; in particular we mention the names of Mrs. Clarricoats, Mrs. Heightman and Miss Shopland, not forgetting the Misses J. and P. Clarricoats, who "came to help the O.M." on several occasions.

Chief exhibit was the very professional-looking transmitter, designed and constructed by Mac. Wilford (G2WD). As is usual with such jobs, it came in for critical survey by many professional engineers, who complimented the designer on his workmanship.

"The DX Two" described in the July BULLETIN also received much favourable comment, especially among the juniors, who undoubtedly visualised the day when they themselves would possess such a compact piece of gear.

The 56 Mc. crystal-controlled transmitter built and described by Cecil Page (G6PA), our R.E.S. Manager, provided the modern school with many ideas.

Beside the amateur-built gear displayed, literature, including technical books, was available.

A large map prepared by Mr. Hartley, bearing the slogan, "The Society upon which the sun never sets," attracted many overseas visitors anxious to discover whether members were resident in or near to the home town.

The Guide.

The fourth edition of the Guide ran to 128 pages, and, as most readers know, the make-up was very considerably revised. Basing our orders upon past knowledge, 10,000 copies were ordered, but, a reprint became necessary.

The Visits.

When, in 1935, we introduced a series of visits for the benefit of members attending Convention, we had some doubts whether they would be supported. Last year's experience demonstrated that visits were popular, consequently steps were taken to arrange a similar programme this year.

Beginning on the Thursday afternoon, parties visited the B.B.C. and The Decca Gramophone Co. Later in the same day, all who were able to do so gathered at Olympia for an informal chat.

The main party on Friday visited the works of the General Electric Co. and later the Croydon Air Port and Mitcham Transmitting Station. A second visit to the B.B.C. also took place on that day.

Especial thanks are due to Mr. A. W. Alliston (G5LA), who arranged the Decca, G.E. Co. and Croydon visits, and to Mr. W. H. Allen (G2UJ), who took charge of the parties.

An account of the visits appears elsewhere in this issue.

The Conversazione.

Nearly 150 members gathered at The Florence Restaurant on Friday evening, September 5, to talk and eat. Both feats were accomplished successfully.

The film show arranged by our President and put over by Mr. Stocken, of the Finchley Amateur

who contributed in making this our best show to date.

Delegates' Meeting.

Bright and early on the morrow the Delegates gathered at E.L.M.A. for their Annual Business Meeting. Present were Mr. A. E. Watts (President), Messrs. Gay, Chisholm, Page, Milne, Whyte



Our Stand at Olympia, 1936.

From left to right: Mr. A. O. Milne (G2MI), Miss J. Buckingham, Miss A. M. Gadsden, Miss Joan Clarricoats, Mr. J. Clarricoats (G6CL).

Cinematograph Society, began at 8 p.m., and continued for nearly two hours. After a display of some intensely interesting films taken by Mr. Stadler (VE2AP) of life in the Canadian 2nd District, we were given shots showing how N.F.D. was spent in England and Egypt.

Our thanks are recorded to Mr. Stadler and to all

(Council), Mr. J. Clarricoats (Secretary) and the following D.R.'s or proxies: Messrs. Noden (No. 1), Parry (No. 2), Bartlett (No. 5), Sydenham (No. 6), Dedman (No. 7), Jones (No. 8), Sadler (No. 9), Dell (No. 10), Buckingham (No. 12), Kershaw (No. 13), Buckwell (No. 14), Wilkins (No. 15), Chapman (No. 16), Hodge (No. 17), French (Scot-

land). Districts 3, 4 and 11 were not represented.

Mr. Watts opened the meeting by referring to licence matters, mentioning first the new regulations concerning the keeping of station logs in bound books. He then exploded the myth that the Morse Test was to be stiffened. The statement (printed in our last issue) concerning new frequency allocations was then read and carefully explained.

In accordance with usual practice each D.R. had, prior to the meeting, been invited to forward a brief report covering the year's work. The reports had been made into a précis and circulated.

The Secretary outlined the important points raised in the précis and a general discussion followed. From the reports it was made apparent that the newly introduced T.R. scheme was an overwhelming success, practically every D.R. mentioning that the scheme had proved of great value in his District. Only two suggestions of importance were made in the reports. First, Mr. Kershaw, on behalf of the London D.R.'s, asked that arrangements be made to organise a London Conventionette on the lines of the P.D.M.'s. Second, Mr. Wood (G5WY), through his D.R., asked that consideration be given to a suggestion whereby each District should undertake to prepare a technical article for the BULLETIN.

Mr. Kershaw's suggestion was adopted and a date selected for a London and Southern England official meeting.

In regard to Mr. Wood's suggestion, each D.R. agreed to discuss the matter with the members in his District with a view to the preparation of a District article. The Secretary recommended that each article be duplicated and distributed to other Districts for their comments before being submitted in final form to the Editor. This was agreed.

Discussion arose concerning overdue members. On the suggestion of the Secretary, each D.R. agreed to return to Headquarters every six months his list of members, in order that it may be brought up to date and a note made of overdue members. It was pointed out that D.R.'s had in the past been asked to conform to this practice.

It was suggested that a list of T.R.'s be published at regular intervals in the BULLETIN, but the Secretary explained that such a list would never be complete. He agreed to publish a full list of the 1937 T.R.'s in the February issue.

Mr. Clark (G5FV), in his report, suggested that each District should be equipped with an emergency transmitter. Mr. Watts mentioned that this is an individual matter for Districts to deal with, but he felt it was one which should be encouraged.

Mr. Watts, at the request of the Secretary, then outlined the functions of D.R.'s, explaining that they are the representatives of Council in their District and as such are in office to deal with matters of policy. He explained that it is not their duty to organise social activities in their District, this being the primary function of the T.R.'s. They are required to comment upon high power and other licence applications, but have no authority to reject such applications.

Mr. Watts explained that the Council were anxious to keep the number of Districts small in order to avoid unnecessary Executive correspondence. He asked the D.R.'s whether they considered this policy was in their opinion sound, and whether they regarded the present arrangements

entirely satisfactory. A unanimous vote was recorded in support of the present scheme.

Mr. Watts briefly outlined the difficulties which had been encountered in the Northern section of District 2, pointing out that, although the Council were opposed in principle to forming new Districts, they had been prepared to do so in the case quoted, but unfortunately the members in Newcastle and Middlesbrough had so far been unable to co-operate in the matter of selecting a D.R. The matter had therefore been allowed to stand over. The meeting unanimously supported the actions of Council in this connection.

The Secretary then read a Provisional Calendar for 1937. After some discussion the following dates for Contests and District Meetings was adopted:—

Calendar 1937.		
Jan.	9-10	Combined 1.7 and 3.5 Mc. Transmitting Contest.
Feb.	6-7	Senior B.E.R.U. Contest.
"	13-14	" " "
"	20-21	Junior " "
"	27-28	" " "
Mar.	14 *	Birmingham P.D.M.
Apr.	4 *	York " "
"	11 *	Bristol " "
"	18	Nottingham Conventionette.
"	25	Cambridge " "
May	9	Plymouth " "
June	5-6	N.F.D.
"	20 *	Tunbridge Wells P.D.M.
July	4†	Great Yarmouth Conventionette.
"	11	Cranwell " "
Oct.	17 *	Manchester P.D.M.
Nov.	7 *	London Conventionette.

* The Secretary will attend these meetings.
† The Secretary hopes to attend this meeting.

The Secretary announced the dates for the B.E.R.U. Contests and N.F.D., and stated that the Awards Committee had decided not to arrange a local Reception Contest for the coming season owing to lack of support in past years. He also mentioned that present plans were to arrange a 1.7 Mc. Transmitting Contest during the second week-end in January. On a suggestion from Mr. Whyte, it was agreed to endeavour to make this a combined 1.7 and 3.5 Mc. event.

The question of future Contests was discussed. It was finally agreed that Contests should continue, but that a serious endeavour should be made to extract scientific data from contest logs and reports and publish same in the form of special articles in the BULLETIN.

The question of telephony transmissions on 7 Mc. was briefly discussed. It was unanimously agreed that unless International agreement could be reached no useful purpose would be served by limiting telephony transmissions either to a special frequency channel or to specific periods.

Business Meeting.

The Business Meeting which followed was attended by about 70 members.

The Secretary opened the proceedings by summarising the matters dealt with at the Delegates Meeting.



Convention, 1936.

Front Row (left to right): G2WV, 6PA, 6RB, 2CX, 6WY, 6PY, 6CW and 2NH (behind), 6YK, 6NF, 6CL, 6UN, 2TI, 2MI, 6NJ, 5SY, 6TW, 2UL, 5QF, 6WN, SU1WM, G2XS.

Mr. Watts then read the statement previously mentioned and drew attention to the new Log Book requirements. He also denied the rumour regarding the Morse Test.

Mr. H. C. Page, R.E.S. Manager, was then invited to open a discussion on R.E.S. matters. He considered that the Sections were failing because of lack of support on the part of scientific members and those in positions of authority. At the moment, he said, R.E.S. is an information bureau instead of a Research and Experimental organisation. R.E.S. should be the R.S.G.B. and not a side line of the Society. He asked for suggestions which would enable him to conduct the Sections on more progressive lines.

Mr. Davies (G2OA) suggested that local groups of R.E.S. members should meet and discuss problems. Mr. Chapman (G2IC) supported Mr. Page and drew attention to the fact that British licences are issued to enable amateurs to conduct experiments. He felt that the ideal would be reached when R.E.S. members and those interested in DX worked closely together, the latter proving in practice that which the former believed to be theoretically sound. Mr. Milne (G2MI) associated himself with G2IC and regretted that "key thumping" had apparently taken the place of experimenting in many parts of the world. An even balance between the two interests seemed to him to be essential if real progress was to be made.

Mr. Whyte (G6WY) avowed himself a key thumper, but pointed out that he and many of his colleagues who were interested in DX continue to do a good deal of experimental work. He quoted the case of the R.S.G.B. single signal receiver, which had been developed by members who were known as key thumpers. Mr. Blackburne (G2AX) felt that the hobby side should still be allowed to hold full sway. He agreed that experimental work was highly necessary, but in his opinion very few members were in a position to carry out research work owing to the limitations of their pocket books.

Mr. Parry (G6PY) endorsed the views of the previous speaker and quoted cases where real

experimental work had been hampered through lack of suitable apparatus. Mr. Dedman (G2NH) considered that the Letter Budget system in vogue was the primary reason why many executive members declined to assist with R.E.S. matters. From his own experience he could state that much time was spent in preparing budgets and answering letters, many of which were enquiries for information available in existing amateur publications. Mr. L. H. Thomas (G6QB) agreed with Mr. Dedman and said that he believed the real reason why many of "the big shots" did not take an active part in R.E.S. was because of their business ties, which

prevented them from being associated with such work.

Several other members also contributed to the discussion.

Mr. Watts, in summing up, said that Mr. Page appreciated the views which had been expressed, and he felt certain that as a result the R.E.S. Manager and his assistants would be able to formulate plans for the ultimate benefit of all concerned.

The Secretary then drew attention to the work of the Band Monitoring and Band Occupancy Groups and pointed out that the data being collected would prove of great value at future discussions with the G.P.O. He expressed disappointment that the Commercial Activity Checks had not been supported as well as was originally expected. He gave a brief outline of the work which had been done by our President in regard to licence matters and expressed the hope that when the time came Mr. Watts would be able to represent us at the Cairo Conference as he did

at Madrid three years ago.

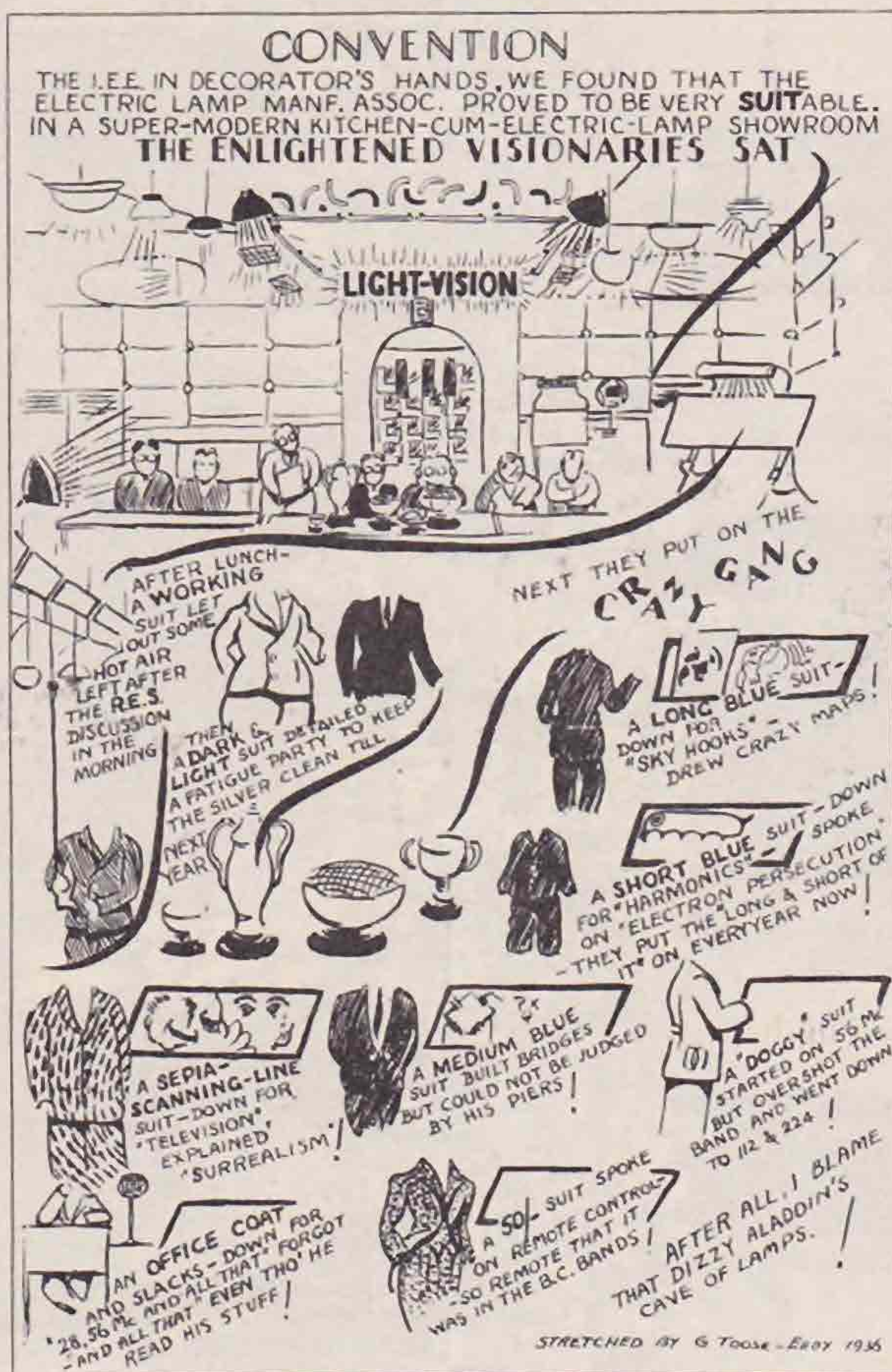
Mr. Milne, organiser of the Commercial Activity Checks, asked for more support from members. Mr. Whyte supported the plea and asked B.R.S. members to offer their services.

The meeting terminated at 1 p.m., when all present proceeded to Slater's Restaurant for lunch.

On their return the Convention Group photograph was taken.

Afternoon Meeting.

The afternoon meeting was attended by about



170 members. The proceedings were opened by Mr. Watts, who welcomed all present. Telegrams of greeting were then read from Mr. I. Millar, VK3EG (via G6CJ), Mr. A. H. Mackenzie, VK4GK (via G6CJ), Mr. F. Pettitt, SU1SG (via G5XG), Mr. G. Merriman, VS6AH (via G5WD), Mr. F. L. Hawthorn, ZL1GX (via G2TM), Mr. Stirling, G6RV, Mr. Sharp, G6KU, Capt. Noblett, EI9D, Mr. H. Clarke, BERS75, Mr. Alan Smith, G6VP, Mr. A. Simons, G5BD, and Mr. Warner G2WR.

The President then presented Trophies and Certificates won during the year to those members who were present. The trophy winners attending in person were Capt. A. E. Dyson (G6NJ) (Rotab), Mr. John Hunter (G2ZQ) (Col. Thomas Cup) and Mr. G. Slack (1930 Committee Cup).

A photograph of our cups (excluding the Junior B.E.R.U. and Powditch Trophies) is reproduced on another page.

Following the presentations, short technical talks were given by the following members:—

Mr. F. Charman (G6CJ), "Planning for DX."

Owing to the lateness of the hour, no time was left for questions, but the lecturers offered to answer correspondence on the subjects discussed.

The Dinner.

The high spot of Convention was once again the dinner, which this year was attended by the record number of 181 members and invited guests.

We were especially pleased to welcome representatives from many of the leading radio concerns, including Messrs. Edwards and Coleman (362 Valve Co.), Mr. Mason (Standard Telephones), Mr. Stott (Bulgins), Mr. Lee (Celestion), Messrs. Brown and Hookway (Eddystone), Mr. Chapple (Varley) and Mr. S. R. Wright (Dubilier).

An excellent repast was served under the personal supervision of M. Menti, manager of the Florence Restaurant.

The musical programme, arranged by Mr. Cecil Tinsley, was much appreciated, and, in particular, the dry wit of his comedian colleague.

The toast of "The Society at Home" was ably rendered by an old member in Mr. S. R. Wright



The R.S.G.B. Trophies.

A fine photograph showing our Trophies. Back Row: Wortley Talbot, B.E.R.U. Receiving, B.E.R.U. Senior, Colonel Thomas, N.F.D. Shield. Front Row: Rotab, B.E.R.U. Miniature, 1930 Committee, Wortley Talbot Miniature, Rotab Miniature, Somerset, B.E.R.U. Miniature and Courteney Price.

Mr. W. B. Sydenham (G5SY), "A Bridge Method of Measuring Resistance, Capacity and Inductance."

Mr. H. A. M. Clark (G6OT), "New Lamps for Old."

Mr. J. L. Hills (G2AW), "56 Mc. Developments."

Mr. R. Pollock (G5KU), "Radio Technique in Television."

Mr. D. W. Heightman (G6DH), "28, 56 Mc. and All That."

Mr. Gordon Bagg (G6BD), "Remote Control."

The talks were delivered in excellent style and, judging by the applause given, were greatly appreciated. The subjects were topical and sufficiently varied in nature to appeal to all sections of members.

who was one of our earliest Area Representatives. The reply was given by the Secretary. He mentioned the growth of the Society and commented on the success of the Guide. Thanks were accorded to the advertisers who had supported the Society's publications. He paid a warm tribute to his colleagues on Council and his Provincial friends who had co-operated in placing the Society on a firm footing. He mentioned that the membership was approaching the 3,000 mark and was increasing at a steady rate.

The toast of "The Society Overseas" was proposed by Mr. H. A. M. Whyte, and responses were made by Mr. Marsh (SUIWM) and Mr. Charman (G6CJ), speaking on behalf of Australian B.E.R.U. members.

Mr. A. O. Milne (G2MI) welcomed the foreign amateurs present and one of the operators of PAOASD replied.

Our Advertising Manager, Mr. Freeman, in a witty speech, proposed the toast of "The Radio Trade" and gave some interesting data concerning Society advertising matters. Mr. Stott replied and said that his company and other concerns were fully alive to the demands of the radio amateur and were anxious to cater for those needs to the best of their ability.

Our Past-President, Mr. Bevan Swift, in proposing the health of our President, spoke of the affectionate regard in which he is held by all members. As our chief liaison officer on all ticklish matters of policy, his sage wisdom had been of the utmost value to his colleagues. Mr. Swift, in calling for the toast, coupled with it the name of Mrs. A. E. Watts, mentioning that they were that day celebrating their wedding anniversary. The toast was drunk with musical honours.

Mr. Watts, in his reply, said that his Presidential duties had been lightened by the splendid co-operation of his colleagues and Headquarters staff. He spoke optimistically of the future and stressed the importance of continuing to think of ourselves as experimental radio amateurs.



Mr. Freeman.
Advertising Manager.
R.S.G.B. Publications.

The Ten-Metre Band.

BY NELLY CORRY (G2YL)

It is pleasant to be able to record that in September conditions exceeded all expectations, and the outlook for the next few months is distinctly hopeful. Signals were heard from over twenty countries in all continents, a great improvement on September last year, when the band was completely dead on fifteen days, and the only stations reported were three in Europe, two in South Africa, and four in the Argentine Republic.

Australians came through on at least ten days in the month, and G6DH reports twelve contacts between the 21st and 27th, with VK3CP, 3YP, 4AP, 4EI, 6AA and 6CA, so the outlook for this month's VK Contest is promising. The most usual time appears to be around 08.00 G.M.T., but VK4AP was heard as late as 12.45 G.M.T. on September 21.

Apparently very few Asiatic amateurs are active on the band at present, and J2IS, heard by G6DH when working OH on the 25th, was the only representative of his continent. VU2EB reports via G6CJ that he heard VK, ZS and G stations at the unusual hour of 02.30 G.M.T. on September 14, but was unable to raise anyone.

The Draw.

During the evening our Secretary organised the annual draw for gifts donated by radio manufacturers. In opening the proceedings he thanked the radio trade for its wholehearted support, mentioning that through their generosity 73 separate prizes were available for distribution.

The organisation and detail work in connection with the draw had been, he said, undertaken by Miss May Gadsden, who was greeted with applause on her arrival from Olympia later in the evening.

The following is a complete list of the firms who contributed gifts to the draw: The Telegraph Condenser Co., Ltd., Messrs. Fuller Accumulator Co., Ltd., Wilkins & Wright, Ltd., The Weston Instrument Co., Ltd., Messrs. Barnes & Humby, Ltd., Jackson Brothers, Ltd., The Edison Swan Electric Co., Ltd., The High Vacuum Valve Co., Ltd., The Dubilier Condenser Co., Ltd., Messrs. Eves Radio, Stratton & Co., Ltd., The 362 Valve Co., Ltd., The Quartz Crystal Co., Ltd., Messrs. Belling & Lee, Ltd., Messrs. Furness & Hartley, Graham Farish, Ltd., Mr. E. R. Martin, Messrs. Electradix Radio, Ltd., The Mullard Wireless Service Co., Ltd., Messrs. George Newnes, Ltd., Messrs. Illife & Sons, Ltd., Sir Isaac Pitman & Sons, Ltd., Messrs. Chapman & Hall, Ltd., The Oliver Pell Control, Ltd., Mr. N. E. Read, The Britannia Battery Co., Ltd., The Tungsram Valve Co., Ltd., Standard Telephones and Cables, Ltd., Messrs. Lectro Linx, Ltd., and Messrs. A. F. Bulgin & Co., Ltd.

At the conclusion of the draw a hearty vote of thanks was accorded to the radio manufacturers who had sent gifts. Miss Corry and Mr. Buckingham assisted in the actual draw.

Curtain.

We cannot conclude this account without some reference to those who assisted Headquarters. It is impossible to enumerate everyone who helped, but we ask all who gave up their time to accept our most grateful thanks.

J.C.

Signals from Africa were heard daily after the 6th of the month. ZS1H is still the most consistent station on the band, and reports that conditions there during September were "superb, with VK, VE, W, LU and European galore," but no amateurs from Asia, though JNB has been heard. He worked his first VE4 on the 22nd, ZT2B has contacted VK., and ZU1C has been working the U.S.A. with only 10 watts 'phone and a 260-ft. aerial. ZS1D, ZS6T, ZU6P, FB8AB, ZE1JJ, ZE1JU and CN8MQ are also active. The latter reports W's audible every day after the 11th, also VE, K5, LU, ZE, ZS and 35 different G stations, but no Australians or Asiatics. His frequency is 28,002 kc., his aerial 55 metres long, his input just under 2 watts from dry batteries, and his usual QRK in England R8.

Europeans were audible on twelve or more days, but apart from OH7NC, OH7ND and YR5OR were usually weak and subject to fading.

South Americans were heard on about thirteen days, and those active include LU1EP, 3DH, 7AZ, 9AX, 9BV and OA4J. They came through usually when conditions for the U.S.A. were comparatively poor, at times from 13.30 G.M.T. onwards. The only Central American stations heard were XE1AY, K5AY and TI2EA.

(Continued on page 185.)

56 Mc. ACTIVITY IN NORTH WALES

By G. A. MASSEY (G6YQ) and J. H. WOOD (G5YP).

(Being an account of the recent 56 Mc. Test Transmissions from the summit of Mount Snowdon, and subsequent Tests from other high spots in North Wales).

Historical Survey

WHILE the writers would be among the first to agree that there is little apparent practical use in the 56 Mc. band if DX operations have necessarily to be conducted from mountain tops, it was felt that organised test transmissions from a high altitude, with conditions entirely in favour of the signals reaching out, would assist in the accumulation of data on U.H.F. wave propagation, and possibly stimulate a renewed general interest in the band.

Although it had been previously demonstrated by a number of local stations, notably G6AA, G6GL, G5MQ and G2DC, that consistent house-to-house 56 Mc. communication was easily possible over distances of 30 to 40 miles, other stations, perhaps less fortunate in their choice of locations, had found it impossible to accomplish anything beyond purely local contacts on the band. Innumerable schedules had proved abortive, and it would seem that nothing is better calculated to damp one's ardour than the unmusical roar of a "quench" receiver and a total lack of signals.

The Snowdon Tests—August, 1936

In an attempt, therefore, to dispel this state of "chronic inertia" to which 56 Mc. work had fallen a victim, it was decided that, provided sufficient co-operation from distant stations could be assured, a portable transmitter would be put into operation on Snowdon summit on August 23, 1936.

Preliminary overtures made to a number of well-known 56 Mc. experimenters met with immediate success—in fact, the unhesitating enthusiasm and keenness displayed by all parties so approached (with one notable exception) remains among the most pleasant recollections of the venture.

Accordingly, after weeks of "spade-work," during which the gear was begged, borrowed, stolen, assembled, and tested, its ultimate transport by rail to the summit arranged, and schedules negotiated with a number of distant stations, a party comprising G6KY, 2AKD, Mr. C. P. Elliott, and the writers evacuated Prestatyn by cars at the unseemly hour of 01.30 B.S.T. bound for Pen-y-Pass. An uneventful journey ended in corks being drawn for breakfast at 04.30, after which all was in readiness for the assault on foot at the first sign of dawn.

Garbed like a concourse of mendicants, it will be to the writers' eternal regret that insufficient daylight precluded the possibility of photographing the personnel of G6YQP as they forded a lake, minus boots and stockings. As a display of nether limbs, it ranked highly among third-rate revues!

A hymn of praise at 08.30 heralded the conquest of the summit. The gear was claimed and installed, by kind permission of the hotel management, in an upper room, the large flat roof whereof was available for the erection of all antennæ.

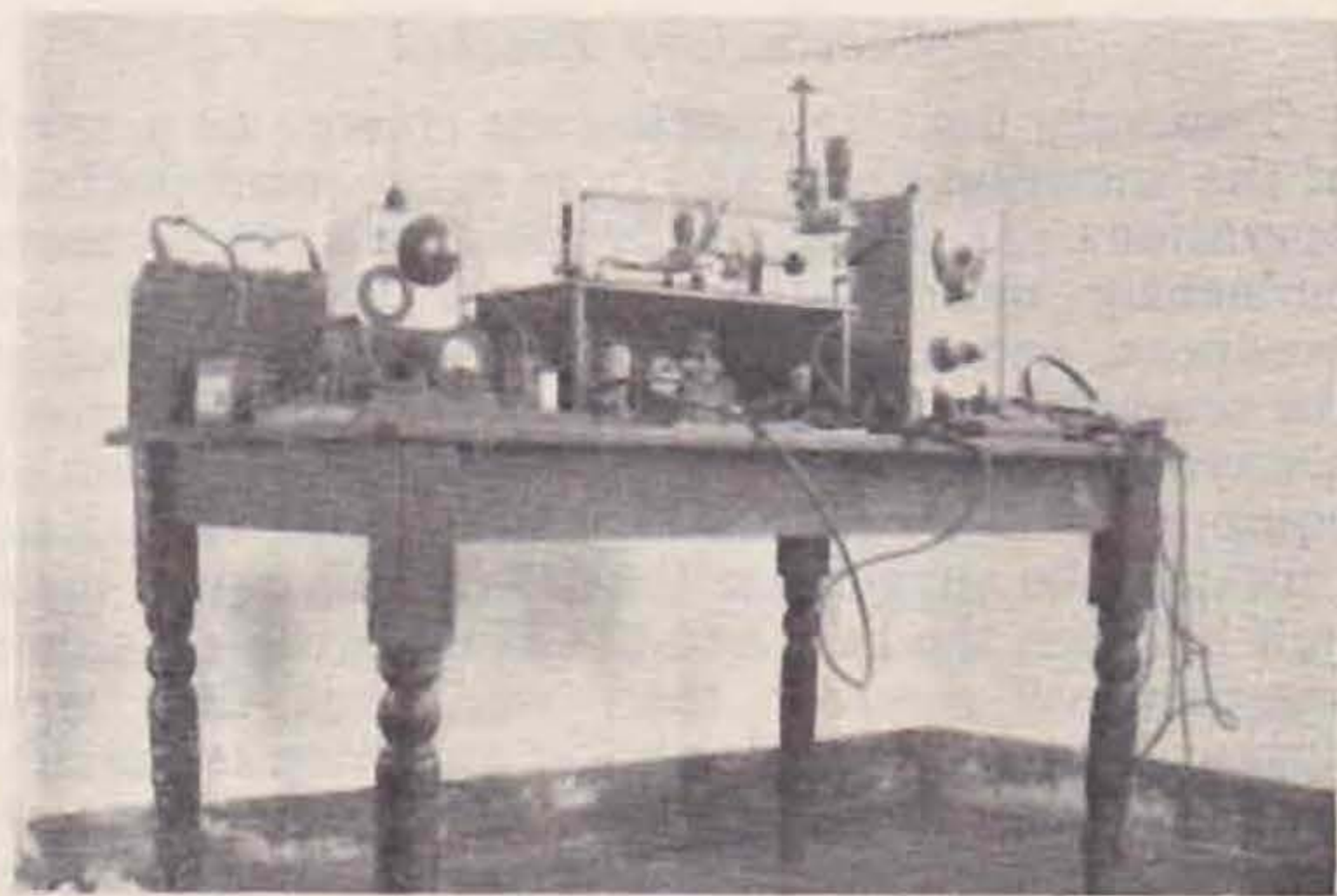
Promptly at 09.00, G6YQP was in operation,

and shortly afterwards contacted what finally proved to be the finest signal heard on Snowdon that day. This emanated from G5BY, who, it transpired, had journeyed by road from Croydon to Fishguard with his gear, which was erected on Strumble Head. Speech from G5BY was consistently audible all day at a distance of probably 20 yards from the 'phones, and it is an amazing fact that no other station reports having heard his signals. It can only be assumed that he was very finely and accurately beamed on Snowdon. An initial contact of 85 miles at a mutual strength of R9 served as a tonic and inspiration.

Early contact was also established with G6AA's portable, operating near Holyhead, to be followed, after three attempts, by an R8/9 exchange of 'phone signals on schedule with G6IA who, assisted by G5SD, had hauled his "rig" to the summit of Snaefell, I.O.M. This contact represented a distance of 87 miles.

A QSO thought to be worthy of note was made between the respective 1-watt transceivers of G6YQP and G6OKP, the latter situated on Llanellian Mountain, near Colwyn Bay, 25 miles distant. R9 signals were reported from each end, and it should be added that signals from G6OKP's astonishingly efficient little transmitter were consistently audible QSA5 throughout the day in communication with G6AA, 40 miles away—a remarkable achievement for a "fractional watt" set. FB G6OKP. As, additionally, it has since been made evident from the log of G5BY that signals from the transceiver of G6YQP were copied by him R6/7, it would appear that, given sufficient altitude, QRO is not a necessity on 56 Mc. for distances up to possibly 100 miles.

The best DX contact was made at 15.30 when, on schedule, G6YQP answered EI8G/EI5F, who was heard calling at R3/4 with MCW, and received an immediate report of R4 reception. QSO was maintained until 16.00, when EI8G/EI5F reported fading and terminated the contact. The distance



The apparatus used for the recent Snowdon Tests.

from Snowdon summit to Mount Merrion Estate, Dublin, where EI8G/EI5F was located, is 96 miles, and it is believed that this constitutes a new record for amateur communication in the British Isles, as well as being the first and (at the time of writing) only amateur QSO between EI and G on 56 Mc.

At 16.40 B.S.T., G2OIP at Grant's Tower, Bury, 83 miles distant, was heard with an R3 'phone signal calling "test." G6YQP's request for MCW resulted in a contact of R4 at each station.

Without being aware of the precise and exact locations of G6IA, G5BY and G2OIP, it will be realised that the mileages quoted are based on measurements made from such information as is available, and may be subject to correction. Their accuracy is, however, of little moment, as, with so small a margin separating them, the performances of these stations are equally meritorious.

The only other stations heard by G6YQP were G5MQ, of Liverpool, G2KD, operating near Prestatyn, and a station afterwards identified as G2NF, near Colwyn Bay. Reports of R9 reception of signals from G6YQP have since been received from G2WS, located on the Wrekin, Salop, and G2WO in the Black Mountains, S. Wales. A listening station in Saffron Walden, Essex, claims to have copied signals from both EI8G/EI5F and G6YQP while in QSO, on the 14 Mc. band, using what appears to be a straightforward commercial receiver. While no prizes are offered for a solution of this mystery, any suggestions as to how this feat might be accomplished will be welcomed by the writers.

Apparatus Used

The apparatus used for the Snowdon Tests comprised an ultra-audion oscillator and an alternative push-pull transmitter, run at 10 watts input from a 300-volt rotary transformer, which was in turn fed by 12-volt accumulators. A modulator with pre-amplifier served for 'phone operation, and a separate audio oscillator provided the MCW. Ordinary 2-volt British receiving valves were used throughout and gave entire satisfaction.

Antennæ were supported on three 25-foot masts, suitably arranged. EI8G/EI5F and G2OIP were each contacted with a simple half-wave vertical Windom with reflector. It was not possible, owing to limitations of available space, to direct on them the rather complicated horizontal array which was so successful in contacting and receiving northern and southern stations at phenomenal signal strengths.

Conclusions Reached

Two very definite conclusions emerge as a result of the Snowdon Tests and from subsequent portable operations. A horizontally polarised wave seems eminently more satisfactory for DX work and produces, generally, an infinitely better signal at the receiving end than does one vertically polarised; always provided that the receiving station is equipped with a suitable antenna. Also, experience prompts the suggestion that there is a much wider gulf between the best and the average 56 Mc. super-regenerative receiver than would at first sight appear obvious. While almost anything resembling a super-regen. will receive (*sic*) strong local signals, a surprising number of these have necessarily been relegated to the proverbial "junk-pile," due to their complete inability to render a weak signal

audible. Further, in innumerable instances, it has been found that whereas a signal was inaudible on one type of antenna system, it could be QSA5 on another. As a practical example, on no aerial other than the half-wave Windom previously described could any signals be heard from EI8G/EI5F.

Although weather conditions on the summit fluctuated between brilliant sunshine and sudden envelopment in thick cloud, which would condense on antennæ and insulators, and trickle from the feeders, no marked difference could be noted in any signals during the periods of these phenomena. The apparent sparsity of signals between 12.00 and 13.30 might, or might not, have been accountable to the universal claims of the "inner-man"!

Appreciations Recorded

It is not wished to conclude these notes without putting on record the sincere appreciation of the Snowdon party of the valuable assistance so willingly given by the co-operating stations, without which the tests would not have been possible. Most especially are they indebted to EI8G and G5JU for widely circularising the event in their own districts, and to the various radio journals for their widespread publicity; to the secretary of the R.S.G.B. for his kind letter of encouragement; to G2WS for returning a most detailed log covering the activities of G6YQP and other stations heard during each few minutes throughout the entire operating period; to the Snowdon Mountain Railway, Ltd., for their every kindness in attending to the transport in advance of all the equipment to and from the summit; and last, but by no means least, to Mr. Gibson, the manager of the Summit Hotel, for the excellent (and unforeseen) accommodation and facilities extended.

Future Tests

Subsequent organised schedules have been arranged and carried out with the Dublin district 56 Mc. stations, when G6YQP and other permanently licensed portable stations in North Wales (G6AA, G6OK and G2KD) have attempted to once again effect QSO with them, but without success; G6AA and G6YQP were, however, reported at R6 by G5MQ, then at Darwen, Lancs. An effort was made on September 20 to hear or contact stations participating in the 56 Mc. Field Day organised by G5JU, when a number of stations in South-West England and South Wales took to the hills, but again results were negative.

It is proposed to continue such portable tests throughout the coming months, weather conditions permitting, and to this end the co-operation of 56 Mc. experimenters (particularly those located in South-West Scotland and North-East Ireland) is sought. G2WS, near Matlock, has also signified his eagerness to participate in all future tests, and at least three Liverpool District stations are constantly active from their home locations.

Consequently, to all 56 Mc. experimenters desirous of themselves undertaking the organisation of tests, an invitation is issued to communicate with the writers, who will be happy to afford to them the fullest co-operation. Similarly, interested non-transmitting amateurs will receive details of all forthcoming schedules.

Very 73, and again, thanks to you all.

INTER-STAGE IMPEDANCE-MATCHING FILTERS

By JOHN K. HANKINSON (G2JH).

WHEN the Collins filter was first introduced, it was tried at G2JH and proved that, in spite of all usual methods of matching and coupling previously used, maximum energy had not, in fact, been fed into the aerial. A mental note was made to see if the same applied to the matching between stages of the transmitter, but for various reasons the problem was shelved until a few months ago, when a wet Sunday happened to coincide with a burst of energy, resulting in the beginning of a series of experiments, the results of which seem worth recording.

The basic idea was to find a method of matching the output of one stage of a transmitter into the input of the next that would be simple, accurate, and efficient.

Old methods, such as moving a tapping clip round a coil until maximum drive was obtained, were, to say the least, rough and ready, and far from easy. The point where one's patience eventually ran out was usually not the best tapping point; moreover, the correct position for the clip, when ultimately located, always seemed to be on the remote side of the coil, or in an inaccessible spot underneath it, with the result that one generally had to make do with either a short lead to the wrong place, or a long and curly one to what was hoped to be the right one. It did not matter very much with moderately inefficient valves and relatively low frequencies, because the actual match was not critical, but valves have increased in efficiency enormously, and the higher frequencies have become more popular without anyone having bothered to improve on the old-fashioned methods of inter-stage impedance matching, which are rapidly becoming, if they are not already, obsolete.

Principle of the Inter-Stage Filter.

To the writer it appeared that much power was being wasted between stages, owing to mis-matching and that what was needed was some kind of impedance-matching filter between each two stages which would ensure that the driving stage would be working at optimum efficiency and delivering the maximum of energy to the driven stage. A Collins

filter between each stage and the next would do this, but since it would require two extra variable condensers and at least one extra inductance per stage, it was hardly practicable.

Therefore, a series of circuits consisting of a filter into which the driving stage valve fed direct were evolved. As no tank coils or condensers in the ordinary sense of the word were used at all, the total extra component was one variable condenser per stage, and a blocking condenser was saved. Fig. 1 shows a crystal oscillator circuit employing this system, which will serve as an illustration. Condenser A is the tuning condenser, B is the matching condenser, and the output to the next stage is taken out at C. To anyone who has used a Collins filter, the operation is simple to understand. The matching condenser has a capacity of .0005 microfarads for the medium frequencies, or more for low frequencies, and consequently when all in, acts as a by-pass, making the output end of the coil dead, or, in other words, at no radio frequency potential above filament. When its capacity is reduced, radio frequency of opposite polarity to that at the plate end of the coil appears, which increases in magnitude with reduction of capacity, resonance being kept by adjustment of the tuning condenser. Thus the output impedance can be constantly and smoothly varied from virtually nil to virtually that at the plate of the valve, with the result that it can be accurately matched to the input impedance of any following stage or aerial, provided that that impedance is less than the output impedance of the oscillator.

As a general rule the output impedance of any stage in a transmitter will be found to be less than the input impedance of the following stage. The exceptional cases in which this is not so are found principally in ultra high-frequency work, especially when a single-ended stage is driving a push-pull one. For present purposes, however, it is enough to mention the fact that there are occasions when the filter has to be inverted.

Speaking from a practical point of view, by reducing the capacity of the matching condenser one is doing the equivalent of shifting a tap up the coil, or in other words, tightening the coupling between the oscillator and the next stage, or the aerial, as the case may be.

These general remarks apply to all the circuits herein described. The essential point to remember is that the less capacity there is in the matching condenser, the higher the output impedance, and the tighter the coupling.

So much for theory. In practice this circuit gives no less output than a similar orthodox crystal oscillator circuit when run with no load. Actually it appears to give more, but an accurate comparative test is almost impossible because the appearance of rf potential at the "dead" end of the matching circuit and consequent movement of the voltage node from the mechanical centre of the

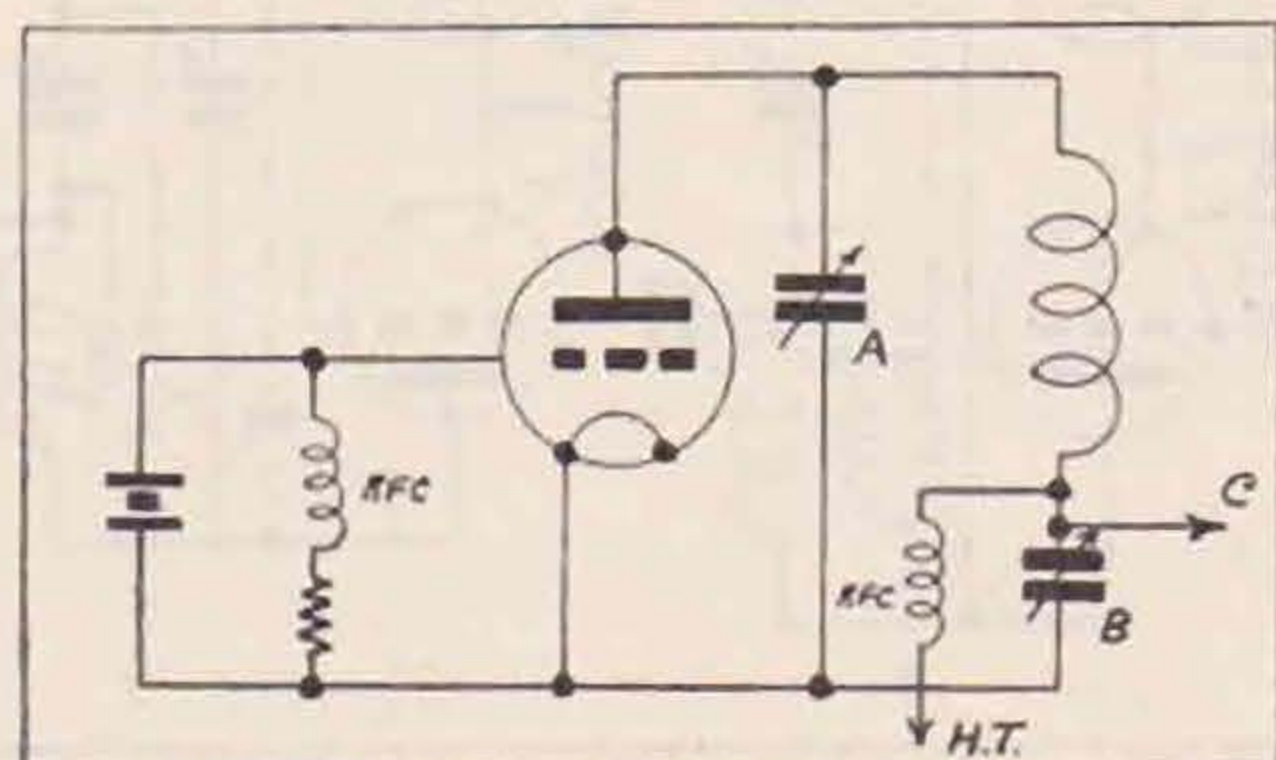


Fig. 1.
Crystal Oscillator.

coil upsets any comparative test of the usual kind. Judged by output measured in an aerial, the superiority of the matching circuit is definite, though naturally slight with such low power.

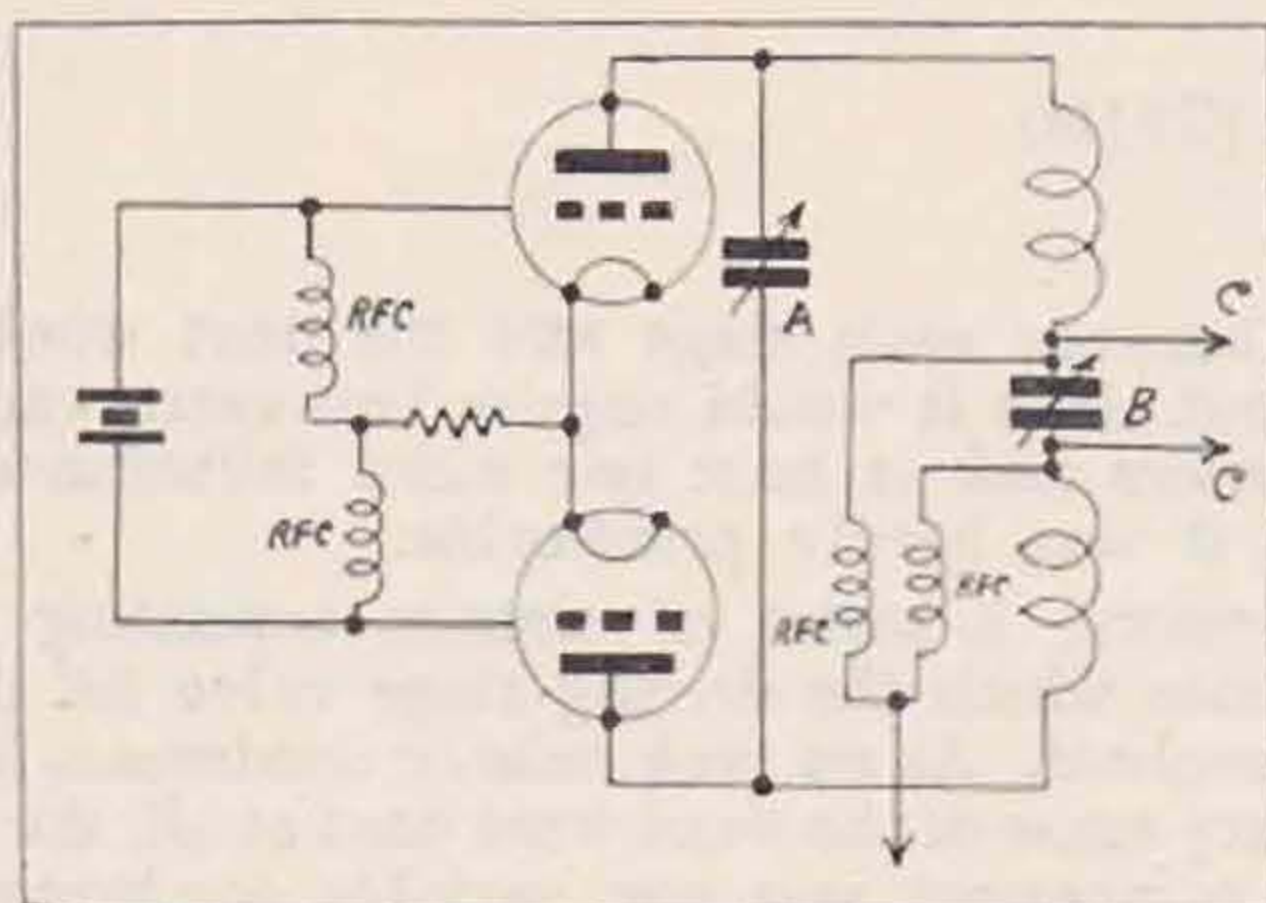


Fig. 2.
Push-pull crystal oscillator.

Use in Push-Pull Circuits.

Fig. 2 shows a push-pull oscillator. It works in precisely the same way, but it should here be mentioned that each half of the coil should be of a size that might normally be expected to tune to the crystal frequency. This goes for all push-pull circuits using this principle.

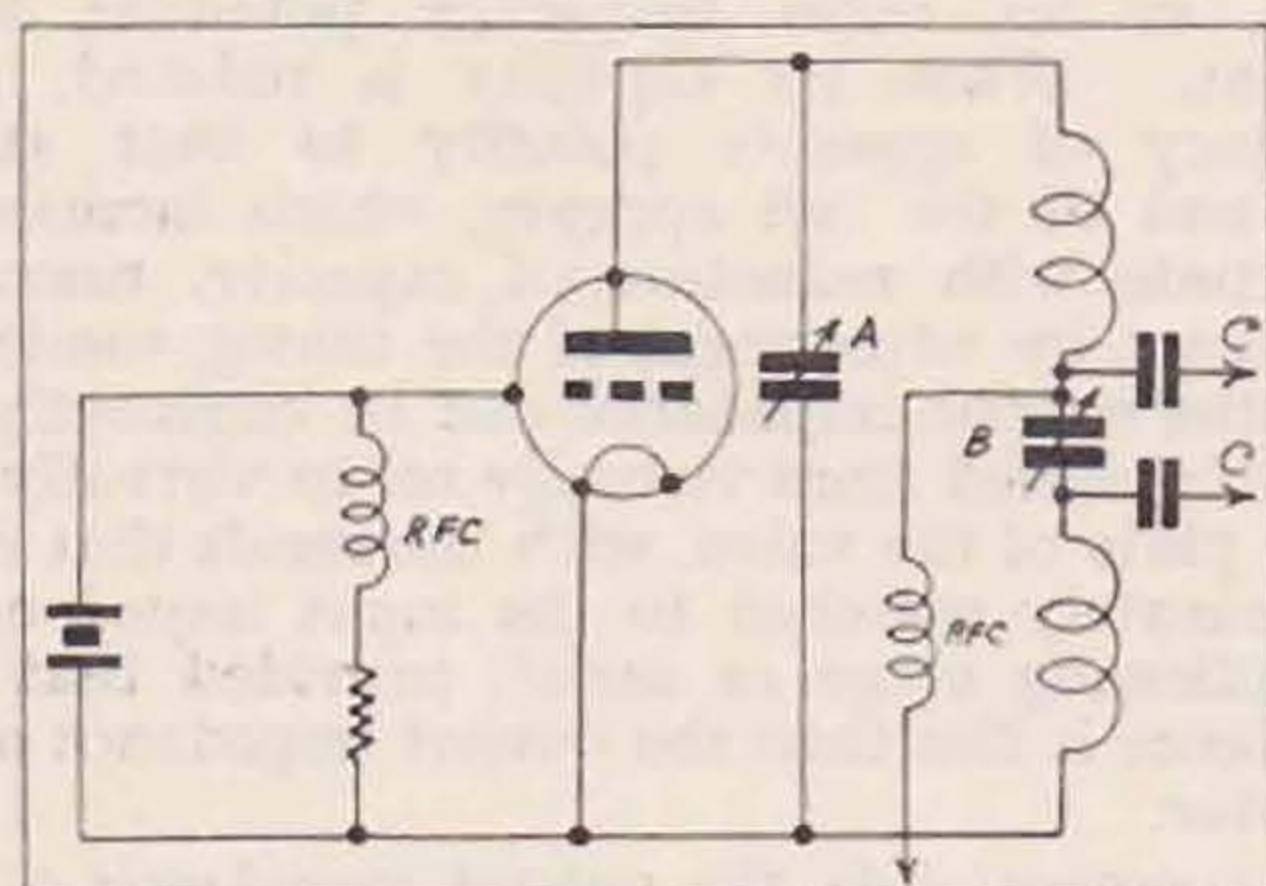


Fig. 3.
Crystal oscillator with balanced output.

Fig. 3 is another crystal oscillator for capacity coupling to a push-pull circuit or link coupling. It also has been tested alongside a normal crystal oscillator, and not found wanting.

Coupling Neutralised Stages.

The next series of comparative tests was carried out with low power crystal oscillators and capacity coupled power amplifiers. Fig. 4 is a simple example. Here, as was expected, the increase in output became more marked. Since it must arise between stages and not in them, the more stages used the greater the gain. Actually, in this particular experimental case, the gain was nearly 10 per cent., though the percentage must depend on the accuracy of the matching obtained by orthodox means. Neutralisation of the amplifier is carried out by using the opposite sign potential induced at the output end of the coil, but each alteration of matching varies this. However, a capacity-coupled amplifier can hardly be considered as good up-to-date practice, so it is sufficient to say that neutralisation by this method is practically possible.

Fig. 5 is a similar push-pull oscillator amplifier

circuit. Any length of aerial can be used, as with any of these circuits, but it is desirable that a length of counterpoise should be chosen that terminates at roughly the same voltage/current point as the aerial in order to keep balance in the circuit.

Enough has been said to show how doubler circuits can be adapted in the same way, and so we can now proceed to the very important subject of tuned-plate tuned-grid output stages and link coupling.

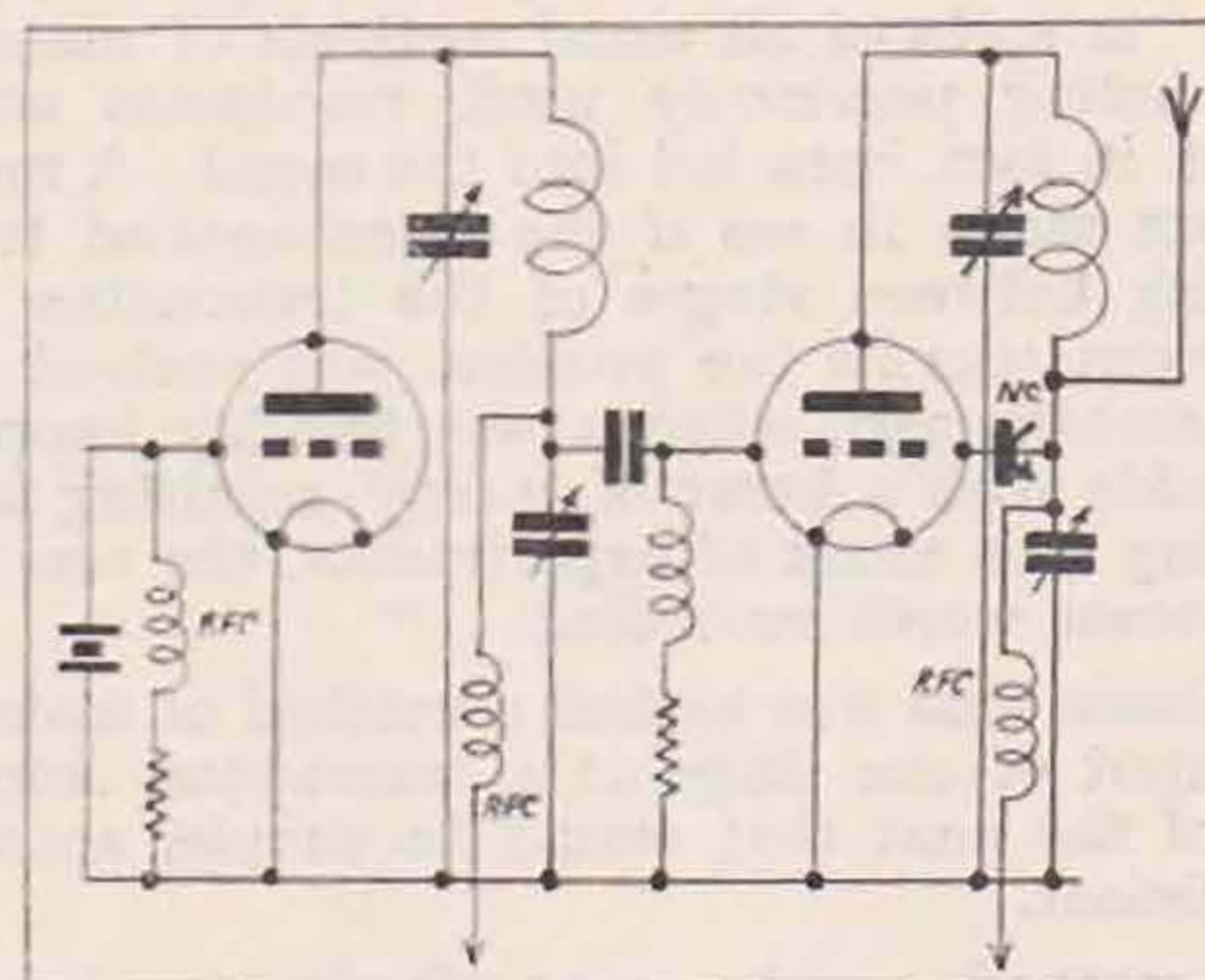


Fig. 4.
Crystal oscillator—power amplifier.

In the writer's opinion, the tuned-plate tuned-grid circuit is commonly misunderstood. It is usually treated as a plain power amplifier, which it is not. Why does it require so little grid excitation if it simply amplifies it? Why is it so "difficult" to neutralise when used with modern high slope valves? The reason is because when properly operated it oscillates as well as amplifies. A valve with a high amplification factor always tends to oscillate, and with stray capacity all round, some of it variable, caused by the proximity of the operator's body, etc.; it just cannot be neutralised perfectly. We can neutralise it to the point where electrical inertia and circuit damping prevent it oscillating until triggered into action by drive, whilst artificial damping in the form of stopper resistances can be introduced if the circuit is so designed that such aids to apparent neutralisation

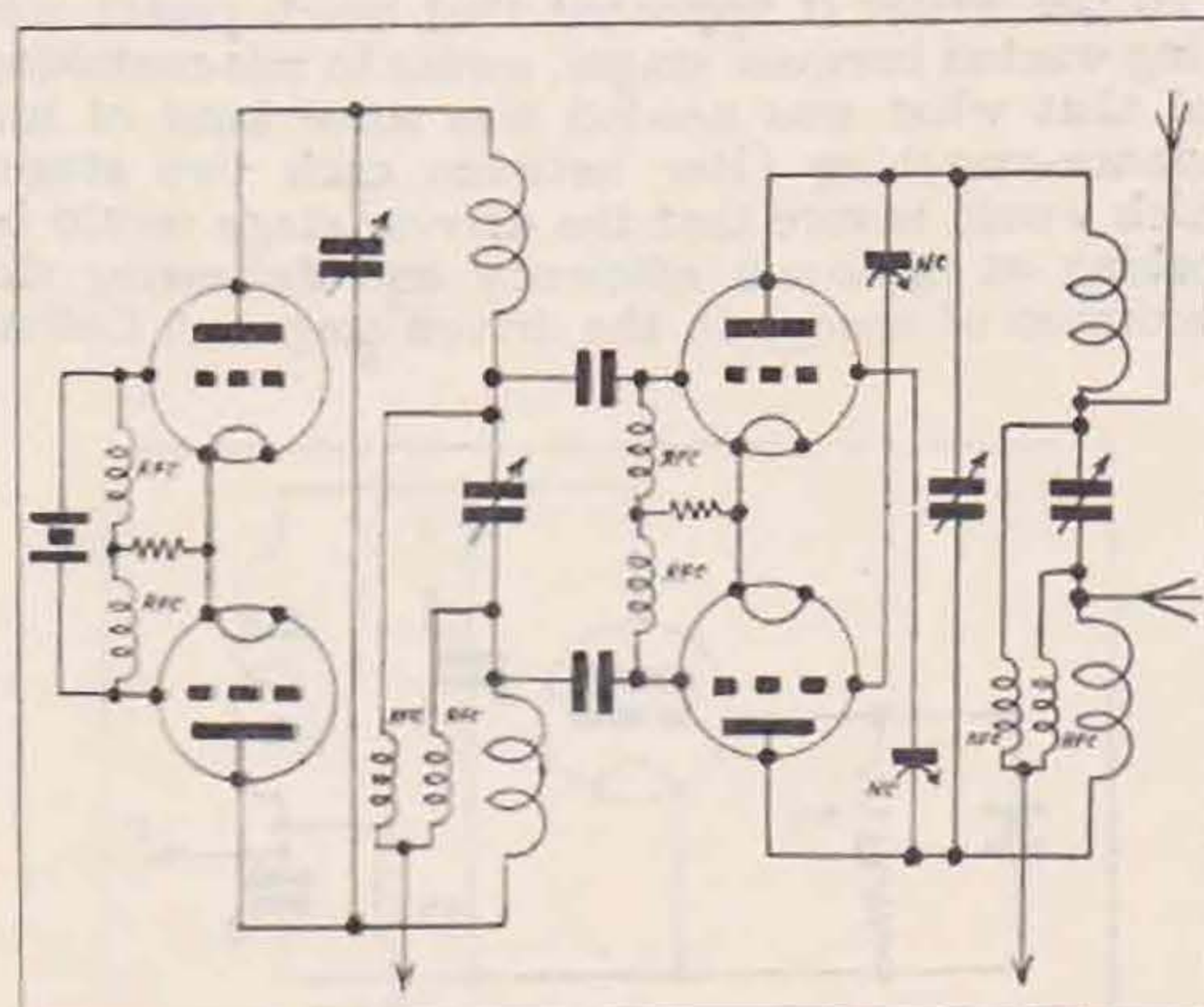
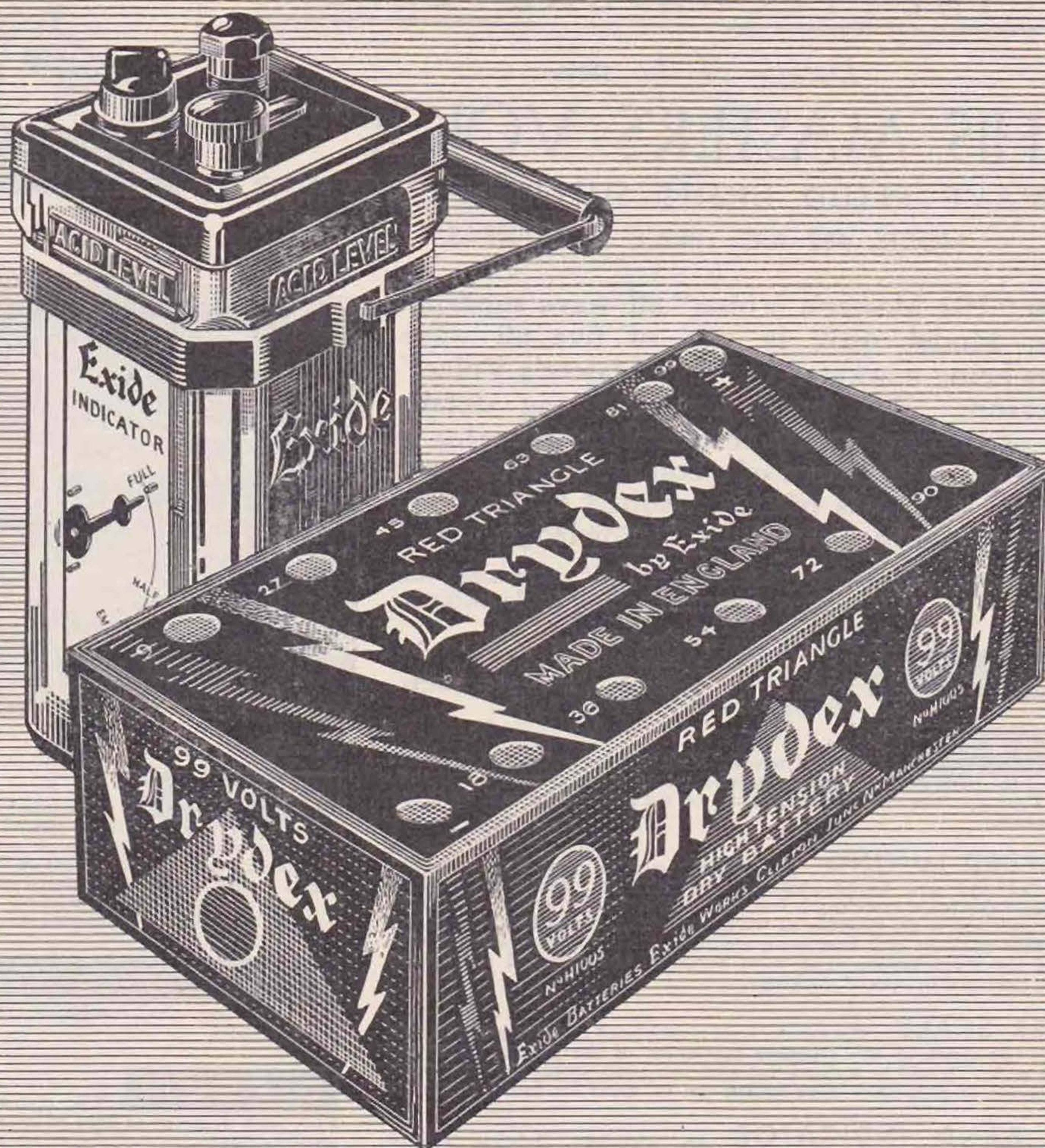


Fig. 5.
Push-pull crystal oscillator—power amplifier.



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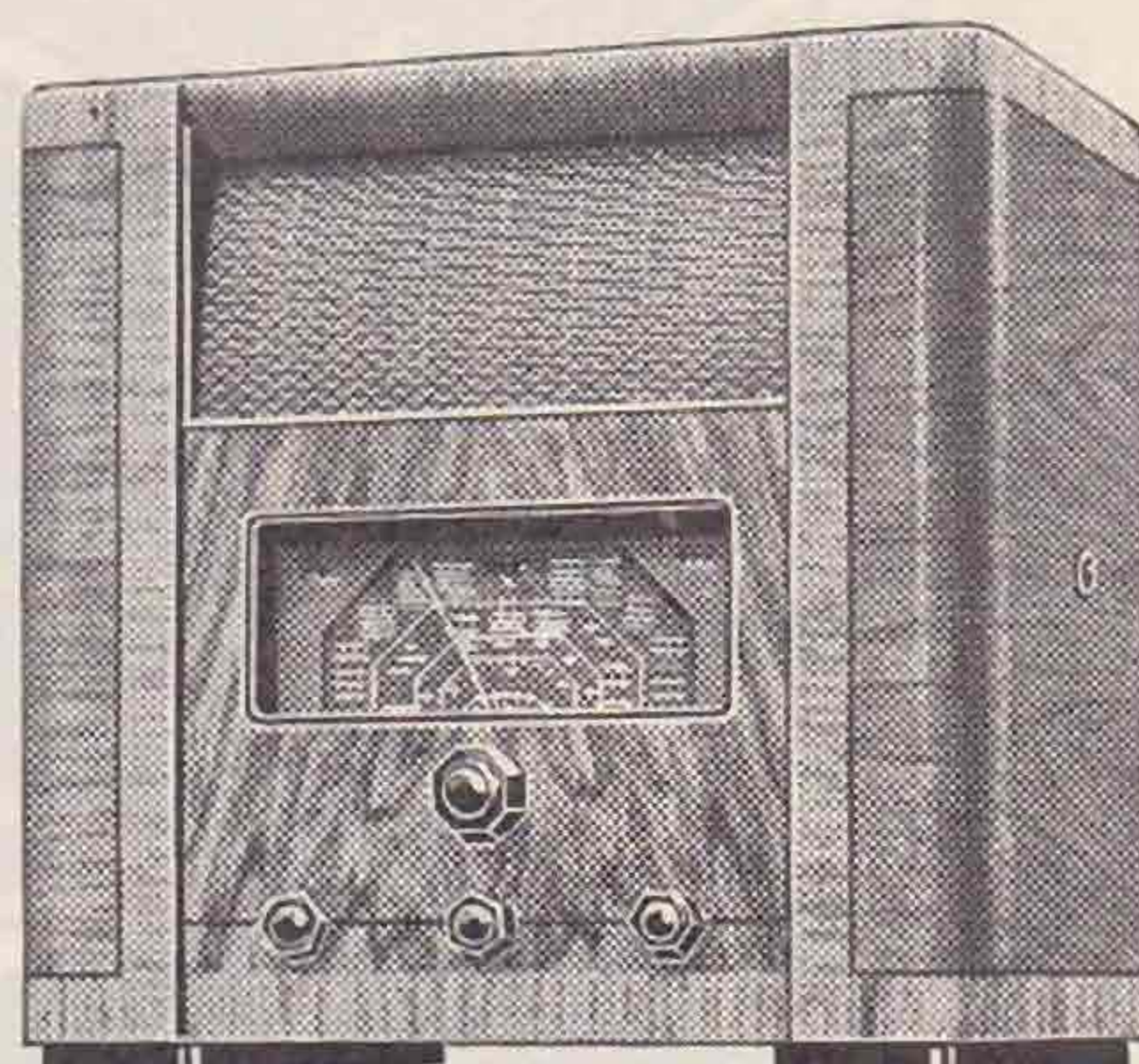
ALL WAVE FLUID LIGHT SUPERHET RECEIVER

MODEL 482 A.C. PRICE 16 GUINEAS.



The new "His Master's Voice" all wave superhet receiver, Model 482, is one of five all wave receivers being marketed by "His Master's Voice" this season. We hope the following details will be of interest to the technical expert who is considering the purchase of a commercial receiver, or the expert who is often consulted by listeners not possessing a highly technical knowledge.

MODEL 482 is a six valve (plus detector) all wave superhet receiver for A.C. mains, in a figured walnut table cabinet.



WAVE RANGE

16.5 to 51.5 metres. 200 - 580 metres.
725-2,000 metres.

CONTROLS

Apart from the Mains Switch, which is mounted at the side of the cabinet, there are four operating controls—Volume, Waveband, Tone and Tuning. The controls are situated on the front of the cabinet below the Tuning scale.

TWO-SPEED TUNING

The Tuning control is of the two-speed type with fast and slow knobs arranged concentrically. These knobs drive simultaneously the main wavelength indicator and a vernier scale. The main indicator travels across the illuminated wavelength scale, which bears the names of over eighty medium and long wave stations, besides the wavelength calibrations of the three bands. The wave bands of the principal short wave stations are indicated by special markings.

VERNIER SCALE

The vernier scale is calibrated in degrees of 0 to 100, and rotates five times to one complete movement of the pointer across the wavelength scale. It will be realised that with this arrangement the exact point of the reception of each short wave station can be noted for future reference.

WAVE BAND INDICATOR

An ingenious lighting scheme illuminates the station names and wavelength calibrations, leaving the rest of the scale dim. A wave band indicator is situated at the top corner of the scale, and shows which wave band is in use. It is actuated by a control knob on the front of the receiver.

CATHODE RAY FLUID-LIGHT

The fluid-light tuning device is of the electronic cathode ray type and is extremely sensitive. The device is semi-circular in shape, and when the receiver is not tuned to a station two arcs of light are apart. As the receiver is correctly tuned the arcs converge.

VOLUME CONTROL

The volume control is wired in the grid circuit of the L.F. amplifier, and is operative on both radio and gramophone pick-up.

5-POINT TONE CONTROL

The five-point tone control which operates both on bass and treble, will be found extremely useful as the best setting can be obtained for each station. It operates on radio and gramophone pick-up, which may be connected to two sockets.

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Sockets are provided for either "His Master's Voice" all-wave anti-static aerial, or a doublet aerial.

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Energised field moving-coil speaker incorporating a special cone to give a good response on both high and low notes. The flux density is 7,500 lines. A "Sound transparent" metal grille is mounted on the cabinet in front of the speaker. Sockets are provided for the connection of additional external speakers.

CONSUMPTION & VOLTAGES

85 watts on A.C. voltages from 95 - 260 50-100 cycles.

CIRCUIT

The circuit and chassis have been designed to keep stray capacities to an absolute minimum, and the valves employed have low inter-electrode capacities. In this way the absolute maximum degree of sensitivity and selectivity has been obtained on all wave ranges, particularly on the short wave range. The valve complement is as follows:

- W42 H.F. amplifier.
- X42 Mixer.
- W42 I.F. amplifier.
- D41 Speech and AVC double diode.
- H42 L.F. amplifier.
- N42 Pentode output.
- U14 H.T. rectifier.

It will be noticed that the employment of valve D41 looks after speech rectification and the production of AVC voltages, and as the latter are applied to the three previous valves, the AVC control is very efficient. The speech output from valve D41 is via resistance capacity coupling through the H42 valve to the high efficiency pentode N42 which has an output of three watts undistorted.

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are necessary, but that gets us no nearer actual neutralisation. As long as we apply really good drive so that the self oscillations are well locked, we can operate a valve in a properly designed circuit quite a long way off neutralisation, and get nothing but greater output to show we are doing so.

This is not a revolutionary suggestion—most of

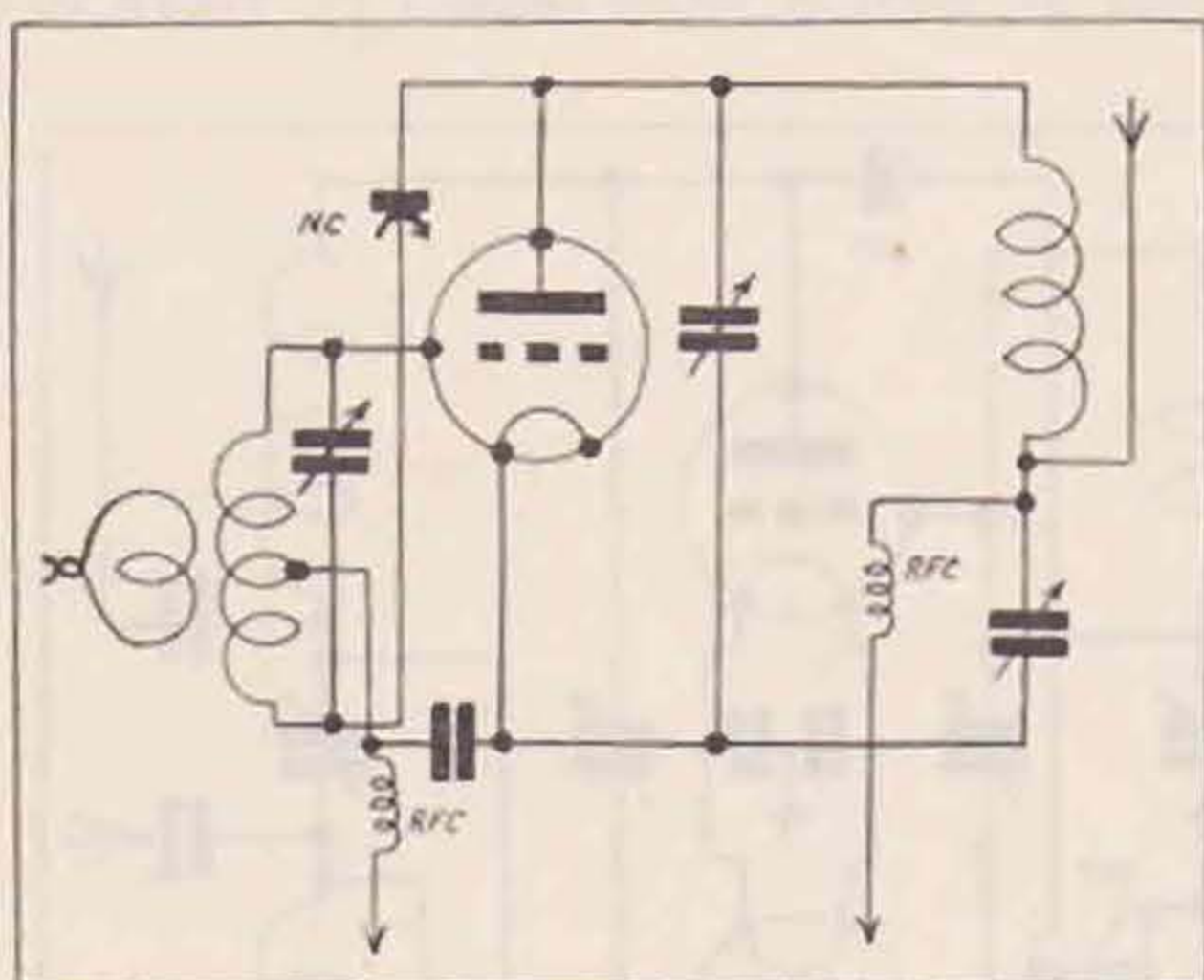


Fig. 6.
Tuned-plate tuned-grid output stage.

those who use tuned-plate tuned-grid output stages are doing it if they only knew, so why not admit the fact, and by giving the output stage plenty of drive, use this oscillation to add as much as possible to our output? A valve operated in this manner has many of the advantages, though few of the disadvantages, of Goyder Lock.

However, to return to impedance matching. Fig. 6 shows the circuit of a simple tuned-plate tuned-grid output stage. In this case near-neutralisation is effected on the grid side, and will hold for almost any position of the condensers on the plate side.

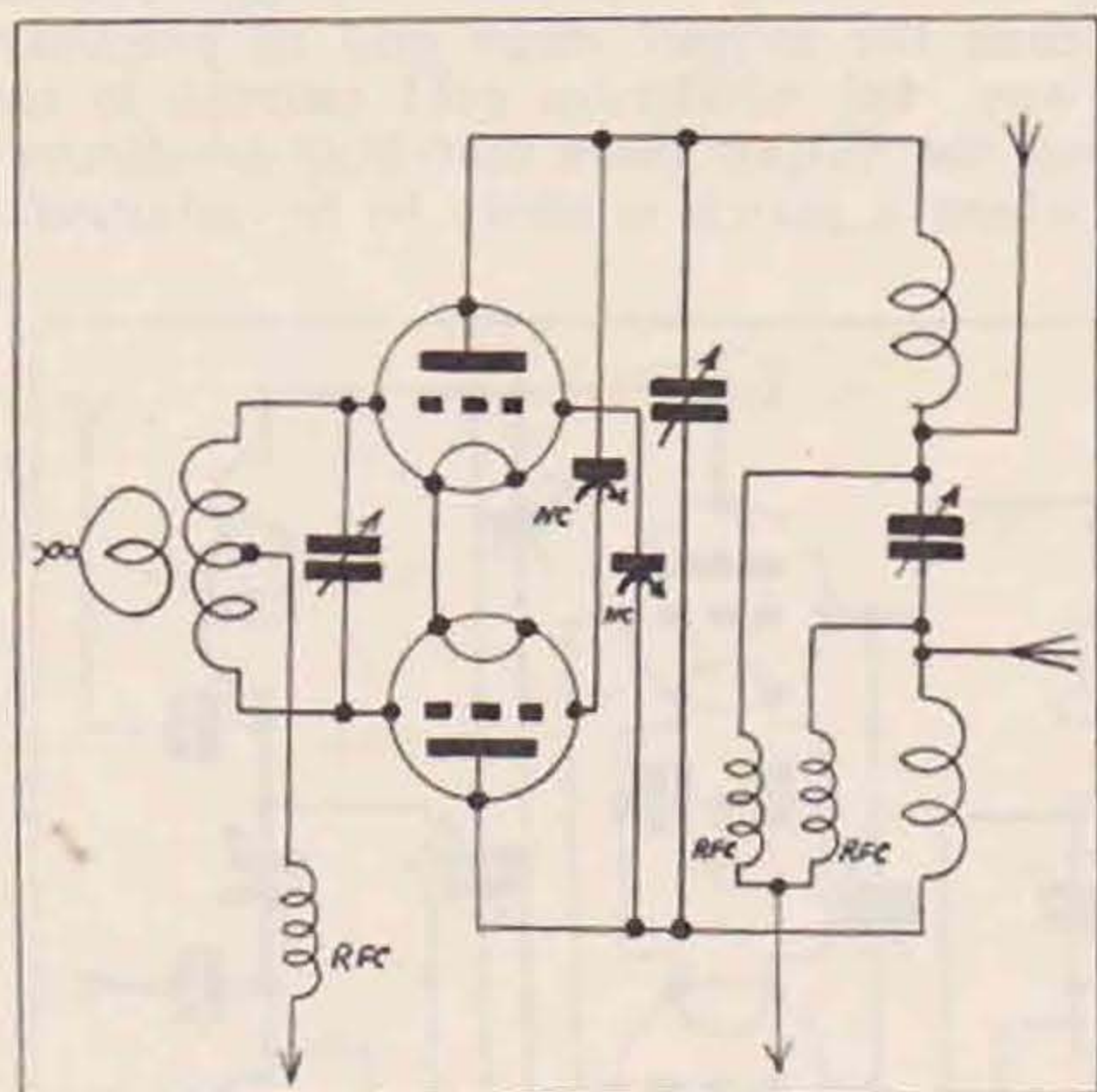


Fig. 7.
Push-pull tuned-plate tuned-grid output stage.

Fig. 7 shows the circuit of a push-pull amplifier. This again is an efficient and workable job, which will probably commend itself to the hit-or-miss brotherhood. In these circuits, the link is matched at the oscillator end into any of the circuits described, but is unmatched at the grid of the output stage, where matching is obtained by the usual means of adding or taking off turns of the pick-up coil.

This system is very easy to operate, but it is obviously somewhat imperfect, as a little more theory will show.

Coupling to Link Circuits.

To operate properly, a low impedance transmission line must be matched at each end into an impedance equal to its characteristic impedance. The impedance at the driving end of the line is relatively high, but the filter at that end provides an impedance equal to the end of the line for it to work from. In order to obtain maximum transfer of energy, it is necessary to provide a second filter at the output end of the line to match it to the grid circuit of the output stage. Fig. 8 shows such a circuit, which, for the sake of variety, also shows a new method of near-neutralisation. With this circuit, an absolutely perfect match with consequent maximum transfer of energy is possible.

Fig. 9 gives a similar push-pull circuit, again with variety in the near-neutralisation system. Ideal as these circuits seem, they have snags. In practice,

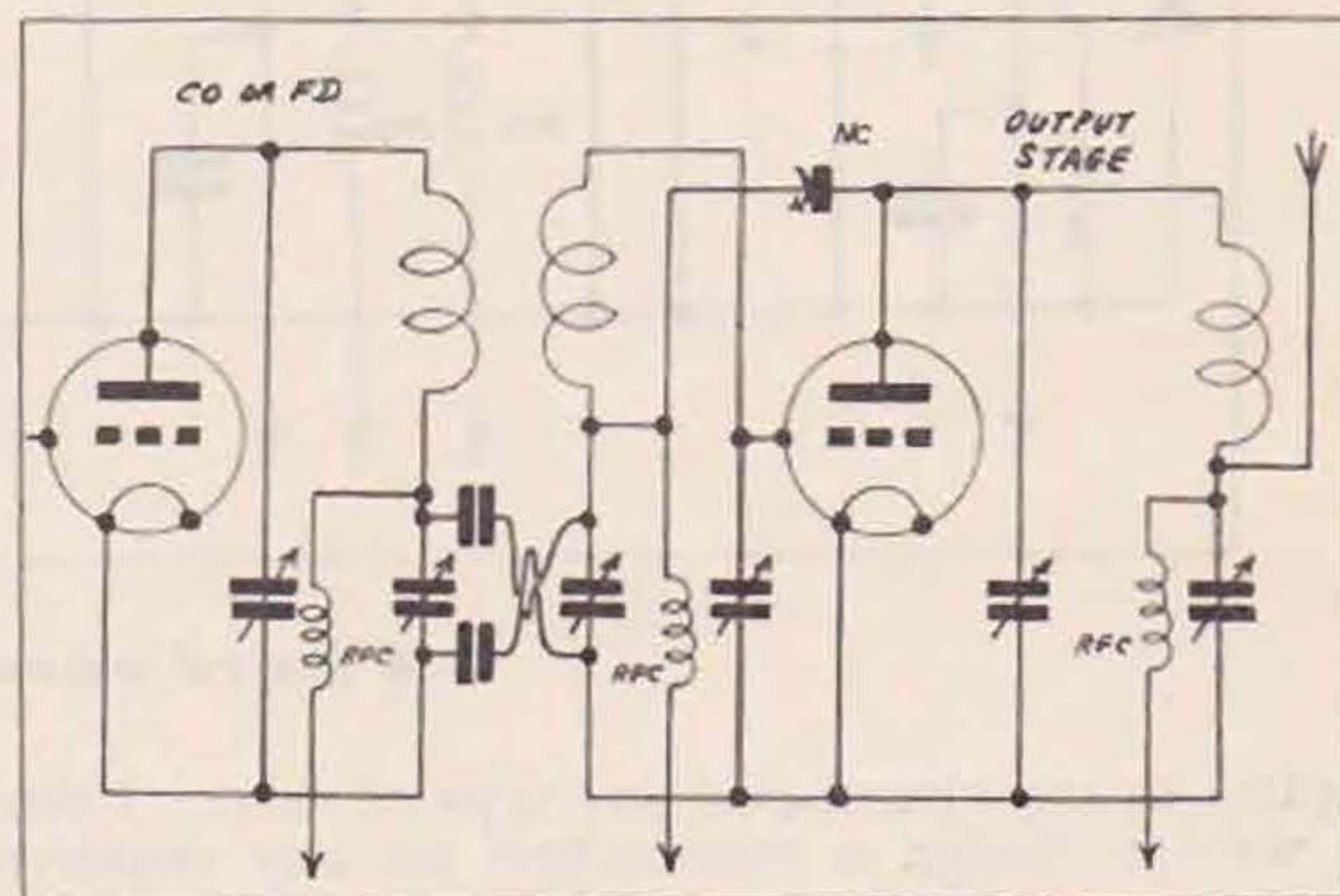


Fig. 8.
Tuned-plate tuned-grid output stage with matched input.

some care is necessary in adjusting them, because alteration of the impedance across one end of the line affects that across the other to a certain extent, with the result that several positions of match can be found, one of which is the best by a very small margin. Moreover, output and input impedances change with load and drive, which makes it necessary to carry out all adjustments with power on the amplifier. These considerations are more im-

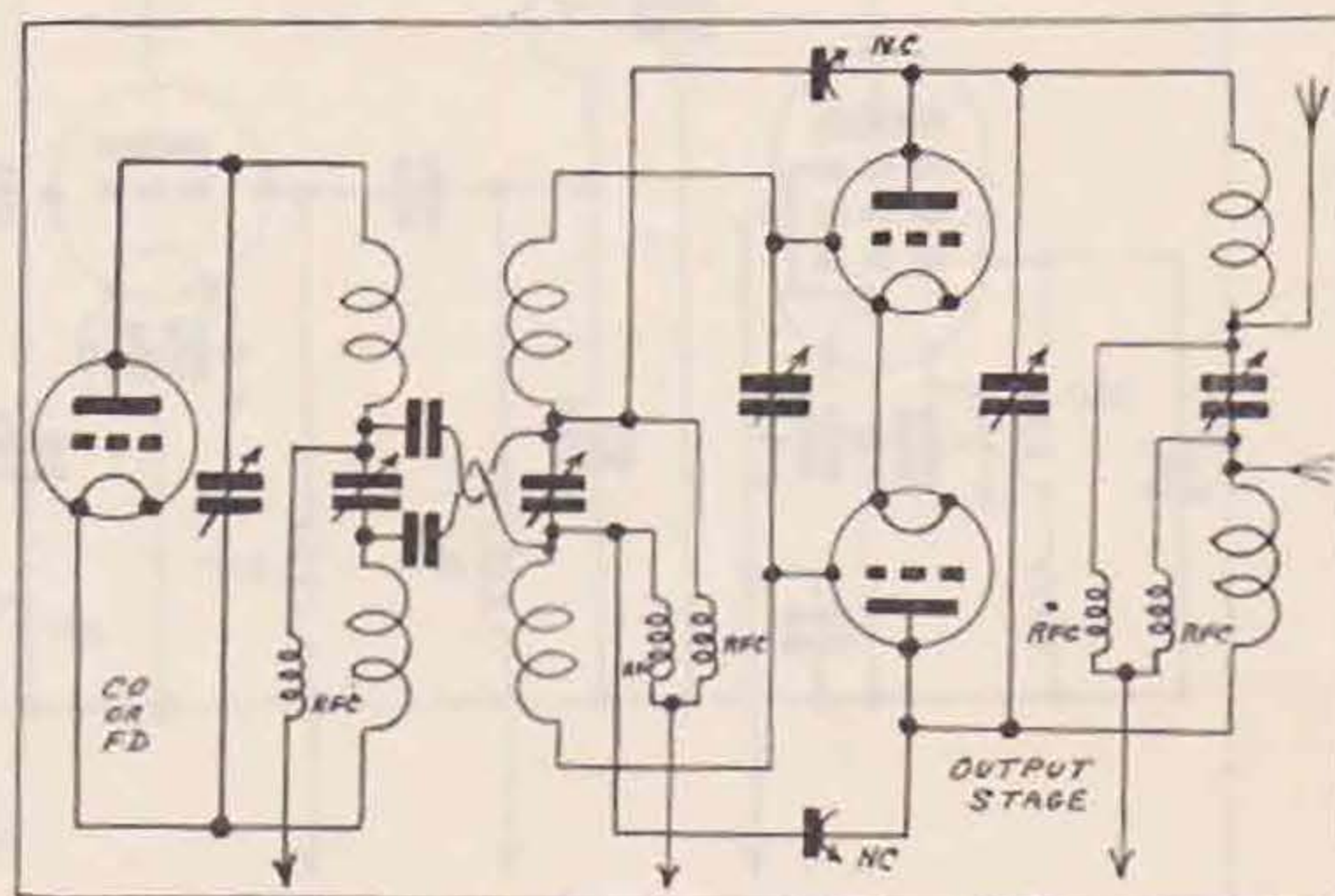


Fig. 9.
Push-pull tuned-plate tuned-grid output stage with matched input.

portant from a theoretical point of view than from a purely practical one, however, and it is actually quite easy to arrive at a good, if not perfect, operating setting.

Complete Transmitters Employing Inter-Stage Filters.

Quite enough has now been said to show how this system of inter-stage impedance matching can be

TZ05/20s for the output stage. Tuning is carried out as follows:

With the matching condenser of the oscillator all in, tune for resonance, then gradually reduce the capacity till a point is found where the oscillation stops, returning the circuit to resonance each time by means of the tuning condenser. Set the matching condenser at slightly more capacity, return to oscil-

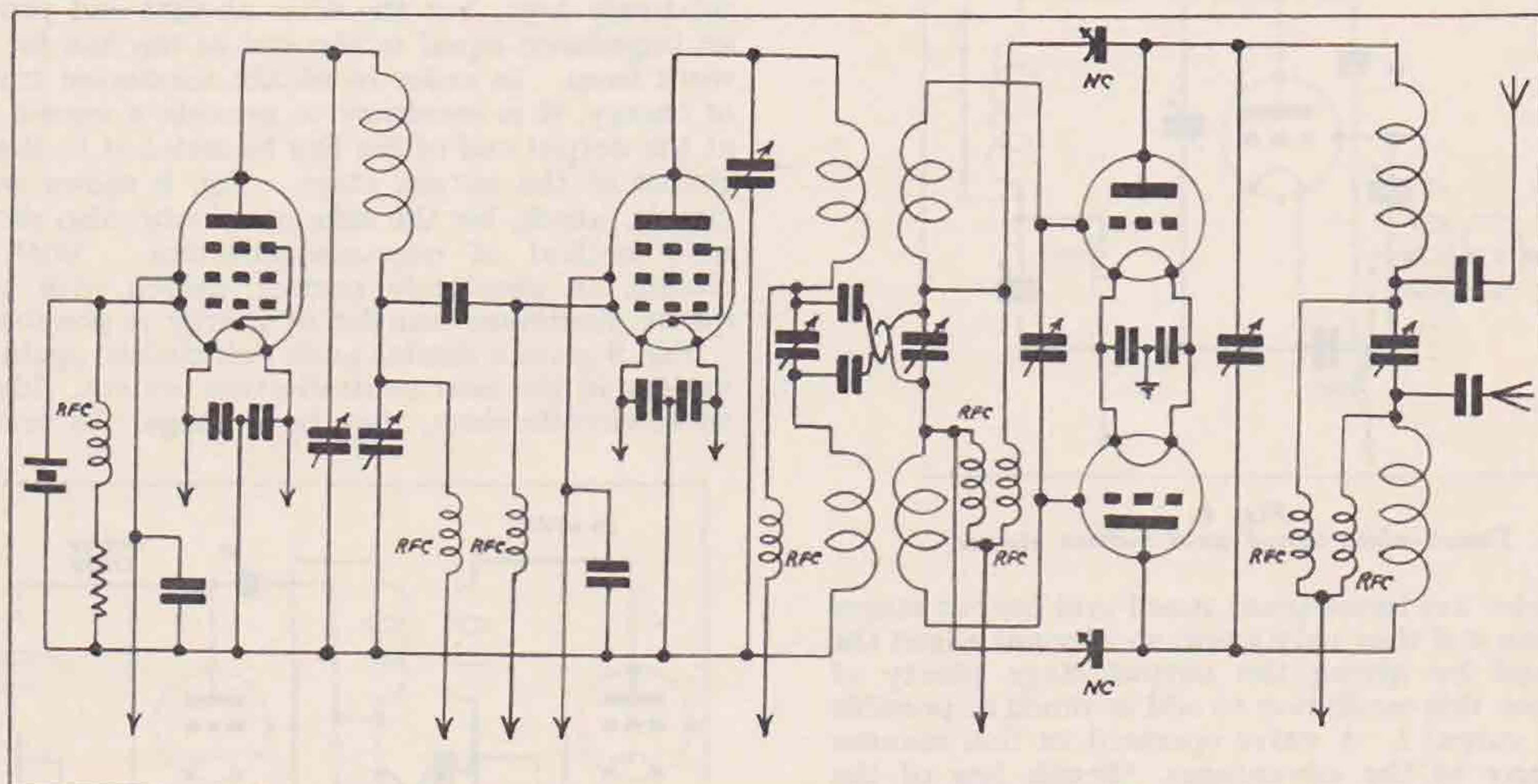


Fig. 10.
A general-purpose matched transmitter.

applied to any circuit and any type of valve. Using it, we can design a transmitter for any required purpose, and as an example, let us take the case of a 50-watt transmitter for operation on 3.5, 7 and 14 Mc.

Fig. 10 shows the suggested circuit, which consists of CO, FD, and link-coupled output stage. The valves used are PM24Ms for CO and FD, and

lation with the tuning condenser, and start tuning the FD. Repeat the process with the FD until only a small dip in its milliammeter needle is seen on tuning the tuning condenser through resonance. Then tune the output stage grid in precisely the same way, till maximum grid current is shown. Next set the output plate matching condenser at a point where a match is likely to be obtained—i.e.,

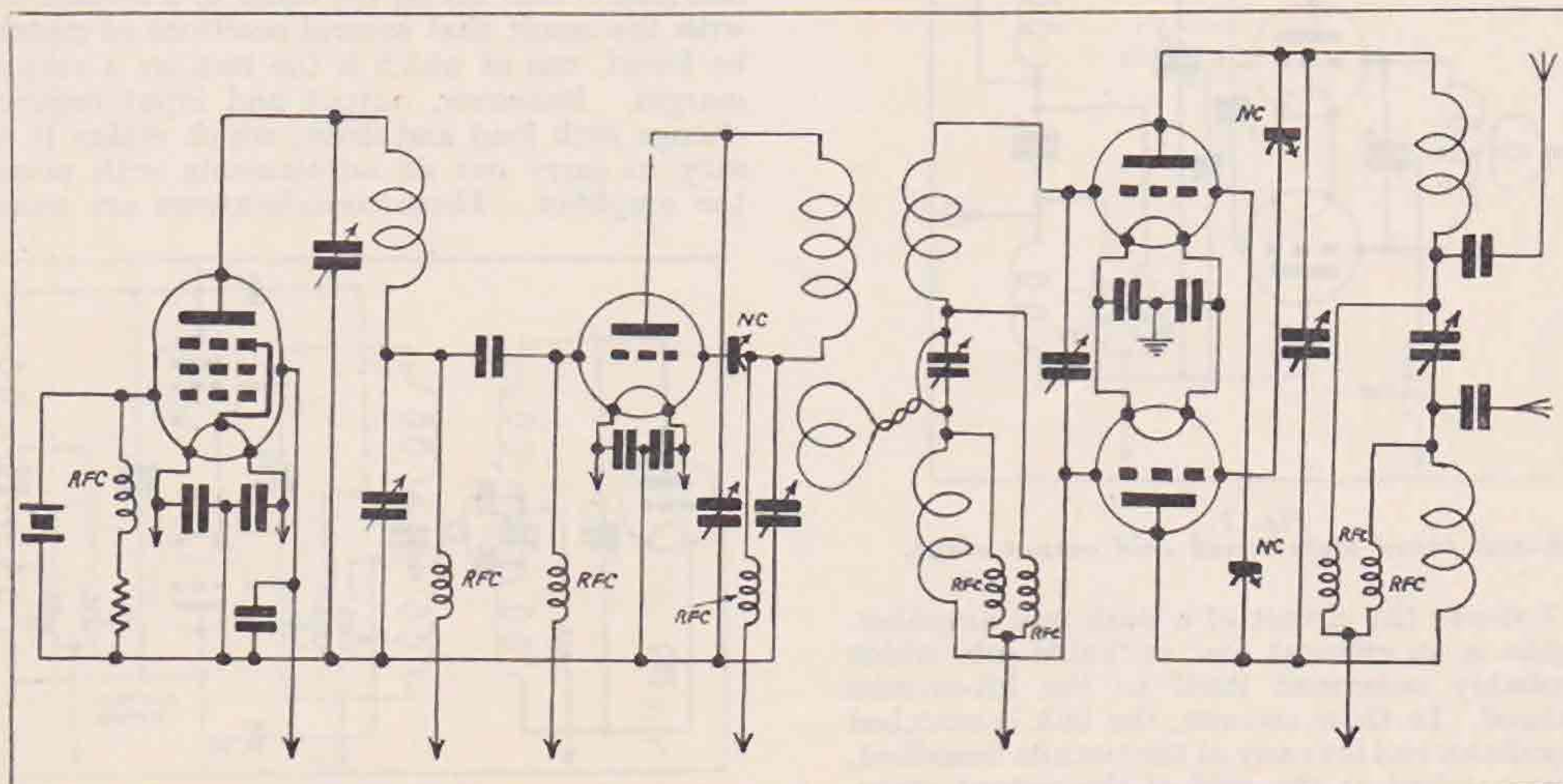


Fig. 11.
A 28 Mc. matched transmitter.

mostly in, if the aerial terminates near a current point, and mostly out if it terminates near a voltage point—and tune to resonance without putting plate voltage on. Neutralise in the usual way. Then check over the tuning of the early stages with a view to obtaining maximum grid current on the output stage, and finally switch on the output stage plate voltage and match it for maximum indicated output in the aerial. A final recheck all through, and a slight decrease of grid capacity in the output stage will probably give a slightly increased output. Use an absorption frequency meter to check each stage, and a monitor to make certain that the note is all right. If so, the output stage may be very slightly de-neutralised for greater output for CW work. Be careful to see that no stage is taking more than its correct input. If such is the case, increase the capacity of the matching condenser and re-adjust the adjacent stages.

It is unfortunate that quite a simple operation should sound so complicated when described in detail, but in practice it is not in the least terrifying.

Since the maximum benefits derived from using this system are found on the higher frequencies, a short description of the 28 Mc. 50-watt transmitter at G2JH may not be out of place. Fig. 11 shows the circuit.

The doubler stage is the only one which needs comment. It is regenerative and uses a T25D with 250 volts on the plate. This valve was chosen for its greater efficiency than any other tested, and it is noteworthy that a PM-24M, excellent as it is as a low frequency doubler, is very inferior on 28 Mc, its screening not being good enough, and its harmonic output poor. The feed is taken from the doubler by means of a pick-up coil tightly coupled to the "dead" end of its plate coil, because it was found that when direct connection was made to the output filter, a circuit resonant on the grid frequency of the doubler could be formed by the link and grid filter, with the result that the doubler

acted as a straight amplifier. Matching is, therefore, effected at the doubler end of the line by using the fact that reduction in the matching condenser capacity puts radio frequency on the "dead" end of the coil, the amplitude of which is controllable. Thus, in effect, the pick-up coil can be tightly coupled to any point in the plate coil in a simple electrical, as opposed to mechanical, way, and matching obtained within fairly wide limits.

The oscillator, on 14 Mc, is a PM24M, and the output stage comprises two TZ05/20s. Tuning is carried out as previously described.

Having explained the principle and practical use of this impedance matching system, it only remains to indicate what benefit can be expected from using it. By replacing each tuned circuit in an existing transmitter with a matching filter, we cannot obtain less output unless we mishandle it thoroughly, and we may get substantially more. How much more depends on the present perfection of the matching. On 28 Mc., the writer has to admit that the apparent output gain was about 20 per cent. in spite of quite careful matching, but some of this may have been due to better lay-out in rebuilding.

The desirability of maximum efficiency is too obvious for comment, and it is seriously suggested that since this system gives us everything to gain and nothing to lose, it should be incorporated throughout in any modern transmitter. Its benefits are quickly discovered if it is given a trial.

In conclusion, the author does not hold himself out to be a technical expert, so any technician taking exception to anything herein stated is asked to jump down his throat gently, first removing his boots! This is, after all, a practical article.

Finally, the assistance given by Mr. David Hargreaves is gratefully acknowledged. Without it, these experiments would probably never have been started, and almost certainly would never have been continued long enough to arrive at any conclusions.

The Power Question

Referring to the Editorial published last month, Mr. J. Butcher, G5XG, writes to claim a DX telephony record using low power on 14 Mc.

On September 18 he received an R9 report from SU1KG using an input of 12 watts. Drive was then reduced to the P.A. stage until zero milliamps were recorded in the plate circuit. Aerial current fell also to zero. SU1KG without increasing the gain on his RCA 175 receiver, reported signals QSA 5 R4 on LS. The test was successfully repeated for three days.

The transmitter uses 59 C.O. 59 F.D., PX25 P.A., transverse current microphone, one stage AC/HL speech and AC/2/Pen modulator. Grid modulation to the P.A. stage, operating at 500 volts on the plate, is employed.

The aerial system comprises two half-waves in phase together with a matching network of the operator's own design.

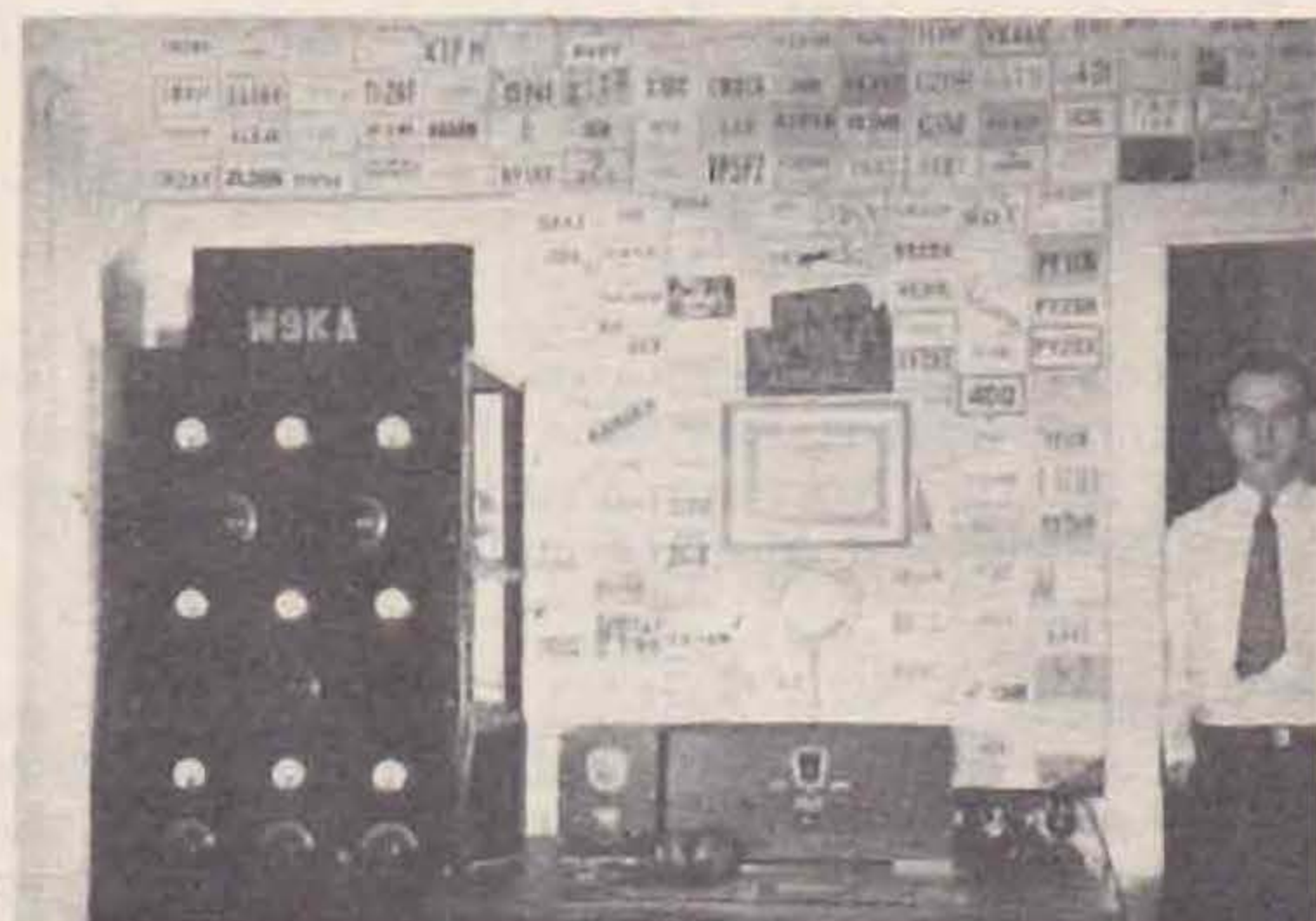
Using an input of exactly 20 watts W.A.C. telephony has twice been obtained with R9 reports from VK2BQ and VE1BR, R8 reports from LU6AB and R7 from URAD, a U.S.A. expedition in Asia. The receiver used is a Hammarlund Comet Pro. Crystal type and all reception is on the speaker.

Snapshots from the States—No. 1

Here's a photo of W9KA, owned and operated by Roy McCarty, W9KA, of Chicago.

Roy has been licensed since 1926, has never used over 250 watts (seldom more than 180), has worked 79 countries in 31 zones, holds the first W.B.E. in the Ninth U.S.A. District, and the first W.A.S. in Illinois. Mr. McCarty married the first licensed YL in Illinois.

Next, please!



AMATEUR RADIO IN NEW ZEALAND

By R. T. STANTON (ZL3AZ).

Introduction.

THE following impressions of amateur radio in New Zealand have been gathered during various holiday trips throughout the country. Where possible, visits were made to stations in every town visited, and personal contact has been secured with some 200 amateurs. It is hoped that an article dealing with New Zealand conditions and activities may be of interest to readers in various parts of the British Empire. The writer feels that the following details represent a fair cross section of amateur radio in this country.

Conditions.

Conditions as a whole are good for DX work, and for inter-island communication. All inter-provincial and inter-island work is carried out on the 3.5 Mc. band. On 7 and 14 Mc. there is almost a complete absence of local QSO's. One factor which contributes largely to this state of affairs is the skip effect, although during the last two years this has not been nearly so noticeable as previously on the two higher frequency bands.

The North Island has a definite advantage as far as 14 Mc. work is concerned, but the South Island evens matters up by having better conditions on 7 Mc. As an instance of this, stations in the North Island secure more contacts with South Africa on 14 Mc. than those in the South Island. Contact with that country is the ambition of every amateur in New Zealand, but only in very few cases is the ambition realised, because these contacts are exceedingly difficult to obtain. The writer would mention here that in a period of five years on the air, spent entirely on 7 and 14 Mc., only one South African station has been heard. This was ZS1H, and although he was calling CQ-ZL for half an hour, a QSO could not be effected. It was reported by one of the Byrd Expedition ships that on approaching the New Zealand coast, signals from South Africa faded out completely about 50 miles from Bluff, the most southern part of the South Island. As is usual in any country, the coastal regions have an advantage over inland towns, but happily no portion of the country is very remote from the sea.

Distribution.

The official figure for licensed amateur transmitting stations in the country was given as 939 on December 31, 1935. The approximate totals for the four districts were then as follows:

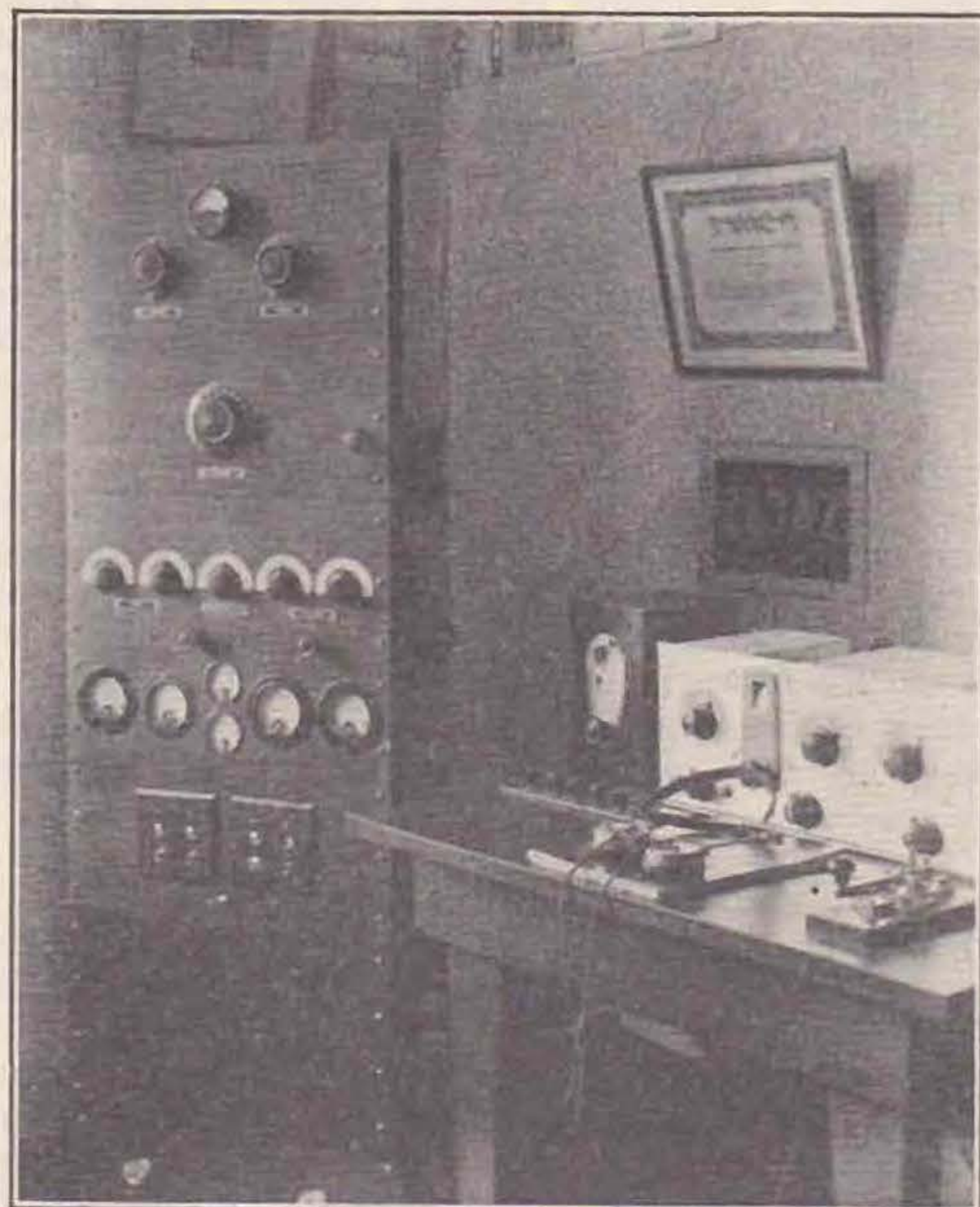
1st District, Auckland	...	200
2nd " Wellington	...	400
3rd " Canterbury,	...	200
4th " Otago	...	130

Wellington District embraces the Provinces of Wellington, Hawkes Bay, and Taranaki, and also includes the two Northern Provinces of the South Island, Nelson and Marlborough.

Apparatus.

Equipment in New Zealand is unfortunately on the expensive side, due to customs duties totalling 33½ per cent. on all radio imports, as well as the imposition of 25% bank exchange on all outgoing

drafts, money orders, etc. In the past it has been difficult to procure high grade equipment, but within the last twelve months several of the larger dealers here have taken to stocking the better class American parts and valves. This move has immediately been reflected in the general standard of the stations throughout the country, and instead of using old talkie valves and similar equipment, a number of the highly efficient types of American valves and associated gear are in evidence. English valves are little used, as the American manufacturers, with a large market to cater for, supply types more suitable for amateur requirements, and this, in addition to the fact that America is so much nearer than England, influences the market. Crystal control is the rule rather than the excep-



The author's station, ZL3AZ, Christchurch.

tion. A popular type of transmitter employs the 47 or 59 crystal oscillator, feeding directly into a pair of 46's in push-pull, or into a 46 or 59 doubler stage, and then into the final. Of course, there is the usual percentage of QRO stations in the country, generally favouring the 852 type valve. Lately, however, several new valves have appeared on the market here, and have proved more popular than the well-tried 852.

The types of aeriels used are numerous, but the 7 Mc. half wave Zeppelin is still the most popular. It was interesting to note that during a trip the writer took of over 1,000 miles from Wellington to Auckland and return, some six or seven groups of different aerial users were encountered. Where one particular operator had had good results with

one type of aerial, almost every amateur in that district used the same type. Probably this is the same the world over, but curiously enough, each group averred that their particular fancy was the best type of all, and that the other systems were used only by those not well versed in the intelligent use of aerial systems! By adopting a patronising attitude to each party in turn, amicable relations were retained throughout the entire trip!

The general trend in receiver design definitely has been towards the modern superhet. of about 6-7 valves, although there are still many of the straight regenerative receivers in use. Sooner or later the operators of the latter type weaken and commence building supers. A few of the American commercial type receivers have made their appearance here (see Uncle Tom!), but owing to customs duties and exchange, they are rather expensive for the average amateur.

Activities.

1.7 Mc. Band.—Little used. Phone and C.W. operation are permitted on all parts of the band, but owing to the proximity of the broadcast band, little activity is evident.

3.5 Mc. Band.—Widely used for phone and C.W. operation, both of which are allowed on any portion of the band. A fair percentage of the amateurs spend all their time on this band, particularly on phone work. In the North Island in particular, some high power phone stations flourish, with equipment that would put some of the smaller broadcast stations in the shade. However, this is confined to a few only. Several good DX contacts have been made on this band, notably between ZL1 and FA8, between ZL3 and VE3 (the ZL3 using an input of 10 watts), and between ZL2 and HB, this last being on phone. QSO's with U.S.A. have approached the number as to merit the term of just "good DX."

7 Mc. Band.—Used almost solely for DX work. It is interesting to note that whereas in Australia this band is used for inter-State communication, it is entirely given over to outside contacts in New Zealand, all inter-island work being carried out on 3.5 Mc. No phone operation is allowed on any part of this band.

14 Mc. Band.—Used entirely for DX work. No phone operation is allowed on any part of the band. Conditions for operation on this frequency have improved greatly since August, 1935, and several good DX contacts have been made by various stations. Conditions on this band appear to be approaching those of 1929-30, when the peak was reached; 1931-2-3 were lean years on 14 Mc., and the return to good conditions is most welcome.

28 Mc. Band.—Although only a few stations are working on this frequency, good work is being done by those active, notably ZL1GX, 2GQ, 3AJ, and 3AB. Contacts with overseas stations are possible from 6 a.m. local time, and in the North Island at least, signals do not fade out until around 10 p.m. Some of the outstanding achievements on this band are the first South American—QSO by ZL1CD, and the first South African—QSO by ZL3AB. The honour of the first W.A.C. in New Zealand on 28 Mc. goes to ZL3AJ, who completed it in March of the present year.

56 Mc. Band.—There is little concerted activity on this band. A notable performance was the

relaying of a running commentary on the N.Z. Golf Championships in Wellington in 1934 by members of the Wellington Branch of N.Z.A.R.T. A portable transmitter was provided by the Branch, and the commentary on the play, stroke by stroke, was relayed to the National broadcast stations from the receiver operated in the club house.

Ultra High Frequency Work.—If there is any work being conducted in this direction, very little publicity is being given to it. It has been impossible to find anyone who has conducted experiments in this section of amateur radio.

Radio Emergency Corps.

Early in 1932, Mr. N. W. Laugesen, ZL3AS, conceived the idea of establishing throughout the country groups of amateurs equipped with portable transmitters and receivers, who would be ready for any emergency call.

Each group, or section (under the direction of a Section Leader) is provided with a small portable transmitter and receiver of light weight, capable of being carried by one man over any type of country. A zone station is also provided to relay messages from the portable outpost station. This station, which is generally easily transportable, relays the messages to the permanent base station, belonging to an amateur in a nearby town. These stations are all provided and built by the members of each section free of any charge to the community. All work is voluntary. In this manner a splendid



Another well known New Zealand station, ZL3CC, owned and operated by Mr. Jack Elliott.

emergency service is provided for the country, ready to go out at a moment's call to provide communication between search parties and civilisation. Praiseworthy work has been done by several sections, notably in the search for lost trappers in the North Island, and for a lost aviator in the mountains. In the latter case, the Napier Section were out for several days, and the whole country was kept in touch with the strenuous efforts being made to locate the missing man.

The entire corps is under the control of an O.C. elected annually, and the corps itself is a section of the N.Z.A.R.T. The Post and Telegraph Department have recognised the usefulness of the corps by allotting it a series of special call signs, and a special wave band of 90-105 metres.

Regulations.

The control of amateur activity in New Zealand is in the hands of the Post and Telegraph Department. Examinations for licences are conducted at regular intervals, and comprise a written theory examination and a morse test, sending and receiving. To obtain a pass in this examination, candidates must secure 50 per cent. in the written test, and send and receive 12 words per minute for five minutes, two errors being allowed. The fee for this is 5s., and the annual licence fee for all stations is 30s.

For the first six months of operation, newly licensed amateurs must confine their activity to the 3.5 Mc. band, after which period, application may be made for permission to operate on the 7 Mc. band. A test, applied by N.Z.A.R.T. officers under the approval of the Department, is given to each applicant. This test comprises general operating ability and frequency measurement. It is thus almost compulsory to own a frequency meter of reasonable accuracy.

The maximum power input allowable to the final stage is 100 watts. This is a new restriction, introduced in October of last year, before which date the limit stood at 100 watts output, a somewhat difficult figure to calculate.

Traffic handling is prohibited, except by E.L.S. No restrictions are imposed on the hours of operation, although where a station causes widespread interference with BC sets, the operator may be required to confine operation to hours outside those of the broadcast station.

N.Z.A.R.T.

The rights of the amateurs in the country are looked after by the New Zealand Association of Radio Transmitters, with headquarters at present in Wellington. All offices are honorary, and this entails a more frequent change of personnel than perhaps is desirable. Nevertheless, splendid work is being done by the Association for the amateurs as a whole, and the membership now stands at over 600. The official organ is *Break In*, a well-compiled journal of over 20 pages, covering technical, constructional, and social topics. The subscription to the Association is 7s. 6d. per annum. Conventions are held yearly at different centres, and these do much to bring the amateurs together.

ZL3AZ.

The following description of the writer's station will give readers some idea of the type of station possible to build with the gear available in the country.

The first transmitter constructed, upon being

licensed early in 1931, was the then popular T.N.T., using a pair of 45 type valves in push pull. W.B.E. W.A.C. seemed an easy matter to this old self-excited rig, and it was followed in due course by a M.O.—P.A. with a pair of 210's in the final. Input at the time went up to 75 watts.

Crystal control was then the next step, and several different rigs have been used, employing as final stages 46s, 10s, 211D, 212D, 242A, and a Philips QB 2/75. The last-mentioned valve ran at 200 watts input for some time until a cracked envelope put it out of commission. After the fireworks subsided the final was rebuilt, and the transmitter shown is the result. It uses an 800 valve in the final, running at 100 watts input, on 7,250 and 14,380 kc. The base of the rack and panel supports the high voltage transformers and rectifiers, while the intermediate power supply occupies the next shelf. Bias supplies, etc., are on the next shelf, and the low power stages above. The final stage is built on the top shelf, and the Collins type aerial coupler is supported in the top panel. All shelves are supported by metal angles bolted to the two uprights. Valve line up is as follows:

59 tri-tet crystal oscillator, 59 doubler, a pair of 46s in push pull as buffers, feeding into the 800 final.

Link coupling is used between the doubler and buffer, and between buffer and final, as well as from the final tank coil to the aerial coupler. The aerial used is a 7 Mc. half wave Zepp. It has been noted that this aerial has definite directive properties, the best direction for European contacts being with the aerial running North and South.

The meters are concentrated on the one panel for ease in wiring, and for keeping all stages under observation with the minimum of effort. The top panel carries the dials for the coupler; next down comes the final tank tuning circuit, while the five knobs with scales tune the low power stages. The rack is made of angle iron welded at all corners to give rigidity, while the panels are of five-ply ducoed dull black. A grille at the bottom affords ventilation to the 866 rectifiers. The table at the right carries a seven valve superhet receiver, keys, monitor, and power switches. These switches control the various supplies to the transmitter, and are so situated that no waste effort is necessary after tuning the receiver, to switch on the outfit. This feature is especially useful during contest periods, when the minimum of effort reduces the strain of operating for long periods.

In conclusion, the writer assures any reader who may be contemplating a visit to the distant part of the Empire, that he will receive a very cordial welcome from the New Zealand amateurs throughout the two islands. Visitors to this land from overseas countries are not very numerous, but when they do come, a rousing welcome awaits them. No more remains now but to wish all readers Good Luck, or, as our Maori brethren put it, "Kai Ora."

Stray

Mr. C. R. Emary, ex-VS6AQ, anticipated being present with us at the Convention meetings, but instead he received marching orders on the Saturday to proceed to Palestine on active service. We wish him a safe and speedy return.

RESEARCH AND EXPERIMENTAL SECTIONS

MANAGER :

H. C. PAGE (G6PA), Plumford Farm, Ospringe, near Faversham, Kent.

ASSISTANT MANAGER :

J. C. ELMER (G2GD), "Aethelmar," Seabrook Road, Hythe, Kent.

NEWS OF THE MONTH

SECTIONS :

No. 1 : TRANSMITTER DESIGN

S.M. : (To be appointed)

G.M. : 7 and 14 Mc.

S. BUCKINGHAM (G5QF), 9, Brunswick Park Road, New Southgate, N.11.

G.M. : 28 Mc.

(To be appointed)

G.M. : 56 Mc.

J. N. WALKER (G5JU), 4, Frenchay Road, Downend, Bristol, Glos.

G.M. : Artificial Aerials

A. W. LISTER (G5LG), Royal Military Academy, Woolwich, S.E.

No. 2 : RECEIVER DESIGN

S.M. : J. MAWBEY (BRS. 1300), 109, Clare Road, Tankerton, Kent.

G.M. : General

D. GORDON BAGG (G6BD), Fresh Woods, Tonbridge, Kent.

G.M. : 56 Mc.

J. N. WALKER (G5JU)

G.M. : Superhets

T. B. SMITH (G5TS), 115, Novar Drive, Hyndland, Glasgow, W.2.

No. 3 : AERIAL DESIGN

S.M. : F. CHARMAN (G6CJ), Orchard Cottage, Stoke Poges, Bucks.

G.M. : General

F. WILSON (G2XX), 85, Risca Road, Newport, Mon.

G.M. : 28 Mc.

L. O. ROGERS (G2HX), "Audwen," Estcourt Road, Gloucester.

G.M. : Joint Group with Propagation

G. A. H. ECKLES (G5GC), 57, Sutton Road, Beverley High Road, Hull.

No. 4 : PROPAGATION

S.M. : J. C. ELMER (G2GD), "Aethelmar," Seabrook Road, Hythe, Kent.

G.M. : 28 Mc.

Miss N. CORRY (G2YL), "Redholm," Walton-on-the-Hill, Tadworth, Surrey.

G.M. : Conditions

J. HAIGH (G6HA), 2, Greenock Terrace, Leeds, 12.

G.M. : Literature

A. T. MATHEWS (G5AM), 24, Woodside Park Road, North Finchley N.12.

G.M. : Joint Group with Aerial Design

G. A. H. ECKLES (G5GC).

No. 5 : VALVES AND INSTRUMENTS

S.M. : D. N. CORFIELD (G5CD), 10, Holders Hill Gardens, Hendon, N.W.4.

No. 6 : AUXILIARY APPARATUS

S.M. : A. O. MILNE (G2MI), "Twemigh" Kechill, Gardens, Hayes, Kent.

G.M. :

F. W. BENSON (2BWF), 53, Corona Drive, Thorne, Doncaster.

No. 7 : MICRO-WAVES (112 Mc. and above)

S.M. : DR. C. G. LEMON (G2GL), 19, Lena Gardens, Hammersmith, W.6.

No. 8 : CONTEMPORARY LITERATURE

S.M. : A. T. MATHEWS (G5AM), 24, Woodside Park Road, North Finchley, N.12.

No. 9 : TELEVISION

S.M. : (To be appointed)

G.M. : Contemporary Literature

E. J. SCUDDER (BRS. 981), 32, Queen Street, Folkestone, Kent.

LAST month we expressed the hope that we should be able to publish in October the policy to be adopted by R.E.S. for the future. Since writing those notes, Convention and the District 16 Conventionette at Folkestone have passed into a memory. Your Managers had the opportunity there of discussing the various problems and difficulties, which have arisen with our President and others, and are now in the position of having a policy ready for presentation to Council at their next meeting. We hope to give details of this in the November BULLETIN. The chief difficulty appears to be the fact that some of the Section Managers have been snowed under by letters of technical enquiry, and in the goodness of their hearts they have attempted to answer these to the detriment of their real work in the Sections, and in some cases even their health. In this respect we are sorry to record that Mr. G. McLean Wilford, G2WD, has felt obliged to resign his position as S.M. Transmitter Design. We are very grateful to him for the enormous amount of work he has done on behalf of R.E.S. Incidentally we are glad to know that G6PA has recovered his health, and is able to resume his work as Manager; but members are asked to address correspondence to G2GD as much as possible, so that he may be free for general supervision and the appointment of officers.

Television.

The Manager has decided to initiate a Section for television, and it is hoped that the name of a Section Manager will be announced in the near future. In the meantime Mr. E. J. Scudder (BRS981) has been appointed as G.M. Contemporary Literature for Television, and is already at work collecting and filing information.

Reports to Section Managers.

Once again we draw members' attention to Rule 18, which requires them to send in articles for publication through the Managers. There are so many reasons for doing this, not the least being the avoidance of inaccuracies.

Individual Members.

The following have enrolled as "Individual" members since August 30 :—

No. 1 Section : G8AF, 2BYZ, BRS2535.

No. 2 Section : BRS2521, 2566.

No. 3 Section : G2SQ, W9ICO.

No. 4 Section : G6KU, 2BYZ, W9ICO, BRS2521, 2566.

No. 7 Section : 2BOU.

G2GD.

We understand from G8AB that the first Czechoslovakian short-wave broadcasting station is now on the air under the call OK1AQ. Reports should be sent to the N.B.C., Prague. The station operates daily on a frequency of 15,228 kc. (19.7 metres).

Simple Method of Determining Frequency in 56 Mc. Band

By F. H. GOLDSMITH (G6VH) R.E.S.

This method of 56 Mc. frequency calibration gives an accuracy of about 10 kc., and requires the following gear:—

1. A straight receiver tuning from, say, 7-20 Mc., and calibrated roughly.
2. A calibrated oscillator of conventional design covering either directly or by harmonic relation the 14 Mc. band.
3. The 56 Mc. receiver or oscillator to be calibrated.

First Approximate Calibration.

The frequency range of the 56 Mc. receiver is first of all found in the following way. The 56 Mc. receiver or oscillator coils are link-coupled to those of the short-wave receiver. With both receivers oscillating, the full tuning range of 7 to 20 Mc. is covered on the ordinary receiver. Beat notes will be heard, and the frequency of each is noted. These beat notes cannot properly be called either harmonics or overtones, but are due to the harmonics of the receiver detector beating with the fundamental of the 56 Mc. oscillator.

Suppose that beat notes are heard on 10, 12.5, and 16.6 Mc. A little arithmetic will show that the L.C.M. of these numbers, 50 Mc., is the only frequency which will give these beat notes, being produced by the fifth, fourth, and third detector harmonics. This process is carried out for different points on the 56 Mc. oscillator, until the whole dial may be calibrated.

Accurate Calibration.

It is then set to 56 Mc. and the beat note falling within the 14 Mc. band is tuned in on the short-wave receiver. Its frequency is measured accurately by means of the wavemeter, multiplied by four, and we have a calibrated point in the 56 Mc. band. This process is repeated throughout the band.

This system is only possible, of course, with straight 56 Mc. receivers. Very misleading results will be obtained if a super-regenerative set is used (*vide* letters in the *Wireless World* on the "Russell" effect).

Use of Harmonics.

As a matter of general interest, the frequency meter used by the writer oscillates on 2.4 Mc. and covers the 7 Mc. band by the third harmonic. The fourth and fifth harmonics fall directly into the 9 and 11 Mc. broadcast bands. As a result, the frequency of a known station, say, Moscow, on 12 Mc. (25 m.) can be noted. This is the fifth harmonic of 2.4 Mc. on the meter, whose third harmonic on 7.2 Mc. appears in the amateur band. By means of known broadcast stations whose frequencies are published, the whole 7 Mc. band is accurately calibrated. By taking the Empire and Zeesen stations an accuracy of ± 0.5 kc. can easily be obtained.

Editorial Note.—In order to make this new feature a success it will be appreciated if members will forward news of interest direct to G2ZQ, 63, Hervey Road, Blackheath, London, S.E.3, not later than the 25th of each month. Interesting station photographs of DX stations will also be welcomed.

The Month on the Air

By JOHN HUNTER (G2ZQ).

AS suggested last month, a new series of DX notes is being started, but to make a success of it, we must have help from as many Empire and foreign amateurs as possible. We should also like reports from BRS, BERS, and AA members on interesting 'phone and CW DX they hear, together with the frequencies of such stations. Let us also know which are the leading stations in terms of WAZ (*Radio*, February, 1936), W.A.S., and countries worked.

The stumbling block for WAZ seems to be the zone including Tibet and the Kansu province of China, and we should like to hear of any *authenticated* contacts with that zone. Has any British station WAZ or WAS yet? G6WY and G5YH have worked 47 States, Nevada being the snag, and G2ZQ has 39 zones, but oh! that Kansu!

It seems that OS1BR was bogus all the time, but he certainly put it across some of the boys. Now what about HS4T, CR8E, etc.?

It has been a simple matter to WAC during any day in September on 14 Mc. As well as the regular countries, several interesting parts of the world have made their appearance. Here are a few approximate frequencies:—MX2B, HS1PJ, 14200; K7FCR, 14330; K7PQ, 14270; J8CA, 14300; VQ2RS, 14020; and many K6's. Self-excited signals from VE5NF (Yukon), UOLD, VE5HC (a 10-watter in a Rocky Mountain gold mine) have been heard.

Mr. Ivan Miller (VK3EG) claims to have made a W.B.E. in 25 minutes between 1300 and 1325 G.M.T. on September 17. He is now using two V beams working in parallel, each 330 feet long, one north and the other south.

ZP6AB (Paraguay) was logged by G6CL at 2130 G.M.T. on September 27. This elusive bird was on about 13,390 kc. and spent the evening working PY stations! EP1A, of Teheran, Iran (Persia), has been worked by several G's. His full address, as given to G6CL, is Abby Grosard, Rue Anort No. 22, Teheran. VQ8AE is a new signal at the L.F. end of 14 Mc.; a spot of smoothing might have made things easier for those who worked him. CR9AB (Macao), China, has been heard most evenings, but we have yet to decide what tone report to give him if we ever attract his attention. (G2ZQ has worked this station.—Ed.)

W9SAW provided G6NJ with a new State. His frequency is 14,008 kc. and QRA is R. A. Beaton, 1218 N.8 St., Fargo, N. Dak. Alf Dyson now requires only Wyoming and Nevada for W.A.S.

VK4WH heard G6DH on 28 Mc. at midnight local time.

Finally, remember that the Cairo Conference is not so far off now, and if we want to create a good impression with the powers that be, we must keep inside our frequency allocations. There has been a lot of off frequency operation on the HF end of the 14 Mc. band recently. If you hear a DX station working outside the limits, tell him so and try and persuade him to come inside; the odds are he doesn't realise he is outside, as he has probably tuned to the wrong frequency-meter harmonic, or his crystal has jumped. In the majority of cases, a polite request to QSY is met with immediate response.

(Continued in previous column).

SOLILOQUIES FROM THE SHACK

BY UNCLE TOM.

(Wiping away the foam from the old walrus' moustache, the Avuncular one lets fly with yet another grouch.)

TALK to me, someone! For the love o' Pete, talk to me in decent English for a few minutes; and if you repeat anything twice, I'll hit you so hard that you'll have to be fed from the back.

Just when I thought I was going to have a peaceful existence, with no grouches, I landed on that common-sense-forsaken 7 Mc. band and listened to some 'phone. Of course, it was my own fault. I ought to have known better than to listen up there, instead of sticking to 28 Mc., where hams are hams, although they still say "Pse QSL—I will."

But this 'phone racket—why, in the name of Ferunculosis, is the "send double" craze extending to 'phone? I have just listened to the whole of a QSO, each man reporting the other's QSA5, R7 or 8, and it went like this:

"All your remarks received O.K., old man. Everything absolutely O.K. Well, old man, well, old man, that's very fine business. Very fine business indeed. I understand you are only using 20 watts. I understand you to say that your input is 20 watts.

"Well, old man, it's a fine signal for 20 watts. It is a fine signal for 20 watts. My input here is 25 watts. Here my input is 25 watts. I have a Zeppelin antenna, a Zeppelin antenna, 66 ft. long, 66 ft. in length, with a transmission line, a transmission line, which is rather long, 99 ft. The transmission line is rather long, 99 ft. I am using a 99-ft. transmission line . . ."

Well, by this time I was on the point of tearing my hair and shouting: "If you don't shut up about your — transmission line, I'll come across and pull the darned thing down for you!" But I restrained this outburst of childish temper and tuned on to someone else. And singe my whiskers if he wasn't doing the same stuff.

Now what in heck is this all about? It's insane enough to repeat on code, but when one does it on 'phone it's as good as an admission that we're a lot of little boys playing around with some unreliable system of communication which doesn't always work.

And as for the utter bilge-drift that some of 'em talk about on 40—well, well! Here's one man, not a newcomer, either, worrying because his neon tube, resting against the lead-in, glows very brilliantly when he whistles, and asking another ham why that should be. And that's a fact.

And there's the dear old boy who clutters up 10 kilocycles (or more) with 100 watts or so, working over 50 miles, for the express purpose of carrying out "an experiment." The "experiment" is to try another two volts on the microphone. I wish to goodness he'd try 2,000 on it—and hold it!

So that's that, and I feel a little better. But if you want a rest-cure after a nervous breakdown, don't you dare go anywhere near 7 Mc., or you'll end straight in the loony-bin, where I, doubtless, am ultimately destined to go.

Now the comic relief department. A Birmingham "ham" has forwarded me a QSL from a European

station bearing the following strange device: "It is longtime that I have send you my QSL card for our QSO on . . . Sorry, your answer is not yet become." It dates back well over a year, and the ham in question was never worked by our Birmingham. P'raps he's making a corner in wall-paper?

The lad from Brum asks whether I couldn't attack the QSL racket for a bit. I haven't enough strength left to be rude to anyone else just now. Later, perhaps, after another course of 28 Mc. . . .

Another nephew, by the way, from the Thames Valley, enquires pathetically why, considering that 7 Mc. is a DX band, it has to be populated by all the lids, raspberries, and "the variegated conglomeration of nasty-noise stations"? He says that my solution is to abolish 'phone. Wrong, sir! Abolish *spitch*, but I've no real grouse against good 'phone, except that it makes me jealous.

I, like this nephew, feel that the pests that have to be exterminated are the fellows "with pseudo-T9 notes who key by wobbling the tank coil," and those whose version of CQ is "Wobble-dit-wobble-dit, wobble-wobble-dit-wobble."

He suggests that what is needed is a movement to "deliver a forward impetus into the celestial regions of these excrescences"—including certain 'phone-merchants who imagine that they are a cross between Clark Gable and the late Senator Huey Long.

Now let's invade the poetry department, fresh from the artistic quarter of Chelsea. A ham from those regions suggests that a nice children's page of nursery rhymes with a moral is indicated. You know—this sort of thing:

*"Baby baby Bunting, Daddy's gone a-hunting;
He's working everyone who calls, To get some
paper for the walls."*

And this one, a little subtle for the baby, but a positive riot among the two-year-olds:

*"Little Tommy put a shunt
On his meter, at the front;
If he'd hidden it away
He'd still have had his call to-day."*

And then you can all go really Classical and sing:

*"CQ, CQ, send me your DX,
All along out along, down along lea;
For I want to try out my nice new TX
With a tritet, a doubler, a doubler, a
buffer,
A power-amplifier and all,
A power-amplifier and all!"*

All the old Narkovians will recognise that one. More to come, kiddies, but not this month. 73, and keep off 40!

The Latest Record

A young lady passing the R.S.G.B. stand at Olympia saw a strip of Morse tape with a card which read, "Record of an amateur transmission."

This was altogether too much for a sweet young thing, who turned to her boy friend and remarked: "Oh, I should love to hear that record played!"

THE VALIANT SAILOR

BY THE DISTRICT SCRIBE.

PROBABLY the best way of indicating that the District 16 Conventionette, held on September 20, at the "Valiant Sailor," the headquarters of the Folkestone Radio Amateurs, was a success, is to say that 54 booked, five dropped out at the last minute, and 63 turned up.

Although it is undoubtedly true that most of those present came to make the acquaintance of 2GD and watch him receive his well-earned trophy, it is probably also true to say that they also turned up to see a good location for a Ham station. Even Uncle Tom was heard to mutter "Ere gd qra"!

We were all very pleased to see Arthur Watts,

of the crowd spent the period prior to the arrival of GD, and lunch ragchewing on the top of the cliff and admiring the wonderful view.

The hero of the day, Mr. J. C. Elmer, arrived on schedule, and was accorded a very warm welcome. Confined to an invalid chair, he was transported to the "Valiant Sailor" in a furniture van, escorted by three members of the Folkestone Club.

The District Representative, G2MI, presided, when the company sat down to an excellent lunch in the Pavilion.

Welcoming the visitors on behalf of the Folkestone Radio Amateurs, G2IC took the opportunity of



Folkestone Conventionette, September 20, 1936.

Over 60 members and friends gathered to do honour to Mr. J. C. Elmer (G2GD), the winner of the Courteney Price Trophy. G2GD centre with trophy; on his left G6UN, 6CL, 6PA, Mrs. 6CL, Mrs. 6WY, Miss Gadsden; on his right G2IC, 2MI, 6WY, Mr. Mills, Mr. Aird, G2NH, 2BAX. The shack used by Folkestone Radio Amateurs is in the background—the English Channel is beyond, with France 28 miles distant.

John Clarry, Dud Charman, Sweet May, Young Ernie, Old Uncle Tom, Cobleigh and all.

The assembly was due to start at 12 noon, but 2UJ and 2AVN, representing the Tunbridge Wells group, arrived at 11.45, and a constant stream of cars rolled in until nearly half-past one. It is noteworthy that Clarry, Mrs. Clarry, M. G. and Harry Clark arrived just as they opened, dead on time!

It was a beautifully sunny morning, and most

expressing the thanks of the Club to Mr. A. C. Aird, the proprietor, for all he had done for them in providing facilities for what is probably the best-situated amateur headquarters and radio station in the country. Replying, Mr. Aird mentioned that many years ago a man came to his father and asked him if he could erect some poles on the top of the cliff and carry out experiments in wireless telegraphy. That man was Marconi, but thinking he was a spy, and because he was a foreigner, his father

did not want anything to do with him, and turned him down!

Clarry, as usual, made an excellent speech. He held forth on the possibilities of G2FA, the great and necessary work of R.E.S., and 56 Mc. in particular. He paid a warm tribute to GD and his efforts on behalf of R.E.S., and stated how pleased he was to see him there.

Mr. A. E. Watts (G6UN), our President, in presenting the trophy to 2GD, said that he would like him to know how much Council appreciated his valuable work. Mr. Elmer, in a cheerful speech, replied and thanked all present for attending. Musical honours followed. To wind up lunch, in view of the presence of "May" from Headquarters, and to reciprocate her efforts at Convention, 2IC had organised a "swindle." M.G. made the draw, which was carried out honestly, although the results made everyone think it was a wangle! The first prize, a quart bottle of beer, was won by 6QB; the second prize, a bottle of lemonade, was won by 2AZM (the biggest beer drinker in the local Club!); and the third prize, a bottle of water, went to Mrs. 2NH.

After lunch the party assembled in the grounds for group photographs to be taken.

During the afternoon a large convoy followed 2IC to his QRA and inspected the station. Six at a time, the visitors ascended to the shack, where a 2-valve C.C. unit quadrupling from 3.5 to 56 Mc. was demonstrated. Incidentally it worked every time. Meanwhile Pa G2IC downstairs regaled the OM's with beer and the YF's with tea.

At G2FA the remainder of the party witnessed a QSO with F8AA and F8NW, of Boulogne. Results were quite good, although not up to usual standard, since F8WY, the star Boulogne station, on 56 Mc., was not able to keep the sked.

The company reassembled for tea at the "Valiant Sailor," after which GD departed in his furniture van, complete with Courtenay-Price trophy, escort and a rousing cheer, whilst 6UN took a cine. snap of the scene.

A final ragchew, and the Conventionette slowly broke up. A cheery farewell, and one by one the cars departed on the long run home until, at 7 o'clock, the Scribe and "Bax" escorted the Tunbridge Wells stalwarts to the station on their journey home, then they slipped down to Hythe, where they found GD sitting alone in his garden, and there, whilst the sun set, they discussed the events of what must surely be the most memorable day in his life.

G2IC.

A Low Power Phone W.B.E.

We have recently had the pleasure of approving several W.B.E. 'phone claims but none so interesting as that submitted by Mr. F. C. Clarke (ZE1JS), of Bulawayo, S. Rhodesia. Mr. Clarke tells us that the input power he used for each contact was 7 watts. The rig comprised a 2A5, CO, 2A5, FD and 2-46's in push pull for the final, with 250 volts on the plates. This supply also fed the Class B modulator which consisted of a 27 Driver working into a 53 choke coupled to the final. The aerial in use is a full wave 14 Mc. Zepp with 45 feet feeders.

BOOK REVIEWS

MODERN RADIO COMMUNICATION. Volume 1. (Sixth Edition.) By J. H. Reyner, B.Sc. (Hons.), A.C.G.I., D.I.C., A.M.I.E.E., M.I.R.E. 330 pages and 157 illustrations. Published by Sir Isaac Pitman & Sons, Ltd., London. Price 5s. net.

The fifth edition of this well-known book appeared last year and was later reprinted; the present is the sixth edition, which is ample proof of its usefulness and popularity.

In 32 chapters is given a brief survey of the fundamentals of almost every department of radio engineering. In no section is the consideration more than of an elementary nature, and the book has been prepared in such a way that it is very suitable for students intending to take the Preliminary and Intermediate Grades of the City and Guilds Examinations, and also the P.M.G. Certificate. Vol. 2 covers the syllabus of the City and Guilds Final Examination.

Few changes appear to have been made in this edition, but the use of the word "capacitance" in place of "capacity" is noticeable and appreciated. The chapter on coupled circuits has been revised, and in other places minor changes have been made in explanations. It was noticed that, on page 46 the word "reactance" is still used when the word "impedance" would be correct... a slip which persists.

It is a thoroughly good book for the job in view, and it should maintain its well-deserved popularity.

T. P. A.

TELEVISION RECEPTION. *Construction and operation of a cathode ray tube receiver for the reception of ultra-short wave television broadcasting.* By Manfred von Ardenne. Translated by O. S. Puckle, A.M.I.E.E. 121 pages, 43 plates and 86 illustrations. Published by Chapman and Hall, Ltd., London. Price 10s. 6d. net.

The names of the author and translator of this book commend it immediately; both are well-known as pioneers in the field of television.

The book describes in detail the apparatus necessary for good picture reception, and how such apparatus must be adjusted to obtain correct results. An exceptionally useful feature of the book is the large number of photographs of pictures received on the screen with various maladjustments or circuit faults. An experimenter is, therefore, assisted in diagnosing troubles as they arise.

Though the principles of operation are described, the book is mainly concerned with the specification and construction of suitable apparatus, and its correct adjustment.

Technical details of the Witzleben, Marconi-E.M.I., and Baird transmissions are given, and the reception circuits described carry full particulars of suitable components and the types of British valves recommended.

T. P. A.

VK-ZL 3.5 Mc. Tests, 1937.

Our Australian friends have asked us to arrange some definite tests with them on 3.5 Mc., following on the successful work by a few G's and VK's during our last 3.5 Mc. contest.

The Council have asked the writer to arrange such tests, which will not be in the nature of a contest. The two week-ends decided upon for this test will be January 9-10 and January 16-17, 1937.

All results and calls heard should be sent to G6WY, to reach him by March 30 at the latest, so that a full account can be published in the April BULLETIN. It is hoped that all those who take part will send in their results as this will materially help in getting together some useful data. Even if contacts have not been effected, please let us know if you hear any G's, or VK's and ZL's in the case of Great Britain.

It will be remembered that last November G6RB worked VK2LZ and VK4EI during the 3.5 Mc. Contest, and G5KG worked VK4EI. Later a report was received by radio from VK3EG that he had heard G6NJ, G5JO, G6RV and G6WY. For a few days after the Contest, VK4EI was heard several times, and he worked G6WY, G5KG and G6RB again. About the same time, G2PL contacted ZL3FP and G6WY worked ZL4FO, getting a better report on 3.5 Mc. than on 7 Mc. G2ZQ worked VK3EG a few days later.

This test is not only for high power stations; last year G5KG used only 10 watts to work VK4EI and furthermore received an R6 report.

It is strongly urged that the use of CQ or Test be limited, otherwise serious QRM will result. Please listen as often as you call CQ. The writer's experience shows that the man who listens, works most.

It is suggested that all G stations work between 3,500 and 3,600 kc. and all VK/ZL stations between 3,600 and 3,700 kc.

From past experience the most favourable times for contacts between Great Britain and Australasia are ZL (and possibly VK) 06.00-08.30 G.M.T.; VK, 18.00-20.00 G.M.T. As the time for contacts is limited, it is hoped that all stations wishing to participate will make a special endeavour to be on at these hours.

G6WY.

56 Mc. E.-C. Receiver for A.C. Valves

It should be pointed out that in the 56 Mc. electron-coupled receiver described in the BULLETIN for September, the S.G. detector valve is mounted horizontally on the screen just below the tuning condenser. The position of the valveholder is shown in the diagram giving the screen dimensions. The valveholder pins should project through the screen into the H.F. section at the back; the anode cap of the valve is thus near the front panel, and the anode lead is taken through a hole in the chassis to the choke under the chassis. Viewing the receiver from the front, the transformer is mounted on the left-hand side of the chassis between the panel and the screen.

Experience Teaches us—

We all learn a great deal from experience, and most of us are wise enough to act upon the experience of others who in a sense we look upon as our advisers.

As readers of the "T. & R. Bulletin" you have faith in the selection of components chosen by the designers of apparatus described in that journal; therefore whenever you require valveholders we suggest that you insist upon your dealer supplying you with CLIX.

CLIX NEW SHORT-WAVE TYPE

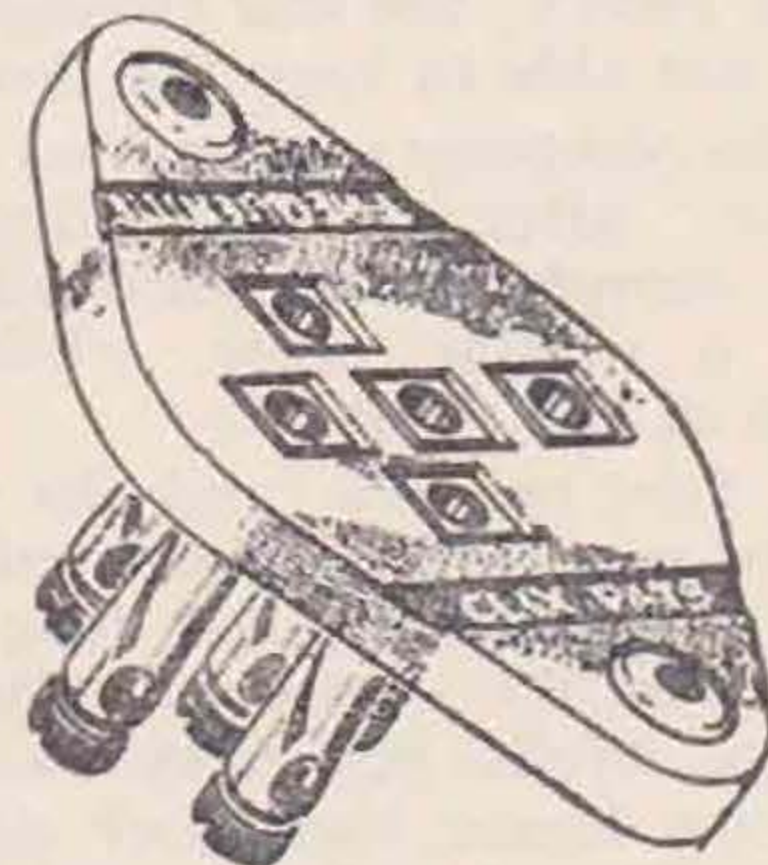
V.5. By the application of Clix Floating Sockets to valveholders with plates of ceramic and like material, the difficulty of securing precise centering holes is overcome and bad contact arising from binding between pins and sockets cannot take place.

CLIX STANDARD TYPE

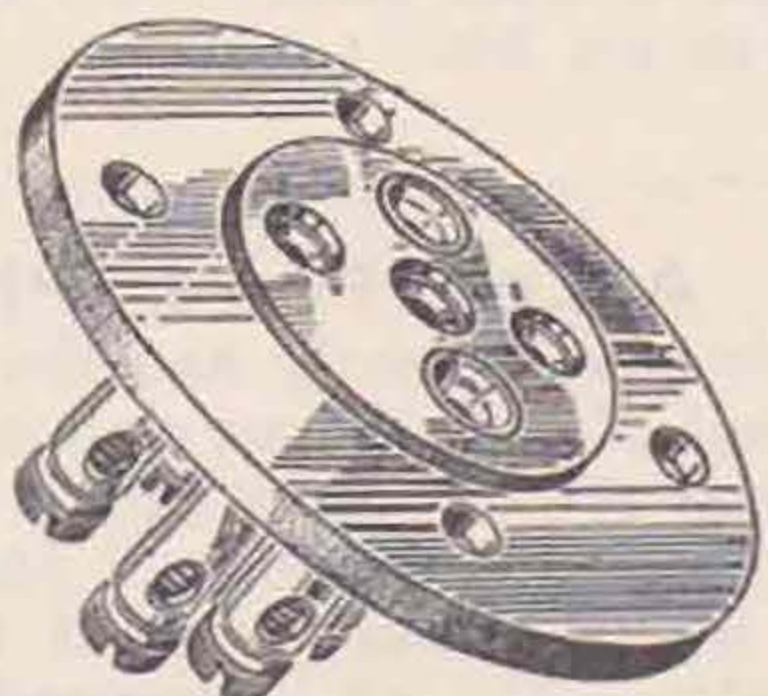
V.1. A reasonably priced, highly efficient valveholder which is consistently specified by leading set designers.

CLIX ULTRA SHORT-WAVE TYPE

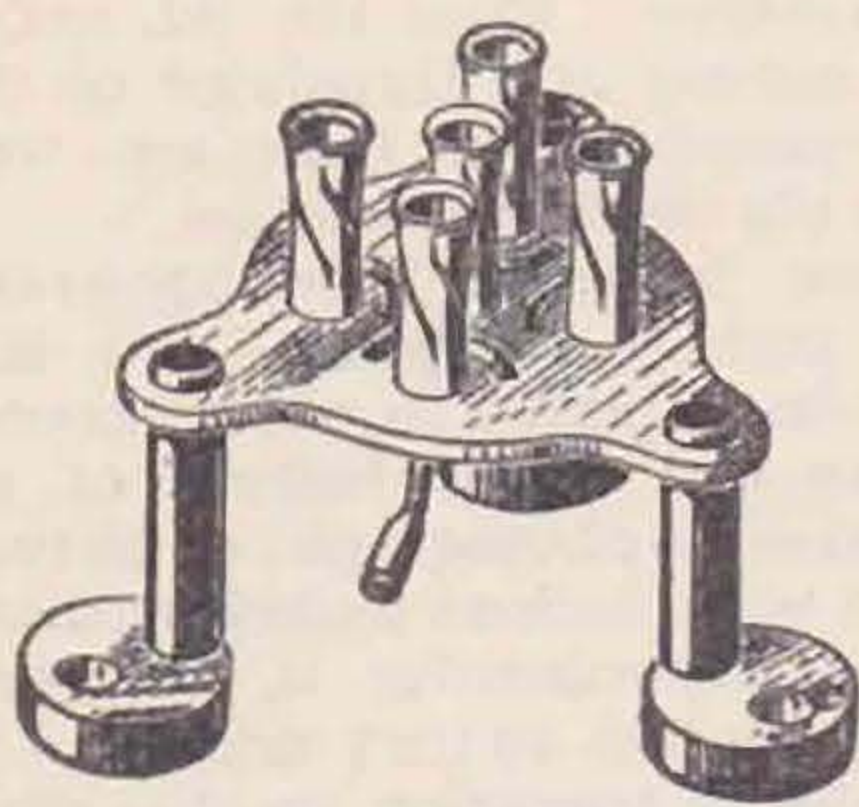
V.8. Low-loss, air slotted plates. The only metal used is the one-piece tagged sockets.



(V.5)



(V.1)



(V.8)

The complete Clix range is described in latest Folders "T.R." Send for copies now.

LECTRO LINX, LIMITED
79a, ROCHESTER ROW, LONDON, S.W.1

CLIX

Trade Notes

As is usual at this time of year we have received numerous publications from radio manufacturers. One of the most interesting is the new Osram Valve Guide, a 64-page production of vest-pocket size, giving full technical details of the Osram valve range. Valve base connections and numerous circuits are also included.

A copy may be obtained free of charge from *The General Electric Co.*, Magnet House, Kingsway. Please mention this Journal when applying.

* * *

Do you receive the *Bulgin Monthly Bulletin*? If not, you are missing a most useful publication, for the Bulletin will keep you in touch with the progress of Bulgin products. A copy can be obtained free of charge on application to the publishers, *Messrs. A. F. Bulgin & Co., Ltd.*, Abbey Road, Barking, Essex.

* * *

The latest issue of the *Cossor Courier* contains a technical description of the new Cossor Model 375 A.C. Mains superhet, and also an interesting article dealing with the Efficiency of Coils. Advance details are given of the Cossor Television Receivers.

The Courier is of special interest to the Service man.

* * *

Those readers who visited Olympia undoubtedly obtained a copy of "Short Wave," the Lissen journal produced especially for Short Wave listeners. Television duly finds a place in this issue, which contains much that is of interest to the amateur. Frequent references are made to the work of the R.S.G.B.—a refreshing change, for it is seldom that a trade publication is willing to give credit to our organisation.

"Short Wave" can be obtained from *Lissen, Ltd.*, Angel Road, Edmonton, N.18, price 3d., post free.

* * *

Lectro Linx have added a Loud Speaker Control Panel to their list of useful gadgets. The two-pin plug provided is for connecting an extension loud-speaker. This plug when inserted in the socket on the panel automatically connects the extension speaker and leaves the internal speaker also in circuit. Should the latter not be required a slight movement of the plug sideways as indicated on the panel will switch out the set's loud speaker, leaving only the extension working.

Apart from these obvious advantages the device obviates the sudden cessation of load on the output valve, which in the case of a Pentode can produce disastrous effects.

The panel is made of phenol fibre and measures 2 in. by 1½ in. The depth from front to back is

barely ¾ in. Phosphor-bronze is used for the contact springs.

The panel, complete with twin plug, retails at 1s., a sound investment at even double the price.

* * *

We have received for review samples of a new log book ruling prepared by *Barnes & Humby*. The headings cover Date, Called, G.M.T., Called By, C.W. or Fone, His RST, My RST, Message Received or other remarks, Dial Setting, QSL In, QSL Out.

The new rulings are an improvement upon any previous design, and should prove very suitable for members requiring a comprehensive log which conforms to the latest G.P.O. requirements.

Mr. E. R. Martin (G6MN) informs us that his standard log pad ruling has been officially approved by the G.P.O.

Headquarters can supply sample sheets of *Barnes & Humby* Log Books, and will accept orders at ruling prices for these and E. R. Martin log books.

Great Circle Projection Map

Just as we were contemplating the reproduction of a Great Circle Projection Map, our contemporary, *Wireless World*, steps in to fill the bill.

Our Aerials Manager, Mr. Charman, described the method of using such a map at Convention, and at an early date we hope to publish an article from his pen giving further details.

The map measures 2 ft. square, and is very clearly printed. Copies are available direct from the publishers, *Messrs. Iliffe & Sons*, price 2s. each post free.

EMPIRE CALLS HEARD

D. Westwood, BRS2487, 31, Godley Street, Royston, Nr. Barnsley, Yorks. August 31 to September 17:—

14 Mc. fone: VK2NO46, VK2QR47.

14 Mc. C.W.: VK 2ABC56, 2ACK45, 2BK56, 2FM45, 2HV45, 2HX56, 2IC46, 2LW46, 2MY45, 2NY56, 2PW57, 2TI57, 2UD46, 2VN46, 3BW57, 3CP58, 3CX58, 3DF45, 3DG45, 3EG56, 3ES56, 3GP56, 3JT46, 3OC46, 3OW45, 3TU56, 3WP56, 3WX56, 3XF57, 3ZZ57, 4CG34, 4JX46, 4RY56, 5CM45, 5FL45, 5HW46, 5JC46, 5KL45, 5LY45, 5MF56, 6AA45, 7KV45.

VS: 6AH46, 7JW34.

VU2BY58.

ZE1JB44, ZS1AL34, 1B34, ZT6X56.

ZL 1GX34, 1HY45, 2GO57, 2OQ45, 3AJ56, 3AX56, 3DJ56, 3GR45, 3KG45, 3TA45, 4BQ34, 4CX45, 4FO59.

The 2-figure group with each call indicates R.S. values.

Our New Feature

We are anxious to make our "Around the Empire" feature a running commentary of well-known British Empire stations. Short descriptions and a sharp photograph of the station or the operator will be welcome.

CONVENTION VISITS—1936

By W. H. ALLEN (G2UJ)

AMONG the most successful items in the Convention programme last year were the visits by members to places of interest, and it was decided by common consent to repeat them this year, and in consequence, Thursday, September 3, found a party *en route* for New Malden to inspect the *Decca Gramophone Company's* record works.

On our arrival we were met by Mr. Leslie, the works manager, who, after a short talk on the processes involved in modern record manufacture, conducted us on a comprehensive tour of the factory.

Starting with the polishing of the wax discs, we proceeded to the plating department, where the "master" disc is produced by a somewhat complicated process of depositing metal by electrolysis. Next came the preparation of the actual record material, and this was followed through to the rows of hydraulic presses, where it finally emerged in recognisable form as a record. The ragged edges were removed, and the discs examined for chips, flaws, or other possible imperfections before being placed in the stores.

Back again in Mr. Leslie's office, some interesting records were heard, varying from comic songs in Afrikaans to a portion of one of the talking books for the blind, for which excellent service this company produces slow-running records with a playing time of thirty minutes or so per side.

Leaving New Malden, half-an-hour's run brought us to the Decca radio factory at Brixton.

We were soon to find that, although this may not be among the largest in the industry, it has definite advantages from the sightseer's point of view, as all phases of the construction of modern radio receivers can be seen in a comparatively short time. Thus the winding of all tuning coils and their bridge tests, and the manufacture of several other of the smaller components takes place alongside the actual assembly and wiring of the chassis.

Having shown us over this part of the factory, Mr. Smith, the works manager, and his assistants, demonstrated several of the finished models, and in fact so interesting did members find this section that it was not until five o'clock, when the factory closed for the day, that we took our departure, all of us, having learnt much more about the manufacturing side of that intricate article, the modern broadcast receiver, than we previously knew.

Our third port of call, the Recording Studios in Upper Thames Street, was not so easily made, but after two trips from Billingsgate to Blackfriars and back, we discovered them at the far end of a church-yard!

The studio occupies the top floor of an old warehouse, and is suitable for accommodating anything up to a full orchestra. We were extremely interested to find that Mr. Angier, the recording engineer, and his confrères constructed practically the whole of the equipment used; this included a very fine example of a ribbon microphone, a high-power amplifier, and a pick-up arm of huge proportions, made of solid brass, calculated to eliminate those resonances present in arms of less weighty construction. The results from this equipment, heard

through *Voigt* speakers, were most satisfying, and Mr. Angier was kept busy answering questions about its circuit.

The recording machine and amplifiers were next explained, and 6BD was persuaded to play a piano solo which was duly recorded and played back from the wax. In the workshop was a fine array of lathes, drilling machines and other tools, while in the laboratory nearby we found a splendid collection of apparatus, mostly made on the premises, such as valve-voltmeters, attenuator networks, and precision audio-oscillators, all used in the design and test of the various pieces of gear in use in the studios.

By now the time was about 7.30, and at last we bade good-bye to the genial Mr. Angier, and made our way to Olympia for the "gathering of the clans" on Stand 214.

By 10 a.m. on Friday morning, 30 or so members assembled at Hammersmith to inspect the *General Electric Company's* valve factory. To catalogue adequately what we saw here would be next to impossible, and we shall have to confine ourselves to the high-lights of the many interesting things we were shown.

First under this heading come the automatic machines, which fashion the glass pinches, and, having done so, drop them unceremoniously down a chute ready for the next process—that of fixing the various wires and electrode supports in place; then other machines which severally produce to close limits, anodes, or mica spacers, or yards of wound grids; and finally the deft assembly by dozens of girls of the foregoing parts into the complete valve as we know it.

Pumping is done on rotary machines where the valves, after general heating, have the electrodes freed from gas by eddy currents induced in the metal by coils carrying a heavy radio-frequency current generated by oscillators employing large water-cooled valves. The amount of QRM produced by this apparatus was freely speculated upon by members!

After capping, the cathodes are aged, and the valves passed to the testing department. Here they are tested for loose electrodes and general microphonic noise by placing them in a circuit including a powerful amplifier and loud-speaker, and striking them with rubber hammers. Having survived this seemingly brutal treatment, their characteristics are checked, and they are ready for use.

We then came to the special valve shop, where transmitting tubes of all types are made, varying from the smaller glass varieties to the huge C.A.T. types standing over four feet high, and capable of dealing with scores of kilowatts of high-frequency energy. It was interesting to learn that all transmitting valves are X-rayed before being tested under working conditions.

Leaving the G.E.C., we travelled to Burgh Heath, where an excellent lunch awaited us at "The Galleon." This hostelry numbers among its attractions a very fine swimming pool, and some

(Continued on page 185.)

THE 56 Mc. BAND

By L. G. BLUNDELL (G5LB).

WITH but two exceptions the band has been completely dead since about August 18. Although holidays were probably responsible for lack of reports during the latter part of August and early September, the same state of affairs continued up to the end of September, and it seems, therefore, that conditions generally have been poor over a very wide area. At the time of writing there is still no signs of life, although the prophesied time for a possible break in conditions is fast approaching. It is urged that those taking part in this C.W. "offensive" should extend their periods of activity as much as possible bearing in mind that there *are* other C.W. stations in the world, although they are not as well advertised as our own regulars.

The two exceptions mentioned above are of more than usual interest, inasmuch as one concerns the reception of an amateur signal and the other an instance of where very local atmospheric disturbances can and do produce a break in otherwise continuously poor conditions. They are both reported by G2HG and his remarks are best quoted in full as follows:—

August 25, 1915, B.S.T.—Heard CN8?? calling CQ R3/0 QSA2. Called this station several times, but the signal was not heard again.

September 5.—Thunderstorm in late afternoon until about 18.30 B.S.T. During the storm (from about 17.00) many commercial harmonics were audible, all with bad QSB. The only European signals identified were of Hungarian and Russian origin, but real DX was heard when JNB came through—at times R8.

Another signal was heard sending ZMO continuously at fair strength. With the passing of the storm these signals faded out.

G2HG adds a note to the effect that he has been in touch with ZS1H in an effort to get some information regarding the ZMO signal, and understands as a result that ZMO is a Government station in Pretoria. As regards the European signals, HG adds, full identification was waived in favour of further searching up and down the band, and in this way JNB and ZMO were located and identified.

CN8MQ is being chased on 28 Mc. in an effort to get information on his activity on August 25, but conditions on that band being of a very "see-saw" nature definite news is not yet available.

From W9FM (via G2YL) it is learned that during June short skip conditions existed on 28 Mc. similar to those noticed in early May, when 56 Mc. gave an exhibition of its capabilities as a DX medium, and it is thought that if there had been a sufficiently large number of stations active on 56 Mc. in June, contacts over distances of 700 to 1,000 miles would have been possible. Further items of interest from this source are as follows:—
"VK2LZ reports hearing TDC (this commercial is thought to be in Manchukuo or thereabouts). ZS2A is active on 56 and 57.6 Mc. ZS1H and 2Y are also getting ready for similar work."

British scheduled C.W. transmissions continue

to times as given in the August notes. There are no additions or amendments to hand, but for the information of all concerned it should be made known that there is a new C.W. station active at irregular times. This is G2RD in Surrey, and reports will be much appreciated, especially if sent direct. Additional C.W. activity is most urgently required, and anyone interested and willing to join in this hunt for DX is requested to forward details at earliest.

G2HG is also active on 28 Mc. "fishing" for schedules on 56 Mc., and asks any station to let him have any information relative to activity on "five" which they may be aware of.

With the reported activity in Africa and Australia the need for some really accurate information becomes more than ever necessary, so those who may not be particularly interested in "five" but read these notes as a matter of course (and spend most of their time on one of the lower frequency bands) can be of aid to the "fivers" if they make a point of passing on any 56 Mc. news *before* they forget it.

Dutch Tests on 56 Mc.

We have been informed by Dr. Fereday (G6FY) that following the recent successful tests in Holland when distances up to 260 Km. were covered, arrangements have been made for a special series of Cross-Channel tests to be carried out on Saturday, October 17, from PAOPO between 1300 and 2400 G.M.T. These tests may also be repeated on October 24.

It is hoped that all members working on 56 Mc. will do their best to co-operate. Reports should be sent to Headquarters without delay.

D.A.S.D. CONTEST

For the benefit of home members who have not yet sent in their entries for the above Contest we publish below a table showing the points which can be claimed for contacts between the British Isles and overseas countries. This is extracted from the D.A.S.D. publication CQ-MB.

Countries by Prefix.	Points.
CN; FA; TF	2
CT3; EA8; FT	3
SU; VO; ZC1, 6	4
VE1; YI; ZD1	5
W1, 2, 3; VE2, 3; VP9; ZD2	6
W4, 8, 9; VE4; FM; K4, 7; ON4C; VP2, 6; VQ5, 6; ZD8	7
W5, 7; VE5; CM; HH; HI; MX; PZ; VP3, 4, 5; VQ1, 2, 3, 4; VU; YV	8
W6; CR7; HC; HK; HJ; HP; HR; J8; K5; NY; TG; TI; VP1; VQ; VS7, 9; XE; YN; ZE	9
CR9; FB; FR; HS; J; PY; VQ8; VS6; XU; ZS, T, U	10
CP; KA; OA; VS1, 3	11
CE; CX; J9; K6; LU; PK1, 3, 4, 5; VS4, 5	12
OM; PK6; VP7	13
VK6	15
VK4, 5	17
VK2, 3, 7	18
ZL	19



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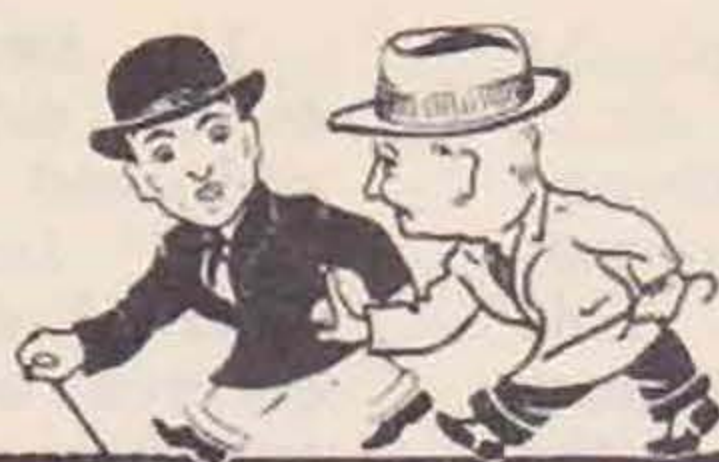
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BETWEEN



OURSELVES

London Meeting

Arrangements have been made for the N.F.D. and other films to be shown at the I.E.E., on October 30. On this occasion lady friends of members are especially invited. Tea will be served from 5.30 p.m.

A Special London Lecture

Members who were present at Convention will remember the intriguing display of electric lighting that met their eye on entering the Electric Lamp Manufacturers' Association Lighting Service Bureau.

We are pleased to be able to announce that Mr. H. Lingard, of the E.L.M.A. Engineering Department, has agreed to deliver a lecture to our members at the Bureau on the evening of Friday, November 6. He has chosen as his subject "Modern Views on Illumination."

The meeting will be open to members and lady friends of members and the proceedings will commence with tea at 5.30. The lecture will begin at 6.15 p.m. sharp.

The E.L.M.A. is located in the same building as the I.E.E. but the entrance is at No. 2, Savoy Hill.

We look forward to a record attendance.

Presentation to Mr. Arthur Watts.

At the end of the current year Mr. Arthur Watts completes his statutory period in office as our President. For nearly ten years he has been associated with the executive side of the Society's work and it is to him that we owe the success of the B.E.R.U. Section.

Since 1932 Mr. Watts has been our Ambassador in Chief at the G.P.O., Colonial Office and W/T Board. He also represented the I.A.R.U. at the Madrid Convention.

To mark his retirement from the Presidency his many friends in London have expressed a wish to make a presentation. This will take place after the annual general meeting on December 18.

Members at home or abroad who would like to be associated with us in this gesture of appreciation are invited to send contributions to the Hon. Treasurer, c/o Headquarters, not later than December 12.

Technical Articles

We are in urgent need of technical articles. The size of future issues depends upon the response to this request.

New Frequency Bands

With reference to the statement read by our President at Convention and published in our last issue, we desire to stress with the greatest emphasis that from now on British amateur transmitters must take steps to ensure that their carrier frequencies do not fall outside the limits shown in the table.

This in effect means that due consideration must be given to the degree of calibration accuracy when crystals with frequencies on the edges of the bands are purchased.

Amateur Station Logs

We have been advised by the G.P.O. that in future all holders of full and artificial aerial licences will be required to keep a running log of all transmissions in a bound book of approved type. The book must not be of the loose leaf type. No gaps shall be left between entries.

Contests for 1937

The following dates have been fixed for R.S.G.B. Contests:—

January	9-10.	Combined	1.7 and 3.5 Mc.
		Transmitting	Contest.
February	6-7.	Senior B.E.R.U.	
"	13-14.	"	"
"	20-21.	Junior	"
"	27-28.	"	"
"	6-7.	Receiving	"
"	20-21.	"	"
June	5-6	N.F.D.	

There will be no local Reception Contests this winter, owing to the poor response in past years.

The Tests and Awards Committee have reluctantly decided not to organise the projected Low Power Contest as only 22 promises of support were forthcoming.

A Cup for 56 Mc. Work

Council have decided that the 1930 Committee Cup, normally awarded to the winner of the 3.5 Mc. Transmitting Contest, will be awarded for the year 1937 to the R.S.G.B. Home member effecting the best long distance contact on 56 Mc. using a crystal-controlled transmitter. Claims must be received by Headquarters not later than June 1, 1937. Proof of contact must be given and the distance worked must exceed 200 miles. In the event of two members claiming for the same contact the Council may decide that the Cup shall be held jointly. Claims must cover the period October 15, 1936, to May 15, 1937.

Commemoration of Armistice Day

We are pleased to give publicity to the following notice which has been received from the French National Amateur Radio Society:—

"The *Reseau des Emetteurs Français* invites the radio amateurs of the world to commemorate with them the anniversary of Armistice Day, November 11, 1918. Last year, it will be recalled, a

'silent minute' ceremony was observed. At precisely 11.00 G.M.T., every station on the air in France and a number in foreign countries allowed their transmitters to run with full carrier power, unkeyed and unmodulated, for one minute. This impressive observation of the minute of silence traditionally spent in homage for the heroes of the Great War is again to be carried out this year. The R.E.F. requests every amateur to stop transmitting at exactly 11.00 G.M.T., holding the key down but not sending code or speaking into the microphone. From hundreds, from thousands of other amateur stations the same ceremony will be observed and from their antennas the 'silent carriers' will be transmitted, indicating the silent presence of the amateurs at their posts.

"Amateurs in all countries are asked to collaborate with their French comrades in making this same gesture, and in uniting with them in thought."

Calibration Section.

Manager: A. D. GAY (G6NF).

One or two members failed to notice our two announcements of the suspension of the Section's activities, and as a result we had to keep their crystals a long time before being able to return them with a certificate. If members who wish to make use of this Section would only take the trouble to read the BULLETIN notes and the instructions printed in the "Guide," they would help the Calibration Manager tremendously and at the same time obtain quicker service.

Particularly would we again mention the remittance of the return postage as a separate amount. This service is run during the writer's spare time, and it is most inconvenient to chase off to the Post Office for a stamp when local supplies are low. So many, who use the Section, affix the stamp to the postal order where it is utterly useless.

One other small point: it is perfectly safe to send a crystal in a small tin providing it is put in a stout envelope. We have a supply of small linen bags 4 ins. by 3 ins. with labels attached which can be used for their return, but we cannot employ these if a large tin is used.

The new address of the Calibration Manager is:

"Oak Dene,"
156, Devonshire Way,
Shirley,
Croydon,
Surrey.

Tel. No.: Springpark 3135.

QSL Section

Manager: J. D. CHISHOLM (G2CX).

Those members who belong to other short-wave societies and are in the habit of sending reports to broadcasting stations in the hope of obtaining "verifications," are informed that the R.S.G.B. QSL section cannot accept such cards for distribution. The reason for this regulation is that the Society possesses no facilities for forwarding cards to broadcast stations, as all cards for overseas are addressed to the National Amateur organization concerned.

The foregoing may seem a little elementary to the older members, but the fact that cards addressed to the "Queen Mary," the "Hindenburg," Daventry, HAS2 and JNB have been received during the past fortnight shows that everyone is not as well informed. We have promised ourselves a Crazy Week at H.Q. when the first card arrives for the London Regional!

R.S.G.B. Slow Morse Practices.

Details will be found below of the slow Morse practices organised by the Society for those members wishing to learn or improve their code. As usual, test matter will be taken from recent issues of THE T. & R. BULLETIN. The page number and month of issue will be given at the end of each test—by telephony. A telephony announcement will also be given at the commencement of each test to assist those interested in tuning in the sending station. It is emphasised that reports will be appreciated and are desired, in order to ascertain useful range of transmissions and numbers utilising the service. If, however, a reply is desired, a stamp should be sent. Will stations in areas at present not served offer their services to Mr. T. A. St. Johnston (G6UT), 28, Douglas Road, Chingford, E.4 (Telephone: Silverthorn 2285). The following are QRA of stations sending:—

G5SU.—Mr. C. S. Southgate, 26 Park Road, Gravesend, Kent.

G5JL.—Mr. J. Maling, 15, Windsor Gardens, Hayes, Middlesex.

G6ZQ.—Mr. J. E. Squire, "Winston," Alstone Avenue, Cheltenham.

G6QI.—Mr. R. Walker, 7, Potter's Lane, New Barnet, Herts.

G5DY.—Mr. W. H. Derry, 74, Albion Road, Dalston, E.8.

Schedule of Slow Morse Transmissions

			G.M.T.	KC.	Stations.
Oct. 25	Sunday	...	0915	1775	G6ZQ
" 25	Sunday	...	0930	1852.5	G5DY
" 25	Sunday	...	1000	7260	G5JL
" 25	Sunday	...	1015	1930	G5SU
" 28	Wednesday	...	2300	1775	G6ZQ
" 30	Friday	...	2300	1785	G6QI
Nov. 1	Sunday	...	0915	1775	G6ZQ
" 1	Sunday	...	0930	1852.5	G5DY
" 1	Sunday	...	1000	7260	G5JL
" 1	Sunday	...	1015	1930	G5SU
" 4	Wednesday	...	2300	1775	G6ZQ
" 6	Friday	...	2300	1785	G6QI
" 8	Sunday	...	0915	1775	G6ZQ
" 8	Sunday	...	0930	1852.5	G5DY
" 8	Sunday	...	1000	7260	G5JL
" 8	Sunday	...	1015	1930	G5SU
" 11	Wednesday	...	2300	1775	G6ZQ
" 13	Friday	...	2300	1785	G6QI
" 15	Sunday	...	0915	1775	G6ZQ
" 15	Sunday	...	0930	1852.5	G5DY
" 15	Sunday	...	1000	7260	G5JL
" 15	Sunday	...	1015	1930	G5SU
" 18	Wednesday	...	2300	1775	G6ZQ
" 20	Friday	...	2300	1785	G6QI
" 22	Sunday	...	0915	1775	G6ZQ
" 22	Sunday	...	0930	1852.5	G5DY
" 22	Sunday	...	1000	7260	G5JL
" 22	Sunday	...	1015	1930	G5SU

W.B.E. and H.B.E. CERTIFICATES

The following W.B.E. certificates have been awarded :—

Call Sign.	Name.	Date.
		1936
ZSIAH ...	Capt. S. W. Thorpe ...	July 31
VQ3FAR ...	J. A. Farrer ...	Aug. 6
VK2YC ...	J. B. Corbin ...	" 6
VK2TI ...	W. Ryan ...	" 6
VK5LD ...	L. A. Deane ...	" 6
VK3YO ...	C. Woodward ...	" 6
ZB1H ...	E. M. Gauci ...	" 10
G2QY ...	G. P. Anderson ...	" 11
G6FU ...	J. H. Cant ...	" 11
ZE1JM ...	W. G. Leyland ...	" 13
W1BAU ...	C. W. Nicholson ...	" 13
Gi5JN ...	J. Milliken ...	" 14
HB9AW ...	G de Buren ...	" 19
G2FZ ...	R. S. Cross ...	" 24
SUIKG ...	S. R. Green ...	" 27
G2LR ...	W. E. Dunn ...	" 28
G5CX ...	C. R. Pill ...	" 31
G5PP ...	R. Palmer ...	Sept. 9
W6ITH ...	D. R. Tibbetts ...	" 11
W3EMM ...	T. F. Priest ...	" 11
G6DP ...	D. E. Palin ...	" 18
VK4HR ...	H. Scholz ...	" 21
G6VF ...	L. E. Crabbe ...	" 21
G6PD ...	P. G. Day ...	" 29
G5UK ...	M. B. Buckwell ...	" 30

The following W.B.E. Telephony Certificates have been awarded :—

Name.	Call Sign.	1936
H. Biltcliffe ...	G5HB ...	July 9
G. Moens ...	SUIRO ...	Aug. 6
F. C. Clark ...	ZE1JS ...	Sept. 11

The following W.B.E. 28 Mc. Certificates have been awarded :—

E. H. Swain ...	G2HG ...	Mar. 6
Miss N. Corry ...	G2YL ...	" 8
G. A. Shoyer ...	ZS1H ...	Apl. 23
D. W. Heightman ...	G6DH ...	May 21
(Telephony)		
J. Mahieu ...	ON4AU ...	" 21
R. L. Beatson ...	VK4BB ...	June 3
H. A. M. Whyte ...	G6WY ...	Aug. 5
H. M. Cooper ...	VK5HG ...	Sept. 11
H. Eliaeson ...	SM6WL ...	" 23
H. Schulz ...	D4CSA ...	" 23
R. L. Belstead ...	VK4EI ...	" 30

The following H.B.E. Certificates have been awarded :—

J. Clarricoats ...	G6CL ...	July 21
H. A. M. Whyte ...	G6WY ...	"
S. Riesen ...	G5SR ...	"
J. A. Jagger ...	BRS1847 ...	"
A. T. Martin ...	G2LB, ex 2BHM ...	"
A. J. Perkins ...	G6KP ...	"
B. M. Scudamore ...	G6BS ...	" 31
A. E. Dyson ...	G6NJ ...	"
C. A. Bradbury ...	BRS1066 ...	"
J. Hunter ...	G2ZQ, ex BRS317, 2ABS ...	"
Miss N. Corry ...	G2YL ...	"
J. Mahieu ...	ON4AU ...	"
F. W. Miles ...	G5ML ...	"

Name.	Call Sign.	1936
A. M. Braaten ...	W2BSR ...	Aug. 10
H. A. Bartlett ...	G5QA ...	" 11
J. Lees ...	G2IO ...	" 13
A. D. Gay ...	G6NF ...	" 24
J. J. Curnow ...	G6CW ...	" 27

QRA Section

Manager: M. WILLIAMS (G6PP).

NEW QRA's

- G2AX.—A. N. BLACKBURN, Heather Bank, Pear Tree Lane, Bexhill-on-Sea, Sussex.
- G2GF.—P. E. A. GRIFFITHS, 20, The Crescent, North Wembley, Middlesex.
- G2GO.—J. GODDARD, 33, Park Avenue, Potters Bar.
- G2QL.—R. W. EDWARDS, Garthmore House, Old Road, Neath, Glam.
- G2TY.—H. R. HAIGH, "Youngwoods," Alverthorpe, Wakefield, Yorks.
- G2VA.—E. J. A. VAUGHAN, 84, Barton Hill, Minster, Sheerness, Kent.
- G5AD.—A. ADAMS, Spring View, By-pass Road, Garstang, Lancs.
- G5BM.—F. H. WATTS, 73, Leckhampton Road, Cheltenham, Glos.
- G5DS.—J. L. DANKS, 41, Castle Street, Farnham, Surrey.
- G5IA.—G. M. WHITELEY, 32, Branksome Drive, Nab Wood, Shipley, Yorks.
- G5MB.—W. H. LAMB, 80, Victoria Avenue, Winton, Bourne-mouth, Hants.
- G5PR.—G. C. PROCTER, "Deanlands," Vines Cross, Horam, East Sussex.
- G5UY.—D. B. FRY, Rosewarne, Downland's Estate, Bexhill-on-Sea, Sussex.
- G6GF.—F. H. TYLER, 17, Powys Avenue, Leicester.
- G6MF.—M. H. MUNROE, c/o 43, Walkern Road, Stevenage, Herts.
- G6OW.—A. L. BEEDLE, 67, Hillcross Avenue, Morden, Surrey.
- G6QI.—R. WALKER, 7, Potters Lane, New Barnet, Herts.
- G6TD.—J. R. TUCK, 36, South Avenue, Stoke Park, Coventry, Warwickshire.
- G6XD.—J. J. G. TAYLOR, "Willowby," Radford Road, Plymouth, Devon.
- G6YJ.—F. R. CANNING, "Dan-y-lan House," Tyfica Road, Pontypridd, Glam.
- G8CS.—G. F. L. BERESFORD, 21, Hansol Road, Bexley Heath, Kent.
- G8CY.—W. V. CHAMPION, 63, Station Crescent, London, N.15.
- G8DL.—H. W. SIMPSON, 50, Stoneycroft Crescent, Old Swan, Liverpool, 13.
- G8DK.—J. ALEXANDER, 63, Tennyson Road, Small Heath, Birmingham, 10.
- G8DO.—J. DOWDING, 5, Well Road, St. Peter Port, Guernsey, Channel Isles.
- G8DP.—C. E. WILLIAMS, Hortham Cottage, Almondsbury, Glos.
- G8DR.—D. R. ASTON, 15, Beechcroft Avenue, London, N.W.11.
- G8DS.—J. R. DENNIS, 12, Romsey Gardens, Becontree, Essex.
- G8FB.—R. C. BISHOP, 32, Craig Street, Rosyth, Fifeshire, Scotland.
- 2ABQ.—S. LEVINGS, 55, Derbyshire Road, Sale, Manchester.
- 2ADY.—E. C. ILOTT, 36, Montana Road, London, S.W.17.
- 2AFU.—J. T. SAWYER, 40, College Avenue, Gillingham, Kent.
- 2AHT.—A. TAYLOR, 50, Oxford Street, Barnsley, Yorks.
- 2AKQ.—L. S. KING, 5, Oak Green, Tonbridge, Kent.
- 2ANB.—N. DALBY, 183, Showell Green Lane, Sparkhill, Birmingham, 11.
- 2AQY.—A. FRAZER, 1308, Ivy Terrace, Loveclough, Crawshaw-booth, Rossendale, Lancs.
- 2ARC.—W. D'ARCY, 8, Winifred Street, Winton, Manchester.
- 2ASI.—DR. A. J. H. ILES, Shutterne House, Taunton, Somerset.
- 2AVW.—E. L. WILLS, 15, Monkswell Road, Exeter, Devon.
- 2AYG.—J. F. JAMES, 1353-B, London Road, Leigh-on-Sea, Essex.
- 2AZH.—J. HOLLAND, 82, Grimsby Road, Cleethorpes, Lincs.
- 2AZU.—H. CLEGG, 23, Hutton Road, Marshfields, Bradford, Yorks.
- 2BCG.—C. A. H. GOUDIE, 97, Warren Road, Washwood Heath, Birmingham, 8.
- 2BCQ.—E. H. COOKE-YARBOROUGH, Wadworth Hall, near Doncaster, Yorks.
- 2BDO.—A. D. ROCK, 4, Linton Road, Old Hill, Staffs.
- 2BKL.—J. T. PARKER, 48, Nigeria Road, London, S.E.7.
- 2BND.—D. E. DAVY, 12, Manby Road, Great Yarmouth.
- 2BNY.—H. NEWMAN, 30, Dickenson Street, London, N.W.5.
- 2BON.—B. O'BRIEN, 11, King's Avenue, Meols, Wirral, Cheshire.
- 2BPB.—R. C. BOXALL, "Lausanne," St. Phillips Avenue, Eastbourne, Sussex.
- 2BVX.—V. O. HAWKINS, 59, Coningsby Road, High Wycombe, Bucks.
- 2BWF.—F. W. BENSON, 22, Tennyson Avenue, Thorne, Doncaster, Yorks.

2BXG.—R. GILBERT, 31, Monmouth Road, Bristol, 7.
 2BYT.—F. M. TRIER, Fairlawn, West Horsley, Surrey.
 2BYZ.—H. F. BURTOFT, 473, Commercial Road, Portsmouth, Hants.
 2BZN.—N. BRANDON, "Meadowvale," Alverstone Avenue, Oakleigh Park, Barnet.
 The following are cancelled:—2ADX, 2AJD, 2AOQ, 2AXB, 2AXX, 2BCY, 2BQF, 2BSO.

NEW MEMBERS.

HOME CORPORATES.

E. L. SHEANE (G12CC), Ballygally, Larne, N. Ireland.
 J. W. MARLOW (G2FT), Elton, George Street, Mablethorpe, Lincs.
 J. P. COVENEY (G2JX), 47, Onslow Gardens, South Kensington, S.W.7.
 G. J. SHORTEN (G2SQ), Solheim, Down Road, Portishead, Som.
 R. H. STEVENS (G2TU), 9, Hillcrest Gardens, Dollis Hill, N.W.2.
 R. G. CLARK (G6BJ), 18, Wales Avenue, Carshalton, Surrey.
 G. H. GOWDY (G6GY), Brooklands, Dunelm South, Sunderland, Co. Durham.
 W. LEE (G6LZ), 27, Dearne Road, Wombwell, Yorks.
 A. L. BEEDLE (G6OW), 67, Hillcross Avenue, Morden, Surrey.
 H. D. H. SMITH (G6YN), 64, Columbia Road, Great Grimsby, Lincs.
 N. S. BYERS (G8AF), 61, Sandy Lane, Orford, Warrington, Lincs.
 T. BRACKENBURY (G8BB), Britannia Hotel, 62, Eastborough, Scarborough, Yorks.
 H. H. CREWE (G8CB), 10, Simpson Street, Boothtown, Halifax, Yorks.
 G. A. JAMES (G8CT), Lynwood, Cefn Road, Blackwood, Mon.
 G. E. DAKIN (G8DN), 39, Witham Road, Anerley, S.E.20.
 R. H. TAYLOR (2ADS), 52, Brodie Avenue, Liverpool, 18.
 A. F. JEFFREE (2AFA), 7, Plough Road, Battersea, S.W.11.
 D. L. DAVIES (2AND), 139, High Street, Eastleigh, Hants.
 N. F. O'BRIEN (2AQO), 34, Victoria Street, Cheltenham, Glos.
 H. G. M. COLEMAN (2AVU), 30, Hillcrest Road, E.17.
 E. W. BROOKHOUSE (2AWB), 5, Lonsdale Street, Stoke-on-Trent, Staffs.
 E. BENNETT WILLIAMS (2AXW), Islwyn, Victoria Road, Caernarvon.
 L. GREGORY (2AXY), Walcot, Uphill Grove, Mill Hill, N.W.7.
 D. A. LOGIE (2BBA), Police Buildings, Waterloo Road, Lanarkshire, Scotland.
 J. E. WILLIAMS (2BBB), H.Q. Flight, 43 (F), Squadron, R.A.F., Tangmere, nr. Chichester, Sussex.
 R. J. WEBB (2BFS), Tudoresque, Dibden Purlieu, Southampton, Hants.
 J. E. BRYDEN (2BOL), 24, City Way, Rochester, Kent.
 A. E. RICE (2BRI), 6, Kingston Villas, Horam, Sussex.

NEW MEMBERS.

E. J. PIKE (BRS2532), 86, St. Peter's Street, Lowestoft, Suffolk.
 W. K. MILLER (BRS2533), 37, Bee Fold Lane, Atherton, Lincs.
 C. C. THACKERY (BRS2534), Ivy Cottage, Beeston Road, Sheringham, Norfolk.
 G. CUNLIFFE (BRS2535), c/o Bolton, Y.M.C.A., 125, Deansgate, Bolton, Lincs.
 W. RYAN (BRS2536), 323, Coldharbour Lane, Brixton, London, S.W.9.
 V. HILL (BRS2537), 87, Bishop Street, Fratton, Portsmouth, Hants.
 H. J. PACKE (BRS2538), "St. Kilda," Victoria Avenue, Langdon Hills, Laindon, Essex.
 E. MYLES-HOOK (BRS2539), Cable Station, Valentia Island, Co. Kerry, I.F.S.
 J. R. MAUDSLAY (BRS2540), The New Avon Body Co., Ltd., Warwick.
 L. COPESTICK (BRS2541), 45, Rushton Road, Cobridge, Stoke-on-Trent.
 W. G. BREACH (BRS2542), 43, Leigh Road, Wimborne, Dorset.
 W. M. STUART (BRS2543), "Puck's Glen," Chesterfield Road, Cambridge.
 B. BRICKWOOD (BRS2544), Glencott, Wells, Somerset.
 H. J. A. WALPOLE (BRS2545), 55, Bunns Lane, Mill Hill, London, N.W.7.
 J. JUDSON (BRS2546), 48, Green Road, Meanwood, Leeds 6, Yorks.
 C. W. CLARABUT (BRS2547), 73, Beverley Crescent, Bedford.
 E. S. BOOTH (BRS2548), 22, Colborne Way, Worcester Park, Surrey.
 G. S. DEE (BRS2549), The Croft, Upper Halliford, Shepperton, Middlesex.
 J. T. HAYES (BRS2550), 39, King Street, Rock Ferry, Birkenhead.
 S. C. PEARSON (BRS2551), Rising Sun Hotel, Golcar, Huddersfield.
 A. G. HILL (BRS2552), 42, Boundary Road, Hove, Sussex.
 H. E. C. BARCLAY CATFORD (BRS2553), 66, St. Luke's Road, Bournemouth.
 J. C. CARSLAW (BRS2554), Dunrowan Rhu, Helensburgh, Dumbar-tonshire.
 T. C. STEEL (BRS2555), 63, Lincoln's Inn Fields, London, W.C.2.
 W. A. BUSBY, (BRS2556) 71, Portwood Road, Southampton, Hants.
 S. R. COOKE (BRS2557), Moorwood Hall, Lifton Place, Leeds 2, Yorkshire.

T. P. SUMMERTON (BRS2558), 12, Roland Avenue, Nuthall, Nr. Nottingham, Notts.
 A. HIGGET (BRS2559), 27, Kinnaird Avenue, Bromley, Kent.
 W. F. McAINSH (BRS2560), Kinrara, Carrington Terrace, Crieff, Scotland.
 D. W. FLAVELL (BRS2561), Brampton Road, West Melton, near Rotherham, Yorks.
 E. M. E. DECOTTIGNIES (BRS2562), 23, Parrstone Drive, Prittlewell, Essex.
 R. W. STANTON (BRS2563), 44, Northwick Road, Evesham, Worcs.
 H. E. HEAVER (BRS2564), 1, Marme Terrace, Junction Road, Burgess Hill, Sussex.
 R. KILEY (BRS2565), 25, Wimbledon Close, The Downs, S.W.20.
 W. C. HOLLEY (BRS2566), "Grafton," Locking Road East, Weston-super-Mare, Somerset.
 G. D. MATTHEW (BRS2567), 86, Woodlands Terrace, Dundee, Angus, Scotland.
 D. N. BAKER (BRS2568), "Sunnymead," Marguerite Drive, Pitsea, Essex.
 H. E. BETTNEY (BRS2569), 131, Carlton Hill, Nottingham.
 A. C. HARMAN (BRS2570), Middleton Cottage, Ferndale Road, Enfield Lock, Middlesex.
 W. FOX (BRS2571), 76, Broadway, Sheerness, Kent.
 L. E. BREWSTER (BRS2572), "Walden," Lillie Avenue, Northlands, Pitsea, Essex.
 J. W. H. EDWARDS (BRS2573), 20, Albert Avenue, South Chingford.
 E. J. RITCHIE, B.Sc. (ENG.) (BRS2574), Carbetlea, 5, Camphill Road, Broughty Ferry, Dundee.
 L. E. WEY (BRS2575), Rosmead, 7, Kingsmead Close, West Ewell, Surrey.
 R. C. BEARDSMORE (BRS2576), 8, Mossley Bridge, Rugeley, Staffs.
 A. W. SPENCER (BRS2577), 205, Arbury Road, Stockingford, Nuneaton, Warwickshire.
 M. E. HUGHES (BRS2578), 40, Davies Road, West Bridgford, Notts.

DOMINION AND FOREIGN.

M. TOURNIQUET (F8HJ), 48, Rue des Vergeaux, Amiens, France.
 E. H. REILLY (VK4ER), Ryan Street, Hill End, South Brisbane, Queensland, Australia.
 E. WIGHT-BOYCOTT (VU2AV), Napuk Tea Estate, Suffry Post Office, Assam.
 K. N. RAMANATHAN (VU2BO), 42, Mowbrays Road, Mylapore, Madras, India.
 MAUNG SWAY TIN (VU2EH), 133, Windermere Road, Rangoon, Burma.
 R. C. BAIRD, JNR. (W6HIW), Quarters 72, Fort F.E., Warren, Wyoming, U.S.A.
 J. F. LUCAS (W9ICO), Route 1, Antioch, Ill., U.S.A.
 A. M. CLAPP (ZS6C), Room 47, Single Quarters, City Deep, Johannesburg, South Africa.
 F. GOLDSTONE (ZU5Q), 45, Sentinel Avenue, Greenwood Park, Durban, South Africa.
 S. R. McDOWELL (BERS368), Band, 13/18th R. Hussars, Risalpur, N.W.F.P., India.
 F. G. TAYLOR (BERS369), P.O. Box 259, Freetown, Sierra Leone, British West Africa.
 E. BRYANT (BERS370), Box 1222, Nairobi, Kenya, South Africa.
 W. A. TIMBRELL (BERS371), "B" Corps, R. Signals, Karachi, India.

CORRESPONDENCE

FIRST G-VK CONTACT.

To the Editor, T. & R. BULLETIN

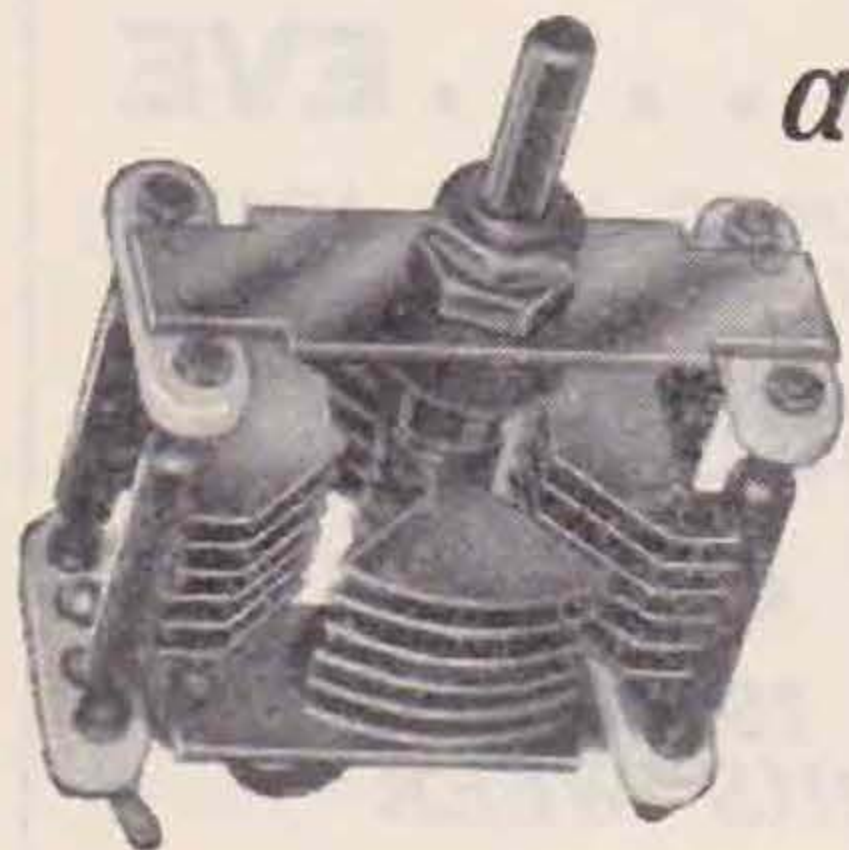
DEAR SIR,—Referring to the notice in the last issue of the T. & R. BULLETIN regarding the splendid progress of Mr. Cecil Goyder; for the sake of accuracy of record it should be pointed out that Mr. Goyder established the first England-New Zealand contact on short waves.

The first England-Australia contact on short waves was established by the Station G2OD, and signals from this latter station were the first short-wave signals actually heard in New Zealand. A cable to this effect from New Zealand was received in this country the day before Mr. Goyder effected his New Zealand contact.—Yours faithfully,

E. J. SIMMONDS (G2OD).

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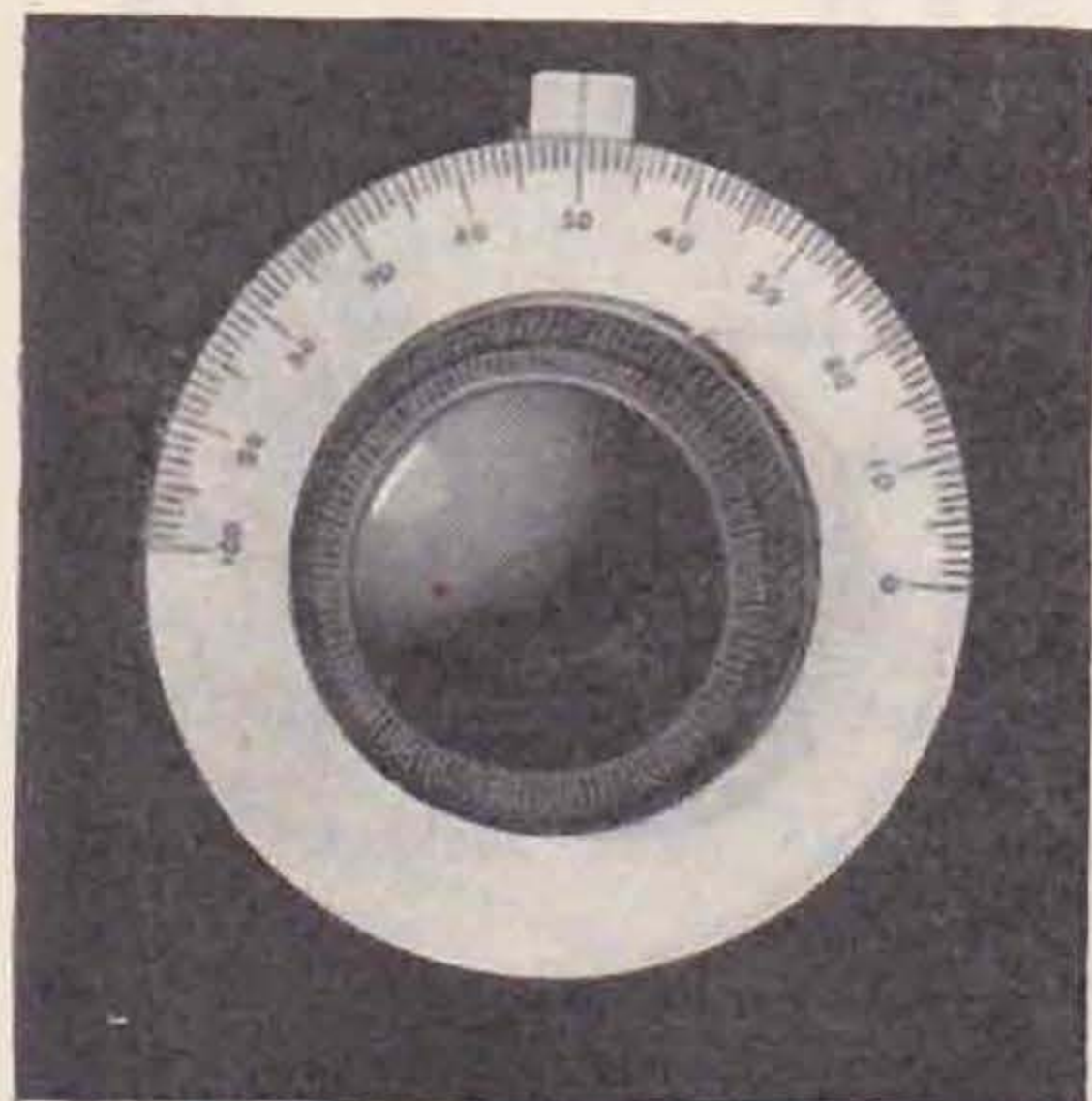
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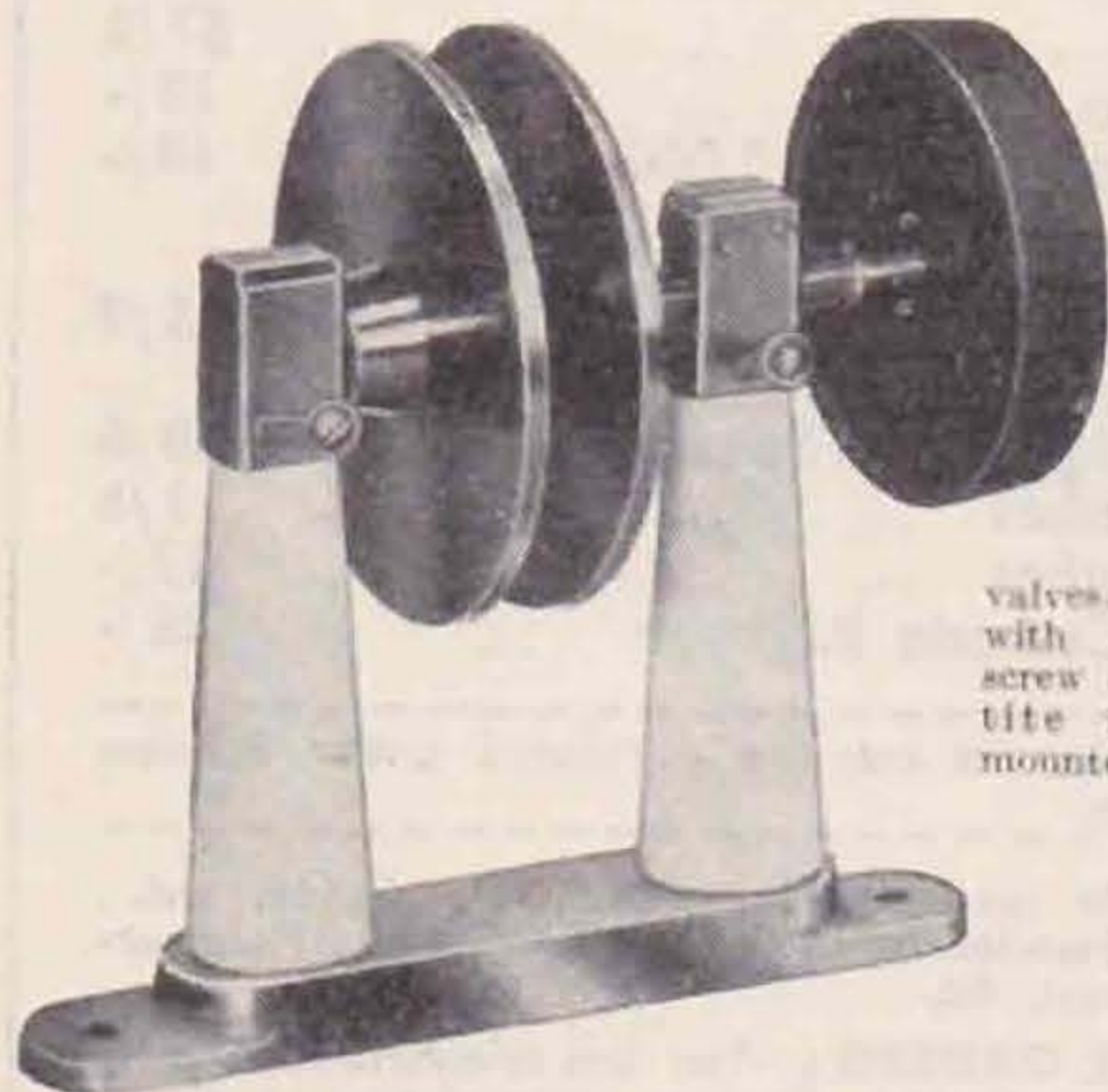
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NOTES and NEWS



BRITISH ISLES

DISTRICT REPRESENTATIVES.

DISTRICT 1 (North-Western).

(Cumberland, Westmorland, Cheshire, Lancashire.)

Mr. J. NODEN (G6TW), Fern Villa, Coppice Road, Willaston, near Nantwich, Cheshire.

DISTRICT 2 (North-Eastern).

Yorkshire (West Riding, and part of North Riding), Durham, and Northumberland (Middlesbrough is in this district.)

Mr. L. W. PARRY (G6PY), 13, Huddersfield Road, Barnsley, Yorks.

DISTRICT 3 (West Midlands).

(Warwick, Worcester, Staffordshire, Shropshire.)

Mr. V. M. DESMOND (G5VM), 199, Russell Road, Moseley, Birmingham.

DISTRICT 4 (East Midlands).

(Derby, Leicester, Northants, Notts.)

Mr. J. J. CURNOW (G6CW), "St. Anns," Bramcote Lane, Wollaton Notts.

DISTRICT 5 (Western).

(Hereford, Oxford, Wiltshire, Gloucester.)

Mr. R. A. BARTLETT (G6RB), 31, King's Drive, Bishopston, Bristol, Glos.

DISTRICT 6 (South-Western).

(Cornwall, Devon, Dorset, Somerset.)

Mr. W. B. SYDENHAM (G5SY), "Sherrington," Cleveland Road, Torquay.

DISTRICT 7 (Southern).

(Berkshire, Hampshire, Surrey.)

Mr. E. A. DEDMAN (G2NH), 75, Woodlands Avenue, Coombe, New Malden, Surrey.

DISTRICT 8 (Home Counties).

(Beds., Cambs., Hunts., Rutland and the town of Peterborough.)

Mr. G. JEAPES (G2XV), 89, Perne Road, Cambridge.

DISTRICT 9 (East Anglia).

(Norfolk and Suffolk.)

Mr. H. W. SADLER (G2XS), "The Warren Farm," South Wootton, King's Lynn, Norfolk.

DISTRICT 10 (South Wales and Monmouth).

Capt. G. C. PRICE (G2OP), The Mount, Pembroke Dock.

DISTRICT 11 (North Wales).

(Anglesey, Carnarvon, Denbighshire, Flintshire, Merioneth, Montgomery, Radnorshire.)

Mr. D. S. MITCHELL (G6AA), "The Flagstaff," Colwyn Bay, Denbighshire.

DISTRICT 12 (London North and Hertford).

(North London Postal Districts and Hertford, together with the area known as North Middlesex.)

Mr. S. BUCKINGHAM (G5QF), 9, Brunswick Park Road, New Southgate, N.11.

DISTRICT 13 (London South).

Mr. J. B. KERSHAW (G2WV), 13, Montpelier Row, Blackheath S.E.3.

DISTRICT 14 (Eastern).

(East London and Essex.)

Mr. T. A. ST. JOHNSTON (G6UT), 28, Douglas Road, Chingford, E.4.

DISTRICT 15 (London West).

(West London Postal Districts, Bucks, and that part of Middlesex not included in District 12.)

Mr. H. V. WILKINS (G6WN), 81, Studland Road, Hanwell, W.7.

DISTRICT 16 (South-Eastern).

(Kent and Sussex.)

Mr. A. O. MILNE (G2MI), "Twemigh," Kechill Gardens, Hayes Kent.

DISTRICT 17 (Mid-East).

(Lincolnshire and Rutland.)

Rev. L. C. HODGE (G6LH), The Bungalow, Skirbeck Road, Boston, Lincs.

DISTRICT 18 (East Yorkshire).

(East Riding and part of North Riding.)

Mr. W. A. CLARK (G5FV), "Lynton," Hull Road, Keyingham, E. Yorks.

SCOTLAND.

Mr. JAMES HUNTER (G6ZV), Records Office, 51, Camphill Avenue, Langside, Glasgow.

NORTHERN IRELAND.

Mr. W. GRAHAM (G15GV), 5 Ratcliffe Street, Donegal Pass, Belfast.

NEW MEMBERS ARE CORDIALLY INVITED TO WRITE TO THEIR LOCAL DISTRICT REPRESENTATIVE.

DISTRICT 1 (North-Western).

LIVERPOOL.—The usual monthly meetings were resumed on September 16, and will continue to be held on the third Wednesday of every month as before. The last meeting was very well attended and was devoted mainly to "questions and answers."

The T.R. gave full details of the arrangements for the North-Western District Meeting, which will have been held by the time these notes are published, and expressed the hope that full support would be given by all local members.

Many stations are active, including several new calls, but there are no outstanding individual reports this month. VQ8AB is due in England this month (October).

Plans have been made for lectures to be given at the next three meetings, the subject of valves being selected for the October meeting. Antenna arrangements for the November meeting, and Superhet Design for the December meeting.

Blackpool and District.—The area has lost its T.R. and chairman of the local club in the retirement of Mr. Adams (G5AD), who has been transferred to Garstang, and all members wish him "good DX" at his new address. G5TH has also resigned his vice-chairmanship owing to pressure of business. Messrs. Maynard (6MI) and Swann (5MS) have been elected chairman and vice-chairman respectively.

Several members have been more or less inactive on account of holidays and for business reasons, but individual reports have been received from G5MS, 6MI, 6VQ, 8AK and 2AMH.

Chester.—BRS2198 reports that on Sunday, August 23 he had a 5 metre receiver located on Penmaenmawr Mountain, North Wales. Stations heard on phone and I.C.W. were: G6OK (R6), 6AA (R6), 2NF (R7), 6GL (R5), 2KD (R6), 2OI (R3).

If any of these stations would like a full report, he will be pleased to furnish one, on receipt of a postcard giving the QRA.

Manchester.—An attendance of 12 was recorded at the last meeting, when G2OI gave a short description of the gear and aerial systems used in the Snowdon tests.

We have to congratulate G2DH and YF upon the arrival of a junior operator. A number of stations are busy re-building; these include G5YD, 5CH, 6GV, 2OI, and 2BCL. G5CH, 2AXH and 2ARC are now linked up with 2OI and 5YD on 56 Mc. tests. Others reporting active are G6ZU, 6NM, 2HW, 2LK, 6KS, 6UQ, and 2ATZ.

We welcome a new member, BRS2491, who is busy with morse.

Now that holidays are over, activity is expected to increase; talks and lectures are to be arranged for the winter months, and we look forward to again meeting old faces.

Congratulations to G2DF and G5OZ, both of whom now possess a YF.

Whitehaven.—At the last meeting G6JZ, 6WR, 2HT and 6SD were present; 5CJ was away at Convention, and 2SB was on holiday. A surprise and welcome visit was paid by 5WW, who was on holiday in Keswick.

A very interesting discussion on 56 Mc. working was the chief topic of the evening, and it is hoped to have some stations operating on this band in the near future.

Nelson and District.—The September meeting was poorly attended and no detailed report has been received.

The next meeting will be held on Wednesday, October 21, at the clubroom of the Nelson and District Short-wave Society.

The following members have reported active: G5ZN, 5XC, 8DC, 2RB, 2BWW, 2BRV, 2BAB and BRS1975 and 2221.

2BWW is impatiently awaiting his two-letter call sign. G5ZN is carrying out tests with an RFP 15 feeding a W3EDP antenna and is obtaining very good results. 2BRV is also experimenting with an RFP 15 in a Tri-tet circuit with suppressor grid modulation.

DISTRICT 2 (North Eastern).

It is believed that many of the newer members are not making full use of the social side of membership, and those who are not too well known in the district are invited to write to their TR and make themselves acquainted with the other members through him. The provisional date for the next Conventionette is April 4, 1937, at York; full details later, when confirmed.

TR: H. E. M. Baker (G2LD).

Tyneside.—The last meeting was held on September 13 at G2LD, when an inspection of the station was made by the members. Meetings are to be held fortnightly, and it is hoped that the same support will be given to them as when they were monthly. Notice will be given in these columns of the dates.

TR: J. H. Hemingway (2AHM).

Leeds.—The membership of the Leeds group is increasing rapidly and the meetings are very successful. On September 14 an all-wave superhet was demonstrated, and on the 21st a lecture on the superhet receiver was given. Many members report activity on most bands.

TR: J. Dale (G5VD).

Huddersfield.—It is hoped that all members

will attend the meetings this winter. G5VD and 2ALU were at Convention. Congrats to 2ACD, who is now G8CW. The following report active: G6RO, 2ALU, 2BBX.

FORTHCOMING EVENTS

- Oct. 16.—Scotland "B" District, Empress Café, Aberdeen.
- " 20.—*District 12, 7.30 p.m., at Parade Café, Waterfall Lane, New Southgate, N.11.
- " 21.—District 14 (East Essex), 8.30 p.m., at 2BNR, 15, Nelson Road, Southend-on-Sea.
- " 21.—District 15, 7.30 p.m., at 2ADA, Lyndon Lodge, Golden Manor, Hanwell, W.7. (Alight from 55 Bus at Park Hotel, near G6WN.)
- " 22.—*District 13, 8 p.m., at Brotherhood Hall, West Norwood.
- " 25.—District 14 (Brentwood), 3 p.m., visit to Doddinghurst Radio Station, Cables and Wireless, Ltd., near Brentwood. Tea at 5.30 p.m. (1s.), Rendezvous Café, High Street, Brentwood.
- " 27.—District 14 (East London), 8 p.m., at G5AR, 59, Gordon Road, S. Woodford, E.18.
- " 28.—Scotland "A" and "E" Districts, 7.30 p.m., at Room A, Institute of Engineers and Shipbuilders, 39, Elmbank Crescent, Glasgow.
- " 30.—London Meeting, 6.15 p.m., at I.E.E. Display of Society Films. Tea at 5.30 p.m. Ladies invited.
- Nov. 1.—District 7, 2.30 p.m., at G2NH, 75, Woodlands Avenue, New Malden, Surrey.
- " 4.—District 1 (Manchester Section), 7.30 p.m., at Brookes Café, 1, Hilton Street, Manchester.
- " 4.—S.L.D.R.T.S., 8 p.m., at Brotherhood Hall, West Norwood.
- " 6.—London meeting at the Electric Lamp Manufacturers' Association, 2, Savoy Hill. Lecture at 6.15 p.m. Tea at 5.30 p.m. Ladies invited.
- " 12.—Headquarters Visit to Newcastle.
- " 13.—Headquarters Visit to Edinburgh.
- " 14-15.—Headquarters Visit to Glasgow.
- * Sale of disused apparatus at these meetings.

TR: A. Pemberton (G2JY).

Sheffield.—The TR wishes to thank local members for their support during N.F.D., which enabled them to get third place amongst the "A" stations. Meetings are now being held at the Angel Hotel, and good attendances are expected. We are sorry

to lose one of our popular members, G2GM, who is moving into No. 14 District, and wish him the best of luck. We welcome a new member in Mr. Rouse. The following report active: G2AS, 2GN, 2HQ, 2DJ, 2JY, 5LZ, 5TO, 2MF, 6LF, 6PJ, 5UA, 5UJ, 2AVC, 2AWQ, 2BGN, 2ASF, 2BKN, BRS1625, 1800, 1851, 2282, 2293, 2451, and 2BOU.

TR: C. A. Sharp (G6KU).

Bradford.—The meetings of the Bradford Radio Society are now held every Wednesday evening, and all R.S.G.B. members are invited. A good syllabus has been arranged for the winter. If informal meetings are desired at members' stations, please write the TR giving your views. QRA's for these meetings are also solicited from members. A report from G6XL indicates considerable activity on 14 Mc., and some very consistent DX has been worked. BRS1298 sends a log of stations heard on several bands. BRS2360 reports, and is willing to co-operate with anyone in tests, particularly on the 56 Mc. band. G6SN hopes to have some carrier strength measurement gear ready soon.

DISTRICT 3 (West Midlands).

Once again, reports are few, the total this month being two. Now that the outdoor season is drawing to a close, it is hoped that T.R.'s will send in details of activity in their localities. It is understood that G2ZQ will have charge of the new DX Notes and District members are asked to send any items of interest in this sphere directly to him.

Coventry.—The Annual General Meeting of the C.A.R.S. at the end of September marked the conclusion of a very successful season. Weekly meetings have been held throughout the summer months, and it is hoped that the interest of members will be maintained during the winter by further lectures on subjects of general interest. During last month a lecture-demonstration was given by G5QB and 6DC on "The Crossley Volume Expander." An opportunity has been given to bring the work of amateurs before the public by the generosity of the Editor of *The Midland Daily Telegraph*, who has extended the courtesy of his columns for a series of Weekly Notes.

Warwick and Leamington.—All those who are interested in the weekly meetings that are being held are asked to communicate with the T.R., 2AFV, 89, Wathen Road, Warwick. Congratulations are extended to G8CX and 8CM, who have hitherto been known as 2ASI and 2BMY. Also to 2AVF, lately BRS1554, and to Messrs. Withers and Wells, who become 2BWV and 2BZZ respectively. Felicitations are also accorded to G5PP, of Coventry, on his recent QSO, with his brother in VK.

DISTRICT 4 (East Midlands)

The first monthly meeting of the Autumn session was held in Nottingham on September 13, and owing to the increased attendance at previous meetings, greater accommodation has become necessary. The attendance of 37 proved to be a record. An interesting half-hour was spent viewing our District Field Day Film, which was run through twice. Thanks are due to G2IO for the effort, and we must compliment him in producing a most excellent film, decidedly better than the combined National Field Day Film. At the recent Radio

Show in Nottingham, several interesting sets were shown by members, including one transmitter which derived its power from the "Gas Mains" vide the local Press! Several hundred Guides were sold, and an increase of 10 new members for the District gives an idea of the way No. 4 District put its shoulder to the wheel. The next meeting will be held at the Trent Bridge Hotel, Nottingham, on Sunday, October 18, 1936, at 3.30 p.m. Tea at 4.30 p.m. A junk sale will be held after the meeting.

DISTRICT 5 (Western)

Activity appears to be increasing again now that the winter months are coming, although reports are still scarce.

Bristol.—A stand was again run at the Bristol Radio Exhibition and was attended with great success. Eight hundred copies of the *Guide* were sold, and from the number of enquiries received our membership should show a decided increase in the near future. Great credit is due to G5FS and 2BYU for the splendid work they did in making it possible to run this stand.

The Bristol Club room is now open at 23, Bridge Street, and should prove a boon to amateur radio in the district. Again we must thank G5FS and 2BYU for their work in this venture, and hope that everyone will back them up and make it a real "ham" club. The usual monthly meeting held in the club room on Thursday, September 24 was attended by about 30 members.

The following stations are known to be active: 5JU, 5KT, 5UH, 5UZ, 6VF, 6VK, 8DP. Congratulations to the latter on getting his licence, the first G8 in the district.

Cheltenham.—A temporary TR has now been appointed in the person of G5BK, 19, Clarence Square, Cheltenham. G5BM, G5BK, G8DA, G8DI, 2BLS, 2BNM, and 1150 are active. Meetings are held at the above address every Friday evening and all amateurs in the district will be welcomed.

DISTRICT 6 (South-Western).

Interest in the District was mainly confined during September to outdoor 56 Mc. work. Following on the result of the Field Day reported last month, several excursions have been made in different parts of the District, and there appears no doubt now that, as far as 56 Mc. is concerned, the switchback nature of most of Devon and Somerset can be a distinct help instead of the hindrance that it is on most of the other bands.

Just to show that the results of the "2CI Cup" Field Day were not flukes, further long-distance QRP tests have been made by 2CI, 6WT, 5SY, and others. It has been found easy to establish R7-9 contacts with a couple of watts over distances up to forty-five miles. In order to verify this still further, and to bring in more experimenters, another Field Day was arranged for September 27, when 2CI, 6WT, 5GD, 6FO, 5AK, 5QA, and 5SY were on the air. The most noteworthy contact was that between 6FO, up on Exmoor, with 5SY on Haytor. The distance was just about forty miles. The contact was unfortunately cut short through 6FO's gear becoming flooded by a sudden storm, and this undoubtedly deprived him of a contact which would have been a record for QRP in the District, namely, a QSO with 6WT. He heard

6WT at QSA5 R6 during contact with 5SY, and intended to call him but the storm put his gear out of action. Hard luck! 5SY also had contacts with 5AK and 6WT.

For the information of those interested, 28 Mc. now appears to have come for the winter, and 5SY has had a number of interesting contacts, including ZSIH, W6 and W7.

It is hoped that by the time these notes appear the winter meetings will have started. The D.R. intended in the last notes to draw attention to this, but in the rush and bustle of getting the notes off early, and also of attending Convention, this was overlooked. However, the Torquay meeting has been arranged, and no doubt others will follow suit. Will all T.R.'s please let the D.R. know, before the end of each month, the dates of their meetings for at least a month ahead. This is for the purposes of the Calendar.

Plymouth.—Here also a scheme is being arranged. A noteworthy addition to the area is G6FB, who expects to be there for four years. The Plymouth members will undoubtedly make him welcome.

Bideford.—6FO reports great interest in the area, with further increases in membership. He says that 6GM is still going strong at Holsworthy with his QRP outfit on 1.7 and 14 Mc. He has now broken out in a fresh place by working ZSIH three times with six watts from dry batteries on 28 Mc. 2ID, 2BAD, 2ADJ, BRS2240 and BRS2442 all report active.

Exeter.—First meeting of the winter season was held at 5WY on Wednesday, September 16, at 7 p.m. There was an attendance of nine, and a very enjoyable evening was spent. The next meeting is arranged for Wednesday, October 14.

Taunton.—The last area meeting formed part of the District 56 Mc. Field Day. The next one is on October 15, and will be a visit to the B.B.C. station at Washford.

DISTRICT 7 (Southern).

Portsmouth.—At the September meeting of the South Hants R.T.S., held in Southsea, G2XC lectured on "28 Mc. Propagation Characteristics," a topic of great interest locally. For November, G6NZ hopes to talk on "The Transmitter Final Amplifier."

G2VH and 5XY are preparing for new 56 Mc. tests. 2XC is active with DX on 28 Mc, while 2AIV and BRS2482 listen. Welcome back to BERS25-2AZX; will Gosport members please contact him? 2BYZ is making C.O. experiments, while BRS1907 is undertaking a series of measurements on h.f. losses. 6WS is rebuilding, while 6NZ has just completed a new transmitter. 2ZR and BRS2105 are making two pentodes into a swell receiver! 6SS, 8BD, 2BBG, and 1319 all active.

Reading.—At the September local meeting the following were present: G2GG, 2WK, 2YB, 5AO, 5RT, 2AIW, 2BIS, 2BKD, and 2BTY. A Paper was read by G5RT on "Acoustics of Telephony." General discussion was on aerials and loud speakers. Two new members are welcomed to the Reading membership—2BKD and 2BTY. 2BSI was recently on a visit to Reading from South Wales. G2YB and 5AO are busy reassembling

stations after moving QRA's. G5HH and 5TP heard active, but no reports to hand from other Berkshire stations. G2NS will be visiting Reading in early October. Next local meeting October 21.

Individual report to hand from BRS2314, who is a new Berkshire member at Marlborough, but who spends holidays at home at Tadworth. He has just rebuilt his receiver, but like the rest of us is still not satisfied!

Will Reading and district members please note that the T.R. has changed his address to 31, Baker Street, Reading.

No reports are to hand from any of the other T.R.'s.

The November meeting will be held at G2NH on Sunday, November 1, 1936, starting at 2.30 p.m. as usual.

DISTRICT 8 (Home Counties).

At a meeting held in Cambridge on Friday, September 11, at which 14 members were present, a report was read by the Cambridge T.R., Mr. Jones (G5JO), who deputised for the D.R. at Convention; he detailed the proceedings in a most enlightening way to the interest of all present.

The question of a district frequency monitor was again discussed, but it was decided to leave the matter in abeyance, owing to G6NA leaving the district, a loss which is regretted by all.

It was agreed in future to hold monthly meetings in various towns in the district in order to give those members in more distant parts the chance to participate. Meetings, therefore, will be held at Cambridge, St. Ives (Hunts) and Peterborough in succession, and the T.R. in these towns is to notify his members each month accordingly.

For the benefit of newer members we give the addresses of the district Town Representatives, to whom application should be made respecting these meetings or any other matters which they may wish passed to the D.R.

Cambridge.—L. W. Jones, G5JO, "Mella Loona," Leys Road.

St. Ives.—P. W. Crisp, G6DX, "Ouse Bank," The Broadway.

Peterborough.—W. Carter, G2NJ, 1, Gladstone Street.

Much enthusiasm was shown at the suggestion of getting out a district frequency register, and each member present promised to write the D.R., giving his usual frequency of operation, but up to the time of writing these notes only one member had done so.

Reports this month are once again conspicuous by their almost complete absence, but G6FL reports reception of the 45 and 41.5 Mc. transmissions from Alexandra Palace quite regularly at R4-5, using a 1-V-1 receiver with doublet antenna about 20 ft. high. 2AZF has now returned after a long vacation, and is rebuilding. 5JO is in hot contest with 2XV for the "laurels" on 14 Mc. fone, but these two stations now have a serious competitor on "their end" of the band in the form of 2PL, who, after many years on CW and with no small measure of success, has now started to put out some fine fone on 14 Mc. 6DX is experimenting with a new valve in his PA, and it is expected to hear all the world calling him soon. 5DR having "tested out" his gear by contacting about fifty DX stations in a

month, is now moving to a new QRA, where he intends to settle down to some "serious" work! 2UQ has been making many alterations in his gear and with a genuine ten watts has done some excellent work on 14 Mc. BRS2171 is ready for his morse test. 6PD consistently works VK each morning. 6LX is rebuilding, 2NJ welcomes weekend skeds on 1.7 Mc. at his Norfolk QRA. 2AZF wishes to record his appreciation of the hospitality extended to him by several members upon whom he called whilst on holiday.

The next District meeting will be held in Peterborough on November 13; the place and time will be notified to members by the T.R. in due course.

DISTRICT 12 (London North and Hertford)

The autumn meetings of the district commenced on Tuesday, September 8, at the Parade Café, New Southgate, when we were pleased to welcome some of the Hertfordshire members. A talk on the "General Design of Simple Filters" was given by Mr. Humphreys.

The October meeting will be held on the 20th at Southgate, when it is hoped to arrange a sale of gear.

Please note that all meetings will be held on the third Tuesday in the month, instead of on the second Tuesday as hitherto.

The D.R. would be pleased to receive reports of activity from members of the Hertfordshire area.

G5QF is now active on the 28 Mc. band, and has worked four continents. G6ZO has obtained his WAC using low power.



The Cardiff and District Short Wave Club recently visited the B.B.C. Station at Washford Cross. The photograph was taken outside the entrance to the station.

DISTRICT 13 (London South)

The September District Meeting was well attended and some discussion took place over the question of the South London Trophy. Many members seemed to be of the opinion that a separate trophy should be put up for the BRS membership. In view of the number of suggestions and the variation of opinion, the actual purchase of the trophy will be postponed until after the next meeting at which the D.R. will have some further ideas to put forward for consideration. We are glad to be able to say that the T.R. scheme is now working well, and in this connection we are grateful to G2RC for his offer of assistance. We would remind all T.R.'s that their reports should reach the D.R. by the 20th of each month.

G2SZ is anxious to receive reports on his 14 Mc. transmissions, and hopes to be active on 56 Mc.

shortly. The following are active:—G2GZ, 2JB, 2LW, 2RD, 2RC, 2TH, 2UX, 2VB, 2WV, 5OX, 6AN, 6CB, 6OW, 2ADY, BRS1357, 1729, 2467.

We must apologise for the shortness of these notes this month, but this is due to the fact that the D.R. has been absent on a fortnight's leave and only returned in time to write the above, somewhat hastily. The next meeting will be held on October 22, when the first Junk Sale will be held. It is hoped that everyone will make an effort to be present as the question of the District Trophy, together with several other matters have also to be dealt with. Don't forget to bring your junk.



Bonny Lads—Fine Hams. The South London and District Transmitters Society held a committee meeting at Pevensey, Sussex. The crossed arms indicate that the motion has been carried! From left to right: G6IO, 6UB, 2CX, 2NH, 6WY and 6UB.

DISTRICT 14 (Eastern).

East London.—The attendance at the September meeting held at G6UT, Chingford, was very small; amongst those present were 2ALX and Mr. Bright, both of Brentwood. BRS565 is still busy on band occupancy. 2AVH is about to apply for a full licence. Congratulations to 2BCY, who is now G8DS; he has started up on the 1.7 Mc. band. G2XP transmits each Sunday at 1000 G.M.T. on 56 Mc., and will appreciate reports.

Brentwood.—2BJV is willing to listen on schedule for 56 Mc. transmissions. Will all members intending to visit the Doddinghurst Radio (receiving) Station and partake of tea afterwards at the Rendezvous Café notify Mr. M. B. Edwards (2ALX) "Upwey," West Park Hill, Brentwood, as the party is limited to 30. The radio station can be reached from Brentwood by a local bus. See Forthcoming Events.

East Essex.—At the August meeting held at G2LC, Leigh-on-Sea, which was again well attended, the results of the last "hidden station hunt" were discussed, and particulars of the next, to be held on October 18, were made known. Credit is due to G6CT for the organisation of these field days. It was further agreed that some collective research work could be attempted in the coming winter, and the majority of members being interested in U.H.F. work, a further meeting was called at G5UK, and a programme was drawn up. Will anyone interested please come forward? The 14 Mc. band seems to have attracted the majority of members during the past month, and surprise was the going up in frequency of G6KV, who is

congratulated for a VK phone contact. Congratulations to BRS1447 of Laindon, now 2BYX. BRS2444, of Witham, now 2AIB, and 2AJV, of Shoeburyness, now G8BR.

DISTRICT 15 (London West, Middlesex and Buckinghamshire).

Eighteen members and visitors including ex-VE3DG, attended the September meeting. The evening was given over to general discussion.

The coming of ex-VE3DG was in the nature of a surprise to himself. He happened to be passing, saw a call-sign, and thought, "here must be a 'ham'"; imagine his surprise when he found he had dropped in at a gathering of the clan! He only intended to stay a few minutes, but as he was one of the last to leave we suspect he enjoyed himself.

The District magazine is increasing in popularity and since its inception nine months ago the subscriptions have increased to over sixty. In future all new members will receive a copy, together with a letter from the D.R. explaining the activities of the district.

It is proposed to hold a dinner in the early part of the new year, and the D.R. would like to hear from those willing to support it. A small committee is to be appointed to discuss plans. It will be held on a Saturday, probably during January, and the venue will be fairly central for all in the district.

London West.—G6WN worked four continents on 28 Mc., BRS2239 heard 150 VK and ZL stations during month. *Twickenham.*—The following are active: G2KI, 2KX, 2LA, 2MN, 2VV, 5VB, 6GB, 2ZY, the last three using matched impedance aerials. The T.V.A.R.T.S. held its first meeting of the season and was reported in the local press. *Middlesex.*—G6GR concentrating on 56 Mc. Will fix schedules. *Buckinghamshire.*—Both 2BVX and BRS2498 report. The latter uses 1.7 Mc. in addition to DX bands.

DISTRICT 16 (South Eastern).

The TR reports for the month reveal nothing noteworthy except that the Ashford group have worked 2AO of Eastbourne on 5 metres from the Wye Downs.

The chief event of the month was the District Conventionette at Folkestone which is reported upon elsewhere in this issue. The DR and Scribe would like to thank the Heathfield, Ashford, Tunbridge Wells, Gravesend, MATS and Tankerton Groups for their excellent support. Bromley, Brighton, Eastbourne and Hastings were noticeable absentees.

The Tunbridge Wells representatives deserve special mention since, being unable to find car transport, they came by train, their enthusiasm overcoming the fatigue of a roundabout train journey. G2FA will be transmitting keyed CC CW on 56 Mc. from 20.00 to 21.00 G.M.T. every Tuesday evening in October and November, and asks for reports.

DISTRICT 17 (Mid-East)

The next District Meeting will be held at Louth on Sunday, November 1, at 3 p.m. The D.R. has not yet had a reply from the Mason's Arms Hotel,

but if it is not possible to hold our meeting there members will be notified of the change by post.

Cranwell.—Members of the C.A.R.T.S. are giving a farewell dinner to 2LR on October 17 at the Lion Hotel, Sleaford. Everyone welcome. Tickets are 3s. 6d. In spite of the great loss through the departure of 2LR the Society continues to grow, and a club transmitter is in course of construction. A talk on Amateur Radio to an interested audience of 200 was given by 2QI, 6AC, 6TV and BRS Halligay, which resulted in a fine sale of the new "Guide." 2XK has been active and has had some good DX with ZL, VK and PY.

Grimsby.—The D.R. feels relieved that he does not live at Grimsby! 2HU and 6YN are new members to add to the local QRM. The T.R. reports great activity on the part of all members. 6AK is awaiting confirmation for WAC—congrats!

Brigg.—Everyone will be sorry to hear that 8AP has been in hospital with appendicitis. After his internal rebuild he is preparing to rebuild his transmitter, using an RK23.

Boston.—Members who are using a 2-stage outfit may take courage from 6GH who, with a CO-FD worked 62 countries. A new CO-FD-PA using a 211 and a bridge rectifier using three 83's has added K5, K6 and PK. 6LH has replaced his 211 by a 210 and has worked K4, VS7, and now awaits the latter card for WBE. 8BQ continues to get very good results with his dry batteries and CO-PA.

The D.R. on behalf of the membership wishes to welcome all recent newcomers and invites them to write to him and also to attend the Louth meeting, where they will be warmly welcomed.

The D.R. was present at Convention, and on behalf of other District 17 members and himself would like to express his warm congratulations and thanks to Council, 6CL and others for their labours in producing another magnificent Convention.

DISTRICT 18 (East Yorkshire)

Hull.—At the second meeting of the season held at the Y.P.I., Hull, it was decided that meetings should continue as at present, fortnightly, though several members were in favour of monthly meetings, because the former have not been well enough attended to enable us to clear expenses. If meetings are to continue at the Y.P.I. there will have to be an improvement in the attendance.

It was decided to appoint a deputy to act as Chairman whenever the T.R. is unable to be present, so that there shall in future be no hitch in the proceedings. Mr. Moon (G5MN) was elected by vote of the members to this position.

It was also decided that at every meeting the period 8 to 8.30 shall be relegated to "rag-chewing," after which the Chairman will take his seat and dispose of any business. After this every member present will in turn be asked to speak for five minutes or so on any subject he likes, following which any questions may be asked and answered, before proceeding to the next member on turn. If any member wishes he can on request bring up any subject for discussion. In this way it is hoped that the junior members

may obtain enlightenment and at the same time avoid boredom for the more advanced member.

Though most members are active, only one report was received, though some information was forthcoming at the meeting. G5HA has been doing some fine work on 56 Mc., using CC with two 53's and about 5 watts to the final. It is hoped to add a P.A. eventually. 2ARB also uses a 53. 5NM has his 25-watt permit, and has increased efficiency all-round. Using link coupling, PY, LU, VK and ZL have been raised, and he finds it much easier to contact W and VE.

G6OS and G6UV were at Convention and had a good time. G2QO hopes to be on for the VK tests, if he can raise the cash for some more rectifiers of the 866 class, his GUI's being very tired. The Comet Pro is a success.

The D.R. has worked the following countries on 28 Mc. during the month: Madagascar, South Rhodesia, South Africa, South America, and 5th and 7th Districts of U.S.A.

Scarborough.—G2CP recently returned from two weeks' course with W/T Reserve, and has at last managed to contact U.S.A.

5MV has now RK20 working satisfactorily and enjoying good 'phone contacts. Has caught SSS mania with all American tubes. 6CP getting out scheme for relay control of sending and receiving operations at his station.

6TG has erected "bean stick" with Zepp fed aerial, finds difficulty in balancing and tuning feeders. Has made tests with commercial all-wave sets on duplex work and finds them successful over more than half the band without interference from TX.

8BB new R.S.G.B. member, is now using Tritet-P.A. using 59 in final. Worked 10 countries in spite of extremely bad screening. All reports welcome and acknowledged. 2MBD busy polishing off morse and making preparations for an early full ticket application. 2BGO hopes to commence work in earnest now that business is slackening. 2BGS has constructed frequency meter/monitor. Busy on the air with RNWAR.

Bridlington.—No reports received. Owing to a slight misunderstanding, G2LR was reported in last month's notes as having obtained permission to work his transmitter at Driffield. This was an error and should have read G5VO, who is out of action at present.

Scotland

We feel sure the members will be very interested to hear that Scotland is to be honoured by a visit from our President, Mr. A. Watts, and Secretary, Mr. J. Clarricoats, during November. Arrangements at time of writing are still only tentative. Our visitors expect to arrive in Edinburgh during the afternoon of November 13 and will attend a meeting to be held in Edinburgh that evening. The following day will be spent in Glasgow, when a Conventionette of the West of Scotland Districts will take place. At both functions Messrs. Watts and Clarricoats will address the gathering. Full details of the final arrangements will be circularised to all members as soon as possible, and we trust that everyone will rally to the support so as to ensure that the functions will be a great success. So for the present be sure to keep November 13 or 14 free from other engagements.

Fresh ground was broken in September, when, as an experiment, the Society were represented at the Glasgow Radio Exhibition. Full details of this will be given in a separate article to appear next month.

"A" District.—There is little news from this district; the first joint meeting of "A" and "E" districts took place on September 30. A good attendance was recorded, including a number of prospective members, whose interest in the Society had been aroused at the Glasgow Radio Exhibition. Mr. Shankland, 2BJS, has passed his morse test and now awaits his call, while Mr. Sey, BRS2029, and Mr. MacKay, BRS2502, have been granted the calls 2BIJ and 2AJD.

"B" District.—The first meeting of the 1936-37 season took place on September 18 in the Empress Café, Aberdeen, and a satisfactory number of members were present. G6BM is now W.A.C. Mr. Ross, 2AUT, has passed his morse test and awaits his call, Mr. Fowler, BRS2355, has been issued the artificial aerial call 2BXF.

"C" District.—We are very pleased to hear that this area is showing more signs of life than it has for some time now. A meeting was held at Broughty Ferry on September 8. It was decided to have a course of short lecturettes. The first, to be delivered at the next meeting, is by G6RI and will deal with "Aerials." To follow there will be lecturettes by G6LD on the crystal oscillator, G8CF on simple receivers and G5WT on Frequency Doubling stages. G5WT is building the DX2.

"D" District.—Meetings have also been resumed in this district. Activity prevails at most of the stations in the area.

"E" District.—News is scarce from this district. G6KH, G5KF and G2DI continue to work exceptional DX on 14 Mc. fone. G2DI had telephony contact with VK on four successive days, receiving R7 reports.

"F" District.—Congratulations to G2TW on his recent marriage. Meetings have been arranged to be held regularly in Stirling. G6NX and G6RV are rebuilding.

"H" District.—A meeting of the district was held on September 23, when various questions were discussed. BRS1617 has left the district, having secured an appointment in Manchester.

Northern Ireland

A district meeting will be held at Thompson's Restaurant, Donegall Place, Belfast, on Saturday, October 17, at 3 p.m. Ample notice of the meeting has been sent to all members in the district, and a good attendance is expected. On the same evening, at 6.30 p.m., the Radio Transmitters' Union of Northern Ireland will hold a dinner to celebrate its tenth anniversary. Mr. Clarricoats will be present at both functions. Admission to the dinner is by invitation only.

We must congratulate ourselves on having once more obtained fourth place in the N.F.D. competition—and with truly portable apparatus at that!

GI6TK reports active, and tells us that B.R.S. 1681 (Mr. Arnold), who was previously stationed in Londonderry is now in Quetta, and is second operator of VU2EP. GI6YM reports that a pirate has been using their call sign, as numerous QSL cards have been received confirming telephony transmissions. The station has been inactive during the last few months.

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Canada: Earle H. Turner (VE2CA), 267, Notre Dame Street, St. Lambert, P.Q.; W. P. Andrew (VE3WA), 1337, Dougall Avenue, Windsor, Ont.; F. Taylor (VE5GI), 4374, Locarno Crescent, Vancouver, B.C.

Egypt, Sudan and Transjordan: F. H. Pettitt (SU1SG), Catholic Club, Mustapha Barracks, Alexandria.

Hong Kong: G. Merriman, (VS6AH), Box 414, Hong Kong.

Irish Free State: Captain G. Noblett, M.C. (EI9D) Barley Hill House, Westport, Co. Mayo.

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Malta: L. Grech (ZB1C), 18, Constitution Street, Zejtun, Malta.

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South India: J. S. Nicholson (VU2JP), c/o Kanan Devan Hills Produce Co., Ltd., Munnar P.O., Travancore.

Australia

Queensland.—The VK4 group welcome two new members in 4RJ and 4LE and extend congratulations to 4BB and 4AP on their excellent performance in the recent Fisk contest.

4KH has a pair of 800's in the final for the "output," and a single signal super for the "incomings."

Congratulations to 4UR on qualifying for WBE. 4JX is awaiting results of an application for Phone WBE.

The following stations will be active on 28 Mc. during week-ends:—4BB, 4AP, 4HR, 4ER, 4EI, 4RY, 4ZO, and 4GK, all B.E.R.U. members.—VK4GK via G6CJ.

Canada (Fifth District)

By VE5GI.

Conditions on 14 Mc. have been very poor for the last two months, but are showing signs of picking up. The 28 Mc. band is again opening up, and a few DX signals have been heard.

VE5LS is a newcomer on 14 Mc. with low power. VE5EO is the first VE5 WAC on 28 Mc. VE5GI is QRL and not able to be on the air very often.

A very successful convention was held in Vancouver with 200 in attendance.

Irish Free State.

By EI9D.

The I.R.T.S. Stand at the Dublin Radio Exhibition from September 7 to 12 was a great success. EI8G's transmitter, using 'phone and cw. on 7 Mc. was in

operation there, and many excellent contacts were effected. It is true to say that the stand attracted more interest than any other in the building. We sadly underestimated our "Guide" requirements, for although last year our supply outlasted the week, the same quantity on this occasion was sold in twenty minutes.

We were very pleased to meet ex-EI4C and ex-EI7G, both of whom were in Dublin for the holidays. EI4D is QRT, but with a little persuasion in the right place he will be on the air again before Christmas.

EI5F, 6F, 8G, 9G and 9J are active, and working DX on 7 and 14 Mc. EI6F leaves for Liverpool shortly. We are very sorry to lose his enthusiastic support over here, but we hope to hear him on with a G call before long.

Further efforts were made during the month by the 56 Mc. group to repeat their performance and effect another QSO with G. So far, however, these have been unsuccessful.

Malaya and Borneo

By VS1AA via G5PJ.

We welcome VS2AK as a new member and wish him luck. New transmitters are VS1AH, 1AM, 2AJ and 4JS. The Director-General of Posts and Telegraphs now permits aerials up to 150 ft. in length and operating time has been extended to four hours. It is understood that the missing letter budget is again in circulation.

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Rhodesia.

By ZE1JB.

Several new licences have been issued recently, but the postal authorities are again raising the question of limiting the number. This matter is being strenuously opposed by the B.E.R.U. Representatives on the Advisory Committee, as there is no need for any such restriction, besides which the P.O. has it in its own hands to limit licences to competent men instead of issuing them quite indiscriminately as has sometimes been done in the past.

It is with regret that we announce the resignation from Amateur Radio of Mr. W. G. Leyland, ex-ZE1JM, who has decided not to continue, and is disposing of all his gear. Mr. W. Milne (ZE1JY) has been appointed to the Advisory Committee in place of Mr. Leyland.

With five exceptions, all of whom have promised to join, all licensees are members of the B.E.R.U. It is up to every amateur to join the Society, as a great deal has been done for Amateur Radio in this country by the B.E.R.U., although much of it is unknown except to certain members.

ZE1JB has his own outfit going on C. W., and is on 7 and 14 Mc. By the time these notes appear he hopes to be using Suppressor Grid modulated telephony with a 362/RFP/60 in place of the T61D. ZE1JF has purchased the Hallicrafters Super Sky rider with crystal gate from ex-ZE1JM, and is now working duplex telephony. ZE1JH is on with a small portable belonging to ZE1JR, but hopes to have his own set going soon.

ZE1JJ and ZE1JU are active on 28 Mc., and are both testing out C.C. on 56 Mc. ZE1JL, although licensed some time ago, is not yet on the air. ZE1JN will have returned from his long leave when these notes appear, and will doubtless have a lot of new apparatus with him, so should put out an even better signal than before. ZE1JO is going on short leave. ZE1JT is being transferred to Northern Rhodesia, and hopes to be on with a VQ2 call again by the end of the year. JE1JY has rebuilt his whole transmitter after the style of a Collins' commercial outfit, is using a 53 twin triode, class B, as a push-pull C.O., a 53 as a push-push doubler, a pair of 46's in parallel as buffer, and a pair of 801's in push-pull in his final, the modulation being class B, with a pair of 47's or a pair of 210's. A very fine job, which puts out an excellent signal.

It is gratifying to note the number of amateurs here and in the Union who now use duplex telephony. It was only a few months ago that ZE1JY and ZE1JB gave the lead; development has been rapid, for duplex is without doubt the finest method of communication.

ZE1JH, ZE1JR and ZE1JB worked triplex on 7 Mc. recently. JB had two receivers going, one tuned to JR, and one to JH, relaying JH to JR, who was tuned to JB, JH being tuned to JR, who relayed JB. Except for an occasional feed back howl, results were excellent, all three being able to speak at once. The receivers were ordinary commercial Broadcaster Suphets, but trimmed up to peak operation. With a couple of receivers at each end, and working on several bands, there seems no reason why multiplex should not be possible with some relaying.

We are glad to welcome ex-G6ML, Mr. Grosvenor, to the ranks in Salisbury, and hope to hear him on the air soon under a ZE call.

South Africa

Division 5.—ZT6X has just returned to Johannesburg after spending a few weeks with us. Combining business with pleasure, he has put in some good work on behalf of the B.E.R.U. As a result, a batch of membership application forms will soon be on their way to the "Old Country."

The DX season is just commencing; stations that have been silent for so long are now emerging from their winter hibernation, and CQ DX is the order of the day.

Amateurs in this country are not altogether looked upon as a necessary evil, for our Postmaster-General apparently fully recognises the utility and efficiency of our organisations. As an instance, during the recent floods South African amateurs came to the aid of the authorities by establishing communication when state land lines gave way before the onslaught of nature. In other avenues, too, our authorities have shown us that so long as we play the game, we shall receive sympathetic treatment from the State.

The 7 Mc. band (although we have in the whole of our vast country less than 300 active transmitters), is becoming fully congested, not so much as regards the number of phone stations operating, but because of over-modulation and the tendency to work "Duplex" on the part of certain stations. This may be an entertaining means of maintaining contact, but as the carriers of both stations remain on the air the whole time, it is a form of communication that could and should be avoided during Sunday mornings when so many are endeavouring to obtain intelligible QSO'S.

The writer would like to arrange schedules with British amateurs. His address is: 45, Sentinel Avenue, Greenwood Park, Durban, Natal. ZU5Q.

Division 6.—The "Johannesburg Jubilee" international DX contest is arousing wide interest, and already there have been many enquiries for further details as to the rules and regulations governing the contest. The "Rand Daily Mail" has presented a handsome trophy, which will be won by the world's highest score outside the African zone.

The area included in the zone, certificate awards, rules and regulations were given in last month's BULLETIN, but the following is an amendment: Amateurs will multiply the total points obtained by the number of countries or prefix zones worked, e.g., suppose G6CL scored 40 points by working; ZU6, ZS1, ZS2, ZT6, ZS6, ZU5, ZE1, ZT1, CR7, then total prefixes is 9, multiplied by 40, gives grand total 360. (See Stop Press.—ED.).

Conditions are good on the 3.5, 7 and 14 Mc. bands; DX on the latter band being exceptionally good. No information is available locally about the 10-metre band, although conditions on the coast are said to be fair.

During the month ZT6AQ made his second WAC; contacts averaged four in each Continent. ZUIT will be inactive for a month; he is to have an abdominal operation, and we all wish him a speedy recovery. ZU6V has been fairly active and now has a National HRO Receiver.

During the recent Aerial Derby from Vereeniging to Durban and back, a distance of about 700 miles, amateurs rendered valuable assistance in reporting the progress of the machines over the main towns

en route, which reports were greatly appreciated by the organizers. Special mention is due to Arthur Cooke (ZS6T), who transported his complete 'phone outfit to Vereeniging and kept it in continual operation for 10 hours, and "Taffy" Boyce (ZU5XP), who successfully operated his portable at the Ladysmith aerodrome under very trying conditions. Others taking part were: Billy Yapp, ZS6J, ZT6R, ZT6T, ZS5L, ZS5J, and ZU5AC. A very fine effort which reflects great credit on all concerned.

The following have recently joined the B.E.R.U.: ZU5Q, ZS6C, ZS6T, ZT6M, and R. C. H. Broadhurst. ZU6V.

Stop Press.—We were advised by Air Mail on October 8th that the S.A.R.R.L. contest has been postponed until January.—ED.

AROUND THE EMPIRE No. 3.



SUIRO is situated in the Tramway Depot of Abbassie, between Cairo and Héliopolis. QRN from the trams is therefore very bad, and makes the QRA one of the worst for DX in Cairo. Nevertheless SUIRO has made the best of the conditions and has worked some very good DX.

The operator, George Moens, who is of Belgian nationality, has been in Egypt since 1926. He is the Chief Engineer of the Rolling Stock Department of the Cairo Tramways, and has been interested in radio for 15 years. In 1928 he was acquainted with the famous old Belgian amateurs EB4ZZ, EB4WW and EB4AZ.

In 1933 experiments were carried out on 40 Mc. (7.5 metres), and in May, 1934, SUIRO first went on the air on 7 and 14 Mc. W.A.C. and W.B.E. have been secured, and recently W.B.E. on phone has been achieved. SUIRO was the first station to make an SU-LU contact on 10 metres, and his attention has now been turned to five metres, on which band he will shortly be active with two type 800 valves.

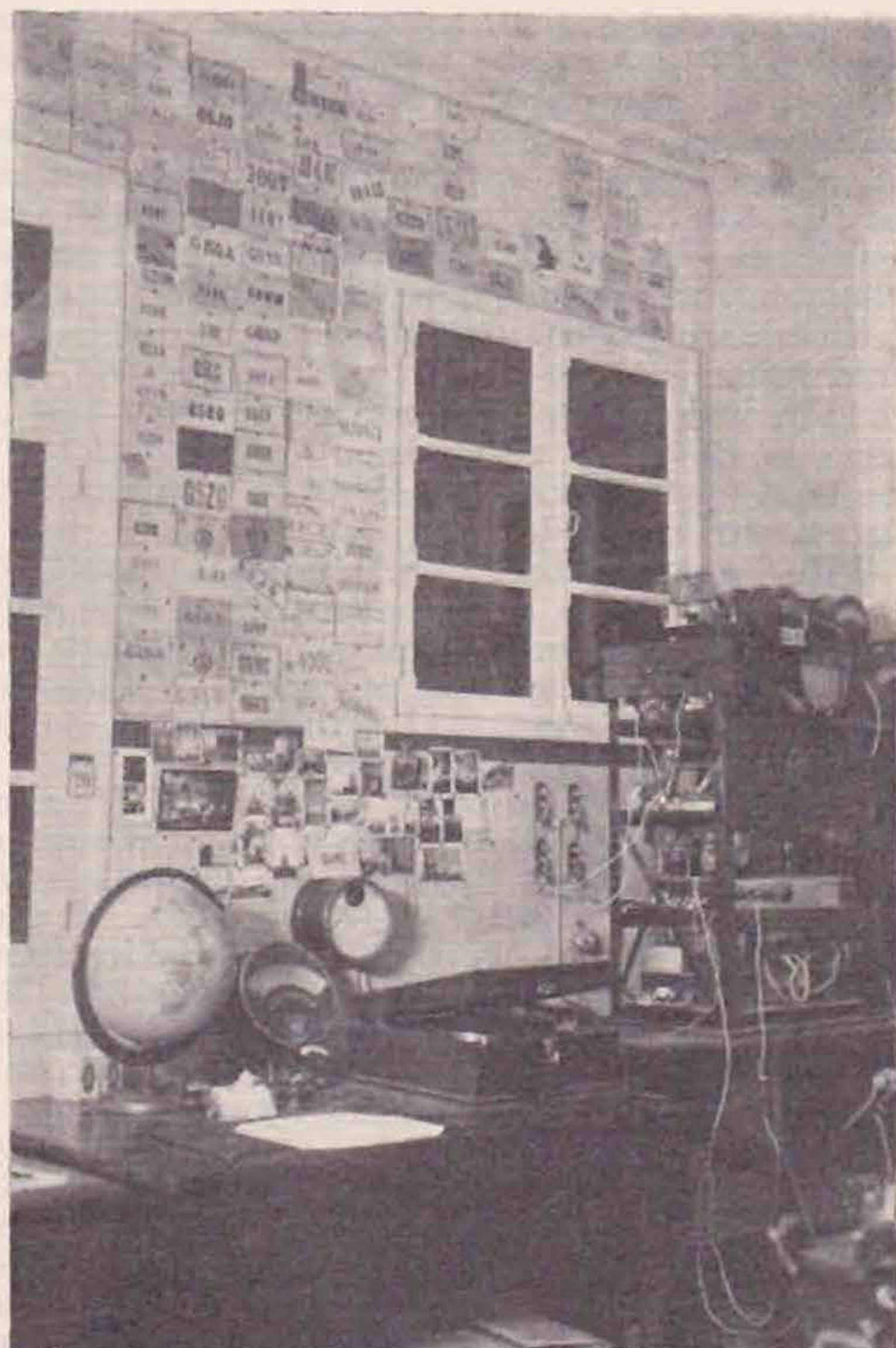
The transmitter comprises four shelves (seen on the left of the photograph). These hold the power supplies, modulator, C.O. and two F.D.'s, and a link-coupled P.A. respectively. The valves used are 47 C.O., 46, and OQ/20/1000 (almost equivalent to the 203). In the modulator a 56, resistance coupled to another 56, followed by two 2A3s transformer-fed, drive two 10's in push-pull. Plate modulation is used, and the carrier is controlled with a Magic Eye (6E5).

An S.S. Super (QST, May, 1934) with regeneration on the I.F. stage and a separate L.F. amplifier is used for receiving.

For transmitting a full-wave 20 metre Zepp aerial is used situated E-W. A full-wave 10 metre aerial, N-S, is used for receiving.

High tension for transmitting is obtained from the

575 volt tramway line, and resistances have been provided to avoid a several thousand amps short!



SUIRO does not state, however, whether the trams proceed in jerks when he keys!

Holland

By G6FY.

The second annual five-metre relay test of the NVIR has just been concluded; some fifty stations in different parts of the country, as well as a number of Belgian stations, were active.

As a relay test, results were very satisfactory, code messages being relayed through a chain of stations extending over nearly 300 Km. The distances covered in individual contacts exceeded all expectations; in fact, the longest possible trajectory within the borders of the country was covered when PAOSF, in a lighthouse on the island of Schiermonnikoog, off the North Coast, consistently received PAOQQ, who was situated on a tower at Vaals, in the extreme south-east, the distance being 260 km.

Another remarkably successful station was that of PAOPO and PAOJQ, on the roof of one of the highest buildings in Rotterdam, signals from which were received over 200 km.

Although these record distances were covered by stations operating from selected high locations, a large number of those taking part were operating from their normal home locations, and owing to the exceptional activity, it was possible to form a good idea of the ranges possible with such operation.

Examination of the results shows that contacts over distances of 20 Km. were quite common.

Encouraged by the results, and especially by the fact that the distances covered are of the same order as those from Rotterdam to some parts of the English coast, PAOPO has arranged to re-erect his station and to carry out tests on Saturday, October 17, from 13.00 to 24.00 G.M.T., when special efforts will be made to contact English stations.

THE TEN METRE BAND.—(Continued from page 144.)

Signals from North America were consistently good after the first week of the month, apart from the 13th, 14th, 23rd, and 26th, when only about one station was heard on each day. All U.S.A. districts, VO, and VE1, 3 and 4 came through, and though contacts were sometimes spoilt by fading, it was possible at times to hear such stations as W6GRX, W7AMX and many W5's at R8. The best period was the week-end of September 19, when G6DH worked 34 W's in two days, and BRS25 logged 72 W's on the Saturday. G6DH worked all continents except Asia on the 27th, and when more Asiatics do appear on the band they will find themselves much sought after.

One of the most outstanding features of the month has been the increase in the number of active British stations, from the half dozen "diehards" in August to over forty in September. They include G2AO, 2AX, 2GC, 2HG, 2HX, 2IO, 2MC, 2OA, 2PL, 2TM, 2XC, 2YL, 5BM, 5CM, 5FV, 5GW, 5JU, 5KG, 5KJ, 5LA, 5ML, 5NQ, 5OJ, 5QF, 5QY, 5RI, 5SY, 5WP, 6BS, 6CJ, 6CL, 6DH, 6FG, 6GA, 6GO, 6HN, 6IR, 6LK, 6NJ, 6NJ, 6QB, 6QZ, 6RH, 6VX, 6WY, 6YL and many AA and BRS stations. Many thanks to all those who reported this month, and long may this wave of 28 Mc. enthusiasm continue!

Late News. On Sunday, October 4th, G5ML worked XE1AY, ZS1AH, and all U.S.A. Districts on telephony.

CONVENTION VISITS—continued from page 164

difficulty was experienced in preventing several members of the party from completely wrecking the time-table by stopping for a dip!

Croydon Airport was next on the list, and we arrived just in time to witness from a privileged position on the aerodrome roof the arrival of Richmond and Merrill, the American airmen, who had recently flown the Atlantic. We were then met by Mr. Finch, the Wireless Officer in Charge, and conducted round the control tower and the various rooms from where weather reports are sent and received and point to point working with other aerodromes carried on.

Nearly all communication with aeroplanes in flight, we were informed, was now by means of C.W., and three transmitters situated at Mitcham but controlled from the receiving position at Croydon were devoted to code working. Two of these operate in the 800/900 metre band, and the other on short waves.

We should like here to record a sincere vote of thanks to Mr. Finch for his kindness in giving up so much of his time, and also for arranging special facilities at the Airport and later at the transmitting station at Mitcham.

Interest in 30-line television transmission shows no sign of abating, and the regular transmissions which have been given by PAOKT for a considerable time past are now being supplemented by transmissions from other amateur stations. A book on the subject of 30-line television has been written by PAOKT, Leader of the Experimental Section of the NVIR, and is being published by that Society.

A run of four miles brought us to the latter place where we were greeted by the operators in charge, who explained the working of the various transmitters mentioned above, together with the power supplies, wavemeter and the other equipment which goes to make up a modern radio station.

Convention Photograph

We have pleasure in announcing that copies of the Convention photograph printed on high-grade art paper are available from Headquarters, price 6d. each, post free. The size is exactly similar to the illustration on page 141 of this issue. The supply is limited, so reserve a copy immediately. These photographs are particularly suitable for presentation to overseas friends of members who attended Convention.

Royal Society of Arts

We have been informed by the Secretary, R.S.A., that Professor E. V. Appleton, M.A., D.Sc., F.R.S., is to deliver a series of three lectures on "Some Problems of Atmospheric Physics" on Monday evenings, November 16, 23 and 30, at 8 p.m. The lectures will take place at the R.S.A., John Street, Adelphi, London, W.C.2. Members wishing to attend may write to the Secretary, R.S.A., for an invitation ticket.

Town Representatives, 1937

Town Representatives may be nominated for any town in the British Isles providing the membership within a 10 miles radius of the town centre, exceeds five in number.

Nominations, which shall be made in the form prescribed below, must reach Headquarters not later than November 30. In the event of more than one member being nominated for a particular town, a ballot form for voting purposes will be included in the December issue of this Journal.

Only members resident in a particular town or town area may nominate their local representative.

Nomination Form.

To the Secretary.

T.R. Election, 1937.

I desire to nominate Mr.....

Call Sign..... as T.R. for
and I have obtained his consent for the nomination to be forwarded.

Signed

Call Sign

A copy of this form will be accepted.

In the event of a T.R. not being nominated for a particular town, the Council reserve the right to appoint a member to serve for the coming year.

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Mut.Cond. mA/V	-	5

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