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R.S.G.B. Bulletin

DEVOTED TO THE SCIENCE AND ADVANCEMENT OF AMATEUR RADIO

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In this Issue

CURRENT COMMENT

" Bristol Fashion "

TRY as one may to avoid using a time-worn phrase, there is no doubt that " Ship-shape and Bristol fashion " is inescapably the most apt one with which to describe the National Convention of 1954.

Those who planned to go to Bristol last month received in advance a fair idea of how the Convention was likely to be organised. For a start the comprehensive programme of events published in the BULLETIN showed clearly that the Bristol R.S.G.B. Group was determined to make this an event hard to forget. Receipt in due course of a magnificently prepared portfolio containing all the information he was likely to need for his trip to Bristol confirmed every intending visitor's impression that Convention 1954 was going to be all it set out to be—and more. When he got there that is just how it proved to be.

While the Bristol Group would be the first to agree that without the essential support and assistance of the Headquarters staff the organising of the event would have been much more difficult, it must be added that if in the first place the suggestion had not come from Bristol to hold the Convention in the West Country, then almost certainly there would not have been one this year.

These Bristolians are hard to beat—either at Convention organising or Field Day organising! Their performance is at once an example and a challenge to the rest of the country.

* * *

One of the factors which helps to make any Convention a success is the tradition of Amateur Radio which informs it. And tradition was very much in evidence at Bristol.

" Tradition " is a word which is sometimes derided as having a hoary encrustation of age upon it; but the simple definition of the word given in the dictionary is " custom handed down . . . principle based on accumulated experience or continuous usage." And at almost any meeting of radio amateurs, from Conventions down to the smallest of Town Group gatherings, this definition is seen translated into practice. The very phrase " ham spirit " would have no meaning at all were it not based upon a unique form of *esprit de corps* that has been handed down and disseminated among all those proud to call themselves radio amateurs.

The tree is most sturdy whose roots go deep. But it is another characteristic of trees that they show plenty of top growth as well. A correspondent this month refers to the importance of continuous progress in all aspects of our hobby, and he is of course quite right. The top growth must not wither. All the same, it is worth reflecting that in British Amateur Radio the roots do indeed now go deep—almost half a century back—and they deserve the due modicum of study which is offered by our " Retrospect " articles.

Reminiscing over the past is a pleasant exercise, but as was suggested on this page a few months back there is no inherent merit in being an Old Timer. Experience counts, certainly; but only if it is put to good use in the future.

J.H.

Operating Techniques on V.H.F.

TWO important detail points concerning v.h.f. operating techniques have recently been raised in the BULLETIN.

Last month a correspondent invited attention to the need for standardising aerial polarisation now that mobile working is becoming increasingly popular. Mechanically, a vertical rod aerial has much in its favour for use on moving vehicles, as indeed commercial operators have shown. But the vertical mode of polarisation confounds the customary use of horizontal aerials which has been generally the standard one among amateur v.h.f. operators for many years now.

Scope for amateur ingenuity seems to exist here in the design of a mechanically strong form of " mobile " aerial that will provide horizontal polarisation and thus allow free intercommunication between vehicle and fixed station. The motor-car which is its own slot aerial—also hinted at last month—may not be quite such a far-fetched proposition as might seem.

* * *

Earlier, the V.H.F. Editor, commenting on the difficulty of searching for signals over the wide 70 centimetre band, made a suggestion in his column that spot frequency working might become increasingly necessary. Net operation on the amateur v.h.f. allocations is at present almost unknown. It is bound to come, as congestion increases on the lower frequency local bands where netting is commonly practised.

It must be admitted that at the present moment professional users of the v.h.f.s are, for once, ahead of the amateurs in this respect, and from their spot frequency working some useful lessons can be learned.

Here again is a subject bristling with interesting details for discussion by v.h.f. enthusiasts, as, for example, the merits of crystal or v.f.o. control within the accepted frequency Zones and of horizontal or vertical polarisation (that subject again!) to obviate beam turning—and there are various others. There is no doubt that the mental vigour of the v.h.f. fraternity will produce answers to these intriguing problems before long.—J.H.

NATIONAL CONVENTION—BRISTOL

A West Country Welcome

By G. DOUGLAS DAY (G3ERQ)

At 10 a.m. on Friday, September 17, 1954, the third post-war R.S.G.B. National Convention officially began. For the first time in its history, the event was taking place in the West Country. During the ensuing three days Bristol was to be the setting for a number of occasions which will be recorded in the annals of the Society as historic.

Convention Headquarters

IT is likely that 1954 will be remembered as the year in which National Convention became "westernised." As new venues are found for this outstanding Society event, it is inevitable that fresh ideas will be introduced into the time-honoured pattern which forms the basic framework, and it may be said that the outstanding innovation introduced at Bristol was the establishment of a Convention "headquarters."

One of the largest buildings of its kind in the West Country, the Royal West of England Academy, was taken over—lock, stock and barrel—and converted into a central rendezvous which every member and visitor attending began to regard as a temporary "home" during the three days of the event. Here could be found friendly advice and help from members of the local organising committee in attendance at the Reception Desk, news of others visitors could be gleaned or advertised for, either by messages left or broadcast over the p.a. equipment in the building; here, too, refreshment could be obtained during the various social occasions incorporated in the programme. Within the spacious main galleries of the same building was staged the Amateur Radio Exhibition which ran for the whole period of Convention.

Prelude

For the Bristol members who organised the event, "zero-hour" for the carefully planned timetable was at 8 a.m. on Thursday, September 16. Their work had begun several hours before this and at the appointed time they converged on the Royal West of England Academy in cars, lorries and vans loaded with equipment. There began the task of transforming the interior of the building to suit the various needs during the ensuing three days. Rapidly the stands for the exhibition were positioned and erected; a lecture room was equipped with the seating and gear required for the various talks to be delivered. Buffet and bar were established with the help and advice of the professional caterers.

By mid-day the vast floor space and empty walls of the exhibition galleries had blossomed into a tasteful *motif* of burgundy and dove grey—the official colours of the City and County of Bristol. And at mid-day, too, the first of the professional exhibitors began to arrive with their own specialised displays. By late afternoon the President and Members of Council, with the General Secretary and "early arrivals," had visited the "headquarters" and were there to greet members of the Press and B.B.C. Outside Broadcasts department who attended for the "Press Preview" at 5.30 p.m.

Old-Timer and Past President, Gerald Marcuse, G2NM, signs-in at the reception desk. Claude Pope, B.R.S.12716, a member of the Reception Committee is in the background. (*Ref.* 391/5A)

Alderman K. A. L. Brown (Deputy Lord Mayor of Bristol) opening the Amateur Radio Exhibition. Also in the picture, G5QA, B.R.S.19985 (with pipe), G2MI and G6CL). (*Ref.* 39A)

Official Opening

Friday, September 17, and at 10 a.m. National Convention, 1954, had officially commenced. Within a short space of time the first early trickle of visitors was developing into a flood and the well-rehearsed procedure of Reception was proving its worth as members arrived, were issued with personal identification badges and furnished with information on the thousand-and-one queries of visitors to a strange city. The specially installed telephone at Reception, with its own private exchange line, worked overtime during its brief existence and proved invaluable in assisting visitors calling from their hotels, arriving at the railway station—and in handling outgoing calls, too!

At 12 noon the Amateur Radio Exhibition was graced by the arrival of the Deputy Lord Mayor of Bristol (Alderman Kenneth A. L. Brown, J.P.), who performed the official

opening. He was welcomed by the President (Mr. A. O. Milne) who paid tribute to the co-operation received from the civic authorities, the radio industry and official bodies. The Deputy Lord Mayor complimented the Society on its great development and commented on the considerable interest shown by the citizens of Bristol in the local Amateur Radio movement. He was thanked by the Acting Vice-President (Mr. H. A. Bartlett). During the subsequent tour of the stands, Alderman Brown showed keen interest in the Exhibition Station, GB3NCB, and listened to a 'phone contact which was in progress.

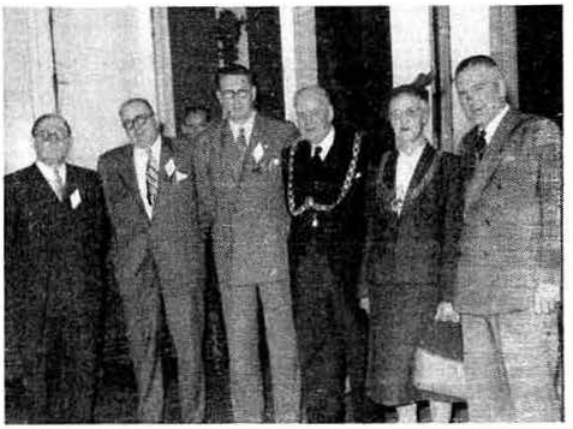
The President watches GB3NCB in action with Harry Gratton, G6GN at the controls. W. P. Lewis, G3IFV (seated) and G3HSD are also in the picture. *(Photo. Courtesy "Western Daily Press" and "Bristol Observer")*

Visits and Reception

In the meantime, the transport section of the Convention had got under way and, at 1.45 p.m. a large luxury coach, drawn up outside the building, was filling with visitors, ready to depart on the first of many trips.

These ran at frequent intervals and the resultant timetable had necessarily been worked out to almost split-second accuracy in order to obtain the maximum deployment of the coaches which, with "R.S.G.B. Convention" emblazoned across their destination boards, were to become familiar sights in and around the city during the week-end. A trip to the Aircraft Division of the Bristol Aeroplane Company's extensive works at Filton was followed in quick succession by others to the Bristol Council House, the British Electricity Authority's Control Room, and the B.B.C. West Region Studios, Control Room and Recording Department. An early afternoon informal tea was available in the large buffet at the Royal West of England Academy, where the excellence of the fare was typical of the catering available at Convention H.Q.

The Society's officials were unable to join in this particular repast as they had been graciously summoned to attend a Civic Reception, given by the Lord Mayor and Lady Mayoress (Alderman and Mrs. Gilbert G. Adams) on behalf of the City of Bristol Corporation. After receiving each member of the party with a personal greeting and cordial handshake, with introductions made by the General Secretary, the Lord Mayor entertained the company to tea. In his address of welcome he said that Bristol, always a pioneer City from the time of the famed Merchant Venturers of old, was particularly pleased to welcome the Society as representative of the Amateur Radio movement—"pioneers in a form of communication which may yet prove to be the most important and the happiest thing that has ever emerged as the result of human invention." The President responded and the party was then conducted by the Lord Mayor's Secretary and City Swordbearer, Mr. G. H. Gibbs, M.C., to inspect the very fine display of City Swords and other regalia and afterwards to the Council Chamber, where great interest was shown in the huge oil paintings depicting scenes in the City's long history.



Members of Council and their ladies, together with representatives of the Convention Committee and overseas guests, were received by the Lord Mayor and Lady Mayoress of Bristol at the Council House on Friday, September 17. In this group the Lord Mayor and Lady Mayoress are seen with the Immediate Past President (Leslie Cooper, G5LC), the General Secretary (John Clarricoats, G6CL), the President (Arthur Milne, G2MI) and the Executive Vice-President (Herb. Bartlett, G5QA). *(Ref. 391/4A)*

Leslie Cooper, G5LC, explains to Alderman K. A. L. Brown the significance of the Bristol Group's triumph in winning N.F.D. for the third year in succession. Roy Poeton, G3CTN (Bristol C.R.) holds the coveted trophy. Others in the picture, taken in the Exhibition Hall include G6CL, G3RQ (Hon. Secretary, Organising Committee), G5QA and G2MI. *(Ref. 45A)*

Conversazione

With only the shortest of respites at his hotel, the President and his party were then whisked back to Convention H.Q., where an informal reception was held. This was the happy occasion when many old friends greeted Arthur Milne; when many members of the Society met their President for the first time.

Immediately afterwards the "Conversazione" began. If the title of this function is cold and complex, in its execution

it is the very essence of warm friendliness. Countless animated discussions took place among the 200 present. For those not yet introduced, the various novel competitions brought them together in contrasting spirits of friendly rivalry or magnaminous co-operation. C.W. enthusiasts vied one with another in the high-speed keying contest—then laughed uproariously at their attempts to read back their own ink-recorded transmissions; the technical experts

Convention visitors at Burden Neurological Institute, Stapleford, Bristol, on September 18. Dr. W. Grey Walter is at the extreme right of picture in sweater. (*Ref.* 4100)

rectified error-laden circuits or decoded misleading anagrams into well-known electronic terms. The ladies, meanwhile, showed equal enthusiasm in recognising advertising announcements culled from their own familiar feminine publications, or in titling the photographs of well-known TV programmes.

It was during the " Conversazione " that the full value of the personal badges issued to each member was fully appreciated. In some instances calls are familiar where faces are not; in the case of overseas visitors the tell-tale prefix was an obvious opening line for any conversation. The ladies, too, bore their own version of the " white and gold diamond," and it was noted that " XYLs " were

Party at Bristol Aeroplane Co., Ltd., on Friday, September 17, in front of a " Bristol Freighter " aircraft. Well-known personalities in this picture include G5PP, G2UJ, EI2G, G5RS and G5WP. (*Ref.* 4098)

Mr. G. H. Gibbs (Private Secretary to the Lord Mayor of Bristol) second from left, displays one of the City's ancient swords to a group of interested members during the visit to the Council House. From left to right J. N. Walker, G5JU, Maurice Child, J. H. Barrance, G3BUJ, and D. O. O'Connor, G3GIO. (*Ref.* 391/3A)

appreciatively proud to display their relationship with the " OM ".

The buffet arrangements worked extremely well and none complained of shortage, either in quantity or variety! The evening closed with sound films of general and technical interest and a demonstration of large-screen TV in the

The President (Arthur Milne, G2MI) discussing radio conditions with Geoff Manning, G2IK, while Harry Gratton, G6GN, helps to regulate the queue for QSOs with GB3NCB.

(*Ref* 390/16A)

Convention Transport Manager, John Dear, B.R.S.19985, discusses with G3IGR the arrangements for a visit to B.E.A. (*Ref.* 392/40A)

television theatre, but before the day ended there was to occur a surprise event of outstanding import.

Society's First Regalia

It was during the height of this essentially "ham" occasion, the Conversazione, that an announcement made over the loudspeakers brought sudden recognition that Society history was about to be focussed on this time, this day and this place. Whether it was an intangible note of suppressed excitement in the announcer's voice as it wafted into every corner of the building, or whether it was the company's keen intuition that this was no ordinary event about to take place may never be known but, as if by common consent, every person present took up a position in the main Exhibition gallery around the dais specially erected there.

There followed a ceremony of simple dignity, the like of which has never before been witnessed in the history of the Society, as the General Secretary, Mr. John Clarricoats, G6CL, made formal presentation of the first Chain of Office to the President, Mr. A. O. Milne.

It seemed singularly fitting that this event should take place in such a setting, surrounded by every conceivable example of Amateur Radio equipment, with a fully operational Amateur Radio station a few feet distant, although now stilled for this historic moment, and attended by enthusiastic representatives of the movement from every part of the British Isles and overseas.

After being invested the President said: "I like to think that it is not the person that matters, but rather that it is the office of President of the R.S.G.B. which is being honoured. I feel sure that in the years to come this beautiful piece of work will be very greatly treasured by the Society and it is a great privilege to me to be the individual who should have received it. I feel it would have been better, perhaps, if one of many of my predecessors had been the person to receive it rather than myself."

Lectures and Demonstrations

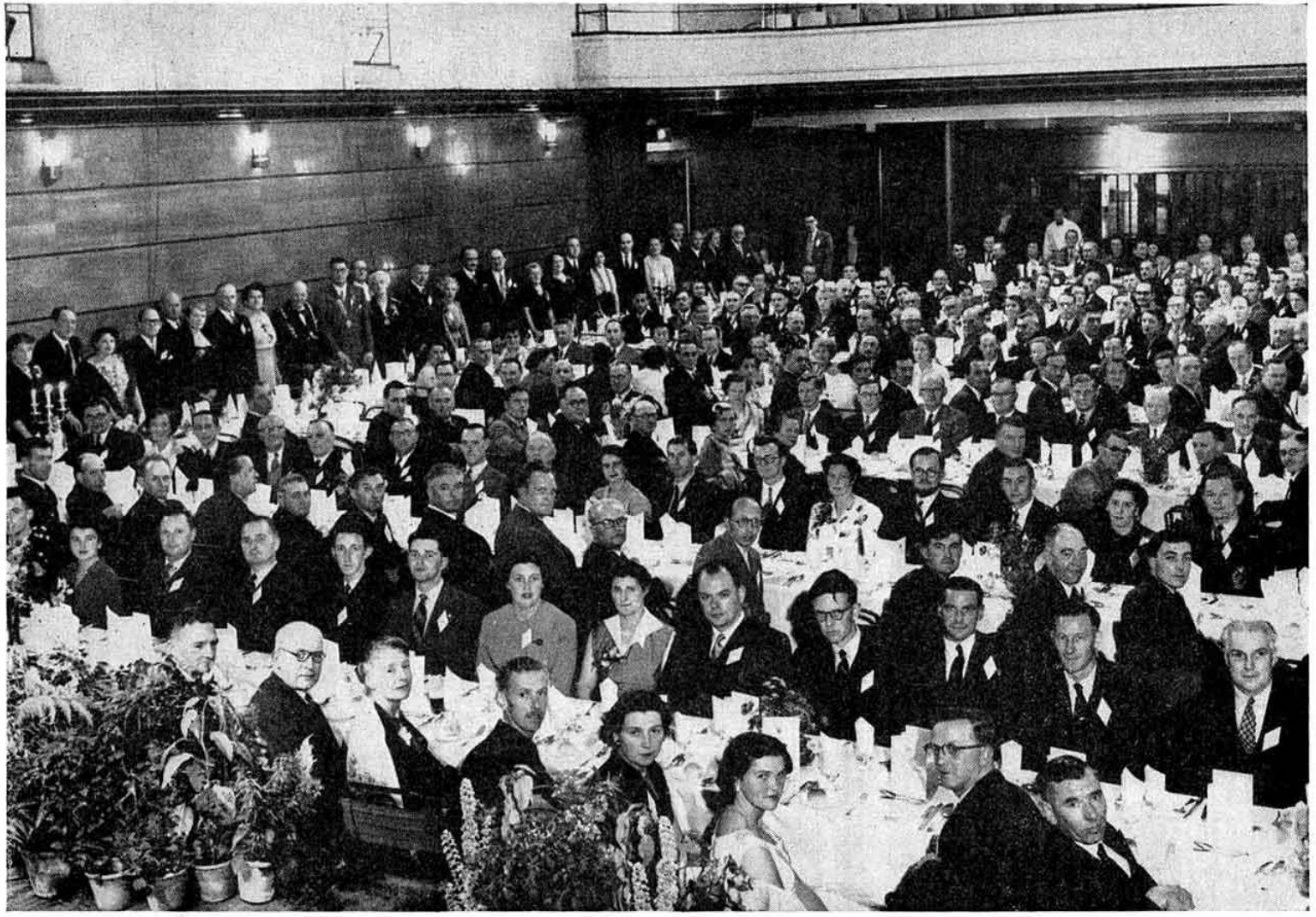
Saturday was the climax of the whole Convention and every hour was marked with some occasion or another, from 9 o'clock in the morning until 11 o'clock at night. It began early for those with an insatiable technical appetite and there is no doubt that those who attended the visit to the Burden Neurological Institute felt more than rewarded by the fascination of the demonstrations that awaited them there. Other visits included the Bristol G.P.O. Automatic Telephone and Repeater Station, the British Electricity Authority's new generating station at Portishead, the G.P.O.'s well-known land station, Portishead Radio and the newspaper printing offices of the *Bristol Evening Post*. Though the wind blew strong (and oftimes chill!) Convention was favoured in that the torrential rains of preceding weeks abated sufficiently to allow a reasonable ration of blue skies and sunshine for the scenic trips. The parties who saw the beauties of Blaise Castle, Cheddar Gorge and Burrington Combe appreciated to the full the interludes thus afforded in the spate of technical offerings.

These continued in full swing at the Royal West of England Academy, where audiences enjoyed the lectures and demonstrations given in the lecture room. Mr. A. H. Radford, A.M.I.E.E. (G6YA), gave a lecture-demonstration on "Stereophonic Sound" with lifelike reproductions of moving sounds, street traffic and orchestral music, the latter by co-operation of the B.B.C. West of England Light Orchestra and the Musicians' Union. The recordings were made on twin channel tape and were reproduced on dual concentric loudspeakers. Mr. F. J. H. Charman, B.E.M. (G6CJ) gave much valuable information and advice on "Aerials for DX" and delved deeply into his extensive knowledge of the subject to deal with specific examples. Mr. Louis Varney, A.M.I.E.E. (G5RV), is an acknowledged master of his subject, "TVI Problems," and dealt exhaustively with the various methods of approach recommended for amateur practice in ensuring trouble-free transmissions in populous locations. Dr. W. Grey Walter, M.A., lectured on "Recording and Interpretation of Brain Potentials" and built up a fascinating picture of an application of

Wrapt Attention

In this picture, taken during one of the technical lectures, can be seen Louis Varney, G5RV, "Dud" Charman, G6CJ, W. E. Russell, G5WP, Harry Clark, G6OT, Eric Rawlings, G5RS and Douglas Kay, G3AAE. (*Ref.* 392/1A)

CONVENTION DINNER



A picture taken during the Convention Dinner at the Victoria Rooms, Bristol, when the Lord Mayor of Bristol (Alderman Gilbert G. Adams, J.P.) and the Lady Mayoress (Mrs. Adams) were the chief guests. *(Photo. Bristol Evening Post)*

electronics which is probably fresh to the majority of amateurs.

Throughout the day the Exhibition was thronged with members of the public and attendants on the trade stands reported that unusually keen interest had been shown in their displays, with barrages of questions regarding the application of the equipment on show. This was particularly gratifying in view of the counter-attraction of a massive "Battle of Britain" flying display being staged at the same time by the R.A.F. at a neighbouring airfield.

The Lord Mayor of Bristol (Alderman Gilbert G. Adams, J.P.) responding to the toast to the City and County of Bristol which had just been proposed by Herb. Bartlett, G5QA. The President is wearing the new Chain of Office presented to the Society by Wilfred Butler, G5LJ. *(Ref. 392/20A)*

Convention Dinner

In the evening the Convention spotlight moved across busy Queen's Road, Bristol, from the Royal West of England Academy on the one side to the Victoria Rooms opposite. Here, at 5.45 p.m., members and visitors attending the Convention Dinner were officially received by the President. It was a brilliant occasion, designed to uphold the dignity and traditions of the Society in the best manner possible, and it will be generally agreed by those who attended that this object was fulfilled.

During the Convention Dinner, the Immediate Past President (Leslie Cooper, G5LC)—seen here speaking with (from left to right) Mrs. Cooper, Mrs. Smith-Rose, Dr. R. L. Smith-Rose and Mrs. Milne—eulogised the work of the Bristol Group in winning N.F.D. for the third year in succession. *(Ref. 392/23A)*

Here are five members of the Committee who helped to organise Convention. Left to right, Charles Bryant, G3SB, Don Davies, G3RQ (Hon. Secretary), Roy Poeton, G3CTN (Vice-Chairman), Herb. Bartlett, G5QA (Chairman and Region 9 Representative) and Eric Chambers, G2FYT. *(Photo. G6CL)*

Every one of the 373 members and guests was individually announced by the Toastmaster (Mr. H. Cole), resplendent in his scarlet uniform, and moved forward to be greeted by the President and Mrs. Milne. Handshakes and cordial wishes were exchanged and the guests passed on to greet Mr. Roy Poeton, G3CTN (the Bristol County Representative), and Mrs. Poeton. Before entering into the banqueting hall ante-room, the ladies were presented with sprays of flowers for their dresses, each one of which had incorporated in it the colours of burgundy and dove grey devised from selected flower petals.

Among the many distinguished guests were Mr. Harold Bishop, C.B.E., B.Sc.(Eng.), (Director of Technical Services of the B.B.C. and President of the Institution of Electrical

Here is the Bristol C.R. (Roy Poeton, G3CTN) acknowledging the gift of a full-size replica of the N.F.D. Trophy which had just been presented to him—as representative of the Bristol Group—by the President. Assistant Secretary May Gadsden (left) and Wendy Poeton were there to keep Roy in order. *(Ref. 392/24A)*

Engineers); Dr. R. L. Smith-Rose, C.B.E., D.Sc., Ph.D. (Director of Radio Research at the Department of Scientific and Industrial Research) and Mrs. Smith-Rose; Mr. Gerald Beadle (Controller, West Region B.B.C.) and Mrs. Beadle; Mr. L. G. Semple (South West Regional Controller of the G.P.O.) and Mrs. Semple; Alderman and Mrs. G. G. Adams (Lord Mayor and Lady Mayoress of Bristol); Alderman K. A. L. Brown (Deputy Lord Mayor) and Mrs. Brown. Guests from overseas included M. Fernand Raoult, F9AA (President, R.E.F., France); Herr Otfried Luhrs, DL1KV (Vice-President, D.A.R.C., Germany); Mr. F. Suman, YU1AF (Secretary of the Yugoslav Amateur Radio Society, S.R.J.); and Mr. Tom Green, EI9N (Vice-President of the Irish Radio Transmitters' Society).

Four of the YLs who attended Convention. Left to right: Mrs. M. E. Allan, G3HYL, Renate Aurand, DL9YL, Mrs. Beard, W5ZER and Meg Mills, G3ACC.

(Photo. Anon)

The meal proceeded smoothly and efficiently to a pleasant background provided by the 12 musicians of the Bristol Aeroplane Company's String Light Orchestra. During the dinner, the President informally toasted the Ladies, Amateurs from Overseas, Members of the Council and their Ladies, Society Representatives and their Ladies, the General Secretary and Mrs. Clarricoats, Members Serving with the Armed Forces of the Crown and the Merchant Navy, Members of the Radio Amateur Emergency Network and Holders of the Empire DX Certificate.

The Toasts

After the Loyal Toast and that of "The Society's Patron," the toast of "The City and County of Bristol" was proposed by Mr. H. A. Bartlett, Executive Vice-President, who thanked the Lord Mayor and Lady Mayoress for the very warm welcome that had been given National Convention by the civic authorities and the city at large. Responding, the Lord Mayor paid tribute to the inventiveness of Amateur Radio and wished the Society success in going from strength to strength.

Mr. H. Bishop, toasting The Society, said it was the first time he had been present at a Convention of the R.S.G.B. and he was extremely surprised at the size and scope of the event and at the numbers who attended. He suggested there was a vast field for experiment in the high frequency bands in connection with TV and v.h.f. broadcasting, while R.S.G.B. members could also do much to help fill the gaps in the ranks of radio and electrical engineering by interesting young

THE THINGS THEY SAID ...

"I have never seen so many Hams in one room since rationing ended . . ."—*Lord Mayor of Bristol.*

"I do assure you that we in the B.B.C. have held a great affection for the R.S.G.B. ever since the early days of 1923 . . ."—*Mr. Harold Bishop.*

"I am sure that the Amateurs of this country will help you in any way they can; and we shall be extremely grateful if, by chance, you can help us on 7 Megacycles . . ."—*The President, replying to Mr. Bishop.*

"A discreet inquiry as to why I was selected for this task has elicited the fact that I am the wife of probably the only person here who was a member of your Society's forerunner in 1914, over 40 years ago . . ."—*Mrs. Smith-Rose, responding to the toast to The Ladies.*

"Conventions contribute in a large measure to making still more intimate relationships already established over the air and are the best way of creating universal friendship among all Hams in spite of differences between peoples and nations . . ."—*Mr. F. Suman.*

The President with Otfried Luhrs, DL1KV, Mrs. Luhrs and Mrs. Clarricoats.

(Photo. G6CL)

A happy group taken on Convention Sunday when Bristol members of the Convention Committee and Headquarters staff paid a visit to G8FC, Headquarters Station of the R.A.F. Amateur Radio Society at Locking, Somerset. Wing Commander Wally Dunn, O.B.E., G2LR, is in the centre of the front row with Miss Gadsden and Mrs. Dunn on the left and Mrs. Clarricoats and Mrs. Etherington on the right. Others in the group G5UG, G3CTN, G3RQ, G5DV, G3CHW, Flight Sergeant Frank Johnstone (Chief Operator at G8FC) and F. J. W. Walters, B.R.S.9864. *(Photo. G6CL)*

men of their acquaintance in their hobby. The President, replying, paid tribute to the organisation of the Convention arrangements and outlined his personal experiences of the great work done for international goodwill and friendship by Amateur Radio.

A toast to " The Ladies and Society's Guests " was given by the General Secretary, who recalled it was on Saturday, September 18, 1926, that the R.S.G.B., then 13 years old, was celebrating its very first Convention under the leadership of Mr. Gerald Marcuse, G2NM, who was present with them again that evening. He took the opportunity, on behalf of the ladies present, to thank the ladies of Bristol—the wives and YLs of the local committee—for the ready help the visiting ladies had received during their stay. In his speech he made reference to each guest of the Society and to the visitors from overseas—from France, Germany, Yugoslavia, Malta and other parts of the Commonwealth, and the United States. Responses were given by Mrs. R. L. Smith-Rose, M. Fernand Raoult (whose address in French was translated by Mr. Louis Varney), Herr Otfried Luhrs and Mr. F. Suman.

N.F.D. " Hat-trick "

Following the toasts, Mr. Leslie Cooper, G5LC (Immediate Past President) introduced an unexpected ceremony which brought great pleasure to members of the Bristol Group present. On the very eve of Convention the September issue of the Society's BULLETIN had arrived in the city carrying news of the Groups' success in the 1954 National Field Day Contest.

For the local members, the knowledge that they had completed their " hat-trick " and created a new record by winning N.F.D. for the third successive year was the crowning achievement in a very busy year. Mr. Cooper paid tribute to the high standard of organisation which had brought success to Bristol. The President, speaking in similar terms, then presented to the Bristol County Representative (Mr. Roy Poeton) a full-size replica of the N.F.D. Trophy, specially engraved to commemorate their victory over three years. Accepting the trophy on behalf of the City and County of Bristol Group, Mr. Poeton thanked the President and Members of Council for their kind thought and " the lads who have done such a wonderful job on each Field Day."

The Raffle

Immediately after the dinner, the proceedings became distinctly less formal as the mammoth free raffle for prizes donated by manufacturers and others interested in the Amateur Radio movement, got under way. Gifts of all kinds—from electric clocks to multi-range measuring instruments; co-axial cable to auto-control smoothing irons—to the value of almost £300, were distributed at high speed. Appropriate prizes went to the ladies and a novel feature was the announcement that certain chairs bore " lucky labels " beneath the seats (causing light-hearted chaos as nearly 400 guests rose simultaneously and up-ended their chairs in search of the hoped-for emblems!). By 11.20 p.m. the great banqueting hall was deserted and the long lines of cars outside the building had begun to move off into the night.

Thr Last Day

Sunday dawned with a recurrence of the welcome sunshine and the Royal West of England Academy, with its Exhibition now closed to the general public but still open to Society members, was soon the scene of renewed " ragchews " and the exchange of home addresses between newly-made friends. Parties departed at frequent intervals to examine the intricate marvels of the electron microscopes at the University of Bristol and at 11 a.m. historically-bent visitors toured the ancient city by conducted coach. At 12.30 p.m. the

The Society's stand at the Amateur Radio Exhibition. (*Ref.* 390/7A

Amateur Radio Exhibition shut its doors for the last time, and with it the 1954 National Convention Headquarters closed down. Officially, there remained only the visit to Bristol's renowned Zoological Gardens in the afternoon. Many visitors, however, who had visited Portishead Radio had expressed a desire to make a trip to Burnham Radio. It was typical of the remarkable co-operation experienced from all sections of West Country civic, public and commercial undertakings, that within an hour the G.P.O. had consented to receive a special party and the coach had been arranged for Burnham.

And so it ended. Convention had come—and gone. After months of anticipation it had seemed a fleeting three days. There remains one final comment: all members of the City and County of Bristol Group who helped organise the event have expressed the wish that their sincere thanks should be conveyed to everyone who attended. The grand support they received made their efforts more than worthwhile; the many friendships made will be treasured for years to come. Anyone revisiting the City is assured of a warm welcome.

Convention Photographs

EXCEPT where otherwise stated all Convention photographs were taken by Studio Sage and Bernard Moss' Bristol. Private orders should be sent to Studio Sage, Marylea, Heywood Road, Pill, Bristol.

Prices are as follows:—

Postcards	...	...	2/6 each
6in. × 4in.	...	...	3/6 each
8in. × 6in.	...	...	5/6 each

all with slip-in folders.

When ordering, members should quote the reference number appearing beneath each picture.

A number of other photographs were taken by the official photographers, copies of which will be on display at future London and Bristol meetings.

Convention Dinner Photograph

COPIES of the Convention Dinner photograph reproduced on page 166 of this issue by permission of the Bristol *Evening Post* can be obtained on application to the Photo Sales Dept., *Evening Post*, 1 Broadmead, Bristol 1. Prices are as follows:—

6in. × 4in.	2/6	unmounted,	4/-	mounted
8in. × 6in.	3/6	,,	6/-	,,
10in. × 8in.	5/6	,,	7/6	,,
12in. × 10in.	7/6	,,	10/-	,,

Postage and packing 6d. extra. When ordering quote No. R1095.

Chain of Office Presented to the Society

Historic ceremony during Convention

ONE of the General Secretary's most cherished ambitions was realised during Convention when, on behalf of the donor, he invested the President (Mr. Arthur Milne, G2MI) with a handsome Chain of Office—a gift to the Society made by Mr. Wilfred Butler (G5LJ) of Sutton Coldfield, Warwickshire.

In a brief speech Mr. Clarricoats explained that, for many years, he had felt that the Society should possess a Chain of Office which would serve to distinguish its President at official functions. He had mentioned the matter privately to Mr. Butler who had immediately made his offer to the Council.

Mr. Clarricoats pointed out that the purpose of a Chain of Office is to identify the leader—whether that leader be the Lord Mayor of a great city or the Master of one of the ancient Guilds. The act of placing a Chain of Office on the shoulders of a new leader signifies the transference of office.

Mr. Clarricoats went on to say that the Chain of Office which Mr. Butler had presented to the Society comprises a Badge and Ribbon. The Badge embraces the black diamond lapel badge of the Society mounted within a blue enamelled surround, around which appear the words " Radio Society of Great Britain," the whole being surmounted with a decorative scroll bearing the word " President."

This is a close-up of the handsome Chain of Office presented to the Society by Mr. Wilfred Butler G5LJ of Sutton Coldfield, Warwickshire. The bars carry the names of Past Presidents.

Of great historic interest and importance are the bars mounted on the Ribbon, for each of them bears the name of an illustrious Past President. Mr. Clarricoats said that senior members of the Society, in particular, would recall with special pride the names of those great men of science who had done so much in the early days to lay the foundation upon which the present Society stands. " Let me remind you," said the General Secretary, " of some of those names—Mr. Campbell Swinton who was President from 1913 to 1920, Dr. Erskine Murray, Admiral Sir Henry Jackson, Dr. W. H. Eccles, Sir Oliver Lodge, Brigadier-General Sir Capel Holden, and Captain (now Sir) Ian Fraser—names that conjure up for many of us memories of the early days of wireless experiment."

The General Secretary investing the President with the Chain of Office during the historic ceremony at the Bristol Convention (*Ref.* 391/5A)

At the moment of investing the President, Mr. Clarricoats said, " I am sure you will wear this beautiful Chain of Office with dignity and that when the time comes for you to invest your successor it will already have acquired fresh lustre."

In his speech of thanks, Mr. Milne assured the large assembly present that he was fully conscious of the great honour that had fallen to his lot in being the first to wear the Chain of Office.

At the conclusion of the ceremony, which took place during the Conversazione at the Royal West of England Academy, the Chain of Office was examined and admired by all present. A film record of the investiture was made for the Society's archives.

London Lecture Meeting

Friday, October 22, 1954

"TRANSISTORS AND CRYSTAL VALVES IN RADIO"

By

B. R. BETTRIDGE, A.M.Brit.I.R.E.

(Osram Valve and Electronics Dept.)

at the

Institution of Electrical Engineers, Savoy Place, Victoria Embankment

Buffet Tea 5.30 p.m. **Lecture 6.30 p.m.**

807s in Zero Bias Class B

A Modulator for Communications Purposes

By P.D. CRISP (G3BNC)*

THE modulator to be described in this article is easy to build and uses the minimum of components. No attempt has been made to produce a " hi-fi " modulator but rather one which will give good *communications* quality.

In the design of a class B modulator it is as well to remember that the amplifier is driven into the grid current region, power being consumed in the grid circuit. The driver stage must therefore be capable of supplying power at the required audio-frequency grid-to-grid voltage. The problem is made somewhat more complicated because the grids of the class B valves represent a variable load resistance over the audio frequency cycle, the grid current not increasing directly with the grid voltage. In order to prevent distortion it is necessary, therefore, to have a driver that maintains the waveform of the original signal without distortion although its load varies. The driver should have good regulation and be capable of delivering more power than is consumed by the grid circuit.

With these points in mind, it was decided that the driver stage should be preceded by voltage amplifiers suitable for use with a crystal microphone such as the D104 or ET103.

The Circuit

The circuit diagram of the speech amplifier and modulator is shown in Fig. 1 and is quite straightforward. The first two stages employ 6SJ7s, the driver stage valve being a 6L6 which is transformer coupled to the grids of the class B 807s. It should be noted that 22,000 ohms 1 watt resistors are connected between the control and screen grids of the 807s and the connections from the driver transformer taken to the screen grid pins of the modulator valves. The speech amplifier stages alone make a useful low power modulator, the output from the 6L6 being of the order of 10 watts with an h.t. supply of 350 volts.

It has been found that an ideal component for driving the grids of the 807s is the modulation transformer from an SCR522 transmitter. In this service it is used in reverse: the original secondary winding is connected in the anode circuit of the 6L6 driver while the centre-tapped primary becomes the secondary and feeds the grids of the modulator valves. Reference to the manufacturers' figures shows that it presents the correct load to the anode of the 6L6.

The modulation transformer was chosen mainly for its small size, power handling capacity and availability on the surplus market. Its ratio is 1:1 with an impedance of 6000 ohms for the anodes of the 807s and a 6000 ohms load to the anode and screen of the p.a. Any other suitable transformer may of course be used.

Power Supply

The power supply is built on a separate chassis, the dimensions of which are governed by the size of the transformer or transformers available. The main transformer in use at G3BNC is a 750–0–750 volt type tapped at 350–0–350 volts, as shown in Fig. 2. Separate heater transformers are used and relay switching is employed in the primary of the high voltage transformer so that it may be controlled from the main control panel. 5R4GY rectifiers have been found satisfactory in the arrangement shown.

Construction

The speech amplifier and modulator are built on a single chassis 16in. by 4in. by 3in., the layout of the main compon-

*22 Rochester Road, Southsea, Hants.

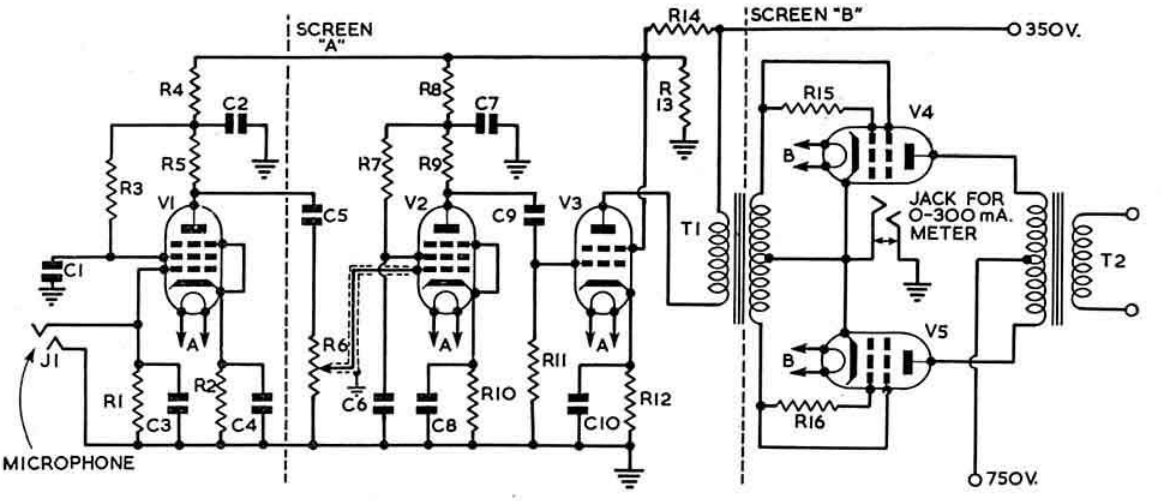


Fig. 1. Circuit diagram of the complete modulator using 807s in class B zero bias.

C1, 6, 0.1 μF
C2, 7, 8 μF, 500 volt
C3 50 μμF (optional)
C4, 8, 10 μF, .25 volt
C5, 9, 0.002 μF
C10, 25 μF, 50 volt
R1 3-5 Megohms
R2, 7, 1.5 Megohms
R3 1 Megohm
R4, 8, 50,000 ohms
R5, 9, 250,000 ohms
R6 1 Megohm pot.
R10 1500 ohms
R11 .25 to .5 Megohm
R12 220 ohms, 2 watt
R13 20,000 ohms, 10 watt
R14 3500 ohms, 10 watt
R15, 16, 22,000 ohms, 1 watt
T1 Driver transformer (SCR522 modulation transformer)
T2 Modulation transformer 1:1, 6000 ohms (Collins)
V1, 2, 6SJ7
V3 6L6
V4, 5, 807

ents being as shown in Fig. 3 in order to keep the grid leads as short as possible. The lead from the microphone input socket to the grid of the first 6SJ7 should be screened and the 0.002μF coupling condenser arranged to be as near to the volume control as possible. The positions of the interstage screens are also shown in Fig. 3. The principle reason for the screening between stages is to avoid r.f. feedback troubles. V.H.F. operators will know that this can prove a real problem. The aim should be to build the unit for v.h.f. working so that one can be sure it will work well on the lower frequencies.

The 807s are recessed into the chassis on small brackets so that the level of the anode caps is ½in. above the modulation transformer.

Screened wire should be used as indicated in Fig. 1.

Operational Details

The speech amplifier section should be tested first. When the heater circuit is found to be in order, h.t. may be applied and an Avometer or similar test instrument set to read about 120 volts a.c. connected across the grid side of the driver transformer (T1). With the gain control at maximum there should be no deflection on the meter, indicating that the speech amplifier is free from hum. If it is found that hum is present each stage should be tested in turn by removing the valve. It can be assumed that the fault is in the first stage if the meter returns to zero when the first valve is removed. If a finger is touched on the live terminal of the microphone input socket a full-scale deflection should be obtained.

When the speech amplifier is in order, the 807s may be put into their sockets and about 400 volts applied to their anodes. The standing current should be about 10 to 20 mA. If all is well the full 750 volts can then be applied. On speech peaks the modulation meter in the cathode circuit of the 807s should kick up to between 250 and 300 mA.

During these tests a 100 watt bulb should be connected across the secondary of the modulation transformer.

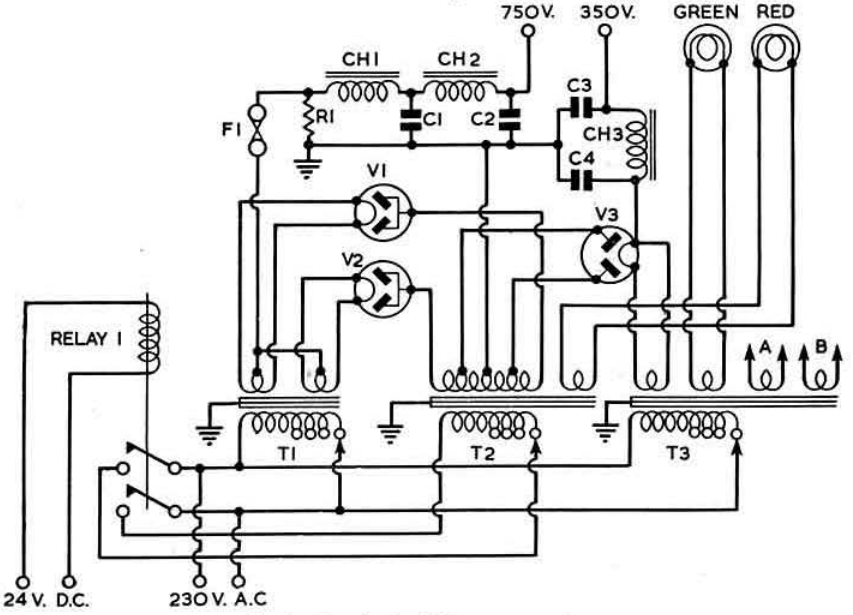


Fig. 2. The circuit of the power supply.
C1, 2, 4 μF, 1500 V; C3, 4, 4 μF, 500 V; CH1, swinging choke, 5 H to 20 H; CH2, 12 H, 400 mA; CH3, 12 H, 100 mA; R1, 220,000 ohms, 10W; T1, 5V, 2A; 5V, 2 A; T2, 750-0-750/350-0-350, 400 mA/150 mA-6.3V, 1A; T3, 5V, 2A, 6.3V 3A, 6.3V 3A. The relay is a double pole Leach type, 12-24 V d.c.

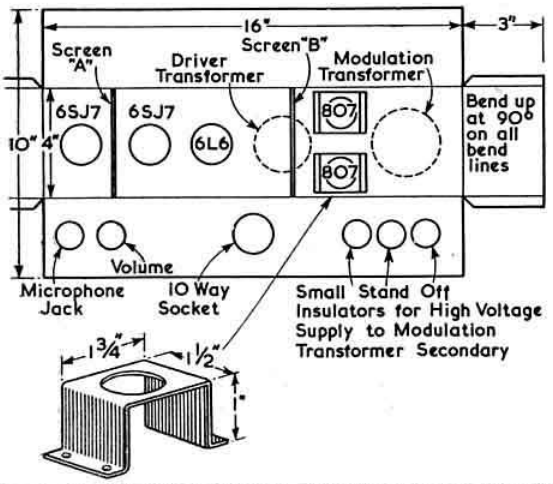


Fig. 3. Chassis layout and details of the brackets for supporting the 807s.

Results

A modulator of the type described has been in use at G3BNC for more than two-and-a-half years and has given very good service. It has been checked and interchanged with another which uses TZ40s in zero bias and the general performance has been found to be similar in all respects. At present the main activity is on 2 m where it is necessary to use a large amount of audio power. The 807s have worked very well indeed. Several other stations in Hampshire use similar modulators and the quality at all times leaves nothing to be desired.

The modulator is also suitable for public address work if a suitable transformer is substituted for T2.

Pulse Techniques

A COURSE of twenty lectures on "The Fundamental Principles of Pulse Techniques" will be given at the Borough Polytechnic, London, S.E.1, commencing October 25, 1954. The first three lectures will be on "Analysis of Linear Networks" followed by "Fundamentals of Valve Circuit Design." Later lectures will be on "Pulse Counting" and on "Feedback."

The fee for the complete course is 3 gns.

Barometric Effects and Radio Conditions

AN informative article, outlining his 7 Mc/s observations over many years, was contributed by Mr. J. H. Cant (G6FU) to the June, 1954, issue of the *R.A.E. News*, journal of the Royal Aircraft Establishment.

Television Test Transmissions

UNTIL December 31, 1954, an additional hour of test transmission, using Test Card C and recorded music, will be radiated by the B.B.C. Television Service from 12 noon to 1 p.m. So far as the five main stations are concerned, these additional test transmissions will be at reduced power, the standby transmitters being employed.

Two Simple Microphone Pre-amplifiers

Extra Gain with Sub-miniature Valves

By C. H. L. EDWARDS (G8TL)*

MANY amateurs will have experienced the pleasure of buying a new microphone only to be disappointed to find that they have not sufficient reserve gain in their modulators. The writer discovered this difficulty when changing over from a carbon to a crystal microphone on his portable equipment.

As there was not enough space to add an extra stage to the modulator itself, it became clear that the additional amplifier would have to be external. It also seemed probable that difficulties might arise if the extra high gain stage were not carefully screened. It was agreed, however, that a bulky unit would be unsuitable for use with the portable equipment. It was then that the idea occurred of using sub-miniature valves with Ever Ready deaf aid batteries. This led to the thought that if made small enough, the amplifier could be built into a metal box, totally screened and inserted in the microphone lead. With its own supply from internal batteries, it should be quite free from hum and instability and the total screening would prevent r.f. feedback.

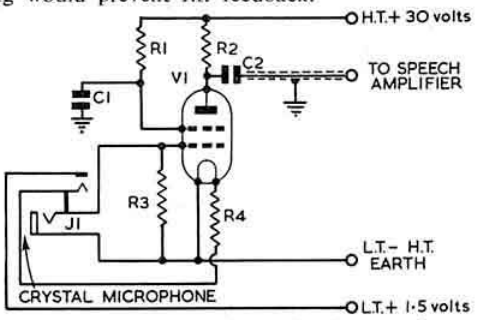
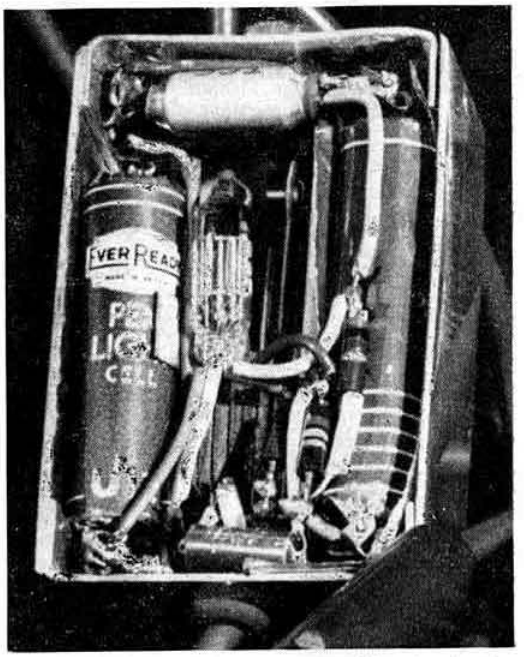


Fig. 1.—Circuit diagram of the simple one valve pre-amplifier. C1, 0.1 μF, T.C.C.; C2, 0.01 μF, T.C.C.; R1, 1 Megohm, ⅛ watt; R2, 700,000 ohms, ⅛ watt; R3, 1.5 Megohm, ⅛ watt; R4, 100 ohms, ¼ watt; V1, Hivac XFW40 sub-miniature valve. The two circuit jack, J1, is a Bulgin type J17. A suitable metal box, 3in. by 2in. by 1⅛in. may be obtained from Denco (Clacton) Ltd.

It was quickly realised that the size of the metal box would depend primarily on the dimensions of the h.t. battery. As enquiry showed that the smallest 30 volt type is 2¼ in. long it was decided to construct an aluminium box measuring 3 in. by 2 in. by 1⅛ in. Into this, the complete amplifier, the circuit of which is shown in Fig. 1, and its batteries were fitted.

As can be seen from the photograph, the valve, a Hivac XFW40, is supported by its own base leads, no valve-holder being used. The batteries are held in position by spring clips so that they can be renewed without disturbing the rest of the components. The microphone jack has an additional pair of insulated contacts which close the filament circuit as the microphone plug is pushed home. Light coaxial cable is used for connections from the microphone to the plug and from the screened box to the modulator.

* *10 Chepstow Crescent, Newbury Park, Ilford, Essex.*



The interior of the single valve pre-amplifier showing the position of the major components.

A Two Stage Amplifier

For additional gain, a two stage amplifier (Fig. 2) was constructed on similar lines to the first unit. Small valve-holders were used in this version and a deaf aid potentiometer was connected in the grid circuit of the second valve as a gain control. A slot was cut in the side of the box so that the knurled knob of the potentiometer (mounted horizontally) projected through the slot.

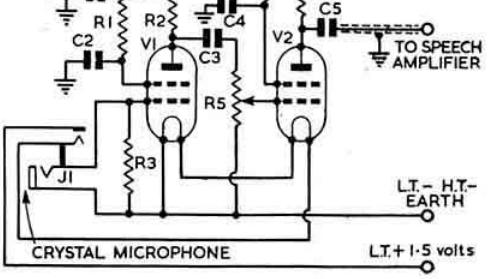
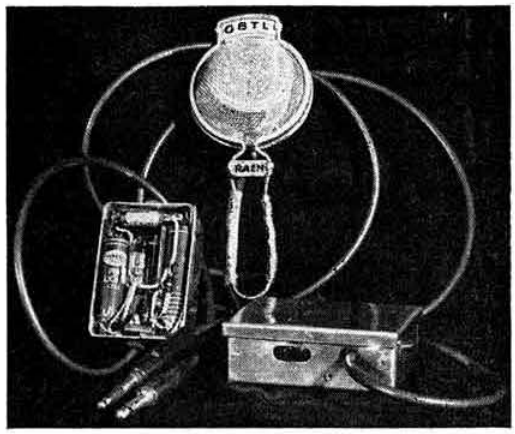


Fig. 2.—Simple two-stage pre-amplifier. C1, 0.1 μF, T.C.C.; C2, 3, 4, 5, 0.01 μF, T.C.C.; R1, 6, 1 Megohm, ⅛ watt; R2, 7, 500,000 ohms, ⅛ watt; R3, 1.5 Megohm, ⅛ watt; R4, 100,000 ohms, ⅛ watt; R5, 1 Megohm potentiometer, Egen sub-miniature type; V1, 2, Hivac XFW40. The two circuit jack, J1, is a Bulgin type J17. A suitable metal box, 3in. by 2¼in. by 1⅛in., may be obtained from Denco (Clacton), Ltd.

Results

Both units work really well, and no trouble has been experienced with instability or r.f. feedback. The gain of the two stage amplifier proved to be much more than necessary and the gain control had to be turned well down. In order to modulate the transmitter without the pre-amplifier in circuit, it was necessary to speak about 2in. from the microphone. With the amplifier inserted it became possible to speak up to 18in. from the microphone and yet fully modulate the transmitter without raising the voice. With the two stage amplifier in circuit voices can be made to modulate the transmitter when the source of sound is several yards from the microphone. As a point of interest the units have also been used with the main station transmitter and have proved entirely satisfactory.

As the valves draw a current of only 10 mA each from the l.t. (Ever Ready type U12) and a negligible amount of current from the h.t. (Ever Ready Batrymax No. B123) the batteries have practically shelf life.



The interior of the single valve pre-amplifier can be seen on the left of the picture. The two-stage version is shown in its screening box to the right; the knob of the gain control protrudes through the slot in the side.

Jubilee of the Invention of the Thermionic Valve

IN connection with the celebration of the Jubilee of the invention of the thermionic valve by Sir Ambrose Fleming on November 16, 1904, a Conversazione will be held in the Electrical Engineering Department of University College London. A plaque commemorating the occasion will be unveiled by the Lord President of the Council.

In addition to exhibits and documents relating to Sir Ambrose Fleming's work while Professor of Electrical Engineering at the College, examples of recent researches will be on view. Admission to the Conversazione, which will extend over the three days November 16, 17 and 18, will be by invitation ticket only. Senior engineers or members of the Radio Industry who would like to visit the Exhibition at the College on the 17th which will be open from 3 p.m. to 10 p.m., should apply to the Assistant Secretary, University College, Gower Street, London, W.C.1.

British Institution of Radio Engineers

THE newly-elected President, Rear-Admiral (L) Sir Philip Clarke, K.B.E., C.B., D.S.O., will give his Presidential Address to the British Institution of Radio Engineers at 7 p.m. on October 27, 1954, at the London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C.1.

Walton-on-Thames Amateur Radio Exhibition

AMONG the many attractions at the Walton-on-Thames Radio Exhibition — to be opened at 2.30 p.m. on October 30, 1954, by the President of R.S.G.B. (Mr. Arthur O. Milne, G2MI)—will be a low-power exhibition station (G3JNB/A) and demonstrations of radio controlled models. The Exhibition is to take place in St. Mary's Church Hall—London Transport and Green Line buses stop in Church Street, near to the hall, and a special Walton Station bus meets all the half-hourly services of the Southern Region.

For motorists, the police have approved special parking arrangements on the South side of Church Street only.

Full details and tickets, price 1s. each (blocks of six or more, 8d. each before October 23) may be obtained from the Hon. Secretary, QRP Society, 92 Rydens Avenue, Walton-on-Thames. Tickets will also be available at the door.

Northwestern Topfest

THERE was an attendance of thirty at the North-Western Topsfest at Walton Hall, Warrington, on August 29. Two stations were in operation—G2HCJ/P on 144 Mc/s and G3GLV/A on 3.5 Mc/s and Top Band. During the evening talks were given by G3FDU ("Army Wireless Reserve Squadron"), G3GLV ("Royal Air Force Volunteer Reserve"), G3GST ("C.W. Operating Procedure") and G3JND, ex-VQ3DN ("Amateur Radio in East Africa").

In view of the success of the gathering it is intended to make it an annual event in addition to the spring meeting in Wolverhampton.

LONDON MEMBERS' LUNCHEON CLUB

will meet at the Bedford Corner Hotel, Bayley Street, Tottenham Court Road,

at 12.30 p.m. on October 22 and November 19, 1954.

Telephone table reservations to HOL 7373 prior to day of luncheon. Visiting amateurs especially welcome.

G8TR operating G3GLV/A from Walton Hall, Warrington, during the North-western Topsfest. Others in the picture include G3BZT, G3IFC, G3AHF, G3IZT, G3JUP, G3GCU, G3JND, G3GST, G3HWB, GW8WJ, GW2FCV and GW3GLV.

(Photo by courtesy of the Warrington Examiner)

Radio Amateur Emergency Network

Procedure

EMERGENCY procedure for use by all R.A.E.N. groups has been prepared by the R.A.E.N. Committee to ensure standardisation throughout the United Kingdom. It is printed here so that all members may be aware of the system used by the Network.

It is emphasised that the primary duty of the Network in an emergency will be to send back information to the nearest available centre possessing Post Office telephone facilities. The Service must not usurp the functions of the Post Office or other Government communication systems.

Control Station

This will normally be that of the E.C.O. or his deputy. The control station of a group is responsible for seeing that traffic is properly cleared, and for the maintenance of proper signals-discipline within his group of outstations.

Out Stations

Out stations must obey promptly all orders and instructions from Control. This is most important. Chaos may easily result if the group does not respond to control.

N.B.—In all work ACCURACY comes FIRST; speed comes with practice. Repeats cause delay.

Calling Frequencies

The normal calling frequencies for R.A.E.N. should be used for establishing initial contact only. Control will call up his out stations on this frequency to ascertain the number of stations available on watch.

The recommended calling frequencies are: 1980; 3600; 7050; 14100; 21150; 28200 kc/s and 145 Mc/s.

It is recommended that selected out stations should be given practice in acting as control in the event that the E.C.O. is not available in the emergency.

W/T Procedure

Control calls his group on the calling frequency in use by the group. Out stations reply promptly in the order called and await instructions for frequency change from Control.

Example

1. Control calls out stations on calling frequency:
   G3AA (2) G3BB (2) G3CC (2) de G3EE (2) RAEN AR K.
2. Out stations reply in order called:—
   G3EE (2) de G3AA (2) BT ur 579 (2) AR G3AA K.
   G3EE (2) de G3BB (2) BT ur 589 (2) AR G3BB K, etc.

If any out station fails to reply, all stations stand by for 10 seconds and then Control breaks in to tell the next out station to proceed.

When all stations have reported, Control instructs them to change to the working frequency.

Examples

1. Control calls out stations on calling frequency giving the new working frequency:—
   G3AA G3BB G3CC de G3EE QSY 3520 (2) NW.
2. Control then shifts to 3520 kc/s and gives time for each station to net:—
   G3AA G3BB G3CC de G3EE 3520 net net——(long dash) de G3EE AR K.
3. Out stations reply in proper order on the new frequency giving reports as before.
4. Control answers the group giving reports:—
   G3AA G3BB G3CC de G3EE BT G3AA 579 G3BB 569. G3CC 579 BT STN RPTS AR G3EE K.
5. Out stations then report in order on the other stations:
   G3EE de G3AA R BT G3EE 589 G3BB 579 G3CC 579 AR G3AA K.
   G3EE de G3BB R BT G3EE 589 G3AA 569 G3CC 579 AR G3BB K, etc., etc.
6. Control acknowledges for the group and requests repeats as necessary.

The group is now " netted " and is ready for traffic.

It is emphasised that calling and netting must be carried out accurately and speedily. This can only be assured by constant practice. Local nets should pre-arrange their local working frequencies so that no delay will occur in making the frequency change.

If the inter-station reports are good then traffic can be passed from out station to out station direct with all group stations standing by on the frequency. If conditions do not permit this, then Control is used to relay traffic between out stations., *e.g.*, G3BB does not receive G3CC well and has traffic for him so he calls Control:—

G3EE de G3BB BT QSP G3CC AR G3BB K.
G3BB de G3EE BT R K,

and G3BB proceeds to send his traffic which G3EE relays to G3CC.

All out stations must be prepared for Control to break in and interrupt or defer messages between out stations.

If more than one out station calls simultaneously, Control alone answers to determine the order.

If traffic is heavy, Control may designate another channel to a pair of out stations who then use this alternate frequency for their inter-station work, returning to the working frequency as soon as work is finished, and advising Control of their resumed watch, *e.g.*,

G3EE de G3BB BT QTC G3CC AR G3BB K.
G3BB de G3EE BT R QSY 3530 AR G3EE K.
G3EE de G3BB BT R QSY 3530 SK.

Control then advises G3CC:—

G3CC de G3EE BT QSY 3530 for G3BB AR G3EE K.
G3EE de G3CC BT R QSY 3530 SK.

Stations G3BB and G3CC then continue on 3530 kc/s returning to the net on cessation of their traffic and reporting in, *e.g.*,

G3EE de G3BB BT QSX AR G3BB K.
G3BB de G3EE BT R AR G3EE.
G3CC reports similarly.

Message Layout

Messages will be of the following form, sent in this order:

(a) Priority. (b) Serial number (includes time).
(c) From address. (d) To address.
(e) Text of message. (f) Originator's signature.

There is no word count.

(a) *Priority Classification*

1. Urgent	.....(URG)	Police, Red Cross, etc.
2. Service	.....(SVC)	Messages relating to the working of the net.
3. Unclassified	(UNC)	Messages of less importance.

Every message should have a priority prefix—URG, SVC or UNC.

(b) *Serial Number*

This will be the call-sign letters (less prefix G and figure) of the originator's call (decided locally when the Group is formed) followed by the time (2400 system G.M.T.).

This method gives the origin at once besides serving as a message number for check purposes.
A date is unnecessary as each day's traffic should be bundled under one day's work for reference., *e.g.*, G3EFA has a message which he sends at 1730; serial number is EFA1730.

(c) *From address*
This is the originator's address, location or identification, *e.g.*, PC49 CLACSEA; WVS FIFTH ROAD SMALLSEA.

(d) *To address*
The address for delivery. Originating stations accepting traffic should ensure that this is sufficient for delivery. An insufficient address causes complete waste if the message remains undelivered, besides calling for SVC messages for better address and notification of failure to deliver.

(e) *Text of message*
This should be accepted as written or instructed. Modifications or abbreviations should not be made without the consent of the originator. Punctuation is normally limited to comma and full stop signalled as COMMA and STOP.

(f) *Signature*
This is necessary as this is the authority for the message.

Example
Out station calls Control:—
G3EE de G3BB BT QTC AR G3BB K.
G3BB de G3EE K.
G3EE de G3BB BT URG BB1342 BT PC49 HICKS FARM BT WVS DEPOT SMALLSEA BT THREE DOZEN BEDS WITH BEDDING URGENTLY NEEDED HERE BT JONES PC49 AR G3BB K
G3BB de G3EE R K
G3EE de G3BB NIL AR G3BB
(meaning G3BB has no more traffic on hand.)
G3EE then telephones the message complete with " from address " to the " to address," collecting any answer for transmission to PC49 *via* G3BB.

Relaying

If a message is relayed, it receives a new serial number at the relaying station, *e.g.*, G3EE receives from G3BB message BB1342 for G3CC. G3EE transmits it to G3CC with new number EE1351, the time of re-transmission. If G3CC's recipient has any query it is easily checked by reference to G3EE's No. EE 1351 and further G3EE can check by reference to G3BB's BB1342.

Copies of messages

Wherever possible the originating station should keep the original message on file, whilst relaying and receiving stations should keep carbon copies on file for reference.

Miscellaneous

1. FAILURE to deliver a message.
   If after all endeavours a station fails to deliver a message he should originate a SVC message to the originator advising him of non-delivery and giving the reason. This is important.
2. COLLATING, *i.e.*, repeating back to ensure accuracy. If this is specifically desired by the originator in an important message the letters COL should be added to the Priority, *e.g.*, URGCOL.
3. A station making use of the *wait* signal (AS) should indicate the expected duration thus: AS 3 meaning " wait three minutes."
4. A station having to *close down* out of the net for a period, should inform Control by use of CL followed by duration of cessation or other indication of resumption of work,
   e.g., G3EE de G3BB BT CL 0800 TMW G3BB
   (will resume at 0800 to-morrow).
5. The signal R or R OK means that everything has been received correctly. It must not be given if any word is in doubt or the message is in any way incomplete.

Abbreviations

Use should be made of relevant Q signals and abbreviations:

AA	All after
AB	All before
AR	End of message or transmission
AS	Wait
BN	All between
CFM	Confirm
CL	Closing station
GM	Nothing heard
IMI	Question mark /send again/I send again
K	Invitation to transmit
KK	Brackets (before and after words bracketed)
R	Received correctly
SK	End of transmission—no reply expected
WA	Word after
WB	Word before
XE	Oblique stroke

Q Signals

(Reference should also be made to *Handbook for Wireless Operators*, Rg67, H.M.S.O., 3s.)

QRG	Frequency is .....
QRH	Your frequency varies
QRJ	I cannot receive you, your signals are weak
QRK	How are my signals?
QRL	I am busy/are you busy?
QRM	Interference
QRN	Atmospherics
QRQ	Send faster
QRS	Send more slowly
QRT	Stop sending
QRU	I have nothing for you/Have you anything for me?
QRV	Are you ready/I am ready?
QRW	Tell.....I am calling him on .....kc/s
QRX	Wait...../Shall I wait?
QRZ	Who is calling me?
QSB	Your signals fade
QSL	Please acknowledge receipt
QSM	Repeat the last telegram
QSO	Station contact
QSP	Retransmit to.....
QSV	Send series of Vs
QSW	Send on.....kc/s
QSY	Change to.....kc/s
QSZ	Send each word twice
QTA	Cancel No.....as if it had not been sent
QTC	I have.....messages for you
QTM	My position is.....
QTR	The time is.....

Special Q Signals for R.A.E.N.:

QRRR	National distress signal to alert stations for a genuine emergency
QNA	Answer in alphabetical order of calls
QNC	All stations copy
QNE	Whole net to stand-by
QNH	Your net frequency is high
QNL	Your net frequency is low
QNN	Net control station is.....
QNS	The following stations are in net.....
QNT	Request to leave net until.....
QNU	..... has traffic for you
QNX	You are/I request—to be excused from net

R/T Procedure

R/T will normally be used for short distance work, probably from a more-or-less fixed Control in a reasonably secure location to out stations, possibly very low power mobile units, working under extreme conditions.

Speech should be clear and distinct, special care being necessary with consonants. The speed should be adapted to suit the circumstances; the voice should preferably be pitched high; it should be kept at reasonably constant loudness and the natural rhythm should be preserved. Avoid unnecessary interjections, *e.g.*, "er" "ah," etc. If words are spelt out the phonetic alphabet used is:

A	Able	J	Jig	S	Sugar
B	Baker	K	King	T	Tare
C	Charlie	L	Love	U	Uncle
D	Dog	M	Mike	V	Victor
E	Easy	N	Nan	W	William
F	Fox	O	Oboe	X	X-ray
G	George	P	Peter	Y	Yoke
H	How	Q	Queen	Z	Zebra
I	Item	R	Roger		

Standard Phrases

Roger—Received all your last transmission.
Standby
Repeat
Verify—Check text, etc., with originator and re-send
Read back—Collate, *i.e.*, repeat the message back as received for check
That is correct
Correction—An error has been made, the correct version is.....
Break—Indicating separation between the parts of the message.
Over—My transmission is ended and I wait a reply from you.
Out—I have finished my traffic and no reply is expected.
All stations—Message for all stations.

Form of Message

It is realised that in many emergency cases the out stations will be unable to fill in message forms, etc. although this should be done if possible. The Control station, however, should endeavour to keep copies of all messages for reference,

RADIO AMATEUR EMERGENCY NETWORK

Message Form

OPERATOR'S USE ONLY		TO BE FILLED IN BY USERS—BLOCK LETTERS
PRIORITY:	SERIAL No.:	FROM (ORIGINATOR'S ADDRESS):

TO (Address):

TEXT: **BLOCK LETTERS**

DATE: **TIME:** **SIGNATURE:**

OPERATOR'S USE ONLY

SENT/RECEIVED* BY AMATEUR RADIO STATION ..... TIME OF RECEIPT.....

FROM*..... TO*.....

DATE ..... OPERATOR'S SIGNATURE .....

MESSAGE DELIVERED .....

* *Delete as necessary*

when delivering *via* G.P.O. lines, clearly recording the station originating and the time of receipt.

A complete message should consist of:

(a) The Prefix—Urgent, Service, Unclassified; (b) Station call and time (inserted as above by Control or station receiving); (c) From address; (d) To address; (e) Text; (f) Originator.

Calling

Control calls the out stations on the calling frequency to ascertain number of stations on watch and to alert them. If necessary Control then announces the working frequency and stations report ready for traffic. In an emergency Control should alert his net by calling " RAEN Emergency " several times before giving call-signs. For practice purposes "RAEN" (pronounced rain) only should be used. All transmissions should begin with " Hullo! "

Example

Control calls net on calling frequency:

" Hullo RAEN, Hullo G3AA and G3BB this is G3EE calling—over."

Stations reply in the order named:

" Hullo G3EE G3AA answering loud and clear—over."

" Hullo G3EE G3BB answering loud and clear—over."

Control acknowledges with " Roger."

Control, if necessary, orders a change to the working frequency, *e.g.*, " Hullo G3AA and G3BB G3EE calling change to 144—over."

Stations reply as before on the new frequency giving reports which Control acknowledges when both out stations have reported.

G3BB has a message for Control (who has telephone land line), *e.g.*, " Hullo G3EE G3BB calling message for you—over."

" Hullo G3BB G3EE answering send your message—over."

" Hullo G3EE G3BB answering message begins URGENT 1435 I say again 1435 break FROM PC49 SANDSEA I spell Sugar Able (etc., etc.) break TO WVS DEPOT SMALLSEA break ARRANGE FOR RECEPTION OF 30 I spell three zero CHILDREN break JONES PC49 message ends read back—over."

G3EE acknowledges with the usual call and Roger, repeats the message, gets Roger from G3BB and then proceeds to deliver the message, filing a copy with G3BB's call, time, etc. for reference.

Numerals

0 is " zero " and 9 is " niner."

Figures may be preceded and followed by the phrase " as a number ":

e.g., " as a number 4 as a number."

In cases of doubt the receiving station may ask for a repetition or obtain repeats of parts of a message by the use of the phrases— " all before..... "; " word before..... ", " word after..... "; " all after ..... "; " from.....to....."

Long messages may be sent in sections of about 20 words if necessary, each part being duly acknowledged; the whole message finally being read back by the receiving station.

Reference

Reference should be made to the relevant information in the Civil Defence Handbook No. 1—*Wireless Instruction for Civil Defence*, H.M.S.O., price 6d.

Slow Morse Practice Transmissions

Organiser: C. H. L. Edwards (G8TL)*

G.M.T.	Call	kc/s	Town
Sundays			
09.00	G3GYV	1900	Whitley, near Warrington
09.30	G3BKE	1900	Newcastle on Tyne
10.00	G6MH	1990	Southend-on-Sea
11.00	G2FXA	1900	Stockton-on-Tees
11.00	G3GZA	1837.5	Bristol
12.00	G3LP	1850	Cheltenham
12.00	G3JBU	1850	Northampton
12.00	GI5UR	1860	Belfast
14.00	G5AM	1900	Witnesham, Ipswich
21.00	G2FIX	1812	Nr. Salisbury
Mondays			
19.00	G3NC	1825	Swindon
19.00	G3JBU	1850	Northampton
19.15	G2FRX	1850	Plymouth
21.00	G3BLN	1900	Bournemouth
21.00	G3FSM	1900	Brentwood
22.15	G2BRH	1900	Ilford
22.30	G8TL	1900	Ilford
Tuesdays			
18.30	G2FXA	1900	Stockton-on-Tees
18.30	G3JMP	1875	Bristol
20.30	G3GDZ	1905	Kingsbury, N.W.9
21.00	G3EFA	1855	Southport
21.30	G3DBP	1915	Nottingham
Wednesdays			
19.00	G3GZA	1837.5	Bristol
19.00	G3HUB/A	1902	Chelmsford
22.30	G3FBA	1910	Bath

* *10 Chepstow Crescent, Newbury Park, Ilford, Essex.*

G.M.T.	Call	kc/s	Town
Thursdays			
19.00	G3NC	1825	Swindon
19.15	G2FRX	1850	Plymouth
20.00†	G2CPS	1910	Hull, Yorks.
	G2CNX		
	G3GWT		
20.30	G3JQM	1878	Barwick, Yeovil
22.30	G3ADZ	1940	Southsea
23.00	G3LA	1915	Brentwood
Fridays			
18.00	G3GEN	1900	Gloucester
19.00	G3BLN	1900	Bournemouth
20.00	G3IIH	1900	Wirral
20.30	G3IMP	1920	Romford
Saturdays			
13.00	G2FXA	1900	Stockton-on-Tees

† *Alternately.*

Members using this service are requested to send listener reports to the stations concerned.

G3EPK on QRO

MEMBERS who happened to hear a Light Programme *Radio Newsreel* feature a few weeks ago on the subject of the printing of Oriental languages may have detected a familiar voice in a recording which the B.B.C. broadcast on that occasion. The voice was that of Mr. Stanley Harrison, J.P. (G3EPK) of Hertford. Mr. Harrison was interviewed by Radio Newsreel reporters in his capacity as head of the typesetting firm who specialise in the printing of Oriental languages.

TWO METRES AND DOWN

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

DURING the past month conditions on 2 m were best, although only occasionally really good, between August 25 and September 3. In many reports it is suggested that the low level of activity produced by a long spell of poor propagation conditions did not permit full advantage being taken of the openings that did occur.

This criticism comes from all parts of the country and while undoubtedly true in some respects, is somewhat difficult to reconcile with some of the "Ladder" scores and reports referred to later. However, there is room for all and new stations continue to make a welcome appearance on 2 m, many making their debut in Amateur Radio on this band.

Station Reports

G3IUD (Wilmslow, Ches.) has worked 114 stations since July 1, some recent contacts being with G2AIW, '2BMZ, '3EGW/P (Westmorland), '3IOE (Northumberland), '3YZ/P (Gloucester), '4LX/P (Northumberland), GM6WL/P (Wigtownshire), GW3EGW/P (Radnor), GW8SB/A (Anglesey) and EI5Y. GW3EGW/P was also heard from Merioneth but conditions were poor and deep fading prevented a contact.

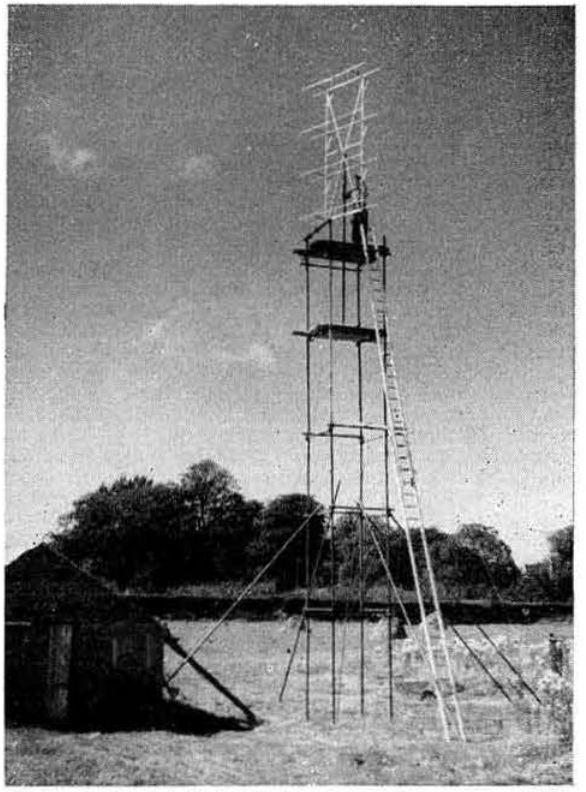
From **G3WW** (nr. March, Cambs.) we learn that on the second day of the European V.H.F. Contest (August 29) F8MX was worked by a number of stations including G2BMZ, '2PU, '3EPW, '5YV and '8SK. G3BW at RST449 at 2327 B.S.T. on the 28th was '3WW's best distance. GC3EBK was being called by GD3UB on the second day but it is not known whether signals were exchanged. The Isle of Man station was first worked by G3WW on August 17. Conditions improved to the east on August 31 resulting in a QSO for '3WW with DL3VJ (RS57), who said he had been inactive since last December. PA0NO (RST589), ON4HN (559) and PA0VLM (56) were all called without success. Fading was very severe. G6XX called DL9MZG, G2PU worked F8MX. G3BRX (Wantage) was a new contact for '3WW, who, on September 1 was called by ON4HN but fading prevented a QSO. However, reports were exchanged with PA0FC, G3FAN and '3BNC. G3FAN was worked again on the 3rd when he was using his new v.f.o. (similar to G2HCG's) with an excellent note. GW2HQ/P (Aberdovey, Merioneth) was worked on September 8 at 2313 B.S.T. after several attempts and reports of RST559/549 passed.

Following his fine bag of portable stations listed last month, B.R.S.20154 (Richmond, Sy.) has logged over 100 different stations on 2 m during the past four weeks. Among the best were: G2AK, '2ATK, '2BMZ, '2DCI, '2FJR, '2FZU, '2HCG, '2XV, '3AUS, '3CGQ, '3DO, '3EHY, '3EPW, '3FAN, '3GNJ, '3HHY, '3WW, '3YZ/P, '4MW, '5YK, GW8UH, EI2W, DL3VJ, F3LP, F8MX, F9CQ/P, ON4BZ, PA0FC, PA0HAK, PA0UI and PE1PL. Apart from the period August 30 to September 3, when the EDX was heard, B.R.S.20154 attributes much of his success to the pair of skeleton slots recently erected.

G3JGJ (Plympton, S. Devon) worked G3FIH (Bath) and heard G8DA (Exeter) for the first time. Welsh stations provided consistent signals and included GW2II worked and GW2ACW, GW8SU and GW8UH heard frequently at an average strength of S3/4. Contacts with F8ME and F3ER, both very strong signals, produced reports of RS57 and RS59 respectively. G3JGJ calls CQ, beaming east, every evening at 2000 G.M.T. and every Sunday morning at 0830 G.M.T.; he would like to get in touch with a listener willing to run a short daily sked.

On September 3, between 2000 and 2100 B.S.T. when beaming e.n.e. **'3JGJ** received a signal on 145.5 Mc/s approximately which gradually increased in strength from zero to S8/9. When the transmission became fully readable it was found to be carrying the B.B.C. Light Programme. It ceased abruptly at 2100 B.S.T. and was not heard again.

G3CCH (Scunthorpe, Lincs.) worked GI5AJ, G4LX/P (Northumberland), G3BW, G3IOE, G3EHY and G3GBJ on August 26 and GM3BDA and GM3EGW during the



This impressive sight is the 16 element 2 m phased array at EI4E (Killarney). It is constructed of ¾in. diameter aluminium tubing and 1in. by 1in. timber and is mounted on a temporary tower of steel scaffolding. The top of the aerial is 50ft high. A gain of approximately 12 db is obtained. EI4E is active most evenings from 1900 to 2300 G.M.T. with 60 watts input to an 829B and cascode converters.

* *32 Earls Road, Tunbridge Wells, Kent.*

European V.H.F. Contest on August 28/9. Next day conditions improved and QSOs were enjoyed with GD3UB and GI3GQB. At that time a station was audible for two hours from a westerly direction on approximately 144.07Mc/s signing GI3--D/P but owing to rapid fading his call was never fully readable. Conditions were good to the south-west on September 2 when G3DLU and GW8UH were worked. A number of calls to G2BMZ (Torquay) were unsuccessful.

B.R.S.19162 (Dewsbury, Yorks.) heard his first station from the London area on August 25 when G6RH came up on a completely dead band. Conditions were much better on the following evening and eight stations in the Midlands were audible together with G4SA and '6RH. The former was again heard on August 27 and 30 and G6AG on September 1. Due to heavy local screening most signals heard are from the south or south-east; stations only 20 miles to the west are inaudible. G6XX (Goole), 25 miles to the east, has been heard but 20 miles or so is the best distance so far recorded in a northerly direction.

A moderate opening between August 29 and September 2 is reported by **G2CZS** (Chelmsford). During that period F8GH, F8JR, G2ATK/M (Broadway Hill, Worcs.), '3CRH (Lichfield, Staffs.), '3HHY (Solihull, Warks.) and '6XX were worked, together with a number of new stations in the Home Counties. It would appear that the latter was an effect of a general eastward turning of beams during the European Contest.

G5MA writes appreciatively of the hospitality extended to his wife and himself during a recent holiday in Eire and mentions particularly EI2G, President of the International V.H.F. Society, and EI2W. One look at the latter's mountain site outside Dublin explained why Harry is the most successful EI station on 2 m.

During the past month **G3EMU** (Canterbury) worked G3ANB, '3FSD/M (local), '5KW/M (Dorking), F8GH, ON4AC, ON4IE, PA0NO and PE1PL. Stations heard included G3DIV/P, '3IEX, '3WS, '5MR, '5PZ, '6NB, '6RH, DL3VJ, F8AA, F8MX and ON4HN. Several spells of very high noise level were noticed.

During the European V.H.F. Contest **G5MR** (Hythe, Kent) found conditions fair for French stations but poor for this country. For the 18 contacts made, the average distance was 105 miles per contact. On the three days immediately following the Contest conditions were excellent. Stations in Devon and Cornwall were coming in at great strength working continentals on August 30; on the 31st and on September 1 DL9SH and PE1PL respectively were heard. This indicated exceptional conditions as during his whole time on the 2 m band G5MR has only worked one station in each of these countries.

Between August 28 and 31 **G3JHM** (Worthing, Sussex) worked G2BAT, '3AGA, GC3EBK, F3JN, F3LP, F8GH, F8ME, and F9CQ/P, F8ME (St. Brieuc, Brittany) being RS58/9 on the 29th. F3YE, F8AA, F8MX, F8OB, F9EA/P, F9JY, F9NW and PE1PL were heard.

From the *Lea Valley Reflector* we learn that G8SK, who uses a 3-valve 2 m transmitter with an input of 20 watts, heard 49 British stations in 2 days for a total of 12 hours listening. In addition, a DL was heard on 'phone as well as several Dutch, French and Belgian stations.

B.R.S.6327 (London S.W.18) started listening on the 2 m band on September 6 and in the following 10 days logged 28 stations on 'phone and one on c.w. The receiver—the first he had constructed—was an R.S.G.B. Converter into an Eddystone 740. No difficulty was experienced in getting the converter going.

According to information from **B.R.S.16075** (Shirley, Southampton), who is C.R. for Hampshire, the following stations are in operation in his part of the country: G2ATT (Totton) on 145.31 Mc/s, '3ARL/P (I.o.W.), '3BHS (East-

Regional V.H.F. Ladder

TWO METRE BAND

Psn.	Call & Location	Worked Regions	Worked Stations	Worked Countries
1.	G3IUD ..... *Wilmslow, Ches.*	14	114	6
2.	G3CCH..... *Scunthorpe, Lincs.*	13	80	5
3.	G3DO ..... *Sutton Coldfield, Warks.*	11	47	3
4.	G3BW ..... *Whitehaven, Cumbs.*	10	20	5
5.	G8VN ..... *Rugby, Warks.*	9	45	1
6.	G2CZS ..... *Chelmsford, Essex*	8	64	3
7.	G5MR ..... *Hythe, Kent.*	8	39	3
8.	G6XX ..... *Goole, Yorks*	8	21	5

leigh), '3CGE (Southampton) 145.47, '3CTM (Southampton), '3DTT (Netley), '3EUQ (Southampton), '3FAN (I.o.W.) 144.72, '3GAV (Winchester) 145.3, '3GOP (Southampton) 144.45, 145.35 and 145.5, '3GVC (Purbrook) 145.3, '3ION (Southampton) 144.72 and 145.3, '5TZ (I.o.W.) 144.99. Of the foregoing the most active are G3CGE, '3FAN, '3GOP, '3ION and '5TZ. G3ARL, '3CGE, '3GOP and '3ION can work portable and are all on R.A.E.N. nets. For the past two years G3CGE has been using a compact transmitter and receiver (designed by B.R.S.16075) consisting of 6AK5 r.f., 6AK5 mixer, 9002 osc., 6AJ5 5 Mc/s i.f., EF91 regenerative det., 6C4 a.f. and EL42 output. The last two valves serve also as the modulator for the 6J6 p.a. The whole station may be operated from either 230 volts a.c. or 6 volts d.c. B.R.S.16075 has also built a number of 2 m converters with various combinations of valves and his findings are as follows: Cascodes—6BQ7A, 2.8 db; PCC84, 3.5 db, noise factor; earthed-grid triodes—R.S.G.B. Converter and ON4BZ, each 4·3 db noise factor. The 6BQ7A cascode and the R.S.G.B. converter were both found very easy to get going. On the former, using a temporary indoor dipole, 30 stations were heard during the past month including G2BAT, '2BMZ, '2DVD, '2FJR, '2HCG, '2XV, '3AUS, '3DLU, '3FIH, '4AU, '5RZ, '6AG, '6NB, '8DA, GW8UH, F8GH and F9NW. The experimental 90 Mc/s f.m. transmissions from the B.B.C., Wrotham, are well received in Southampton with a folded dipole with director and reflector spaced 0.15 and 0.25 wavelength respectively. The receiver line-up is 6J4 e.g.t. r.f. and EQ80 nonode detector.

PE1PL is active on 2 m every Saturday from 1400 to 1500 G.M.T.

The 70 cm Band

Following publication of a note in the August BULLETIN **G3JHM** (Worthing, Sussex) is now running a sked with G3HBW (Alperton, Middx.) at 1230 G.M.T. on Sundays. The 50-mile path seems workable on most occasions the average report being S5 to S6 on c.w. G3GDR (Abbots Langley, Herts.) has also been worked at 62 miles but this contact is more dependent upon conditions. During the first part of the 420 Mc/s Tests only four stations were worked—G2DDD, '2DSP, '3GDR and '3HBW with G2DD heard at RST339.

For the first part of the Tests **G8SK/P** was in operation on Dunstable Downs. Activity was rather low with a lack of signals from the north. Nevertheless 16 contacts were made including one with G3GZM/P (nr. Ludlow) at 110 miles. G3HBW made 18 contacts in the same period

among which were G2DDD (Littlehampton, Sx.), '2DSP (Bognor Regis, Sx.) and '3JHM, all at approximately 60 miles. The signals from G2DDD were S7/8 throughout the period. Only two portables were heard and worked—G2WS/P (nr. Westerham, Kent) and G8SK/P. It is understood that, among others, the following stations are active: G3AOO (Manchester) 433.2 Mc/s, '3APY (Kirkby-in-Ashfield, Notts.) 433.3, '3CCH (Scunthorpe, Lincs.) 433.7, '3DA (Liverpool) 432.6, '3IOO (Oswestry, Salop), 432.78, '3IUD (Wilmslow, Ches.) 432.68, '5GX (nr. Hull, Yorks.) 432.9 and '5YV (Leeds) 432.72 Mc/s.

On September 15 at 2300 B.S.T., F8GH (nr. Beauvais) was heard by **G3HBW** at great strength on 2 m. A contact ensued but signals fell rapidly in strength to S5/6. On changing to 70 cm the French station was RST559 with peaks up to S7 but due to a combination of interference and fading a two-way on 70 cm did not materialise. F8GH calls CQ-G on 434.92 Mc/s on Saturdays and Sundays from 1400 to 1415 G.M.T. and listens during the following 15 minutes.

G3JGJ (Plympton, S. Devon) is on 436.5 Mc/s with an 832A tripler and a 16-element beam at 60ft, but has so far heard nothing.

London Area 70 cm Activity Report

G2RD (Wallington, Sy.) reports as follows for the period August 22–September 21: G2DD (434.82 Mc/s), '2DDD (435.6), '2DSP, '2FKZ (435.95), '2HDJ (434.5), '2HDY (435.5), '2RD (435.53), '2WS/P, '2XV (435.24), '3FSD, '3FZL (435.24), '3GDR (435.39), '3HBW (434.61), '3IRW (434.4), '3JHM (434.92), '3JMA, '3JQN/A (434.84), '3MI (434.13), '5CD (435.6), '5DT (434.9), '5KH (435.2 approx.), '5RD, '5TP (435.9), '5UM (434.37), '6NF (435.5 approx.), '8SK/P.

G2BVW (Leicester) calls each night from 1905 to 1910 G.M.T. and listens for the next five minutes beamed on London.

V.H.F. News from Ireland

Amateurs in Eire are now permitted to use 150 watts input on 2 m; the previous limit was 25 watts.

August 25 provided the best EI/GM opening yet experienced, signals being many S points stronger than normal. Similar conditions ruled in a northerly direction.

Two metre activity in EI is on the upgrade. **EI5Y** made several cross-channel contacts on the night of August 31 including G2CBR, '3BW, '3EPW, '3GPT, '3IUD, '3ITY, GI3GQB and GW8SB/A. EI9N and EI4N worked one another for the first time on September 13. Down in Killarney, 220 miles s.w. of Dublin, EI4E is looking for British stations and is active every night between 2200 and 2300 G.M.T., 'phone or c.w., on 145.1 Mc/s. A well-sited 16-element stack is in use.

EI2W worked 22 stations using 40 watts to an 829B, a 16-element stack, and a Walman Cascode converter. These included G5BD (Mablethorpe), '6NB (Brill, Bucks.), GM3BDA (North Berwick) and GM3EGW (Dunfermline). On 70 cm conditions have been poor and tests carried out between GI3GQB and EI2W on August 19 failed to produce signals in either direction. GM6WL/P did, however, hear weak signals from EI2W on 434.7 Mc/s during the afternoon of September 14 and on the following day copied that station at RS44 from 1535 to 1545 B.S.T. The distance to GM6WL's site on the Mull of Galloway was 125 miles.

* * *

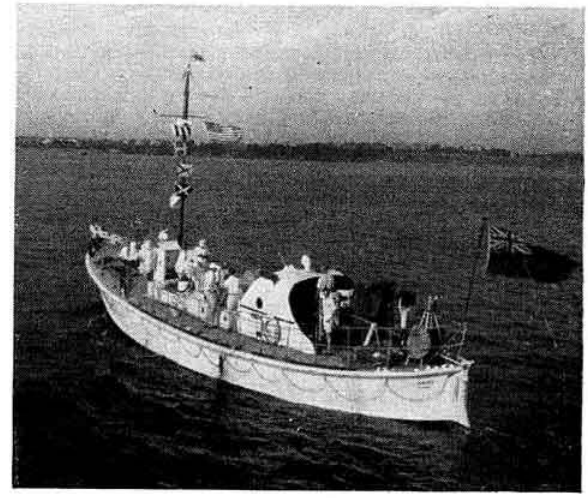
The closing date for the November issue will be October 20 and we look forward to receiving at least as many reports as are published this month.

Can You Help

● F. H. Hudson (B.R.S.18466), 49 Radstock Road, Stretford, Manchester, who requires the technical manual and/or circuit diagram for the American v.h.f. receiver type R44/ARP5?

The Aries Research Voyage

DURING the return voyage of the *M.V. Aries* from Block Island Yacht Basin, Long Island Sound, U.S.A., to Kingston-on-Thames, Surrey, a number of contacts were made with amateur stations in the U.K. The first was with GM3JCY on 7 Mc/s when the vessel was less than 400 miles out from New York. Further contacts were made the same day with G3AAE, SM3EP, DL3OS and FP8AP and on subsequent days with DL6NP, CT2BO, GM3HRZ, G3AAE, DL4DK, G6HL and G6XA. In point of fact no less than 140 contacts were made with stations in the United Kingdom, U.S.A., Canada, and South America. The best U.S. report came from W2JA (New Jersey), who reported signals from *Aries* RST559 at a range of about 2500 miles.



(Photo by courtesy of Socony-Vacuum Oil Co., Inc.)

The Aries arriving in New York Harbour. Brooklyn is in the background. The aerial system (two 33ft wires with two 7ft downleads to a single terminal) was suspended between the mainmast and the ensign staff.

Unfortunately, on July 31, the main power supply failed and with only emergency batteries further amateur work had to be abandoned.

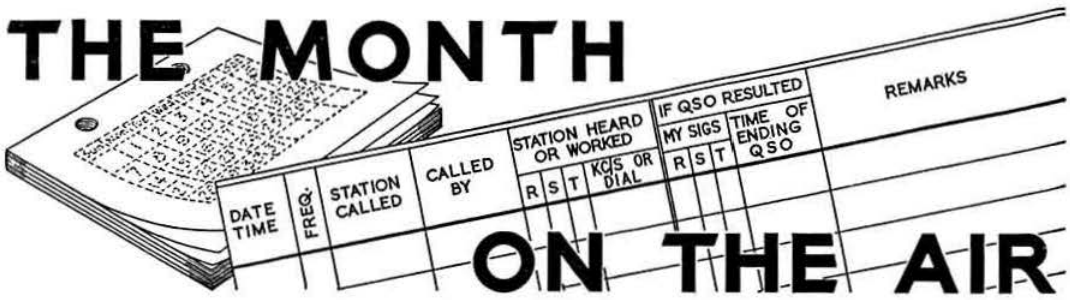
The ship's radio installation gave no technical trouble at all, apart from the aerial which was carried away on several occasions. The whole voyage was quite uneventful from the communications point of view, thanks largely to the Pye Admiralty type 619 equipment which with an output of only 40 watts achieved results that would have done credit to many 150 watt rigs.

The radio operator, Lt. E. Skelton (C.M.G.) R.N.V.R. (G3JOQ) records his thanks to all amateurs, particularly G6HL, K1NAN, VE1ET and W1RSC, who helped out on the odd occasions when spots of trouble cropped up.

Transistor Time-Base Oscillator

A NOVEL exhibit on the Television Society's stand at the National Radio Show was an experimental miniature line time-base oscillator using a Mullard OC.51 transistor, designed by C. H. Banthorpe of Derwent Television, Perivale.

The oscillator, which only occupies a 2in. cube in size, is intended to operate in a " flywheel " circuit. If the oscillator is not phase-locked to the line sync pulses, the h.t. automatically varies so that it is brought into synchronism.



By S. A. HERBERT (G3ATU)*

APPROACHING winter is producing the customary changes in the behaviour of the bands. Twenty is dead most evenings shortly after dusk (fifteen dies about the same time), while the low frequencies are starting to come to life again. Forty is worth watching from mid-day onwards, in fact for those who can cope with the various annoyances—and by no means all of them are non-amateur—that band can provide considerable fun. As for Top Band, the level of DX activity promises to exceed the previous best. Given anything like reasonable conditions, the season should produce something to interest all but the most jaded.

Twenty Metres

Twenty has been altogether more lively recently from a DX viewpoint. Far Eastern signals have been consistent during the afternoons for most of the month and VKs are beginning to appear about mid-day, with Central and South Africans in the early evenings.

One or two really rare stations came up during the past month and produced all the usual reactions. Good operators—and there are lots of them—made contacts with the minimum of fuss and bother, while " the other kind " (and there are plenty of them, too!) spared no effort to make things difficult for themselves and everyone else. **SV0WK/SV9** was active from Crete for a few days and made numerous contacts on c.w. and phone. But in the end, the antics of the well-known European " circus " had its effect. A QSO with a VQ2 was messed up by these gentry sitting on the VQ2 who was then asked to move 15 kc/s and call again; the " circus " moved up with him! Result—a disgruntled SV0 flew back to Greece next day.

An enthusiastic—and more orderly—reception greeted the appearance of **VK1EG** (MacRobertson Land), whose c.w. signals broke through into Europe for the first time on September 14. During the two hours or so that he was audible he worked several G stations, the first being **G3IAD** (1615). The day in question had already produced a fantastic assortment of DX. From mid-day HS1D, ZC5VS, XZ2EM, VS4HK, FR7ZA (on both c.w. and phone) and several FI8s were good signals. Then came VK1EG with a strong but " watery " signal. An ionospheric storm was obviously building up in the Southern regions. Next day the band was flat.

Station Reports

Still dealing with twenty metres, **G3IAD** followed the VK1 QSO with other rare ones in CE0AD, SV0WK/SV9, and ZS9I. A 132ft wire and 100 watts have netted 119 countries for '3IAD. **GM3EYP** (ex-VP8AP) used a Panda transmitter and a home-made 3-element rotary to raise VK5XN, W1MCW, ZD3BFC, VU2RC (phone), SM7 and VP8AA (c.w.) for a 6½ hour W. A. C. John was also one of the lucky ones to work VK1EG. **G3IGZ** was unlucky with SV9, VS4, ZS7C, ZS9, VQ8CB (Chagos) and XE1NA (why is it we so rarely hear Mexico?), but managed KA, VS1 and 6, AP5TM (Rawalpindi), F9QV/FC, VP4LZ, W7KEV (Nevada), VK4, DU7SV and FI8AP. The latter QSL's by air-mail. **G3ASL** was one who worked VK1EG. A new one for **G2BP** was F8FW/FC on c.w. **G3JFF,** by now basking in Mediterranean sunshine (all in the course of duty, too!), hopes to put his 12 watt portable in operation from Corsica, Sardinia and Malta, etc. Before leaving home, he worked W7SFA (2200), W7FB, VP8AQ, SM8ER (Indian Ocean), ZC7BB, MP5QAH, FI8AP and I3AE (Icione? There was a I3 active from Leghorn, so this one seems also to be in Italy proper). Stations were heard calling CZ1AC, who, we imagine, is in the same category as the CZ1AC of some years back. It will be remembered this station actually operated from Switzerland, while claiming to be in Monaco. **G3ENY** (a 2 m man!) has received a letter from Denis Alimundo, G4HK, now **VS4HK,** c/o P.M.G., Kuching, Sarawak, to say that he is looking for G contacts. Denis hopes to operate from VS5 later in the year.

G3FXB was delighted to contact VQ8CB (14040 at 1500), ZD6BX, I5PP, FI8AP, VP9BO/P, VS1YN, MP4BBL and much else. ET3S was heard on c.w. and CR5SP on phone. Al remarks that ZC7DO is back as MD5DO, while SU1BB is temporarily active as ZC7BB. He does QSL. **G3GMY** concentrated on c.w. and worked VP4LZ, ZS6AEA, ZE6JJ, VQ2GW, FF8AJ, AP2K (QSL *via* DL3ZV), DU7SV and HS1D. **B.R.S.20106** as usual dug up most of the available DX. On c.w. he logged the elusive KC4AB, SV0WK/SV9, ET3S, ZS7C, ZS7D, EA0AC, LU1ZS and '8ZS (South Shetlands), while his best phone DX was AP2CR (on s.s.b.), VS1, 2, VS6CL, 4S7YL, VP3LF, TI2PP, TI2WLC, EL2X, VQ5BVF, ST2AR and CE5AW. XW8AA was being worked at 1730, but was not heard. **B.R.S.20133** has acquired an R107 on which he logged phone signals from CX1CA, DU1AP, ET2AB, HB1MX/HE, TF5SV and VK5MS (1350). **B.R.S.18017** was pleased to log VS4HK for a new one, with XZ2EM, the SV9, CE2GG, CR7LU, DU, W6IBJ/KH6, YS1O and a doubtful VQ1AA (RST449–1320) on the key. Phone produced OQ0DZ, MP4KAC, ST2DB, YK1DF, TI2CHV, VP7NU and FF8. John is hunting ZD3BFC, ZD6BX, CE0, CR8AB and FY7YT, so far with no result. Andoy Is., incidentally, counts as Norway for DX awards. **B.R.S.19771** is another to receive a QSL from UB5CF; he has received cards also from KA0IJ, EA9DF, VE5RN and OH0LX. His c.w. log includes C3AR (1520), DU9JO, LU3ZB, '4ZB, '8ZS, MP4QAJ (Quatar), VP8AA, XZ2EM, ZC5SF, ZD3BFC and ZS7C. He heard MP4BBL, SV0WK/SV9, VP2AD, VP2DN, YK1DF and ZI4AQ (2250) on phone.

B.R.S.19894 who mentions a CQ on c.w. from JC2AQ (??), heard ZD2DCP calling " CQ ZD9 " (which sounds interesting). VP8AA (Grahamland) was heard often, together with LU-Zs from the same region. Other DX was from VP9AX/P and VP9BO/P, FM7WD, FY7YC,

*Roker House, St. George's Terrace, Sunderland.

FI8AP (Box 527, Saigon) and some VUs. **H. J. Hill** had a good month, hearing four new ones—ZD3BFC, HA5BB, VQ3RJB and GI3HAJ, plus CE3CZ (RS45 at 1355), ET2ZZ, OQ5PE, KG6AAE (1550), VS1 and 2. SV0WK was heard giving his opinion on the manners of certain phone misusers—residents in a sunnier clime than ours. **R. J. R. Crocker,** in a long list of phone, mentions CO2CY, VP9BN, MP4QAH, CR4AD, YS1MS, VP4TK, VU2DA, KG4AA, MD4BBO, DU1AP, MP4ABW and VP8AZ who was calling " CQ G," but having difficulty owing to interference at his end. LU and PY signals make life very difficult at times for the VP8s. **G3ATU** was lucky enough to work VK1EG (on a dipole) and VS4HK (on a Vee Beam) and listened to a QSO between a DL4 and YA1AA (RST569x); name: Ab, QTH Herat: power from a petrol-generator. He runs 100 watts to a rig borrowed from a UA and does not QSL! LB8YB, formerly of Jan Mayen Is., is now operating from Myggbukta, Greenland, where he has a majestic Vee Beam 16 wavelengths long. ZB1CA, heard on phone, is on the island of Gozo. ZC5SF may be reached at Box 232, Sandakan, Br. North Borneo. VS1EW's address is Box 1158, Singapore. Current activity from Fr. Indo-China includes FI8AB, '8AH, '8AP, '8AT, '8AZ and '8BA, all on c.w.

Fifteen Metres

Fifteen seems to have improved somewhat, but lack of activity makes it difficult to get a true picture. However, **G3AAE,** one of the band's most regular users, worked OQ5RU, W2AIS/MM, 4X4CW, 4X4FW, ZE5JJ, ZC4GF and OD5AV, all on c.w. except the 4X4, who was worked on phone. **R. J. R. Crocker** logged on phone CR4AS, CE, CX, VP4BD, ZS9G, EL10A and EL12A (QSL *via* W9GTX). **G3IGZ** worked FY7YC and OQ5RU for new ones (using a 14 Mc/s folded dipole, too!) and **G3FXB** hooked the FY7 for a new one. **B.R.S.20106** found some good openings, during which he heard c.w. signals from FY7, ZD4AB, W8QOH/MM, W4DGW/MM; phone produced LU, VQ2, VQ4, ZE, ZS1, EL, CR6, FF8PG, VP6FR, W4, KZ5 and KP4. **B.R.S.19771** logged FY7YC (who was arranging a sked ' with E19J for 3510 kc/s at 0300), PY1AGP and W2DUM/MM.

Forty Metres

G2BP raised 9S4AX for a new one on c.w. and **G3IAD** hooked HK1TH. **G3IGZ** found JA, VP6, ZL, VK2 and VK4 mixed up with local QRM around 0900 and had a long QSO with TI2PZ at 2400. **B.R.S.19449** was puzzled by LF2V, heard on 7070. The LF is attached to a technical school in Norway. Various LF and LJ stations are active from towns such as Oslo and Bergen. **B.R.S.20106** pulled in c.w. from UH8KAA, VP8AZ, VP8BE, CE1AP, CE5DT, EA9DF, FM7WD, HR1JZ, KG4AC, LU1ZC, '2ZI, '4ZB (Deception Is.), UM8KAB, 10 ZLs, VK2 and 4 and one of those rare Mexicans, XE3AH (0600). The only **eighty metre** report comes from the same source. Norman stayed up late and was rewarded by logging OD5IM (0239), PY7AN (0245), SU5EW (0304), OY5S, KP4CC, UO5, UP2, UQ2, UB5 and YO on c.w.

Top Band News

G6CJ writes that he and G6GM are starting a new series of tests with ZL1AH. Last year, G6GM had several solid QSOs with ZL1AH and ZL3RB, but '6CJ had bad luck. He and ZL1AH heard each other weakly several times, but no contact resulted. Dud says " theory " (several month's work) shows the chances from London to ZL1AH are some 40db down on those from Devon and even less for other parts of ZL. Nevertheless, he is hoping and we certainly trust his hard work is rewarded. '6CJ mentions an old friend, VK3YP, now active on 7 Mc/s as VK4YP and putting in a good signal about 0700–0800.

G3JFF says KV4AA will be on Top Band again this winter. He uses 1825 kc/s and recommends 1835 kc/s for G replies. **B.R.S.20106** has written VP4LZ giving him the frequencies and strengths of coastguard and other loud users of the band. Norman recently heard over 30 OK stations at good strength (0150-0230). G3PU was calling " nil, nil " to W3RGQ, which looks like a " sked " that has probably been successful by now.

Overseas News

G2MI reports that **ZD3BFC** (P.O. Box 285, Bathurst), has sent out his first batch of QSLs. More are being printed. The strong phone signals from '3BFC come from an 1154, *via* a 756ft wire. Bill promises c.w. when he gets a better transmitter (he appears now to have got it because some very T9 sounds have been heard from him—S.A.H.). He operates most days after 1600 and on Sunday mornings.

ON4AU reports working **AC4NC** on August 12, during the latter's last day in Tibet. Shortly afterwards, he left Gyantse, bound eventually for the U.K. His transmitter was left behind. All DX men will echo the hope that either Chak himself or another operator will soon return to put it back on the air. **VS4HK** gives details of his set-up. He uses 25 watts, crystal-controlled on 14035, 14100 and 14160 kc/s, with a dipole aimed on the U.K. Both phone and c.w. can be used.

VK9WZ (Admiralty Is.) is back with a new all-band final running 55 watts. Within two hours of putting it on the air, he worked G, DL, OH, SM, W6, JA, VK, KR6 and ZC5. Frank's future plans are uncertain. He expected to return to VK within a few weeks, but if he is on the air when this is published, he should remain in VK9 until next August.

ZC4CA confirms that ZC4GF and '4PB will be on Top Band. ZC4CA will try to get on before he leaves for home early next year. Last season, he raised SU, OK, LZ, but for some reason, couldn't make G. Better luck this time. **4S7LB** is active on 14 and 21 Mc/s, mostly c.w. and uses 25 watts to dipoles. His list of locals makes interesting reading. ZC5, KG6, KR6, JA all roar in, with an occasional KX6 and KC6! KM6AX was worked recently on c.w. XW8AA is back on 14 Mc/s phone. A rare one for 4S7LB—CX4CZ—was also hooked. 21 Mc/s is erratic and no G has been worked since B.E.R.U., but a VS6 net operates on 21250 kc/s and VS6BE, '6CL, '6CZ, KR6OH and W3OZA/MM have been worked. 4S7LB has worked 130 countries in two years and QSLs all contacts and detailed listener reports. He is the 4S7 QSL manager and compiles DX notes for the " 4S7 Bull! "

ZD4BM (ex-G2ATU), at present on leave, found eighty static-laden, forty carried DX late at night, twenty and fifteen could be hot and ten was just stone dead. G2MF was and is the best and most reliable G signal out there. He runs a " sked " with Dr. Joe Innes, ZD4BF. The ZD4s are not licensed for Top Band, which, in any case, would be useless, due to static. Activity includes ZD4AB (the " oldest inhabitant "), '4AE, '4AF, '4AX, '4BF, '4BL, '4BN, '4BM, '4BQ and '4BR, all active at various times, but almost exclusively on phone.

ZE6JP (ex-G3BDX) has been in Salisbury, Southern Rhodesia, for several months and has now settled down happily with his family. He has his home transmitter working, having repaired the ravages caused en route and, with a Vee Beam, puts a good signal into this country. He remarks that with him signals from OH, SM and DL are stronger than those from G, probably because most G aerials are arranged to radiate East and West.

G2RO is off on his travels again and expects to operate from Fiji from November 4 to 17; Solomon Is. from November 22 to December 7 and Gilbert and Ellice Is. from December 30 to January 10, 1955. He may visit Tonga and the New Hebrides later.

CQ Single Sideband

By H. F. KNOTT (G3CU)*

SINGLE sideband activity on 14 Mc/s has shown a sharp increase during the past few months, and several new countries have been worked for the first time. Most of the activity is between 14.3 Mc/s and 14.35 Mc/s with a concentration just below this channel for American stations and just above for all others. Frequently one can hear as many as four separate s.s.b. contacts going on between 14.3 Mc/s and 14.31 Mc/s. The advent of single sideband is now making technical QSOs possible on the band. If the s.s.b. operators get busy, the number of " Pse om ur QSL " type of contact will diminish around these frequencies.

G3ECH, who uses a ground plane aerial, maintains a regular schedule with AP2CR and has also worked ZS, W4 and stations in North Africa within the last few weeks. He is now preparing to go to Pakistan for a year to join AP2CR in the North West Frontier Province; he will be located some 2000ft a.s.l. and should put a good signal into this country. In readiness for his move he is constructing a band-switched exciter which will drive an 813 on 3.5, 7, 14 and 21 Mc/s. No doubt 14 Mc/s will be in use most of the time but it is possible that contact will also be established with the U.K. on 7 Mc/s. The line-up will be a phasing

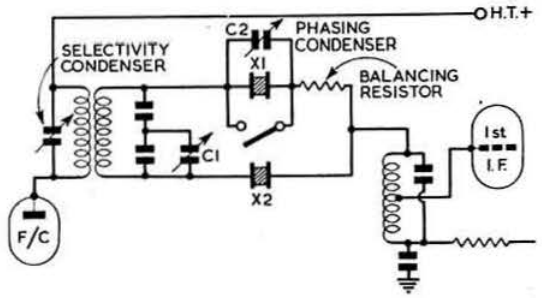


Fig. 1. Sideband filter for the National HRO. C1, 3-30 μμF trimmer; C2, original phasing condenser with one fixed vane removed and spacing increased; X1, X2, i.f. crystals with separation of approximately 2.5 kc/s at intermediate frequency. All other components as in original circuit.

generator on 6.5 Mc/s with a v.f.o. covering the range of 2.5 to 3 Mc/s; the resulting output will feed a second mixer with crystal oscillators for heterodyning the signal to the required band. G2IG has also been working AP2CR regularly for several months with consistent results. Other call-signs from, '2IG's long and impressive list of s.s.b. two-way QSOs include KA3MD, KA2LK, W2IC, W2OD and W4EH all being first-class contacts at times when the band was generally poor for d.s.b. operation. VQ2GM (Lusaka) has under construction a phasing type exciter as well as an a.f. adaptor, both of which will include the " S.S.B. Jr " audio phase-shift network. North Africa is again represented by KT1DD who has returned from a short visit to the U.S.A. He has been joined by KT1LS and KT1PU.

3.5 Mc/s

G3ENI (Plymouth) is a new s.s.b. station, using a crystal filter rig, half lattice with ladder entry and termination, carrier suppression being maintained by the use of a crystal instead of the conventional balanced modulator. The zero bias p.a. uses a pair of 807s, although the first few contacts were made with a class A 6AG7. The transmitter is " push to talk " at the moment but plans are ready for full voice controlled operation at an early date. Other new calls heard recently are G3HJK, G3AWS, G8WS and G3HAU. G3FDG (Wellington) is continuing his usual busy session of constructional work which includes an 813 final with pi-network output, and a power supply of novel design. It is proposed to use grid controlled rectifiers and a 50 cycle phase-shift network to do the controlling on the grids of the thyratrons. The circuit is simply a bridge with two 866s and two 393As. Theoretically the system should work satisfactorily, although rectifier hash may be a problem. The output waveform is not expected to be too good though a suitable output filter should take care of this. It is planned to be able to control the h.t. output from the power unit from zero to 2.5 kV without wasting any power in dissipation as heat.

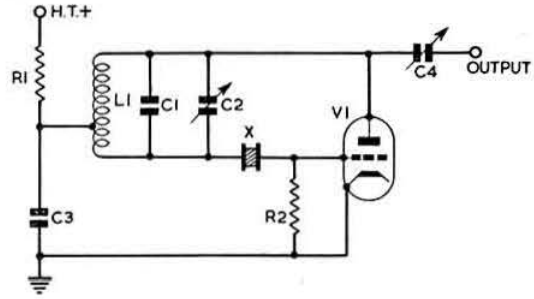


Fig. 2. Crystal oscillator for series resonant operation. C1, 100 μμF silver ceramic; C2, 4, 3-30 μμF trimmer; C3, 0.1 μF paper; L1, b.f.o. coil; R1, 2, 47000 ohms; X, suitable crystal for filter frequency; V1, 6C4 or 6J5.

Technical Topics

While the question of s.s.b. transmitters has been well covered over the past few years, very little has been said about receivers for this system of operation. Many operators using single sideband have already modified their equipment, giving improved reception of both s.s.b. and d.s.b., by the use of a band-pass crystal filter or a.f. adaptor. The latter have the unfortunate disadvantage of suffering from cross modulation, and are not widely used. The circuit in Fig. 1 is the result of work done by G3FRN on his National HRO. The filter consists of a half lattice network, the two crystals being spaced 2.5 kc/s apart. In the arrangement shown the phasing condenser moves both rejection notches together, either towards or away from the pass band. The response characteristic, which may be made symmetrical, was found to be about 3 kc/s at 6db down and 6 to 7 kc/s at −40db. In order to obtain symmetry it is necessary to fit a small trimmer across one side of the capacity centre tap of the frequency changer i.f. transformer secondary. Without this, one rejection notch will come inside the pass band. It is also necessary to change the grid of the first i.f. valve on to a grid coil tap and to feed the filter into a high impedance by connecting it to the top of the grid coil.

Crystal Oscillator for Series Resonance

Those wishing to use the system of carrier suppression in a filter rig in which a crystal is shunted across the output of the filter will find the circuit sent along by G3ENI of interest. To obtain a satisfactory rejection level of carrier it is important that both the shunt crystal and that of the oscillator be tuned precisely to the same frequency. With the conventional oscillator this is not normally possible, unless regrinding of the crystal is undertaken, this being due to the difference of the series and parallel resonances

(Continued on page 186)

*5 Kevington Drive, St. Paul's Cray, Orpington, Kent.

History of the Work of the Amateur Transmitter on Short Waves

By E. J. SIMMONDS, M.I.R.E., F.R.S.A. (2OD)

In the October, 1926, issue of the T. & R. Bulletin, Mr. E. J. Simmonds—one of the most famous amateurs of the day—contributed an article bearing the above title. In that article, written from first-hand knowledge, Mr. Simmonds dealt with the progress of amateur development during the preceding few years in the art of world-wide two-way wireless communication with small powers.

It was in October, 1924—thirty years ago this month—that Mr. Simmonds 2OD and Mr. Cecil Goyder, 2SZ, made the first two-way contacts on short waves between England and New Zealand.

We re-print Mr. Simmonds' article as a tribute to the work of the pioneers in the field of international DX work. Alas, Mr. Simmonds is no longer with us.

PREVIOUS to 1923 many organised attempts had been made by amateurs, under the auspices of the Radio Society of Great Britain, to establish two-way trans-Atlantic radio communication using waves of the order of 200 metres, and while none of these tests were successful in this respect, many amateur stations from both sides of the Atlantic were successful in bridging the ocean. The special station erected by the Radio Society of Great Britain at Wandsworth, operating under the call-sign 5WS,* was the first British station on 200 metres to be definitely heard in U.S.A., and code word verified.

This took place in the latter part of 1922 during the special trans-Atlantic tests arranged by the Radio Society of Great Britain.

In the spring of 1923 Mr. L. Deloy, operating an amateur station at Nice under the call-sign 8AB, commenced experiments on waves of the order of 100 metres, and from the good long distance reports he received on these transmissions he formed the opinion that such waves could "render immense and unsuspected service in long distance work." As a preliminary to trans-Atlantic work, and also in order to obtain the most favourable transmitter adjustments on 100 metres, Mr. Deloy arranged tests during 1923 with my experimental station situated at Gerrards Cross, Buckinghamshire, and we spent many weeks testing various circuits, aerials, etc. These tests gave such favourable results that in the middle of November, 1923, Mr. Deloy decided to make arrangements with the American Amateur Radio League to listen for his signals on 100 metres. This course was entirely successful, and telegraphic signals from Mr. Deloy's station were strongly received in Hartford, U.S.A., on November 27 and 28, 1923. Two-way 100 metre trans-Atlantic communication was established the next night between American 1MO situated at Hartford, and Mr. Deloy's station.

Next after Mr. Deloy's great achievement came the report from Mr. J. A. Partridge, of Merton, London, in reference to two-way working on 100 metres with American 1MO. Mr. Partridge's station (call-sign 2KF) first got into touch with the American station on the morning of December 8, 1923, and was thus the first British station to effect direct communication with the United States on 100 metres.

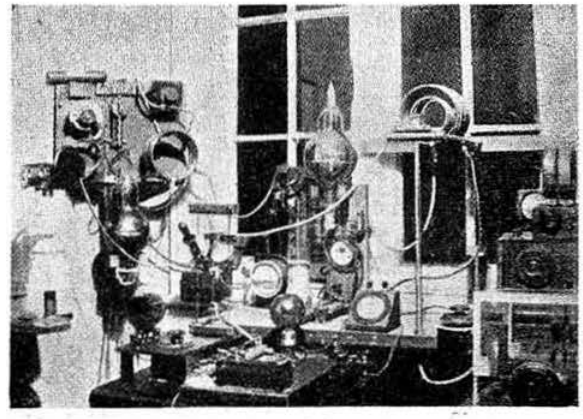
There is every reason to believe that these tests were the first of their kind, and that it is from their publication that widespread attention was directed to the immense value of short waves; certainly from that date the development of these waves has proceeded with great rapidity.

These experiments first took place with American stations situated comparatively close to the Atlantic seaboard, but gradually the ranges were extended, until by March, 1924, British amateur stations using less than 250 watts input had been received on the Pacific Coast of America, nearly 6000 miles away.

In amateur circles October, 1924, will long be remembered as marking the culminating achievement in amateur long-distance working, when two-way short wave communication was established with New Zealand for the first time in history. It may be of interest to detail the circumstances which surrounded this important development. There is a difference in time of practically 12 hours between Great Britain and New Zealand, and this and other factors seemed to indicate the possibility of a concentration of radio energy at the Antipodes, from short wave transmissions from Great Britain, and it also seemed reasonable to suppose that the received signal strength would rise to peak values during the sunrise and sunset periods. It had therefore been the practice of several British experimental stations to transmit daily during the sunrise period on approximately 95 metres, using a code word for identification purposes, which was changed daily. These experiments were entirely successful, and a cable was received on October 18, 1924, from Mr. Bell, operating radio station 4AA at Waehemo, New Zealand, reporting the reception of strong signals from British station 2OD, and verifying the code word which had been sent out from that station at 6 a.m. the previous day, October 17, 1924. Two-way communication between many New Zealand and British stations followed in the course of a few days, all taking place on wavelengths below 100 metres and with powers of under 250 watts. This was undoubtedly an event of outstanding importance which astonished the scientific world, and provided valuable data and evidence of the efficiency of short wave transmissions which necessitated modifications of the existing theories relating to short wave propagation.

Two-way direct communication quickly followed with Australia on November 13, 1925, when messages were taken for H.M. the King from the Wireless Institute of Australia.

Another development of great interest was the first direct two-way communication on 20 metres between Great



Amateur Station G2OD situated at Gerrards Cross, 1926.

* *Reprinted from the T. & R. Bulletin, October, 1926*

Britain and Australia, which took place on May 2, 1925.

Information on the properties and behaviour of 20 metre waves had been accumulated in consequence of the very useful tests which had taken place between NKF, the United States Naval Research Station at Anacosta, U.S.A., working on 20.8 metres, and several amateur stations in this country. In view of the results of these tests, there appeared the possibility of establishing direct two-way communication with Australia with low power using the 20 metre band, at certain hours during the day. As experimental proof of this assumption special arrangements were made for a well-known experimenter in Australia (Mr. Maclurcan, of Sydney) to construct a 20 metre transmitter and receiver, and commence 20 metre tests at definite times with my station. These experiments were crowned with success, and two-way communication was effected at 6 a.m. on May 2, 1925, when greetings and congratulations were passed to mark the important event. It should be noted that the success of these experiments was assured not because of chance contact between the two stations, but because the time and wavelength were chosen only after careful consideration of the many factors which had become apparent in consequence of the NKF 20.8 metres trans-Atlantic transmissions before mentioned.

During recent months the development of apparatus for the transmission and reception of telephony on wavelengths between 20 and 100 metres has received attention from many amateur workers with the necessary facilities, and much research has been directed to the difficult problems associated with speech distortion and fading so apparent on the reception of short wave telephony. It has now been definitely established that most of this distortion and fading is occasioned by change of frequency at the transmitter during the process of modulation, and the application of quartz crystal control to the drive of the transmitter, to stabilise the frequency and thus minimise the distortion, has been most successfully applied to several American short wave broadcasting stations.

Many amateur workers are devoting much time to this fascinating problem of quartz crystal control, especially with a view to the successful use of the harmonics of crystals of comparatively long wave lengths, for the efficient control of short wave sets.

Certain British amateur stations working on the 45 metre band have also been regularly relaying, on 45 metres, parts of the musical programme from 2LO with great success, and many reports are to hand of the good reception of these relays in many distant parts of the world.

Time does not permit of going into further detail, but it is hoped that this short summary may be sufficient to indicate some of the contributions of the amateur worker to the vast developments of radio communication in the past.

Generous Offer

MR. H. HARRIS (B.R.S.12959), "The Huon," Branksome Hill Road, Bournemouth, Hants, who possesses an extensive library of technical data for British and American ex-Government equipment, offers to allow any member to inspect, copy and take notes from the data. The material is available in London.

Members seeking information by post from Mr. Harris should enclose a stamped and addressed envelope for a reply.

Instruction Classes

CLASSES in preparation for the R.A.E. and G.P.O. Morse Test are being held at Walsall Road C.P. School, Walhouse Street, Cannock, Staffs., on Tuesdays and Thursdays from 7.15 to 9.15 p.m. The instructor is Mr. C. J. Morris (G3ABG).

International Radio Controlled Models Society

FOR the information of members interested in the radio control of models we give below brief details of the International Radio Controlled Models Society.

The Society was formed, as the Radio Controlled Models Society, in December, 1946, for the purpose of enabliing those interested in the radio control of models of all kinds to make closer contact and to further the technique of the subject. Radio controlled model aircraft, boats, and land vehicles all come within the scope of the Society. In 1950, the name of the Society was changed to the International Radio Controlled Models Society.

The Society is organised into groups, each of which holds regular monthly meetings. At present there are groups in Manchester, London, Birmingham, and Tyneside.

For those too far away to attend group meetings regularly, there is a Country Membership.

Every two or three months, the Society issues to all members its Bulletin. The *I.R.C.M.S. Bulletin* is the only publication in the world dealing exclusively with the radio control of models, and it includes details of new gadgets and methods of control, and news of the radio control world in general.

Another function of the Society is the organisation of contests for radio controlled models, and it tries to arrange at least one contest for boats and one for aircraft each year. The Society also endeavours to represent the views and interests of its members to other bodies, such as the G.P.O., with which it is on excellent terms.

The Hon. Secretary is C. H. Lindsey, 292 Bramhall Lane South, Bramhall, Stockport, Cheshire.

Technical Articles Wanted

THE Editor will be pleased to consider for publication articles which have a bearing on any aspect of Amateur Radio, including Amateur Television. Short articles of a constructional nature are particularly required.

Would-be contributors are invited to write to Headquarters for a copy of "Hints to Contributors" a useful little pamphlet which seeks to give advice to those who aspire to contribute an article to the Society's Journal.

CQ Single Sideband (continued from page 184)

(something like 200 cycles at 450 kc/s.). The circuit shown in Fig. 2 overcomes this by exciting the crystal in its series resonant mode, and tallies nicely with the other. In operation the tuned circuit should be adjusted slightly on the h.f. side of the frequency. If a condenser is substituted for the crystal it makes a useful v.f.o. for aligning the remainder of the filter.

S.S.B. Conventionette

A gathering of s.s.b. enthusiasts will again be held during the last afternoon of the R.S.G.B. Amateur Radio Exhibition in November. The convenionette will be on similar lines to that held last year and will be open to all those interested in the subject.

Further details will appear in the November issue of the BULLETIN but in the meantime all who intend to be present should contact G2NH as soon as possible.

* * *

The writer apologises for his absence from the bands recently, but owing to a change in his place of employment, he is now normally only at home during the weekends.

Lapel Badges

LAPEL badges lose their original bright finish after a fairly short time. This may be avoided by first polishing the badge well with liquid metal polish and then applying a coat of thin clear nail varnish. This gives a hard, weather-proof finish which will last indefinitely. G3IDG.

Council Proceedings

Resumé of the Proceedings at a Meeting of the Council of the Radio Society of Great Britain held at New Ruskin House, Little Russell Street, London, W.C.1, on Tuesday, August 10, 1954, at 6.15 p.m.

Present.—The President (Mr. A. O. Milne in the Chair), Messrs. H. A. Bartlett, L. Cooper, C. H. L. Edwards, D. A. Findlay, A. C. Gee, R. H. Hammans, F. Hicks-Arnold, J. H. Hum, L. S. Newnham, N. F. O'Brien, R. L. Varney and John Clarricoats (General Secretary).

Apology.—An apology for absence was submitted on behalf of Mr. I. D. Auchterlonie.

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Membership

Resolved (a) to elect 38 Corporate Members and 7 Associates, (b) to grant Corporate Membership to 12 Associates who had applied for transfer.

Resolved, unanimously, to waive for a period of one year the subscriptions of Messrs. R. S. Brown, G3GMQ, and H. L. Clark, G3DWA, on the ground that they suffer from blindness.

The Secretary reported that of the 801 Members whose subscriptions became due on May 1, 1954, 168 became overdue on July 31, 1954. The Secretary submitted details of the reasons given by the 38 members who had written to resign during the four weeks ended August 7, 1954. Only 7 had resigned on financial grounds. Of the remainder, 13 had lost interest, 15 gave no reason and 3 gave various reasons.

Application for Affiliation

Resolved to grant affiliation to the Amateur Radio Club, 12 Wireless Squadron, B.T.A.3.

President's Chain of Office

The Secretary reported that Mr. Wilfred Butler, G5LJ, of Sutton Coldfield, Warwickshire, had presented to the Society a President's Chain of Office.

The Chain of Office was submitted for inspection, after which Members commented upon the excellent workmanship displayed. It was agreed that the President should write, personally, to Mr. Butler inviting him, formally, to present the Chain of Office at some suitable time during Convention. It was further agreed that in the event of Mr. Butler being unable to accept the President's invitation, the presentation should be made by the General Secretary at a brief ceremony during the Convention Conversazione.

Convention

The Secretary reported upon matters of detail.

Resolved to authorise the President to invite the Yugoslav National Society (S.R.J.) to appoint an official delegate to attend the R.S.G.B. Convention in Bristol and to offer to pay the fare of the official delegate back to Yugoslavia.

(Members will recollect that S.R.J. invited the President to attend the Amateur Radio Convention held recently in Ljubljana and agreed to be responsible for his hotel expenses and the cost of travelling back to London.—EDITOR.)

Amateur Radio Exhibition

Resolved to arrange a Complimentary Luncheon following the official opening of the 8th Annual Amateur Radio Exhibition on November 24, 1954.

"Bulletin" Wrappers

After examining estimates received from four firms for supplying a stronger and wider type of wrapper it was decided to make no change at present. During the discussion the Secretary reported that very few complaints had been received in respect to damage caused through the use of the present type of wrapper.

Council Nominations

Corporate Members were nominated to fill vacancies in the Council which will occur on December 31, 1954. (The list of nominees was published in the September issue of the BULLETIN.—EDITOR.)

Cash Account

Resolved to accept and adopt the Cash Account for the month of July, 1954, as prepared and submitted by the General Secretary.

Reports of Committees

Contests

Resolved to accept, as a Report, the Minutes of a Meeting of the Contests Committee held on July 29, 1954, and the Recommendations contained therein.

The Recommendations dealt with National Field Day, 1954.

Arising from a consideration of the Report, the Secretary suggested that as the Bristol Group had won N.F.D. for the third year in succession it might be appropriate to allow them to retain the N.F.D. Trophy permanently. After discussion it was

Resolved to authorise the Secretary to have made a full size replica of the N.F.D. Trophy with a view to it being presented to the Bristol Group during Convention.

Technical

Resolved to accept, as a Report, the Minutes of a Meeting of the Committee held on July 15, 1954, and the Recommendations contained therein.

The Recommendations dealt with the award of the Norman Keith Adams Prize and the Bevan Swift Memorial Premium.

Arising from a consideration of the Report it was reported that the Contests Committee were anxious that the mass of important technical data submitted after the annual 420 Mc/s Tests should be made available to all members interested in 420 Mc/s work. It was suggested that the data should be sent out in Letter Budget form on rota to those who make application to Headquarters.

Resolved to authorise the Contests Committee to make available on rota to members the data submitted by entrants for the 420 Mc/s Tests.

It was agreed to publish a suitable notice in the BULLETIN asking any entrant who objects to his data being sent out on rota to advise Headquarters.

The Council noted with interest the result of a Readership Survey based on replies received to a questionnaire sent out to about 150 members holding a transmitting licence. It was agreed that a suitable reference to the Survey should appear in the BULLETIN.

Exhibition (Home Constructor's Section)

Resolved to accept, as Reports, the Minutes of Meetings of the Committee held on July 21 and August 4, 1954.

The Reports contained no Recommendations.

R.A.E.N.

Resolved to accept, as a Report, the Minutes of a Meeting of the Committee held on August 7, 1954, and the Recom-

mendations contained therein.

The Recommendations dealt with the term of office for E.C.O.s, Network Procedure, Emergency Calling Frequencies and the restriction of executive office in R.A.E.N. to R.S.G.B. members. (These Recommendations were reported upon in the September issue of the BULLETIN.—EDITOR.)

Finance and Staff

Resolved to receive as a Report the Minutes of a Meeting of the Committee held on July 13, 1954, and to accept the Recommendation contained therein.

The Recommendation referred to a decision of the Committee respecting a Service Agreement for a member of the staff.

The meeting terminated at 9.5 p.m.

Society News

R.S.G.B. Amateur Radio Exhibition

THE Eighth Annual Amateur Radio Exhibition, to be held at the Royal Hotel, Woburn Place, London, W.C.1, from Wednesday, November 24, to Saturday, November 27, will open at 11 a.m. and close at 9 p.m. daily. There will be an admission charge of 1s.

The Exhibition will be opened, officially, at 12 noon on the 24th by Mr. Harry Faulkner, C.M.G., B.Sc.(Eng.), M.I.E.E.

In connection with the Exhibition the General Secretary will be pleased to hear from any member who is able to volunteer for duty on the Headquarters' stand. Volunteers should indicate the date (or dates) and times they will be available.

Council Ballot

NOTICE is hereby given that at the Ordinary Meeting of the Society to be held at the Institution of Electrical Engineers on November 19, 1954, the members present will be asked to choose two or more scrutineers for the purposes of the Council Ballot.

National Field Day, 1954 Results

THE Contests Committee regrets the omission of Kingston-on-Thames from the table in the September BULLETIN. They take 76th place, with a total score of 489 points, made up as follows:—

"A" Station: 335 points (167 on 1.8 Mc/s and 168 on 3.5 Mc/s).

"B" Station: 154 points (123 on 7 Mc/s and 31 on 14 Mc/s).

Amateur (Television) Licences

HOLDERS of the Postmaster-General's Amateur (Television) Licence may now transmit messages by telephony or Morse without a separate licence, provided these messages are concerned with the technical matter of the visual transmission.

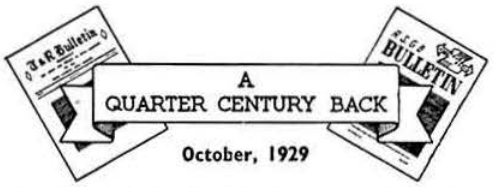
Group and Club Magazines

THE following is an addition to the list of Group and Club Magazines published on page 135 of the September, 1954, issue of the R.S.G.B. BULLETIN:—

Monitor. International Short Wave League. Editor: Peter Bysh, 86 Barrenger Road, London, N.10. Monthly (10s. 6d. includes League subscription).

W.A.C. Endorsements

WITH the DX season fast approaching, members may like to note that the I.A.R.U. issue an endorsement to W.A.C. Certificates to those who can produce evidence of having worked all Continents on Top Band and 3.5 Mc/s. The I.A.R.U. no longer issue an endorsement for 28 Mc/s operation.



MAURICE GIBSON (2BAA) wrote about Modern Wireless Control, a subject which "is by no means more complex than television."

* * *

L. A. Moxon (G6XN) contributed an article entitled "A Solution to Some Keying Problems." "We can easily arrange the key so that it causes the valve to stop oscillating. But this would result in a rise of anode current to perhaps double the normal value. We can reduce it again, however by increasing either the external impedance or the internal impedance of the valve. If we can arrange the key so that it performs these two functions simultaneously we have solved our problems." Circuits were given showing the application of this principle to a T.P.T.G. oscillator.

* * *

At the Fourth Annual Convention held in London on September 27 and 28, 1929, Mr. H. M. Dowsett delivered an address on Short Wave Commercial Stations. The Delegates Meeting was the first of its kind ever held. Just over 100 members, under the Chairmanship of Mr. Marcuse, attended the Convention Dinner at Pinoli's Restaurant.

* * *

The formation of the "Chair Warmers' Club" was announced in the Correspondence columns.

* * *

From District Notes . . . "G5QA has been using 3 watts only and has worked W1, 2, 3, 4 and had daylight QSOs with SU and OH..... G5RV has new m.o.p.a. going and gets T9 each time.....G5ML has worked WFA (base of the Byrd South Pole Expedition)."

LONDON MEETINGS

Programme 1954-5

October 22, 1954: **Mr. B. R. Bettridge, A.M.Brit.I.R.E.** (Osram Valve and Electronics Dept.)
"TRANSISTORS AND CRYSTAL VALVES IN RADIO."

November 19, 1954: **Wing Commander W. E. Dunn, O.B.E (G2LR).**
TECHNICAL FILM SHOW.

December 17, 1954: **Annual General Meeting.**

January 28, 1955: Presidential Address followed by Lecture by **Mr. Frank Hicks-Arnold (G6MB).**
"ANTENNA MATCHING WITH THE ANTENNA-MATCH"
(with practical demonstrations).

February 25, 1955: **Mr. R. C. Jennison.**
(Jodrell Bank Experimental Station)
"RADIO ASTRONOMY AND THE RADIO AMATEUR."

March 25, 1955: **Mr. Maurice Child.**
"THE HISTORICAL DEVELOPMENT OF WIRELESS COMMUNICATION."
(with demonstrations of early apparatus).

All meetings are held at the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, London, W.C.2. Buffet Tea from 5.30 p.m. Meetings commence at 6.30 p.m.

Tests and Contests

Cowboys and Indians

THE hunter and the hunted turned out in strength on September 12 for the final of the 1954 D/F Contests. Although the event is perhaps not quite accurately described by the heading, it proved to be as exciting as any rough riding, scalping expedition of old. With the aid of a National Grid reference, 1 inch-to-the-mile map No. 161, the afternoon with its unique " three leg " contest can be relived by the reader.

At about noon, eleven finalists began to assemble at 52/535112 where Matching Green is on the map; a part of a little-known Essex plateau. One o'clock saw everyone gathered around G2CD/P, the starter, to check watches by the B.B.C. and to be briefed on call-signs and frequencies of the hidden stations in readiness for the " off " at 1.30 p.m.

Station A, G6HD/P, on 1873 kc/s (located first by Mr. Finch of High Wycombe) was in Epping Forest (52/428004) and station B, G3VW/P, on 1974 kc/s (located first by Mr. H. Drury of Romford) in Hainault Forest (51/478943). A distance of about 6½ road miles separated A from B. The approximate distance to A from the starting point was 11 road miles and Mr. Finch made the trip in 46 minutes, whilst B, being approximately 13½ road miles, was located by Mr. Drury in 62 minutes: 4.2 minutes per mile and 4.6 minutes per mile respectively. But just to find two stations was not the whole story. At each station the competitors were given a slip of paper: at A, marked 51/4-4-5- and at B, 51/-0-8-9. When these figures were combined they gave 51/404859, the map reference of the finishing point. This was to the south of Wanstead flats, a further 6½ miles from the start.

Believe it or not, Mr. G. Peck of High Wycombe arrived at the finish in 1 hour 52 minutes, having covered the minimum distance of 24 road miles, located two transmitting stations and the finishing point, and driven his own car the whole way—4.65 minutes per mile. With that very creditable performance he wins the national award for the second time since the war.

Just seven minutes later Mr. Finch arrived (having taken 1 hour 59 minutes) which, on analysis, was found to be exactly the extra time he had taken to locate B after A, as compared with the winner.

Mr. A. C. A. Newman of Wilton, Salisbury, completed the course in 2 hours 14 minutes—only 15 minutes behind Mr. Finch: as he located both A and B as "fourth" he must have made good time thereafter. Mr. P. N. Prior and Mr. P. J. Evans, both from Rugby, came in fourth and fifth respectively, but the remainder of the finalists were not seen by G2CD/P at the finish. Nevertheless they turned up for tea at Romford with the exception of the Simmonds brothers of Slade who had indicated previously that their long journey home would prevent them from giving us their company at the party.

Ten contestants found A but only seven located B. The unusual " hide-out " of B may be the reason.

Lyell Herdman, Stan Fryer and Tony Roy-Smith at the A station had hidden themselves in the usual type of prickly bush amongst the ancient trees of Epping Forest but Doug. Findlay and Bob Newland, the B station operators, had simply driven their car backwards into a hawbush at the edge of an unofficial car park under the trees in Hainault Forest—thenceforward they had assumed the stoic, humourless faces of Britishers having a Sunday afternoon in the country this summer. That fooled them; one competitor standing with his ear nearly touching the aerial lead-in was heard to say that " they *must* be somewhere here."

With this 1954 summer, we were really quite fortunate with a breezy sunny cloudy day although one heavy rain storm was encountered by some contestants but most of all by the operators at station A. All three got soaking wet. Their time sheet was turned in at tea-time and it was damper than wet blotting paper. The B station operators, sitting in a car, had reason to have more cheerful faces than their cunning permitted. Later it was found that several competitors who had discovered both stations had, for unknown reasons, put their grid references together incorrectly. Two other combinations thus found alternative places on map No. 161 while at least one team, quite cheerfully, set off for somewhere in the Midlands, only to realise in time that they must be wrong—they did arrive at the finish.

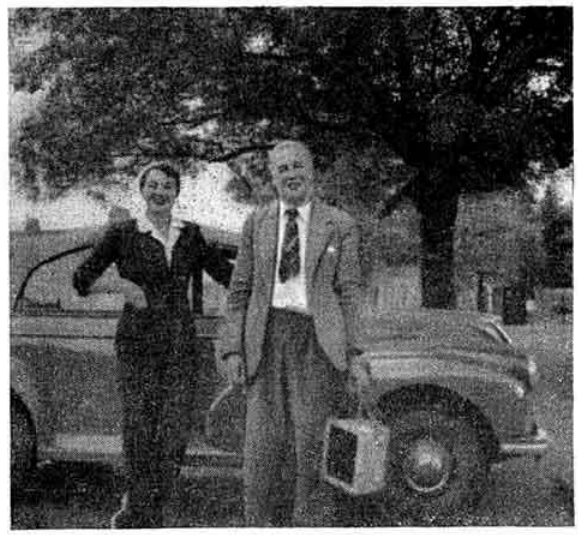
A varied meal at Taylors' Market Restaurant in Romford put everybody in a good mood. Afterwards, Mr. Peck, in his response to the approbation he received as winner, dealt with the contest in some detail, whilst Messrs. Finch and Newman, the runners-up, also replied suitably, adding their individual points of interest.

More eliminating heats next year will put both contestants and Contests Committee on their mettle again—may your bearings be " bang on."

Results — D/F National Final, 1954

Posn.	Name	A Station	B Station	Finish	Total Time
1	G. T. Peck	1423	1505	1527	1 hr. 52 mins.
2	K. Finch	1421	1510	1534	1 hr. 59 mins.
3	A. C. A. Newman	1437½	1511	1549	2 hrs. 14 mins.
4	P. N. Prior	1459	1545½	1605	2 hrs. 30 mins.
5	P. J. Evans	1447½	1546	1610	2 hrs. 35 mins.
	R. K. Seabrook	1437	1545		
	N. B. Simmonds	1440			
	J. M. S. Watson	1447			
	G. C. Simmonds	1522			
	H Drury	1545	1437		

All competitors left at 1335 B.S.T.



Mr. and Mrs. G. Peck at the end of the D/F national final.

Second Two Metre Field Day, 1954

DESPITE generally inclement weather—with bitterly cold winds sweeping the higher sites—activity was well maintained during the Second Two Metre Field Day held on August 15. For the first time since the present scoring system was introduced the 10,000-point mark has been bettered, though the average score is slightly down compared with the first Field Day in May.

Altogether more than 50 British portables, 5 mobile stations, and 3 French portables were active, while, in addition, more than 170 fixed stations contributed to the success of the event by operating during the contest period.

Once again, top honours go to the Northampton Short Wave Radio Club, whose station G3GWB/P was operated by G2HCG, '3BA, '3FAN, '3GHU, and '3HSN, from Honey Hill, Cold Ashby. For their mammoth score of 11,371 points, they worked 34 portable and mobile stations, as well as 62 fixed stations.

Most operators found conditions decidedly patchy, with marked directional effects—including unusual difficulty in getting out from the London area. Nevertheless, quite a good number of " hauls " exceeding 200 miles are reported. As in 1953, the best contact of the day was that between G2BAT/P (Cornwall) and G6XM/P (Yorkshire), a distance of about 325 miles.

Mobile (/M) stations made a welcome appearance in the Contest, and it is clear that in future the Rules will have to take this new licence facility into account. G3AYT/M, for example, made 18 contacts (several exceeding 50 miles) from a fixed site using an input of 1.5 watts to a Z77 power amplifier.

Results of Second Two Metre Field Day

Psn.	Call-Sign	Portable Location	Best QSO (miles)	Points
1	G3GWB/P	Honey Hill, Cold Ashby	225	11371
2	G6XM/P	6 m. E. of Thirsk	325	8085
3	G3ERD/P	15 m. N. of Derby	240	6974
4	G3DIV/P	South Downs, Eastbourne	240	6262
5	G8UQ/P	7 m. S.E. Basingstoke	260	5730
6	G2BAT/P	1 m. S. St. Agnes	325	5439
7	G3FD/P	2 m. S.W. Dunstable	165	4650
8	G3GZM/P	5 m. E. Ludlow	140	4633
9	GW5BM/P	5 m. S.E. Talgarth (2150 ft a.s.l.)	145	4600
10	G5ML/P	1 m. N. Meriden	220	4370
11	G3GOP/P	3 m. E. Corfe	250	4281
12	GW3GWA/P	Froncysyllte Hill	140	3983
13	G3FKO/P	2 m. N.N.E. Wells	175	3794
14	G5MA/P	3 m. S.E. Cusop	165	3744
*	G3YZ/P	6 m. S. Cheltenham	165	3676
15	G3AGS/P	4 m. N.W. Rochdale	265	3532
16	G4JJ/P	6 m. S. Barnsley	150	3425
17	G2XV/P	Rivey Hill, Linton	175	3213
18	G3HSD/P	2 m. S. Bristol	140	3169
19	G2HIF/P	Swyre Head, Dorset	170	3168
20	G2HCJ/P	5 m. S. Runcorn	125	3087
21	G3DVQ/P	Ditchling Beacon	100	2117
22	G3BOC/P	4 m. N. Kendal	195	1928
23	G3ISA/P	2 m. N. Westerham	105	1666
24	G4BD/P	7 m. W. Rotherham	160	1528
25	G2BDQ/P	6 m. N.W. Morpeth	195	1097
26	G3DFF/P	5 m. S.W. Dorking	50	941

* *No declaration*

Equipment

Requests have been received for more information on the equipment used, but it is regretted that space limitations permit full reporting on the gear of the leading stations only:

G3GWB: Transmitter—EC52 Squier oscillator on 24 Mc/s (8 Mc/s crystal), QV04/7 tripler, QV04/7 doubler to 144 Mc/s QQV03/20 p.a. Modulator—p.p.6L6. Receiver—6AK5 neutralised triode connected, 6J6 p.p. second r.f.—double diode mixer; crystal controlled oscillator, tuneable i.f. 24-26 Mc/s on AR88 or 640. Aerial—three stacked skeleton slots, wavelength spacing, with 6 reflectors. Height approximately 50ft.

G6XM: Transmitter—832 final, 15 watts input, anode and screen modulated. Receiver—cascode converter and HRO. Aerial—16-element stack.

G3ERD: Transmitter—SCR522. Receiver—G2IQ converter with i.f. pre-amplifier to HRO. Aerial—16-element stack on 30ft mast.

Check Logs

The following are thanked for submitting useful check logs: G2WS/P, '2DHV, '3AYT/M, '3ITF/P, '6FK, '6WF, and F9CQ/P.

Two Metre Open Contest, 1954

THE number of logs received for the 1954 Two Metre Open Contest was very disappointing in view of the fact that more than 100 stations were reported active. Activity was rather lower than last year, but the portable stations are to be congratulated for sticking it out despite the adverse weather conditions.

Results of Two Metre Open Contest, 1954

Psn.	Call-Sign	Location	Points
1	GW5MA/P	Nr. Blaenavon, Mon.	7031
2	G5YV	Leeds, Yorks.	5007
3	GW2XV/P	Mt. Snowdon, Caerns.	4364
4	G4JJ/P	Nr. Barnsley, Yorks.	3380
5	G2MV	Kenley, Surrey.	2164
6	G3JMA/P	Nr. Epping, Essex.	2099
7	G5DS	Surbiton, Surrey.	2045
8	G3WW	March, Cambs.	1747
9	G3GOP/A	Nr. Corfe, Dorset.	1524
10	G3FD	Southgate, Middx.	1423
11	G2FJR	Nr. Spalding, Lincs.	1360
12	G3BJQ	Nr. Rugby, Warks.	1158
13	G2DCI	Sutton Coldfield, Warks.	967
14	G2AHL	Guildford, Surrey.	846
15	G4AJ	London, W.1.	623
16	GM3EGW	Dunfermline, Fife.	587
17	G5MR	Hythe, Kent.	482
*	G5ML	Coventry, Warks.	1277

* *Disqualified—late entry—claimed score shown.*

A comment was received suggesting that portable stations should not be allowed to compete in the " Open " contest, but the Contests Committee takes the opposite view on this point. As its name implies, this is an " Open " contest for all comers, and the Committee does not want to discourage any form of activity on 2 m.

Very little comment was made on the contest by entrants, and it was thus difficult to assess conditions generally.

Check Logs

The following are thanked for submitting useful check logs: G2DHV, G2HIF/P and G3CGQ.

Second Top Band Contest, 1954

THE Rules for the Second Top Band Contest, 1954, are the same as those for the First Contest.

Rules

1. The contest is open to all fully paid-up members of the Society resident in G, GC, GD, GI, GM and GW.

2. The contest will run from 2100 G.M.T. on Saturday, November 13, to 0800 G.M.T. on Sunday, November 14, 1954.

3. Entries will only be accepted if submitted on foolscap or quarto paper and set out in the form below:—

Second Top Band Contest, November 13-14, 1954

Name ..... Call Sign.....

Address ..... Claimed Score .....

Transmitter .....

Aerial System.....

Receiver .....

Time G.M.T.	Call Sign of station worked	Report and serial no. SENT	Report and serial no. RECEIVED	Claimed score	Leave blank
	G2——	*599001*	*599004*		
	G3——	*599002*	*599006*		

Declaration: I declare that my station was operated strictly in accordance with the rules and spirit of the Contest and I agree that the ruling of the Council of the R.S.G.B. shall be final in all cases of dispute.

Signed.....

4. Details at the top of the entry form must be completely filled in and the declaration signed, otherwise the entry will be disqualified.

5. Entries should be addressed to the Hon. Secretary, Contests Committee, R.S.G.B., New Ruskin House, Little Russell Street, London, W.C.1, and should bear a postmark not later than Monday, November 22, 1954.

6. Proof of contact may be required.

7. The contest is confined to two-way telegraphy contacts only.

8. Only the entrant will be permitted to operate his apparatus during the Contest.

9. An exchange of RST reports and a self-assigned three-figure number starting between 001 and 100, and increasing by one with each successive contact will be required before points may be claimed. All reports must be acknowledged with " R."

10. Only one contact with a specific station during the contest will count for points.

11. The system of scoring will be as follows:—

(a) Contacts with stations in the British Isles (G, GC, GD, GI, GM and GW) score one point each.

(b) Contacts with European stations other than G, GC, GD, GI, GM and GW score 3 points each.

(c) Contacts with stations outside Europe score 6 points each.

12. The power input to the final stage of the transmitter or to any preceding stage must not exceed 10 watts.

13. Stations may be disqualified for unethical operating procedure reported by a monitoring station.

14. The Victor Desmond Trophy *will be awarded to the station in the British Isles with the highest total score. Certificates of merit will be awarded to the stations placed second and third.*

B.E.R.U. Contest, 1954

THE Contests Committee regrets making a clerial error in the results of the contest as published in the August issue of the BULLETIN. The entry of Mr. J. van Wyk (ZS6R) for the Junior event was inadvertently included in the Senior results. In fact, he is the winner of the Junior Section.

The Committee tenders sincere apologies to all concerned.

The amended tables of results appear below.

RESULTS—SENIOR B.E.R.U. CONTEST, 1954

Zone	Call-sign	Scoring QSOs	Points	Final placing	Zone	Call-sign	Scoring QSOs	Points	Final placing	Zone	Call-sign	Scoring QSOs	Points	Final placing
1	4S7XG	116	1495	16	2(c)	G5MR	50	665	45	11	*VK3XK	164	1536	14
2(a)	*GM2FHH	111	1428	18		G5ZK	48	638	51		VK3HG	33	460	66
	G2QT	117	1382	19		G5CP	30	409	72		VK3JA	34	406	73
	G2AOW	53	728	43		G5US	24	338	77	12	VK5FO	110	1142	26
	G2YS	35	478	65		G6CL	19	251	83		VK6RU	161	1011	30
	G2AJB	18	256	82		G8KU	15	211	87	13	VK9WZ	56	783	40
	G2XG	20	251	83	3	DL2RO	224	2295	4	16	*VQ4AQ	332	2894	2
	G4XC	7	103	90	5	*VE1PA	131	1262	22		ZE3JP	227	2246	5
2(b)	*G3DIY	117	1421	17		*VE1EK	103	950	31		VQ4RF	56	617	54
	*G3FXB	99	1299	21		VO3X	60	807	37	17	MP4BBE	70	812	36
	G3BKF	93	1214	25		VE1RR	83	664	47	19	*VS1FE	101	1251	23
	G3AZ	66	928	33		VE1IM	72	649	48		VS1FZ	27	373	75
	GM3EOJ	60	788	39		VO6N	60	640	50		VS6AE	24	352	76
	G3BDQ	56	770	41		VE1OM	39	510	62	21	*ZL2FA	142	1689	10
	G3BTU	51	672	44		VO6U	38	486	64		ZL3JA	139	1601	12
	G3EPG	51	628	52		VO1D	34	459	67		ZL3GQ	154	1550	13
	GM3CIX	47	626	53		VE1DG	55	456	68		ZL1AIX	91	1094	28
	G3GFG	48	593	55		VE1DB	38	452	69		ZL1RD	72	892	35
	G3GWO	42	566	59		VE1CU	63	309	78		ZL2BJ	67	801	38
	G3IVR	40	521	60	6	*VE2WW	199	1805	8		ZL3AB	75	746	42
	G3GWT	32	452	69		VE2WA	118	1246	24		ZL4DV	61	653	49
	G3EGQ	24	299	79		VE2OL	35	498	63		ZL3GR	23	292	80
	GM3GJB	15	216	85	7	*VE3KE	240	2341	3	22	ZS2A	315	3176	1
	GM3IGW	11	150	88		VE3LJ	51	587	56	23	*ZS6RB	50	656	48
2(c)	*G5RI	171	2059	6		VE3BMB	33	440	71		ZS6AEW	41	580	57
	*G5DQ	127	1613	11		VE3ADV	9	128	89		ZS6BJ	37	521	60
	G6GN	115	1517	15	8	VE5AT	35	403	74	24	ZS5U	67	941	32
	G6RH	111	1351	20	10	*VK2GW	165	1907	7		ZS4FP	20	290	81
	G5PQ	87	1127	27		VK2DI	174	1775	9					
	G6PD	86	1035	29		VK2PV	49	574	58					
	G5WP	67	921	34		VK2HZ	18	213	86					

Check logs: G2MI, 3AAE, 3CXM, 3EEM, 3RB, 6AH, 6BB, 6CJ, 8DR, 8KS, VE1AE, 1AEE, 1ZZ, 3XY, 8OG, VK3XB, ZS1BM, 2X.

RESULTS—JUNIOR B.E.R.U. CONTEST, 1954

Zone	Call-sign	Scoring QSOs	Points	Final placing	Zone	Call-sign	Scoring QSOs	Points	Final placing	Zone	Call-sign	Scoring QSOs	Points	Final placing
1	4S7LB	54	732	9	4	ZB1BF	112	1326	4	19	VS2DW	15	217	17
2(a)	G4RJ	21	270	15		MD5XZ	76	850	8		VS6CT	39	437	12
	G2DHV	5	74	19	11	VK3HL	22	298	14	20	ZD4AB	138	1544	3
2(b)	*G3IDC	67	937	7	14	VP1AA	18	247	16		ZD4AE	103	1079	6
	GW3AHN	44	573	10	16	VQ3EO	101	1205	5	21	ZL2ARL	38	395	13
	G3GNS	33	454	11	17	ST2AR	162	1547	2	23	ZS6R	187	2275	1
	G3DYY	13	189	18										

*Zone awards

Radio Amateur Emergency Network

DURING recent weeks exercises have been organised by a number of R.A.E.N. groups. On June 27, for example, at **Oxford,** a simulated emergency took place with two fixed stations, two portables and two B.R.S. members as "runners." To heighten the realism all participants were supplied with sealed orders which were not to be opened before 1430. In addition to an outline of the situation each operator or assistant received a statement of the "emergency" as it concerned him. The emergency was supposed to have arisen as a result of experimental isotope material being carried on a lorry through the city having become unstable and caused a minor atomic explosion! Further realism was provided by the genuine failure of the E.C.O.'s station (G3GJX/P) and one of the fixed stations. Those taking part were G3HIQ, G3GJX, G3GCS/P, G2DU, and Messrs. D. Alexander and B. Green.

A joint exercise between the **Lichfield, North Staffs.** and **South Wigston** (Leics.) groups was held on September 5. The Lichfield and North Staffs. groups operated on 3.5 Mc/s and South Wigston on 1.8 Mc/s, intercommunication being by way of G3GXZ/A on 3.5 Mc/s. Signals were excellent. The lessons learnt point to the need for greater accuracy in netting, better knowledge of Q codes and a standard form of procedure. The latter requirement is taken care of elsewhere in this issue. Those taking part in the exercise were G3FZW (Lichfield E.C.O.), G3ABG, G3DZT/P, G3HRR, G3CRH, G3COY (E.C.O., North Staffs.), G3DML, G3EOX, G3GXZ/A (E.C.O., South Wigston), G3HAN, G3HIZ, G3CCA, G3FDF, G2FMO and G8CZ. During the exercise G3CRH tested a 144 Mc/s link between Lichfield and Leicester with G3BKQ and monitored and recorded the 3.5 Mc/s local net for use at the "inquest."

A R.A.E.N. exercise was carried out by the **Ilford** group on September 26 when three mobile units—G3HWG/M, G2BRH/M and G8TL/M—and five walkie-talkie units—G3EIX, G3HIW, G3JAM, G3JEE and G6HU—operated on 1.9 Mc/s and 29 Mc/s respectively, G3IRL (E.C.O.) acting as control. About 14 miles out from Ilford on the Southend road, G8TL halted and took over control, G2BRH/M going on a further two miles for walkie-talkie tests, and G3HWG/M continuing to Southend. Messages from G3HWG/M and the walkie-talkies (*via* G2BRH/M) were relayed by G8TL/M to main control (G3IRL). The tests showed that two mobile stations on Top Band could operate over a distance of 28 miles to control and that the 29 Mc/s walkie-talkies were quite reliable over open country.

On October 17, a small-scale exercise will take place in **Yorkshire** under the name "Lifeline." G2CPS/P will operate from the offices of H.M. Coastguard at Flamborough Head and a mobile station will be sent to Spurn Head. It is hoped to establish communication from Scarborough to Spurn and up the Humber to Howden. **Hull** group will be participating and the W.V.S. is to provide a mobile canteen for the operators at Flamborough Head. G2ACD (County Controller, East Riding) will put out calls on Top Band and 3.5 Mc/s calling frequencies at 1045. G2CPS/P will be available for calls on sked on 1900 and 3630 kc/s at 1100. From 1200 they will be free to accept any calls. All other amateurs are asked to avoid the frequencies in use at G2CPS/P between 1100 and 1200 as very low power will be used.

Group News

Clacton-on-Sea reports that all local transmitting amateurs have joined R.A.E.N. with the exception of two who are unable to offer their services during an emergency. The E.C.O. (G3HSM) has completed a 28 Mc/s walkie-talkie and has started work on an all-band portable control station. The group has received good publicity in local papers. **Berwick-on-Tweed** has three cars equipped for mobile operation on 1.8 and 3.5 Mc/s, with inputs of from 5 to 25 watts. The aerials used are 12 to 18ft whips. Ground wave tests have been carried out to determine the possibilities of various bands. At a range of 10 to 15 miles and an input of 5 watts on each band the results were as follows: 1.8 Mc/s—R5 day or night; 3.5 Mc/s—R5 during the day, variable at night; 7 Mc/s—R5 to very poor; 28 Mc/s—audible at times. The E.C.O. (G6UC) would like to hear from any group which has carried out similar tests on 144 Mc/s.

In the course of a talk to the Midland Amateur Radio Society, G3FZW (E.C.O., Lichfield) said every amateur interested in R.A.E.N. should ask himself these questions: (i) if the mains supply fails, can I get back on the air within 15 minutes with alternative supplies? (ii) how long can I keep going like that? (iii) if I am called on to transport the equipment over rough country how much will remain serviceable and how soon can it be set up? G3FZW added that in an emergency there must be no doubts about the equipment which should always be kept in readiness. At a meeting of the **Lichfield** group on August 19, attended by members from Cannock, Hednesford and Tamworth, the exercise reported earlier was discussed in detail.

G2ACD (County Controller, East Riding of Yorkshire) attended a meeting of the Hull and District Society to explain R.A.E.N. following which five new members were enrolled. As a result of a visit to **Scarborough** increased support has been promised for G3DQ, E.C.O. for the Scarborough and Flamborough link. In **Sheffield,** G4JW is acting as E.C.O. to the group being formed there. A group is also being formed in **Bradford** and a volunteer for the position of E.C.O. is urgently required. A Technical Advisory Committee for the East Riding consisting of G5GX, G6OS and G3ALD has been set up, and the former is acting as E.C.O. for Humber and Spurn. Queries, accompanied by a stamped addressed envelope, should be sent to G5GX.

Tests made by the **Oxford** group show that 3.5 Mc/s is not really suitable after dark; Top Band is much more satisfactory. They are planning tests with 420 Mc/s walkie-talkies.

R.A.E.N. will be represented at the **Walton-on-Thames** Amateur Radio Exhibition by G2AJF (Chairman, R.A.E.N. Committee) and G3ABB (Hon. Secretary).

R.A.E.N. Appointments

The appointment of Mr. W. J. Mason (G3HSM) as E.C.O. for Clacton-on-Sea has been confirmed, whilst Messrs. F. Marshall (G2CPS), 92 Flemingate, Beverley, Yorks., W. R. Metcalfe (G3DQ), Carr Farm, Flamborough, Yorks., J. R. Petty (G4JW), 580 Redmires Road, Sheffield 10, and H. M. Rix (G5GX), "Greenroofs," Leven, near Hull, have been appointed acting E.C.O.s.

Messrs. R. E. Sparry (G3BJC) and K. T. Whithorn (G3BDS) have resigned as E.C.O.s for Coventry and Worcester respectively. Nominations for their successors, accompanied by the signatures of eight members of R.A.E.N., should be sent to the Hon. Secretary, R.A.E.N. Committee.

Change of Address

Members are reminded that the address of the Hon. Secretary, R.A.E.N. Committee (C. L. Fenton, G3ABB) is now "Niarbyl," Gay Bowers Road, Gay Bowers, Danbury, Essex. (Telephone: Danbury 518.)

Mobile Column

By JOHN A. ROUSE (G2AHL)*

SAFETY is a subject which has to be considered with all types of radio equipment and the techniques involved are now generally understood and applied by radio amateurs. Mobile operation, however, presents its own particular hazards.

With road safety already a national problem, particular care must be taken to see that no accident can ever be attributed to negligence due to the driver's attention being distracted, for even a moment, by his radio activities. Listening to the other station probably entails no more risk than the use of an ordinary car radio receiver for broadcast programmes. Transmitting, however, is quite another question. In most cases, one hand will be used to hold the microphone, thus making gear changing, hand signals, etc., much more difficult than they normally are.

The obvious answers seem to be (a) to make the mobile station as near automatic in operation as possible, all changeover being by means of relays controlled by one switch, preferably of the foot type used on many cars for dipping headlights; (b) to use a self-supporting microphone of the type used by telephone operators; (c) to arrange the receiving equipment so that all controls are kept to a minimum and are easily accessible without looking down; (d) finally, to drive at a speed which makes allowance for the additional work involved in operating the radio equipment.

Safety whilst in motion is perhaps a big enough problem in itself but there are one or two other points which need attention if the peace of mind of the mobile operator is to be preserved. To quote W6AYB in *QST*, strict adherence to the following rules is essential: (i) never transmit while petrol is being supplied—one small spark could touch things off; (ii) spare cans of fuel should never be kept in compartments (boots, etc.) in which power supplies, generators, etc., are functioning; (iii) never work on the mobile equipment with the car engine running in a garage—if the doors blow shut you may never know about it; (iv) make sure your insurance covers your equipment and its use in the car.

It may seem a little far-fetched but users of long mobile whips should take particular care when driving in streets where there are tram or trolley bus supply wires. Although we know of no case where an amateur has come to grief in such circumstances, cases of Service vehicles fouling these wires with their aerials have been reported.

Mobile Equipment

G2BYK (Bridport, Dorset) has a very simple 3.5 Mc/s mobile rig consisting of a BC454 Command receiver with a 6V6 crystal oscillator built into the dynamotor space. Heising choke modulation is effected by using the output valve (fed direct from a carbon microphone) and its associated transformer. R.F. output is link coupled to a parallel tuned circuit which is tapped on to a 5ft loaded whip. With an input of 3.5 watts excellent contacts at ranges up to 15 miles have been obtained. Power is derived from a 6 volt dynamotor giving 250 volts, 60 mA.

Another 3.5 Mc/s operator, **G3EJR,** is using a 6AQ5 crystal oscillator to drive a 1613 p.a. running 10 watts input. The anode and screen modulator consists of a carbon microphone in the cathode of a 6C4 (grid earthed) and a 6AQ5. An R103 is used for reception. G3EJR has been considering using a Receiver 6A which is obtainable cheaply and would like to hear from any member who has tried it or has the circuit diagram.

The mobile equipment used by **G2HCG** for 144 Mc/s work follows fixed station practice, extreme miniaturisation having been used to enable the complete unit to be housed on a chassis 8in. long by 6in. wide with a front panel 5in. high. The receiver consists of a 6AK5 triode r.f. stage, 6AK5 pentode r.f., crystal mixer, 12AT7 crystal oscillator and multiplier, 6AK5 tuneable first i.f. (24 to 26 Mc/s), 12AH8 oscillator—second mixer, two 1.6 Mc/s i.f. stages (9003s), 6AL5 detector and a.v.c., 6AL5 AR88-type noise limiter, 12AT7 first a.f. and b.f.o., 12AT7 phase splitter and p.p. 6BW6 audio output. The a.f. stages act as the modulator when sending. The transmitter consists of a 12AT7 Squier oscillator on 24 Mc/s, 5763 tripler, 5763 doubler and a pair of 5763s as push-pull p.a. With 300 volts h.t. the transmitter is capable of 30 watts input but at the moment the mobile supply is only 200 volts, permitting an input of 12 watts. A small meter mounted on the front panel acts as S meter on receive and p.a. anode current meter on transmit.

An interesting exhibit at the Bristol Convention Amateur Radio Exhibition was a miniature mobile transmitter for 1.8 and 28 Mc/s built by **G3FKO.** Two distinct r.f. sections are used: for 1.8 Mc/s, the line-up is 12AT7 v.f.o., EL91 buffer and EL91 p.a. (4 watts input). For 28 Mc/s an EL91 crystal oscillator doubling to 14 Mc/s drives an EL91 power doubler to 28 Mc/s running 4 watts input. The modulator consists of a pair of EL91s in push-pull.

New Valve for Mobile Use

A new Mullard valve—the QQV03-10, for which the American 6360 is an equivalent—is likely to prove of particular value in amateur mobile work. It is a miniature r.f. double tetrode on a B9A base, the rated anode dissipation being 5 watts for each section; internal neutralisation is provided. As a class C amplifier at 200 Mc/s with 375 volts on the anode the valve will provide 10 watts output. A noteworthy feature of the heater, which takes either 6 volts at 0.7 or 12 volts at 0.35 A, is that it is designed to maintain good performance with considerable variation in the supply voltage, as is likely to occur in mobile operation. The QQV03-10 costs 50s.

Power Supplies

G2QY says that the ex-A.M. Rotary Transformer Type 47 is very suitable for low power use. Although designed to give 450 volts with an input of 9 volts it works well off a 6 volt car battery, providing 250 volts, 80 mA. The input current is 2 amps off load and 6 amps on full load. The units may be obtained quite cheaply from W. A. Benson, 308 Rathbone Road, Liverpool 13.

Other possibilities, for 12 volt operation, are the 22 set vibrator pack and the 19 set rotary converter. The latter is rated to give 275 volts at 110 mA and 500 volts at 50 mA, but in practice considerably higher currents can be drawn from the high voltage section. The British version is to be preferred to those made in Canada and the U.S.A. (The latter are often marked in Russian as well as in English.)

A very popular unit with American mobileers is the surplus PE-101C dynamotor intended for use with the BC645 on either 13 or 26 volts d.c. For amateur purposes it performs admirably on both 6 and 12 volts. It is not known if it is still available in the U.K.

Information from readers on suitable power supplies for mobile use and details of any modifications found necessary will be most welcome.

* * *

Items intended for inclusion in this column should be sent to arrive not later than the 20th of the month preceding publication. For those used this month, many thanks.

**Assistant Editor,* R.S.G.B. BULLETIN.

Forthcoming Events

REGION 1

Bury.—October 15, November 11, 7.30 p.m., 52 The Drive, Seedfield, Bury.
Chester.—Tuesdays, 7.30 p.m., Tarran Hut, Y.M.C.A., Chester.
Crosby.—Tuesdays, 8 p.m., over Gordon's Sweetshop, St. John's Road, Waterloo.
Lancaster.—November 3, 7.30 p.m., George Hotel, Torrisholme.
Liverpool (L. & D.A.R.S.).—Tuesdays, 8 p.m., St. Barnabas Hall, Penny Lane, Liverpool 15.
Manchester (M. & D.R.S.).—November 1, 7.30 p.m., Brunswick Hotel, Piccadilly, Manchester.
Preston.—October 22, November 5, 19, Belle Vue Hotel, New Hall Lane, Preston.
Rochdale (R.R.T.S.).—Fridays 7.45 p.m., 1 Law Street, Sudden.
South Manchester (S.M.R.C.).—Fridays, 7.45 p.m., Ladybarn House, Mauldeth Road, Manchester 14.
Southport.—Thursdays, 8 p.m., Y.M.C.A., off Eastbank Street, Southport.
Stockport (S.R.S.).—October 27, November 10, 24, 8 p.m., The Blossoms Hotel, Buxton Road, Stockport.
Warrington (W. & D.R.S.).—October 21, November 4, 18, 7.30 p.m., King's Head Hotel, Winwick Street, Warrington.
West Cumberland.—November 4, 7 p.m., Kells Community Centre, Whitehaven.
Wirral (W.A.R.S.).—October 20, November 3, 17, 7.45 p.m., Y.M.C.A., Whetstone Lane, Birkenhead.

REGION 2

Barnsley.—October 22, November 12, 7.30 p.m., King George Hotel, Peel Street.
Bradford.—October 26, November 9, 7.30 p.m., Cambridge House, 66 Little Horton Lane.
Catterick.—Wednesdays, 7 p.m., Loos Lines, Catterick Camp.
Darlington.—Thursdays, 7.30 p.m., 129 Woodlands Road.
Doncaster.—November 10, 7.30 p.m., Y.W.C.A., Cleveland Street.
Gateshead.—Mondays, 7.30 p.m., Mechanics Institute, 7 Whitehall Road.
Hull.—October 26, November 9, 7.30 p.m., "Rampant Horse," Paisley Street.
Leeds.—Wednesdays, 7.30 p.m., Swarthmore Educational Centre, 3 Woodhouse Square.
Middlesbrough.—Thursdays, 7.30 p.m., Joe Walton's Boys' Club, Feversham Street.
Pontefract (P.A.T.G.).—October 28, November 11, 8 p.m., "Fox Inn," Knottingley Road.
Rotherham.—Wednesdays, 7 p.m., "Cutlers Arms," Westgate.
Scarborough.—Thursdays, 7.30 p.m., B.R. Rifle Club, West Parade Road.
Sheffield.—October 27, 8 p.m., "Dog and Partridge," Trippet Lane. November 10, 8 p.m., Albreda Works, Lydgate Lane.
Slaithwaite.—Fridays, 7.30 p.m., 3 Dartmouth Street.
York.—Thursdays, 7.30 p.m., Club Rooms, Y.A.R.S., Fetter Lane.

REGION 3

Birmingham (South).—November 1, 7.30 p.m., Friends Hall, Watford Road, Cotteridge. **(M.A.R.S.).**—October 19, 6.45 p.m., Imperial Hotel.
Coventry.—October 22, 7.30 p.m., Priory High School, Wheatley Street. **(C.A.R.S.).**—October 25, November 8, 7.30 p.m., 9 Queens Road.
Kenilworth, Leamington & Warwick.—October 21, 7.30 p.m., Dalehouse Lane.
Malvern.—November 8, 8 p.m., "Foley Arms."
Solihull.—October 15, 29, 7.30 p.m., Old Manor House, High Street, Solihull.
Stoke-on-Trent.—October 27, 8 p.m., "Lion's Head," John Street, Hanley.
Stourbridge (St. A.R.S.).—November 2, 8 p.m., King Edward VI School.
Rugby.—November 4, 7.30 p.m., B.T.H. Recreation Hall, Hillmorton Street.
Walsall.—October 27, November 10, 8 p.m., Technical College, Bradford Place.
Wolverhampton.—October 25, November 8, 8 p.m., Stockwell End, Tettenhall.
Wrekin.—November 8, 8 p.m., Wrekin Services Club, Roseway, Wellington.

REGION 4

Alvaston—Tuesdays Thursdays, 7.30 p.m., Sundays, 10.30 a.m., Nunsfield House, Boulton Lane, nr. Derby.
Chesterfield.—Tuesdays, 7.30 p.m., Bradbury Hall, Chatsworth Road.
Derby (D. & D.A.R.S.).—Wednesdays, 7.30 p.m., Derby College of Arts and Crafts, Sub-basement, Green Lane.
Leicester (L.R.S.).—October 25, November 8, 7.30 p.m., Holly Bush Hotel, Belgrave Gate.
Lincoln (L.S.W.C.).—November 3, 7.30 p.m., Technical College, Cathedral Street.
Mansfield (M. & D.A.R.S.).—November 9, 7.30 p.m., Denman's Head Hotel, Market Place, Sutton-in-Ashfield.
Newark.—October 17, 31, 7 p.m., Northern Hotel, Appleton Gate.
Northampton (N.S.W.C.).—Fridays, 7 p.m., November 5, 6 p.m., Club Room, 8 Duke Street.
Nottingham.—October 15, November 19, 7.30 p.m., Sherwood Community Centre, opposite Woodthorpe Drive, Sherwood.
Peterborough.—November 3, 7.30 p.m., 21 Hankey Street.
Retford.—November 1, 7 p.m., "Sun Inn," Cannon Square.

REGION 5

Chelmsford.—November 2, 7.30 p.m., Marconi College, Arbour Lane.
Lowestoft & Beccles (L. & B.A.R.C.).—October 27, November 10, 7.30 p.m., Y.M.C.A., Lowestoft.

REGION 6

Cheltenham.—November 4, 8 p.m., Great Western Hotel, Clarence Street.
Gloucester (G.R.C.).—Thursdays, 7.30 p.m., The Cedars, 83 Hucclecote Road, Gloucester.
High Wycombe.—October 26, 7.30 p.m., G3FAS, 17 New Drive, Totteridge.
Oxford (O. & D.A.R.S.).—October 27, November 10, 7.30 p.m., Club Room, "Magdalen Arms," Iffley Road, Oxford.
Portsmouth.—Tuesdays, 7.30 p.m., British Legion Club, Queen's Crescent, Southsea. (Clubroom open every evening.)
Southampton.—November 6, 7 p.m., 1 Prospect Place.
Stroud.—Wednesdays, 7.30 p.m., Subscription Rooms.

REGION 7

Acton, Brentford & Chiswick.—Tuesdays, 7.30 p.m., A.E.U. Rooms, 66 Chiswick High Road, W.4.
Barnes, Putney & Richmond.—November 5, 7.30 p.m., 337 Upper Richmond Road, S.W.14.
Bexleyheath (N.K.R.S.).—October 28, November 11, 7.30 p.m., Congregational Hall, Chapel Road, Bexleyheath.
Bromley (N.W.K.A.R.S.).—November 5, 8 p.m., "Shortlands Tavern," Station Road, Shortlands.
Chingford.—October 22, Venue from G4GA (SIL 5635) or B.R.S. 19765 (SIL 6055).
Chislehurst & Sidcup.—November 10, "Seven Stars," High Street, Footscray.
Croydon.—November 9, 7.30 p.m., "Blacksmith Arms," 1 South End, Croydon.
Dorking.—Tuesdays, 7.30 p.m., 5 London Road.
East Ham.—October 19, November 2, 8 p.m., 12 Leigh Road.
Ealing.—Sundays, 11 a.m., A.B.C. Restaurant, Ealing Broadway, W.5.
East London.—October 17, November 21, 2.30 p.m., Town Hall, Ilford.
Enfield.—Sunday, October 17, 3 p.m., George Spicer School, Southbury Road, Enfield. (C. Newton, G2FKZ, on 70 cm equipment.)
Finsbury Park.—October 19, 7.30 p.m., 164 Albion Road, Stoke Newington, London, N.16.
Guildford & Woking.—October 24, Royal Arms Hotel, North Street, Guildford.
Hendon & Edgware.—Wednesdays, 8 p.m., 22 Goodwins Avenue, Mill Hill, N.W.7.
Hoddesdon.—November 4, 8 p.m., "Salisbury Arms."
Holloway (G.R.S.).—Mondays (R.A.E.), 7 p.m., Fridays, 7.30 p.m., Grafton L.C.C. School, Eburne Road, Holloway, N.7.
Ilford.—Thursdays, 8 p.m., G2BRH, 579 High Road.
Kingston (K. & D.R.S.).—Alternate Wednesdays, 7.45 p.m., Penrhyn House, Penrhyn Road.
Lewisham (R.A.R.C.).—Wednesdays, 8 p.m., Durham Hill School, Downham.
Norwood.—October 16, November 20, Windermere House, Weston Street, Crystal Palace.
Southgate & Finchley.—November 11, 7.30 p.m., Arnos School, Wilmer Way, Southgate, N.14.
Sutton & Cheam.—October 19, "The Harrow," Cheam Village, Surrey.
Welwyn Garden City.—November 2, 8 p.m., Council Offices, Welwyn Garden City. Mass meeting of Home Counties R.S.G.B. Groups and Radio Clubs. ("Your TVI Questions Answered," Louis Varney, A.M.I.E.E., G5RV.)

REGION 8

Brighton (B.D.R.C.).—Tuesdays, 7.30 p.m., "Eagle Arms," Gloucester Road.
Chatham (M.A.R.T.S.).—October 25, November 8, 22, 7.30 p.m., Services Rendered Club, 14 High Street, Brompton, Chatham.
Hastings (H. & D.R.C.).—October 26, November 9, 23, 7.30 p.m., Saxons Café, Denmark Place.
Isle of Thanet (I.O.T.R.S.).—Fridays, 7.30 p.m., Hilderstone House, Broadstairs.
Maidstone (M.K.A.R.S.).—Tuesdays, 7.30 p.m., Elms School, London Road.
Worthing (W. & D.R.C.).—November 8, 8 p.m., Adult Education Centre, Union Place.

REGION 9

Bath.—October 18, 7.30 p.m., 12 Pierrepoint Street. (Details from G3FBA, Telephone No. 3861.)
Bristol.—October 22, 7.15 p.m., Carwardine's Restaurant, Baldwin Street, Bristol 1.
Exeter.—November 5, 7 p.m., Y.M.C.A., St. David's Hill.
North Devon.—November 4, G2FKO, 38 Clovelly Road, Bideford.
Plymouth.—October 16, November 20, 7 p.m., Tothill Community Centre, Tothill Park, Knighton Road, St. Jude's.
Torquay.—October 16, November 20, 7.30 p.m., Y.M.C.A., Castle Road.
Weston-super-Mare.—November 2, 7.30 p.m., Y.M.C.A.
Yeovil.—Wednesdays, 7.30 p.m., Grove House, Preston Road.

REGION 10

Cardiff.—November 8, 7.30 p.m., "The British Volunteer," The Hayes, Cardiff.

(continued on page 195)

Regional and Club News

ABERDEEN AMATEUR RADIO SOCIETY.—New members are always welcome at meetings which are held on Fridays at 6 Blenheim Lane. Workshop and canteen facilities are available. *Hon. Secretary:* A. G. Knight.

BRADFORD AMATEUR RADIO SOCIETY.—The meeting on October 26 is to be held at Bingley Modern School, where the Society will have a stand at the Hobbies Exhibition. There will be a display of members' equipment at the meeting in Cambridge House on November 9. Visitors will be most welcome. *Hon. Secretary*: F. J. Davies, 39 Pullan Avenue, Bradford.

CHESTER & DISTRICT AMATEUR RADIO SOCIETY.—Recent activities have included two trips to North Wales with Top Band equipment but unfortunately on both occasions the weather and conditions were poor. Members of the A.W.R.S., Royal Signals, were entertained at the meeting on September 28. Forthcoming lectures include "TVI Filters" and "A home-built electronic organ." *Hon. Secretary*: A. N. Richardson (B.R.S.19678), 23 St. Mary's Road, Dodleston, near Chester.

GRAFTON RADIO SOCIETY.—At the A.G.M. on September 17, the following officers were elected: *President*: J. H. Clarke (G2AAN); *Vice-Presidents*: B. Randall (GW3ALE), W. H. Jennings (G2AHB), L. A. Kipping (G8PL), J. A. Reading (G3RX), P. Beresford (G3AFC), and C. T. Bird; *Chairman*: L. A. Kippin (G8PL); *Hon. Secretary and Treasurer*: A. W. H. Wennell (G2CJN), 145 Uxendon Hill, Wembley Park; *Committee Member*: L. Maund (G3HNB).

NORWOOD & DISTRICT.—At the well-attended September meeting an interesting discussion on TVI problems was opened by Ron Reed (G2RX). N.F.D. results show that the group has improved its position since last year; the committee for the 1955 event will be elected at the October meeting when there will also be a junk sale.

PORTSMOUTH & DISTRICT RADIO SOCIETY.—The society's new premises at the British Legion Club, Queen's Crescent, Southsea (open every night), have now been redecorated by members. Regular meetings are held on Tuesdays at 7.30 p.m. and a Morse class, run by G3JLO, on Fridays. A high-power transmitter is being designed. Meanwhile, the society's station (G3DIT) is on the air with a low-power rig. *Hon. Secretary*: L. B. Rooms (G8BU), 51 Locksway Road, Milton, Portsmouth.

READING RADIO SOCIETY.—Meetings at the Abbey Gateway are arranged for October 30 (Lecture by Mr. Edwards of A.E.I. Research Laboratories), November 13 (Junk Sale) and November 27 (Demonstration by Dynatron Radio, Ltd.). *Hon. Secretary*: L. A. Hensford (G2BHS), 30 Boston Avenue, Reading.

SOUTH MANCHESTER RADIO CLUB.—N. Ashton (G3DQU) will give a talk on "Faults and Fault Finding in Radio Equipment" at the meeting on October 22. Other forthcoming lectures are "Simple Receiver Construction" by M. Barnsley (G3HZM) on November 5 and "Communications Receivers" by D. Atter (G3GRO) on November 19. R.S.G.B. members are invited to attend. *Hon. Secretary*: M. Barnsley (G3HZM), 17 Cross Street, Bradford, Manchester 11.

SOUTH SHIELDS & DISTRICT AMATEUR RADIO CLUB.—The Club again took part in the Annual Flower Show organised by South Shields Corporation, the emphasis being on transmitting, sound recording and R.A.E.N. Using the special call-sign GB3SFS, well over 100 contacts were made on 3.5 and 14 Mc/s. On the latter band contacts were made with Malta, Cyprus, Suez, Iraq, Lebanon and U.S.A. Once again, no TVI was caused although television receivers were being demonstrated only 25ft away. The R.A.E.N. demonstration included contacts between the exhibition station and the E.C.O. (G3GBF), who was operating mobile. Sound recording equipment was used to produce a programme of the "Down Your Way" type which featured interviews with the Rt. Hon. J. Chuter Ede, M.P., the Mayor of South Shields (Alderman C. J. R. Laybourne, J.P.), and Phillip Slessor (B.B.C.) whose message included a reference to the visit of H.R.H. the Duke of Edinburgh, K.G., to VE8RZ. Extracts from His Royal Highness's speech on that occasion were included. The exhibition was organised by W. Dennell (G3ATA) and J. R. Tyzack (G3ELP) with the assistance of G8AO, G6VG, G3GBF, G3JDO, G8JO, G3JMT, G3JPO, and Messrs. Sketheway, Wyatt, Wilson, Armstrong, Glenwright and Wood.

SLADE RADIO SOCIETY.—The society's Annual Dinner will be held at the Market Hotel, Station Street, Birmingham, on October 23. Among those expected to attend are the General Secretary of the R.S.G.B. (Mr. John Clarricoats), and the Editor of *Wireless World* (Mr. H. F. Smith), both of whom are Vice-Presidents. On October 15, a lecture on "Transistors" will be given by J. Hughes, B.Sc., Grad.I.E.E. (G.E.C.), followed on the 29th by a talk on "Single Sideband Transmission and Reception for the Amateur" (D. W. Morris, G3AYJ). On November 12 there will be a lecture on "Television Aerials" (A. P. Hale, Belling & Lee, Ltd.). *Hon. Secretary*: C. N. Smart, 110 Woolmore Road, Erdington, Birmingham 23.

TORBAY AMATEUR RADIO SOCIETY.—At the September meeting G3AVF lectured on transistors and demonstrated his transistor transmitter. G3GDW will talk about Low Power Field Day at the meeting on October 16, when there will also be a discussion on the proposed Dinner Party at Christmas. *Hon. Secretary*: L. H. Webber (G3GDW), 43 Lime Tree Walk, Newton Abbot.

WIRRAL AMATEUR RADIO SOCIETY.—Full details of meetings, which are held on the first and third Wednesdays in each month, may be obtained from the *Hon. Secretary*: A. C. Wattleworth, 17 Iris Avenue, Claughton, Birkenhead. B.R.S. members, short-wave listeners and novices are particularly welcome.

London Lecture Meeting

Friday, November 19, 1954

TECHNICAL FILM SHOW

arranged by

Wing-Commander W. E. DUNN, O.B.E. (G2LR)

The programme will include
"RADIO ANTENNA FUNDAMENTALS"
"V.H.F./D.F. EMERGENCY PROCEDURE IN THE U.K."
ADDITIONAL FILMS WILL BE SHOWN IF TIME PERMITS

at the

Institution of Electrical Engineers,
Savoy Place, Victoria Embankment

Buffet Tea 5.30 p.m. **Film Show 6.30 p.m.**

Forthcoming Events (continued from page 194)

REGION 13

Dunfermline.—Mondays and Thursdays, 7.30 p.m., behind 34 Viewfield Terrace, Dunfermline.

REGION 14

Falkirk.—October 29, November 12, 7.30 p.m., Temperance Café, High Street, Falkirk.

Glasgow.—October 27, November 24, 7 p.m., Institute of Engineers and Shipbuilders, 39 Elmbank Crescent, Glasgow, C.2.

Representation

THE following are amendments or additions to the list of Town Representatives published in the December, 1953, issue:—

Region 2—Yorkshire West

Bradford
A. W. Walmsley (G3ADQ), 6 Hilton Road, Legrams Lane.

Pontefract
John B. Walker (G3CYS), 125 Tombridge Crescent, Kinsley, Pontefract.

Change of Address

Region 5—County Representative for Essex.
The address of Mr. C. L. Fenton (G3ABB) is now Niarbyl, Gay Bowers Road, Gay Bowers, Danbury, Essex.

Affiliated Societies

THE following is an addition to the list of Affiliated Societies published in the August, 1954, issue of the BULLETIN::—

ROYAL AIR FORCE AMATEUR RADIO SOCIETY, Headquarters (G8FC), Royal Air Force, Locking, Somerset.

The following is an amendment to the same list:—

MANSFIELD DISTRICT RADIO SOCIETY, c/o Mr. G. E. Allin, 33 Herne Street, Sutton-in-Ashfield Notts.

Silent Keys

ARTHUR BROOKSON (G3IP)

It is with deep regret, we have to record the death in Northampton General Hospital after a short illness, of Arthur Brookson, G3IP, of Wellingborough, Northants.

Arthur came to Wellingborough four years ago from Kings Lynn and during his stay there, his voice and "fist" became particularly well known on 160 and 80 metres. He was a loyal member of the Society and with his modest and unassuming ways, a great friend to all those who knew him.

His sudden passing came as a shock to his many friends and the gap he has left behind, will remain for a long time as a reminder of the place he has held in their hearts.

The Society was represented at the funeral by Lionel Parker, G5LP, who placed a floral tribute on the grave subscribed to by amateurs and listeners from over a wide area.

Our sympathies go out to his wife and daughter. Vale Arthur.

L.P.

W. G. CRUNDALL (G3BUZ)

Also with deep regret we record the sudden death of Mr. W. G. Crundall (G3BUZ), of Dicker, Sussex, at the early age of 27. Mr. Crundall was an active member of the Norwood Group until two years ago. His main interests were in Top Band and 28 Mc/s work. Our sympathies are extended to his parents.

Letters to the Editor

B.E.R.U. Contests

DEAR SIR,—I am most disappointed to see that the Contests Committee has decided to discontinue the receiving section of the B.E.R.U. for next year. I have had the pleasure of listening to this contest for most years since the war and have made an entry with the object of comparing my effort with others and showing support. In a contest such as the B.E.R.U. one has the opportunity of hearing overseas stations that otherwise might not be heard often, if at all. I fully appreciate that one may still listen to the contest, but the very fact that one no longer has a competitive interest must weaken one's effort.

It seems to me to be a mistaken policy not to attempt to foster more support for existing contests. During recent months the Society has gone to great lengths to explain the reason why subscriptions must be increased and have, quite rightly, obtained an increase. At the same time, they do not appear to be willing to maintain to its fullest extent one of their services to members—the organisation of contests.

I have noticed that the Contests Committee has, since the war, also discontinued the 'phone sections of the B.E.R.U. and it would appear that the present trend is towards fewer contests. Little or nothing has been done by way of editorial comment to obtain a general higher standard of support.

The fact that a particular contest is poorly supported is to be regretted and it is up to members to show their interest but, nevertheless, I do not agree that a poorly supported contest is reason enough for its decease.

Yours faithfully,
E. F. JONES (G3EUE).

London, S.W.16.

DEAR SIR,—I have just been reading the 1954 B.E.R.U. Contest results in the August issue of the BULLETIN and was extremely disappointed to see that no mention was made of the equipment used by the winning station. The fine performance put up by ZS2A could have only been achieved by excellent planning, the use of well designed and tested equipment and aerials, yet not a word was mentioned in this respect. Surely there could be excellent material for a short article on the equipment used and a summary of the results obtained on the various bands. After all, the B.E.R.U. Contest is our major event in the contest line, it is of Empire-wide interest and surely deserves a little more space, annually, in the BULLETIN. It is realised, of course, that space is precious, but it is noted that in the August issue, exactly the same space is allotted to the Southgate Amateur Radio Exhibition as for the B.E.R.U. results. The former may be a very worthy event but it can only be of interest to a very limited number of readers. I would like to see a really first-class write-up of the Senior Contest winner with possibly some photographs, even though it may mean the exclusion of other items of the "social activity" type which, I am sure, are only read by those participating.

B.E.R.U. only occurs once a year; let us make it an event really worth while and give it full publicity, both before and after. I am sure that there are many stations throughout the Empire who would be as keen as mustard to enter the contest, if only they knew a little more about it.

Yours faithfully,
J. M. DRUDGE-COATES (DL2RO),
Major, Royal Signals.

Royal Signals Training School,
Uxbridge Barracks,
Hamburg, BAOR 3.

The Mobile Radio Users' Association

DEAR SIR,—May we seek the courtesy of your columns to bring to the notice of your readers the work of the Mobile Radio Users' Association?

In its first six months the Association has succeeded in obtaining official recognition as the appropriate body to negotiate on behalf of users of mobile radio. Further, it played a substantial part in securing the recently announced reduction of licence fees from £5 to £3. Now the Association has been invited by the Postmaster-General to nominate two members to serve on an informal committee specially set up to advise him on matters concerning mobile radio.

Above all we are endeavouring to ensure that the frequencies allotted to mobile radio users shall not be interrupted by other users in the Band.

Those using, or planning to use, mobile radio equipment are invited to join this Association and make use of our specialised technical and legal services. Minimum subscription is only one guinea a year which includes a monthly newsletter. Further particulars will gladly be given on application to the writer.

Yours faithfully,
R. E. SIMMS, *Secretary*.

Buckingham Court,
Buckingham Gate, London, S.W.1.

(The reference here, of course, is to *commercial* mobile radio equipment. ED.)

The Editor does not necessarily endorse the views and opinions expressed by contributors to this feature.

Those Early Days

DEAR SIR,—May I thank Mr. W. E. F. Corsham (G2UV) for his comments on my letter in the April issue of the BULLETIN.

Evidently I "leaned over backwards" in trying to give the credit to "hams" generally and not to any particular country. Of course the tests implied close co-operation on both sides of the Atlantic but I agree, this should have been stated.

I accept with pride—as will all amateurs in the Manchester area—G2UV's claim that W. R. (Bob) Burne (2KW) received Trans-Atlantic amateur signals two days before Mr. Paul Godley. Had I remembered G2UV's article "The Dawn of International DX" I should, as a northerner, most certainly have mentioned Mr. Burne's achievement. Parochial pride would have removed the backward tilt!

Which just shows the need to keep plugging that THE AMATEUR WAS FIRST.

Yours faithfully,
J. W. C. CROPPER (G3BY).

Waterloo, Ashton-under-Lyne, Lancs.

(That is exactly why we are reprinting on page 185 the article by the late Mr. E. D. Simmonds, G2OD.—ED.)

DEAR SIR,—I am pleased with the new format of the BULLETIN and its comprehensive contents. I wonder, however, how many people are interested in those features which hark back so regularly and often to the "Good Old Days"? With no disrespect to your contributors, may I ask who, apart from the individuals actually mentioned, derive pleasure or profitable knowledge from these articles?

It is, of course, difficult to please everyone, but the several members with whom I am in regular contact agree with me that our hobby is essentially a progressive one, and that he who even pauses to glance over his shoulder is left behind. This is reflected in most of the BULLETIN.

Are many people interested in the fact that tickets for a dinner at Pinolis on September 28, 1929, cost 5s.? Or what happened at the fifth meeting of the London Wireless Club? If there are, then by all means continue the features but I think that this space could be put to better use. I find the "Retrospect" articles, and the "Quarter Century Back" column useless.

Yours faithfully,
ANTHONY RUSH (G3HBZ).

Don't Neglect 7 Mc/s

DEAR SIR,—May I support Mr. J. H. Cant (G6FU) and Mr. J. W Russell (G2ZR) in their views regarding conditions on 7 Mc/s.

Using an average input of 17 watts I worked more than 60 countries in all continents during the first few months of my license—all on 7 Mc/s. The interlopers apparently take advantage of the lack of activity on the band, which, in turn, deters those who are active there and so the vicious circle continues.

On the evening of writing this, FP8AA is calling CQ with a fine signal and only a few VEs and Ws are going back to him.

Let us have more activity on a band which merits it and relieve the congestion a bit on 14 Mc/s.

Yours faithfully,
PATRICK J. GOWEN (G3IOR).

Hellesdon, Norwich, Norfolk.

Organising Committee—Thanks for a Grand Convention

DEAR SIR,—As two of the many visitors to Bristol for the Convention we would like to express our appreciation and admiration of the work of the Organising Committee. It was a magnificent show. Our sympathies go out to the organisers of the next Convention—whoever they may be—they have a lot to live up to.

Yours faithfully,
JEAN AND JOHNNY HODGKINS
(B.R.S.17456 and G3EJF).

Tottington,
Nr. Bury, Lancs.

Bulletin Advertisers

SIR,—I should like you to know about my satisfaction at the excellent service I get from advertisers in the R.S.G.B. BULLETIN. One firm with whom I frequently deal (they are in Salisbury) give me unfailing service however outrageous my demands upon them, and there are many other advertisers who are almost equally reliable.

It is not "the done thing" to mention advertising in the editorial columns of a magazine, I am well aware; but it does seem to me that the consistent support of advertisers, large and small, without whom the BULLETIN could hardly exist at all, is sometimes taken a little too much for granted. That's why I should like to make my own small recognition, and expression of appreciation of them, in your correspondence page.

Yours faithfully,
G. G. GIBBS (G3AAZ).

Digswell, Welwyn, Herts.

Crystal Diodes—More Data Required

DEAR SIR,—Could I appeal through your columns to advertisers of crystal diodes to give us a little more information? There are dozens of different types available; to advertise "Crystal Diodes, 2s. 6d. each" is quite pointless and rather irritating. Makers' type numbers, *please*, gentlemen.

Yours faithfully,
M. BARLOW (G3CVO).

Gt. Baddow Essex.

EXCHANGE AND MART SECTION

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AR88LF, excellent, with Handbook, £40 o.n.o. Regentone/B.S.R. 3-speed record-player, mint condition, 7 gns. Todd, 4 Canford Lane, Westbury-on-Trym, Bristol. (323

BC221, removable well-made power unit, carrying case, spotless condition, £26. H.R.O. 100 kc/s to 30 Mc/s (Bandspread 14, 21, and 28 Mc/s), good condition, £24. Local delivery, otherwise buyer collects. Consider exchange either for good camera, 7-14 Mc/s general coverage coil, 22/-, good crystal microphone, £2. G3AR1, 73 Deepdene, Potters Bar, Middlesex (Tel.: Potters Bar 4592). (328

BC348 dial escutcheon wanted. Sale BC454, 30/-. BC455 (28-42 Mc/s 6.3V valves), 35/-. Two 50 μμF vacuum condensers, 5/- each. FL8C audio filter, 8/6. GPO receiver 15 kc/s to 28 Mc/s. Two valves, all coils, leather case, 50/-. G2BVN, 51 Pettits Lane, Romford, Essex. (327

BC348 (KCA Model) with p.p. in speaker, £16. HRO junior with 5 coils, £9. Thermador modulation transformer CS2160, new, 50/-. Command set 28-41 Mc/s, £2. TU6B, new, 30/-. Wanted: HRO Senior Manual and bandspread coils. Purchase or exchange. Box 330, National Publicity Co., Ltd., 36/37 Upper Thames Street, London, E.C.4. (330

COMMAND transmitter chassis. Several wanted. Covers preferred but not essential. Stripped chassis welcome if condition moderate. G3HKX, 39 Woolwich Road, Bexleyheath, Kent. (329

DISMANTLING CR100 receivers I.F.Ts, 6/-, with crystal, 10/-. Audio filters, 10/-, chassis, 10/-. Cabinets with panels, £1. Box 305, National Publicity Co., Ltd., 36/37 Upper Thames Street, London, E.C.4. (305

EDDYSTONE S640 "S" meter and 3-valve wide-band pre-amplifier in mint condition. Ex-R.A.F. R1224a 5V battery superhet 1-10 Mc/s with stabilised power unit and uncharged L.T. battery. Home-built 250V and 6.3V power pack, metered. One or two spares and u/s signal generator. £25 the lot, buyer collects. P. Hawkes, 21 Blakenhale Road, Sheldon, Birmingham 33. (331

ELIZABETHAN transmitter 150W c.w./120W phone. Built as shown in July, 1953, issue with separate p.u.-mod-pre-amp. Acos crystal microphone type 22-2. Relay controlled. Inspection invited, demonstration without obligation, £60 or nearest offer. Buyer collects. Owner going QRT. B. Wormald, 23 Coda Avenue, Bishopthorpe, York. (318

FOR SALE: BC221F, £12 10s.; Taylor 130A megohmeter. Listed £15, unused £7 10s.; Grampian 392/6 mains battery amplifier. Listed £42, unused £15. Weston E772 analyser, £10. Garrard RC75A autochanger T/O crystal head, £14. Box 249, National Publicity Co., Ltd., 36/37 Upper Thames Street, London, E.C.4. (249

IMPORTANT NOTICE

All Exchange & Mart advertisements must be sent with remittance made payable to:

THE NATIONAL PUBLICITY CO., LTD.
36-37 Upper Thames Street, London, E.C.4

The Society and its Advertisement Manager cannot intercede in any matters arising from advertisements appearing in this section.

FOR SALE: Eddystone 640 in perfect condition with 6AG5 R.F. amp., little used. Newton, 3 Napier Road, Edinburgh. (307

G3AAE's autumn spring clean. Mains class D wavemeter, as new, 95/-. D104 microphone on adjustable chromium table stand, 55/-. RCA 2000-1500-0-1500-2000 volt 800 milliamp transformer, new, 75/-. Swinging choke 9-60 henries 400 milliamp, 25/-. Choke 1.72 henries 400 milliamps, 15/-. Condensers 4μF 2000 volt working, 5/-. Woden DT2, unused, 25/-. HRO type dial, new, 17/6. Cyldon transmitting condenser 100/100pf, 15/-. Valves 6J6 (2) PT15 (4) 6V6GT (4), 5/- each. Please add postage. Kay, 18 Fairfield Way, Barnet, Herts. (333

HRO Senior as new and guaranteed absolutely perfect, with coils, £25. 21 Mc/s bandspread coil, £3 extra. HRO Seniors requiring minor overhaul, less coils, from £10 each. Most HRO spares. 23 Windsor Road, Cambridge. (313

METALWORK.—All types cabinets, chassis, racks, etc., to your own specifications. Philpott's Metal Works, Ltd. (G4BII), Chapman Street, Loughborough. (99

NEW transmitter valves 805 (6), 17/6 each; 35T, 15/-; 50T, 25/-; HY40, £1. Receiving valves, new 6CD6G, 10/6. ECC81, ECC80, 6L18, EBF80, EF80, 7/- each. Box 319, National Publicity Co., Ltd., 36/37 Upper Thames Street, London, E.C.4. (319

ONE type ON4BZ crystal 2 metre convertor, £6/10. Several electronic keys with paddle and power pack, £4. J.-Beam slot, unused, £3. Box 334, National Publicity Co., Ltd., 36/37 Upper Thames Street, London, E.C.4. (334

PATENTS and Trade Marks. Handbooks and advice free. Kings Patent Agency, Ltd. (B. T. King, G5TA, Mem. R.S.G.B., Reg. Pat. Agent), 146A Queen Victoria Street, London, E.C.4. Phone: City 6161. 50 years' refs. (98

(Continued on page 200)

EXCHANGE AND MART SECTION

(*Continued from page 199*)

PETROL-electric set, less generator. Norman 150 c.c. O.H.V. engine, as new, £20 o.n.o. Free delivery 100-mile radius. Armstrong, 8 Green Street, Duxford, Cambs. (309

QRO modulator with optional low level speech clipping and low-pass filter, treble cut and bass boost controls, 2/807/AB2 with optional stabilised screens, UM2 output transformer, £10. Crystal microphone and stand, £1. Multirange testmeter (repairable), £1. Honey, 54 St. Gabriel's Road, London, N.W.2. (308

QSL.s and log book (P.M.G. approved). Samples free. State whether G or B.R.S. Atkinson Bros., Printers, Elland. (772

R1155, covers 160 m, " S " meter, audio, £7. Bandswitched transmitter, £3. Nera EHT unit 8 to 12 kV, new, £3/10. Line transformer and EHT with EY51, £2. Other TV, radio and transmitter gear. S.A.E. details. Box 326, National Publicity Co., Ltd., 36/37 Upper Thames Street, London, E.C.4. (326

SCR522 2m rig. Complete with valves and crystal. 832 p.a. Beautifully modified, including additional audio stage. Dials fitted for tuning. Ready to go on the air, £10/10. One 2-meter 3-element F/D aerial. Adjustable elements. Commercially made, £2/10. 1RF 26 Unit, new, with valves, £1/10. 1 RF 27 Unit. Modified 28 Mc/s complete valves, £1/10. New Valves: 2 Boxed 829, 45/- each. 2 Boxed 832, 30/- each. 1 Boxed 100TH, 40/-. (4) VR91, 4/- each. (1) 12K8; (3) 12SG7; (1) 12C8; (1) 12A6; (1) 12SR7; (1) 12J5, 5/- each. (3) 12SK7; (1) 12AH7, 7/- each. A. R. Osborne, G4OV, " Four Winds," Mount Joy, Bridport, Dorset. (312

SELLING UP: Complete Amateur Station (or separately). BC348 receiver (separate p.p.), £15. 4-band 60W rack-mounted professionally built c.w. transmitter, quality components (Woden chokes and transformers), comprising: 4 grey/blue 19in. panels, fully metered, v.f.o./crystal (cost over £40), £20. Rack-built quality 60W modulator with power supply, Woden UM2, Vortexion mains transformer. Bargain, £10. 100 kc/s crystal standard, £2—£45 complete. Many other components at bargain prices. S.A.E. details. G3IIC, 103 Melbourne Road, Aspley, Nottingham. (336

SEVERAL dozen valves must be cleared; interesting types at " Ham " prices. S.A.E. for List. G2XV, 129 Cambridge Road, Trumpington, Cambridge. (324

SSB transmitters models 20A and 10B multiphase exciters and Sideband Slicer. All s.s.b. equipment, phasing networks, audio transformers, etc. S.A.E. Rouse, 13 Mowson Lane, Worrall, Sheffield. (304

TU5B (Top Band), 12/6, no case. 2½in. Meters, 200 mA or 15V, 5/-. 6H6, SP61, VU120a, VU133, 2/- each. 6B8's, 2/6. Lots of other gear. S.A.E. for 4-page list. G3JMU, 121 London Road North, Lowestoft, Suffolk. (337

TYPE A Mk III ultra portable c.w. transmitter and receiver 3-8 Mc/s. Complete with internal mains pack, 6V vibrator pack and spares kit in steel containers, condition as new, £8. G3BHT, " Hove To," Sandy Lane, Hightown, Nr. Liverpool. Telephone: Hightown 182. (314

VALVES TT15, (2) CV128 at 10/-; (4) 6L6G at 7/6; (2) S130, 6SL7GT, 6V6GT at 5/-; 6J5G, (2) EF39 at 3/6. Feeder 80 ohm twin 30ft, 5/-. 80 ohm co-ax 38ft, 5/-. 300 ohm tubular 28ft, 8/6. Jumbo 4-pin, 2/6. RF (2) 0-3A; (2) 0-0.5A at 5/-. G3GMY, 68 The Drive, Barnet, Herts. (322

WANTED BC.610 Hallicrafters, ET4336 transmitters AR88Ds and LFs, receivers and spare parts for above, also BC.221 frequency meters. Best prices. P.C.A. Radio, Beavor Lane, Hammersmith, W.6. (315

WANTED: *Bulletin*, July, 1926. *CQ*. January, March, April, June, November, December, 1945, May, 1946. *Radio* before 1936. *R/9* before April, 1935. *QST* before 1924. *Radio Ref*, April 1935,. Many *QTC*, *Ham Chatter*, *Radio ZS*, *Amateur Radio*, *Break-in*, *Xtal*, *I.R.T.S. News*, *WRV*, *QMF*. *R.S.G.B. Guide*, 1934; *Call Book—Diary*, 1927/8, *Hints/Kinks*, Vols. 1-2. G3IDG, 95 Ramsden Road, London, S.W.12. (332

WANTED: HRO coils, receivers, power packs, AR88Ds, AR88LFs, SX28s, BC348s, AR77s, and many other types, also laboratory test equipment and R54/APR4, TN17, TN18 and TN19 units. Details please to R. T. & I. Service, 254 Grove Green Road, Leytonstone, London, E.11. (LEY 4986). (1010

WANTED: RCA speech amplifiers type MI-11220 J or K, and aerial tuning units BC939a. Offers stating quantity and price to P.C.A. Radio, Beavor Lane, Hammersmith, W.6. (316

WAVEMETER type D 230V, £6. Field strength 500μA switched bands, 15/-. Filter FL8, 12/6. TU8B new, case, 12/6. TX1196, 5/-. R1224 complete, 12/6. Power unit 620V or 550V mA, 375V 250 mA 6V5A variable bias, compact, double choked, enclosed, superior, £6. Parmeko 1/s Tannoy, new, transformer. Switched, 15/-. Crystal 8000 kc/s Octal, 8/6. Meter d.c. v.o.m. 500 μA, 15/-. All new or good condition. Green, 247 Halling Hill, Harlow, Essex. (321

WILL exchange—T1154N, unused, in maker's case—RF unit 27—Rectifier unit 64—one each TU5B—TU8B—TU10B tuning units—aerial tuning unit 126—for B2 complete. G3JHG, 40 Malsis Road, Keighley, Yorks. (325

640 receiver, £16. 6N7G, 5/6. VR53, 65, 66, 5/-. VR54, 2/6. 60E Lewis Buildings, Liverpool Road, London, N.1. (320

813's, 55/- each. 829Bs, 40/- each. TT15s, 20/- each. Two new power packs 240V a.c. in 320 volts 120 mA d.c. and 6 volts 6 amps a.c. out. Potted transformer and choke. Complete with plugs and sockets and 5Z4, £2/10 each, carriage paid. Mills, 19 Walnut Avenue, Weaverham, Northwich, Ches. (317

APPOINTMENTS SECTION

Situations Vacant

LABORATORY ASSISTANT required for making-up prototype test equipment. Applicants must have a keen interest in radio and electronics. Apply: Hatfield Instruments, Ltd., 175 Uxbridge Road, Hanwell, London, W.7. Telephone: EALing 0779/9857. (338

MECHANICS required, experienced war and post-war aeronautical radio and radar equipments. Bench overhauls and repairs. Also Improvers. Top rates paid. Near London Airport. Write or 'phone: Air Transport (Charter) (C.I.), Ltd., 7 Willow Road, Colnbrook, Bucks. Tel.: Colnbrook 280. (306

RADIO MECHANIC required for the Bermuda Police Force in the rank of Constable for a tour of 5½ years with possibility of permanency. Salary scale (including present temporary allowance of 10 per cent of salary) £715 rising to £825 a year. Free passages and uniform. No income tax. Candidates must be UNMARRIED, between 21 and 28 years of age, of sound physique and good education. They must be familiar with Signal Generator, Valve Tester, Anometer and Battery Charger Equipment and also VHF Equipment similar to Pye Series PTC 704 (Fixed Unit) and Pye Series PTC 115 (Mobile Units). Write to the Crown Agents, 4 Millbank, London, S.W.1. State age, name in block letters, full qualifications and experience and quote M1/36551/RC. (310

RADIO OFFICERS required by the EAST AFRICA HIGH COMMISSION DIRECTORATE OF CIVIL AVIATION for one tour of 30 to 48 months in the first instance with prospect of permanency. Salary scale (including present temporary allowance of 35 per cent of salary) £742 rising to £965 a year. Gratuity of 13½ per cent of total basic salary drawn during contract for those not taken on permanent establishment. Free passages. Liberal leave on full salary. Outfit allowance £30. Candidates must be capable of operating at 25 w.p.m. and should preferably hold M.C.A. 1st Class Certificate in Radio Telegraphy. Knowledge of touch typing for teleprinter, the operation of modern radio or radar aids, or experience in radio maintenance would be an advantage. Write to the Crown Agents, 4 Millbank, London, S.W.1. State age, name in block letters, full qualifications and experience and quote M2C/30606/RC. (311

TECHNICIANS GRADE I (RADIO) required by EAST AFRICAN POSTS AND TELECOMMUNICATIONS ADMINISTRATION on probation for pensionable employment. Salary scale (including present temporary allowance of 35 per cent of salary) £742 rising to £1134 a year. Outfit allowance £30. Free passages. Liberal leave on full salary. Normal tour 4 years. Candidates should possess a thorough practical knowledge of the working and maintenance of modern HF radio telegraph equipment and VHF multi-channel radio-telephone equipment. G.P.O. staff should apply through departmental channels. Write to the Crown Agents, 4 Millbank, London, S.W.1. State age, name in block letters, full qualifications and experience and quote M2C/32424/RC. (340

WIRELESS STATION SUPERINTENDENT required by the GOLD COAST GOVERNMENT POSTS AND TELECOMMUNICATIONS DEPARTMENT for two tours of 18 to 24 months in the first instance. Consolidated salary scale £990 rising to £1230 a year. Gratuity at the rate of £100/£150 a year. Outfit allowance £60. Liberal leave on full salary. Free passages. Candidates should possess City and Guilds Final Certificate in Telecommunications (Radio) or City and Guilds Certificates Radio III and IV equivalent, and have had three years' experience in two or more of the following fields:—V.H.F. link systems; H.F. communications systems; Frequency shift keying and teleprinter maintenance; V.H.F. and H.F. Cathode Ray Direction finding system; Aeronautical navigation aids (ground): Manufacture of light engineering equipment. Candidates from the British Post Office should apply through departmental channels. Write to the Crown Agents, 4 Millbank, London, S.W.1. State age, name in block letters, full qualifications and experience and quote M2C/29100/RC. (339

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