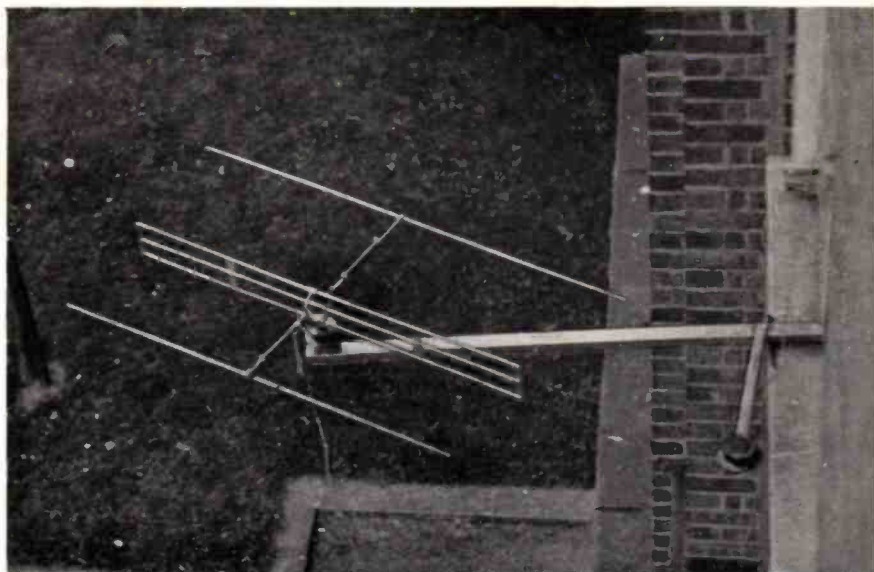


# Short Wave News

1/3

Vol. 4 No. 10  
Oct., 1949



## A ROTARY BEAM FOR 145 Mcs

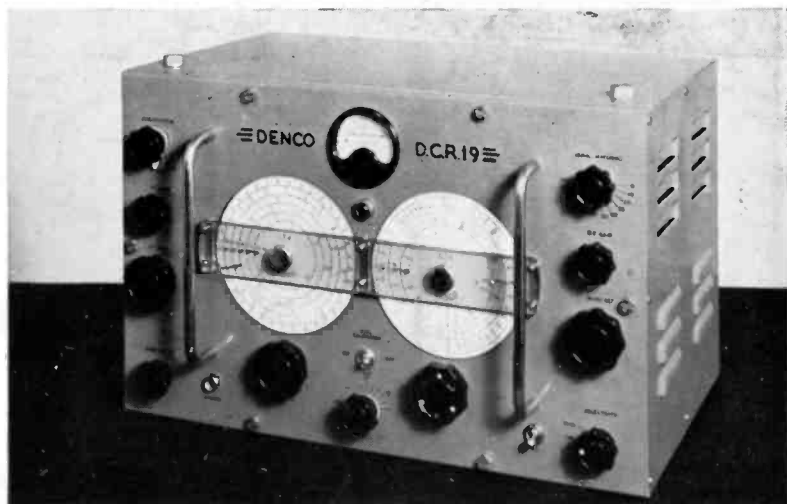
*Described by*

C. W. OVERLAND G2ATV

*ALSO IN THIS ISSUE:*

AN ALL-BAND AERIAL COUPLER AND PRESELECTOR \* LOCATING THUNDERSTORMS  
HAM BAND NEWS \* BROADCAST BAND NEWS, ETC. ETC.

AN AMALGAMATED SHORT WAVE PRESS PUBLICATION



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Besides the SWN, the Amalgamated Short Wave Press publish two other monthly periodicals.

## Television News

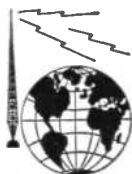
is an attractively produced magazine devoted to the entertainment side of television. It is for the television enthusiast what the film magazines are for the film fans. Each month, the life stories of television stars and personalities are featured, illustrated with large photos on art paper. Comments on past and future programmes keep the viewer up to date with the views of the critics, and 'behind the scenes' stories give televiewers an intimate knowledge of what goes on to produce the programmes they see in completed form on their screens. This magazine is becoming a favourite with y1 and xyl readers, and a copy will be read with great interest in every home with a television. Order a copy through your bookseller or write direct to us. Price 1/-.

## Radio Constructor

Many readers of SWN are already subscribers to this popular monthly. To those who have not yet seen a copy, may we say that it deals with all aspects of radio construction in the home. Receivers for all frequencies, amplifiers, television and electronic gear of all types are dealt with. Just starting its third volume, this periodical reached its maximum circulation within a few months of the first number appearing. Latterly we had to close the subscription list, such was the demand for it. We are now able to take subscribers again—16/- per year. Single copies can be obtained from your bookseller at 1/3, or by writing direct to us.

**The Amalgamated Short Wave Press Ltd.**

57 Maida Vale, London, W.9



# Short Wave News

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October, 1949

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Editor - ARTHUR C. GEE G2UK

THREE years ago this month we announced the formation of the International Short Wave League. The war had been over some months, and everyone was returning to their hobbies with an enthusiasm stimulated by six years of compulsory inactivity. In the realm of amateur radio in particular, activity was at a high level. The time was obviously ripe for establishment of a SW Club to bring together both old hands and newcomers.

There was much ill feeling still afoot amongst the war-ridden nations. What better way of trying to hasten the disappearance of this evil spirit than by launching a club which was international in outlook, amongst people whose hobby made them particularly able to help World Peace. And so, with these thoughts in mind, we founded the ISWL.

Considering the handicaps we have had to contend with, a membership of more than 3000 in three years from the beginning of the League brings us great satisfaction. The very severe paper restrictions imported on all post-war publications made our journal a very scarce medium in which to propagate the ideals of our League. Commercial competition soon reared its head, and some thought they saw in the ISWL a competitor to their own organisations. Perhaps, worst of all, a few of those who rushed in to help us in a moment of enthusiasm have since allowed

their interest to wane. But out of the difficulties has grown a young and energetic membership. We are making continued steady progress both in membership and organisation, and the spirit and outlook of the League has helped to make the world a little better and kinder for some of its inhabitants. We can quite justifiably say that amateur radio has returned to those old ideals epitomised by the phrase "the ham spirit" a little sooner than it might otherwise have done because of the influence spread abroad by ISWL principles.

We now have members in practically every country in the world. Letters from all over Europe, North and South America, Africa, Australia and Far East find their way into our mailbag: many from nationals—not Britishers temporarily resident in these countries. The activities of our League have been broadcast to the world through the influence and energy of some of our members associated with world broadcasting organisations.

Generally speaking, ISWL members are humble folk, not given to singing their own praises. However it is good sometimes to remind ourselves of our success. It gives strength for further endeavour. So be proud that you are an ISWL member, remember the object of the League, and encourage those with similar ideals to join us and give us their support.

Our monthly publication "RADIO CONSTRUCTOR" is devoted to the practical side of radio.

For viewers we publish "TELEVISION NEWS" monthly.

# ... from the month's Short Wave Broadcast Programmes

## MONTE CARLO

49.71 m., 6035 kcs. 30.65 m., 9785 kcs.

This station continues to be well received here at most times of the day. Good programme material from 0700 to 2315. English programme: "Bringing Christ to the Nations." Sundays 0900.

## LEOPOLDVILLE OTC.

Belgian Congo International Goodwill Station, 50 kW. 30.71 m, 9767 kcs. 1930-2030 :—Belgium calling Gt. Britain and British Territories in Africa. 1930 :—opening announcement. 1932 :—News. 1945 :—Amongst Friends programme. 1952 :—Music, 2020 :—Talk or special feature. 2027 :—News headlines. 2030 :—End of English programme. This programme is repeated to USA and Canada from 0200 to 0400 GMT. Every Wednesday, English programme devoted to DX'ers and Radio Amateurs, giving Short Wave news and Radio Club information. Preview of programme for week broadcast Sundays at 1945 for UK and 0215 for USA (Acknowledgements to ISWL GM2704).

## RADIO LUXEMBOURG S.W.

6090 kcs. English programme :—Sundays 1630, Sam Costa Show. 1700 Light Orchestra or Records. 1730 "Pin-up" Princess for a day, Stewart MacPherson. 2015 Records. 2100 "Strictly off the Record," Jack Jackson.

## ARGENTINE

Radio Belgrano LRY 9545 kcs. 31-73 m. English programmes 2315-0300. Radio Splendid LRS 11880 kcs. 25.25 m. English programmes 1930-0130 daily. This station is receivable well at present. Programmes consist of S. American music, short news talks, commentaries, etc. No politics. (Acknowledgements ISWL G929).

## RADIO SWEDEN

SBT 19.8 m., 15155 kcs. SBP 25.63 m., 11705 kcs. SDB2 27.83 m, 10780 kcs. SBO 49.46 m, 6065 kcs. English programmes :—0000-0100 "Over to Sweden" (daily) 0100-0115 "Sweden today" (daily) 0115-0130 "Sweden calling DX'ers" (Sun.) Youth meeting of the Air" (Mon.). All on SBT and SDB2. 0715-0730 "Youth Meeting of the Air" (Sun.) "Sweden Calling DX'ers" (Sat.), on SBT and SBO. 1215-1230 "Sweden Today" (Daily) on SBT and SBP. 1515-1530 "Youth Meeting of the Air" (Sun.), "Sweden Calling DX'ers" (Sat.), SBT and SDB2. 1830-1845, Bulletins in German and English (Daily except Sun.). SDB2.

## PJC HILVERSUM

Four English transmissions daily (except Sundays).

1. 1000-1100 to Australia, New Zealand, and Pacific area. On 13.96 m, 16.88 m, 19.71 m, and 49.79 m.

- 1515-1530 to S. East Asia. On 16.88 m, 19.71 m and 49.79 m.
- 1730-1830 to S. Africa, Gt. Britain and Continental Europe. On 25.57 m, 31.28 m, and 49.79 m.
- 0230-0330 to USA and Canada. On 25.57 m, 31.28 m, and 49.79 m.

Transmission 2 consists of a quarter hour of news. In transmission 4 there is no music on Wednesdays.

## THE VOICE OF AMERICA

Numerous frequencies in 13, 16, and 19 m bands direct and via relays from Europe in 19, 25, 31, 41, and 49 m bands. Music 1545-1600, 1645-1700. Programmes Preview and Music, 1600-1615. News and Commentary, 1615-1645. 1730-1800, 1900-1915. 2045-2100. 2130-2215. Cross section USA. Wed. 1700-1730. Here are the Americans. Mon. 1700-1730 Invitation to Learning. Fri. 1700-1730, Tell it again, Sat. 1700-1730 U.N. Review, Sun. 1700-1730. Make Believe Ballroom, Sun. 1730-1800. Youth Forum Sat. 2000-2015. \*Radio University Sun. 2000-2015. The Week in the USA, Sun. 2045-2100.

There is a weekly amateur radio feature radiated over most of the stations. On Sundays 1300-1315 (Ack. "The Border Net.")

## HALIFAX CHNX

6130 kcs. Weekdays 1100-0415. Sundays 1300-0415. Amos and Andy Sun. 0030. Evening Reverie 0700. Guy Lombardo show. Mon. 2400 Symphony Hour, Tues. 0730. Opportunity Knocks, Wed. 0730. Fun Parade, Thurs. 2330. Ford Theatre, Fri. 0200. Spotlight Review, Spike Jones, Sat. 2400, Twenty Questions, Sat. 0700. Life Begins at 80, Sat. 0730. (Ack. Roy Patrick, G699).

## RADIO CANADA CBC

CKNC 1782 Mcs., 16.84 m. CKCS 15.32 Mcs., 19.58 m. CKCX 15.19 Mcs., 19.75 m. CHOL 11.72 Mcs., 25.6 m. CKLO 9.53 Mcs., 31.15 m. News for Britain 1700-1715 daily CKCS and CKNC. News for Europe in English 1845-1900 daily CKCS and CKNC. News for Europe and Speaker 2200-2215 daily, CKLO and CHOL. Prairie Schooner 2215-2245 Sundays CKLO and CHOL. Canadian Chronicle (World edition) 2215-2230 Mon.-Sat., CKLO and CHOL. Also from CKLO and CHOL between 2230-2245. The Canadian Story (Mon.), Folk Songs (Tues.), Farm report (Wed.), Recital (Thurs.) Canadians at work (Fri.) Weekend Commentary Sat. 2245-2300 CKLO and CHOL, Discovering Canada (Sun.), Drama from Canada (Mon.), Talk (Tues.), Midweek Commentary (Wed.), Recital (Thurs.), Canadians at work (Fri.), Women in the New World (Sat.), 2340-2350 daily from CKLO and CHOL. News for Europe in English.

# ERLANGEN—All-Germany Hamfest

An all-Germany Hamfest was held in the Bavarian town of Erlangen over the weekend 19th-21st August. The Leader of our Luneburg ISWL Chapter, Karl Trautner, ISWL/DL1704 was there, as also was Sigrid Ulrich, ISWL/DL1826. The following account of the Hamfest is compiled from information sent by these two members.—Editor.



THE reputation of Erlangen as a town of science and industry was spread far over the German borders by short wave radio, when the recent All-Germany Amateur Radio Hamfest was held there in August. The Hamfest was organised by D.A.R.C.—the German Amateur Radio Club—under the patronage of the Mayor of Erlangen, Herr Poeschke. The three days Hamfest was held in the “Student-House” by the Bavarian Amateur Radio Club.

About 600 members and visitors were present, some coming from as far away as Berlin and the Western Zones of Germany. There were also a few from the Eastern Zones, and a number of American amateurs from the occupation forces were present.

Most of the guests and members arrived on the Friday, when the scene outside the Student House looked like some huge parking place. Many amateurs came by bicycle, some having cycled as much as 130 miles. The Hamfest station, DL8KT, was erected on the second floor of the House. It had an output of 100 watts on CW

and phone, and was in operation for over 100 hours during the weekend, making QSO's with amateurs all over the world. Sigrid and Karl were the operators on the Sunday (Aug. 21st) and contacted a number of ISWL members in this country. Greetings were sent to all ISWL members and ISWL HQ.

The Saturday was devoted to VHF interests. There was a competition for home-made 145 Mcs. portable transceivers, which had to be battery-operated, and must not weigh more than 20 lbs. Some very well made equipment was on show, the smallest rig weighing only 3 lbs.

A film show was given during the morning, when technical films on VHF work, measuring instruments, etc., were shown, the most interesting, and best of the lot being one entitled “Atom Physik.”

In the afternoon, three papers were read: one by Dr. A. Zobell, of Bad Hamburg on “Crystals and their relation to VHF and Frequency Modulation problems”; the second by Dr. P. E. Klein of Munich on “Cathode Ray Measurements on the VHF's and in Frequency Modulation Stations” and the third was by H. Ruckert, DL1EZ on “RF Components for frequencies above 100 Mcs.”

Saturday concluded with a meeting of all the amateurs in the Concert Hall.

On Sunday, which was really the main day of the Hamfest, the day began with an official welcome to all the honorary guests and amateurs. The American Military Governor of Erlangen gave a speech to the assembly in which he said that in America the name for a radio amateur is a “ham,” which meant an old comrade, and so he wanted to hail the German amateurs, and wish them the best for their Hamfest and for the future. Official representatives from the German Post Office, the Bavarian Broadcasting Corporation, and the North West German Broadcasting Corporation also spoke, giving greeting and best wishes to the amateurs, and in some cases also reading interesting Technical reports.

During the Hamfest, there was an exhibition of amateur radio equipment such as converters, shortwave coils, panoramic adaptors, aerial equipment, transmitters and receivers, and many other items of interest to amateurs. The Hamfest concluded with a grand dance and gala.

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PLEASE MENTION “SWN” WHEN WRITING TO ADVERTISERS

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# A BEAM AERIAL for 145 Mcs.

*A cheap, efficient and easily constructed rotary beam aerial. Described by C. W. OVERLAND G2ATV*

**H**ALF-a-crown's worth of ex-WD aerial tubing, a ball race, some spindle couplers, two extension spindles, a spring, a couple of skirt knobs and scrap wood and iron, finished with a coat of paint, resulted in the neat and efficient rotary 3-element beam for 144 Mcs. shown on the front cover. The complete unit is light in weight, and is designed to project from a window sill, being held rigid by merely closing one of the window frames. There are three of these (all metal) and no other method of fitting is available as no fixtures are allowed. One of the penalties of living in a flat! Where the older wooden sash type of window is used, the outrigger could be screwed to the frame, or preferably held in a socket attached to the frame, so that the whole unit could be easily withdrawn for maintenance purposes. If there are facilities for mounting the aerial higher, such as on the roof, so that it can be clear of surrounding objects, screening will be reduced, and gain will be improved.

## Parasitic Elements

As will be seen from the photograph, the elements are self-supporting, and no framework is used. This results in a lightweight structure, which is nevertheless quite rigid. The parasitic element spacing can, by using extension rods as shown, be varied easily for experimental purposes. Best results obtained at 2ATV so far have been with the director spaced 8 inches from the coupled element, and the reflector spaced 12 inches away. The coupled element consists of a folded dipole with three sections, each having the same diameter, so that the impedance at the centre of the fed section is 80 ohms.

The elements are made up from ex-WD aerial tubing. These are of copper-plated steel,  $\frac{1}{4}$  inch diameter, and are easily obtained in 12 inch lengths. They push one into the other, and with each joint soldered are as rigid as a solid length—and cheaper.

Construction of the parasitic elements is shown in Fig. 1A. A brass spindle coupler—these can be bought for a few coppers—is drilled at 90 degrees to the bore, to take the spacing rod, which is  $\frac{1}{4}$  inch diameter. The lengths of tubing are then cleaned of dirt or paint at the ends, and the centre section soldered. This job may be beyond the capabilities of the soldering iron—the writer did it nicely with a bunsen burner. Care should be taken to keep everything in alignment whilst soldering.

The lengths of the elements will depend on the spacing, and on other factors such as nearby objects, so are subject to experiment. It is advisable, therefore, to arrange for the end of

each element to consist of rod or tubing which is a tight fit in the end of the main tube. This latter should be, of course, rather shorter than the estimated length of element required. Adjustments should be carried out on stations sufficiently strong to enable variations to be noted—an S meter is useful here—such stations operating on frequencies around the middle of the band if possible. When finally decided as to length, the ends can be soldered in position, and, if tubular ends are used, they can with advantage have the open ends blocked up to prevent moisture entering. In the aerial shown the director has a length of 37 inches, and the reflector 44 inches, figures which may be argued about by the theorists, but which have proved best in this particular instance on tests.

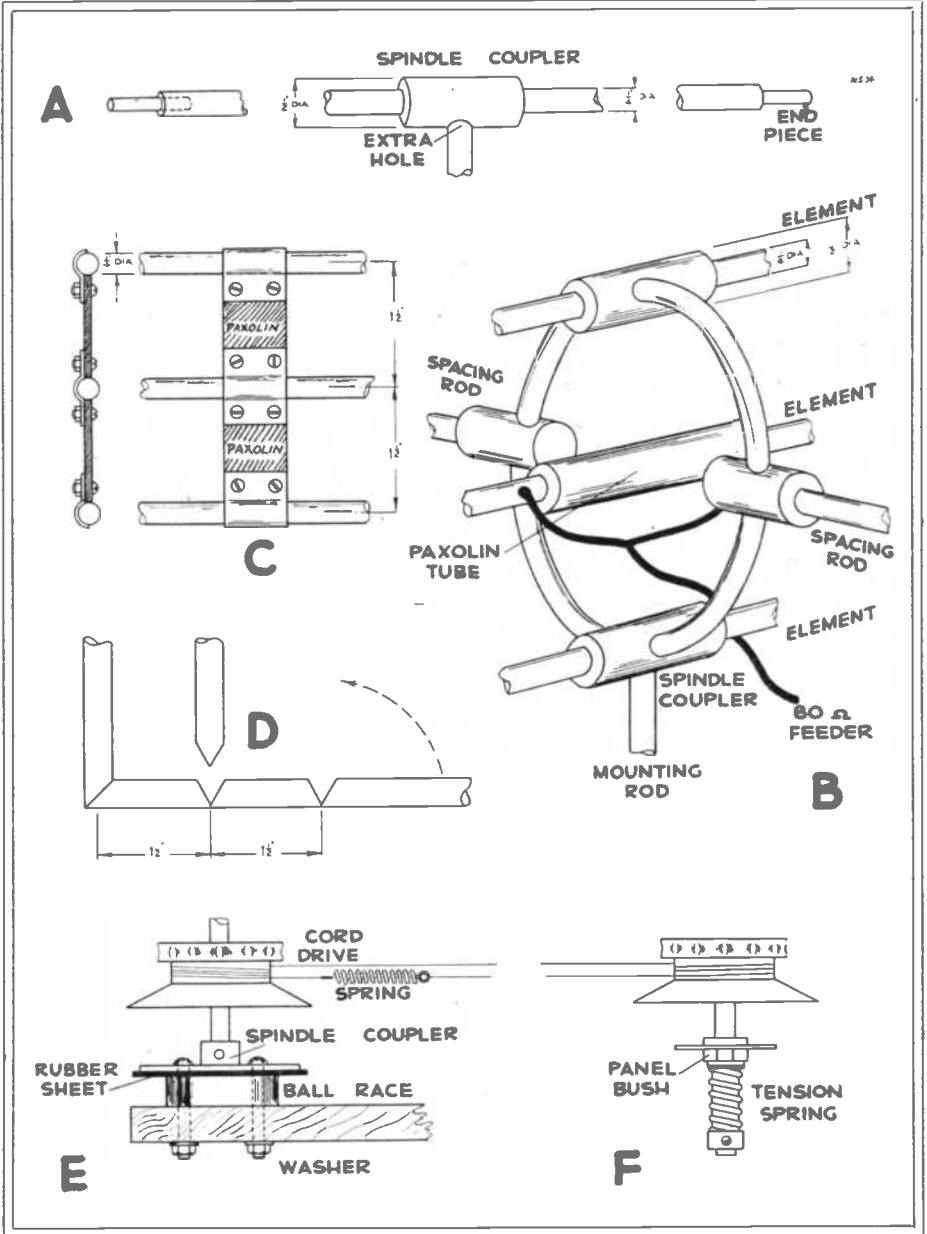
## Coupled Elements

The arrangement of the centre of the coupled element is shown in Fig. 1B. Here again brass spindle couplers are well in evidence. Four are used, and are threaded on to a piece of copper tubing bent to form a circle, which has a mean diameter of three inches. Note that two alternate couplers are at 90 degrees to the others. By the way, a 3 inch square can be used instead of a circle, if it is easier to construct. The centre element has to be broken for the 80 ohm feeders, and in order to keep it rigid the two inner ends are forced into a 2 inch length of paxolin tube, leaving a  $\frac{1}{2}$  inch gap between the ends.

This element also has to be kept midway between the two outer ones. This is accomplished, and rigidity still further improved, by fitting paxolin spacing pieces some nine inches along each side of the centre, as shown in Fig. 1C. Clips bent up out of tinplate or brass are soldered on to the elements, with the paxolin distance pieces either bolted or riveted on to the clips. The length of the sections overall, less end pieces, is 3 ft.

Sliding ends are again needed, and these may at first look complicated, but are really quite a straightforward job of work, if tackled correctly. First some tubing is required, which is a fairly loose fit in the main tube—or it could fit over. The procedure is shown in Fig. 1D.

Assuming a movement of two inches is needed—this will be ample—we shall need  $3 \times 3 \times 3$  inches = 9 inches for the U piece at either end, and a further 3 inches for the centre piece. Take a nine inch length, and make a mark with a file half way along. Now make two other marks, one each side of the centre, at a distance equal to that between the centres of the element tubes. These should be measured off, as it is quite likely that some small variation from  $1\frac{1}{2}$  inches will be



PRACTICAL DETAILS OF THE 145 Mcs BEAM

found. Next cut nearly through at each mark with a 3 cornered file, and bend up the two outer ends to form a U-piece. This is now inserted in the elements, and any necessary alteration made to enable it to slide smoothly, after which the two bends can be soldered.

Next take one of the three inch pieces and file one end to fit the V groove in the centre of the U-piece. Insert the centre piece into the middle element, and follow with the U-piece, until they are within an inch of being fully entered. The centre piece can now be soldered into the U-piece, and the complete end should then be a nice sliding fit, though not too loose. After adjustments have been made, either for the frequency of transmitter, or to the centre of the band if receiving only, the joints can be soldered.

The whole of the aerial can be protected against the weather by giving it a coat of paint.

#### Mounting

The beam is mounted at the end of a length of wood 2 inches wide by 1 inch thick. Fig. 1B shows a mounting rod,  $\frac{1}{4}$  inch diameter, which is inserted into and soldered to the lower spindle coupler on the centre unit. This rod is some 3 inches long. On to this is passed the driving pulley—a large skirt knob was used, after the spindle hole had been drilled right through. The knob was used because it was likely to stand the weather better, and so cause less wear to the driving cord than a metal pulley. It was also made for the job, being already provided with a means for fixing. The rod should have a flat filed on it to take the grub screw, by the way. The lower end of the rod is held in yet another spindle coupler, which is forced into a ball race of suitable size. The race is clamped down on to the wooden stand-off by a plate bolted down on top—see Fig. 1E.

Now a ball race is very susceptible to rust, and to guard against this it was packed with heavy grease, before assembly. For further protection, a sheet of thin rubber was clamped between the race and the holding-down plate, both the latter having a hole cut in them just sufficiently large enough to clear the spindle coupler. The ball race is also protected against direct contact with rain by the knob skirt, which comes close about it like an umbrella.

The driving pulley is another skirt knob, fitted on to an arm made of mild steel strip, which brings the knob to a handy position for operating. Some degree of tension must be applied to the beam in order to prevent it being rotated by strong winds, and this is given by a compression spring fitted to the drive knob, as shown in Fig. 1F. This knob is mounted on a  $\frac{1}{4}$  inch spindle which passes through a panel bush fitted to the arm. On the lower end of the spindle the tension spring is held between the underneath of the bush and a distance piece (half a spindle coupler if you have not the correct thing. These couplers sure are handy!). The cord used should be of a type which does not readily stretch—at present a length of eel line is in use, and is giving good service. The cord should be protected in some way against the weather, and this can be done by pulling it several times through a piece of hard wax. This also helps against slip of the cord round the pulley.

This drive arrangement was used as it was the most simple system that would enable the beam to be tried out in a hurry. Once the novelty of the band has worn off, a more solid method will probably be substituted, using bevel gears, and perhaps a remote control by motor will one day be installed. But these are thoughts for the future. Until then, the present method is working quite satisfactorily.



### THIRD AMATEUR RADIO EXHIBITION

The Third Annual Amateur Radio Exhibition, organised by the Inc. Radio Society of Great Britain, will be opened at 2.30 p.m. on Wednesday, November 23rd, 1949, by The Baron Sandhurst, O.B.E. The Exhibition will remain open until November 26th (hours 11 a.m. to 9 p.m.).

The venue is the Royal Hotel, Woburn Place, London, W.C.1 (nearest Underground

station, Russell Square. Bus routes 68 and 77 pass the door).

Twenty-five concerns have reserved space including the G.P.O. who are to stage a special exhibit.

Admission will be by catalogue purchased at the door or 1/3 on application to the Society (New Ruskin House, Little Russell St., London, W.C.1).



# the Ham Bands

Conducted by LES COUPLAND

G2BQC

## GENERAL

**M**Y the reports this month, conditions would appear to be improving, for Ten has opened up on occasions and DX has been heard on Eighty and Forty. Conditions have been very poor during the summer, but we will soon be able to settle down to another winter session.

D. L. McLean writes in to say that the following are known to be operating:—VR1C, VR2BA, Washington Island, VR3C, Fanning Island, and FN8AD, French India. ZSD9 is on 28,320 kcs. Phone. AP4B says he will QSL anyone who has reported him and not got his card (QTH in list). By the way, OB, we would appreciate all the gen. at HQ by the 8th of the month, and thanks very much for your FB co-operation. We will try and clarify the Country position shortly.

Bert Endersby heard two good ones, VK1ADS on twenty fone and FK8AC on CW. Thanks QTH's, OB, I would not be sure about the Zone of VK1ADS. His QTH is in DX Reports.

Les. Waive writes his usual FB letter and says he has recently had two all-night DX sessions, on Twenty, and heard 148 W stations in all Districts and 27 States—nice going. (My XYL would definitely set-off the bomb.)

Bert Glass, ex-ZB2B, could no doubt tell some amusing tales of radio, as he has had 25 years in the Navy as a "Sparker," and says he doesn't intend to take out a ticket in G. He has heard VO2BL on eighty fone and HZ1KE, PY7WS on CW (Time 0330). Bert would like to hear from any of the Plymouth area SWL's with a view to increasing the activity, so how about contacting him?

Martin Harrison writes in after a long absence and tears me off a strip. Thanks OB, I do appreciate your opinion and can only assure you that we do our best to cater for all, but at times it is a job. This brings me to the point of "Monitor Sessions." We would like to start them up again, so please let us know how you would like them run and when. Don't put it off, but write to-day as the dark nights are coming and I am sure we can make them interesting. Good DX, and see you next month.

## 1.7 Mcs.

W. Nicoll, GM2704, Dundee. CW: g2akq, 2yy, 2aas, 2kf, 3akq, 3ehz, 3fab, 3cd, 3ta, 3zp, 3eqe, 3dwa, 6ku, gm3ehi, 8fm and on Fone G2FXX, GM8FM. RX R1224A.

D. L. McLean, Yeovil—Fone G2BSU, 2FL, 2FLK, 2FXK, 2GD, 2IB, 2PX, 2XB/A, 2XQ, 3AMV, 3ARS, 3BBG, 3BQX, 3CHW, 3DAQ, 3DPG, 3DTD, 3MT, 4QL, 5FJ, 5TN, 6GU, 85K, GC4LI, GM8FM, GW2BG, 3VL, 4FW, 8SU.

## 3.5 Mcs.

Martin Harrison, G54, Darlington—Logs VP5HN on fone and py7ws on CW. He seems to find conditions best just before sunrise.

Don Robertson, GM1051, Wick—CW: vk2hz, 2ra, 5ko, 7ap, zs5yf, mb9bj, ek1ao, fa8cr. A good pointer for Dx on 3.5 is to listen to G8VB.

## 7 Mcs.

A. F. Baldwin, G193, Leytonstone—CW: hzlke, py2ad, 2ow, 7ws, ua3koa, 6kea, ur2ah.

Don Robertson—CW: islafm, vk5by, tf5tp (I think he is doubtful).

Martin Harrison—CW: kp4kf, helcu, ea6af, vk2ci, zlj2d, and 4kx.

## 14 Mcs.

J. Britton, G2362—Bristol: uses an o-v-o and 33 feet indoor Vee type aerial. He logs EK1MD, LU3BY, VQ4PZ, 4TAR, 9F, VQ4CUR, 4NSH, 7HJ, MD2B, MF2AA, SVOWI, TA3FAS, VK3WU XE1CQ, YK1AA, ZD1BD, ZL4HP, ZS6Q, and 4X4CR.

Bill Hamilton, GM871, Motherwell:—VP4TG, 3NCB, VK3RV, 3AWW, 5AF, OQ5RU, XE1AC, YN4CB, 4NW, and 4X4CR.

D. L. McLean, Yeovil, sends in his usual super log which includes AR8BC, CR6AI (14375), EA8AE, JA2AZ, KP6AA, MD2AC, UA6SF, VK1ADS (position 50 degrees South 159 degrees East and will be there another seven months), VP4TAR, 5AR, 9F, VQ4IMS, YK1AC (14340), and a whole string of VKs.

W. Jackson, G2603, Kirkby Stephen: uses a "Hambander." He logged KP4JF, VK30C, 3MM, 4JP, and lots of nearer Dx stations.

Bert Endersby, GW703, Old Colwyn, has had a good session with CE3BC, CX2AF, KG6EI, KL7WZ, MD2AC, VK1ADS, 2MA, 3FS, 4EJ, 5MS, 7AD, VP4TB, 5FR, VS1AX, Z14HP, and 4KP. Bert has a rather elaborate set-up which consists of a modified RF-26 as two-stage pre-selector into a BC348 and then into a BC453 (Q-Fiver). He also lists the following on CW:—fk8ac, kh6ij, kl7js, vk7pf, z4pu, 4rg.

Bill Winchester, G2152, heard EL5A, CO2BZ, CT2PA, PY1KZ, TI2AV, VK3BH, 3NZ, 4MW, VP4TB, 5AS, 6IS, VO1L, XE1AC, and ZL4HP.

A. F. Baldwin, G193, Leytonstone, has had a good time on CW with cr6rw, fe8ab, ff8gp, fm8ad (14060), fq8sn, kg6hi, kv4aa, kz5as, md4gc, mi3fg, oa4ap, oq5gd, st2ra, uh8kaa, uj8kaa, ve8aw, vs7cc, yk1ab, zclar and on fone CR6AI, HC1FG, H16EC, HK31R, VE8NR, VP5RS, 9CG, YN1HP, YS1NS, ZC1AR, ZD1BD, and 4X4BC. You certainly have a fine CW log there, OB.

SHORT WAVE NEWS

Jim Smith, G3170, Enfield—sends us his first log which is for fone CN8MZ, FA3DS, W8TX, 9INF/Airborne, CT1VP, PY2CK, YV5AB, and ZL4HP. The receiver used is a two-valver.

C. S. Pollington, G2918, Chichester—Fone AR8BC, HC2JR, HI6EC, HK3DN, TI2AV, UN1AB, VK4HF, 4WG, 5AJ, 5MS, 7AJ, VQ4CUR, VP6CDI, ZD4AD, and ZS1BV—RX: AR88LF.

S. G. Bland ZD2 2806 Nigeria sends in a nice list of G's heard there, G3QE, 6BY, 2FB, 2XS, 2BS, 2FAQ, 6ML, 2MOD, 2LM, and GM8MN. Thanks OB, let us hear from you again.

H. Dixon, G2726, Plymouth, lists EA3CU, FA3GZ, CO2WV, ZA1K(?), MF2AA, EK1MD, CE1BE, CT1IP, XE1CQ, KP4DR, and OA4M.

Don Robertson, GM1051, Wick, also heard some good Dx on CW ct3av, ea8rm, fq8sn, kg6di, kl7zl, kp4cu, kz5ep, lu0fa, oq5dm, py2aq, vk4mc, 9dc, vq4hjp, (ex Vq3hjp), vs7ee, vq8ax, yk1ab, zblam, zs6dz, zllmb, 3v8aj (3v8 is the new prefix for FT4) and on fone CE3AT, CR6AI, HZ1KE, JA2BS, KA1AI, KP6AA, MP4BAD, SV5UN, XZ2SV, VS1AX, 2BS, 7BR, YK1AC, ZL3FV, and 4X4AA. Tax Don.

P. Bysh, G1233, logged CN8BV, CX2CO, MT2E, UA3AM, VK2DA, 3WU, VQ4NSH, Rx: SX24.

Michael Milne, G2828, sends in his first log with CO7VP, CX1CG, EK1MD, 1AD, EL2A, KP4BI, MP4BAC, MT2E, OX3BD, UA1BE, 3AF, VE1LA, VK5MS, 5RN, VP6CDI, VQ4ASC, VS7BR, 9AH, XE1WV, ZD4AD, and 4X4AA. Rx.: Philips All-wave 5.

L. H. Waine, G328, Yeovil also sends in a CW log (0200 to 0615 hrs. 14 8/49). ct3an, co6av, hk3fa, kz5aa, lu2hh, md7we, pz1qm, sv0ak, ti2ab, ul7ab, ve8ny, vs1aw, vq8ax, ys1ac, yv4bh, ze2ki, zp6ab, yu3a, and yu7cl. Tnks, Les, OB.

W. Mills, G261, Chelmsford uses an HRO and 20m. dipole. He lists the following on fone CX1VD, ET3AJ, MI3SI, VK3HO, VP3HH, YK1AC, and ZL4AA, also CW ks4ai (Swan I), mp4ba, tf3qa, ua6ksa, ub5br, uc2bc, and ve8qm.

28 Mcs.

D. L. McLean, Fone: CE1AH, CM9AC, CX3AA, EK1AD, EL2A, ET3AF, HZ1KE, LU1DJC, MI3AB, OQ5AO, OA4BB, PK4DA, (28500 kcs.), 4KS, VK5AE, 6CF, 6DD, 6SW, (1030 to 1200 hrs.), VP4LL, 4TZ, 6CDI, VQ4RF, 4SC, 5ALT, VS1AY, (28300), 1DX, 1DZ, 7WP, 7RF, 9AH, VU2CQ, 2JP, ZC1AZ, ZD4AH, 6DT, (28255), ZP2AC, 5BL, 6AC, 7FA, ZE1JB, 2JK, 2KH, also numerous ZS, including W6YYT/ZS3.

Karl Trautner, Luneburg, D1704, logged the following on fone, LU6ES, ZP5BL, CX4CS, ZS1AX, 6GW, KZ5AM, TI2AFC, and numerous Ws.

Bert Endersby heard the following on fone: CE3AB, EL2A, JA2CL, 2NY, PK4DI, 4KS, (Banka Island), VK5AE, 5AS, VS1CS, 7PW, ZE1JB, ZS1BV, 6JS, and 6MF.

Allan H. Higgins, GW3181, Aberkenfig, sends in his first log which includes CE5BD, CX4CS, EK1AD, EL6A, KP4PU, MF2AA, MT2FU, VS9AH, and PK7RK (can't give you any gen on this one OB).

C. S. Pollington, all fone: AR8AB, ET3AF, JA2CL, 2CK, KG6FI, MI3SC, PK4KS, VK6GD, 6WU, VQ4NJ, 4RF, 5PVD, VS1BZ, 9AH, ZE1JB, ZC6UNJ, and ZS6IH. Rx: AR88LF.

Don Robertson closes this session with CE2CC, EK1AG, OA4BV, OQ5KL, TI2EV, VK6CF, VQ1AA(?), VQ4RF, VS1BX, VU2CQ, ZD2S, ZS3D, and 4X4ES. Rx: 1-v-2.

DX QSLs RECEIVED

Les Waine, VK5KL, 5JS, ZD2S, UA1BS, 4FD, UN1AB, UB5KAG, HB9EL, 9IE, TF3AR, OQ5RA, OZ8SS, OZ1AQ (Bornholm), W3MNO 8CUP, 4EJH, 7ARN, 4LFD, 1APU, 1PWA, OK1QZ, FF8FP, PAOQF, Dk7AA, VQ4CRE, VE1DO, 3ARS.

Peter Bysh, AP4B, CX2CO, FA3FB, TI2OH, VK3WY, W4AZD.

Don Robertson, GW8WJ, 3EFZ, GM3FIW, PAOUX, LA1MB, 1OR, SM6APB, OK1QL DL2CH, DL2LN, HA4SA, W4NDV W1PLB, W6ZEB, 2LBK, W8PQQ, 3EVT/1, 7CTK, VS2BX, VE7SR.

DX NOTES

How about looking for these: VR2BK, 7040 kcs., CR10AA, CB, FU, approx. 14055 kcs., UA1KEC, Franz Josef Land, 14055 kcs., VK9WL, 14055 kcs., VR3A, 14140 kcs., VK4S1 VR1, 14350 kcs., vk9NR, 14360 kcs., VP2GG, 14375 kcs., YS1RA, 14040 kcs.

F18ZZ will soon be on fone, VK1VU, FE, and RA are active on Heard Island. VK1ADS, JT, R and RD are active on Macquarie Island. VK1ADS is on fone. VR2BC says there are seven active hams on Fiji. FB8AB has been presented with a Tx by W2IOP, so he will soon be on the air. 4X4 stations count as a new country. VQ2DH was operating for a short time from ZD6.

DX DIPLOMAS

	Grade	Classification
Alan Roocroft, G2912	1	Mixed
Peter Batten, G2304	2	B.C.
R. J. Ward, G3013	2	B.C.
P. Hartley, G730.	1	B.C.
D. Shallcross, G1882.	6	Mixed
D. Lambert, G2594	1	Tel
E. Jordi,	6	B.C.
C. Shapiro, G3173	1	B.C.
H. Moss, G3031	1	B.C.
J. N. Trye, G570	5	Fone & CW
P. J. Vincent, G433	6	Mixed
F. V. Boggs, G2734	1	B.C.
86th Belfast	1	B.C.
Scout Group.		
C. R. Currier, G1005	2	B.C.
J. S. Bolland, G1114	1	B.C.
A. P. Bull, G1498	2	Mixed
K. W. Morris, G1958	1	Phone

# NOTES from the SHACK

By "QUA"

(All times in GMT)

These notes are intended to appear monthly; each item has been heard by the writer, and thus they represent a survey of the SW spectrum as seen through the eyes (or ears) of an average SWL. It is therefore to be hoped that active SWLs will find something of interest among them.

## Amateur Bands 14 Mcs.

Currently active on phone is VK1ADS Macquarie Island, usually to be heard around 14380 kcs. at 0700. Home and forwarding QTH for cards is VK3ADS, 93 Princess Street, Kew, E.4., Victoria. He expects to be home in seven months time, so do not expect QSLs just yet! HS1SS is now on phone, QTH:—American Embassy, Bangkok. Also heard were VS1AX, KA1AI, JA2BL, CR6AI, EQ8SN, VP2LX, FE8AB and YS1ES—plenty of DX there for the phone hounds. All of these were at the high end of the band—14250 to 14400 kcs. The secret of 14 Mcs. phone hunting would appear to be to look either above or below the W phone band—preferably above.

Quite the best DX on CW this month has been the advent of ZM6AI logged around 0630 putting in an RST459 signal on 14050 kcs.—and promptly chased by the "wolf pack" in full cry! How these DX stations work anybody at all through the welter of CQs and spiv VFOing is anybody's guess. Then we have KV4AA QTH:—Box 403, St. Thomas, Virgin Is., consistently at the LF end of the band about 2300 mostly working W's. KG4AD, Guantamano Bay, is asking for reports, QTH:—Box 350, Navy 115, c/o F.P.O., N.Y., N.Y., U.S.A.

FM8AD, CR7IZ, KZ5IP, MD7WE and HZ1HZ are some more of the CW stalwarts who make a nice addition to the log, QTH of the last mentioned being: Ahmed Zaidan, Mecca. The land of the Llamas, mysterious Tibet, situated in the remoteness of Zone 23, suddenly burst forth during the latter part of August, and has since appeared spasmodically in the guise of AC4RF and AC4YN—both on CW. MD4GC, Mogadishu, Somalia, is QRP and operates around 1800—he also requires SWL reports. For those who require Burma, XZ2FK has been heard on several occasions of late, putting in a fair signal. VS6AC and VS6BG, Hong Kong, represent Zone 24 and may be logged around 1530-1630, if you can dodge the QRM—hi! All in all, an exciting month on 14 Mcs. and the "season" not here yet.

## 7 Mcs.

Broadcast QRM tends to make this Amateur band (sic) almost a penance to operate on, but late night and early morning addicts will reap big dividends, especially on CW. For those who need new countries on 40, the following are offered, all of whom are regulars on this band and have been heard here:—LU7AZ (0110),

VP4TAQ (0435), ZL4AI (0545), and HZ1KE (0120)—the latter working G's after playing bridge all evening! QTH:—British Military Mission to Saudi Arabia, Taif, MELF. CO2LM and CO5FL represent Cuba, YV5AL and W5BC represent Venezuela, whilst ON3MG manages to keep Greenland on the 7 Mcs. map, which makes it appear that something may be said for poor old forty after all.

## 3.5 and 1.7 Mcs.

Much is expected of the two LF bands this coming winter and fall. With the advent of W's on 1.7 Mcs. one is left wondering who will be the first across the pond. The 80 metre band continues to carry a large amount of W, VE and VO phone traffic, and W1AW, the ARRL HQ station, has been heard on several occasions of late. Best time for reception is around 0130 to as late as 0500. On phone we have VO2BL and VE1IK, with CW producing FA8BG, VO1U, W4NN, and ZB1AR.

## Broadcast Bands.

Now is the time to go hunting for those tantalising S. Americans with their exotic Congas, Sambas, and identification signals. From 3 to 6 Mcs. many are normally receivable here after 2100 hrs. Probably the frequencies 4800 to 5000 kcs. are the most interesting in this respect therefore a list is appended of all active stations within these limits for those who wish to explore this portion of the Rx dial space.

Some of the interesting stations received here during the past month include:—

11730 kcs. BFBES, Singapore, Q4R6, with news in English at 1415 GMT. With a power of 7.5 kW this station is on the air from 0915 to 1630.

9360 kcs. YFA4 Macassar, Celebes, Q4R6, with call announced by YL "Hier is Macassar" at 1445 followed by news in Dutch.

4855. HJCA Bogota, Colombia, Q4R7, at 2200 using a gong and bird call identification signal. This station's power is 1 kW. QTH:—Apartado Postal 1636, Bogota. Schedule is 1200 to 0400 in Spanish and they QSL.

8955 kcs. COGK Santiago de Cuba, Q4R8 with slogan "Cadena Orientale de Radio" at 2345. Power 0.5 kW, QTH:—Apartado 82, Santiago de Cuba, Cuba. Schedule is from 1100-0500.

12000 kcs. CE1180 Santiago, Chile, Q3R6, presenting a military band concert followed by slogan "Radio de Agricultura Nacional" at 2345. With a 5 kW punch it radiates from 1100 to 0300 and the QTH is Casilla, 40D, Santiago, Chile—they also QSL.

9610 kcs. XERQ Mexico City, Mexico, Q4R7 when closing at 0600. Announced as "Cadena Radio Continental." From Cardola No. 48, Mexico D.F., they transmit over the

(Continued on page 261)

# VHF NEWS

## 145 Mcs.

**Denis Heightman, G6DH.** Clacton-on-Sea, has been doing some interesting work on "received noise" on two metres. In conjunction with ON4FG, observations have been made on the degree of noise on the band, and Denis reports that there appears to be some correlation with sporadic E openings on the lower frequencies, i.e. those between 28-50 Mcs. ON4FG has a 12 element beam (3 four element arrays one above the other) and it seems necessary to use an extensive array such as this to be able to discern changes in noise level on the band.

During a strong Es opening on 25th August, LA7Y and LA7F were heard on 50.1 Mcs. Pity the "Cs" are not still on that band.

From the journal of the Belgian Amateur Radio Union, we learn that the following ON4's are active on two:—4VN, DL, MS, NC, CX, JJ, VR, JW, RU, BK, HC, HH, HE, VF, PJ, DB, IE, KD, PV, IW, HL, IF, HD, JH, ZA, KD, AK, OU, PA, WI, QU, JA, XR, MA, CB, LJ, and XU.

It is also reported in this journal that OH2OK has been heard recently in Belgium around 2200 GMT.

**Len Whitmill,** Harrow Weald, Middx., sends in a good log of signals heard on 145 Mcs, viz:—G2ABN, AGV, AJ, ANT, BN, CIW, FPP, IQ, NH, WJ, XC, XV, YC, ZV, 3AEX, BOB, BKQ, BLP, BUZ, CWW, CVO, DEP, FD, FP, QK, RI, 4AU, CI, DC, HT, KD, OO, BC, BD, CD, DT, KH, MA, RD, TP, WP, XA, YM, 6CB, HG, JK, LR, NB, NB/A, NF, CH, VX, WT, YP, 8IP, GX, KZ, SY and TB. From this log readers will gather there is plenty of activity on the band. Len is using a 3-element beam, which at present is only 16 ft. high. When the best feeder matching has been found it will be hoisted up to 30 feet.

**B. Priestley,** 12 Mather Drive, Rudheath, Northwick, Cheshire, has been listening on the high frequencies, but is not on 145 Mcs, yet. He has, however, heard several aircraft. He would like to hear from any other VHF fans in his locality.

**Les Coupland, G2BQC,** Boston, Lincs, is now active on 144 Mcs, with an 832 pA running 16 watts. Aerial is a 4 element Yagi beam 43 ft. high. QSO's so far include G6PG (Kent), G5WP (Surrey), G2XS (King's Lynn), G5BD (Mablethorpe) and G3BRG. Les says that 144 Mcs. can certainly do with more activity, everyone appearing to keep off the band until 10-30 p.m., even out of London. He adds that he will be very pleased to QSL any SWL reports on his 144 Mcs. transmissions.

**R. J. Appleby,** Clacton-on-Sea, has heard the following during the past month:—G2AJ, KG, XC, XS, 3ANB, BTL, CWW, FIJ, 4AV, 5WP, 6PG, and 6VX. He reports that 5WP's phone signals on 10th Sept. at 2150 GMT were particularly good. Apparently 5WP is using a

16 element beam! Best DX of the month was 2XC (Portsmouth) and 2XS (King's Lynn).

**L. A. Yaxley, G2FLC,** Cleveley, Suffolk, has been making a few personal QSO's with the East Anglian VHF gang instead of being on the air. He confirms that Sept. 10th was one of the best nights for 144 Mcs. conditions during recent weeks.

**W. H. Tanser, G3BSQ,** Old Bilton, Rugby, reports that he is now on the air with an 832 running at 10 watts. He has worked G3CXD Newcastle, Staffs, 6YO, Bradford (102 m), G2RI, Leicester, G2ATK, Shirley, S. Birmingham, and G2FBT, Hampton-on-Arden. G2IQ, G2AVQ, G3BLP, G4RK, G5LJ, G5TP, G5WP, G6NB, G6VX, G6XY, and G8QY have all been heard but not yet contacted.

In a letter to 3BSQ from E18L, the latter reports that he is on the band using a converter, EF54 RF, EF54 mixer and EF52 oscillator. The TX is 6V6, QVO4/7, QVO4 7, QVO4/7 and QVO4 20 final. E18L says that no one else near him is active on 2, and he would be very pleased if he could contact someone on the Welsh coast—for a start. He worked GW6AA on 1 watt in the 60 Mcs. days!

**Bill Parker, GW2ADZ,** Montgomeryshire, says that best conditions were experienced on Sept. 4th when signal strengths were far above normal, and anything that was on could be worked. He works the following skeds daily:—South: 19.00 BST, G3EHY (100 miles) 1930 BST G5QA (150 miles) or G6WT (165 miles) or G3AGA (215 miles) and South-East: 20.00 G2NH (165 miles), 20.20 approx. G5MR (216 miles), East: 21.15 G2XS (148 miles), 21.30 G3VM (185 miles). Possible 21.40 G2CPL (210 miles).

Bill Parker adds that he is now using a 4 over 4 over 4 stacked beam, and that the band is active on Sunday mornings from 0800 to 1300.

**Arthur Simons, G5BD,** Mablethorpe, Lincs, reports that he has very little outstanding news. His sked with G5WP at 22.30 BST is still 100%, with over 100 contacts to date. The 16 element beam now in use brings up signal strengths at least two S points higher. The beam is not rotatable at present, and is made from laths and  $\frac{1}{2}$ -in. wire, just hanging from the old long-wire aerial.

## 420 Mcs.

**R. Rew, Quinton, Birmingham,** sends us a very nice long letter on 70 cm activities around that city. He has been out with G3BUR/P during the recent 420 Mcs. tests. He says that G3BUR's best DX so far has been 3MY/P near Sheffield, with 3APY P, 3ENS P, 5BM/P, 2QX, 2HNA P and the locals 3LN, 3EMY, and 8JI as other contacts. They are hopeful of getting further afield during the Oct. 8-9th 420 Mc. activity Weekend. The receiver used is a very much modified ASB8 double superhet. The aeriels employed have been 48 and 32 element stacked arrays. At home, R. Rew has been using a square corner reflector antenna located in the loft, but so far only local signals—3LN, 3EMY, and 8JI have been heard.

## YK1AB

SABA N. SABA, TURKEY

Described by P. M. CRAWFORD G1915



THESE photographs show the rig at YK1AB, the station owned and operated by my very good friend Saba N. Saba. Although his home is in Antioch, Turkey, Saba operates from Damascus, Syria. He works at Mezza Airport, 5 miles south-west of Damascus, but is free to go on the air after 2.0 p.m. each day (Eastern time) and on Fridays, which is the Government official holiday.

The first photo shows Saba with a visitor, G6ZO (wearing phones) at the operating position, and the compact little TX is shown in the other. Saba runs 50 watts to a 6L6 xtal oscillator, driving a double stage to a single 807 PA. The speech line-up is a 6J5 speech amplifier, followed by a 6L6 connected as a triode. The mike is a carbon, energised from a resistor tapping at 4 volts from the cathode of the 6J5. A separate filament transformer is used for the modulator unit, and the HT for the 6J5 is fed through a choke from the regulated supply to the 6L6. The power supply unit is shown to the right of the TX.

The receiver is a converted BC-224\*, and the output stage is a 6K6 which gives enough output

to operate a 6 inch speaker. The aerial system is a half-wave 20 metre doubler, each portion being 4 metres 95 cms. long. The feeders are a twisted line, 5 metres long, the whole thing being 10 metres high, and running East-West.

Saba works at present exclusively on 20 metres, and has a second TX under course of construction, which will run at 100 watts. There is no power restriction to worry Syrian Hams, and Saba's friend, Alan Rabatt, YK1AC, runs a 3 kW, TX. Saba was originally ARIJC, and has held his present call since Jan. 1st of this year. The only major condition pertaining to licensing in Syria is that all amateurs shall be members of the Technical Institute of Radio. This, incidentally, is the only club in the Middle East which is interested in Amateur Radio, with the possible exception of Army and RAF clubs formed within services groups. The Institute is at present engaged in compiling a Radio Handbook in Arabic.

\* BC224 is same as BC348 except for a few minor details.

THE EDITORS invite original contributions on short wave radio subjects. All material used will be paid for. Articles should be clearly written, preferably typewritten, and photographs should be clear and sharp. Diagrams need not be large or perfectly drawn, as our draughtsman will redraw in most cases, but relevant information should be included. All MSS must be accompanied by a stamped addressed envelope for reply or return. Each item must bear the sender's name and address.

COMPONENT REVIEW. Manufacturers, publishers, etc., are invited to submit samples or information of new products for review in this section.

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ALL CORRESPONDENCE should be addressed to "Short Wave News," 57 Maida Vale, Paddington, London, W.9. Telephone CUN. 6518.

# Around the Broadcast Bands

A Monthly Survey by "MONITOR"

All times are given in GMT  
(For EST subtract five hours ;  
for AEST add ten hours)

## ● Asia

**India.** VUD11, 11760 kcs. Delhi. Roy Savill, of Sevenoaks, Kent, reports this station with QSA5 R9 signals from 1900-2000 with musical programmes and request for reports. W. Nicoll, of Dundee Angus sends along schedules of A.I.R. External Services beamed on Europe (Western) and effective from July 1st :—

Station	kW	Call-sign	Freq. kcs.	Transmission Time
Delhi	100	VUD5	17830	1500-1540
	20	VUD11	15130	1500-1540
	100	VUD5	11710	1900-2000
	100	VUD7	9620	1900-2000
	20	VUD10	15290	1900-2000
	20	VUD11	11760	1900-2000

VUD10, 17830 kcs. heard QSA5 R8-9 with English programme for the Far East and South-East Asia from 1330-1400. News was read by YL followed by music at 1340. Same station was heard again at 1500 at same strength with opening announcements of "English programme in the Experimental Service" (Surely VUD5 OM). Also announcement that they were working in parallel on 15160 kcs. but logged nearer 15130 (VUD11). Signals were QSA4 R7-8 with bad hetro. Had request programme of recorded music 1500-1530 (being a regular Saturday Feature) and news read by Stephen Sharrier at 1530-1540. (Jack Farris, Redcar, Yorks). A new frequency of 17780 kcs. used by AIR has also been noted by Farris carrying Indian type music at 1300 (QSA4 R4-5). (May be VUD11 who uses this frequency from 1100-1300 according to the AIR Broadcasting System leaflet sent in by R. H. Barnett, of Palmers Green, London. We should like to give this leaflet full survey which, by the way, lists all Transmitters of AIR but space this month does not allow this lengthy schedule. Therefore this is held over until next month). Sidney Pearce, of Berkhamsted, Herts., lists the Delhi BCs for SWLs Overseas 1900-2000 R7-8 on 15290 kcs., 9620 and R8 on new freq. 11710 kcs.

**Pakistan.** Arthur Cushen in Invercargill, New Zealand, lists Lahore on 11740 kcs. with English news at 1445.

**Ceylon.** Pearce reports Radio Ceylon on 15120 kcs. at 1615 with R7 signals. Announced as "This is BBC broadcasting from Radio Ceylon" followed by "Make Believe Ballroom" from "Far Away Club."

**Turkey.** R. H. Barnett, of Palmers Green,

London, sends along a heap of schedules from various parts of the Globe that he has received. Thanks OM. He also puts in a note regarding fully reporting and says in his own words "I agree entirely with you that it is well worth while sending out fully detailed reports and it pays good dividends for the extra trouble taken. Some of the cards I have received are very appreciative of a good report." There you have it, fellows, from a Member of the ISWL. Please let me know whether the 30 Countries you mention in your letter are *all* Broadcast OM and I will list you in the "Roll" next month. R.H.B. uses an Home-built Eddystone AW2 also a Mod. Hallicrafter S29. The Aerials are a 14 Mcs. Half-wave Dipole and 133 ft. long wire.

The following schedule sent in by R.H.B. is for TAP Ankara 9465 kcs. :

News in	Daily at	News in	Daily at
Urdu	... 1600	Persian	... 1615
Arabic	... 1630	Turkish	... 1700
English	... 1745	French	... 1800
Greek	... 1830	Rumanian	... 1845
Serbo-Croat	1900	Bulgarian	... 1915
German	... 1930	Hungarian	... 1945

Special BCs for English speaking listeners on Mondays and Thursdays at 2130.

"Mail-Bag" in English on Sundays at 2130. Special BC for USA listeners fortnightly on Tuesdays at 2300. QRA : Radio Ankara, Radio Branch, Turkish Press Department, Ankara, Turkey.

**Turkestan (Uzbek USSR).** Tashkent 6825 kcs., heard at 1700 QSA4 R4-6 (with some CW QRM) giving News in English and Talk both read by YL followed by music at 1715. (Farris). Hope you get a QSL OM and be luckier than I was with my report 12 months ago to them! They do ask for reports but don't seem to Verify!!

**Philippines.** Manila. "The Voice of America" relay stations on 15330 and 1770 kcs. has Amateur Radio feature on Sundays at 1300-1315 including DX Propagation predictions. According to announcement is "Presented by the Voice of America in co-operation with the American Radio Relay League (A.R.R.L.) for the Radio Amateurs of the World."

11890 kcs. frequency heard at 2215 with English news followed by Oriental transmission at 2230 (QSA4-5 R9) (Farris). Pearce lists the 17 Mcs frequency as 17760 kcs. R6 when signing on at 0900 in Far Eastern Service of "V" O.C. Announces as "This is Manila operating on

11.89 Mcs. in the 25 metre band." Has English 0900-0930. Heard again with English from around 1230-1315, when also gives MW freq., of 920 kcs. 326 metres. From 1315-1415 gives Chinese Programme also heard on 15330 kcs. Both carry the Russian language BC from 1415-1445.

**Malaya.** Singapore. BFEB5 11880 kcs. heard at 1515 QSA4 R5 with "Rhythm on Records" programme also carried on 15300 kcs. QSA3 R4 with terrific QRM. (Farrs.)

**China.** Chungking. BEF7 11,913 kcs. heard at 1500-1530 QSA3 R5 with bad QRM. At 1530 was wiped out.

**Java.** "Radio Batavia" Batavia will start testing with new Transmitter (100kW) during September, will use 15150 kcs. channel and have 24 Doublets as Antennae. When new Rhombics are completed will also add 6045 kcs. (for North Australia and S.E. Asia), and 11795 kcs. (Western USA). These latter frequencies will be in use before July 1950. Transmitter is new GEC job, six fine photos sent show it is to be very modern, located at the Batavia suburb of Kebajoran. Arthur Cushen who sends this news states that he has now verified most of the Indonesian stations though some of the lower frequency ones have not yet been heard. (Nice going Arthur and we hope you will get the others soon!)

● **Australasia**

**Australia.** Pearce lists the following VK DX :-  
"Radio Australia" BC for Asia heard R6-7 over VLA8, 11760 kcs. with news at 1530. In parallel for West Coast of USA and Canada VLB9, 9615 kcs. from 1515 and VLC7, 11810 kcs. (jammed by Rome). For Africa VLG8, 9680 kcs. from 1515. At 1545 VLB9 signs off and USA listeners are asked to tune to VLC7, 11810 kcs. Other transmitters sign off with USA and Brit. Anthems at 1615.

A.B.C. Melbourne VLG6, 15230 kcs. R6 at 2130 Saturdays with programme of Sacred music (other days. News at 2145). At 2200 says News for Inland and Islands continued over VLH4, 11880 kcs. and that VLG6 after time signal for 8 a.m. will carry Radio Australia Programme. "Radio Australia." Broadcast to British Isles-1400. Now VLA6, 15200 kcs. VLG6, 15320 kcs., VLC7 11810 kcs., VLB3, 11760 kcs. At 1445 sign off VLB3. At 1500 sign off VLA6, also VLG6 which returns on VLG8, 9680 kcs. at 1515. Australian DXers Programme well heard Sundays at 0525 over VLA8, 11760 kcs. In parallel for USA/Canada VLC9, 17840 kcs., VLG6, 15320 kcs. and for Africa VLB5, 21540 kcs. Announced as from August 16th BC for USA from 2143 on 11760 kcs. (VLA8), will be replaced by 11850 kcs. (VLA4). Heard with R6 signals.

~ Roy Savill, of Sevenoaks, Kent, sends in a nice log and I see mention of VLA8 being an excellent signal early in the month of August, despite the bad Sunspot disturbances. On 1st of that month at 2045 signals were QSA4 R8 with programme by that great Australian Pianist Eileen Joyce.

GPO Melbourne clock chimes followed this at 2100 then "Waltz Time." Fairly heavy QRM was noted at this latter time from a hetro and another station on the same frequency. This station (VLA8) was heard one afternoon at 1515 with a nice clear signal (QSA5 R9) with "Radio Digest," music and "Radio Reel." A BC in German was given at 1630.

**New Zealand.** Stephen Beavan, of Edge Hill, Liverpool, a newcomer whom we welcome to this column lists ZL3, 11780 kcs. and heard by him at 0730-0800, QSA5 R4 plus QRN. News at 0730 followed by Military Band, Light music and Irish Vocalist at 0800, followed Short Story, ZL3? on 17847 kcs. with News and Cricket.

Radio New Zealand has made some frequency changes. They use 11810 kcs. for ZL3 from 0925 to sign off, ZL3 is on 11780 kcs. to this time and on 11810 kcs. the transmission is 0929-1120. During the late night BCs of Rugby and Cricket the reception is poor and so it is moved to 9780 kcs. as ZL2. This is a temporary frequency as the ZL2 channel 9540 kcs. is in use by Australia.

● **Africa**

**Kenya Colony.** It is not very often we get an XYL write into this column so we must give a big handshake to Ann Geake, of Sunny Seaton by the Sea (Devon). That's as I found it one Sunday afternoon in July when I visited it fellows! O.K. Ann on the Honours Roll. Certainly you can join the lads if you have ten Countries or more verified. I'm sure they won't mind a little feminine company! Glad to know you enjoy and look forward to your Scribes "Monthly."

Ann reports Radio Nairobi on 4885 kcs. and heard by her on several evenings at 1815 to close down at 1910. A report sent to them by Air-mail on the 23rd of June was kindly QSL'd and received on 29th July via Surface mail. Letter Veri. No, I'm afraid my report to them was not verified for this particular frequency. Maybe you've got something that your humble Scribe hasn't!

Yes, Ann, SW Radio does most certainly get you, as you say. It's got me now for over 20 years!! This reader would appreciate any dope on trimming the BC 342N Rx, which she uses there. Any help fellows for a Lady in distress? QRA: Mrs. Ann Geake, Queen Street, Seaton, Devon.

**Belgian Congo.** Leopoldville. Station OTC2, 9767 kcs., 50kW. The following is the programme schedule of the "Goodwill Station" :-  
1800-1900 Dutch. "Belgium calling the Netherlands and South Africa."  
1900-1915 Dutch. "Belgium calling Her Countrymen in the World."

1915-1930 French. Same as 1900.  
1930-2030 English. "Belgium calling Great Britain and the British Territories in Africa."  
2030-2040 French. As 1900.  
2040-2200 French. "Belgium calling France, Switzerland and the French Union."

2200-2345 French/Dutch. "Programme for the Belgian Seamen and their French and Dutch Friends."

2345 Close down for change in Antennae for North and South America.

0000-0100 French. "Belgium calling Canada."

0100-0130 French. As 1900.

0130-0200 Dutch. As 1900.

0200-0400 English. "Belgium calling the USA and Canada."

0400 Close of Transmission.

N.B. A special series entitled "Amongst Friends," in answer to Listener's letters, is BC from this station in the two transmissions in English, i.e., at 2030 and 0220 every day except Sundays.

A preview of the coming week's programmes is BC every Sunday at 1945 to the British Isles., and British Territory in Africa, and at 0215 for SWL's in the USA and Canada. (ISWL, G2057, London.)

(Will readers please put their names or ISWL Number on all schedules sent in. We have a lot here this month and we just have to, more or less, guess who the senders are).

Reunion. "Radio Saint Denis." Power 200 watts. Frequencies:—4800 and 7170 kcs. Schedule: 0300-0330 and 1345-1430. QRA: Radio Saint Denis, Saint Denis, Reunion. (Swedish DX Bulletin.)

Nigeria BWA. A newcomer to this column is S. G. Bland who is with the Nigerian Railways near Lagos. He writes to tell us that a BC station has started up there on 9655 and 6055 kcs. It relays mostly the GOS of the BBC with intermissions of Dialect and Native music. Its MOD is chronic and its Announcer as bad (in English): Station is operated by P. and T. Dept., who used to relay GOS through Rediffusion system. Call "Radio Nigeria." Yes OM we certainly should like the "low down" on this station. Hope to hear from you again soon but please address your letters (for Broadcast news) to "Monitor."

Southern Rhodesia. Salisbury, 3325 kcs., has been heard to 2000 testing and asking for reports according to Arthur Cushen (N.Z.).

#### ● South/Central America

Argentina. Radio Aconcagua Buenos Aires 5900 kcs. Heard at 2300 with good signals around this time giving Musical programme consisting of Spanish sponsored show. Relays Radio El Mundo Network programmes. (Patrick.)

Farrs reports LRX of "Radio El Mundo" on 9660 kcs, and heard by him from 2200-2215 with musical programme. QSA4 R6. LRX1, 6120 kcs, in parallel QSA4-5 R7-8 (CW QRM). Schedule received by this reader lists the following "gen" from "SRI." (not the station call but just Servicio Radiofonico Internacional):—

Station LRU "Radio El Mundo" 15290 kcs.

0200-0600 Spanish for Latin America.

Station LRS. "Radio Splendid" 11880 kcs.

1500-1800, 0130-0330. Portuguese for Sao Paulo and Rio de Janeiro.

2000-2100. Spanish beamed to Spain.

2100-2230. French beamed to Eastern Europe for France/Belgium.

2230-0130. English to British Isles.

Station LRY. "Radio Belgrano." 9455 kcs.

2045-2145. Spanish to Spain.

2215-2245. Italian to Italy.

0215-0600. English to E/C States of USA.

Pearce says they send letter Veri and Souvenir Pennants with LRS or LRY etc., engraved on same.

LRX1 is reported by Peter Woolmer of Grantham, Lincs., heard at 2307 with QSA5 R7 signals and slight QSB.

British Guiana. ZFY Georgetown 5985 kcs., heard around 0100 with news. Had quick fade-out also bad QRM. (Patrick.)

"The Voice of Guiana" QSA5 R6 at 2400 (Woolmer).

Trinidad. VP4RD "Radio Trinidad" 9630 kcs, heard from 2230. QSA5 R7, with announcement "This is Radio Trinidad." (Woolmer.) Jack Farrs lists them also and he heard them giving a BBC recording of "Variety Bandbox" up to 2230, then sponsored programme. Call was given then as "Your station is Radio Trinidad." Signals QSA4-5 R6-7.

#### ● Europe

Switzerland. HEU3. Schwarzenbourg, 9665 kcs, heard with QSA5 R9 at 1845, giving Daily English programme. (Woolmer.)

Spain. Balearic Islands. "Radio Menorca." Mahon heard announcing as "Aqui or Transmite Radio Menorca." Has settled down on 7495 kcs, approx. Signs on with Pasadoble at 1830 and off at 2030. Now has more QRM than on old channel of 7545 kcs: (Pearce.) Roy Patrick also lists this fairly new one and says he has logged this station quite a number of times in Morecombe with Fair signals.

FET1 "Radio Falange de Valladolid" 7006 kcs, heard QSA5 R8 with CW QRM at 2030. EAJ9. "Radio Nacional de Espana en Malaga" 7025 kcs, QSA4 R7-8 at 2045. (Farrs.) Roy Patrick has heard a Spanish station on 4500 kcs, around 2200 closing down at 2230. Programme of records with announcement "Radio Nacional de Espana." Has anyone any "Gen" on this one?

Monaco. "Radio Monte Carlo." 6035 kcs, and 9785 kcs. "Monte Carlo Calling." is the title of the programme given every Sunday from this station and represents Listeners requests in English and French. Also has quite a number of programmes in English and French during Sunday evenings. An Orchestral Concert by the Monte Carlo Orchestra was heard at 2030. The Listeners request programme is, by the way, given from 2100-2200. (Patrick.)

Norway. Oslo. Transmissions beamed to New Zealand are at 1100-1200, over LLP 21670 kcs., LLN 17825 kcs., LKV 15170 kcs, and LLK 11850 kcs. (Farrs.) "Radio Norway LLG can now be heard on a new frequency according to Pearce of 9645 kcs, instead of 9610 kcs.



**Greece.** Peter Woolmer has had an interesting letter from Larissa (6745 kcs). According to the letter Veri from the Director, the station is now called "The Radio Broadcasting Station of Armed Forces, Central Greece." It was formerly operated by B Army Corps. "It is a Military station working for the National Army. Our intention and object is the entertainment of the soldiers and the contribution to the mopping-up of the bandits. Shortly we will be able to include an English programme which due to technical reasons had to be interrupted" quotes letter. This interesting station operates with a power of 500 watts and was formerly a Greek Amateur Station.

**Hungary.** Budapest, 6250 kcs. and 9820 kcs., gives news in English at 2220 on both frequencies. CW QRM often spoils the 6 Mcs. channel. (Patrick.)

● **Honours Roll**

Sidney Pearce still holds his fine position at the top of the table while Arthur Cushen puts New Zealand up at second place with Rex Gillett of Southern Australia third. This is the line-up for this month:

1. Sidney Pearce (Eng.) ...	115
2. Arthur Cushen (N.Z.) ...	111
3. Rex Gillett (Aust.) ...	107
4. Dr. T. B. Williamson (Eng.) ...	91
5. Ernie Field (Eng.) ...	62
6. A. V. Wilkinson (Eng.) ...	52
7. A. Levi (N. Ireland) ...	50
8. Roy Savill (Eng.) ...	29
9. Roy Patrick (Eng.) ...	27
10. Jack Farris (Eng.) ...	25
11. P. E. Woolmer (Eng.) ...	18
12. Fred Pilkington (Eng.) ...	17

● **QRA Section**

Six addresses compiled for your interest each month by Sidney Pearce: ZYS 8 "Radio Difusora do Amazonas," Rua Joaquim, Sarmento 100 Manaus, Amazonas, Brazil, S.A. Radio Hue, P.O. Box 65, Hue, Annam, Indo-China. YXXW "Radio America" Avenida Suveste 409 Managua Nicaragua. CA. YDF "Brigade Forces Programme Garoet," Garoet, Java, Indonesia via Amsterdam. Radio Saint Denis, Le Chef, Saint Denis, Reunion. ZIK2 Government Radio Station, c/o Colonial Postmaster, Belize, British Honduras.

● **QSL Section**

Verifications received by readers over the past month: Sidney Pearce has found the following to oblige with the "cards" COBZ, Vienna (9664), CR7BU, ZYK2, ZYK3, CHLS, Baden-Baden, HED7, HER7, HC2RL, LRY, VLB6. Ann Geake from VQ7LO (4885), XGOY, ZL3, HOLA, Capetown (5880), HCJB, Radio Tirana PGD, CKCX. Dr. T. B. Williamson: Radio SEAC, Prague, FBS, Nicosia, EPB, Radio Romania Libera, Radio Moscow (Tom says he is now in the RAMC, and is being sent to the Middle East, where he hopes to have an Rx and a

Camera and send along to your Scribe the results! Good luck to OM out there and lets hear from you soon plus a few snaps). Peter Woolmer: Radio Sofia, Monte Carlo, SUX, CKNC, SBO, KWID and Radio Luxembourg. Roy Patrick: ZYC8 (photo of Rio de Janeiro Bay), HH2S (printed card in French), XEWW, TGWA, CX16. 86th Belfast Scout Group: VLA8, SDB2, Radio Italia, CKCS, OTC, FZI, TAP, PCJ. Andorra Monte Carlo. Jack Farris: LRU, Radio Omdurman (9750) (latter also sent Magazine "This is the Sudan.") W. Nicholl, from VLC9, LRS, HER5, HEU3, HER6, FZI, CKCS, CKNC, CKCX, CKRA, WRUL (ISWL Special BC), WRUL, VUD7, OTC., Roy Savill: WGEX, Monte Carlo, CBLX (latter was for report sent on August 2nd and was received by Roy on the 30th inst., with post-mark Montreal Aug. 18th, and sent ordinary mail. Yes this was certainly nice going as you say OM.)

● **Acknowledgements**

The Editor and "Monitor" wish to thank all readers who have kindly sent along items compiled in this month's article. Your Scribe's address for all matter used in this column is "Short Wave News," 57 Maida Vale, Paddington, London, W.9. England, and mark your envelope "Monitor." Until next month 73, and the very best of DX. "Monitor."

DX QTHs.

- VP2AJ : Wm. L. Anderson, Apo 855, c/o P.M. Miami, Florida.
- ZP9FA : Cassila, Postal, 716, Asuncion, Paraguay.
- FO8AB : Amateur Radio FO8AB, Papeete, Tahiti.
- ZM6AI : Box 46, APIA, Western Samoa.
- EABCO : Box 346, Las Palmas, Canary Island.
- FF8GC : Box 136, Conabry, French Guinea, French West Africa.
- FN8DC : 117 Kailesh Street, Cahandernagone, French India.
- VK1ADS : via VK3ADS (Call Book OK).
- Israel QSL Bureau, c/o Post Box 4099, Tel Aviv.
- Spanish QSL Bureau for EA5, Box 3 Valencia.
- VP9WW : O. E. Eswine, VP-45, Navy 138, c/o FPO, New York.
- VSIGS : H. F. Frewly, 335 Thom-on Road, Singapore.
- VSIDZ : GHQ, Signal Regt. Singapore.

**SHACK NOTES**—(Continued from page 255)

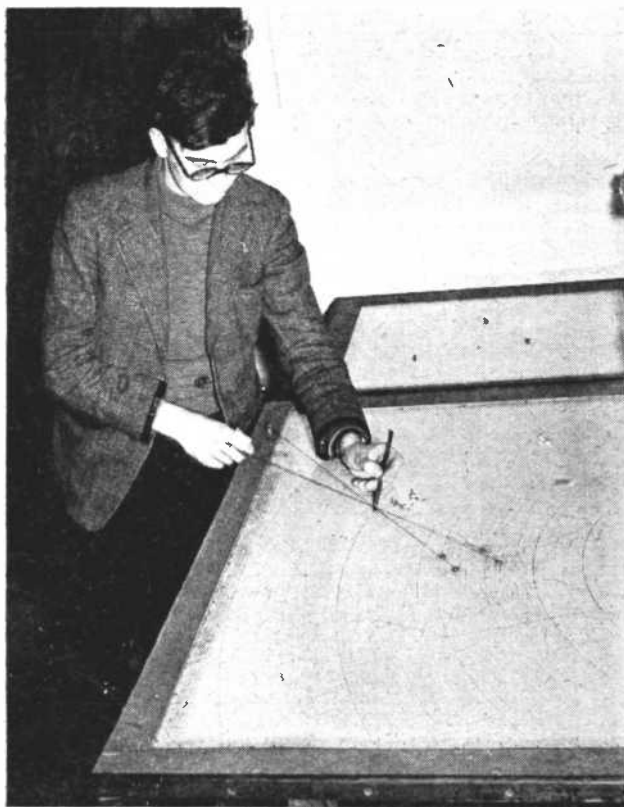
period 0300-0600 with a 0.5 kW signal. 6095 kcs. ZYB7 Sao Paulo, Brazil, Q4R7, at 2215 followed a Latin dance music programme with "Radiodifusion de Sao Paulo." With a schedule of 2100 to 0250 it uses the Portuguese language, using 25 kW. 6000 kcs. PRKS Belo Horizonte, Brazil, Q4R6, with a trumpet fanfare and direction "Radio Inconfidencia en Belo Horizonte Brazil" at 2230. Using 5 kW this one is on the air during the evenings from 2100-0200. 6016 kcs. PRA8 Pacifa, Brazil, Q5R8, gave three gong notes, followed by "Radio Club de Pernambuco." QTH:—Avenida Cruz, Cabuga, 394 Pacifa, Brazil. With a power of 25 kW its schedule is 1100-0200, this one also QSLs.

73's.

"QUA."

# LOCATING THUNDERSTORMS

An Interesting Unit of the British Meteorological Service

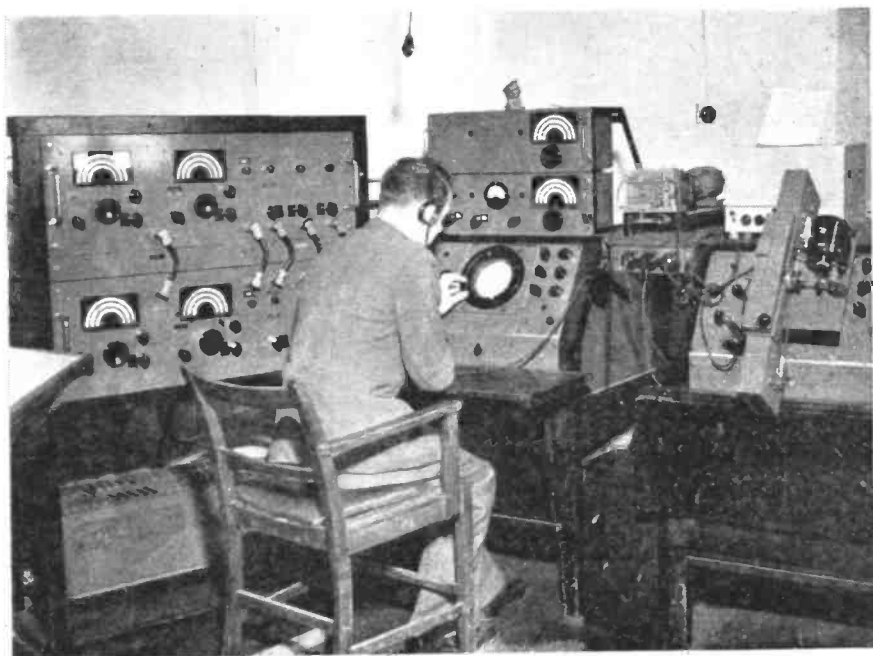


*Plotting bearings obtained from CRDF equipment in order to locate the source of the atmospheric and the attendant thunderstorm*

IT may come as a surprise to some readers to learn that good use can be made of atmospheric! The crashing, splitting, background of noise, with which we are all familiar on the lower frequencies, is the audible indication of atmospheric electric discharges, and these electrical discharges are usually occurring many miles away, and are very frequently associated with heavy thunderstorms. During the war, by means of radio direction finding, it was possible to pin-point the location of such storms, so that some warning could be given to those responsible for planning the air-raids on Germany. Similarly, the weather forecasters could be given information concerning the position and movement of weather "fronts," that is, the boundaries between warm and cold masses of air. These "fronts" determine the character of much of our weather. Electric storms are a feature of some of them, so that a series of bearings taken on the atmospheric can be used to provide valuable data of what was happening to the weather in every occupied territory.

Four specially equipped radio direction finding stations are now maintained by the British Meteorological Service, to record the positions of the atmospheric occurring around our islands. Other countries, including France, Germany, Switzerland, and America are carrying out similar observations, and a high degree of accuracy up to ranges of 1,000 to 1,500 miles has now been reached.

The four British stations are located at Dunstable, Camborne, Irvinestown, and Leuchars, the central control station being at Dunstable. At each station, two huts house the equipment. One contains a cathode ray direction finder and its associated equipment, and the other, the aerial system. This comprises four fixed frame aeriels. Two of the four are located in a N-S direction; the other two are run E-W. Each pair feeds a radio receiver, the output from one being fed to the X plates on the cathode ray tube, and that from the other to the Y plates. The receivers are tuned to a frequency of 30,000 metres, as the



*General view of the CRDF set at Dunstable*

maximum energy radiated by atmospheric is around this frequency.

In this way, a line appears on the cathode ray tube as each atmospheric is received, the position of the line varying as the direction of the incoming signal varies. A "persistent" screen is used on the tube, so that the glow lasts long enough for the observer to read its bearing, even though the actual lightning flash may last only 1/500 to 1/1,000 second.

The four stations are connected by telephone, and each observer can hear the control observer at Dunstable. When he records a flash long enough to take a bearing on, he calls out "now" and the other three observers then record the bearing of the flash as seen on their tubes. These bearings are then phoned in to a "recorder" in the control office at Dunstable, who plots them on a map which covers an area including most of western Europe, North Africa, and the eastern part of the Atlantic. The plotting usually takes five to ten minutes, and when completed, the information is coded for broadcast to interested meteorological stations, either by landline or W/T.

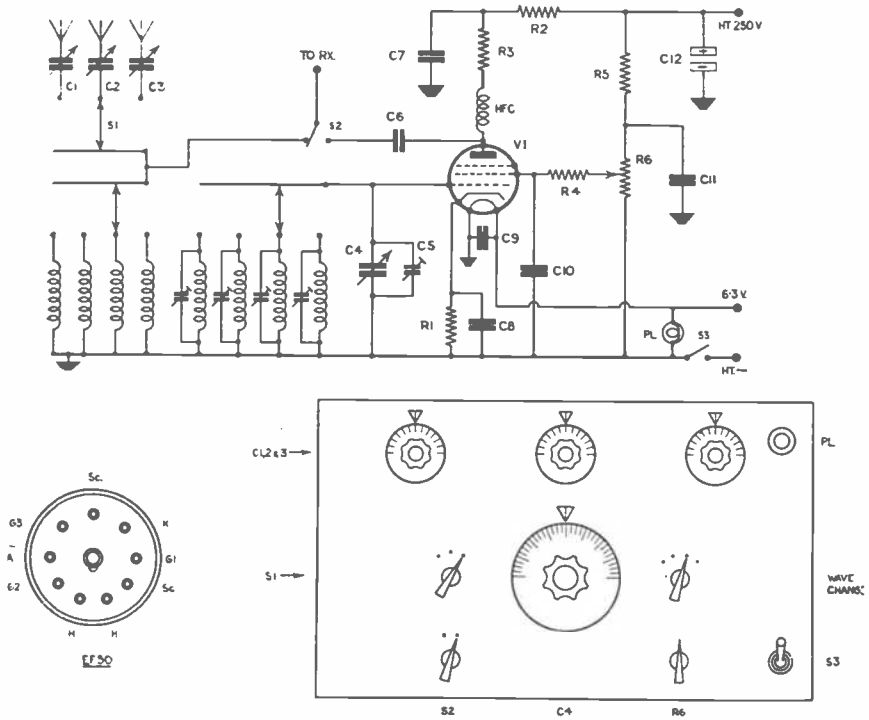
Observations are normally made twelve times a day, commencing at 0700 hrs. and finishing at 2200 hrs. Each series of observations is made to

cover a period of 15 minutes, and when flashes are frequent the observers are kept very busy indeed. Some most interesting results have already been discovered about the behaviour, rate of travel, frequency and location of thunderstorms, and in these days of ever increasing air travel this essentially war-time development looks like becoming one of the most useful weapons of those who strive to provide an ever greater standard of safety for the traveller by air.

The Editor invites contributions dealing with general matters of SW interest as well as constructional articles. Photographs of SW BC stations, amateur stations and short-wave gear, radio club functions, etc., suitable for publication are also welcome. All communications to:—The Editor, "SWN," 57 Maida Vale, London, W.9

# An All-Band Aerial Coupler and Preselector

By A. F. BALDWIN G193



The Suppressor Grid of V1 should be shown connected to Chassis

## Component Values

C1, 2, 3	0.0005 $\mu$ F	C11	0.1 $\mu$ F
C4	0.00015 $\mu$ F	C12	2 $\mu$ F electrolytic. 400V working
C5	3-30 $\mu$ F	R1	330 ohm $\frac{1}{2}$ watt
C6	0.0001 $\mu$ F	R2, R3	10k $\Omega$ , 1 watt
C7	0.05 $\mu$ F	R4	200 ohm, 1 watt
C8	0.001 $\mu$ F	R5	50k $\Omega$ 1 watt
C9	0.001 $\mu$ F	R6	50k $\Omega$ Variable
C10	0.1 $\mu$ F	Coil pack	—see text.

MOST SWL's operate a preselector in front of the main receiver and the writer is no exception to this rule. The advantages to be gained from tuned HF amplification are too well known to be repeated, and those who do not use such a unit are strongly advised to remedy the omission. The circuit shown has been designed for operation over the frequencies 23 to 1.7 Mcs., thereby providing coverage over most of the Amateur and Broadcast Bands. It will give appreciable gain and a high degree of selectivity over these frequencies.

## The Circuit

The circuit is built around the Mullard EF50 RF Pentode which may be purchased for a few

shillings from any government surplus store. Details of this valve are given in the makers' leaflet, serial No. 1340, 1-15 which are briefly as follows:—heater 6.3V at 0.3A, maximum anode volts 300, maximum screen grid volts 300, slope 6.5mA/V, dimensions 77 millimetres long by 37 millimetres in diameter, base 9 pin pressed glass. The low self-capacity of this valve is due in some measure to the fact that the lead-out wires are in themselves the valve pins, whilst the beam-forming plates are contributory to a low noise factor. Altogether a very useful and versatile valve.

Three aerials, each of which are capacitance coupled via 500 $\mu$ F variable capacitors, are taken to a Yaxley 3-way switch, thus allowing an

instantaneous change from one to another. These capacitors must not, of course, be earthed, but are mounted on paxolin squares 3 in. by 3 in. which are bolted to a front panel. The output from the antenna change-over switch is connected to the aerial input of a commercial 4-bank TRF coil pack, obtainable from Amateur Radio Productions. The reaction winding, not being required, is not shown in the circuit. Tuning is effected by means of a .00015 $\mu$ F variable capacitor in parallel with a 3-30 $\mu$ F trimmer. RF gain is controlled by means of the 50k $\Omega$  pot in series with a 50k $\Omega$  one-watt resistor. It was found advisable to include in the screen grid circuit a 200  $\Omega$   $\frac{1}{4}$ -watt resistor in order to obtain a smooth noiseless control. One side of the heaters has a 0.05 $\mu$ F taken to earth in order to obviate modulation hum at high frequencies, whilst the other side is taken to the chassis. The RF output is fed through a 100 $\mu$ F capacitor into a 2-way Yaxley switch, one side of which is connected to the aerial input. This arrangement allows the operator to select at will either the preselector input to the Rx, or feed any of the three aeriads direct, with consequent saving of time and trouble. The preselector unit may, of course, be switched off when not in use, but it has been found an advantage to have the valve ready for action at all times during operating periods. The circuit is

self-explanatory, and with due regard to layout, mechanical rigidity, etc., good results will be obtained. 18-gauge tinned copper wire is used throughout with suitable systoflex covering. No wiring difficulties should be encountered, provided that the signal circuit is completed first with short direct connections. The whole unit is encased in a black crackle cabinet.

**Operation**

Most SWL's know how to operate a preselector, but the following sequence, used by the writer, is given here: (A) Allow the Rx and unit an initial 15 minutes' warming-up period (B) during this time decide the following—(1) what part of the globe you require (2) which band is it audible on, having regard to the SWL Annual and the DX predictions contained therein (3) what will be the local time at the Tx end, bearing in mind that most hams work for a living (4) which aerial is best with reference to 1 and 2 above (c) Phone or CW (D) having decided the foregoing, switch in circuit the preselector and the selected aerial. Tune in a signal on the required band, obtain the optimum aerial coupling by varying the appropriate aerial capacitor, then retune the pre-selector for maximum gain and selectivity. It is now left to the operator to dig beneath the QRM for that elusive wanted DX Country.

**NORWEGIAN "UKE-SENDER" ON THE AIR AGAIN**

WE have been informed by the Physics Institute, Trondheim, Norway, that their station will be on the air again from early October to the end of December. Readers will remember that we described this station in the April 1948 number of this magazine. Much the same equipment is being used again this time, although fairly extensive modifications have been made to the studio. Transmissions may take place on two of the following frequencies:—6185, 7240, 9540, 11735 and 15170 kcs.

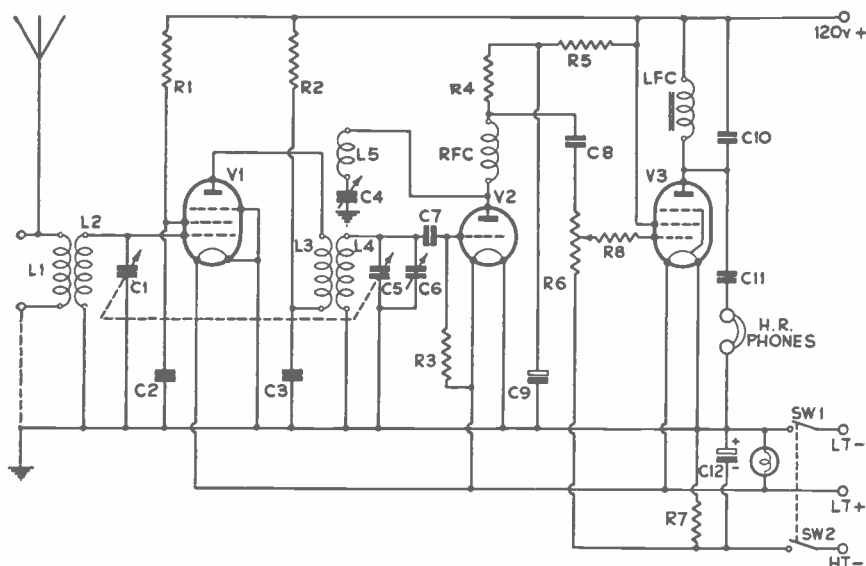
Among the technicians in charge, LA9J, LA1VA, LA3UA and LA6QA, will again be present. Transmissions must not take place when the Norwegian Short Wave transmitter is in operation. This closes at 2200 GMT and the frequency used by the University transmitter will therefore be varied according to time, circumstances, etc. Previous experience showed 7240 kcs. to be an excellent one and it is probable that this will be used as one of the two which can be selected from the above range.

Last time transmissions were made, good reports were obtained from all over Scandinavia—more than 200 per month—but no reports were had from the U.K. The Institute is very anxious to know just how they are getting out and they would much appreciate reports from English listeners.

**THE QSL LADDER**

Runq	Name	Countries	States	Zones
1	E. A. Hardwick (Misterton, Somers) ...	144	40	35
2	D. L. McLean (Yeovil) ...	142	48	35
3	M. Preston (London) ...	130	48	38
4	W. Head (Torquay) ...	127	48	37
5	C. G. Tilly (Bristol) ...	127	44	36
6	G. V. Haylock (Lewisham) ...	114	43	39
7	D. Robertson (Wick) ...	107	47	35
8	A. J. Slater (Southwick) ...	97	45	33
9	E. W. J. Field (Watford) ...	96	42	33
10	A. H. Onslow (Hove) ...	94	47	—
11	D. Burney (Tring) ...	93	48	35
12	F. Caley (Yarmouth) ...	89	48	33
13	A. Levy (Belfast) ...	83	12	29
14	L. H. Waime (Yeovil) ...	70	46	30
15	R. Masters (Port-mouth) ...	65	43	30
16	L. F. Robinson (New Addington) ...	64	20	28
17	J. N. Trye (Nuneaton) ...	58	14	20
18	P. Bvsh (London) ...	56	28	22
19	D. Shallcross (Borowash) ...	52	29	20
20	A. L. Higgins (Bridgend) ...	51	9	24
21	W. J. C. Pinnell (Sidcup) ...	50	10	27
22	G. de Cramayel (Lausanne) ...	47	28	21
23	D. G. Garrard (Ipswich) ...	45	22	13
24	K. Trautner (Lueneberg) ...	45	—	23
25	P. Godfrey (London) ...	36	2	19
26	S. Pritchard-Hughes ...	34	8	16
27	W. J. West (Bristol) ...	33	20	18
28	J. Edwards (Birmingham) ...	32	26	16
29	W. A. Ferrar ...	31	5	12
30	J. Goddard ...	27	30	30
31	M. Dransfield (Purley) ...	27	7	15
32	P. Finn ...	23	4	11
33	W. Hamilton ...	21	8	12
34	M. J. Powell (Pontypool) ...	20	5	6
35	C. Webster (Hull) ...	18	4	9
36	D. J. A. Appleby (Wells) ...	17	1	5

# NEWCOMERS' CORNER



## COMPONENTS for the Efficient Straight Three—

C1	0.0001 $\mu$ F	C7	0.0001 $\mu$ F
C2	0.01 $\mu$ F	C8	0.01 $\mu$ F
C3	0.01 $\mu$ F	C9	2 $\mu$ F
C4	250 $\mu$ $\mu$ F	C10	0.005 $\mu$ F
C5	0.0001 $\mu$ F	C11	1 $\mu$ F
C6	25 $\mu$ $\mu$ F	C12	50 $\mu$ F
LFC	40H 10mA		

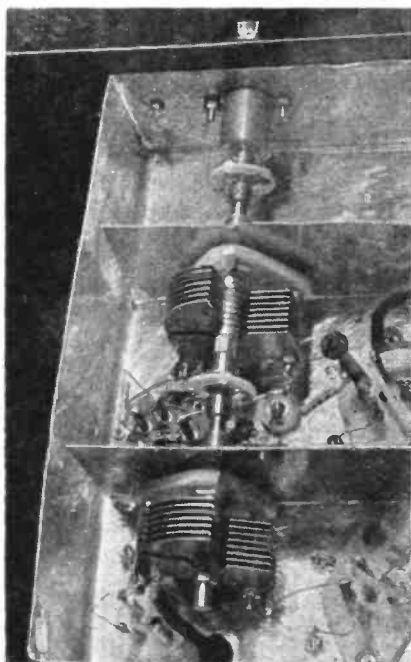
R1	40,000 $\Omega$
R2	20,000 $\Omega$
R3	3M $\Omega$
R4	50,000 $\Omega$
R5	10,000 $\Omega$
R6	500,000 $\Omega$
R7	450 $\Omega$
R8	25,000 $\Omega$
V1	SP21
V2	HL2
V3	PEN25

WE trust that the last article gave readers, who have previously been puzzled by circuit diagrams, some insight into what they mean in terms of components, and probably a vague idea of what the receiver will look like when finished.

This month we look at the problem of layout in a more detailed way, and will study the grouping of components in such a way that the receiver will operate in the most efficient manner. As this is tied-up with the circuit diagram, and in order to avoid confusion, we will still refer to the diagram given last time, and reproduced herewith.

Now there are one or two general principles of layout which can be applied to all receivers.

Firstly, the purpose of RF stages is to give increased amplification and increased selectivity. In general, the larger the number of tuned circuits, the greater will be the selectivity. The signal must travel through the tuned circuits, and not be picked up by the last one in the chain, so these stages should be screened. Again, when tuned stages are operating with anode and grid at the same frequency, as in the case of V1, the stage will go into self oscillation if there is sufficient coupling between the anode and the grid. Coupling inside the valve is beyond our power to alter, but there could easily be too much coupling externally, if we paid no attention to the layout. Physical separation by itself leads to long wiring—which is dangerous as we shall see later—so that here again the best



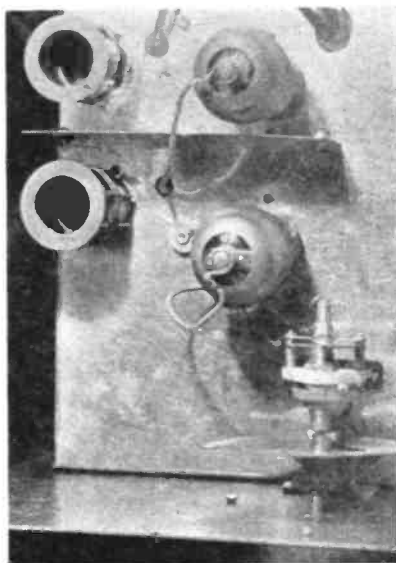
preventative is screening between the grid and anode circuits.

Let us see what this means in practice. Each stage should be considered as a separate unit, and the components in each stage should be mounted as closely as possible to the valve concerned. The grid circuit components should be screened from those of the anode circuit, and here we can often take advantage of the chassis by mounting those of one circuit above the chassis, and the others below. Which is which, will depend on the RF valves used: some have the anode brought out to the top cap, and some the grid. Where the modern types of valves with all connections brought out at the base are used, the anode and grid components should be mounted as far as possible on opposite sides of the holder, and a metal screen fixed across the centre of the holder. The placing of screens so as to form a series of separate boxes is illustrated in the under-chassis photos of a typical receiver which are reproduced in this article.

Generally, where there are more than one tuning capacitor, these will be ganged together so that they can be operated by one tuning control. Ganged capacitors made as one unit are frequently used, more particularly in commercial and medium wave receivers, but a far cleaner layout, and a more efficient one, can usually be obtained by using separate capacitors joined together by couplers. These latter can be solid,

but a much better alignment results from flexible couplers, as they compensate for errors in lining up the shafts of the capacitors. It is important that these capacitors are of the type which has the spindle extended at both ends.

We have two tuning controls in the circuit under consideration. Coarse tuning is carried out by means of C1 and C5, which are ganged, as shown by the dotted line connecting them. Slow tuning is provided by a variable, C6, connected in parallel with C5, and operated from a separate control. As the bandwidth of the RF stage is fairly flat, the selectivity being low as it is the first tuned circuit, there is no need for a similar small value variable across C1. In radio there seldom seems to be an advantage without a corresponding disadvantage, and in this case we have the fact that the bandsread capacitor C6 is rotated by a slow-motion tuning drive, and these usually take up considerable panel space. The problem is to arrange the capacitors C5 and C6 so that they are as near as possible to the coils and other associated components. The best way to do this, and incidentally to conserve chassis space, is to mount C5 under the chassis just behind the panel, with C6 above the chassis, immediately above C5. The RF stage(s) can be positioned behind the detector, running back towards the rear edge on the chassis, on which the aerial and earth terminals are mounted. It used to be the fashion, in the interests of symmetry, to place the tuning controls in the centre of the panel, but a better layout results if they are placed at one end. Once again our space is exhausted, so cheerio until next month.





# International Short Wave League

MONTHLY NOTES

Sponsored by "Short Wave News"

ANNUAL SUBSCRIPTION 1/-

H.Q.: 57 MAIDA VALE, W.9

## OBJECTS

*To bring together the short wave enthusiasts of the world regardless of race, creed or politics, to their mutual benefit.*

*To foster and promote international goodwill through the medium of short wave radio interest.*

*To provide facilities which will enable enthusiasts to carry out their hobby to the greatest advantage to themselves and their fellow enthusiasts.*

## ISWL TROPHIES

WE thought it was about time the ISWL had one or two Trophies of its own.

It is active enough, and has a sufficiently large membership now to be able to raise plenty of competitive spirit between Chapters, as we have seen plainly demonstrated during recent inter-Chapter DX Contests. So, to start off with, two Challenge Cups have been presented for future inter-Chapter Contests. We hope further cups may be presented for individual contests later. The first of these cups will be awarded to the Chapter scoring the highest number of points in the first Broadcast Station Contest, which we propose running in January. It has been presented by my colleague Bill Overland, G2ATV, Editor of "Radio Constructor."

The second cup is for inter-Chapter Amateur Band Contests. It is similar to the BC cup, and has been presented by "yours truly." So now, chaps, you have got something really worth while working for. Which will be the first Chapter, we wonder, to hold the BC Cup? You have the winter to get organised, so start right away now.

Whilst on the subject may we mention again the Shield presented by Mr. T. H. Carter, of Hawkhurst, Kent. This shield is to be known as the Carter Shield, and is to be presented annually to the ISWL member who—in the opinion of a Committee appointed for the purpose—has done most to assist the advancement of QRP radio during the year.

## QRP SECTION

We have just received the first copy of "QRP," an excellent little eight page news-sheet produced by John Whitehead for the ISWL QRP section. This is a really creditable effort, and all those who are interested in QRP work should contact its editor:—J. Whitehead, 6 Abbot's Tilt, Hersham, Walton-on-Thames, Surrey. To judge from the first issue there is plenty of activity in this section, so will those of you who have not already done so, and are interested in QRP work, please contact John straight away.

## SERVICES SECTION

The Services Section has also blossomed out with a news-sheet, in spite of a rather poor start from the membership point of view. Its leader,

D. W. Auton, D/JX 581388, 1 Mess, HMS Wizard, c/o F.M.O., Devonport, reports that those members who are supporting the section are keen, but more members would add greatly to the interest of the section, and its news-sheet. It is thought that a number of chaps may be holding back because they do not know much about the technical side of radio. This is no obstacle to membership of the section. So once again, those of you in the Services, just drop "D.W." a line to let him know where you are, and what Service you are in.

## PROPOSED NEW CHAPTERS

H. Day, 2 Prospect Place, Huddersfield, Yorks, would like to meet other ISWL members in his district, re forming an ISWL Chapter. Please give him your support.

A. Aldin, Crescent Court, The Crescent, Bridlington, is very anxious to start a Short Wave Club in Bridlington this winter. He would like to hear from others who may be interested in this project. How about putting a note to this effect in your local paper, OM?

Geoff. G. Fowle, 20 Magdalen Road, Exeter, who was our Devon C.R. until he was called up, is now out of the Forces, and is anxious to see a Chapter going in Exeter. Good work, Geoffrey. We hope you get the support you deserve.

G. M. Cook, 6 Westbourne Gardens, Glasgow, W.3, is very keen to see an ISWL Chapter started in Glasgow. We agree, it is quite time there was one there. So how about it, chaps?

## INTER CHAPTER ACTIVITIES

As an experiment, HQ have decided to inaugurate this feature, which is being organised for us by Frank Baldwin, in order to start some form of inter-Chapter activity. It is proposed that Chapter Secretaries should post a copy of the following notice on the Club notice boards, and discuss the possibility of participation of members within this new ISWL scheme. Club committees will note that it is HQ's policy to offer these activities for their discussion as a general guide for the sort of winter programme we should like to see take place. The "season" will soon be upon us, and realising the difficulties of mapping out a full programme the scheme is offered in the hope that Chapters will take full advantage of this new venture.



All lists should be forwarded to reach HQ by the 7th of the following month. These lists should be collected by Chapter Secretaries, and entered as a Chapter entry, broadcast and amateur being kept separate.

**November Activities**

**Broadcast Survey No. 1.**

Date: From 1300 hrs. 6th November to 2200 hrs. GMT 13th November, inclusive.

Band: 12000 to 11500 kcs. kcs. Target Stn.: 11835 kcs. CXA19 Montevideo, Uruguay.

**Amateur S.L.P. No. 1.**

Date: From 1000 hrs. to 1200 hrs. GMT. 20th November. Band: 28 Mcs. CW and phone.

Object: General DX session.

**December Activities.**

**Broadcast Survey No. 2.**

Date: From 1400 hrs. 4th December to 2300 hrs. GMT 11th December inclusive. Band: 10000 kcs. to 9500 kcs. Target Stn. 9625 kcs. VP4RD Port of Spain, Trinidad.

**Amateur S.L.P. No. 2.**

Date: From 2000 hrs. to 2300 hrs. GMT 18th December. Band: 1.7 Mcs., CW and phone. Object: The number of countries which any one Chapter can log.

Well, there it is, chaps, the above represents two months activities which have been notified well in advance in order to allow club officials plenty of time to organise and arrange their programmes and plans. By taking part in this scheme Chapters and members will be doing some real League work and at the same time they will be able to enjoy our hobby to the full. All information received via the lists will be published under Chapter headings, and such information will be used by the League in their various sections to good effect.

Incidentally, whilst members are gathering Target-Station information over this survey period (7 days) it will be a golden opportunity to kill two birds with one stone and compile a period report using the appropriate ISWL report pad thus ensuring as far as possible a return QSL consistent with a really useful and comprehensive report.

**CHAPTER REPORTS**

**E. London.** (Sec. W. J. Wills, G1640, 24 Watermead House, Hornerton, E.9.)

Support at the fortnightly meetings continues to be good. As usual this Chapter is full of bright ideas! They include a uniform type of Prefix List, specially set out to the Chapter's requirements; a Master List of all Countries Heard, CW and phone, and a contest held within the Chapter. It lasted for a fortnight, and was won by Tom Cheeseley, with 79 countries heard.

**Bristol and District SWL Club.** (Sec.: N. G. Foord, 71 Brynland Avenue, Bristol 7.)

The Annual General Meeting took place at the Redcliffe Community Centre, on Sept. 2nd.

Chairman was Ray Emery, Vice-chairman—D. J. West, Sec.—N. G. Foord, Asst Sec.—A. C. H. Waters and Treasurer, D. Abraham. The Club has enrolled in the Community Centre thus getting accommodation free. An aerial has been put up on the roof of the main building and a transmitting licence is being applied for. Club activities will continue much as last year.

**Cromwell Radio Club.** (Sec.: E. W. Jordi, 103 Gloucester Road, South Kensington, S.W.7.)

The first meeting was held of the above club at the above QRA, and nine members attended, including G2TT, G3UH and his YL. Many matters were discussed, including the future constructional class, CW class, and trips to various establishments connected with radio. Future meetings will be held every two weeks, on Friday at 8.00 sharp. Next meeting will be held at G3UH's shack at 14 Alexandria Mansions, King's Road, Chelsea, S.W. Many thanks to G3UH for the use of his shack as an alternative meeting place. All interested should get in touch with the secretary.

**Stamford Chapter.** R. K. Parker, is now in the RAF, and has handed over to Kenneth Pugh, G2982, 115 Ryhall Road, Stamford, Lincs.

This Chapter is much in favour of the recent suggestion that life membership subscriptions for the ISWL be started. It is hoped that as much local support as possible will be forthcoming during the coming winter. All newcomers will be welcome.

**Luneburg Chapter, Germany.** (Sec.: Karl Trautner, 8 Knoepfelweg, 24a Luneburg, Brit. Zone, Germany.)

Three more members have been recruited to this Chapter. The Secretary was present at the Erlangen All-German Hamfest, where he met Sigrid Ulrich, our German YL member.

**S.E. London Chapter.** (Sec.: W. A. Martin, 21 Brixton Hill, S.W.2.)

On the 26th August the Annual General Meeting was held and the following officials were elected or re-elected:—

Secretary: W. A. Martin. Asst. Secretary: N. E. Moore. Treasurer: C. G. Dell. Committee: Messrs. Moore, Bruce and Wooller. SWL Contests Secretary: D. Bruce. The balance sheet was approved and following items of the agenda passed for coming session: Morse and Technical classes, and setting up of a club TX in the very near future.

Thanks to present members for their support and a call to non-members in the S.E. London area to come along and support their local Chapter. The Chapter is proud of successes in every RAE since the war, and is prepared to help ISWL members in acquiring their ticket.

**Stroubridge and District Amateur Radio Society.** (Sec.: W. A. Higgins, 28 Kingsley Road, Kingswinford, Staffs.)

The last meeting was held in the Science Block, King Edward's School, on Tuesday, 6th Sept.

Thirty-five members and visitors were present, and Mr. Butcher of R. & A. Laboratories, Wolverhampton, gave an excellent talk on "Moving Coil Loud Speakers." Members saw how responses could be altered by differing diaphragms. A visit to the Daventry BBC Station has been arranged for 1st Oct. It is proposed to hold an Amateur Radio Exhibition in December.

**Exeter Chapter :** (Sec. : Geoff. J. Fowle, 20 Magdalen Road, Exeter.)

The TR for Exeter and the Chapter Sec., have now got the Chapter running and so far three meetings have been held. Meetings are to be held fortnightly at different members' addresses. It is hoped that this will give greater scope for members' problems, technical queries, etc., to be settled. No definite programme has yet been arranged, as the membership is only just building up. All enquiries should be addressed to the Secretary or to the TR :—Mr. E. G. Wheatcroft, 27 Lower Wear Road, Exeter.

**Leicester Chapter :** (Sec. : L. A. Rouse, 2 Gold Hill, Saffron Lane East, Leicester.) The CR and Secretary report good progress in the formation of the Chapter, eight members being so far enrolled. Would other SWN readers in Leicester please contact the Sec. and give their support.

**Birmingham Chapter :** (Sec. : G. Pennington, 114 Birmingham Road, Rowley Regis, near Birmingham.)

Minutes of a meeting held on Friday, September 16th :—

The meeting commenced at 7.45 p.m., there being 9 members present, though the final attendance was 14.

The first matter to be dealt with was the election of a treasurer, and Mr. Harrison agreed to take on this position.

The secretary then announced that the authorities of the Digbeth Institute had agreed to let us have the use of a cupboard, which meant that it was now possible to go ahead with work of a practical nature. In view of this fact, arrangements were made to transport to the Digbeth Institute the equipment at present being stored at Aston.

A long debate followed as to the type of equipment that should get priority in being constructed, but no definite decision was arrived at. Mr. Harrison stated that he had a RX, needing some minor repairs, which he was willing to loan to the Chapter, and Mr. Kirby agreed to undertake the job of overhauling it, arrangements being made accordingly.

The question arose as to whether Friday evening was the most suitable time for holding meetings, but again no definite decision was made.

The suggestion that the Secretary should try to arrange further visits to the Police and B.B.C. was unanimously received.

Subscriptions and orders for magazines were then taken and the meeting closed at around 10 p.m.

## from our Mailbag . . . .

Dear OM.

. . . . . Naturally I expect you think I will tell you I like the improvements—well as far as the cover is concerned alone I will tell you more than that—you've done a very good job of work—better than I imagined and the three distinctive features—a good clean new colour, a shiny white paper and a very clear photograph put the appearance of the magazine in the top class. (I saw it on my weekend travels prominently displayed on a Smith's bookstall and it really stood out in a place of importance at the front !)

The B.C. details inside are welcome to me, and I trust to others : I hope this department will progress to be an item of some importance and demand. Anyway I can only say that I personally think your efforts are very encouraging and I hope your mail will bring the credit I think is due.

. . . . . Now this 21 years' subscription business . . . personally I should say that the few who do pay will either want their money back after a few years—you know what people are for changing their minds—(we do hi !—Ed.)—or they will only forget after a while that they belong to the League. Having to pay every year gives one the incentive to write and say one's piece . . . . .

That seems to be about all the 'ideas' for the moment, but it is enough, for my main reason in writing is to say I am really pleased with your latest number.

Thanking you and 73's.

A. Taylor,

Acklam, Middlesboro'

Dear O.M.,

Just a line to say that the new cover meets with my strongest approval. I'm the type that likes a good-looking cover on a good mag. A cover that is interesting and the contents of which are 'digested' before turning the page to discover what delights there are awaiting me inside. -

Regarding the new Countries Certificates—how about allowing the Transmitting members to claim countries worked (confirmed). Yours truly would not be interested yet—20 countries having been contacted but only 8 confirmed ! Your views would be appreciated.

Could you spare a line to say that I am running 15 watts fone on 20 metres and will QSL reports from any country outside G. Countries worked to date on 14 Mcs. with this power number ten—the farthest being Malta. My QRG is 14212 kcs. Times—most evenings and weekends.

My welcome to Jack Burrows and congrats to Ann for her very gallant effort with scrawl such as this.

Thanks all for a very interesting mag to date. Am looking forward to C.T.'s Aerial Tuning Unit next month.

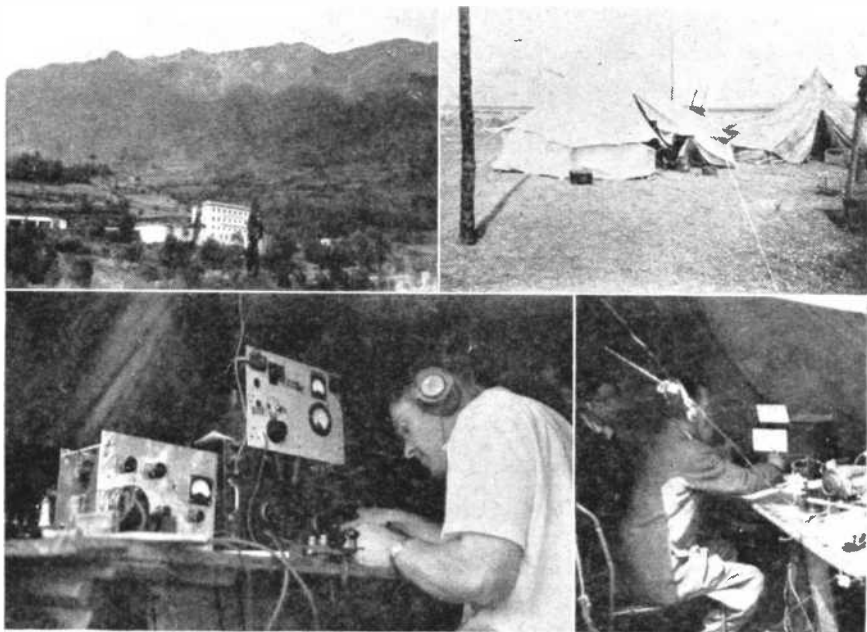
Sincerely,

Bill Harris, Jun., G3DPH,

Rushmere, Ipswich.

# Readers' Photographs

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Each month, we receive a number of photographs of radio interest from our readers. These always interest us and so as occasion arises, we shall give other readers a selection from them. In this first selection, we show three snaps taken on NFD earlier in the year and a photograph of Radio Andorra, taken by W. J. Buckle of Bury

St. Edmunds, during a motor tour through France and Spain.

Of the NFD photos, that below Radio Andorra was sent us by E. A. Coates, New Barnet, and the two on the right by E. Smith, South Shields, the lower right one showing G3ATA at the 640 receiver.

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## ISWL GERMAN REPRESENTATIVE

We have appointed Karl Trautner, 8 Koppelweg, Luneburg, British Zone, Germany: as I.S.W.L. Representative for the whole of Germany. A very successful Chapter is running in Luneburg, which was recently visited by the

Editor. A full description of the visit will appear next month. It is hoped to start several more Chapters in Germany in the near future and readers in Germany are asked to contact Karl no matter which part of Germany they are in.

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## WESTINGHOUSE

The new Westinghouse 36EHT miniature high-voltage rectifiers are so small that they can be suspended in the set wiring. They have tag ends and are housed in an insulated tube 7/16th in. diameter. These rectifiers will withstand a peak inverse voltage of some 4 times that of a normal selenium rectifier, and are primarily designed for

use in voltage multiplier circuits, but may equally well be employed in the normal half-wave circuit.

Four models of the "Westeht" are now available. These provide EHT from the 350-0-350V winding of a standard mains transformer. Positive outputs of 5, 3 and 1.7kV are available, and also 3kV as a negative potential.

# QUARTERLY DX PROPAGATION PREDICTION

OCTOBER, NOVEMBER AND DECEMBER, 1949

(Issued by Leicester Telecommunications Laboratory, Monitoring Dept., near Leicester, England)

For the purpose of these reports it should be noted that *FOUR* major communication circuits extending to:—

(a) North America, (b) South America, (c) South Africa and (d) Australia. It should be noted by the use of the Great Circle Map centred on London, that The Australia circuit covers Asia and Japan. It should be understood that to forecast these communications circuits for a period of three months the data is liable to slight errors with relation to the disturbed periods.

## The preceding period :

**D**URING the month of August, both the (a) and (d) circuits have been giving good reception on frequencies as high as 28 Mcs., and records show that British Amateurs have been maintaining contact with W, VE, VK, and ZL stations during the afternoon periods, i.e. (1300 until 1800 GMT). The 14 Mcs. band has given good and reliable communication on all circuits with the peak periods being between 0000 to 0730 on circuits (b) and (d), and between 1500 and 0000 on circuits (a) and part-time (c).

During the first week in September the signal to noise ratio on the 144 Mcs. band was very high, and stations were heard in contact with each other at distances over 100 miles, but at the time of writing this report (mid-September) the noise on this VHF band has increased, and only stations within a 30-mile radius are strong enough to record.

## Prediction for October :

The Maximum Usable Frequency during this period will show the usual increase, and between the hours of 0900 until 1700 GMT the 28 Mcs. band should be usable again, but during the first part of the month the reception will be very spasmodic. It will be found that during the early part (0900 until 1200) the best circuits will be (c) and (d), but due to the time change the best "DX" search may only produce stations on circuit (c). For 14 Mcs. the best times for working the various circuits are (a) between 2200 and 0600, for (c) between 1800 and 0400 (d) between 2300 and 0700 and for (d) between 1500 and 2300. Communications may be interrupted during the second and third week of the month, the latter storm being more severe than the first, and may even disrupt distance communication on the 7 Mcs. band.

## Prediction for November :

Once again the Maximum Usable Frequency should increase still further and signals should be heard on all circuits on frequencies as high as 30 Mcs. It should be noted that owing to the

position of the Sunspot cycle, signal strengths may not be as high as one might expect on this frequency for the time of the year.

The 14 Mcs. band will give very reliable communication on all circuits, and the best times for the various parts of the world are as follows:—Circuit (a) between 2000 and 1000, for (b) between 2100 and 0930, for (c) between 1500 and 0200 and for circuit (d) between 0230 to 0900 and again between 1530 until 2200 (all times GMT). The peak reception period for the South African Circuit (c) will occur during the hours of 1300 to 1500 hrs., and there may be a slight period of "fade-out" on all circuits during the "twilight" period each day so the search for "DX" should be avoided during this period.

Only minor storms should occur during the month of November, and these will not disrupt communication, but they will be noticed to get more severe during the last few days of the month.

## Prediction for December :

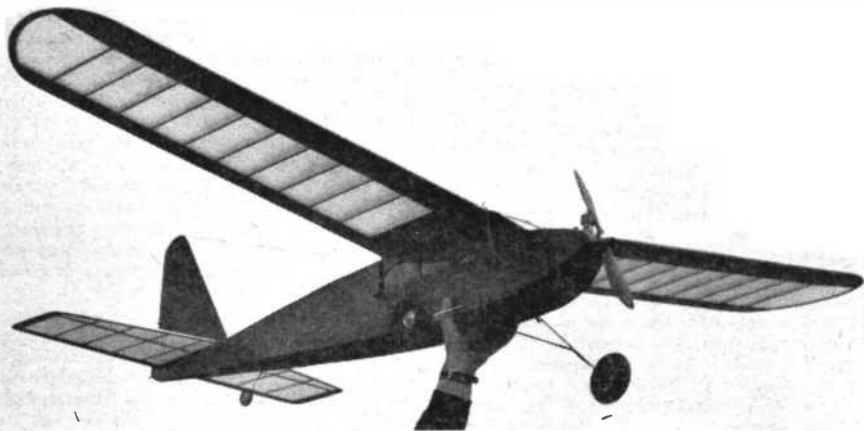
With the peak of the Winter period, circuits will be able to use frequencies up to 30 Mcs. up to the "twilight" period and once again regular communication should be possible during the late evening and early morning on 7 Mcs. on circuits (a) and (b). Also during the very late evening period circuit (a) should be workable using a frequency of 3.5 Mcs.

The 14 Mcs. "DX" band will be usable as follows: Circuit (a) between 2130 until 0930, for (b) 2300 until 0600 and for (c) between 1500 and 0400, (d) between 0400 and 1000 and again between 1530 and 2200.

It might be possible during this month to hear signals from W on the 1.7 Mcs. band, and this frequency should be watched during the very late evening.

With the hours of darkness being longer, there will be an increase in the ionospheric storms, the worst of these will occur during the end of the 1st and 2nd weeks, and again during the end of the 4th week of the month.

# Radio-Controlled Model Aircraft



## THE E.D. RADIO CONTROL UNIT

**E**LECTRONIC Developments (Surrey) Ltd., 18 Villiers Road, Kingston-on-Thames, Surrey, have produced a complete radio control unit suitable for installation in power driven model aircraft. The unit consists of a battery operated, pretuned transmitter, working on the G.P.O. allocated model control frequency of 27.12 Mcs., and a light-weight three-valve receiver controlling a clockwork driven sequence escapement mechanism. The weight of the receiver is 8 oz.: its batteries 12 oz.; the servo unit 2½ oz., and the servo battery 4 oz., making a total of 26½ oz. The unit can thus be installed in an aircraft of 6 to 7 ft. wing span, driven by a 5 to 10 cc diesel or petrol engine, or in model boats from 18 inches up to 6 ft. long.

The transmitter circuit consists of a modulated oscillator, the stability of which is assured by careful, solid construction and high Q tuning circuit. The carrier is modulated by an 800 cycle note, and the receiver is actuated by keying the audio note, the carrier being radiated continuously. An eight foot aerial, consisting of four sections of rod, is attached to the transmitter case, which measures 8 in. high, 7 in. wide, and 9¾ in. deep. It thus forms a very convenient little unit, and its power is such as to ensure compact reliability of operation up to 1,000 yards.

The receiver is of the super-regenerated detector type, feeding an LF amplifier, which in turn feeds a pentode output valve. This actuates the relay, and the circuit characteristics are such that the relay current remains constant, no matter at what range the aircraft or boat is from

the transmitter. The fact that the transmitter radiates a permanent carrier ensures that the receiver is working on a "silent" channel, and is thus far less receptive to interference from ignition or other exterior electrical sources. The reactive circuit of the receiver is tuned to accept an 800 cycle note, and this, too, helps to reject extraneous noise, such as static, mush, etc. The aerial for the receiver can be from 12 inches up to 3½ feet, depending on the size of the model and the range required.

The relay operates a mechanical sequence escapement for rudder control, etc.

Installation of the receiving equipment in the model is very simple, full instructions being provided with the unit. The price of the complete system, i.e. receiver, servo unit, and transmitter, is £14 10s. 0d. We feel Electronic Developments Ltd. are to be congratulated on producing what, to our knowledge, is the first commercially-made radio control unit. The radio control of models, particularly of aircraft is a topic which is rapidly gaining interest in this country. The difficulties facing the constructor of this type of equipment are very great, particularly in respect of the receiving equipment, with its requirements of a very sensitive relay and audio filters peaking at specified frequencies. We feel, therefore, that this unit will prove very popular, and will help on the art of radio control considerably. May we make the suggestion that some of our more progressive Radio Clubs and ISWL Chapters co-operate with their neighbouring Model Aero Clubs, and produce a joint club radio-controlled aircraft. The price asked for this unit should be well within the funds of such a joint club endeavour.

# Book Review

**I**NTRODUCTORY RADIO, THEORY AND SERVICING by H. J. Hicks, MS, Radio and Science Instructor at the Central High School, St. Louis, Missouri, and formerly Radio Engineer, Aircraft Laboratory, Wright Field, Dayton, Ohio. This book has been especially designed for students, beginning at high school classes on radio. No previous experience of radio, electricity, or magnetism is required, and therefore it is ideal for the beginner. The 'how and why' of radio servicing problems and construction is given in easy-to-read chapters. Difficult technical principles are explained in everyday language, and stressing the "learning by doing" approach. Chapter 1 covers the Elements of Magnetism and Electricity; 2 Fundamentals of Radio Construction and Repair; 3 Vacuum Tubes; 4 Audio Amplifiers; 5 Power Supplies; 6 Amplitude Modulated Receivers; 8 Test Equipment; 9 Loudspeakers; 10 Public Address Systems; 11 Antennas; 12 Television, and finally Chapter 13 covers miscellaneous projects such as Phototube relays, Transformer Design, Sound on Light Beam, High Gain, 4.5W Amplifier and other interesting items.

A useful appendix contains over 60 pages of tables and charts relating to all the chapters in the book. A complete Teachers Manual is also available. Lavishly illustrated, with photographs and drawings throughout, we have no hesitation in recommending this book for the beginner. 393 pages on high quality paper. Cloth bound cover. Price 19/6 from the publishers, McGraw-Hill Publishing Co. Ltd., Aldwych House, London, W.C.2.

L. E. H.



# Literature Received

**MARCONI INSTRUMENTS LTD.**, St. Albans, Herts., Illustrated leaflet describing communications Test Gear in current production. Among the models described are the Portable Receiver Tester TF888, which enables actual measurements to be made of the sensitivity, selectivity, second channel suppression, AVC operation, signal-to-noise ratio, hum level and power handling capacity of receivers—plus the resolution and linearity—line and frame—of television sets.

Other instruments described are the TF887 Valve Voltmeter, the TF899 Valve Millivoltmeter, and the TF894 Audio Tester. All these instruments are available on hire purchase terms.

# TRADE NOTES

## BULGIN INCREASE RANGE

The range of Bulgin standard and miniature products has been augmented by many new items. Among these, new types of Signal Lamp Fittings have been introduced to cater for popular and easy-to-obtain bulbs, low voltage as well as mains voltage, together with new pilot lamp-holders of the all-insulated and shrouded types.

The large range of Bulgin radio fuses is being increased, with holders, with many new ratings. There are new types of Plug/Socket Connectors, including models for in-flex-running, and USA types of flat pin plugs. There is a new Ignition Suppressor with a constant value wire-wound element for stability and constancy of performance.

The already very comprehensive range of toggle and miniature switches is being increased by over 100 new models, and there are variants to the existing range with coloured plastic dollies and fixing nuts. Extra long bushes for thick mounting surfaces, available on many switches, is a welcome asset. New types of switches include nearby-current selectors as well as on/off, and jack or press-key types.

There are also many new control knobs, in attractive shapes, and in various colours.

# RADIO AMATEURS' EXAMINATION

**T**HE last Radio Amateurs' Examination was held on May 11th from 7 to 10 p.m. We have just received from the City and Guilds of London Institute a copy of the paper set on that occasion and results and comments on the candidates' work. The paper set was as follows:—

1. What steps should be taken in the design of a transmitter to minimise the risk of interference to broadcast and television reception?

Indicate what special precautions can be taken to reduce radiation of harmonics. (20 marks.)

2. What types of message may be exchanged with other amateur stations? For what purposes is the use of the station prohibited? (15 marks.)

3. An alternating voltage of 10 volts at a frequency of 5 Mcs. is applied to a circuit of the following elements in series:—

(i) a capacitance of 100 pico-farads,  
(ii) a non-inductive resistor of 10 ohms.

(a) What value of inductance in series is required to tune the circuit to resonance?

(b) At resonance, what is the current in the circuit? (15 marks.)

4. Discuss the advantages and disadvantages of a tuned radio-frequency and a superheterodyne receiver for amateur reception on the 14 Mcs. band. (10 marks.)

5. State the essential difference in the operation of a triode valve as a detector and as an amplifier. Explain the meaning of the terms "amplification factor" and "impedance" of a valve. (10 marks.)

6. Describe three methods commonly used for coupling transmitters to aerials and discuss the relative merits of each type of coupling. (10 marks.)

7. Describe a method of obtaining the high-tension supply for an amateur transmitter from alternating current mains. Include particulars of the smoothing circuit. Illustrate your reply with a diagram. (10 marks.)

8. What do you understand by "over-modulation"? Describe a simple modulation meter and explain how it is used to indicate depth of modulation. (10 marks.)

The following general report is given on the papers as a whole and is not necessarily applicable to the work from individual schools.

It is especially requested that this report, or a copy of it, may be transmitted to the teacher or teachers interested.

**54.—RADIO AMATEURS' EXAMINATION**

Year	No. of candidates	No. of passes	No. of failures	Percentage of failures	
1949	Home	885	628	257	29
	Overseas	13	8	5	38.5
1948	Home	685	519	169	24.5

The general standard of candidates work in the 1949 Radio Amateurs' Examination, both technically and the manner in which the questions were answered, was fairly high. Practically all questions with the exception of No. 3 (calculation) were attempted by the candidates. The fact that a large number of candidates did not attempt this question accounted for the slight percentage increase of failures this year as compared with 1948 when the percentage was 24.5. A report on the questions follows :—

**Question 1** (transmitter interference.) Fairly well done by most candidates.

**Question 2** (types of messages). Very well done by practically all candidates.

**Question 3** (calculation). This question was attempted by approximately 60% of candidates, a small number of whom obtained correct answers to part (a) while a fair number answered part (b) correctly. It was observed that some candidates who attempted part (a) did not use the indices method of calculation and became confused with the handling of unwieldy quantities.

**Question 4** (receiver). Well done by most candidates.

**Question 5** (valve). The first part of this question was well done by most candidates while the second and third parts were fairly well done. With regard to the latter part of the question, a number of candidates gave the DC instead of the AC resistance of the valve.

**Question 6** (aerial coupling). Fairly well done by most candidates.

**Question 7** (H.T. rectifier). Very well done by all candidates.

**Question 8** (modulation). First part of question fairly well done by most candidates. Very few answered the second part correctly.

**STOP PRESS**

From the 18th October, G amateurs licensed for 150 watts will be able to use this power on all bands above 28 Mcs except the 420 to 460 Mcs band. The use of higher power is to be granted for a period of one year, at the end of which it will be reviewed by the G.P.O.

**SW BC STATION LIST**

We are starting again a revised SW BC Station List. Instalments will appear monthly. This list will be prepared for us by the East London ISWL Chapter under the direction of Mr. A. F. Baldwin and will be right up to date. The first section of this new list appears below.

Frequency	Wave Length	Call Sign	Location
26550	11.30	GSS	Davenport.
26400	11.36	GSR	Davenport.
26109	11.49	GSN	Davenport.
25750	11.65	GSQ	Davenport.
25600	11.72	WRUX	Boston, U.S.A.
21750	13.79	GVT	Davenport.
21740	13.80	KCBA	Delano, U.S.A.
21730	13.81	WNRX	New York, U.S.A.
		LLQ	Fredrikstad, Norway.
21720	13.81		Singapore, F.M.S.
21710	13.82	GVS	Davenport.
21690	13.83	WLWL1	Cincinnati, U.S.A.
21680	13.84	VLC10	Shepparton, Australia.
21675	13.84	GVR	Davenport.
21670		LLP	Oslo, Norway.
21640	13.86	GRZ	Davenport.
21610	13.88	WNRA	New York, U.S.A.
21590	13.90	WGEA	Schenectady, U.S.A.
21580	13.90	RW96	Moscow, USSR.
21570	13.91	WCRC	New York, U.S.A.
21550	13.92	GST	Davenport.
21540	13.93	VLB5	Shepparton, Australia.
21530	13.93	GSJ	Davenport.
21520	13.94	HER8	Berne, Switzerland.
21510	13.95	VUD8	Delhi, India.
		VUD10	Delhi, India.
21500	13.95	WOOW	New York, U.S.A.
21480	13.96	PHI	Hilversum, Holland.
21470	13.97	GSH	Davenport.
		Colombo, Ceylon.	
21460	13.98	KNBA	Los Angeles, U.S.A.
21450	13.99		Brussels, Belgium.
21002	14.28	FZI	Brazzaville, F.E.A.
19850	15.11	WBE	New York, U.S.A.
19345	15.51	PLF2	Batavia.
18600	16.18	PLA	Batavia.
18495	16.22	WVH38	Tangier.
18450	16.26	HBF	Geneva, Switzerland.
18160	16.53	WNRI	New York, U.S.A.
18135	16.54	PMC	Batavia.
18130	16.55	GRP	Davenport.
18080	16.59	GVO	Davenport.
18025	16.64	GRQ	Davenport.
17892	16.77	HCJB	Quito, Ecuador.
17880	16.78	WGEX	Schenectady.
17860	16.80		Moscow, USSR.
17850	16.81	PRL9	Rio de Janeiro.
			Paris, France.
17845	16.81	LLN	Oslo, Norway.
17840	16.82	HVJ	Vatican City.
		VLC9	Shepparton.
			Brussels, Belgium.
			Kiev, USSR.
			Athlone, Eire.
17838	16.82		Moscow, USSR.
17830	16.83	WCBX	New York, U.S.A.
17830		WLWSI	Cincinnati, U.S.A.
		OLR6A	Prague, Czechoslovakia.
		VUD10	Delhi, India.
17825	16.83	LLN	Fredrikstad, Norway.
17820	16.84	KCNC	Sackville, Canada.
17810	16.84	GSV	Davenport.
17800	16.85	KRHK	Honolulu, Hawaii.
		OIX5	Helsingfors, Finland.
		KRHO	Honolulu.
		WLWK	Cincinnati, U.S.A.
17790	16.86	GSG	Davenport.
17784	16.87	HER7	Berne, Switzerland.
17780	16.87	WNBI	New York, U.S.A.
		KGEX	San Francisco, U.S.A.

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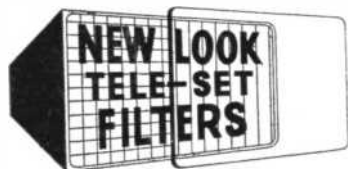
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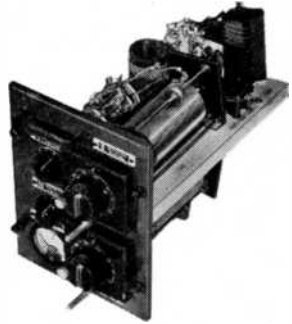
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