

# SHORT WAVE NEWS

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APRIL, 1947

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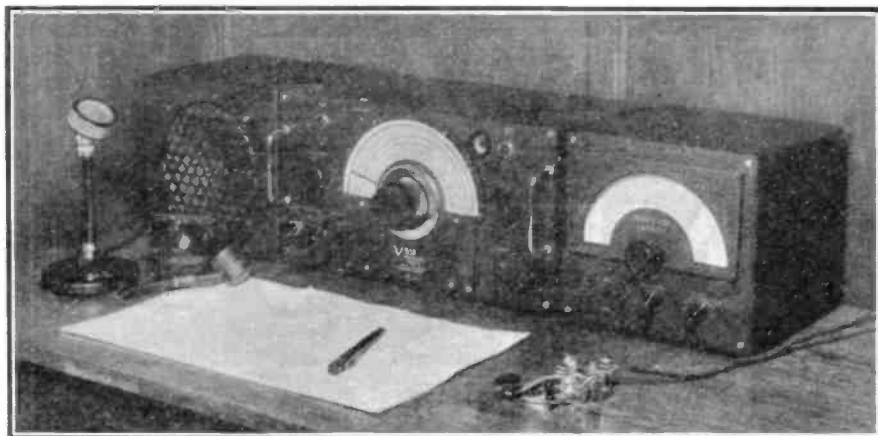


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# Short Wave News

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## EDITORIAL

### The QTH Case

#### The Case

“QRA or QTH?” The prominence of this question has reached a stage where editorial comment is called for. We have drawn our ham friends, and casual acquaintances, into conversation and noted their reactions to the subject. Below are our findings on those found to be afflicted by the complaint of QTH-itis.

#### The Patients

There are several types of QTH-users. One is the person with no pre-war connection in the noble art and thus is under the sad delusion that QTH is “the thing.” Another is the pre-war-vintage enthusiast, old enough to know better, who thinks that to use the term “QTH” is being cute. Then there is the person who can’t make up his mind. He instinctively uses “QRA” in personal conversations but “QTH” in correspondence and with strangers because he has an odd notion that it looks and sounds more impressive.

#### The Symptoms

QTH-itis takes several forms. Some people lead one to think that a QTH is a QRA with a superiority complex. Many we have spoken to say the vital term “QTH” in a sort of uneasy fashion and look rather sheepish—like a small boy who has just learned a new four-syllable word and is not too sure of it. In many cases the air of superiority and distinction seems to hover around the term.

The newer members to our fraternity are the least affected. Those that use QTH have not had “QRA” soaked into their system and are therefore unintentional sufferers to the complaint.

#### The Diagnosis

The case put forward by the QTH-encouragers is that the International Q Code gives QRA as meaning “The name of my station is . . .” and is thereby partially inaccurate. What they fail to realise is that the International Code QTH signal implies

“The position of my station in *longitude and latitude.*”

Thus, if we condemn QRA as inaccurate, then QTH is equally so, and nothing is gained. Something is lost, however. Although none of us at “S.W.N.” are *real* “old-timers,” and are not yet in our dotage, the term QRA has been used as far back as we can remember and it seems rather remarkable that the amateur fraternity has borne this awful injustice for so long without protest!

The majority of amateurs with memories of pre-war days would mourn the passing of the familiar “QRA”—it is a link of past associations and the ham world would not seem the same without it. It is unfortunate that so-called “reformers” should so stupidly advocate an unreasonable replacement for no justifiable end. We are not ones to stand in the way of progress, but when “progress” is a step backwards then we raise our voices in protest.

And why the sudden urge to purify the amateur’s codes? If one really wants to be fastidious, an examination of ham abbreviations and their commercial counterparts would reveal many worse discrepancies. One day we foresee someone advocating the adoption of the Z Code!

#### The Treatment

The use of QTH over QRA has no real justification—both are equally inapt if you wish to be fussy. If “QRA” is so very offensive, as some would have it, then the reasonable course to take is to evolve a NEW abbreviation exclusively for amateur use. No arguments could then arise.

We are not foolish enough to set ourselves up as tub-thumpers, as obviously the decision would rest with our National Society—the RSGB (who have already done good work in this direction)—and we humbly suggest that this body considers the matter and settle it once and for all.

We would be reluctant to throw off our good friend “QRA” who has served us so well in the past, in favour of a newcomer of disputed justification, and until such times as a new Q signal is officially introduced will refuse to recognise any other term for “location” or “address”—and risk being called “old fashioned”!

W.N.S.

# V.H.F NEWS

## The Month's News

THE most interesting occurrence during the month, was the appearance of auroral reflection contacts on March 8th. The last time we reported this phenomenon was on September 22nd, 1947, when G8JV was the only station to report it. He was in on it again this time and sends us the following notes of the trend of things this month.—“Receiver was switched on at 1600 GMT and the beam swung to ENE for contact with G5BD, when G2MV was heard with the characteristic burble of auroral reflection. The beam was swung further to the North, and quite a sharp peak was noticeable; at this peak position a well defined increase in hiss occurred and the actual direction was about 30 degrees East of North. 2MV was worked at 569 both ways. Contact was then made with 5BD who noted similar conditions and it is worth recording that even 5BD's signal, which is a regular here, was stronger with the beam directed to the peak hiss position, which was only some 30 degrees North of the optimum for 5BD under normal conditions. Between 1600 and 1720 the following stations—which are South of 8JV—were worked, in every case with the beam 30 degrees East of North for peak signals. 2XC-559; 2MR-559; 5US-559; 8WV-449. 6LK-569 and 4IG-559 were heard. All these signals had ‘burble.’ At 1758, 5BY was heard at 559, called and came back; giving a report of 334. He did not get report from 8JV. This is the first time 5BY has been heard at 8JV as it is rather badly screened to the South West and even when 5BY has been received at 6CW, no trace of his signal has been heard at 8JV. 5BY was heard at the same strength at 2027 working 3APY. He was called several times without reply. No other signals were heard at this time. 6CW was unable to hear any of this auroral dx and since 8JV has a clearer path to the North East as the ground slopes away in this direction, there seems reason to presume that the reflected waves were arriving at a very low angle.”

G2XC reports working 8JV at 1620 with his beam pointing North East, and confirms that 8JV's signals were strongest when the latter's beam was pointing North East. 2XC heard 5BD at the same time. 5BY came in at 2XC's from the North East at 1900 and he worked 5US, 8WV and

others with their beams directed North East. 5BY was inaudible to 2XC when the latter's beam was swung “on” to him, i.e., in a westerly direction. 5BD in Mablethorpe worked 2MV in London, with his beam directed North West. 5BD heard 5MA louder than he has ever heard him before with his beam pointing West. With the beam South, i.e., directed “on” him, he was barely 559. During these QSO's, 2XC reports that notes were very “burbly.”

The aurora was reported to be visible in N. Scotland on March 4th, and VE1BF reported a brilliant display of the aurora in New Brunswick on the night of March 9th. It is very interesting to note that March 8th, is 136 days following September 22nd—the last occasion when auroral reflection was reported in this country by 8JV. This is near enough five times twenty-eight days. It has been observed repeatedly in the past that auroral reflection occurs in cycles of approximately 28 days as would be expected. It will be interesting to see if April 5th to 6th, produces any such contacts.

### *Increasing 60 Mcs. Activity*

60 Mcs. activity is still on the increase. We now have news of V.H.F. activity in Kings Lynn where G4UJ, 2AOZ, 3ABQ and 2XS are interested in 60 Mcs. The latter's signals have been heard in Clacton and Cambridge and in Mablethorpe, but contact with these districts has not yet been made.

## The Month's Conditions

### *Tropospheric Propagation.*

G2XC comments that Air Ministry data have indicated poor conditions which have been born out by observations on the band. February 11th and 16th was a good period however, with temperature inversions of as much as 15 degrees F., with quite steep humidity gradients. Further to the data we published last month, 2XC quotes a fine example of how humidity matters more than temperature. On February 8th—a very cold and snowy evening—an inversion of 10 degrees F., was recorded at Larkhill around the 3,000 ft. level, but the humidity remained at 95 to 100 per cent. throughout. Thus the water vapour content at the top of the inversion was about sixty per cent. greater than at the bottom and the fall in dielectric constant was well below normal. This resulted in less refraction than under normal conditions and propagation conditions were exceptionally poor. 5BD reports that February 11th, was a good day and also March 9th, 11th and 13th. 8JV mentions February 20th, as a good day amongst many poor ones.

### *Ionospheric Propagation.*

Auroral reflection reported on March 8th. See details above.

G6DH reports on ionospheric conditions as follows:—February 24 was peak day for N. American direction; between 1440 and 1500 GMT, MUF went up to 50 Mcs., with WQR, 48 Mcs., R6/7. Since the end of February, the "W" and "Moscow" MUF has been dropping off, with the reception of WGTR becoming the exception rather than the rule. To directions between E.S.E. and W.S.W. the MUF has been slightly increasing and averages 40 Mcs. There have been several severe ionospheric storms, particularly March 2-5 and March 8. The high frequencies are very well worth watching during ionospheric storms as there have been several auroral "flutter" signals coming in. There is also a tendency for exceptionally high peak in South MUF. On March 3 for instance, W's were dead, but at 1315-1445 GMT, MUF to South was almost 50 Mcs. FZB.3 on 46.3 Mcs. was R9 at this time. Fluttery carriers were heard at 41.2, 47, and 52.5 Mcs., between 1815 and 1855. On March 8, from 1440 onwards I was hearing auroral signs on 43.25, 47.1, 52.5 and 60.8 Mcs. I put my 5 metre Tx on at 1500-1530 sending auto., but think nobody else was active! Heard subsequently from 2XC of the auroral contacts made later in the day!

#### Scottish Area Monitor Station Report

A. H. Mason, GM6MS, 390 Kings Park Avenue, Rutherglen, Glasgow, reports as follows:—"Not much to report this month, owing chiefly to weather conditions. GM2DI and GM5VG are still the stalwarts in these parts and are on 60 Mcs. practically every evening from 2130 to 2230 GMT. My own new 5 metre Tx is now complete except for meter shunts—the line-up is as follows:—6V6 tritet, QVO4/7 doubler, QVO4/7 doubler, and 832 push-pull P.A. If all goes well, I should have this rig on the air in a few days time.

Aerial arrangements are held up at a number of local stations until the great "Thaw" sets in. 2130 GMT would appear to be the best time for stations to listen for signals from here.

#### Midland Area Monitor Station Report

N. W. White, G3IS, 59 Eastlands Road, Rugby, reports:—Covering a period of from February 9th to 28th inclusive, it appears from reports that activity on "5" has been at a low ebb, conditions for outside local contacts have just not existed and so it has in general, been a poor period. G6YU (Coventry) reports 39 contacts with 10 stations including two "first time" contacts with G3BJQ (Rugby) and G8QX (Mal-

vern). Tests have been carried out between 6YU and the writer, with a portable transmitter and receiver and it is hoped to carry out some mobile working when the weather improves. Stations worked by 6YU are as follows:—2AK, 3BJQ, 3IS, 5LJ, 5MA, 5MQ, 6VX, 8QX, 8VN, 8WV, 4LU has been heard.

G8UZ (Sutton in Ashfield) has been frozen out of his shack during the cold spell and reports "nothing doing."

G3BCS (Wednesbury) has little to report this period, but states that G2BJY in West Bromwich is now active on five with an 807 P.A. This latter station has recently been worked by the writer—the third QSO for 2BJY on "five." G3APZ half mile to the south is constructing for "five" and will be ready shortly to put out a signal.

G8WV (Hanslope, Bletchley) is a new station on "five," and has kindly sent along the following interesting log; 38 contacts with 15 stations as follows:—2GL, 2MR, 2MV, 2YL, 3AAK, 3IS, 5MA, 6FO, 6LK, 6OH, 6VA, 6VX, 5YU, 8MG, 8UZ. 2NH has been heard.

G3IS made 45 contacts with 11 stations including 3 firsts in 4LU (Oswestry), 6GF (Leicester) and 8QX (Malvern). The most pleasing contact of the month was that with 5MQ of Liverpool who answering a CQ, reported signals 599 both ways. Stations worked are as follows:—2AK, 3ABA, 4LU, 5LJ, 5MQ, 6GF, 6YU, 8VN, 8WV and 8QX.

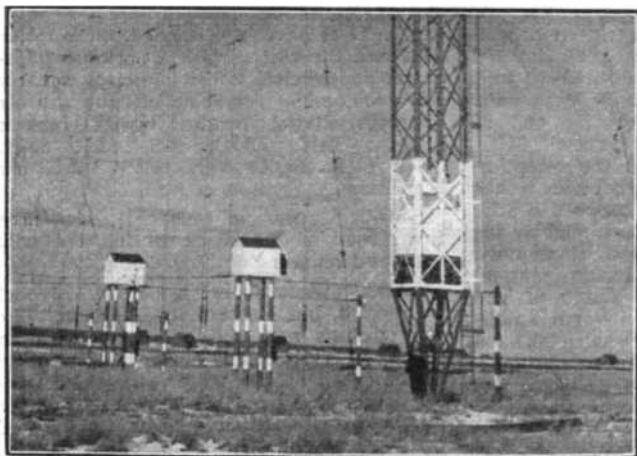
## LATE FLASH!

50 Mcs. DX again

On March 26th the 50 Mcs. signals of PAoUN were heard R9 in Capetown by ZS1P, ZS1T, ZS1AX and ZS1DJ, between 1230-1330 GMT. His XYL put the TX on the auto-sender, and as oUN was at work at the time therefore could not make a two-way of it.

Better luck obtained on March 28th, when PAoUN worked a 50 Mcs./28 Mcs. cross-band QSO with ZS1P.

Next issue we will give the full details of this fine DX achievement.



"Radio Canada" Aerials.

## Around the Broadcast Bands

Monthly Survey by  
"MONITOR"

All times are given  
in G.M.T.

**F**IRSTLY I should like to thank all the readers who have kindly sent along news for this column and especially my old friend T. B. Williamson of St. Albans who sends in an excellent log this month as will be seen. Conditions have generally been good throughout the "Arctic" spell of weather especially at the end of February. Several readers mention this in their logs, and also of frozen shacks.

### ● Asia

**Ceylon.** Radio SEAC Colombo 15120 kcs. heard with dance music at 1200 and call "Forces Broadcasting Service." Signals were R4 Q2 with rapid QSB (Williamson). M. Harrison reports them on 21620 kcs. with Test Match BC tp 0840. Strong signals. D. O. French logged them on 7185 kcs. channel with transmission to British Isles one Sunday, and says they suffer from bad QRM on this frequency. Your scribe has heard Radio SEAC operating on their 7 and 15 Mcs. channels with R9 Q5 and R9 Q4 signals Sunday evenings at 1830-2030.

**China.** XGOY Chungking heard daily on 6135 kcs. at 1400-1430 with news in English. (Williamson).

**Iran.** EPB Teheran 15100 kcs. recently heard at 1225 with English News and close at 1235 with clock chimes. Signals R9 Q3. (Williamson). Believe this is a second news in English as another reader, J. E. Whittle reports usual news at 1130-1145.

**Turkey.** TAP "Radio Ankara" Ankara, 9465 kcs. reported with very consistent signals. "Post Bag" programme at 2130. (Ted Hutchinson, J. E. Whittle).

**India.** VUD8 Delhi 21510 kcs. heard at 1200-1330 with various language programmes. (Harrison). VUD5 9590 kcs. giving news at 1530. (J. E. Whittle).

**Iraq.** HNF Baghdad 6785 kcs. heard with Native music at 1750. R6 Q4. (Williamson).

**Levant.** Beirut 8020 kcs. closing at 1645 with—"This is Radio Levant, Joan Edwards saying goodnight to you." Went off the air with "Pack up your troubles in your old kitbag." Signals were R7 Q4 with some CW QRM. (Williamson).

**Malaya.** Singapore. Station heard on 11735 kcs. at 1500 with R5 Q2-3 signals giving call as "This is the British Far Eastern Broadcasting Service radiating from Singapore." Heavy QRM from Moscow station on 11740 kcs. Uses 7500 watts. (Williamson).

(This is "Radio Malaya" and relaying the Purple Network programmes).

**Palestine.** JCKW Jerusalem 7120 kcs. heard with excellent signals at 0530 with announcements. "The time is now half-past seven—this is JCKW—we present Random Records," Q5 with very good quality states T. B. Williamson.

### ● Africa

**Canary Is.** EAJ43 Las Palmas Tenerife 7620 kcs. and heard at 2250 with R7 signals and poor quality. Recorded programme and news in Spanish at 2300. Call given as "Radio Clube de Tenerife." (Williamson).

**Kenya Colony.** M. Harrison reports VQ7LO Nairobi on 4950 kcs. channel at 1600-1900 with news at 1800. Strong signals. A. Levi of Belfast and a regular contributor to this column, sends along schedule of this station as follows:—  
Daily 1000-1100, 1600-1900. Sundays 1600-1900. Wednesdays and Saturdays 1600-2000. Tuesdays and Thursdays 1230-1330 transmitted on 6060 kcs.

**Dakar.** FGA "Radio Dakar" Dakar FWA heard on its 15345 kcs. channel evenings from 1845-2200. (Harrison).

**Madagascar.** FIQA Tananarive 9695 kcs. heard R6 Q4 with "flutter" QSB at 1655. Recorded dance music, the local French news and call "Ici Radio Tananarive" (Williamson).

**Sudan.** Omdurman "Radio Omdurman" heard on its two frequencies of 13320 kcs. and 9600 kcs. regularly with R5 Q3 signals. (Williamson).

**Tangier.** "Radio International" Tangier 6205 kcs. logged R8 at 2050. Very poor quality transmission with recorded dance dance music states T. B. Williamson.

**Spanish Morocco.** Tetuan. Station on 6070 kcs. logged at 2130 with Bolero music and closing with call "Aqui Radio Tetuan." (Williamson).

**Union of South Africa.** Capetown No. 1 (ZRK?) 5885 kcs. heard very consistently though signal varies considerably from day to day. Call at 2045 "Capetown calling" followed by BBC news relay, epilogue at 2100 clock chimes and closed with "God Save the King" and "Die Stem van Suid Afrika." (Williamson).

● **South America**

**Brazil.** PRL7 Rio de Janeiro 9720 kcs. heard at 2045 with R6 Q5 signals. (G. K. Sutherland).

**Ecuador.** HCJB Quito "The Voice of the Andes" 9950 kcs. R7 at 0400. (Sutherland).

**Argentina.** LRS "Radio Splendide" Buenos Aires 9315 kcs. Strong signals at 0030 with dance music. (Williamson).

● **Europe**

**Vatican City.** HVJ Vatican City 9660 kcs. heard signing off at 1830. (Hutchinson).

On 5970 and 9660 kcs. with English at 1815-1830. Good signals reported by M. Harrison. (Thanks for list of Aircraft Radio. Am sorry I cannot use it at present O.M. due to limited space).

**Finland.** OIX2 Pori 9500 kcs. heard at 0030. R6 signals with news. (Whittle).

● **Oceania**

**Hawaii.** KRHO Honolulu heard on 17800 kcs. at 0200 using China Beam R7 Q3, also at 1600 with R8 Q4 signals with Beam to Nippon on 9650 kcs. This comes from T. B. Williamson who wishes to point out he is not an MD but MB. Sorry Tom for my error in the December issue. Hope to hear more from you O.M. in the very near future. This reader also mentions that his logs sent in this month were sent in when

**BROADCAST STATION  
COUNTRY PANEL**

No. 12: South Africa

Johannesburg stations

4895 kcs.: Johannesburg 3, 5000 watts. 0445-0630 and 1610-2105 GMT.

4375 kcs.: Johannesburg 5, 200 watts. 0445-0630 and 1610-2105 GMT.

6005 kcs.: ZRH, Johannesburg 3, 5000 watts. 0445-0630 and 1610-2105 GMT.

6095 kcs.: ZRJ, Johannesburg, 4, 1000 watts. 0445-0630 and 1620-2105 GMT.

9523 kcs.: ZRG, Johannesburg, 3, 5000 watts. 0445-0630 and 1610-2105 GMT.

9912 kcs.: Johannesburg 4, 1000 watts. 0815-1210 and 1400-1610 GMT.

Capetown

5880 kcs.: ZRK. 5000 watts. 0445-0630 and 1600-2105 GMT.

9605 kcs.: ZRL. 5000 watts. 0815-1210 and 1400-1530 GMT.

Pietermaritzburg

4880 kcs.: 500 watts. 0500-0630; 0815-1210 and 1400-2105 GMT.

Durban

6170 kcs.: ZRD. 500 watts. Schedule unknown.

Notes

Johannesburg: Has alternative channels, not in use at present, on 3450 and 11710 kcs. (J'burg 3) and on 10540 (J'burg 4).

Pietermaritzburg: Has alternative channels on 4855 and 9760 kcs.

he was in bed with the 'flu. Your scribe was also abed at same time O.M.! Trust you are now fully recovered.

Sidney Pearce, another "regular" to these columns reports KHRO "The Voice of America" on its 9 Mcs. channel R7 from 1430 until signing off at 1600 with mention of "Until return to the air at 2200 GMT" on 17800 kcs.

**Philippines.** KZRH "The Voice of the Philippines" Manila 9640 kcs. heard R7 Q4 at 1605 when closing with Philippines Anthem. Operated by Manila Broadcasting Co.

KZTI "Radio Philippine" Manila 9710 kcs. R6 Q4 at 1530 and closing at 1600 with march. Operated by Philippine Broadcast-



ing Co. and relays MW station on 800 kcs. Stays on the air until 1630 Sundays (Williamson).

**Australia.** M. Harrison reports VLQ2 Brisbane Queensland on 7215 kcs. with news in English at 0900 and carrying the ABC Home Service. J. Taylor mentions that reports are requested on the DX programmes from "Radio Australia" at 2115-2130 Saturdays on 11770 kcs. over VLA4. These should be addressed to Mr. E. Suffolk, c/o Radio Australia, Melbourne. They are anxious to find the best channel for transmissions to the British Isles.

D. O. French has logged VLA4 at 2145 with news broadcast. Signals not as strong as VLB9 at 1515. T. B. Williamson has heard the following ABC National stations: VLH3 9580 kcs. R7 Q3 at 1345. VLR2 6150 kcs. R5 Q3 at 0900 with local newscast.

VLQ 7240 kcs. R5 Q3 at 2215.

Also noted are VLG9 with R6 Q4 signals at 1245, VLB R6 Q3 at 1300. (N. American East Coast Beam O.M.) Your scribe has logged VLH3 at 1400 when heard closing with National Anthem by Choir and orchestra followed by time signal.

● **Central America and West Indies**

**Panama.** HOXA "Radio Central America" Panama City 15100 kcs. R8 at 2200. (Whittle).

**Cuba.** COBC "Radio Progreso" Havana 9360 kcs. R7 evenings at 2330 onwards (Whittle).

T. B. Williamson lists the following:

COCX Havana 9275 kcs. R6 Q4 at 2215. Call "Emisora El Pueblo."

COBC R8 Q4 at 2330, COCQ Havana 8730 kcs. (approx.) R7 Q3 at 0035. Call is CMQ "Red National." This is a change of frequency.

COBZ Havana 9025 kcs. R7 Q4 at 0545. Call "Radio Salas."

COCW Havana 6330 kcs. R8 Q4 at 0045. "Ondas Deportivas."

COHI Santiago 6450 kcs. R6 Q3. "R-H-C Cadena Azul."

● **N. America**

**U.S.A. (West Coast).** KGEI San Francisco 15130 kcs. heard signing on at 2200 with R6 signals (Whittle). T. B. Williamson sends in a fine log of Californians heard at his QTH as follows:—

KCBF Los Angeles 17850 kcs. at 0205 with R6 Q4 signals.

KNBA San Francisco 17780 kcs. at 0210 with R5 Q3 signals.

KNBX San Francisco 15340 kcs. at 2230 with R7 Q2 (Hetro.).

KWIX San Francisco 15290 kcs. at 2245 with R5 Q3 signals.

KCBA Los Angeles 15240 kcs. at 2200 with R7 Q4 signals.

KGEX San Francisco 15210 kcs. at 2300 with R6 Q3 signals.

KCBA Los Angeles 9750 kcs. at 1200 with R4 Q3 signals.

KWID San Francisco 9570 kcs. at 0600 with R4 Q3 signals.

KGEI San Francisco 9530 kcs. at 1050 with R4 Q3 signals.

KNBA San Francisco at 9490 kcs. at 1100 with R6 Q3 signals.

**Canada.** CBLX Montreal 15090 kcs. heard at 1240 with news and local weather forecast. Faded out at 1300. Signals were R6 Q3. This station relays MW CBN. Call "Radio Canada."

CBFW Montreal 6090 kcs. R4 Q2 at 0300 with call "CBFW Montreal" in middle of commentary on a game. Flutter QSB. Both these stations use low power. (Williamson).

● **H.M.S. Vanguard**

M. Harrison states that the frequency is 7820 kcs. Heard with correspondents reports and also on W/T. What time O.M.? Transmitter is one of the most powerful ever assembled in a ship. Heard also when at Plymouth with excellent signals working a British station which was on 8615 kcs.

G. K. Sutherland logged them on 22 Mcs. at 1415 calling BBC for Frank Gillard and also Cable and Wireless for a Picture transmission. Signals were R6-7 Q5. This reader asks for the QRA for reports. Suggest you try the Admiralty, London, O.M. or direct to the Chief Radio Officer, H.M.S. Vanguard, c/o port of call when she returns to this country.

● **QSL Corner**

G. K. Sutherland has veri from VUD7. A. Levi from TAQ, ZRK, WLWL, WHN, WCBS. Sidney Pearce from HI9T (and New Year card), XGOY, Radio Saigon (Air mail) and CR7BE. Your scribe has had veries from MW, WTIC, WNEW, WHN, CBA and Radio Guadeloupe (after 8 months wait!).

● **Acknowledgements**

G. K. Sutherland ISWL/GW384, Llanfairfechan, N. Wales; A. Levi ISWL/GI38, Belfast, N. Ireland; Sidney Pearce BSWL336, Berkhamsted, Herts.; M. Harrison ISWL/G54, Darlington, Co. Durham; J. E. Whittle ISWL/G31, Darwin, Lancs.; D. O. French, Norwich, Norfolk; J. Taylor ISWL/G25, Lake, I.O.W.; Ted Hutchinson ISWL/G62, Houghton-le-Spring, Co. Durham; T. B. Williamson, St. Albans, Herts.; N. Moor, Pocklington, Yorks.

# A SW Superhet for the Beginner

by D. Warner

VERY many of my fellow amateur short wave enthusiasts, and more particularly large numbers of those very welcome recruits to our fraternity who have graduated from the ranks of those dubbed, somewhat patronisingly, by the B.B.C. as "the ordinary listener," fail to obtain maximum enjoyment from their hobby because they restrict their activities to the use of comparatively simple "straight" receivers which they have built themselves.

By a "straight" receiver, I mean, of course, one based on the conventional reactive detector, possibly, but not necessarily, preceded by a stage of R.F. amplification.

When asked why he does not launch out and build a more ambitious receiver employing the superheterodyne principle, the beginner's reply is usually either "I don't know anything about superhets," or "I am told that amateur superhets are not really efficient on short waves," or, "A superhet is quite beyond my constructional capabilities."

It is to dispel these doubts and difficulties, to provide a tried and tested design for a basic short wave superhet, the building of which is well within the capacity of even a beginner, and to give some practical hints and tips concerning construction, adjustment and operation that this article is offered to my more modest or timid colleagues.

What is it about the superhet that scares off so many beginners? Probably the high-sounding title conferred upon it by its first inventors. "Supersonic heterodyne receiver" is a bit of a mouthful, but the principle is quite simple to understand—even without knowing the exact meaning of those ponderous words.

The essentials of a good short wave receiver are that the set shall possess a high degree of sensitivity combined with a high degree of selectivity. The sensitivity of a receiver, broadly speaking, is dependent upon the amount of voltage amplification obtained prior to the detector stage. Now R. F. Amplification, at high frequencies corresponding to the various short wave bands is, at its best, a comparatively inefficient process. Even when due allowance is made for the phenomenal improvements

in valve design effected in recent years, the impedance, at high frequencies, of the inter-electrode and circuit capacitances is so small as to provide what is virtually a partial short circuit to R.F. currents, so that the overall stage gains achieved falls far short of what can be attained on the medium or long wave bands. All that is done in a superhet, is, in effect, to change the frequency of the incoming signal from the high frequency corresponding to the short wavelength to a much lower frequency, known as the "intermediate frequency," at which much more efficient amplification can be obtained. This process is performed in the "frequency changer" valve and its associated circuit. Thus, the superhet at once possesses the first essential qualification of a good short wave set—it is highly sensitive because it gives good pre-detector amplification.

The selectivity of any receiver depends, in the main, upon the number of efficient and accurately tuned circuits employed. Using the best components, and paying the greatest care to circuit design and layout, it is a tricky job to gang up a number of tuned circuits all of which must be simultaneously variable over a wide range of frequencies. The alignment of two, or at most, three such circuits probably represents the limit within the capacity of the average amateur who does not possess elaborate equipment including a signal generator and accurate measuring instruments. In a superhet, however, excellent selectivity can be obtained with only two ganged circuits (which, it will be shown, can be made quite simple to adjust) for in addition to these a set with only one stage of intermediate frequency amplification includes four additional tuned circuits, comprising the primary and secondary windings of the two intermediate frequency transformers; and these are tuned once and for all to resonance at the intermediate frequency needing no further adjustment.

The only part of a superhet circuit which the beginner may find difficult to understand is the means by which the modulation of the incoming R.F. signal is transferred to the lower "intermediate frequency," and a simple explanation of the frequency changer stage may, therefore, not come amiss.

In the receiver to be described later, the frequency changer is a valve of the triode-hexode type, that is to say, it is a multiple valve comprising a triode and a hexode in one envelope. The triode section is connected as a conventional oscillator, and the tuning arrangements of the set are such that the frequency of the oscillations generated by the triode always differs from that of the incoming signal by a definite amount. That amount is the frequency selected for the intermediate frequency—in this case the more-or-less standardised value of 465 kcs.

The hexode portion can be considered as a normal R.F. pentode with an additional screening grid interposed between the anode and the suppressor grid. The suppressor grid is then employed as another control electrode, and is connected internally to the grid of the triode oscillator. The connections to the other electrodes of the hexode portion are normal and are shown in the circuit diagram, Fig. 1.

The operation of the frequency changer is roughly as follows: The electron flow from the hexode cathode to the hexode anode is first modulated by the incoming R.F. signal at Grid No. 1. Grid 2, maintained at a suitable positive potential, acts as a normal screen-grid. Grid 3, which is connected to the grid of the oscillator, impresses on the electron stream the frequency of the oscillations generated in the triode portion of the valve.

It can be shown mathematically, and also proved experimentally, that this "mixing" process produces, in the output of the valve, a number of additional frequencies, one of which is equal to the difference between the frequency of the incoming signal and frequency of the local oscillation. This differential frequency, which carries the original signal modulation, is selected by a tuned circuit in the output of the frequency changer, the tuned circuit being, in fact, the primary of the first intermediate frequency transformer.

The circuit of the superhet receiver now to be described, has been reduced to the simplest possible form consistent with reasonable ease of operation, yet the results obtained were surprisingly good, and the station log compiled was at least equal to that expected from the most elaborate "straight" set.

A complete circuit diagram is reproduced in Fig 1 and should be carefully studied in conjunction with the following stage-by-stage description. Incidentally it is recommended that the set should be constructed in the same sequence as it is described, as this will tend to simplify the task of wiring.

### The R.F. Stage

This stage comprises a straight (non variable- $\mu$ ) R.F. pentode in a conventional circuit, but capable of giving a certain amount of regeneration by means of the filament tap on the grid coil. The R.F. gain is controlled by the potentiometer R2 which feeds the screen of the valve.

The filament tap on the grid coil should be taken at a point at the earthing end of the coil such that the valve will just oscillate when the gain control is set to its maximum position. This point will be found to be approximately at one-tenth of the way up the coil.

The purpose of the filament chokes L.1 and L.2 is to ensure that the R.F. component of the anode current of V1 passes through the lower end of the grid coil to earth, thereby permitting regeneration. The chokes can be made by winding two separate layers, each of 60 turns of 24 s.w.g. double cotton covered wire, on a  $\frac{3}{8}$ in. diameter former. Care must be taken to wind both coils in the same direction.

The R.F. amplifier is a periodically coupled to the frequency changer by the R.F. choke L.3 and capacitor C.7. This form of coupling avoids several of the snags in the home constructed superhet, mainly by simplifying the general layout and trimming of the R.F. stage. The absence of a tuned coupling results in some slight loss of stage gain, but this is compensated by the regeneration already mentioned.

### The Frequency Changer

Several valves were tried out in this stage, but the final choice was the *Osram* X.24, a triode-hexode which gives a particularly good performance on short waves. A triode-hexode is preferable to a pentagrid in this position because, due to the absence of interaction between the oscillator and mixer sections, the valve is free from that most annoying fault, so often experienced in short wave superhets, and known as "pulling," that is to say, the tendency of the incoming signal to pull the local oscillator into synchronism with itself.

The oscillator circuit follows normal practice, the anode coil being tuned, to provide greater stability. The local oscillator frequency should be greater than the signal frequency by an amount equal to the intermediate frequency, which, for this set, is 465 kcs.

In commercially built receivers, this frequency difference is obtained by using padding and trimming capacitors which have to be critically adjusted; and often capacitors of different values have to be

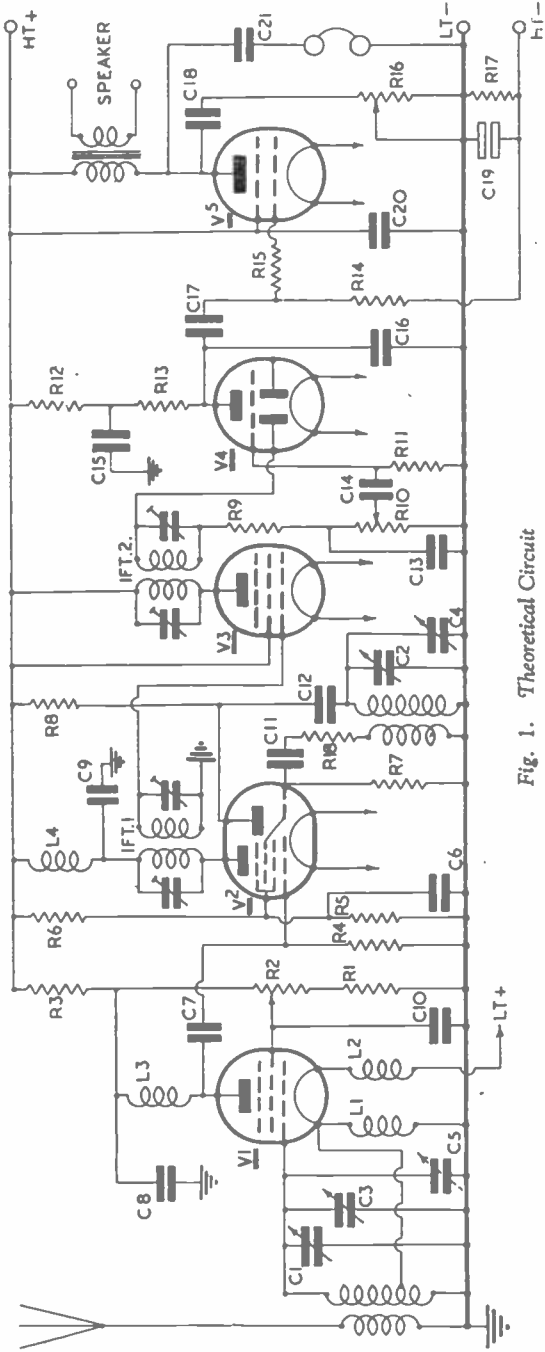


Fig. 1. Theoretical Circuit

COMPONENT LIST

<b>Resistors</b>	R1 50000~	R10 500000~	<b>Capacitors</b>	C14 0.01 μF
R2 50000~	R11 1 M~	C7 .0001 μF	C15 0.5 μF	
R3 5000~	R12 20000~	C8 0.01 μF	C16 .0002 μF	
R4 1 M~	R13 150000~	C9 0.01 μF	C17 0.02 μF	
R5 50000~	R14 500000~	C10 0.1 μF	(Elect.)	
R6 20000~	R15 10000~	C11 .0001 μF	C18 0.1 μF	
R7 100000~	R16 50000~	C12 .001 μF	C19 50 μF	
R8 20000~	R17 150~	C13 .0001 μF	C20 2 μF	
R9 50000~	R18 50~	C21 0.5 μF		
<b>Valves</b>	V1 Z21			
V2 X24	V3 Z21			
	(or W21 if AVC is used)			
	V4 HD24			
	V5 KT2			
		<b>Chokes</b>		
		L1 Filament choke (see text)	L3 SW RF Choke	
		L2 Filament choke (see text)	L4 All wave choke	

fitted for each waveband, involving complicated wave-band switching. For the receiver under discussion, however, the frequency difference is achieved by shunting the R.F. tuned circuit by a small variable capacitor which may have to be re-adjusted for each wave-band. This, however, adds but a very slight complication to the process of station searching, which is far outweighed by the fact that it obviates the use of padders and trimmers, and permits the use of standard plug-in short wave coils. It will, however, be found desirable to use a specially wound oscillator coil if reception is contemplated much above 70 metres.

Band spread tuning is employed and there is no need to enumerate its advantages which are well-known to all who have had experience of searching the all-too-crowded wave bands for an elusive signal.

Should trouble be experienced due to squegging—that spurious oscillation which is sometimes encountered on the higher frequencies, it may be cured by connecting a 50 ohm resistor (R.18) in the live end of the oscillator grid circuit.

**The I.F. Stage**

An intermediate frequency of 465 kcs. is recommended for a receiver of this type,

and the I.F. transformers should be good quality components, preferably of the iron-cored type. It is important to bear in mind that the selectivity of this stage determines that of the receiver as a whole.

It is possible to obtain a comparatively large stage gain in the I.F. amplifier, and every precaution should therefore be taken to prevent instability due to poor screening.

**The Detector**

It is, of course, possible to use the conventional triode or pentode detector such as is frequently employed in "straight receivers" but in the interest of economy, in the present set, a double diode-triode is used, arranged to function as combined detector and A.F. voltage amplifier. The A.F. signal from the diode load R.10 is fed to the grid of the triode section, the resistance-capacitance filter (R9, C.13) is employed to prevent the I.F. component reaching the triode.

The second diode may be used for A.V.C. which can be incorporated initially or added as a later refinement. The diode which is situated at the positive end of the filament should be taken as the A.V.C. rectifier as this provides a small delay voltage. The usefulness of A.V.C. in a receiver of this type is, however, debatable.

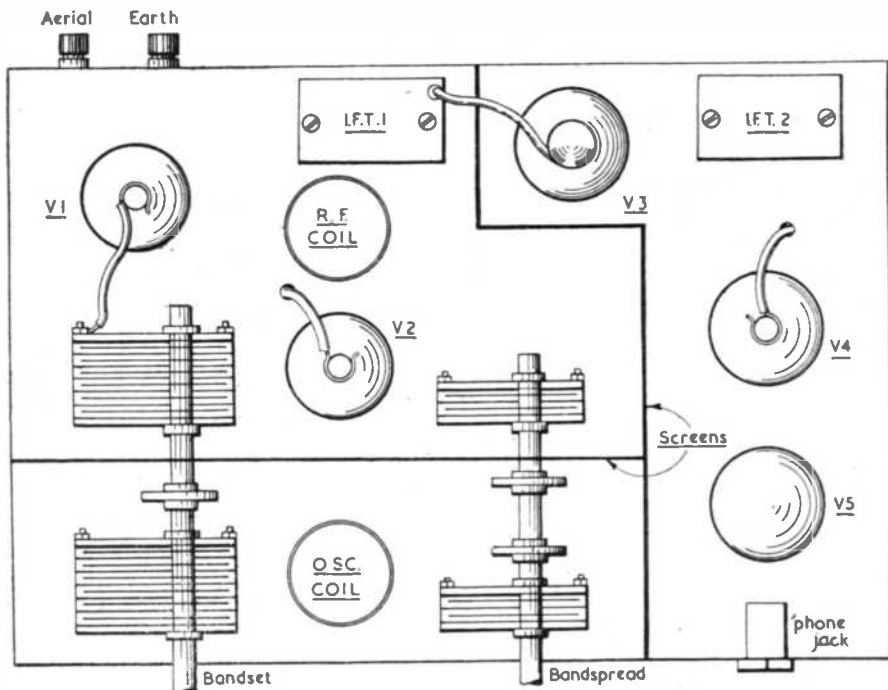


Fig. 2. Above-chassis layout

### Output Stage

The output valve is a pentode and the circuit makes provisions for 'phone connections. A tone corrector circuit is shown connected across the output transformer, and provides a useful means of reducing background noises when receiving weak signals.

### Trimming Procedure

This set has been deliberately designed in such a way that the task of trimming present little difficulty and calls for the use of no special or expensive equipment. It is for this reason that the number of tuned circuits (apart from the permanently-tuned I.F. transformers), has been reduced to two only.

The following notes should enable the beginner to make the initial adjustments with ease.

The first step is to line up the I.F. transformers, and for this purpose it is necessary to have access to another superhet receiver employing the same intermediate frequency, namely 465 kcs. An I.F. signal from this receiver should be injected into each I.F. transformer of the new set in turn, commencing with the second I.F. transformer, and the trimmers adjusted for maximum signal strength.

Trimming of the R.F. side of the receiver is affected by adjusting the small variable capacitor C.5 connected across the main tuning capacitor. This will probably need slight re-adjustment on each waveband.

If no signal is received after the above procedure has been carried out, the local oscillator is the most likely suspect, and tests should be made accordingly.

When correctly trimmed and working at maximum efficiency, the receiver will be found to be easy to handle, and to give an excellent account of itself as regards sensitivity and selectivity.

At a later stage, the owners may wish to add further refinements, and the following suggestions will be of assistance in this connection:

**A.V.C.** If the A.V.C. is fitted, it is essential to provide a shorting switch to render the A.V.C. inoperative when searching for stations.

**Best Frequency Oscillator.** It is a comparatively simple matter to provide this, permitting the reception of C.W. Signals. If there is sufficient demand, a suitable circuit will be published in a later issue.

**Improved Trimming.** A more comprehensive system of trimming may be included when the constructor has had further experience and has gained a good working knowledge of the frequency changer.

The receiver, exactly as described, has been built and tested over a considerable period. It gave remarkably good results over the short wave bands, and amply justified the time spent in its construction.

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Messrs. Standard Telephone and Cables Ltd. have secured orders from the Turkish Telegraphs Department for two major radio stations at Ankara and Istanbul respectively which will give facilities for an extensive system of radio telegraphy operating from Turkey to Europe, America and the Near East. The value of this order, secured against competition from other firms, including American, approaches £400,000.



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# WORLD NEWS

## “RADIO MALAYA’S” SIX NEW TRANSMITTERS

by Tan Bin Hussain

(S.W.N. Correspondent—Malaya)

WHEN the six new transmitters are installed, Malaya will have taken the first step towards the establishment of one of the finest broadcasting systems in the Empire.

Mr. J. S. Dumeresque, the Director of Broadcasting, said that “Radio Malaya” will concentrate on medium wave broadcasting, so that radio will be within the reach of the masses. The medium wave scheme will centre on three 10000 watt transmitters, one each at Singapore, Kuala Lumpur and Penang.

Other major towns, not covered by these three transmitters, will have small transmitters of their own. All towns will be linked by broadcast lines, so that programmes can be switched between stations, providing, in effect, a flexible network, such as is operated by the B.B.C.

Of the three 5000-watt short wave transmitters, two will be set up in Singapore—

one for the Blue and one the Red Networks. The third station will be near Kuala Lumpur, to provide the link with Singapore, replacing the present rather inefficient telephone line link.

Recording and studio apparatus has also arrived and will play a large part in the overall broadcast coverage of Malaya. Mr. Dumeresque said that the plan for broadcasting in Malaya was made originally about eight years ago. With all the projects in view, it is believed that Malaya will have one of the finest radio systems in the Empire.

## FROM THE U.S.A.

by “Grove” Calkins

(S.W.N. American Correspondent)

From “Radio Craft” . . . 1947 marks the 40th anniversary of the Radio Vacuum Tube. Dr. Lee de Forest produced the first grid radio tube—a three-element audion. His application for the Patent of this tube is dated 24 January, 1907.

\* \* \*

Ground-controlled approach, a radar system of landing planes, is credited by the Navy with making possible a trans-continental airway. The Naval Air Transport Service has been flying a daily schedule between Patuxent, Md., and San Francisco for five months, with no flight cancelled because of unfavourable weather.

The C.A.A. has already commenced installations of “experimental” Ground Controlled Approach installation to supplement and serve as a check on their Instrumental Landing System equipment in which the C.A.A. had a long standing and heavy investment, and to which many C.A.A. officials consequently feel they are committed. Work already is under way on the installation of a complete GCA system at La Guardia Field in New York.

## NEW ZEALAND NEWS AND VIEWS

from Arthur Cushen

(Our New Zealand Correspondent)

New Zealand is shortly to open its own 2nd N.Z.E.F. radio in Japan for the entertainment of our troops. Call will be WLKW and will operate on 1480 kcs. with 500 watts. Short wave outlets are being considered. The station will be located at Yamaguchi and will co-operate with the American Forces station on Kyushu and the B.C.O.F. station in Kure for exchange of programmes and guest announcers.



“Grove” Calkins, our American Correspondent

# On the Four Winds

by "Centre Tap"

**T**HE recent power cuts have had the effect of making us all do a bit of hard thinking, the more so since the talk of electricity rationing and the views of sober experts who calculate that the position cannot be restored to normal in less than three years.

Faced with such a situation many hams must have already given serious thought to the problem of an alternative supply, by home generation, and in doing so the two natural sources, wind and tide, come readily to mind. The latter has to many long held out great possibilities for large scale generation, particularly in a sea-girt nation, such as ours with areas such as in the Bristol Channel where there is a very high tidal rise and fall or in the Menai Strait where there is an abnormal tidal flow. Various schemes have been, and continue to be, put forward to trap millions of gallons of water to drive turbines both on admission and release to produce hydro-electric power. It is, however, with wind generation that we are more individually concerned and this form is within easy reach of the amateur. Although its use is not common amongst British amateurs it is to be frequently found in other parts of the world.

## An Easy Possibility

During the war, hundreds of thousands of rotary convertors were made and most of them were designed to run from 12 volt batteries. These, if used in conjunction with a wind driven generator for maintaining the battery charge, would provide a comparatively simple solution to the amateurs' power problem. The very popular No. 19

set power unit should be later available in considerable numbers. These vary according to the lateness of the model but each is capable of giving up to 550 volts D.C. from a 12 volt source. Originally designed to power a combined 15 valve Receiver/Transmitter, they have an output adequate to satisfy the average ham if the storage batteries used to drive it can be kept charged from the energy supplied by the winds.

With an old car generator which could be adapted by any handyman driven by shaft from the propeller, this most satisfactory output would be on tap. The heater supplies would, of course, be direct from the battery, the valves being wired in series-parallel, three 4 volt valves or two 6.3 volt valves of similar rating in each case, in the interests of economy. The whole scheme need not be of great expense, indeed not many times greater than heavy duty mains equipment and it must be borne in mind too, that only simple and cheap smoothing would be needed.

Reverting to the No. 19 set power packs, they are of three patterns, each ideally suited to such a project. The earliest type consists of one large rotary convertor and is thus rather extravagant, approx. 8 amps. A later model has two smaller convertors, one delivering 275 volts used for receivers and inter-comm. amplifier, with the second switched in by relay for additional voltage and power required for transmitting—an obvious development in the interest of economy. The third and latest pattern is still more economical, consisting of a vibratory convertor giving ample to power a communications receiver with a rotary convertor switched in for "send" either manually or by built-in relay.

## Availability

No. 19 set equipment is not yet generally

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released over here but there is vast quantities of it "surplus" to Service needs, and a limited number of the third pattern are now being offered for sale at t4 gns. including spare vibrator and rectifier. These deliver 275v. at 120 m.a. and 550v. at 80 m.a. thus being suitable for Receiver and C.W. transmitter, or for a Tx. with medium power modulator with the Rx. powered by batteries. It is of interest to note that in the States, 19 set gear has been on sale for nearly 12 months and current prices have fallen as low as \$64.75c. which includes power unit, variometer, control boxes, aerials and feeders, set of 15 spare valves in case, five pairs of moving coil headsets and m/c microphones, connectors, spares, etc.

### Mast and Shaft

The most difficult (and probably the most expensive in view of its lack of availability in the "surplus" market) part of the installation would be the mast, propeller and geared shaft to drive the dynamo, but many hams would be able to improvise and thus keep the cost to a reasonable level.

Unless the propeller is mounted in a sheltered position it need normally be erected only a few feet above ground level as the drive power need only be fairly light. The wind itself predominates in certain directions at given seasons the so-called trade winds, which incidentally have nothing to do with trade but derive their name from "tread" meaning straight path, are so called because they follow the same path for months. However, a "wing" or tail-piece mounted behind and at right angles to the propeller or sail, will assure that it takes up position facing the wind at all times.

Car dynamos are always fitted with a cut-out to prevent the battery from discharging itself when the revs. fall below a given figure, but an automatic brake would need to be fitted to prevent damage when the wind rises above gale force, not so much to the battery but to the whole structure.

Gear ratios etc., would have to be adjusted to suit individual cases and the lightness of the drive. For the guidance of any who may be contemplating such an installation some mention of the Beaufort Scale is added. This scale is in general use, although attempts have been made to re-number the Forces in relation to modern wind measuring instruments. The description and effect will be helpful in estimating wind speeds.

It will be seen that Forces 3 to 9 are common in the British Isles and if large capacity storage cells are used, sufficient power should be available to tide over the rare periods when the wind velocity falls below 3. At the other extreme, in windy seasons such as Spring, the driving shaft could be disconnected via a "clutch" device to avoid over-charging, or as an alternative arrangement the charging rate could be varied according to needs by a variable gear ratio but in such refinements we begin to depart from the original simplicity of the scheme.

Let us hope that the fuel situation will not force the need for any such emergency plans on us, but even if some form of electricity rationing should come, there is no doubt that the enthusiast will be able to meet and successfully overcome it. After all, the hand or pedal driven generator, need not be limited to portable and Field Day work!

Force	M.P.H.	Description	Effect
0		Calm	Smoke rises vertically.
1	1 to 3	Light air	Direction discernible by smoke drift but not by wind vanes.
2	4 to 7	Slight breeze	Felt on face. Leaves rustle. Vanes moved by wind.
3	8 to 12	Gentle breeze	Leaves and small twigs in gentle motion.
4	13 to 18	Moderate breeze	Raises dust and loose leaves and small branches are moved.
5	19 to 24	Fresh breeze	Small trees begin to sway.
6	25 to 31	Strong breeze	Large branches moving, telegraph wires whistle.
7	32 to 38	Moderate gale	Whole trees in motion. Hard to walk against it.
8	39 to 46	Gale	Breaks twigs off trees.
9	47 to 54	Strong gale	Liable to bring off occasional chimney pots and slates.
10	55 to 63	Whole gale	Trees uprooted, structural damage.
11	54 to 75	Storm	Widespread damage.
12	Over 75	Hurricane	

# RADIO AMATEURS EXAMINATION COURSE

By D. Warner

## PART 2: THE TUNED CIRCUIT

**A**LTHOUGH every constructor is no doubt familiar with the practical applications of tuned circuits, an examination of the characteristics of such circuits throws a useful light upon how and why they perform their allotted functions.

A coil of wire possesses reactance in the same way that a conductor possesses resistance. A coil also possesses resistance, but discussion of the effect of resistance in a tuned circuit can with advantage be postponed until later in this article.

Whereas resistance is (except at very high frequencies) to all intents and purposes independent of frequency, the reactance of a coil is directly proportional to the frequency, being zero at zero frequency (direct current) and increasing as the frequency increases. The reactance of a coil is expressed by the formula:

$X_L = 2\pi f.L$  ohms, where  $f$  = frequency in c.p.s. and  $L$  = inductance in henries.

Similarly a capacitor possesses reactance, its value being inversely proportional to the frequency and expressed by the formula:

$$X_C = \frac{1}{2\pi f.C} \text{ ohms when } C = \text{capacitance in farads.}$$

It will be remembered by those who have studied A.C. theory that no power is dissipated in a purely reactive circuit, the sole effect of the reactance being to cause a 90 degrees phase difference between the current and the applied voltage. An inductive reactance causes the current to lag 90 degrees behind the voltage, and a capacitive reactance causes the current to lead by 90 degrees.

Because inductive reactance increases with increasing frequency and capacitive reactance decreases with increasing frequency, it is obvious that for any combination of inductance and capacitance there

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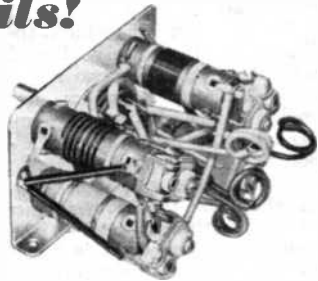
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Et.

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### AMATEUR RADIO PRODUCTS

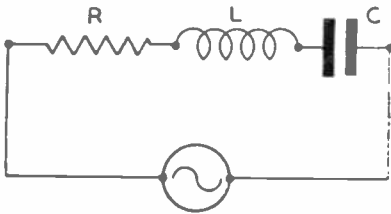
50 Glasslyn Road, Crouch End, London, N.8  
Telephone: MOUNtriew 4745

is a particular frequency at which the inductive reactance is equal to the capacitive reactance. At that frequency the circuit is said to be in resonance and:

$$\{2\pi fL = \frac{1}{2\pi fC}, \text{ from which the resonant}$$

frequency can be calculated as  $f = \frac{1}{2\pi \sqrt{LC}}$ .

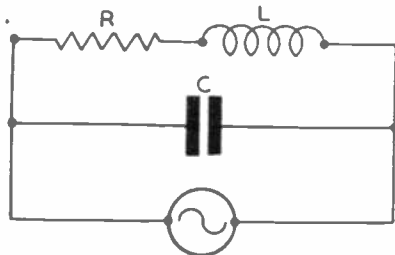
A perfect tuned circuit is one possessing inductance and capacitance but no resistance. The introduction of resistance into a tuned circuit has but a very small effect on the value of the resonant frequency, but it has a marked effect upon the efficiency of the circuit, the higher the resistance the less the efficiency.



Supply Source

Fig. 1.

There are two types of tuned circuits—that in which the inductive and capacitive reactances are in series across the supply (Fig. 1) and that in which they are in parallel across the supply (Fig. 2). In the series tuned circuit, the two reactances cancel each other at resonance, and the lag imposed by the inductive component is balanced by the lead due to the capacitive component. The applied current and voltage are therefore in phase, and the only loss is that due to the resistance. Such a circuit is sometimes called an accepted circuit, and is used when it is desired to pass maximum power at the resonant frequency.



Supply Source

Fig. 2.

In a parallel tuned circuit, current in the inductive arm increases as the current in the capacitive arm decreases and vice versa. Power fed into such a circuit would therefore circulate in the two arms indefinitely if it were not for resistance. As, however, all such circuits possess a certain amount of resistance, the power is gradually dissipated. In practice this loss is made up by power drawn from the source of supply and hence the dynamic resistance of the circuit can never be infinitely high. The effective or "dynamic" resistance presented to the supply by a parallel tuned circuit at its resonant frequency is equal to:  $\frac{L}{CR}$  ohms.

A figure of merit for a coil is taken to be the relation between its reactance and its resistance, and is represented by the symbol  $Q$ .

$$Q = \frac{\pi 2fL}{R} = \frac{X_L}{R}$$

Although, in this formula,  $R$  is indicated as resistance, it includes other sources of loss which have the same effect as resistance in decreasing the value of  $Q$ . Such losses include:

- (a) Dielectric losses—energy used in oscillating the molecules of insulating material exposed to an electric field.
- (b) Losses due to eddy currents induced in metallic bodies within the magnetic field of a coil.
- (c) Circuit losses due to contact resistance in switches, coil plugs and wiring. Great care should be taken to minimize all such losses in order that resonant circuits may have a high value of  $Q$  and may therefore be highly selective.

### INTERNATIONAL CONFERENCE

The President and General Secretary of the R.S.G.B. are to attend the World Telecommunications Conference which opens in Atlantic City, U.S.A., on May 15th, as Representatives of the International Amateur Radio Union.

Their chief duty will be to endeavour to secure, for the benefit of amateurs, additional frequencies and other privileges to as great an extent as circumstances will permit without endangering present frequencies and regulations.

We understand that the R.S.G.B. will press for the use of the 21 Mcs. band and also for additional VHF bands, the highest being 20500-22000 Mcs.

# International Short Wave League

H.Q.: 57 Maida Vale, Paddington, London W.9

Subscription 1/- per annum

## MONTHLY NOTES

### THE I.S.W.L.'s TECHNICAL QUERY SERVICE

**T**HIS month sees yet another advance in the development of the League's free services to members. We have pleasure in giving details of the first three sections of the Technical Query Service. The three sections, and addresses of the sectional managers, are given below:—

#### HOME - CONSTRUCTED RECEIVERS:

T. Vallard, ISWL/G6, 58 Hawthorn Road, Willesden Green, London, N.W.10.

**TEST GEAR, OSCILLOSCOPES & TELEVISION:** A. Burkill, 28 Raglan Court, Willesden Green, London, N.W.10.

**MECHANICAL CONSTRUCTION:** A. G. Anderson, ISWL/GM165 (GM3BCL), 87 Braemar Place, Aberdeen, Scotland.

The conditions governing the query service, and applicable to all three sections, are:—

(a) The service is free, but a S.A.E. must be supplied with each query.

(b) The service is exclusive to I.S.W.L. members and the I.S.W.L. number MUST be quoted, otherwise an answer may not be forthcoming.

(c) At present, queries are restricted to one per week each section.

#### General Notes

Members will considerably help if they keep their queries as brief and concise as possible. It should be borne in mind that the sectional managers, who have so kindly

placed their service at the disposal of the League, have only their spare time in which to answer queries. They are anxious to help you in your problems but don't overwork them!

The "Mechanical Construction" department, incidentally, covers the aspects of layout of gear, general constructions problems and queries relating to station layout and planning.

We invite applications from members willing to take care of further technical aspects of our hobby, together with details of their qualifications and experience.

#### TRANSLATION SERVICE

The setting-up of the Spanish section of the Translation Service makes 18 languages now covered! Spanish Section Manager is W. A. Impett, ISWL/G477, to whom we are indebted for making the section possible. His QRA is:—76 Wills Crescent, Park Avenue, Hounslow, Middx.


#### APPOINTMENT

Member Leslie M. Harris, of 93 Long Lane, Hillingdon, Middlesex, has recently been appointed I.S.W.L. Public Liaison Officer. His office combines the duties of public relations and general publicity.

#### DISTRICT NOTES

**Changes of QRA:** Local members please note the following new QRA's:—CR Gloucester: F. L. Leach, 2 Bright Vale, Bath Road, Stroud. TR Bournemouth: W. Dall, 4 Elizabeth Avenue, Christchurch. CR Devon: R. Hexter, Tor Down House, Swimbridge, near Barnstaple.

(Cont. on p.111)



THE  
**INTERNATIONAL  
SHORT WAVE  
LEAGUE**

(Sponsored by "SHORT WAVE NEWS")

H.Q.: 57 MAIDA VALE, LONDON, W.9. Telephone: CU9Avingham 6579.  
Founder Members: A.C. Geo. (G2AG) W.H. Brown. (G2AG) C.W.C. Overton. (G2AT)

From ISWL MEMBER'S CORRESPONDENCE QRA:—

The I.S.W.L. letter-paper. Attractively printed in green and black on cream-wove paper. Obtainable from HQ at 4/6 per package of 100 sheets.

# "Polskie Radio"

## STATION DESCRIPTION No. 10

### History

**T**HE short wave station "Warsaw III" came into being on January 31st, 1944, and began to operate regularly from Lublin. On the same day the Polish National Committee of Liberation gave place to the newly created Provisional Government.

The early stages of Warsaw III must surely be unique in the history of radio—what other station can claim to have first been installed and operated from a railway carriage! At first, programmes were radiated in English, French, Russian and Polish, with much time given to programmes designed to enable members of the Polish Forces to locate their missing relatives. Although the station radiated its own programmes, relays from the main Lublin Radio were quite frequent. During April, 1945, the station was removed to Warsaw, where it resumed broadcasting on May 2nd.

The next stage in the history of Warsaw III took place between July and August of 1945, as during this time the station was moved from its humble railway carriage and installed in the newly reconstructed building of the Radio Station Warsaw I. Shortly after this the station commenced its programmes in Yiddish, broadcast four times weekly. From November onwards daily broadcasts for Yugoslavia began. September, 1946 saw the inauguration of Esperanto broadcasts, which are now given once a week, whilst Bulgarian programmes started in October. The latest language to

be added will be Spanish, these programmes scheduled to begin by the time this article is being read.

### Organisation

The foreign language broadcasts are under the supervision of the Director of Programmes. An editorial staff works out the material for individual broadcasts and each foreign language programme has its own department and staff. Each department has its quota of interpreters, announcers and so forth. The technical side is taken care of by the technical director and his staff.

### Schedule

The station operates on 6100 kcs. with a power of 7500 watts, from 1600-2300 GMT. News bulletins, given daily, tell the news of Poland from the political, economic and cultural angles. Apart from this, occasional surveys of the daily Press are given, and special items such as sports news, survey of periodicals, talks on cultural and scientific matters, etc.

English programmes are radiated daily at 2050 GMT.

### Reports

Reception reports, which are appreciated, should be addressed to the following address:—Foreign Liaison, Polskie Radio, Noakowskiego 20, Warsaw.

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## THE ANNUAL

We are still getting many letters expressing approval of the "Annual." A good percentage say it is the "best ever seen." Now we are getting reactions from overseas readers and three comments we feel are worth noting, are reproduced below.

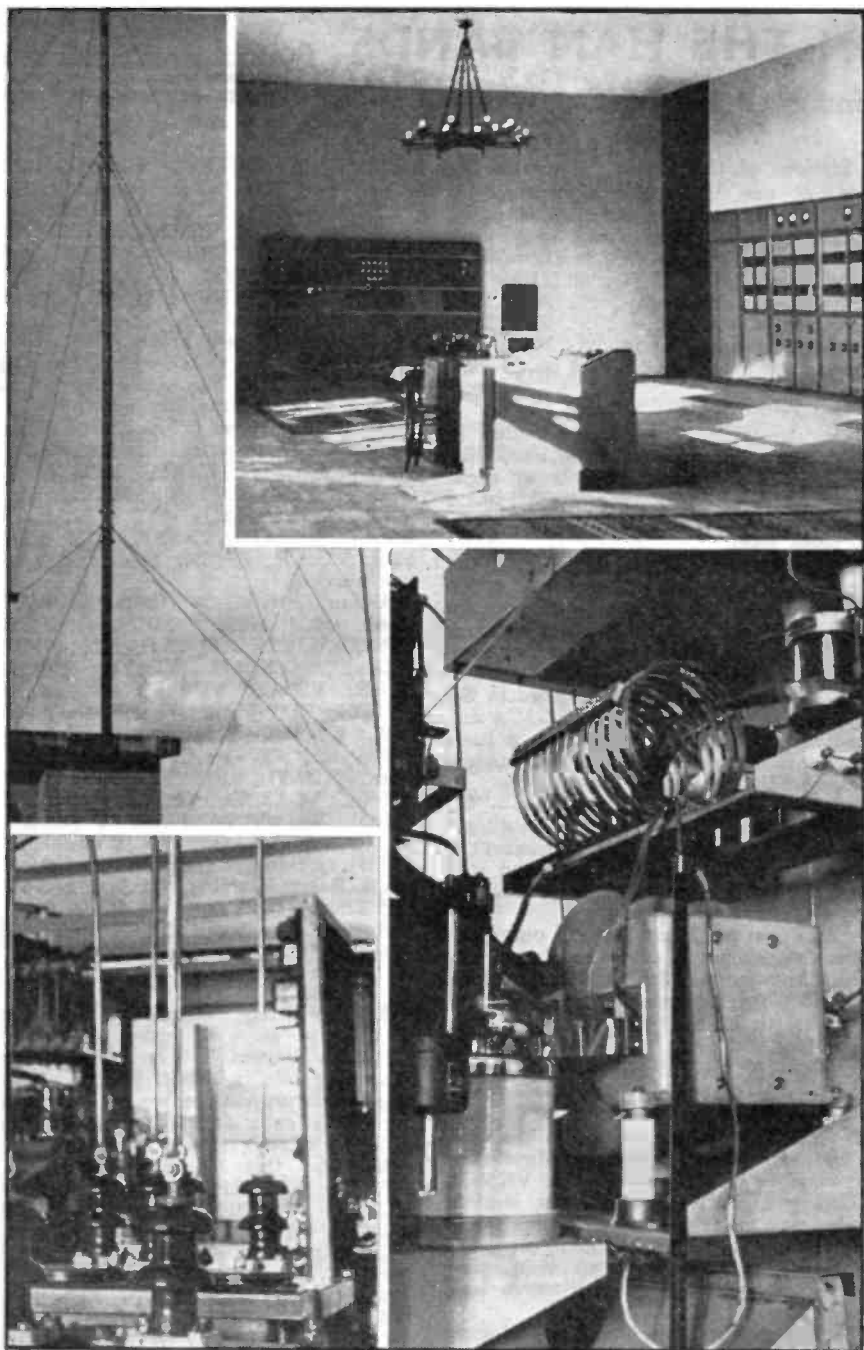
Dorothy Hall, W2IXY (New York) says that it is the best book for the SWL that she has ever seen. And "Dot" should know, being the keenest supporter of the SWL fraternity we know of. She also expresses the view that many hams she knows would learn quite a lot by having a copy!

Paul Dilg of Monrovia, California, says "congratulations on publishing the best data on SW that I have seen during the 20 years I have been a SWL. Every DX-er should have a copy of this book."

Rex Gillett, DX Editor of South Australia's "Radio Call," remarks:—" . . . To my mind this is the most comprehensive publication of its kind that I have yet seen. I will go so far as to say that it is invaluable to anyone, no matter how experienced he is in DX. This publication is a DX-ers 'must'."

## PCJ ANNIVERSARY

On March 30th, PCJ celebrated its 20th anniversary, with a special anniversary programme. Amiable Eddy Startz has done much towards the success of PCJ, and in recognition of his past contribution to international goodwill and understanding, through the medium of the "Happy Station" programmes, we have elected Eddy to honorary membership in the International Short Wave League.



*Top left) The Aerial mast. (Top right) a view of the control room.  
(Bottom left and right) close-ups of the transmitters.*

**"POLSKIE RADIO"**

# ON THE HAM BANDS

Conducted by "CQ"

## ● Stations of the Month

NEW one in British Somaliland is VQ6hoj (is G2hoj) . . . VS13 is on 14160 kcs. from Turks and Caicos Isles . . . VP8ai is reported to be on from the Falklands . . . VP9K and 9Q are the latest on from Bermuda . . . ZD1KR is active from Sierra Leone . . . ZD2JD is one to look for in Nigeria . . . New Caledonia can be heard via FK8YB on 28 Mcs.

## ● Top Band Notes

Owing to the fuel cuts, a reduction in activity has been noted and the arctic-like conditions have affected signals at night with the locals having that "DX" sound about them. Also noted was the extremely high noise level.

The best DX signals have been ON4aa (Antwerp) and D2ch (Brunswick). One G5 was heard calling SM6ho. We hope he QSO'd. Our old friend GM6JJ has been one of the best Scottish stations heard in London. Of the GW's, 6aa has been notable. GC4li has been received in Chingford in the early evening. A QSL card from G5UA disclosed the fact that he was using a hand generator, and for his 7 watts was putting in a very FB signal into London.

Heard by your scribe, and others:—"CQ NO G STNS DE G3---" A new one on us!

D2uf (who gave his QRA as Osnabruck) is now reported to be a pirate. And who was GKMO heard on 1810 kcs. 6CL and 2NJ were heard calling him.

From Peter Somssich, HA8S, our Hungarian Correspondent comes a list of G's heard. They are G2fq, G3ahe, G3auh, G5ja and G8jr. All were RST 579.

## ● 28 Mcs.

Activity on "ten" has continued at a high level. The band has been open throughout the past month from about 0800 at 2000 on the average. It has been possible to work W's on most days. The most consistent DX stations were VK5NR, XZ2DN and YI2WM. The latter station, by the way, uses a 6L6 tritet with a 4 Mcs. crystal from which the sixth harmonic is taken to drive an 807 to about nine watts. The aerial is four half-waves long wire, centre fed with 600 ohm line.

The logs this month bear out the good conditions . . .

D. L. McLean (Yeovil) has a massive 'phone log, which includes: CE3AB, 3AG (1700); CX4CS, EL2A (1255), HC1FG,

HK3AB, 3DW (1300); HZ1AB, KZ5AB (1620), OQ5AR, 5BA; PZ1A, VE7AJN, VK5NR (0850), VP6LN, 6YB, 9F; VQ3EDD, 3TOM, 4ERR; VS9AA (1310), 9AB; VU2AF, 2LR; XZ2DN, 2YT; YI2AT, 2CA, 2WM, 7G; ZE1JB (1610), and ZS's 1AX, 1BV, 1CN, 1P, 1T, 6CX, 6DW, 6EQ and 6W. Also many W5, 6, 7, etc. Very fine. The RX is a VHF converter (6AK5, 9001 and 9002) with a Sky Champion. Aerial is 60 Mcs. dipole 8½ feet long, 40 feet high and running E/W.

G. L. Ross-Hime (Christchurch, Hants.) with his Eddystone 504 has logged CO2JV (1950), EL2A, HZ1AB, KP4CN, 4DC; OQ5AR, PK1AW (1330), PK5NR (surely VK5NR?), PY5AQ, 7VC; PZ1A, GE; TG9RC, VE7AJN, VK5NR, 6KM; VP6FO, 6YB; VU2LR, ZS1CN. The aerial is a 33 foot vertical.

Arthur Levi, GI 38 (Belfast) comes forward with EL2A, HK3DW, HZ1AB, KP4CU, LU3DH, OQ5AR, 5BA; PK1AW, VE7AJN, VK2AB, VP6YB, VQ3EDD, 4ERR; VS9AB, VU2AF, AR, BC, LR; XZ2DN, YI2WM and ZS1AX, 1BV, 1T.

R. W. Collett (Birmingham) using a TRF3 and 28 Mcs. ½-wave doublet has heard KP4AJ, OQ5AR (1510), VK2AB (1240), VQ3EDD, VP6YB, W3JRF/KG6 (1135), W6ONP/KW6 XZ2YT (1505) and ZE1JB (1015). On CW PY6ag, UA9cf (1325), UB5bb, UN1ao, VP9d (our Bermuda Representative), VK2eo, 5nr (1030) and ZB2b.

Roger Legge heard OK4IDT, XU6GRL, ZD4AB, ZC6FP, OE7IK, etc.

## ● 14 Mcs.

Another deluge this month! An example of what we have to wade through is the log of M. Preston. It is on a sheet of paper measuring 16in. x 21in.!! Breaking it down to sizeable proportions we note the following DX calls:—CR4HT, 9AG; EL4A, ET3Y, FZ8SP (there is no prefix FZ, O.M. Was this FG3FP?), HH2ME, 3I; HP2HP, J3HRP, KA1CB, KH6CT, KL7FQ, PK1BH, UD6AB, UP2HA, VE8MF, VP1EL, 2AT, 2GE, 4TJ, 8AD; VQ5FM (details, please?), 6HOS; VR2AB (Fiji, Very FB!), VU8GA, XZ4AR, YN1AB, 1BF, 1LB; ZD4AB, ZE1JB, 1JX, 2JA; ZL1KJ, 2BE, 3ID; ZP1AA, 5P; and ZS's 1AX, B, BV, 2AZ, 6CT, DW, EU, FT, GO, GV. Incidentally the RX is a Hallicrafters Diversity.

R. W. Collett sends in a log which includes CR4HT (2000), EL5B (Q5 R8 at

1800), KH6GF (4 7 at 0750), LI2BO, VE8NM, VK2GU, 3KX; VP9F (5 8 at 2240), VS7ES, VU2CB (Bombay, 1900), ZS1U (5 6 at 1830). On CW: EA7u (data?), LI2cl, VU2cb, 2au, 2hq, 2qy (between 1700-1920); VK3uj, VS7eu, 7rf; ZL1bq, 1gg, 3bj, 4ck; ZS1ci.

D. L. McLean, our "old faithful," remarks on the very good conditions around 1900. On one day, between 1845-1950, the following were logged in this sequence: XAFT, CN8BA, XACP, KH6CT, ZL4AO, OX1Z, ZS4D, EA9AI, VU2QT, ZS1CN, VK2AML, ZS4H, VO2AF and VS7ES. Certainly a good selection. The main log includes KH6CT, 6GF; KL7DY (0745), 7ED; OQ5BW, TG9RC, VE7AAW, 8AK, 8AS, 8NM; VK's 2AGJ, AML, GU, TI, 3BA, HG, KX, SB, 4DA, HC, NK (New Guinea. Nice work!), 7TR, VQ6LW (2315), VU2CQ, GB, KB, QT; YN1FF, ZL1KJ (0750), 2BE (0810), 4AO (1900); ZS's 1CN, DM, 2BB, 4D, H, 6BV, CT, LF and U.

Al Slater has some good ones in C1JEC (14275 kcs. 1750), 1MG (1800), 1YCS (14315 kcs.), 4JM (14240 kcs.), 7AY (14190); HH5PA (14300), J9AAD (14300), 9ABX (14295), KZ5NA (14250), KG6AG, KH6BX, PK4HB (1725), TG9RC, VE7AAW, 8AS, 8NM; VK6RU (1445), VQ2AG, 4JBC, 5JTW; VS1BP, 7ES; XZ2KM, YN1LB and ZE1JX.

Jeff. Bowes-Taylor (Birmingham) reports some interesting CW calls, including HK4af, PK4ks (568 at 1330), 4os; P1al (Amsterdam), VE7aad, VK6ru, VQ8ad (449 at 1430), VS1bx, VU2fo, 7br (569 at 1807), VP9q, W7qi/KL7, ZL3ab, 4ck; and ZS's lci, 2y, 5bu, 5bk, 5v, 6go and 6iv. On 'phone we note J2ABA (Q4 R4 at 0815), KA1CB (1700), KH6IJ, TG9RC, ZS1CN, DU, L, 6LF, VW; ZL2BE and HZ4EA.

R. Masters, G407 (Portsmouth) reports J2FOX, KH6CT, KP6AA (Palmyra Island), VE6SM, 7AAW; VK2AD, ADJ, AHA, ANL, CP, GU, ID, NM, PE, 3KX, 4AI, NK (New Guinea—again FB!), YU2A (data please someone?), ZL4FK. Also 6O W5, 6, 7 and o.

Martin Harrison, G544 (Darlington) has heard CR7BB (Q5 R5 at 1730), HH2PB, KH6HO, 6IJ (both at 0820); OA3AX, 4AM; VE6AO, SZ, 7AAW, AJN, EF; VK3BH, WX, YX, 7TR; VP2GB (5 5 at 2130), 4TR, 5EM; VU2QY, DY; ZS4H and ZL1BE (5 4 at 0820).

R. W. Ainge, G219 (Colwyn Bay), in his first report, mentions CO's 2DQ, MA, HY, LY, 8MP; EL4A (2330), LI2BO (2220), OA4M, PZ1W, VP4TJ, VQ4ERR, VS13/VP7 (2335), XZ2DY (2300) and

many Latins. The RX is an O-v-2 with an Inverted "L" aerial.

From A. Baldwin, G193 (Leytonstone, E.11.) comes a mixed log. On 'phone: LI2CL (is this another new one?), VP2AD (or AT?), 4TJ, 5EM, 9F; VS7ES (1830), VU2AF, AR, BY, KB; VQ4ERR. On CW: CR4aa, ET3y, HZ1ab, K6cgg (1845), KL7bd, 7cf; LI2bo, PK1hx, 4ka, 6ht; VE7ac, 8ay, 8nr; VK2no, zh; VQ2hc, 3hjp, 5jtw, 8il (Mauritius); VS1aq, bx, 2bj, ns, 6aa (Hong Kong), 7ev, si, 9an; VU2an, av, fo, kp, qy, ws; YI2bx, ZD1ab, 1kr (good going O.M.), 4AB and also 10 ZL's and numerous Latins and ZS, etc. The RX in use is a 1-v-2, battery, with one valve preselector. Aerial is 66 foot end-on, running NW/SE.

And finally, a run through some of the remaining logs . . . Arthur Levi, G138 (Belfast): CM2DQ, EL5B, HC1OB, HH5PA, HK6AC, OA4WIM (queer call!), OIX7, TG9RC, VE8NM, VP4TE, VP9F, YU3AL (and details on this one, O.M.?) . . . Leslie Waine, G328 (Yeovil): KH6CT, PY9AT, VK2AGJ, 2JG, 7PA, 7PW; VS7ES, XE1AC, VU2KB, ZE1JX, ZS4H, YU2A . . . George Ensor, G587 (London, N.W.7.): HK3CV, VK2TG, 3XG, 5PL; VP9T, VS1BX, VU2BF, ZD1KR (R4 at 2300), ZE1JO, ZL2SM (R3 at 1555),



A view of John Clarke's den. A commercial SH7 and converter are shown. The TRF3, used for CW DX listening is not shown in the photo.



ZP6AB and ZS6PI . . . J. H. Trye G570 (Nuneaton): ZD1kr, VU2QY, VU2KB, 2GB; VS7ES, ZS1U, 4D; VP9F . . .

Roger Legge (New York) reports LI3DO, VSI3 (14160 kcs.), XU6GRL (14180), OI2KAF and a ZD1 on 14330 (ZD1KR?)

That's the end of the allocated space I am afraid, O.M.'s

● 7 Mcs.

Only two logs this month. Which leads one rather to assume that the easy DX on '20' is more attractive. Surely there is more merit in logging the DX on the more difficult bands? Why not follow the examples of such readers as Lionel le Breton and John Clarke, who are to be congratulated on their efforts to sort out the DX on the LF bands. After which brief lament we turn to the logs . . .

Lionel le Breton, G128, makes a welcome come-back and has heard CN8mz, CO2bz, CT2xa, HH3ve, KP4cc, 4dd; UA1af, UG6wd, UQ2kaa, VE3ajx, ZL4ga, ZS6lm and also W's 9mux, 9npc, with 24 others from the 1, 2, 3, 4 and 8th districts.

John Clarke records VE3ber (2310), UA6fb (1800), ZC6ab and ZL2bv. Also a whole batch of W's.

● 3.5 Mcs.

Another neglected band! However John Clarke lists OEIfy, 7df, 9aa, OX1y (2230), TF3k (2300), VE1pg (2300), VO1I and YR5it (2200). More support for this band please!

● Query Corner

Re. Walter Savage query on TA1T, G4QZ suggests that this was TR1P mis-read. We are inclined to agree. P. Walker, G584 reports PR1B. Again, we feel this should be TR1P.

The main puzzler this month seems to be HZ4BO. Al. Slater reports him at R9 plus, and other readers speak of strong signals. We have heard him at 1345 GMT and as the only other signals audible at the time were short skip locals, it seems possible that the station is a pirate. However, he gives the QRA as Box 112b Mecca, so maybe . . .

Leslie Waine queries YU2A and heard a VP8 on South Georgia Island at 1930. Has anyone any information, please? Leslie also queries LI2BO. (See the QRA list, O.M.)

YR3EST caused the eyebrows of John Clarke to be raised. Well, he says he is W3EST, to which QSL's should be sent. John, with several others, asks about the LJ calls to be heard. We are not certain but we believe they are Norwegian School

stations. LJ2M is definitely at the Seamens School in Oslo.

George Ensor would like to "gen" on NFT4a and TFE9. The latter is portable/airborne and both are presumably commercials having a busmen's holiday.

Michael Paveley (S.E. London) is troubled by a powerful CW station which blots out the LF end of the 14 Mcs. band. Has anyone else had this trouble?

K. Russell, G173, asks about VSI3 (see "Stations of the Month"), YU2A, CT1UU, OE4LA, HA4AB and HA4YU. Well, none of the countries mentioned are officially "on," though we think they soon will be.

● Gossip

Martin Harrison says that OE9 calls are issued to Forces in Austria. OE9AA, AB, AC and AD are the only ones issued so far, according to 9AD. The same reader says that CN8EA is F7AE and that CN8EB is 7AE's second op. and has no cards.

Further to the notes on 28 Mcs. QRM in last month's issue, Al. Slater said it all started in 1946 when he built a 28 Mcs. converter. In March of that year the trouble started and the band had been almost useless since. Television signals were also affected. The noise has been reported from most parts of the world, SU1MW said he was troubled with it when G's were coming over, a VQ2 and a KP4 said much about the same and a W1 mentioned that when the band was opened for G's the noise peaked to R6 and that the U.S. War Dept. had traced the QRM as originating from England. We understand that the RSGB has made representations. Mr. Slater is concentrating on verifying all States in the U.S.A.—has any reader already accomplished this feat?

A. L. Crane has just been issued with the call G4QZ. Mr. Crane has previously held the calls 2AAA and G2CR. With his "junior op" he has been running an 0-v-0 on which he heard last month CO2HY, T12OA, VP9F, YV5AL, ZB1AD, ZS2BB, ZS2BJ, W2MMO/MM, OI2KAF, ET3y, HK4af, NY4cm, CX5al, KL7zg and many others. He says "why the superhets?"

Ron. Masters sends in details of the Chinese call-districts. They are:—

- |               |              |
|---------------|--------------|
| C1: Shanghai  | C2: Hankow   |
| C3: Fochien   | C4: Nanchang |
| C5: Chungking | C6: Tsintao  |
| C7: Tientsin  |              |

Having run out of the present call allocations, the W9's have started on the new prefix of K. Other districts will follow suit when present calls are used up. The U.S. possessions, some of which are still using the pre-war K prefix, are pushing ahead

in re-allocating the new series of prefixes to avoid possible confusion. J. H. Endersby, mentions this data and has logged K9AAF.

● DX Worked

G6DH, Geoff Hutson, has been putting in some good work. Amongst those worked during the past month are XABU (Rhodes, and the only ham on the island), LI2BO (14100 kcs.), KL7BD (uses 450 watts. Four feet of snow and 40 degrees "below" at time of QSO!), ET3Y, CR4AA, VO6SO (14100 kcs.), LA4LA (says he will QSL next summer when the ice goes!), KL7BH (14042 kcs.) W2SLW/KL7 (Adak, Aleutians. 2000 miles west of U.S.A.), KL7GC, UAOKTU (14104 kcs. Irkutsk), W6KRI, and VE8MF (Baffin Isle. 50 watts). Geoff also worked UAOKTU on 7 Mcs. at 2000. Nice work, O.M.

G2BQC, Les Coupland, worked all W districts one afternoon on 28 Mcs. On 14 Mcs. the best were VP4tb (14008 kcs. at 2215) and W6afu/5 (14164 kcs. at 0645).

G5BD, Arthur Simons of Mablethorpe, worked VK2nj, VK6dj, ZL4ck, ZS2y and ZS1m in one day.

G3AYA, Lionel Howes (London) has been busy on 7 Mcs. Amongst those worked we see UC2ac, UR2kaa, UG6ab, CN8mz, YR5i, VE3aik, and W's 1md, 10oa, 1pqm, 2bnu, 2cix, 2odk, 2ggl, 2kyu, 2rdk, 2sus, 2ivc, 2pud, 4dia and 9vnd.

● QSL's Received

A. Slater: EI8J, LX1BG, OX3GC, VE5GF, VP2AT, VP2GB, VU2KB, W6QJ, W7EGR, W9DPI, ZS5U, ZS6FT.

L. J. Le Breton: All 7 Mcs.: G3AKA, G3BA, HB9CS, 1IBX, 1IC, 1IOJ, KP4BK, LA4R, OZ2UA, VE3AJX, YV5AP, W's 1GMR, KCQ, 2FOJ, ITD, 3GOL, GVS, JBB, JEV, SCB, 4ITK, JHC, 8INR, SQW, TKE, 9MUX.

J. Edwards: VE2CA, EM, 3MT; W's 1MAS, 2MMO/MM, 3KGA, 4CFO, IZT, JIP, 5LVB, DVQ, 6HES, VEG, 7BVO, 8AVU, 9IHR, oCK, FNF, MBW.

K. Russell: ET3Y, LH2A, J9AGT, VK3KX, VU2BN, W3QR/Dreamboat, 5AXP, 6MLY; ZS1CN, 6FT.

R. W. Collett: PY2OE, VS1BV, VS7FF, OX1Z, ZB1E, CN8BA, W1NWO, 21XY, 2SAI, 6MLY, 8SIR/VP9, ZS1CN and ZS6LF.

J. N. Trye: GW2BG, F9BR, VE2AB, 3QO, LX1BG, XABK and ZB2A.

D. L. McLean: 14 Mcs.: EA9AI, EL5B, KH6AI, KP4CE, LA4R, LA6G, OX1AA, PZ1W, VE4NT, VP4TB, VP4TE, VK2AGU, VQ4ERR, VP4TA, W5BGP, 6DUB, 7JHP, 8MOL, 2MMO/MM, 3QR,

5LEF/KL7; XABG, XAEU, ZD4AB, ZS6GV. 28 Mcs.: VE6RH, VP6YB, XZ2YT, ZS1CN, W5FXD, HYT, IRO, JJA, KC, KZL, 6AXI, MBD, 7JPN, DTB, BNB/KL7. 3.5 Mcs.: VO1I, W1ZE.

● Readers Reports Wanted

The following stations request reception reports from readers. 100 per cent. QSL.

G2AJ: 58.64 Mcs. Over 50 miles: 22 Beaufort Gardens, Hendon, London, N.W.

G2DHV: 14, 7 and 3.5 Mcs. CW. Any distance: 28 Longlands Road, Sidcup, Kent.

G2DRT: 1863.5 kcs. CW and 'phone: 10 South Parade, Spalding, Lincs.

G2HFP: 194 Downham Street, Blackburn, Lancs.

G3AJP: 3.5 Mcs. CW: J. D. Baker, 3 New Villas, Fritton, near Great Yarmouth, Norfolk.

G3AYA: 7 and 3.5 Mcs. CW: 64 Cavendish Road, Kilburn, London, N.W.6.

G3AZF: 181 Oakfield Road, Liverpool.

G3BGR: 7035.6 Mcs. CW: "Hill Rise," Danemore, Welland, near Malvern, Worcs.

G3HT: 59.68 Mcs.: Over 25 miles: 4 Gainsborough Gardens, Edgware, Mddx.

G4KD: 58.888 Mcs.: Over 50 miles: 35 Gibbs Green, Edgware, Mddx.

G6MN: 59610 kcs.: "Castlemount," Work-sop, Notts.

G2UK/G2ATV/G3AKA: 28, 14, 7 and 3.5 Mcs.: c/o "S.W.N."

GM3BCL: 7150 kcs. CW: 87 Braemar Place, Aberdeen.

VE1QL/VE1VB: 3511 and 3713 kcs.: R. J. Morrison, Coldbrook, N.B., Canada.

VP9D: 14 and 28 Mcs. CW: J. A. Mann, R.N., W/T Station, Daniels Head, Somerset, Bermuda.

● Topical QRA's

Collected by your scribe, with acknowledgements to Al. Slater, Roger Legge, Martin Harrison and D. L. McLean for several of those listed.

J2ANA: APO 39, c/o PM, San Francisco.

J9ACS: Det. 47, APO 331, c/o PM, S.F.

KA1SS: Signal Training School, APO 900, PM, S.F.

KL7FY: 626 ACTWSQ, APO 729, c/o PM, Seattle, Washington.

KG6AD: W. Harrison, c/o Robert & Co., APO 246, PM, S.F.

KP6AA: S. S. Barnes, Jr., Palmyra Island, c/o Postmaster, Honolulu, Hawaii.

KZ5NA: Navy 121, Box 10, F.P.O., New York.

LI2BO: RAF Station, El Adem, M.E.F.7.

OIX7: Experimental Broadcasting Station  
 OIX7, Finnish Broadcasting Co., Helsinki.

VK4NK: Radio Station VP4NK, Port Moresby, New Guinea.

VK5NR: Radio VK5NR, Katherine, Northern Australia.

VO2AD: Coast Guard Air Det., Navy 103, F.P.O., New York.

VP2MY: Box 201, Plymouth, Montserrat.

VP4TF: N. Weatherhead, 23 Carlos Street, Woodbrook, Port of Spain, Trinidad.

VP4TX: 52 Mucurapo Road, Port of Spain.

VP7NF: Box 30, Nassau, Bahamas.

VP8AI: A. S. Betts, Pebble Isle, Falklands.

VQ2AG: Box 2, Akana, Northern Rhodesia.

VQ2WP: Box 63, Chingola, N. Rhodesia.

VQ6HOJ: Cpl. Endall, 407 (EA) R/T Workshops, EAEMF, British Somaliland.

VQ8AB: Box 155, Fort Lewis Mauritius.

VS9AA: c/o 12 Elder Grove, South Shields, Co. Durham.

VS1AE: Signals Section AHQ, RAF, SEAAF.

VS1BG: Royal Signals Radio Club, c/o SEAF Signals, HQ SEAF, Singapore.

VU2CQ: 82 St. Andrews Road, Bombay, India.

VU2AD: Sgt. J. A. Rouse, Sigs. Trng. Centre (British), Mhow, India.

VU2QT: QSL via R.S.G.B.

W4BOW/J9: Det. 44, 147 AACs Sqn., APO 86, PM, S.F.

W6ONP/KW6: A. Waxman, c/o Pan American Airways, Wake Island.

XU6GRL: Dr. C. E. Stuart, Ministry of Information, Nanking.

XABU: c/o PO Box 360, Cairo, Egypt.

XACJ: Training Film Library, APO 782, c/o PM, NY.

XAAX: Sgt. W. W. Camp, Det 702, 747 AAF BU, APO 794, c/o PM, NY.

XZ2KM: 379 Dalhouse Street, Rangoon, Burma.

XZ2DA: RAF Sigs. Section, Rangoon, S.E.A.A.F.

YI2AT: RAF Station, Habbaniya, British Forces in Iraq.

YI7G: Command Workshops, REME, Shaibah, British Forces in Iraq.

ZD4AB: Box 100, Koforidua, Gold Coast.

YR5X: Box 326, Bukarest, Rumania.

ZS4H: D. Malom, 3 Maude Street, Kimberley, S. Africa.

## From our Mailbag

*The Editors do not necessarily endorse the opinions expressed by their correspondents.*

### BOUQUETS

Dear Sir,

Congratulations on the continued excellence and improvements of S.W.N. These latter seem to creep in and it is only on referring to back numbers that one fully realizes how much this magazine is progressing.

The I.S.W.L. too, has got off to a good start and it is pleasing to see its increasing services each month—and all for 1/—! Incidentally, if possible, please do not let it be run by a council. The idea of councils is good but their working and operation is all too often not what is required by the individual member.

One suggestion—might it not be possible to have an article on the obtaining of a "ticket"? Yours faithfully,

L. B. Bloom, ISWL/G45 (Bristol, 5).

*(Thanks for the bouquets. Re. I.S.W.L. plenty more services on the way! The new series on the ham ticket should meet your requirements, O.M.—Ed.)*

### DETAILS PLEASE

Dear O.M.,

I have a Philips PCR.1 communications receiver, and have difficulty in getting a circuit diagram. Can any readers help, please? Yours faithfully,

J. B. Jelliman (G546), 18 Ash Grove, Palmers Green, N.13.

Dear O.M.,

If any readers possessing MCR.1 receivers are interested in exchanging notes on the possibility of modifying them by the addition of other stages, I would be pleased to hear from them.

I would also be interested in corresponding with members interested in weather and its effect on radio. 73.

P. Lumb (G46), 25 Pearl Street, Starbeck, Harrogate.

### "THE ANNUAL"

Gentlemen,

The fame of your "Short Wave Listeners Annual" is already spreading far and wide.

I wonder if you would be kind enough to send us a copy. The resulting publicity to yourself over our various short wave stations will reward your co-operation.

F. Bernald,

Vice-President, Pan American Broadcasting Co., New York.

### Postage to Belgium

Brans Technical and General Publications inform us that many letters sent to Belgium in connection with their "Radio Valve Vade Mecum" are understamped. Please note that the rate of postage is 3d. per ounce and not 2½d.

# Broadcasting Station List

— Modifications to List appearing in the "Annual"

## Out of Commission

6095, JZH; 7645, EOU; 11770, Colombo; 8565, Munich.

## Change of Location

TGNA, 6295 kcs. now in Guatemala City.

## Change of Ownership

TGNA, 6255 kcs., now replaced by TGRA, "La Voz de Guardia Civil."

## Frequency Changes

Ponte Delgada from 4040 kcs. to 4845 kcs.; FG8AH from 5990-7445; Belgrade 6150-6095; YSR, 6270-6277; FZF6 9705-9345; Monte Carlo 6130-6150; CE960 9605-9585; CSW7 9740-9725; Moscow 15320-15360; Makassar 9360-9265; Macao 7530-7280/9265.

## NEW STATIONS AND CHANNELS

4275	...	XMAG	Nanking, China	Armed Forces Radio	
4895	...	—	Johannesburg, S. Africa	Johannesburg III	5000
4910	...	JKF2	Tokio, Japan	Armed Forces Radio	
6090	...	—	Munich, Germany	A.F.N.	50000
6095	...	TGLB	Mazatenango, Guatemala	La Voz de Mazatenango	
6130	...	—	Moscow, U.S.S.R.	Radio Centre Moscow	
6190	...	WNRX	New York, U.S.A.		50000
6700	...	YNCNN	Managua, Nicaragua	Ecos de America	
6765	...	ZNR	Aden, Arabia		500
9479	...	ORY	Ruysellede, Belgium	Radio Brussels	5000
7530	...	XGOUS	Nanking, China		
9520	...	WLWL	Cincinnati, Ohio		50000
9540	...	—	Munich, Germany	A.F.N.	50000
9730	...	XGOA	Nanking China	Central Broadcasting Station	7500
11615	...	EPC	Teheran, Iran	Radio Teheran	14000
12364	...	—	Pnompenh, French Indo China	Radio Cambode	
14840	...	LSP6	Ushuaia, Argentine		

## Want a Blueprint?

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## SHORT WAVE (HULL) RADIO G5GX.

### RECEIVER KITS

1 (Tuned) V.2. Receiver Kit

#### Specification

Circuit—Tuned R.F. stage, throttle controlled reaction detector stage, intermediate L.F. stage and steep slope output pentode.

Freq. Range—9-200 metres using plug-in coils.

Controls—On/Off switch, headphone jack, loud-speaker terminals, main tuning control with 100-1 slow motion dial, reaction control, R.F. trimmer.

Housing—The instrument is housed in a black crackle steel cabinet.

Power Supply—2 volt L.T., 120 volt H.T. The kit is complete down to the smallest detail, main holes cut in chassis.

Price—£12 12s., less batteries and speaker.

1.V.2. Receiver Kit as above but with aperiodic R.F. stage

Price—£10, less batteries and speaker.

In Stock—Q Max. V.H.F. converter, 10, 5 and 6 metre American bands.

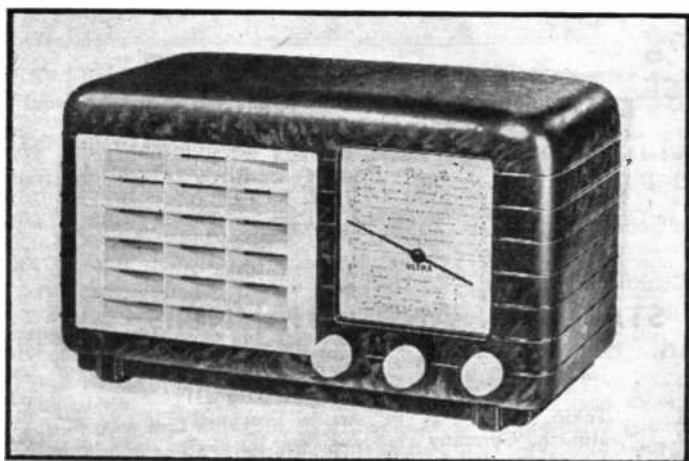
Price—£19 19s., with one coil. Extra coils 30/- each.

Further details supplied on request

## SHORT WAVE (HULL) RADIO

30/32, PRINCE'S AVENUE

'Phone 7168



## COMPONENT REVIEW

©

ULTRA Model  
EU 4052

©

(Editorial Note.—We have received many requests from readers unable to afford a multi-valve communications receiver, for editorial review on the type of receiver manufactured for domestic use, this month we publish a report on the performance of the ULTRA EU 4052 written by a well-known radio amateur.)

### Specification

**I** NPUT voltage: AC/DC 200-260 v. 40-100 cycles. Consumption: 60 watts. Waveband coverage: 545-1500 kcs. and 1000-18800 kcs. (200-550m. and 50-16m.) Tuning: By cord driven reduction unit. Circuit: 8 stages with 5-valve complement. The line-up is X76M (1st Det/Osc.), KTW76M (I.F.), DH76M (Det/AVC), KT76 (Audio) and U76 (Rec.) Audio output is 2 watts at 7 per cent. distortion.

Further technical details are: Delayed AVC on both RF and IF stages: A Sensitivity of 5-15  $\mu$ V. Selectivity (bandwidth) of 20 kcs. at 40 dB. down. Speaker is 5in. energised MC.

Measurements are 12 in. (length) x 5½ in. (depth) x 7 in. (height). Weight is 8½ lbs.

### Performance

The writer has spent many hours cruising the ether waves with a model EU 4052 during the past few weeks. The object, apart from that of entertainment, of devoting so much time was to discover to what extent it was possible, *with the normal 20 foot aerial as supplied* to receive stations from world-wide countries. It should first be stated that the model was in no way specially prepared and was in fact taken at random. The tests were carried out at Hampton Court, close to London, at a fairly low elevation in the bedroom of a suburban house. The aerial was uncoiled from the bobbins at the back

of the set and run, without special care, around the picture rail. At no time during the tests were extraordinary hours kept and there was no "burning of the midnight oil."

It became apparent on the very first evening that the set had a high short wave performance. A quick "run over" the medium wave range revealed that performance was at least equal to many bigger sets. Over the past ten years the writer has had considerable experience in operating receivers of all types, both commercial, domestic and communications. It was, therefore, with great pleasure that the sensitivity and selectivity was found to be of a high order.

Being quite satisfied that the medium wave performance could not produce anything more than the normal limitations of these frequencies, attention was turned in detail to the short waves. Reception was excellent. Four continents were received at full room loudspeaker strength in less than 15 minutes. Stations like New York, Delhi, Brazzaville, Sackville, Melbourne and Colombo were received comfortably and without any undue "finesse" in tuning being necessary.

It was found, over succeeding weeks, that reception from the U.S.A. was received consistently throughout the day, at a strength that filled the room. Other stations of notable strength were Lourenco Marques, Rabat, Tangier, Accra, Teheran, Aden, Ankara, Quito, Rio de Janeiro and so forth. Weaker, but nevertheless, at good loudspeaker strength were stations like XGOY, Batavia, Saigon, CXA19, LRY1, many of the Cubans, Dominicans and Brazilians. Although the intention of these tests was not primarily intended to log DX as such, many of the lower-powered

stations were heard at sufficient strength to be of entertainment value. In this category were logged KZRM, ZBW3, TGWA, XORA, etc.

It would be pointless to enlarge further as it will be evident to the reader that world-wide reception is not only possible but a fact on this receiver. Although not much time was spent on the 20 and 40 metre amateur bands, it was evident from the brief visitations to these bands that the performance reached quite high levels. Excellent 'phone signals were logged from all continents with comparative ease. Despite the rather "narrow" bands, unavoidable in a receiver without bandspread-

ing, tuning was not the "juggling act" it sometimes is with similar sets.

One last note: This receiver is actually an export model, but can be supplied to readers of the "S.W.N." by special arrangement with the manufacturers. For the information of overseas readers, we would point out that the station-name dials are available for most parts of the world (i.e. the dial supplied names stations better heard in a particular locality).

At the price—£13 7s. 6d., plus £3 tax—this receiver is a good investment for SWL's who devote their attention solely to telephony transmissions.

## BOOK REVIEW

**RADIO RECEIVER SERVICING & MAINTENANCE.**—By E. J. G. Lewis, M.Brit.I.R.E. Pp 324 - Xii., Illus. 4th Edition. Sir Isaac Pitman & Sons, Ltd., London. 8s. 6d. nett.

The 4th revised edition of a most popular book which first appeared in 1933, this present volume contains over 300 pages crammed with most useful information, and well illustrated with photographs and line drawings. The opening chapter deals with fundamental considerations, and then follows others on valves and their faults, basic circuits—including such items as circuit couplings, A.V.C., tuning indicators and so on—and servicing equipment—ranging from valve adaptors to set analysers, bridges, test meters, service oscillators. One surprising omission, here, is the lack of any reference to cathode-ray equipment. Your reviewer admits that he never had the benefit of such gear during his many years as a serviceman, and that he was not seriously incommoded thereby. Still, there were many occasions when it would have saved much unnecessary labour and expense.

The comprehensiveness of the book is well illustrated by the fact that the following chapter, on component testing includes a note on accumulators! Fault location is tackled next, and then come chapters on superhet receivers and all-wave receivers. Other subjects covered by the book are: aerial and earth systems, interference, press-button tuning, automatic frequency control, speakers, gram. pick-ups, motors and changers. The final chapter is devoted entirely to midget receivers, including those of the "personal" type.

Altogether, this is a most useful publication for those readers who are interested in servicing or construction. The latter's job

does not always come to an end when the actual building is completed. The receiver, sometimes, still has to be made to work!

C.W.O.

### THE "SHORT WAVE NEWS" QRP CONTEST

Conducted by Mal. Geddes, G2SO

Preliminary details of the QRP Contest have now been arrived at. It is proposed to hold the contest one week in June or July. The main conditions are that (a) power is restricted to a standard 120V. battery; (b) Contestants may use any, or all, bands from 1.7 Mcs. to 14 Mcs.; (c) Signals with T7 note, or under, will be disallowed; (d) Contest is open to amateurs within the British Isles.

Complete details will appear in our next issue, but the above notes will assist prospective contestants in the preparation of their gear. If you are interested in genuine QRP work, please support the contest—we intend to inaugurate a QRP Section in the magazine if the response so justifies. If you have not already done so, write now and let us know your views.

(I.S.W.L.—Cont. from p.101)

**Local Activity:** The Portsmouth TR (R. Masters, 62 Battenbury Avenue, North End) is anxious to form a Chapter and invites co-operation from local members.

The Chelmsford and District Chapter is now proposed, and members in the neighbourhood should contact their TR for further details (W. C. Mills, 3 Elm Cottages, School Lane, Broomfield).

## SMALL ADVERTISEMENTS

Readers' small advertisements will be accepted at 3d. per word, minimum charge 3/-. Trade advertisements will be accepted at 6d. per word, minimum charge 6/-. If a Box Number is required, an additional charge of 1/6 will be made. Terms: Cash with order. All copy must be in hand by the 10th of the month for insertion in the following month's issue.

**QSL CARDS, Short Wave Listeners' and Full Call Samples Free.** Send S.A.E. to G6MN, Worsop, Notts.

**ODEON RADIO, HARROW.** All components, complete equipment, test gear and technical books for transmitting amateurs, short wave listeners and experimenters now obtainable from 56 College Road, Roxborough Bridge, Harrow (2 minutes Harrow Met.) Prompt repair and re-alignment of communication receivers Personally supervised by G4HV. Postal enquiries receive immediate attention. Open 9 to 6.30 daily, including Saturdays. Odeon Radio, Harrow.

**WANTED.** Copies 1, 2, 3 of "Short Wave News." State cost to R. G. Holland, 35 Bladindon Drive, Blendon, Bexley, Kent.

**SEND 2d. stamp for complete bargain list.** Examples, Yazley type switches 1/-, 1mA. Rectifiers for meters 2/6,  $\frac{1}{2}$  Amp. for chargers 5/-, 300 v. 60 mA. 5/-, Volume controls 1/-, Thermo 0.5 Amp. meter 8/6, Resistors 1W. 6d.,  $\frac{1}{2}$  W. 4d. All Short Wave Components. Carter's 67 Bell Lane, Marston Green, Birmingham.

**BLUEPRINTS—0-v-0, 0-v-1, 0-v-2, 1-v-1.** Full coil winding data, point-to-point wiring. All Lab. tested, 2/- each. Page Instruments, 51 Dudden Hill Lane, N.W.10.

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**A WELL-KNOWN** technical publishing house will be pleased to consider manuscripts for publication, dealing with all aspects of Radio and Television. Treatment of subject should be moulded on practical lines, with emphasis laid on data for the actual construction of apparatus. Manuscripts should be of 10,000 words and upwards, and should be submitted complete with finished or rough drawings. Box AC16562, Samson Clarks, 57/61 Mortimer Street, W.1.

**EAST ANGLIAN HAMS.** All components for receivers and transmitters, crystals, test gear valves. Authorised distributors for Hamrad, Raymart, Eddystone, Labgear. No lists yet but all enquiries dealt with promptly, send stamped addressed envelope. Newson, G3GY ex-G2GF, 28 Market Place, North Walsham, Norfolk. Telephone 219.

**QSL CARDS.** Send for free samples. G2DJA, 137 Randall Avenue, London, N.W.2.

**SWAP two QCC crystals, 1883 and 1933 kcs.,** for any others between 1750-1815, 1845-1900 or any 3.5 or 7 Mcs. frequencies. Cash adjustment if necessary. Write Box 1010.

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**URGENTLY** required numbers one and two of volume one "Short Wave News." Quote own price. Box 1016.

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Suitable also as an exciter for the Q.R.O. "Ham" we feel the 28VX is what you have been waiting for.

We take pleasure in announcing advance details of the

**28 V X V.F.O. Exciter/PA.**

An efficient compact VFO Exciter/PA unit with an output of 25 watts and with own power supply incorporated.

PRICE **£29 10s.**

*complete in chassis form*

A brief specification is as follows:—

The 28VX is an Exciter/PA unit incorporating VFO. It has an output of 25 watts. When used as a complete transmitter it is a compact unit, power supply being on the same chassis. The stability is good, and T9 reports have been received on all contacts. Coverage, 80 metres, 40 metres, 20 metres. Circuit—VFO—Exciter/PA, valves being 6F6, VFO—807, PA. Voltage stabilisers are used to ensure the maximum stability, provision for key and modulation also being provided. Link coupling to the aerial is brought out to two terminals. The chassis size is 12" x 10", with an overall height of 10". One set of coils is provided to cover the respective bands.

### DELIVERY

—a limited number for immediate delivery against first orders; subsequently 14 to 21 days, although we shall strive all the time to do better than this.

The product is good—the price is very reasonable—post your order **NOW.**

YES! we are designing a 150 watt PA as an add-on unit for the above. Full details will be advertised when available.

## Vallance's

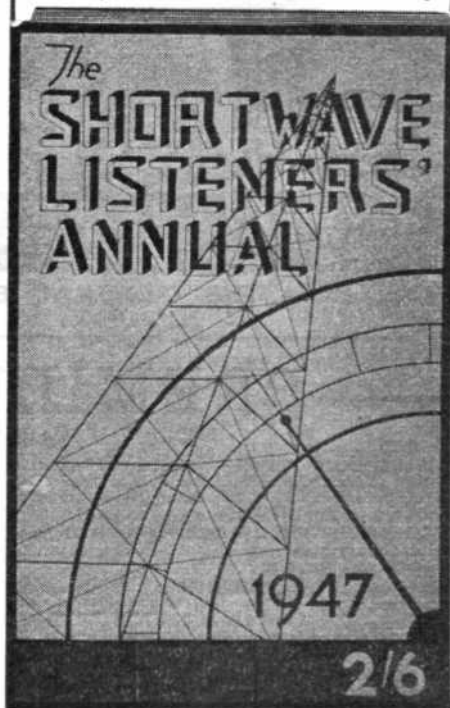
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