SHORT WAVE NEWS

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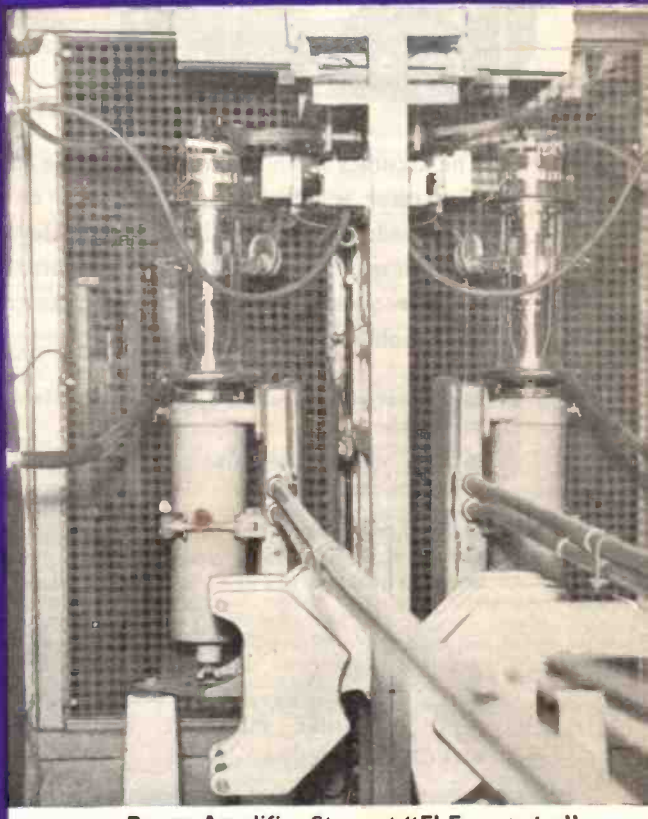

Power Amplifier Stage at "El Espectador"

AN AMALGAMATED SHORT WAVE PRESS PUBLICATION

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Short Wave News

Vol 2 No 10 Annual Subscription 16/- October, 1947

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Editorial

EXACTLY one year ago, the "Short Wave News" carried the formation announcement of the International Short Wave League. This announcement was followed by some ill-mannered yelpings from certain quarters which will be remembered by many members. Though our mailbag proved that the feeling was rather high with regard to these outbursts, we ourselves were not unduly alarmed. We felt that in due course we would be able to produce evidence that the uncalled-for comments were just wind. On the occasion of the League's first anniversary, the time has come when a little fact-finding will adequately answer previous accusations.

The first question that arises is "Was the formation of the I.S.W.L. justified?" Many people were of the opinion that a new League was not needed since several were already in existence, in varying forms of activity and non-activity. These doubts can now be eliminated, for in our first year we have enrolled over 1,300 members in 42 countries throughout the world. That, in itself, is surely evidence that a new League of this character was needed.

Next comes the query "Has satisfactory progress been made?" Again we can come right to the point. During the past twelve months we have formed the following services for the benefit of members: International Correspondence Bureau; Translation Services, covering 18 languages; Technical Query Services, covering home-built receivers, test gear, television, station layout, mechanical construction, valve data and ionospheric problems; a Broadcast Station Query Service unparalleled anywhere for its scope and facilities; a fine two-way QSL Bureau, which is the only one in the world to cater for the BC station fan; a Ham Exchange Holiday Scheme and a QRP Club for the transmitting members. With the exception of the QSL Bureau Outgoing sections these services are entirely free to members. We challenge anyone to produce facilities even equal to the above. Also on the credit side is the fact that our membership fee will remain at only one shilling a year!

The next logical question is "Are the members fully co-operative?" The answer to this one is to be found in the energy of the local representatives (numbering around 80) and members who have formed Chapters throughout this country and overseas in Palestine, Sudan and India. The atmosphere to be found in the local groups speaks for itself. We also get a good idea of the general enthusiasm from the large mail we receive from members scattered throughout the four corners of the earth. There is no doubt at all—the spirit is quite definitely there.

We get accused, from time to time, of being a "commercial" League as against being purely "amateur." It is known that many in the past have been chary of joining the League for this reason. These gentlemen are sadly misled. The extent of the so-called commercialism is that the I.S.W.L. is sponsored by this magazine and has its monthly notes in these pages. There any suspicion of commercialism ends. This magazine places time, equipment and staff at the disposal of the League, gratis. The services are run by members themselves, all unpaid in any form whatsoever. Members' stationery supplies are not sold with any profit motive. In short, since no one derives

(Cont. on p.254)

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

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

CHEQUES and Postal Orders to be made payable to "Amalgamated Short Wave Press Ltd."

ALL CORRESPONDENCE should be addressed to "Short Wave News," 57 Maida Vale, Paddington, London, W.9. Telephone CUN. 6579.

any remuneration from any form of League activity we fail to see how it can be commercial! And if anyone can show us how to make a profit on the annual subscription fees we would be very interested indeed!

One misinformed member claimed that the I.S.W.L. was merely a "stunt" in order to boost the sales of "S.W.N." There are two answers to this accusation. Firstly, before even the thought of forming a League entered our minds the demands for copies of the magazine greatly exceeded the supplies. With so many clamouring for copies any form of stunt publicity was unnecessary. To be perfectly frank, any extra demand for the magazine means to us not further sales, since we always sell out completely, but a rather large embarrassment. Secondly, if we were launching a campaign to boost sales, we would approach it from an angle that did not involve quite so much work!

Another accusation is that we are competitive. This has not come, by the way, from the R.S.G.B., with whom we have established friendly relations. As was stated on formation, we are NOT competitive and we intended to supplement existing organisations. It was pointed out that our aims were wider than existing organisations since our outlook was International rather than National. In other words, we were not out to cut anyone's throat. Sad to say, the ham spirit has a habit of going into retirement at the critical moment and very few organisations appear to be willing to show tangible evidence of **friendly** co-operation. We would like to give thanks to those societies who have shown in a practical way their understanding and ability to co-operate without caring for anything apart from the promotion of the ham spirit. These societies include the R.S.G.B., the Universal Radio DX Club (California), and the New Zealand DX Club.

Also on the appreciation list we have the Leicester Tele-communications Laboratory which has proved a good friend to the League and the amateur world generally by placing facilities at their disposal that have been long overdue. Ken Boord, DX Editor of Chicago's "Radio News" is a true friend of the amateur radio fan and we applaud his willing and wholehearted co-operation. The various overseas national societies who have entered the spirit of things must have a word of thanks, too. No list of appreciation would be complete without acknowledgment to all the local representatives who have given so much of their time to the League despite the sometimes very heavy going (remember that most had to start right from scratch).

Going back to the original theme, our answer to the question of whether we are competitive is simply:—We are not out to squash any existing organisations, but if the supplying of good services and facilities, at small cost; constitutes competition then we are surely competitive! Maybe the services offered by the I.S.W.L. will stir some stagnant organisations into offering more value; if this occurs then we will be perfectly happy in the knowledge that the SWL's, BCL's and transmitters are getting a better deal.

To wind up, there must be some mention of further activities. What do we plan for the future? Broadly speaking we anticipate that the next year will see a further consolidation of the League's position in the short wave world. Remember that we are still a young society and it is folly to try to run before you can walk. More services will undoubtedly be forthcoming and various other attractions come into being, but we are not going to plunge ahead without thought.

The League had, quite naturally, its teething troubles, but the infant that caused such a stir a year ago this month is growing rapidly into a very healthy youngster. The I.S.W.L. has probably made greater progress in all directions than any other similar society during the course of its first year's activities. This progress will continue assuredly.

Thus we close Chapter One of the I.S.W.L. The next Chapter will depend on many circumstances, but we feel certain that progress will be comparable to the first year. Suggestions from members on any aspect of League activity are very welcome, and it is up to you, the individual members, to say exactly what you want. So thank you all for your fine support during our critical first year and we look forward to sharing future successes with you.

W.N.S.

V.H.F. News

Future VHF Amateur Band Allocations

FROM Ed Tilton, via G6DH, we learn that the following higher frequency allocations have been conceded at Atlantic City for amateur use:—

28-29.7 Mcs.	World wide amateur use.
50-54 Mcs.	Amateur use in America, VK, ZL and ZS.
144-146 Mcs.	World wide amateur use.
146-148 Mcs.	Additional amateur assignment in America, ZL and VK.
220-225 Mcs.	Amateur use in America, ZS and China.
420-450 Mcs.	World wide amateur use.

It will be noted that no provision is made for an allocation in the 50-54 Mcs. range in Europe, but we gather that as regards this country, at any rate, representations beting made by the R.S.G.B. to the G.P.O. are likely to result in a continuation of the present 60 Mcs. band, provided interference with television can be avoided.

The most interesting feature of the new allocation is the world wide band of 144-146 Mcs. This will make possible a logical jump from 60 Mcs. and as G2XC remarks, "planning for 144 Mcs. can get under way." This news will certainly be welcomed by the VHF gang as activity on 60 Mcs. has been flagging somewhat recently. Whether this is due to the uncertainty of the continuation of this band, or whether the novelty of the band has worn off is difficult to say. In a letter on this point, G5BD says:—". . . a good many of the known stations have worked all the other known ones lots of times and have departed for other bands. What is required now is new blood in large quantities so that there would always be activity no matter how bad conditions were. As it is, it seems useless being on except between nine and eleven thirty in the evenings."

As has happened before in the history of amateur radio communication, we are being forced higher and higher. Which in our opinion is a very good thing. As soon as the fate of 60 Mcs. is definitely decided, we suggest that those who find life too unbearable on shared 3.5 and 7 Mcs. bands and a reduced 14 Mcs. band, get going on 60 Mcs., prior to joining the real VHF enthusiasts on 144 Mcs.

VHF DX

Those who have had experience of VHF propagation in the Services will agree that the future of the 144 Mcs. amateur band is likely to be similar to what has happened on 60 Mcs. Examples of DX signals on frequencies much higher than 60 Mcs. can be quoted by many and only recently one of our readers—P. J. Jooste—wrote giving details of some DX on 140 Mcs. An R.A.F. D/F station in Dundee has been hearing almost nightly from 9 p.m. until 1.30 a.m. an R.A.F. 140 Mcs. station in North Africa. Many other similar examples have been quoted from time to time and we feel that 144 Mcs. will have its DX thrills in the same way as 60 Mcs. has done.

BBC FM Transmissions

We understand that the BBC are now conducting experiments with FM gear from Borough Hill Station, Daventry. The aerial is on top of one of the old masts. Frequencies in use are 49.2 Mcs. and 90.2 Mcs., and transmissions take place daily from 1630 to 2300 BST.

Latest Six Metre DX

VK5KL in Darwin worked W7ACS in Pearl Harbour, Hawaii recently. Signal strengths were S8 both ways.

The Month's Conditions

Sporadic E. Sporadic E contacts are decreasing. Up to September 14th, the last Sporadic E contacts made by G2XC were made on August 28th when QSO's were had with SM5SI, SM5FS and SM5KD.

G5BD also reports August 27th-28th being last Sporadic E period. He worked F3HL (Nice) at 1300 GMT on the 27th.

Tropospheric. "Conditions have been generally fair with some good peaks. Fading has however been prominent on many evenings and somewhat spoilt some of the contacts. I think September 10th was probably the best evening, although fading was very prevalent. The evening of August 28th, produced remarkable strength from G6DH with Eileen on the mike, but the good conditions on that evening seemed to be confined to the south east areas, as I heard no northern DX."—G2XC.

General Activity

The following have been reported active on the band:—**G2AJ,** ATK, ADZ, AK, BKZ, BJY, CPT, FKZ, IQ, NH, RI, RT, TK, VH. **G3AAT,** ABA, APY, BK, BLP, BY, BXE, IS, NR, DG, PZ, WD, WW, ZK. **G4AP,** BI, IG, LU. **G5AS,** BD, IG, JU, LJ, MA, MQ, UM. **G6BX,** CW, DH, KB, MN, OS, VD, XM, YO, YQ, YU. **G8IC,** JV, KL, KZ, SH, QM, UZ, WL, WV. **F3HL,** 8ZF. **HB9CD, I1BR,** DA, JG, RA, UG. **OK3IT,** 4IDT. **ON4KN,** ON5G. **PAoOKK,** PAoPN. **SM5FS,** KD, SI.

Control room at Motala

Around the Broadcast Bands

Monthly survey by "MONITOR"

All times are given in G.M.T.

(For BST add one hour; for EST subtract five hours; for AEST add ten hours.)

MANY reports have been received by your scribe over the past month and my only regret is that we cannot include them all in this issue. Conditions have been fair here in the West of England. News and reports for this column are always appreciated and should be addressed to: Monitor, c/o "S.W.N." Now for the news.

● **South America**

Argentina. T. B. Williamson (St. Albans) sends in an excellent log of stations heard which includes the following:

"Radio El Mundo" Network: LRX 9660 kcs. R7 QSA4 at 2300 with frequent mention of RCA Victor. LRX1 6120 kcs. R5 QSA4 at 0000 and relayed by LRM Mendoza on 6180 kcs. being R6 QSA4 at 0025.

"Radio Splendide-Cadena Red Argentina" Network: LRS 9315 kcs. R7 QSA4 at 2335 with CW QRM. LRS1 6065 kcs. R5 QSA4 at 2315 Also on their frequency of 11970 kcs. R7 QSA4 at 0150 and heard playing "Rhumba Negre."

LRR 11880 kcs. was heard at R6 QSA3 at 2355 "Radio Ovidio Lagos."

LRY 9455 kcs. R6 QSA4 at 2330 "Radio Belgrano" relaying LRA1.

LRA1 9690 kcs. R6 QSA3 at 2305 "Radio del Estado."

T.B.W. uses a SH7 with 100 ft. inverted "L" aerial which certainly gets the DX. From New Zealand Arthur Cushen of Invercargill reports hearing LRS2 on a new outlet 11970 kcs. to 0400 and still using 9315 and 5995 kcs.

Ecuador. Sidney Pearce (Berkhamsted) reports HC4EB "Radio Manta" on 6870 kcs. and well heard until sign off at 0330 with march. He says they QSL by Registered Air Mail. QRA: Radiodifusora Radio Manta, Estacion HC4EB, Apartado 69, Manta Ecuador.

Pearce tells me that the aerial he uses there is simply a few yards of flex along the picture rail! So now you know fellows!!

HCJB Quito is back on 6280 kcs. from 6359 kcs. but not so strong on this frequency states Cushen. HC2AN-HC2DC has been heard with fair signals on 7350 kcs. on Sundays to 0600 also by him. Williamson states that HC4EB is a reliable signal most nights and heard by him R4-6 at 0330. Voice modulation appears to be weak compared to music.

Paraguay. ZPA5 Encarnacion 11945 kcs. R6 QSA4 at 2300 heard calling Asuncion with patriotic speeches and trumpet fanfares . . . all the excitement of the revolution in typical Latin American style! (Williamson).

Peru. OAX4V "Radio America" Lima 5945 kcs. heard R6 when closing at 0445. Verifies by letter. QRA: Cia Peruana de Radiodifusion S. A. Casilla 1192 Lima Peru. (Pearce). OAX4Z Lima 5895 kcs. "Radio National" R6 QSA4 at 0115 also OAX2A Trujillo 5620 kcs. R6 QSA3 at 0045 with piano music. Heavy CW QRM on latter at intervals. (Williamson).

Uruguay. CXA30 Montevideo 6035 kcs. heard R7 QSA4 at 2310. Call given as "Radio Nacional de Montevideo CX30 y CXA30." CXA3 Montevideo 6075 kcs. R6 QSA4 at 2340 Call "CXA10 y CXA3." CXA19 Montevideo 11835 kcs. "El Especta-

dor" heard relaying "La Voz Revolutionario del Rio Plata" (presumably a Paraguayan War station) at 0230. All reported by T. B. Williamson.

Venezuela. YVKB Caracas heard on approx. 6650 kcs. at 0040 with R7 QSA 4 signals. Call is "Radiodifusora Nacional de Venezuela." (Williamson).

● **Australasia**

New Zealand. Two new 10 kW transmitters are expected to open up the short-wave service towards the end of the year with frequencies in the 19, 25 and 31 metre bands, bearing of aerial being on Australia. (Cushen).

Radio Waiouru ZLO 6800 kcs. operates 0645 to after 0930. Studios are at an army camp. (Radio News).

Australia. "Radio Australia" BC to British Isles and Europe 1745-1915 used VLC8 7280 kcs. for short period before replacing with VLB 9540 kcs. (jammed). VLA8 still in parallel. Best BC to British Isles 0615-0730 over VLA6 15200 kcs. and generally R8. (Pearce).

● **Asia**

Ceylon. H. Westman (Upington, South Africa) whom we welcome to this column reports ZOH Colombo 4900 kcs. with strong signals relaying BBC news at 1600.

Palestine. Forces Broadcasting Service Jerusalem 7250 kcs. well heard with fine programmes from 1630 onwards. (H. Westman). Pearce has QSL which states schedule as follows: From Aug. 1st work on 7220 kcs. Mon., Tues., Thurs., Fri. 0430-2100. Wed. same but also to 2300. Sun. 0430-2300.

Macao. CR8AA? "Radio Clube do Macao" 9500 kcs. has fair signals around 1300 to 1400. (Westman).

Tabriz. "Radio Azerbaijan" 12180 kcs. heard at 1915 giving eastern type music followed by chimes at 1930 followed by western dance music on records, station identification and short news bulletin and single gong stroke. Closed at 2000 with what appeared to be National Anthem. Signals were R5 QSA4. (J. Simpson).

Philippines. KZPI verified to T. B. Williamson with nice card (white with red call letters and black printing). Frequency 9710 kcs. Power 250 watts to an ½ wave aerial. QRA: Philippines Broadcasting Corporation, "Radio Philippines" Manila. According to Cushen they have now 4 stations in service: KZPI on 800 and 9500 kcs. (?), KZOK on 1000 and 9690 kcs. KZOK on 9 Mcs. uses 250 watts and KZPI also same power. Schedules are KZOK 24 hours daily with maintenance period Sat 1600-2130 when they are silent. All programmes are in Spanish or Tagalog (native language) except 1600-2130 which are in English. Short wave TX came into use on July 1st. KZPI is now on 9500 kcs. 220-1600, all English except Sat. 1600-1600 (Sun.) when they run a 24 hour service during KZOK maintenance period. Has staff of over 60 on PBC. A FM station is to start up shortly on 101 Mcs.

Java. Batavia uses all transmitters for news in English on 15145, 10380, 10060, 9555, 6175, 4860 and 3015 kcs. (Cushen). "Radio Batavia" heard with very good signal in English at 1430-1500 on 15 Mcs. channel. This frequency carries BC to Dutch Forces from 1500-1600. In parallel at 1430 on 11440 kcs. but not heard carrying programme for U.S.A., Malaya, Australia and New Zealand. Broadcasts 1600-1700 in Dutch and English. Variable signal over PMA 19345 kcs. and poor over PLA 18600 kcs. (Pearce).

R8 signals from PLA. Requests reports. (J. Simpson). PLA and PMA heard with talk at 1645 entitled "Current facts and information about Indonesia." Signals were R7 QSA4. Transmitters closed down at 1700. (R. Thomas).

● **North America**

U.S.A. (West Coast). Bob Iball of Worksop sends in schedules as copied over the air from KCBR 17780 kcs. as follows:

Station	Freq. in kcs.	Schedule	Beam
KCBA	21460	2200-0430	Philippines & S.W. Pacific
	15150	0500-0815	Alaska/Aletuens
	9750	0900-1400	Philippines/S.W. Pacific
KCBF	21740	2200-0430	China/Japan
	11810	0500-0815	Aletuens/Alaska/China
	9700	0900-1400	China/Japan
KCBR	17780	0430-0845	China/Japan
KGEI	15130	0615-0845	S.W. & Middle Pacific
	15130	2200-0045	Alaska/Aletuens
	21490	0100-0600	S.W. & Middle Pacific
	15210	0900-1400	S.W. Pacific/Philippines
KGEX	17880	0315-0845	Same
KNBA	21630	0115-0700	China/Japan
KNBI	17850	0115-0700	South & Middle Pacific
KNBX	15330	0315-0845	China/Japan
KWID	9570	0315-0645	Alaska/Aletuens
	11900	0700-1130	South & Middle Pacific

Bob has logged KGEI with R7 QSA5 at 0645-0845 and KGEX R6 QSA5 with flutter QSB at 0345-0400. A. Baldwin (Leytonstone) records KWIX 7230 kcs. with station call at 0545 "Voice of Education and Information."

U.S.A. (East Coast). Bob Iball mentions hearing WLWS 21650 kcs. at 1930-2000 with R8 QSA5 signals giving foreign programmes.

WNRX 21730 kcs. was logged at 1915-2030 at R9 QSA5. Bob states that DX conditions on Aug. 1st, were very erratic on

the 21 Mcs. Band. WNRX was R9 until 2005 and signals varied from R9-R2. Other U.S.A. stations on 21 Mcs. also had drops in QRK, while BBC stations did not drop in signal strength they had a severe echo effect on them, being R8 QSA5.

● **Europe**

Andorra. Radio Andorra 5980 kcs. heard giving English session at 2200-2220 and asking for reports and suggestions. Best signal from Europe and most consistent. (A. Baldwin).

They are also heard with very powerful signals in South Africa according to H. Westman.

Albania. "Radio Tirana" Tirana 7850 kcs. gives English news nightly at 2015. Has high pitched chimes as interval signal. (Westman).

Spain. Madrid now uses 9369 kcs. for 2000 English programme and suffers from jamming. All letters answered states R. Thomas.

● **Africa**

Portugese West Africa. Angola. "Radio Clube do Angola" Luanda 9470 kcs. heard nightly from around 2015 until sign off with "A Portuguesa" (National Anthem) at 2100. Suffers QRM from TAP Ankara. (Pearce).

Spanish West Africa. Fernando Po. New super power station will be completed in about 17 months. Transmitter site of 60 acres at Mosula 40 miles west of the capital city of Santa Isabel. Call will be "Radio Atlantic." Power 200 kW. beamed to Europe, Africa, U.S.A. and South America. Programme will be mainly in Spanish, English, German, Portugese, Italian and French and given in the 13 and 17 metre Bands. Record library to start with 55,000 discs! (Radio News).

Portugese East Africa. Mozambique. CR7BJ 9645 kcs. "Radio Clube do Mozambique" Lourenco Marques. Verifies on back of card similar to CR7BE only chocolate coloured and with big call letters CR7BG. (No call sign is given in list). (Pearce).

Belgian Congo. Leopoldville. Belgian Nat. Bcg. Service. BC to British Isles 2030-2145. Now on announced freq . . . 17745 kcs. . . .OTC5. (Pearce). Bob Iball says it is subject to QRM from WRUW Boston on 17750 kcs. This reader sends along schedule recently received with QSL as follows:

First transmission on 17745 kcs.—

1800-1900 in Dutch to Netherlands and S. Africa. 1900-2030 French to France, Switzerland and Fr. Union. 2030-2145 English to Great Britain and Brit. Poss. in Africa.

Second transmission on 9745 kcs.—

2200-2300 in Portugese to Brazil. 2300-0000 French to Canada, W. Indies and Latin America. 0000-0030 French "Belgium Calling her Countrymen in the World." 0030-0100 Dutch. 0100-0200 Spanish to Mexico, Central and South America. 0200-0400 English to U.S.A. and Canada. Close down at 0400.

● **Central America/West Indies**

Surinam. DWI. PZH5 5845 kcs. heard at 2345 R6 QSA4 with call "Avros Paramaribo." (Williamson).

El Salvador. YSPB San Salvador 6150 kcs. R7 QSA3 at 0500. Call "La Voz de Cuscatlan." Quality poor. Programme consisted of dance records. (Williamson).

Haiti. HH2S Port-au-Prince 5950 kcs. R4 QSA3 at 0130 with call "Ici la Station HH2S Port-au-Prince Haitide la Societe Haitenne de Radiodiffusion." (Williamson).

Honduras. HRP1 San Pedro Sula 6350 kcs. heard at 0300 with R6 QSA3 signals. Sometimes has commentaries on games in English around 0400. "El Eco de Honduras." (Williamson).

● **Country Panel**

Apologies to all for the horrible though obvious blunder last month, by giving Peru in place of Bolivia. In view of this and my colleague "C.Q's" MB9 episode we are thinking of running a contest to see who can drop the biggest brick during the course of a year!

● **I.S.W.L. Broadcast**

Just a reminder that the Dedicatory programme over Radiotjanst takes place on OCTOBER 12th (Sunday) at 1930-2000 GMT. Frequencies are 10780 kcs. (SDB2) and 15155 kcs. (SBT). Closing date for reports is October 19th. Hope you all have good reception and please do not forget to send in your reports to I.S.W.L. Headquarters.

● **Acknowledgments**

Sidney Pearce BSWL 336 (Berkhamsted, Herts.); Arthur Cushen (Invercargill, N.Z.); T. B. Williamson ISWL/G247 (St. Albans, Herts.); Bob Iball ISWL/G941 (Langold, Worksop); John M. Simpson ISWL/G879 (London, N.W.6.); R. J. S. Thomas ISWL/GW1069 (Milford Haven, Pembroke); Radio News (U.S.A.); H. Westman ISWL/ZS993 (Upington, S.A.); A. Baldwin ISWL/G193 (London, E.11.); also thanks to the other readers who have kindly sent in reports and news which has to be held over due to space limitations.

73 and good listening from your scribe.

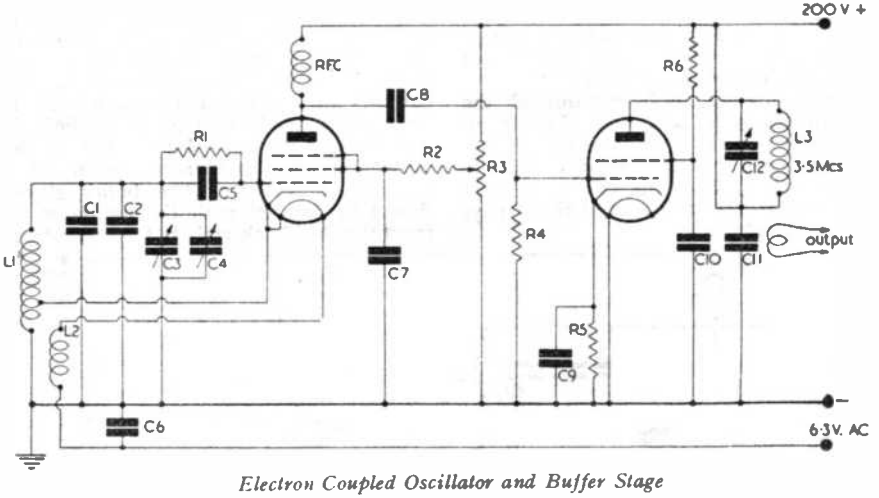
Variable Frequency Oscillators

By Dr. S. O'Hagan, G2CR.

(This article concludes the review of V.F.O's and their respective merits and peculiarities. The first part of this article appeared in last month's issue).

The Electron-Coupled Oscillator. This has been a favourite for many years and when properly adjusted gives results as good as any. Unfortunately, the gridleak has a marked effect on stability and this has only recently been recognised by the amateur fraternity. With this circuit, a leak resistance of not less than one megohm is essential for best results, since it makes the other adjustments for stability much less critical.

There are two adjustments that must be made individually for each oscillator built; the cathode tap must be set so that changing H.T. supply voltages have least effect on frequency, and then the ratio of screen and anode voltages must be set to completely eliminate frequency shift over a supply voltage range of ±20 per cent. The variation in supply volts can be produced by using a fairly high resistance in series with the supply and cutting it in and out of circuit as required. Start with a screen voltage of about three-quarters of the anode voltage and adjust the cathode tap. Start with the cathode tap about one-quarter of the way up the coil and observe which way the frequency shifts when the supply voltage is dropped by the series resistor. If the frequency increases with a drop in supply voltage then the cathode tap is too high, if the frequency decreases, then it is too low. This adjustment should be made to a fraction of a turn using a



Electron Coupled Oscillator and Buffer Stage

C1 80 μμF. Temperature compensating
C2 560 μμF. Silver mica padder
C3 125 μμF variable
C4 30 μμF. Calibration trimmer
C5 100 μμF. Silver mica
C6, 9 0.01 μF mica
C7, 10, 11 0.002 μF mica
C8 100 μμF mica
C12 60 μμF air-trimmer

R1 2 M~ ½ watt R2 15000~ 1 watt
R3 20000~ 10 watt R4 0.25 M~ ½ watt
R5 1000~ 2 watt R6 40000~ 2 watt

L1 22 turns, 24 D.C.C., close wound on 1⅛ in. dia. ceramic former tapped at 5th turn.

L2 5 turns, 24 D.C.C., interwound with lower end of L1.

L3 45 turns, 24 D.C.C., on 1½ in. dia. former.

Link (for L3) 6 turns.

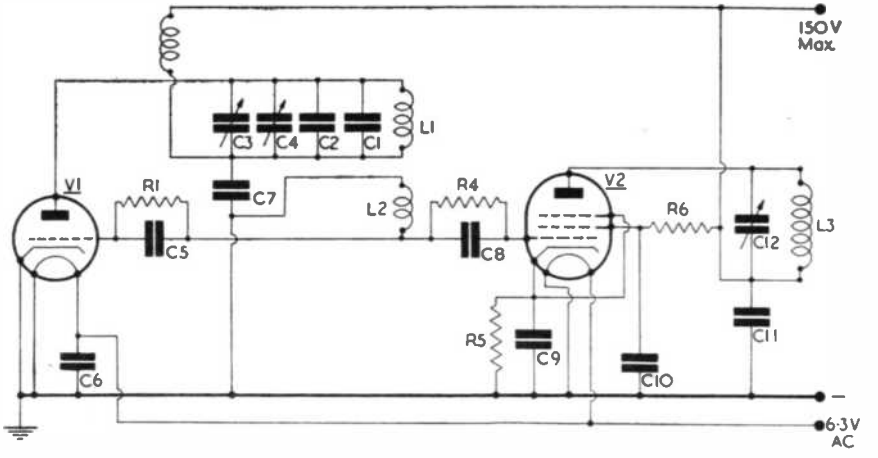
temporary coil and the heater of the valve earthed at one end and bypassed to earth at the other. When the proper point has been found the permanent coil can be wound, and if the heater is to be run at cathode potential, as recommended by Perrine and others, the coil feeding the heater can be wound turn-for-turn between the turns of the main coil from cathode tap to earth. The voltage stability should be again checked with the permanent coil before the oscillator is completed. Next, the screen voltage must be set and the combination of a screen-dropping resistor and voltage divider originated by Perrine should be used. It gives more complete stability than either dropper alone or divider alone. Assuming the use of a 6SK7 or similar oscillator valve, start with a 15,000 ohm dropper resistor and vary the setting of the voltage divider until minimum frequency shift occurs when the supply voltage is varied. Repeat the trial with different values of dropper resistor until practically perfect results are obtained.

Whether the heater of an E.C.O. should be run at earth potential and by-passed to earth via mica capacitors, or fed through the tank coil and its additional winding, is largely a matter of personal choice; but the author's experience supports Perrine's remark that feeding the heater through the coil, with one side connected directly to the cathode, will give slightly better stability and reduces warmup drift. It also seems to help reduce the effect of stray feed-back from later stages, and this repays the extra complication.

From the foregoing, it will be seen that although the E.C.O. is simple to build, its initial adjustment is rather more complex than the other circuits. However, provided the systematic adjustment is performed as described as above, it seems quite straightforward.

The tuned anode oscillator is very simple to adjust and gives good results with a minimum of trouble. The circuit is shown and under no circumstances may the isolating buffer be omitted.

The tuned circuit follows the rules already stated. The feedback coil is the only adjustment required. This should be made as small as possible without stopping oscillation, and it should be wound very close to the earthed end of the tuned circuit. The grid leak should be as high as possible, but since there is a marked step-down effect resulting from the ratio of anode to grid turns, a much lower leak can be tolerated in this circuit than with any other. The lower limit for this circuit is about 50-150,000 ohms. With the higher values of leak there is a tendency to squegging unless the feed-back is properly adjusted, but since its proper adjustment is essential to good stability, that is perhaps a virtue. With the higher leak resistances the anode currents are lower and there is less thermal drift when anode voltage is applied. The output is slightly reduced, but it is a serious mistake to increase output at the expense of stability. The buffer stage is driven in parallel with the oscillator grid, from the feed-back coil, but a separate grid



The Tuned Anode Oscillator and Buffer Stage

All capacitors are similar in value to those in the E.C.O., and components bear the same reference numbers as in the E.C.O. diagram.
V1—6J5, V2—6SK7 or 6F6 for doubling.

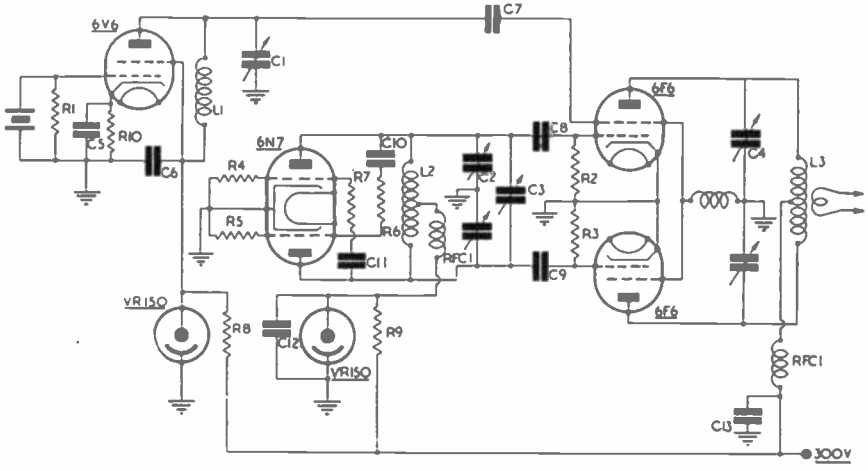
capacitor and leak is desirable, together with cathode bias to eliminate grid current. The buffer valve should be very well screened and the 6SK7 or 6F6 is preferable to the 6V6 or 6L6. The buffer anode may be tuned to the second harmonic of the oscillator but it is better to choke-couple it to a further buffer whose anode is tuned and will give considerable output. The anode voltage on the oscillator valve should not exceed 150 and there is a tendency to use lower and lower anode voltages and to boost the output by using an extra untuned buffer stage with a high-slope pentode such as the EF50. The feedback coil requires one tenth to one quarter of the turns on the tank coil.

The Heterodyne Exciter

This is a relatively uncommon circuit used mainly for the higher frequency bands where utmost stability is required. All simple V.F.O's must work in a low-frequency band and thus any drift they have is doubled in the transmitter output in each higher band. To avoid this the superhet principle is used to obtain the working frequency by the addition of a crystal-controlled frequency and a much lower variable frequency derived from an orthodox V.F.O.

For example, a 14 Mcs. transmitter might be driven direct by a heterodyne exciter using the second harmonic of a 6500 kcs. crystal mixed with a V.F.O. output of 1000 to 1400 kcs. The sum of the crystal harmonic (13000 kcs.) and the variable frequency will be between 14 and 14.4 Mcs. and will thus be suitable for driving the transmitter. The drift of the crystal oscillator will be small if it is properly designed and if the V.F.O. drifts one kilocycle, the working frequency will drift the same amount, whereas if the V.F.O. had been used to drive the transmitter through a chain of frequency multipliers the error would have been 14 Mcs.

To get rid of the original crystal and V.F.O. frequencies from the output of the mixer stage it is necessary to use a push-pull mixer—a pair of 6F6's have been found



Bliss & Bailey's Circuit for Heterodyne Exciter. (from QST, July, 1940)

(Note: In the diagram RFC2 is incorrectly given as RFC1. RFC2 is the choke in series with the centre tap of L3 and the HT positive line.)

R1, 2, 3	30000~ 1 watt	C8, 9	10 μμF 400 V mica
R4, 5	50000~ 1 watt	C10, 11	250 μμF 400 V paper
R6, 7	12500~ 1 watt	C12	0.25 μF 400 V paper
R8, 9	5000~ 10 watt	C13	0.5 μF 400 V paper
R10	500~ 10 watt	RFC1	40μH BC Choke
C1	100 μμF variable	RFC2	2.5 μH SW RF Choke
C2	370 μμF, two-gang	L1	15 turns No. 20 DSC. 1½ in.dia. x 1 in. long
C3	50 μμF, air trimmer	L2	150 turns No. 30 DSC close wound. 1½ in. dia. centre tapped
C4	50 50 μμF split stator	L3	26 turns No. 20 DSC 1½ in. long x 1½ in. dia. centre tapped
C5	0.02 μF, 200 V paper		
C6	0.02 μF, 400 V paper		
C7	250 μμF 400 V mica		

suitable. The grids are driven by the V.F.O. in push-pull and the crystal output is fed to the screen-grids in parallel. Output is taken from the anodes in push-pull. No D.C. voltage should be used on the screens.

The heterodyne exciter gives stability better than all but the very best of the simple V.F.O's and is not difficult to get going. There is, however, a risk of selecting the difference frequency in the mixer anode circuit and transmitting on 12 Mcs. in mistake for 14 Mcs. Reasonable care will avoid this. Output can be obtained on other bands by means of doublers or by changing the crystal frequency; for example, 7 Mcs. output would result from mixing the variable oscillator output with a crystal frequency of 6 Mcs. The circuit is especially suitable for break-in working since the mixer stage can be keyed and only the weakest possible signal will remain in the receiver if the latter is a straight one and in most cases no signal at all will be heard on a superhet.

The Snags of V.F.O's

Most of the troubles of V.F.O's are due to frequency modulation by unstable later stages of the transmitter, giving a rough hum on the higher frequency bands, to feed-back into the oscillator from later stages, causing dragging of oscillator frequency, or by frequency drift due to warming up of the oscillator valve by its anode dissipation. The remedies are usually straightforward. Obviously, the later stages of the transmitter must be stable by themselves and the V.F.O. cannot be blamed for their sins. Feed-back from later stages can be reduced by careful screening of the oscillator and its buffer stage and by careful decoupling of all power and keying leads entering the V.F.O. chassis. The practice of having the V.F.O. out of the transmitter rack, on the operating table is good, providing that keying vibration does not affect it. Coaxial cable is best for the link coupling the buffer output circuit to the input circuit of the transmitter. Occasionally feed-back results from a poor earth connection on the transmitter building up standing waves on the earth lead and electric mains. In this case, if a better earth cannot be obtained, a separate, link-coupled aerial tuner with a separate counterpoise earth or a balanced aerial system will cure the trouble.

When the V.F.O. unit has been completed, it is always good tc check its note and keying by itself and then check the transmitter stage by stage, comparing the new V.F.O. with drive from a crystal oscillator each time, so that time is not wasted in seeking possible instability in the wrong stage. Finally check the transmitter's performance on several frequencies on each band when that band is quiet and unnecessary QRM will not be caused.

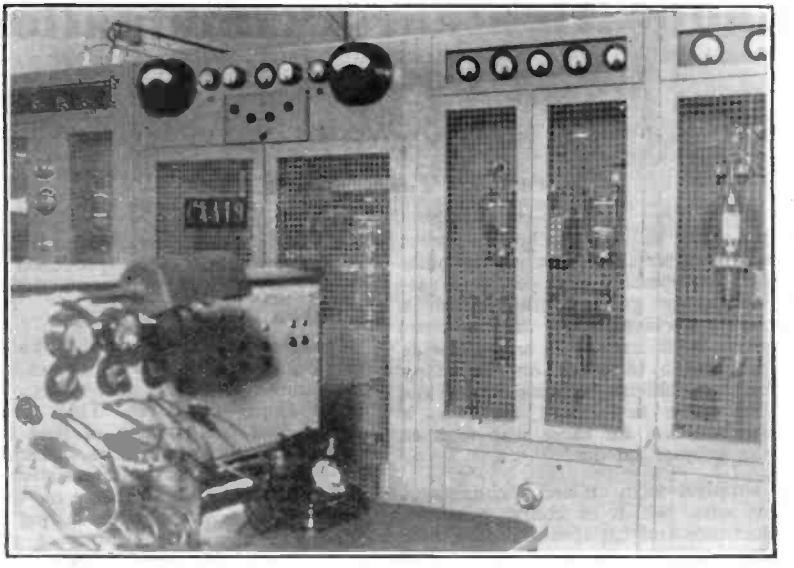
Results. In using V.F.O's the intelligence of the operator counts for much more than when crystal control is used. So far as a comparison of the various circuits goes, the average operator will find very little difference between them, provided that each is built and adjusted with equal care. All are capable of results indistinguishable from crystal control, even on 28 Mcs. The tuned anode oscillator is easiest to get going, followed by the Franklin and the heterodyne oscillator, with the E.C.O. bringing up the rear; but there is very little between them for all are straightforward provided the rules are followed. The author's choice falls on the E.C.O. on grounds of economy, since the isolation given by the E.C.O. anode circuit and one buffer-doubler is as good as the others with two buffers.

BIBLIOGRAPHY

Much has been written about V.F.O's in the war years, not all of it very helpful, but the following articles in QST will be found of interest: (The author and date only are given)

*Perrine, September, 1939
Baker, June, 1940
*Bliss & Bailey, July, 1940
*Rice, January, 1941
*Roberts, April, 1941
Shuart, June, 1941
Seilar, November, 1941
*Robinson, May, 1945
Rice, June, 1940
*Brown, July, 1940
Southworth, November, 1940
*Goodman, March, 1941
Metcalf, May, 1941
*Stiles & Blair, August, 1941
Lynch, March, 1945

The articles maked thus * will be found specially valuable.



"El Espectador"

Station Description No. 13

THIS month we make a call at Montevideo, Uruguay, to visit Difusoras del Uruguay, a company which owns and operate a chain of stations in that city. Geographically, the country, bounded by Brazil (N.E.), Argentine (W.) and the Atlantic (S.E.), is mainly flat grass-land with some low ridges of hills in the North. The climate is a healthy one and the chief industries are sheep and cattle rearing, wheat, grapes and tobacco. Though mining is of slight importance, much mineral wealth is existant. The area of the country is 72,000 sq. miles and the population just under two millions.

The Difusoras de Uruguay own the following stations: CXA19 (11835 kcs.), CXA9 (15345 kcs.), CX14 "El Espectador" (810 kcs.) and CX18 "Radio Libertad" (980 kcs.) The station of main interest to us is the short wave outlet of CX14—namely CXA19. This station, without a doubt, is one of the most consistent short wave voices from South America and the short wave listeners who have not heard this station could possibly be counted on one's fingers. The photo above shows the transmitter and part of the control desk.

The actual transmitter of CXA19, making its debut on the air in March, 1940, consists of a 1 kW. exciter unit, class B modulated and fed into a linear amplifier equipped with two CAT9's. The power delivered to the aerial is 5 kilowatts. The aerial is a full-wave horizontal type, running E.N.E.-W.S.W., with loops radiating towards North America and Europe. The complete transmitter was designed and built by local engineers and reception reports from all over the world testify to their success. Originally the station operated on the frequency of 11705 kcs. but owing to priority claims of SBP, Motala, the shift to 11835 kcs. was necessary. Until 1942 the station was running at a power of only 1 kilowatt, but even so reception was remarkable.

The language used throughout is Spanish, except for the daily transmission "Radio France pour l'Amerique du Sud" in French at 1310 GMT. Although no English transmissions are at present radiated, Jorge Cubilo, the Station Director, says that the matter is under consideration and that it is hoped to start some regular transmissions in the English language in the near future. We feel sure that this would do even more to enhance the popularity of CXA19. The station is now on the air daily from 1100-0300 GMT continuously.

Despite the fact that the listener-mail is very heavy, the station always appreciates reception reports. Until recently the verification took the form of a stereotyped letter-acknowledgment. Now, however, SWL's have their reports acknowledged by a folder-type QSL which is one of the most beautiful that the writer has ever seen. The

Radio Amateurs Examination Course

By D. Warner

Part 8: *THE AERIAL*

THE aerial is frequently the most sadly neglected section of an amateur's equipment, and yet it is useless to strive for greater efficiency in a transmitter or receiver when an inefficient aerial system is in use. It is only possible in a short article to touch on the many aspects of the problems associated with the aerial, but these notes will serve as a general introduction for those who wish to pursue the subject further.

In its simplest form an aerial consists of a straight wire, which of course possesses both inductance and capacitance and hence has a natural resonant frequency of its own. At this frequency the voltage and current in the aerial, and hence the energy radiated, are at a maximum. The inductance and capacitance of a straight wire are not concentrated at any one point but are uniformly distributed along its length. As a result, the current and voltage will vary from point to point along the wire. Figure 1 shows this variation for a half wave form of resonant aerial. It will be noted that the current at the ends of the wire is zero as there is no further conducting path. In practice however, due to the capacitance between the end of the wire and the insulators, mast or nearby building, the current does not fall quite to zero. As in the conventional resonant circuit, the current and voltage in the aerial are 90 degrees out of phase with each other, i.e. one reaches its maximum when the others is at its minimum. Hence the electrostatic field, produced by the voltage bears a similar (quadrature) phase relationship to the magnetic field produced by the current.

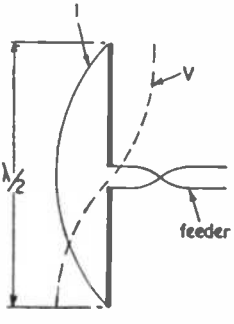


Fig. 1: Half wave aerial showing current and voltage distribution

Radiation Resistance

Consideration of the current and voltage distribution in an aerial shows that the impedance ($Z=E/I$) varies between wide limits along its length. This permits adjustment of the position of feed to match the load impedance of the transmitter. In practice the existence of a resistive element in the effective impedance of the aerial prevents the voltage from falling quite to zero at the nodes. Because of this, diagrams of the type shown in Figure 1 are not strictly accurate; as however the minimum current is very small compared with the maximum value the inaccuracy is negligible. The aerial resistance consists of the R.F. resistance of the wire and that which is known as the radiation resistance. This latter is a fictitious quantity of such a value that, if inserted into the aerial at the point of reference, it would dissipate the same amount of power as that normally radiated. The point of reference is normally taken as the point at which maximum current flows. For a centre-fed half-wave aerial the radiation resistance lies in the region of 70 ohms; hence a current of 0.5 Ampere flowing into such an aerial will radiate a power of $(0.5)^2 \times 70 = 17.5$ watts.

The current in an aerial is most conveniently measured by connecting an ammeter in series with one of the feeder wires at a point of maximum current near the coupling coil. In this position the instrument gives an accurate indication of the current flowing in the aerial circuit without upsetting its operation. A hot wire ammeter is normally employed for this purpose.

The types of aerial so far considered have been those in which the length of the radiator bears a definite relationship to the wave-length to be transmitted, i.e. the wire is self-tuned and hence bears standing waves. This type is normally used for short wave working and is known as the Hertz aerial. Aerials in which the wire is not self-tuned but brought into resonance by means of added series inductance and an earth connection or counterpoise wire are known as Marconi aerials.

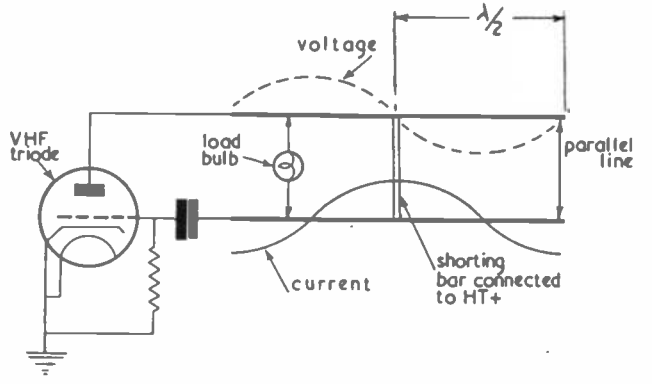


Fig. 2: Parallel line oscillator showing standing waves

Standing Waves

If a radio frequency signal is fed on to a straight wire whose length is equal to or longer than a half wavelength, each half cycle will be reflected from the open end of the wire. The reflected energy will be alternatively in phase and in antiphase with the initial energy as it travels in the opposite direction and hence one or more standing waves will be formed. This applies to both the current and voltage and the resulting waves are 90 degrees out of phase with each other. The home constructor may easily check this for himself by building a parallel line oscillator and running a low power loading bulb along the lines. When the bulb is across the line its glow will reach a maximum as it is moved through a voltage antinode. (See Fig. 2).

The transmission line operates on similar principles. If the receiving end is open circuited, standing waves will form along its length. If however the line is terminated in its characteristic impedance there is no reflected energy and hence no standing waves. A line working in this manner has very low losses and therefore provides a convenient method of feeding an aerial. The characteristic or surge impedance of a line is the impedance which a long line would present to a signal induced into one end. It may be calculated from the following formulae for air spaced lines:—

Parallel conductor

$$Z = 276 \log \frac{S}{R} \text{ ohms}$$

S=spacing centre to centre
R=radius of conductor
} In similar units

Coaxial or concentric line

$$Z = 138 \log \frac{d}{D} \text{ ohms}$$

d=inside diam. of outer conductor
D=outside diam. of inner conductor
} In similar units

THE "CONTEST UNIT"

Description of the pentode C.O., which gained for the author the second place in the QRP contest

By W. Oliver, G3XT

THE transmitter which has won (for G3XT) the Second Prize in the "Short Wave News" QRP Contest is a single-valve crystal-oscillator unit with an input of 9 milliamps. at 120 volts. Its overall physical dimensions are less than 6 inches cube, but during the week of the contest this tiny transmitter contacted 62 stations in 9 different countries, despite exceptionally poor conditions.

A description of this contest unit may be of interest to readers who wish to try genuine QRP work, or who want to build a small stand-by transmitter at a minimum of cost for use when their normal QRO transmitter is temporarily off the air through breakdown or rebuilding.

The essential ready-made components required for this transmitter are as follows:—

1 plug and socket connector strip for batteries (S1)
1 jack for key (J)
1 crystal and holder (plug-in) (X)
1 resistor (R1) say, 50,000Ω
1 valveholder (VH)
1 short wave variable capacitor (C1) 60 μμF
1 fixed capacitor (C3) .001 μF
1 pentode valve (P)
1 4 B.A. rod 5in. long (brass) (ER)
2 2 B.A. rods 6½in. long.

Other components, not absolutely essential to the working of the transmitter, and not actually used in G3XT's own model, but worth-while additions if absolutely strict economy need not be observed, are these:—

1 S.W. R.F. choke (RFC)
1 resistor (R2)
1 fixed capacitor (C2) .001 μF
1 on-off switch

Finally, the following additional components are required, but can easily be made at home:—

1 tank coil (T)
1 polystyrene coil-mount with terminals or sockets (S3)
1 link coupling (LC)
1 socket-base strip for crystal-holder (S2)
1 wood base for transmitter
2 polystyrene bracket-panels for capacitor and jack (P1, P2)

The value of the resistors R1 and R2 will of course depend on the type of pentode used.

The wood frame for the base can be made at home in a few minutes, but the one actually used at G3XT was a ready-made frame (origin unknown, but believed to be an old-fashioned type of printing frame for photographic plates of unusually small size—it had been lying around the house

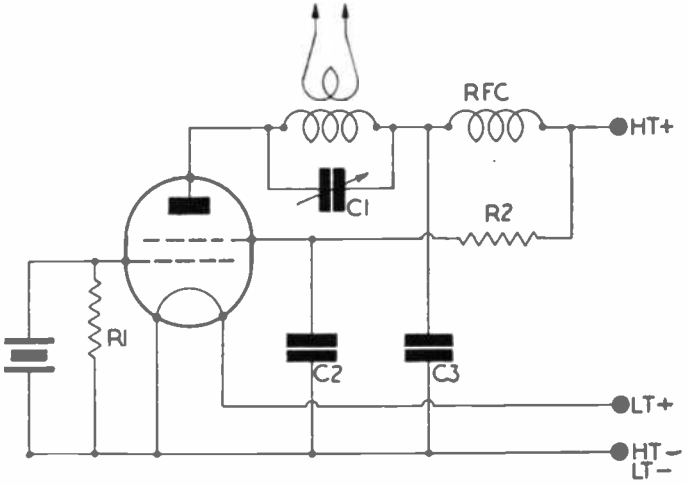
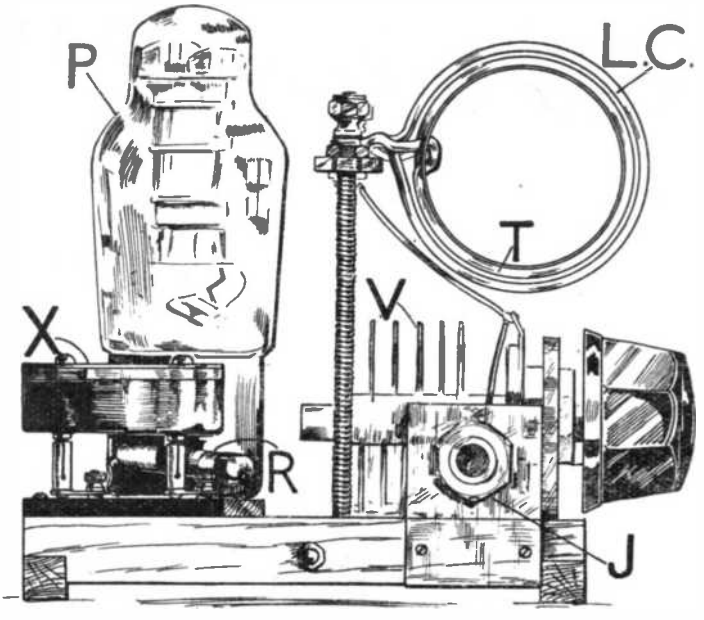


Fig. 1: Theoretical circuit of the pentode C.O



Sketch of the original TX

P—Pentode valve
X—Crystal
R—Grid leak (R1)
L.C.—Link Coil
T—Tank Coil
V—Variable capacitor (C1)
J—Key jack

for years!) The dimensions on plan are shown in the layout diagram; the frame is square section at the sides, but the front and back members are a little deeper to raise it off the table surface.

The battery connection strip (S1) was bought ready-made with a three-pin plug to fit. The crystal-holder socket was home-made from 3/16in. thick ebonite strip and a couple of sockets (XS1 and 2) from an old valveholder; but it could be bought ready-made if preferred.

A 5-pin holder is needed if the valve chosen is, say, a PM22A or a Z220; or an octal holder if the valve is, say, a 1C5. (These three types were among those tried out successfully in the unit at G3XT.)

The coil mount and bracket-panels are made from strips of polystyrene, drilled to take the one-hole fixing bushes of the jack and variable capacitor and the terminals (or sockets if a plug-in coil is used). The spacing of the latter is not critical—it can be ½in. for the inner pair (2 and 3) and 2in. for the outer ones (1 and 4). The inner pair carry the coupling link, the outer carry the tank coil.

A piece of 4 B.A. studding marked ER in the diagram forms an earthing rod for the common negatives and earthy returns in the wiring—points which would be connected to a metal chassis if there was one! Connections can be soldered to "flats" filed on the rod, or clamped between pairs of nuts run on to the thread at suitable points. Supports for the coil strip were made by bending the pair of 2 B.A. rods as shown, screwing them into holes drilled in the wood frame and tapped in the polystyrene locked with nuts.

No point-to-point wiring diagram is necessary, as the few simple connections can be deduced so easily from the circuit diagram. All that is necessary is to keep the wires short and direct, and the compact layout is conducive to this.

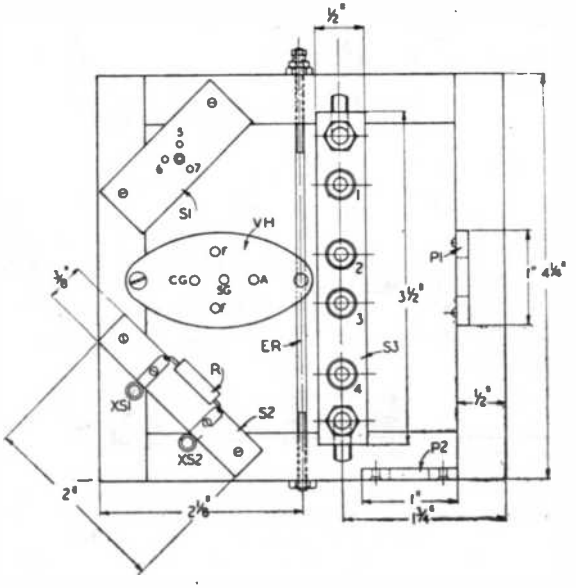
The tank coil should be as efficient and low-loss as possible; likewise the aerial tuning circuit, which can be similar in design to the tank circuit, but with a flashlamp bulb connected in series between the coil and capacitor, to glow when the circuits are tuned correctly to resonance.

Details of the coil in the tank circuit will depend on whether the unit is to be used as a complete transmitter in itself, or as an oscillator to drive a separate power amplifier stage. The coil shown in the illustrations was one made up hurriedly to be in time for the contest, and is consequently rather unorthodox! It was wound with single-strand P.V.C. insulated wire, 22 turns 1½in. diameter for the 7 Mcs. band, on a tube made by rolling a piece of cellulose acetate (the "non-flam" plastic used for making lampshades) round a wooden rod and securing with self-adhesive

cellulose tape before slipping it off the rod.

In both tank and aerial coils the coupling consists of a single turn link at the centre, with twisted flex joining the two links.

The keying arrangements are not shown in the circuit diagram, as there are several possible positions. At G3XT the key was in the screen-grid circuit, which gave chirp-free keying and enabled break-in working to be carried out successfully.



Plan view of the transmitter, with main dimensions.

P1—Polystyrene bracket for C1

P2—Polystyrene bracket for jack

S1—Battery Connection Strip

S2—Base Strip for crystal holder

S3—Polystyrene coil-mounting strip

VH—Valve holder

XS1 and XS2—Sockets for crystal

ER—Brass Rod

International Short Wave League—Monthly Notes

SOCIAL ACTIVITIES

N.W. London. Under the guidance of the CR and the co-operation of Mr. Cooper, the latest League Chapter has made a good start. Three meetings have already been held, with morse classes in full swing and a club transmitter under construction. All manner of test gear and constructional facilities are available to members. Meetings are held every Saturday from 7-9.30 p.m. at 41 Ingham Road, Fortunes Green, N.W.6. Members in the district are cordially invited to drop in at these informal meetings.

Other areas: Most of the Chapters report a slight falling off of attendance during the past fine weather we have experienced. We trust that with the darker evenings now approaching the Chapters will steadily grow in strength. It should be remembered that the first ISWL groups were not formed until March of this year, a bad time of the year for making new ventures of this type, and taking into consideration the attractions of good summer weather we can feel fairly well satisfied with progress on the whole. Now with the "season" upon us again, we forsee renewed activity and, with the ground work already done, a prosperous time for the local groups. The next issue will contain a complete list of Chapters for the benefit of new members—and maybe older members who have not yet taken advantage of the informal gatherings!

THE ISWL EMBLEM

The following items, incorporating the I.S.W.L. emblem, are now available to members:

Rubber Stamp: Price 2/6.

"Stickers": These are in rolls, gummed

The New Frequencies

The following information has been received from the General Secretary of the R.S.G.B.

Atlantic City Conference

Final Frequency-allocation Decisions

Below, in summarised form, is the final frequency-allocation decisions reached at the Conference in so far as they may affect U.K. amateurs:—

Band	Width	Remarks
1715- 2000 kcs.	200 kcs.	200 kcs. shared (max. power 10 watts) (range decided nationally)
3500- 3800 kcs.	300 kcs.	Shared
7000- 7100 kcs.	100 kcs.	Exclusive
7100- 7150 kcs.	50 kcs.	Shared
14000-14350 kcs.	350 kcs.	Exclusive except that U.S.S.R. proposes to operate internal Fixed Services between 14250-14350 kcs.
21000-21450 kcs.	450 kcs.	Exclusive
28000-29700 kcs.	1700 kcs.	Exclusive
144- 146 Mcs.	2 Mcs.	Exclusive
420- 460 Mcs.	40 Mcs.	Shared (Harmful interference clause inserted concerning interference with Air Nav.-aids)
1215- 1300 Mcs.	85 Mcs.	Exclusive
2300- 2450 Mcs.	150 Mcs.	Exclusive
5650- 5850 Mcs.	200 Mcs.	Exclusive (I.S.M. equipment will operate at 5850 Mcs.—tolerance plus or minus 0.6%)
10000-10500 Mcs.	500 Mcs.	Exclusive

High Spots for Quick Reference

(1) "Top band" held.
(2) Gained 50 kcs. at 3.5 Mcs.
(3) Lost 150 kcs. at 7 Mcs.
(4) Lost 50 kcs. at 14 Mcs.
(5) Gained a new band at 21 Mcs. (15 Metres)
(6) Lost 300 kcs. at 28 Mcs.
(7) Lost the 60 Mcs. band*
(8) Gained a new band at 144 Mcs. (2 Metres)
(9) Gained 4 new V.H.F. bands

* Whilst on paper we have lost the 5 Metre band, we have every reason to believe that frequencies around 60 Mcs. will be allotted later, on a national basis.

Note—There is a strong possibility that we shall be given permission to use the I.S.M. (Industrial Scientific and Medical) band around 11 Metres.

The figures given above represent the final decisions of Committee 5 and are due to be confirmed this week at the final Plenary Session prior to the signing of the Convention on Monday next, September 15th.

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and perforated. Printed in green, on white, there are 100 labels on each roll. Price 1/-.

Printing Blocks: We have a limited number of printing blocks of the emblem for use on members SWL or QSL cards. Price 5/-.

All above prices are post free.

MORE I.S.W.L. REPRESENTATIVES

The following appointments have recently been made:

Town:

Cork City: C. Layton, 2 Sheanes Street, Cork.

Doncaster: G. H. Lawson, 93 Harrowden Road, Wheatley, Doncaster.

Dublin City: F. O'Hegarty, 917 Victoria Road, Balkey.

Glasgow: J. Stankevage, 11 Beattock Street, Glasgow, E.1.

Walsall: R. Morgan, 84 Broadway North, Walsall.

York: S. Beharrel, 13 Ash Street, Poppleton Road, York.

County:

Waterford (Eire): F. Colbert, EI5R.

Quarterly DX Prediction

OCTOBER to DECEMBER

Issued and prepared by the Leicester Tele-communications Laboratory, Monitoring Dept., near Leicester, England

Editorial Note

Thanks to the kindness of Mr. C. L. Wright G3CCA, we are now able to present a professionally prepared prediction of conditions for the amateur bands for three months ahead. The Laboratory ask us to remind readers that as these predictions have been issued to cover a fairly long period, some slight discrepencies may be observed and readers can help in improving the future accuracy of these predictions by reporting on the results they obtain with them.

The monthly DX Panel prepared by Messrs. Heightman and Hutson will be continued as they have proved very popular and we feel some readers may prefer to have the information given in the style of the Panel as well as in the way given below. We should appreciate our readers comments on their preferences.

Introduction

FOR the purpose of these predictions, it should be noted that four major communication circuits are used extending to (a) North America, (b) South America, (c) South Africa and (d) Australia. Reference to the Great Circle map centred on London will show that the Australia circuit covers Asia and Japan.

It should be understood that to forecast these communication circuits for a period of three months the data is liable to slight errors with relation to the "disturbed periods."

The preceeding period

During the month of August, and the middle of September (time of issuing this report) spasmodic communication has been maintained on the 28 Mcs. which enabled several British Amateur stations to have contacts with VK, ZL and several W. Short skip enabled contacts to be made between G and I and W/MM stations during most afternoon periods.

All circuits have given good communication on the 14 Mcs. band almost daily with the peak periods occuring between 0000 to 0800 and 1500 to 0000 (all times GMT).

Communication has been maintained on the two North and South American circuits using the frequency of 7 Mcs. these taking place between 0100 until 0500 (GMT).

Prediction for October:

There should be the usual increase of the Maximum Usable Frequency during this period, and this means that the 28 Mcs. band should begin to give reliable communication on all circuits and DX work on this band should present no difficulty. Ionospheric storms may be present during the first and third weeks of this month, the latter storm being more severe than the first. This will most likely disrupt communication on all circuits and on all frequencies higher than 7 Mcs.

Prediction for November:

With the approach of the "Winter Period," the Maximum Usable Frequencies should greatly increase, and this will make the 28 Mcs. band "open" for communication daily and at most parts of the day and night on all circuits.

There will be a noticable "fade-out" period on the Northern circuits during the "twilight" period. Also in this area (Northern) during the night period and commencing at about 2200 GMT communication should be possible with W and VE stations on 7 Mcs., if local conditions permit.

No severe ionospheric storms should occur, but many minor disturbed periods will be noticed especially on the higher frequencies. These should be noticed during the 2nd, 3rd and 4th week of the month, the most disturbed period being during the middle of the month.

Prediction for December:

No difficulty should be experienced in maintaining communication on all circuits up to twilight on 28 Mcs., and at all times of the day on 14 Mcs.

Regular communication should be possible between all Northern and Southern American stations on 7 Mcs. European working on the lower frequency bands 1.7 Mcs. will present no difficulty and regular contacts should be made during the night period between VE and W stations on 3.5 Mcs. Owing to the long periods of darkness there will be a great increase in ionospheric storms, and these will be recorded on the first and fourth weeks of the months.

Summary of 60 Mcs. Predictions for same Period

It should be especially noted that predictions for the VHF band are more liable to sudden change than those of the lower frequencies.

During October, temperature inversions should make the G DX possible with most

certainly plenty of European DX stations giving lengthy periods of communication. The peak periods for these contacts being about the "twilight" hour.

Inter G contacts should present slight difficulty duirng the month of November, and with the increase of the M.U.F. about the middle of the month, and with this increase occurring in the afternoon period it SHOULD BE POSSIBLE TO WORK "EXTRA-DX" stations and maybe "W" on 54 Mcs. It will be noticed however that ionospheric storms are liable to take place during this period, these may either assist or retard this V.H.F. working. Conditions may fall off during December and it will result in perhaps only a few "local" contacts in the early hours of the evening, but with the M.U.F. still being very high, if the "stormy" periods are not too pronounced there should be a few periods during which time G DX can be worked.

Summary of conditions for all circuits

Time GMT	Frequency	Circuit No.	Month
0000	14 Mcs.	(a) (b)	October
	14 Mcs.	(a) (b) (c)	November
	7 Mcs.	(a) (b)	November & December
	3.5 Mcs.	(a)	December
0600	14 Mcs.	(c) (d)	Part October
	14 Mcs.	All circuits	November & December
	7 Mcs.	(a) (b)	December
0900	28 Mcs.	(c) (d)	Past October
	14 Mcs.	(c) (d)	All Nov., Dec.
1200	28 Mcs.	(c) (d)	As 0900
	14 Mcs.	(c) (d)	As 0900
1500	28 Mcs.	All circuits	November & December
	14 Mcs.	All circuits	November & December
1800	28 Mcs.	(a) (b)	November
	14 Mcs.	(a) (b) (c)	November & December
2100	14 Mcs.	(a) (b)	November
	14 Mcs.	(a) (b) (c)	October
	14 Mcs.	(a) (b)	December
	7 Mcs.	(a)	November
	7 Mcs.	(a) (b)	December
	3.5 Mcs.	(a)	End of November & Whole of December

On the Ham Bands

Conducted by "CQ"

● Stations of the month

A new expedition station is G8XY/VO. This is the station of the Public Schools Exploring Soicety which is at present exploring Newfoundland, with G2BLA as Signals Officer. The station is operating on the 3.5, 7 and 14 Mcs. bands mainly on CW. Power used is 40 watts, with 6V6-807 line up. On the receiving side, a Marconi CR100 takes care of things. A special QSL card will be sent to all amateur stations contacted and to all useful SWL reports. Cards may be sent via RSBG, ISWL or direct to: White Barn, Old Oxted, Surrey . . . Siam now heard via two new stations, HS1AL and HS1LN . . . Manchukuo, another country not heard too often, heard through MX2AG and MX3KG . . . More G's setting up in the Empire are G3LU (now running VR6WA on 14330 and 14371 kcs.), G2CDI (in the West Indies as VP6CDI), then we have G3ZJ in Eritrea as I6ZJ and G5KW is now active as MD5KW . . . Borneo again heard this time as VS4VRA on 14 Mcs. . . . FU8AA represents a nice catch on 14 Mcs. . . . VQ4GDF is the latest from Kenya to pop up on 14 Mcs.

● Top Band Notes

Old-Timer G3HT (he was PZX way back in 1911) has been heard testing a portable transmitter from his station at Edgware. It was built for use as a hidden station in a Direction Finding competition arranged for September 14th. Plate modulated, it had an input of 8 watts and put out a very good signal.

Activity has been low and one has heard comment about the band being deserted in early evenings, more than once. It would seem that quite a number of the regulars have migrated to 3.5.

Best DX has been GI6fb who has certainly been living up to the last two letters of his call! His signals were 579 in London at 0000 GMT.

In addition to the usual Loran beacon at the high frequency end, two more beacons have appeared in the band, namely SZ on 1810 approximately and HEZ, 1760 kcs.

Using an aerial in trees at Woodford Green, Essex, G2BCX/P was a nice phone signal in West London, whilst G2bcx/P2, operating on CW and lower in the band, was 579. Altogether three transmitters were in use at what appeared, to the writer, to be a very successful field day.

● **14 Mcs. News**

Al Slater (Southwick) reports a falling off of activity due to poor conditions, the fine weather and the failure of the postman to make his usual frequent visits! Al mentions the signals of VK5NR as being almost as outstanding as his 28 Mcs. transmissions last season. A new one from Jamaica was VP5FR and the same day W6VEF/KG6 entered the log. Other outstanding ones were VP5PU in the South Caicos Isles, VP3LF (at 2250), PK3EJ, W6WCN/KG6 on Saipan, and TF3EA. Later in the month a nice crop of Pacific DX popped up with J8AAM (Seoul, Korea) at 1500, J9CRP (Kwajellain) at 1800 and KG6AV/VK9 (Admiralty Islands) at 1500. To wind up the month, Al returned to an old favourite —medium wave DX! From his 14 Mcs. log we pick these to conclude: AR8AB, C1CH, VS1BA, 1BG, 2BU, 2BV, 2BW, XZ2AA and ZL2GX.

James Endersby, GW703 (Old Colwyn) has some nice data. MD2A in Tripoli is operated by ZS6LM, who is also on at times as ZS6LM/Airborne. Must like ham radio! LA2UA, of LAV fame, is now apparently operating under call of LAT and was heard en route to Geneva from Tunis on 14185 kcs. An interesting one was F9CQ which is the ham station of the Boy Scout Jamboree Camp at Moissan, France. (Re. KX6USN—see Query Corner. There are many UQ2's, most active being 2AA, AB, BA and BD). James mentions hearing I4LLF in Sardinia on 14205 kcs. From the log we extract C1YT (2200 on 14395 kcs.), J2ADW, 5AAJ, 9CRP; KH6GR (0800 on 14250), PK3EJ, 6SA (1730), VK7TR, VS1BA, 2BJ; ZL2BE and ZL3CV (0800). Also a nice list of VU's.

D. L. McLean (Yeovil) sends along his customary massive list of DX, and it is difficult to pick out the best. However here is a selection: J5AAJ (1345), 9ANT (1730); KA1AK, KG6AG (1820), KH6JQ, 6LS (0920), KL7KR (0830), NY4ZQ, OQ5CC, VP4TU, VS7IT (1820), 7PW; W6TRW/KH6, ZA1A, ZC1AL, 6JL; ZL1KJ, 2BE, 2GX, 4AO, 4FO, 4GO (heard between 0730-0915); ZS2BJ, 4D, 6LF (1800-1900). Also a fine list of VK's heard between 0600-0800.

Martin Harrison G56 (Darlington) said it was hard choosing his best but sends along C1CH (2145 on 14320 kcs.), C1YT (2055 on 14200), HK6ES (0615 on 14270), MD7RH (Cyprus, 2100 on 14330), VP4TX, 4TAE, 4TT; VS9GT (1920 on 14280), YV8AA, XZ2AA, 2WD (1855 on 14200) and ZL2FF (0630 on 14210). Also 50 PY's and 20 LU's. Amongst the more interesting ones were US64. This is operated by EL5B and is a U.S. Army aircraft (No. 5564) and was heard at 2100 when over Saudi Arabia. Power used was 60 watts to a 60 ft. long wire aerial. Martin says that VR3A is operating from Christmas Island and that there is also a W6 on the island. Can anyone confirm these?

A. Baldwin, G193 (Leytonstone) reports conditions as rather poor but with the DX there for want of a little searching, especially early mornings. Most outstanding ones were KZ5az (RST 479 at 0700), TG9rv (uses 550 watts), UH8af (in the Turkomen Republic). In the evenings the best were ZS3F, MD2A, MD2c, VP5hn (599 at 2145), EP1al, 2d and EQ2dc put Iran well on the map. CX2AX, though he uses 1 kW., wants SWL reports. QRA is Box 37, Montevideo. VU2BQ heard with consistent R9 signals around 1845. Other notables: KH6fx, 6ct; KL7um, PK6w (589 at 1945), VS1aq, ZD2k (368 at 2120), ZD4ab and ZP6ab.

A. H. Onslow (Hove) sends some nice information. FF8FP and 8WN are both QRT now. MX2AG is not in Manchukuo, according to *QST*, but when the time comes it will be seen that he will undoubtedly be a new country to many. A letter from ZS4T states that there are only two stations active in Basutoland—ZS4P and ZS4AW. Anyone hooked them? W6OGM says he has worked a cross-band QSO with VR6AA with himself on 3.5 Mcs. and 6AA on 14 Mcs. Readers will remember that A.H.O. has a QSL from W6OGM for 3.5 Mcs. reception. (The long awaited AR8AB QRA is in the section this month, O.M.) The best of the month are given as VP3LF (Q5 R8 at 0000) ZL1HY (Q4 R6 at 2000) and TF3EA (Q5 R9 at 2030).

Reg Masters, G407 (Portsmouth) is rightly pleased at logging KX6USN on 14285 kcs. AR8AB and TF3AA brought the country list up to 128 post-war. Others of interest are C1KT, HI6F, J5IBE, MD7EL, MD7RH, ZL2BE, FF, GX, 4FO; ZS1CN. Reg also logged 14 PY's, 11 LU's and 17 VK's.

Inside the shack at PAoUN, famous VHF exponent. The hand-wheels at the right are used for rotating the beam aerials.

● **28 Mcs. News**

G5RF reports as follows: There has been a general improvement recently with the MUF's at good periods having sometimes considerably exceeded the band. Signals were audible from outside Europe every day. The sign of the returning winter conditions has been the reappearance of signals from Eastern U.S.A. on occasions. Two particularly bad patches were encountered, notably from the afternoon of September 3rd and presumably due to ionospheric storms.

Europe: Less Sporadic E, generally, and this may be expected to decrease from now onwards. One interesting QSO via this medium was with PAoOO at 0730.

Asia: Audible most mornings and during some evenings from the S.E. (i.e. VS9, etc.)

Africa: Very consistent, with peak times between 1600-1700, though VQ3 has been heard much later. VQ3 has been heard very strong when others paths were almost entirely interrupted.

N. America: Route is still very erratic. Surprise was VE1OK at 1245.

S. America: Not so good as of late though audible on many mornings and sometimes up to midday.

Oceania: Audible on many mornings, VK6 being particularly good up to 1300. The long route over the South Pole has been workable on two occasions.

Some of the more exotic stations worked are as follows: ST2MP, UG6wd, UH8af, ET1ir (refuses to disclose exact location and asks for QSL via A.R.I.), AR8AB, W6ylc/MM (Port Sudan harbour), W8qoh/MM (Off East coast of Uruguay).

D. L. McLean has noticed the order in which signals arrive (i.e. the well-known group effect). When VK6, VU, SU, ZC6, etc., come in strongly, no W signals are heard; when the ZL's and Far East come through, the W's are heard in the afternoon. This should be very useful in determining what the afternoon is likely to produce. D.L.M. wonders if other readers are troubled with the Radar QRM on the band. It spreads all over the band; S6 at 30 Mcs., S4/5 at 29 Mcs. and S3 at 28 Mcs. Some interesting calls from the log are C1CH, CR9AG, J2AMA, 9AAO; KG6AE, NY4AB, OA4BB, OQ5BA, PZ1J, ST2MP, VO2AQ, VP4TAX, 6CDI; VQ3PYE, 4KPB (or KTB?); VU2TM, 7AB; W6WCN/KG6, W6YOT/C6, XZ2DN, 2YT; ZD2KC, 4AL, 4AH; ZL1GA, 2FY, 3FV, 4GO; ZS1AX, CN, P, T, U, 2AZ, 6DW. Also 16 VK's heard between 1000-1400.

Reg Masters has gone in for "Heard all Counties" due to the short skip! Has heard seven so far. Reg also sends along a fine massive list of DX of which we quote ST2MP (not MB), VQ3EYE (or PYE?), VS7PW, VS9AB, VU2TM, XZ2YT, ZC6JP, RG; ZD2KC, 4AH, AL; ZE1JZ, ZL4BN, ZS1P, T, 2BF, 6BV, C, DW and FU. A second log includes KG6AI, AG, AE; VP4TC, 5FR, 6CDI; VU2BF, YN1HB. Also some nice /MM calls.

● **G Calls heard Overseas**

HA8S, Peter Sommsich (Budapest): 14 Mcs. CW: G2bqr; G3bq, so, aka, atd, ayo/A, cih; 5ci, 6nv, 8ck; GW3asw.

H. Westman, Upington, South Africa: 14 Mcs.: G3TU, MT; 6PD, 8SW. 28 Mcs.: G5BR, CP, 6AW, WT, 8DM.

● Topical DX QRA's

AR8AB: P.O. Box 293, Beyrouth, Lebanon.
CR6KW: Box 831, Darrarua, Angola.
EK1TF: Box 57, British Post Office, Tangier Zone.
HZ2BN: Box 4, Safina, Arabia.
J2AAO: Box 119, HQ Squadron F.E.A.F., APO 925, c/o P.M., San Francisco.
KA1AI: APO 74, c/o P.M., San Francisco.
KZ5GD: G. C. Dunlap, Box 28, Bilboa, Canal Zone.
MD2C: c/o B.O.A.C. Tripoli, North Africa.
MD5AA: 7th HQ Signals Regt., M.E.L.F., Suez Canal Zone.
MD5AJ: Cpl. J. A. Clark, No. 3 Forces Broadcasting Unit, RAF Kabrit, M.E.L.F.
MD5BU: Major McAnsh, c/o Communications Board, GHQ, M.E.L.F.
MD5TS: Radio Experimental Club, 3 GHQ Sigs. Regt., M.E.L.F.
PK1PW: P. Venweerlee, R/O SS Tjimanock, c/o JCJL, Batavia, Java.
PK2RK: c/o Radio P.T.T., Solo, Java.
PK6FS: Box 76, Macassar, Celebes.
PZ1OY: Box 637, Paramaribo, Surinam.
ST2MP: Post and Telegraphs Dept., Khartoum, Sudan.
SV0AA, AD and AO: Royal Signals (G), Athens, Greece.
VP2AA: P. E. Kepner, AACS Det., APO885, c/o P.M., Miami.
VP2GC: G. Benson, British West Indies Airways, St. George, Grenada.
VP2GF: C. McIntyre, Ford Service Station, St. George, Grenada.
VP4TM: Box 431, Port of Spain, Trinidad.
VP4TAA: Winslow Acase, 94 Frederick Street, Port of Spain.
VP9E: Box 11, Mangrove Bay, Bermuda.
VU2AM: Capt. Edwards, GHQ Signals, New Delhi.
VU2DG: 29 Bde. Sigs., Deolali, India.
VU2EC: c/o Northern Command Sig., Rawalpindi, Pakistan.
VU2FR: Cpl. Orman, GHQ Sigs. Regt., New Delhi.
VU2RV: No. 2 H.S.W. Section, Eastern Command, Ranchi, Bihar, India.
VQ4GDF: Duncan Fletcher, Box 79, Nairobi, Kenya.
VS1AQ: Capt. L. K. Ayre, CHG, SEALF, GPO, Singapore, Malaya.
VS1BY: Singapore District Sig. Regt., Singapore.
VS7PW: T. Wilson, Sandringham Estate, Agras, Ceylon.
XZ2AF: c/o 71 Hatch Road, Norbury, London, S.W.16.
ZC4RG: RAF Aqir, British Forces in Palestine.
ZD4AH: G. C. Cawood, Box 287, Sekondi, Gold Coast.

The following stations ask for QSL's via R.S.G.B.:—MD5KW, SV1WE, I6ZJ, VP6CDI, VU2BQ, VU2KM, VU7AB and ZC6JP.

(Acknowledgments to G3BTA, A. E. Lincoln, J. H. Endersby, D. L. McLean and J. Clarke for QRA's sent in).

● Query Corner

Many readers will be asking themselves why no mention last month of the MD9 *faux pas* in the August issue. Reason is that it's been really interesting reading all the wise-cracks sent in by readers! Probably the best one is from ex-MB9AH who says "Exit in deep confusion—only to re-enter in complete disorder!" That sums it up pretty well, I think!

Peter Jupp asks about MH2A heard on 14 Mcs. at 1800. If this is not LH2A misread, we have no idea at all. Peter also asks for QRA of UA1KBB. All U's ask to be QSL'd through their Bureau (Box 88, Moscow).

James Endersby has a nice list of queries this month. He heard CYQZ on 14230 kcs. and wants some "gen." YO5wz stumps him too (Think he is in or around Rumania). HB1eu is HB9eu portable. James raises the point of the two stations using the suffix /FC for Corsica, when officially FC is the prefix of Clipperton Island. As far as we know FC still stands OK and the French stations on Corsica must have given their own suffix. W6YAW/AK is another case of self-appointed call letters as far as we know, O.M. J8 is still the prefix for Korea officially. Finally, James is in a flat spin about the North African prefixes. At present we have MD1 (Cyrenaica), MD2 (Tripolitania), MD3 (Eritrea), MD4 (Somalia), MD5 (Suez Canal Zone), MD6 (Iraq) and MD7 (Cyprus). The prefixes LI and TR were not official.

John Clarke comes to the rescue with the information about KX6USN. This station operates on 14285 kcs. and is at Bikini Atoll. John also asks for any data on US64 and how to QSL to Iceland and Yugoslavia. The QSL Bureaux are (TF's) Box 1080, Reykjavik and (YT's) H. Otin, Ljublana Provsetova Nr. 1, Yugoslavia.

● Gossip

G2SO, Mal Geddes, fired off on a 28 watt rig and hooked up with all W districts except 6, MD5, ZL, UA9, CN8 and many U's of various shapes and sizes. Had some interesting contacts on 7 Mcs. one of which was SHI. Anyone any dope on that one? Once Mal called UB5kad and he came back with "QRZ G2?" Also on the same frequency was UB5kab who called and worked him! Another queer case was when, in answer to a CQ call, back came GO2hel. Mal said that he replied suitably but that the GO insisted it was OK and the new prefix for the Orkneys. What now, says Mal. Well, the point is that if the call sign was in order then the operator must have held a pre-war AA ticket (i.e. 2HEL). Since the letter "E" was never issued before the war in any call sign, it confirms the more than slight suspicion that this customer is yet another of the growing band of ether polutors.

SV1AH writes that under the present disturbed state of the country all SV1 activities have been suspended by order of the Government. For those that are interested, the QRA of the Hellenic Radio Amateurs League is Box 465, Athens.

G2ADJ, C. G. Merrison, recently worked VE7zn on 7 Mcs. Good going for 40 watts.

Following this was a SWL report from New Zealand on 2ADJ's signals. Reports were (VE7) 569 and (N.Z.) 559.

G4GI, Pete Gambles, has been knocking off the DX. Recent scalps have been SV3bc, HZ1ab, UA9cb, KZ5dx, KZ5az, C8yr, HI1ar, LI2cl, VQ4ktc, VQ5jtw, FM8ad, YA3b, CR7ad, PK3we, HP4q, UA9kca, VU21j, CM2jk, XE1a, ZS3d, EP3d, VS7nx and VP4tl. Other news from 4GI is that SV0ac is ex-XAGA, and that LI2cl is now MD1b. 4GI provided VS7dr and KL7ab with their first G contacts. Nice work, O.M.

XZ2HP, otherwise G3ATH, otherwise S/Ldr. H. Pain, has on his hands a large number of QSL cards for stations that were once operating out that way. These stations are VU2PB (operated from Port Blair in the Andaman Islands), XZ2AN (once at Mingaladon) and VS7RR (originally operated from Negombo). Will the above three stations please collect their QSL's if they want them! If any reader knows any of these stations perhaps they would pass on the gen. Thanks. QRA of XZ2HP is 53537 S/Ldr. H. Pain, Officers Mess. R.A.F., Mingaladon, Burma.

VQ4RAW, George Whiting, sends along some nice data. Says he is now QRO with 30 watts! Operates on 14308, 14202 and 14100 kcs. with a 2-element W8JK aerial beamed on Europe. Says he has worked 80 G's but has only 50 cards back. How about it you slackers? George mentions the Radio Society of East Africa's annual DX Contest which ran from September 5th-19th. Pity we did not have the data earlier O.M. However, we hope the boys knocked up some good scores—the incentive was certainly there with three cups for awards (one for CW, one for 'phone and one for technical contributions). The Society's headquarters station is VQ4KTH and operates every Wednesday from 1500-1600 GMT on 7200 kcs. to radiate morse practice and organise a general round-table of VQ4's. Power used is 150 watts.

George is all for our better reporting campaign and says "Why stop at the SWL; a good many 'phone stations could do with a lesson in reporting." Amen.

G6IP, L. A. C. Lawler, returns to amateur radio after a long absence. Until 1932, the station was operated under the call G6LR, which many will remember.

MD1B, Barry Purchase, is now on his way home to G-land. MD1C has also left for home. Another colleague, MD1G is QRT for the time being. However, Barry says that there are still four active MD1's, viz.: 1A, 1D, 1E and 1F. Those who worked or sent reports to Barry can rest easy as QSL's are on the way to all. Some reports from SWL's were very poor. says Barry, though some were of definite value—those using our pads. Though many reports came in there was not one single instance for CW transmissions.

G3BEX, operated jointly by J. and R. Short (late of ST2AM) says, jointly, "What's wrong with the 7 Mcs. commentary?" The answer, your scribe feels, is that DX chasing is a little too difficult for the boys up there. They prefer the easy stuff on 14 and 28 Mcs. We are all for 7 Mcs. ourselves . . . Here's what 3BEX has done with a 10 watt CO rig on 7 Mcs.: UR2kaa, W1ddo and ZL4ft are the best. Also heard YA3ts at 1450. Any offers for more 7 Mcs. DX? Talking of this band, Ilbro is on 7010 kcs. and wants G contacts around 2300 GMT. He comes in S9. Another one who wants G-QSO's is YR5qs on about 7170 kcs.

D. Furnell, G751, is one of our youngest readers (age 12). Don says that XAMC and XACL are both in Trieste for those who want a contact with this "country," and that MD1F is ex-LI2BO. Don has heard 91 countries on 14 Mcs. using a five-valve SH and ½-wave aerial. Have we any younger readers?

● **Consistency Poll**

Many thanks to the readers who have co-operated in our new scheme. Though the response was good, your scribe was rather surprised that more did not partake in the survey. If the dozens of 14 Mcs. logs received during the month could have been replaced by the more useful data on the survey we would have been much happier! However, sufficient suport was received to gain a good picture of the African star stations. A full report on the result of Poll No. 1 will appear next issue and we trust that even more will take part in the second survey. Here are the details:—

Poll No. 2—to determine the most consistent stations from South America (i.e., countries below Panama Republic on the South American mainland). Details needed:

(1) Best CW and/or phone stations from as many countries in South America as possible.
(2) Deciding factors to be consistency of signals and quality.
(3) Survey to be for signals on 14 and 28 Mcs. Please mark plainly which bands.
(4) Closing date for entries: NOVEMBER 15th.

There we are, so let's have that data O.M's. We cannot have too many entries for these surveys so please support the scheme.

● **Black List**

We seem to have libelled VO2AF. A. E. Lincoln, G289, has a card from him for a

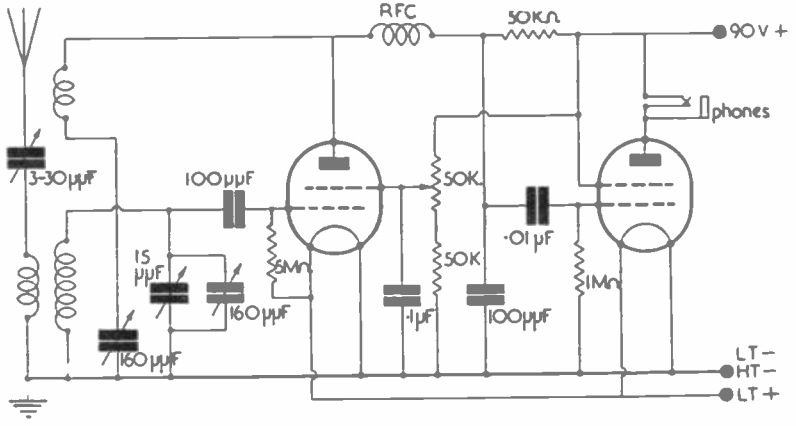
My Favourite Receiver

No. 12: J. L. Fisher, ISWL/G601

FOR the first time in this series we introduce a receiver using "all-dry" valves. Owing to the increasing popularity of these valves we feel this little reeciver will be of special interest to readers. The circuit is an 0-v-1 and uses type 1N5 valves in both the detector and output stages. Reaction is obtained by variation of the screen grid potential by the 50 K~ potentiometer. The 175 $\mu\mu$F capacitor shown in the usual reaction capacitor position is of the preset type in order to allow a certain degree of adjustment.

The receiver is assembled on a chassis measuring 5½in. x 4in. x 1½in. so it is indeed quite a small set. Standard 6-pin plug-in coils are used and the set tunes down to 9 metres quite comfortably. The coil is situated in the centre of the chassis at the back and the valves are located one on either side of the coil. A metal cabinet houses the complete receiver and its dimensions are 6in. x 4½in. x 4½in.

The owner, Jack Fisher, claims it to be a really capable DX set and offers to supply any further details to interested readers. The QRA is Sgt. J. L. Fisher, 2 Lower Gunpark, Greenhill, Woolwich, London, S.E.18.



(HAM BANDS—Cont. from p.275)

reception report together with appreciative comments. Our note on this station in the August issue was prompted by comments from one of our readers, so that it appears that either the call was misread by that reader or else the story was heard wrong. It all goes to show how careful we must be if this feature is to continue. G289 reports no reply from LU6AJ, though previously this station has QSL'd 100 per cent. As the report was sent only six months ago there is still time. No replies also from TI2OA and OX1Z. A report to VS2BO produced a QSL in 15 days, though YR5A took eight months to reply. We suggest that one year be set as the dead-line for replies, since delays are frequently encountered.

D. L. McLean sends a list of stations to whom detailed reports and return postage has been sent but who have not QSL'd. All reports were sent last year, and the calls are: EL4A, EP1C, FA8DX, FG3FP, EA1D. (This report covered six months transmissions!!), J3HRP, J9AAB, J9ABF, OX1A, 1AS, 1BC, 2MJ; PZ1J, VE2SZ/VO6, VK2DI, VO2D, 6G, 6H, 6L; VP2GB, 9F; W9WBP/C1, XU1YY, ZP5AA, VP2MY and VS9AB. What do other readers say about these stations? Any information on non-QSL'ing stations will be greatly appreciated.

● **DX QSL's Received**

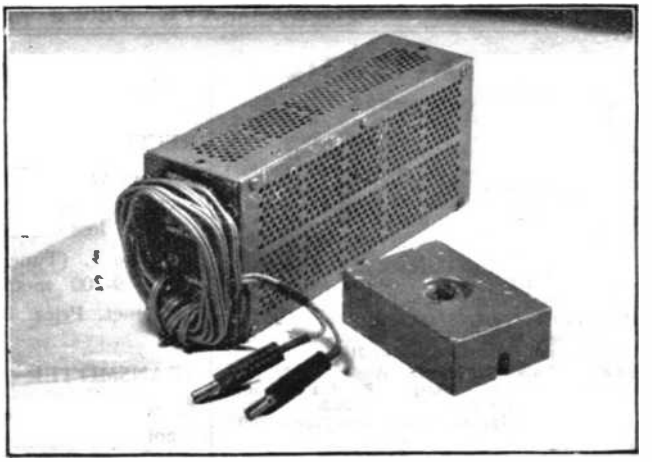
A. Slater: KZ5NB, YI2AH, YS1JR.
A. E. Lincoln: YR5A, VS2BO, ZL1HY.
W. H. Harris: HK1DZ, VK3IK, VK7TR, W6TT, VP2LA, VE7AIE, VO4Q.
E. R. Filer: CO2MA, VK2AMC, YS3PL, PY6AX. CE3AB, EA9AI, ZS1CN, ZS6LF, VS1AH.
A. H. Onslow: MD5PC, OA4U, TI2JE, VK6RU, VP5RS, W7DU, XZ2AG, ZC1AL.

Component Review

◎

MAIL ORDER SUPPLY CO.

◎



The above firm have sent us for review a sample of the MCR1 AC/DC Power Units which they are retailing at £3. These units are suitable for use, by means of a selector-panel, on AC or DC mains of any voltage between 100-140 and 190-250. On DC mains, of course, the correct polarity of the input must be observed.

The circuit employed is somewhat unusual, inasmuch as whilst the normal tapped resistor is used for dropping the DC input supply to the selenium rectifier, on AC mains a tapped auto-transformer is employed. A single mains filter capacitor, value 0.01 μF, is fitted; if modulation hum is experienced on AC mains, the reversal of the mains plug will effect a cure.

As well as the normal HT output, part of it is taken through a dropping resistor and an additional smoothing capacitor to provide a filament supply. The value of the resistor is such that 7.5 volts is available for the MCR1 receiver. The actual value is, of course, dependent on the current flowing, and due allowance should be made for this when using the unit with any other receiver.

The metal case is isolated from the remainder of the unit, but it should be borne in mind that when used with any receiver not designed particularly for this purpose, that the chassis and any metal panel will probably be connected to HT—; in such a case it will be possible for the chassis, etc., to be connected to the positive side of the mains and so be extremely dangerous. Care should therefore be taken to isolate any metal cabinet from HT—, to earth the case if metal, and to see that any potentially "live" spindles are fitted with knobs in which the grub screws are well sunk and the depressions covered with hard wax

Out of curiosity, we tried the power unit on an R1116 receiver, and were agreeably surprised when it functioned very well in spite of its size. We measured the HT output with the set on load and found it to be 90 volts. For this test we did not bother to carry out the isolating procedure recommended above, with the result that we received a shock or two from the metal knobs of the receiver. We have since carried out the necessary alterations!

Book Review

KLYSTRON TUBES (1st Edition). By A. E. Harrison. McGraw-Hill Publishing Co., Ltd., Aldwych House, London, W.C.2. 270 pp. 150 ill. 17/6.

The author of this book, Assistant Professor of Electrical Engineering at Princetown University and formerly Klystron Applications Engineer at Sperry Gyroscope Company, has produced a truly remarkable work, covering all the applications of the Klystron tubes. The book opens with the introduction and construction of Klystron tubes and passes on to cavity resonators, electron bunching theory, Klystron tubes as detectors, amplifiers, frequency multipliers and reflex oscillators. Modulation and types of modulation power supplies, microwave technique and measurements are also dealt with very thoroughly. An analysis is made on the operation of velocity modulation tubes.

To the person interested in Klystron technique this book is recommended as ideal; a book he will find invaluable.

L.H.

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.

PRIVATE

SALE. Top band transmitter (807 c.o.) and Receiver (0-v-1). In single cabinet making complete compact station £8 or offers. "Stonehaven," Horncastle Road, Boston, Lincs.

SELLING UP. Following gear must be sold by end of September—Taylor Valve Tester £15; Avo Model 47 £12; S.W. Bandspread 3 with speaker and batteries £6; R109 £3; Walkie-Talkie complete ready to use £7 10s.; 250v. 60mA. 6.3v. 2 Amp. Power Pack £3. Many bargains. Best offer taken. S.A.E. for list. W. Houseman. Leighs Brow, Barnton, Northwich, Ches.

SALE. Tobe Communications Receiver £10. Gambles, Oglee, Stanhope Drive, Woodhall Spa, Lincs.

TRADE

CONDENSERS .1 mfd. 350v. 5/6 doz.; 250 mA. Fuses 3/6 doz.; Chattertons 2/6 stick; 2 pole 5 amp. Panel Switches 3/6; Drive Cord 1d. yd.; Yaxley Switch Handles 6in. 10d.; Wafers only 4 and 8 way 4/- doz.; Assorted Hellerman Sleeving 6/- lb. Various Soldering Tags 2/- gross; 9 pole 3 way Yaxley 10/-.—Box 1023.

G6MN for the "best" QSL's and approved log books, send for samples: G6MN, Bridge Street, Worksop, Notts.

IMPORTANT. Many radio bargains of interest to constructors, etc. Send S.A.E. for list. Kemp, 18 Penrith Road, Ilford, Essex.

COPPER WIRE. Enamelled, Tinned, Cotton, Silk-covered. All guages. Screws, nuts, washers, soldering tags, eyelets. Ebonite and laminated Bakelite panels. Coil formers. Covered wires, earphones, etc. List S.A.E. Post Radio Supplies, 33 Bourne Gardens, London, E.4.

EX-A.M. AERIAL & TX GEAR. 43 ohm 100 watt Dummy Aerial Loads, 3/6. British 4-pin ceramic holders for same, 1/-. TX VARIABLE INDUCTORS. Type 1, 3in. diam. 17 turns 10 s.w.g. silvered copper with 0-29 and vernier 0-360 drive assembly on stout fibre former, 3/6. Type 2, as above but with Coarse and Fine Tuning on moulded bakelite former, 5/6. 50 and 100 pF 10 Kv DC wkg ceramic Tx Capacitors, 5/- ea. (listed over 30/- ea.) THERMO-COUPLE METERS: 0-3 A, res. 0.08 ohms, 2in. square flush mtg, 7/6. 0-6 A, res. 0.059 ohms, 3in. round flush mtg, 7/6. Pyrex feed-thru insulators with 3in. fixing plate, 2/6. Many other bargains for callers.—H. L. Smith & Co., 289 Edgware Rd., W.2. (opp. tube)

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