

system of biasing as used in the "Quality Six" for controlling the bias on the 34 r.f. and 34 intermediate valves. A separate "C" battery is not necessary when using class "B."

**R.C. (Gisborne):** I intend using a 233 in the output stages of the "Outspan Four." Would it be necessary to alter the value of the 400 ohm potentiometer?

**A.:** Yes. Connect a 400 ohm resistor in series with the potentiometer, between the end now connected to earth, and earth.

**"CRANKY" (Feilding):** After much experimenting with short-wave coils for my set—a three-valve home-made one—I succeeded in making an 80-metre coil which will work satisfactorily. I have 29 turns of 34 d.s.c. on the grid winding, and 19 turns of 34 d.s.c. on the reaction.

**A.:** What circuit are you using and what type valves? Evidently there is serious damping somewhere, as you should require nothing like 19 turns on the reaction winding to secure oscillation. Have you tried coupling the aerial to the grid coil through a .0001 mfd. condenser? Also, are you employing a low impedance detector valve?

**N.C. (Auckland):** I have constructed the "GSD Short-waver," and it brings in New Zealand amateurs quite well. However, results on dx reception are very poor. The loud hum results when the set is just on the point of oscillation.

**A.:** Try connecting a .01 mfd. fixed condenser of high test from each side of the power transformer primary to earth. You will also find that oscillation on the lower wavelengths will be much smoother if you connect a 1 mfd. fixed condenser from the centre terminal of the unisululated electrolytic condenser to earth. Also substitute a 500,000 ohm resistor for the 1 meg. at present connected to the potentiometer reaction control, to give a slightly higher detector screen voltage. This will increase oscillation, and if it does so to an undesirable extent, it can be reduced by unscrewing the .00005 mfd. semi-variable condenser connected between the screen and the plate of the r.f. valve.

**2. Could you give me details of broadcast coils?**

**A.:** The following coils will cover the middle portion of the band: R.f. coil, aerial 25 turns, secondary 180 turns. Detector coil, reaction 40 turns, secondary 180 turns. Wire, 30 d.s.c. If you desire to cover the complete broadcast band you will need two sets of coils, one set with about 150 turns on the secondaries, and the other with 200 turns.

## FOR SALE or EXCHANGE

The rate for small advertisements under this heading is 1/6 cash for 20 words, and twopenny for every other word thereafter.

**FOR Sale.**—Power pack, delivering 60 mls. at 250 volts. Tappings 180v., 120v., 60v. Filament windings 2.5v.—6 amp. (2) 5v.—4 amps., with new 80 rectifier. Price, £3/10/—Power Pack. C/o "Radio Record."

**FOR Sale.**—4 valve S.T.C. Mantel Model receiver in excellent condition. Price £10.—Mantel Receiver, C/o. Box 1082, Wellington.

**WANTED to Buy.**—Standard permanent magnet speaker, chassis type S.S.P. Must be in good condition.—Standard, C/o. Box 609, Wellington.

**FOR Sale.**—Phillips "B" Battery, new. Owner buying electric set. Price 10/— "B" Battery. C/o. Box 1585.

**FOR Sale.**—2 Ferranti Audio Transformers, ratios 5:1 and 3:1; practically new. 25/- for the two.—"Neutron," C/o "Radio Record."

# THE WORLD ON SHORTWAVE

By F. W. Sellens

News in English from Japan.

**JIAA, Japan,** operating on 30.5 metres, broadcast news in good, readable English at about 9 p.m., our time, daily.

Empire Short-wave Service.

**THE** change of time for this zone appears to coincide with a change in reception conditions, to our disadvantage.

The new hours, 5.30 p.m. to 7.30 p.m., so far, have given us a weak signal, never better than R4, and always with a deep, rapid fade, making it impossible to understand speech. The last few days prior to the change in time, which took place on September 3, GSD showed a decided improvement toward 6 p.m., which was maintained till closing at 6.45 p.m. This falling off, instead of improvement, is, no doubt, due to conditions, and we should soon be receiving the Empire station quite well during the sessions for this zone.

**GSE,** the other station which is on the air at the same time, has not been audible here for a long time, but weak signals have been reported from Auckland and Christchurch correspondents.

When transmitting for the African zone, reception here varies greatly. **GSE,** 31.55 metres, is consistently weak at 8 a.m., fading out soon after. **GSD,** 25.53 metres, varies from fair to poor. On Tuesday morning at 8.45 a.m. the international speed-boat race on Lake Michigan was being relayed to England and rebroadcast for African listeners, being received here at good strength and clarity. The American announcer's voice was as clear as the Englishman's, so reception across the Atlantic was perfect. Conditions on other mornings were poor.

**GSD** and **GSE** are the only stations of the Empire service which the writer has heard recently.

## Log for Week Ending Sept. 9.

**CONDITIONS** have been very patchy and generally poor. "Radio Coloniale," which has gone off a lot of late, came in on Saturday as good as ever, being R8 at 2 p.m. and reaching R9 by the time they closed at 3.25 p.m.

**W8XK,** 48.86 metres, also showed us what it was capable of on Wednesday, when R9 was reached prior to closing at 4.30 p.m.

These are the "bright spots" of the week's listening.

**RV15, Khabarovsk,** 70.2 metres: This station is back again after another spell of silence. Good volume most evenings, but plenty of static.

**HVJ, Vatican City,** 50.26 metres: Usually R7-8 between 6.30 and 6.45 a.m., their regular short period on the air.

**RV59, Moscow,** 50 metres: Gone off very badly. Only weak signals now.

**49.5 metres (about):** A station is often heard here at about R5 toward midnight, but interference spoils reception. Another station on about the same wavelength is sometimes audible at 7 a.m.

**W9XF, Chicago,** 49.18 metres. Reaches fair strength by 4.30 p.m., but QRM is bad.

**W8XK, Pittsburgh,** 48.86 metres. Continues to come in well most days, reaching their maximum volume at closing time—4.30 p.m.

**REN, Moscow,** 45.38 metres. Good volume early, but goes off quickly after 7 a.m.

**GSE, Daventry,** 31.5 metres. Best at 8 a.m., but seldom more than R5, slowly going off, disappearing soon after 9 a.m.

**W2XAF, Schenectady,** 31.48 metres. Closes at 2.30 p.m. before volume reaches more than R5 at its best.

**VK2ME, Sydney,** 31.28 metres. R9 during both sessions on Sunday, with slow fading.

**XETE, Mexico,** 31.25 metres. Has gone off greatly since we first heard this station a few weeks ago. Is seldom more than R4 now, and usually gushy.

**JIAA, Tokio,** 30.5 metres. Varies, some evenings up to R8, others very weak.

**FYA, "Radio Coloniale," Paris,** 25.6 metres. Generally below their level of a few weeks ago. Fair about 8 a.m., often R6, going off in volume later. Sometimes they increase again later in the day.

**GSD, Daventry,** 25.5 metres. Varies in the morning on the African zone, seldom more than R6, more often much weaker. Very poor on the Australasian zone.

**12RO, Rome,** 25.4 metres. Has gone off badly. Sometimes R5 till 8 a.m., after which time they soon fade out.

**W8XK, Pittsburgh,** 25.27 metres. Can usually be depended upon for fair to good reception from 1.30 p.m. till 2.30 p.m. They are weak before 1.30 p.m., and close down at the latter time, changing to the 48.86 metre transmitter.

**25 metres (about).** This station, thought to be a Russian, can be heard most evenings, but varies in strength during a very short period. It may be just audible one moment, and a few minutes later, coming in at R8 for a period before it fades once more, it perhaps disappears altogether for a time. Seldom audible much before 10 p.m., and continues till well after midnight.

**19.7 metres (about)** One of the American short-wave stations, possibly **W8XK** on 19.72 metres, is often heard about 7.45 p.m. till 8.30 a.m. Although seldom more than R3, reception is very clear. It is difficult to get the call because of severe fading, signals going right out every few seconds.

**THE** new 20 k.w. broadcasting station at Lisbon is to open on October 5, transmitting on about 291 metres. If necessary, the power can be raised to 100 k.w.

## Grand Opera House Wellington

Ring 51-814 for Reservations  
NIGHTLY AT 8.15.

THE GENIUS OF MAGIC  
THE KING OF COMEDY



DANTE

The World-Famous Danish Magician  
And his Big International Company  
in the Mystery Revue—

SIM SALA BIM

The show for the entire family.  
Two-and-a-half hours of fun without a blush. Bring the children—they'll love Dante.

PRICES: 5/-, 4/-, 3/-, 2/-, plus tax.  
Children Half-price. Plans, Theatre and Bristol (Wellington). Ring for reservations and save being disappointed.  
Matinees Wednesday and Saturdays, 2.15 p.m. Nightly, 8.15 p.m.