

2. My set works better with the aerial and earth wires reversed. Am I doing any harm?
A.: No. Yours is not an isolated case.

BUNG (Waikato): Can the a.f. amplifier be equipped with jacks so that the detector one or two stages of amplification could be used as well?
A.: Yes, but you might produce audio oscillation through complicating the wiring.

2. Would the amplifier be suitable for a 5-valve set?—Yes.
3. What ratio of audio transformer would you recommend?
A.: 3:1.

4. Would it operate with any type of detector or tuning circuit?
A.: It will operate with any desired amount of radio frequency amplification with either leak or power detection.

5. What type of r.f. amplification would you recommend for three-valve sets?
A.: A three-valve set would be one r.f. detector and one audio. Note: Your amplifier is not biased and this is a bad mistake. Break the connection between the grid return and A— and insert a "C" battery, with the negative toward the transformer.

ELECTRON (Oamaru): Would you give me the data for coils for .00025 variable condenser to cover the 10 to 15 metre band?
A.: A special article appeared on this subject a little while back. You will need a smaller capacity than .00025 to operate successfully on that band.

2. Has Mack's Addaphone been tested?
A.: Yes, about 12 months ago we had a laboratory account of it.

3. Is an adapter worth the outlay from the point of view of entertainment?
A.: Yes, a considerable amount of amusement can be had from listening on short wave, and an increasing large amount of important broadcasts are taking place on low-wave lengths.

4. Are there are stations other than Morse between 10 and 15 metres?—No.

5. Will the enclosed diagram if made up give good results?
A.: Yes, it is an ordinary Reinartz circuit.

6. Is a log of 53 broadcast stations poor?
A.: It depends on what strength they have been logged. If it is in the centre of the town then it is quite good.

P.R.S. (Auckland) asks several questions concerning our articles on d.c. mains eliminators, but a few of the points were explained in the last instalment which he had not seen at the time of writing. Regarding the series—paralleling of valves; this is quite in order, and the choke to suit these could be made with

34-gauge wire, with a 1in. core, or the choke can be purchased ready made. Regarding the grid bias system, these have been fully dealt with, and of the two systems, that marked (a) is probably the better. The resistance can be varied as suggested. Screen grid valves introduce limitations, but these may be overcome with proper planning on the lines indicated. If experimenters get two or three straight r.f. stages going well, they can then experiment with the s.g. valve. The series parallel arrangement should not introduce hum.

F.S.J. (Tinwald).—During a recent hail-storm a clicking noise developed in my set. On touching the lead-in wire I received a violent shock. When I dis-

AN increasingly large number of correspondents are sending envelopes and requesting that we forward them information through the post. Except under exceptional circumstances, we will not do this. Our service is maintained through the paper. We would, too, remind inquirers that a coupon taken from the "R.R." must accompany every question or series of questions.

connected a series of sparks jumped from the wires to the pliers about an inch away. What is the cause and remedy?

A.: It appears that your aerial was highly charged by atmospheric electricity during the storm. You should have had a lightning arrester in the circuit, as you are running a grave danger of not only ruining your set, but incurring bodily harm. At the same time, examine the aerial, and see that it cannot establish contact with the electric light mains of any power wires.

2. Is mine a good set?
A.: Yes, it is first grade. A laboratory report appeared a short time back.

3. Can I make my set suitable for receiving short as well as long-wave?
A.: Yes, you can either purchase or make a short-wave adapter. One was described in the 1930 "Guide."

BOB (Wellington): At times 2YA breaks through in various places on my 7-valve set. Is this a peculiarity of the station? It does not continue for long and there are no symptoms. Two of the screen grid valves do not light as brightly as the others.

A.: It is certainly not a peculiarity of the set and it may be due to a defect in the particular set you have. Have the voltages of your screen grid valves tested. Again, it may be due to waves reflected from nearby objects, but this is a rather fantastic explanation.

VALVES (Christchurch): Can my set using two 245 valves be altered to take two 250?

A.: Yes, a set-builder could do the job for you, but it would be fairly costly.

F.R. (Petone): What station should I be able to receive on my 4-valve set?
A.: You should get good reception from Australian stations. 2FC and 2BL should be particularly good and there should be a reserve of power after about 10 o'clock at night.

Would an aerial 70ft. long and 30ft. high running over an iron roof account for poor reception?
A.: Yes, your aerial is not a good one. The height is only the difference between your roof and the aerial wire.

3. The earth disconnected from the set makes very little difference to reception.
A.: This is not unusual in a.c. sets.

F.N.K. (Dunedin): I have two aerial masts, one 43 feet and the other 40 feet high. I am using 60 feet of aerial wire and 40 feet of insulated lead-in. Would it be advisable to lower one mast to 30 feet?
A.: We can see no point in your low-

ering the mast. It would not improve matters.

2. What is the correct length of aerial to use, single wire for best results?
A.: A total length of 70 or 80 feet is ample.

3. Can phones be connected to my set and what would be the advantage of using them?
A.: The advantage of phones is convenience only. On modern sets they are of little use to listen to weak stations for the noise is usually in an overwhelming proportion to the signal strength. They could be added to your set by taking a lead from the voice coil of your moving coil speaker.

4. When will the 1931 "Guide" be available, and what will be the price?
A.: We are hoping to have the "Guide" available in the beginning of April. Price 2/9.

The Great Yacht Race

OWING to the resourcefulness of the National Broadcasting Company and the Columbia System, American audiences (writes the Washington correspondent of London "World-Radio")

received a remarkably fine account, episode by episode, of the America Cup races. Never before was such interest taken in an international sporting event as in Sir Thomas Lipton's gallant attempt to lift "the old mug." The major broadcasting companies used every mechanical and ingenious device possible to bring a vivid running description of the races to every American home possessing a wireless set, and with complete success.

Ten-minute descriptions of the races at twenty-minute intervals were given every day that Shamrock V and Enterprise sailed the course. What was virtually a floating broadcasting studio was set up aboard the U.S. cruiser Kane. Microphones were placed at points of vantage on the deck, and the cruiser steamed with the racers on the starboard side. The U.S. coast-guard cutter Champlain, similarly equipped for wireless, covered the port side, while overhead radio announcers gave panoramic broadcasts of the races from the dirigible Defender as they surveyed the thirty-mile triangular course. A fifty-watt short-wave transmitter on the Kane relayed the description of the races to a land receiving station, which, in turn, transmitted the account to the major networks.

Announcers in the airship used a transmitter on the Kane relayed which had a range of twenty-eight miles. A total weight of 600 pounds was allowed for announcer, engineer, and equipment.

I HAVE just received a letter from Mr. M. Nakamura, Japan, and he gives some interesting sidelights on DX in Japan. I sent him a copy of the "Radio Record," and he was very interested in the way broadcasting was controlled here in New Zealand, and he also was very interested in the way the "Radio Record" controlled the DX Club with the necessary information DX enthusiasts required. He states there are two types of radio broadcasting in China—the Government and privately-owned ones. He states the Government stations are regularly on the air, and the private ones come on at any old time. The Chinese stations that are regularly on the air are COMK (410 metres), COHB (445 metres), COTN (480 metres), COPK (320 metres). The following Chinese stations have gone off the air:—KRS, SSC, GOW, NKS, CRC, CEC.—S. Ellis (Okato).

LISTENERS must attach this coupon to all queries sent to the Technical Editor (Box 1032, Wellington). Questions arriving without it are likely to go astray or be delayed.

Name of set

Number of Valves

Name

Address

Nom de plume

To be kept in subsequent inquiries.

Date

Please Note:—

- (1) Be specific and brief, tabulating, if possible.
- (2) Write legibly, and on one side of the paper.
- (3) We do not design circuits, but accept suggestions for feature articles.

Solving trouble, as different from advice, is difficult by correspondence and while letters are given every consideration, answers are not necessarily correct—they are only our opinion based on the matter supplied, which may be quite inadequate. Intricate and involved specifications cannot be supplied without a specialist's fee.

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