

baseboard, and from one of the sockets connect to a long lead of twin flex; The battery cable is connected thus: one wire to the L5, another to the cathode of the R.F. valve, two to the dial light and one to the shield (B-). Connect to the eliminator or power pack as follows:—Lead from L5 to B + 130 or variable, cathode to the terminal that was placed on the panel of the amplifier labelled "cathode." In other words, it is connected with the cathode of the amplifying valve which is connected to a series resistor and a by-pass condenser to earth.—See theoretical diagram for alternate connection. The dial light is connected to appropriate voltages, usually 5, and the valves to either 4 or 2.5. If they are 227 they will require 2.5. Other indirectly heated valves require 4 volts.

Neutralising.

EVERYTHING is now ready for a try-out. Connect one lug of a pair of phones to free terminal of tickler and the other lug to B+ detector, turn the current on and move the reaction condenser over until a pop is heard. This will indicate that the set is oscillating. If it does not oscillate, look for faulty wiring, bad connections, or wires that have dropped off. If the A.C. amplifier has been constructed and is working examine the inside con-

nections to the terminals to see if all is intact.

To neutralise, tune in a station about the frequency of 1YA and advance reaction until the set oscillates. Move neutralising condenser until it stops. Readjust until a point is found when further advancing the neutralising con-

List of Components.

Variable condensers: .00035 (C1), .0005 (C2), 7-plate balancing (C3).
Two box shields, standard size (9 x 6 x 5).
Grid leak, 1.5 megohms (R2).
B.D. Tuning Coils (L1, 2, 3 and 4), or 1lb. 22 gauge D.C.C. (or D.S.C.) wire.
4 Yards 30 gauge D.S.C. wire for primary.

Radio frequency choke (L5).
Resistance, 0-10,000 ohms, variable.
Battery cable.
Two terminals.
Neutralising condenser (C4).
Fixed condensers: .00025 (C8), .001 (C7), 1m.f.d. (C5), (to withstand 200 volts working).

Single drum dial with pilot light.

Condenser will not prevent oscillation. The set is now neutralised.

The Diagram.

THESE are mainly self explanatory. It will be noticed double pro-

vision has been made in diagram 1 for bias to cathode. Either can be used, not both. Either take OA to cathode of amplifier or insert a resistance of 3,000 ohms (R1) and a by-pass condenser 1 m.f.d. (C6) as shown.

If there is a tendency to hum, connect a centre-tapped resistance of about 40 ohms (R3) across the filament of the detector, earthing the centre tap. This connection must be from dead centre. C8 and R2 can be arranged so that it can be cleared by the moving vanes of C2. The letter X denotes a connection to the shield by a washer under the corner support.

A small circle indicates a hole in the floor of the shield.

It is hoped to publish photographs next week.

The Hon. Secretary,
Radio Society of Christchurch,
108A St. Asaph Street,
Christchurch.

Stating:

Full name and address of entrant.
Class of machine (broadcast or shortwave) it is desired to enter.
Age, if under 21.
Occupation.

Persons may enter for both classes should they so desire. Entries must be accompanied by a postal note or money order for 5s., which will be refunded when the machine is entered. The last date for receiving entries is **WEDNESDAY, SEPTEMBER 26.**

Receivers must be received at the Society's rooms, 108A St. Asaph Street, on Thursday, October 31, between 7.30

Aerial and Secondary Coils for Browning Drake.

2 1/2-inch former.	Condenser.	Gauge.	Covering.	Turns.	Inductance.
	.0003	18	d.c.c.	85	200mh.
	"	20	"	78	"
	"	22	"	73	"
	"	24	"	65	"
	"	26	"	56	"
	"	18	d.s.c.	88	"
	"	20	"	75	"
	"	22	"	68	"
	"	24	"	57	"
	.00035	18	d.c.c.	108	"
	"	20	"	100	250mh.
	"	22	"	90	"
	"	24	"	84	"
	"	18	d.s.c.	104	"
	"	20	"	85	"
	"	22	"	78	"
	"	24	"	68	"
	.00025	22	d.c.c.	112	350
	"	24	"	105	"
	"	26	"	94	"
	"	20	d.s.c.	112	"
	"	22	"	100	"
	"	24	"	72	"
	"	26	"	46	"
	"	28	"	33	"

To find number of turns for a three-inch former, divide by 1.3. For a two-inch former multiply by 1.3.

Competition for Radio Set Builders

Good Prizes Offered

SOME weeks ago the Radio Society of Christchurch decided to hold a set-building competition for members. At a meeting held last Thursday night it was decided to invite the general public to participate in the competition, and two classes were set aside for that purpose.

Class 1: Broadcast receivers having one or more valves.

Class 2: Shortwave receivers having any number of valves.

There will be a first and second and possibly a third prize in each class. Prizes, which will be of a valuable nature, will be donated by the society, the trade, and individuals.

CONDITIONS.

Machines entered must be completely assembled by the entrant and a certificate that it is his own work must accompany each receiver.

Entries cannot be received from persons in or connected with the trade.

Any person wishing to enter a receiver should write to

p.m. and 10 p.m., where a committee will give a receipt to the entrant and refund the deposit.

The machines will be judged by a committee of experts appointed by the society and the trade. The names of the judges will be announced at a later date, but will probably include amongst others Messrs. A. McLennan, B.E., and C. R. Russell, M.Sc. The decision of the judges will be final.

NOTES.

It is not necessary or desirable for competitors to bring batteries and speakers with their machines.

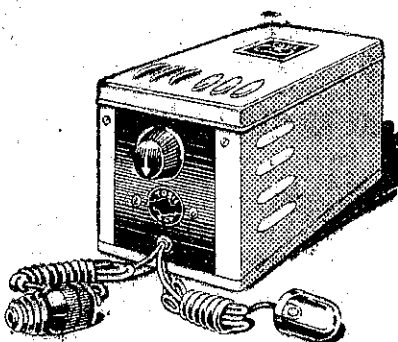
Machines assembled from kits are eligible. "All-wave" receivers are eligible in either class.

A member of the Society has offered a special prize of a set of Mullard valves to the competitor (in either class) using English or Australian parts throughout his receiver.

If you are suffering from a thin and "reedy" distortion for which you are unable to account, remember that this is often caused by H.F. getting into the L.F. side.

GENERALLY speaking, an antenna under the roof is much better than an antenna wound round the picture rail.

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