

EVER READY 5214, 5215, 5216, 5217, 5219

LISSEN 8514, 8515

Four-valve portable covering two wavebands and for operation from all-dry batteries. Made by Ever Ready Radio, Ltd., and Lissen, Ltd., Angel Road, Edmonton, London, N.18.

Circuit.—The frame aerial consists of an aerial winding inductively coupled to a grid winding. This forms the input to V1, the frequency-changer, the mixer section being A.V.C. controlled. The oscillator section is a straightforward tuned grid arrangement with coupling coils and modifying resistances in the anode circuit.

Trimmer-tuned I.F. transformers couple up V2, the I.F. amplifier, and V3, the single-diode-triode demodulator and L.F. amplifier.

The diode load provides A.V.C. as well as the demodulated signal which is passed via the volume control, R8, to the triode section. This resistance-capacity feeds V4, the output pentode.

Battery.—This is a 1.4v. L.T. plus 90v. H.T. all-dry type, Ever Ready No. 3. Total H.T. current, 9.5 ma.; total L.T. current, .25 amp.

GANGING

I.F. Circuits.—Short circuit osc. section of gang and connect .5 meg. across pins of frame aerial plug going to green and yellow wires.

Inject 452 kc. through .1 mfd. between V1 signal grid and chassis. Adjust I.F. trimmers to a single peak, reducing the input to prevent the A.V.C. working.

R.F. Alignment.—This must be carried out, through the holes provided in the back, with the frame aerial in position. The two bands are not independent, and M.W. must be adjusted first.

M.W. Band.—See that the pointer registers with the 180-degree line with the gang at maximum.

Set T3, the M.W. paddler, approximately two-thirds in.

Tune to 214 m., inject a signal of 214 m., coupling the oscillator to loop of wire near the set. Adjust T1 and T2 for maximum.

Tune to 500 m., inject 500 m. signal and adjust T3.

Readjust T1, T2 and T3.
L.W. Band.—Set T6 approximately two-thirds in.

Tune to 1,000 m., inject 1,000 m. signal and adjust T4 and T5.

Tune to 1,700 m., inject 1,700 m. signal and adjust T6.

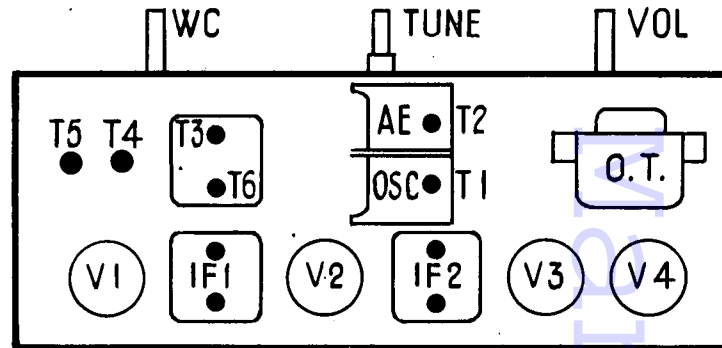
Repeat adjustments to T4, T5 and T6.

CONDENSERS

C	Mfds.	C	Mfds.
9	.01	19	.005
10	.05	20	.002
15	50 mmfds.	21	8
16	50 mmfds.	22	100 mmfds.
17	.001	23	20 mmfds.
18	100 mmfds.		

RESISTANCES

R	Ohms.	R	Ohms.
1	260,000	7	110,000
2	71,000	8	500,000
3	11,000	9	11 meg.
4	16,000	10	1.1 meg.
5	.11 meg.	11	2.1 meg.
6	4.1 meg.	12	850



After the I.F.s have been lined up, ganging must be carried out with the chassis in place. Holes are provided in the cabinet through which the adjustments can be made.

VALVE READINGS

V.	Type.	Electrode.	Volts.	Ma.
1	DK1	Anode	82	.4
		Screen	34	.6
		Osc. anode	82	.9
2	DF1	Anode	82	1.1
		Screen	82	.3
3	DA(1)	Anode	22	.02
4	DL2	Anode	79	5.2
		Screen	82	1.0
		Grid	-7.7	—

Safeguarding Meters

THE golden rule when using meters is to make sure that a proposed test will not overload the instrument. With multi-range meters the easiest way to guard against accidents is to make it a practice to begin tests with the instrument set to its maximum range.

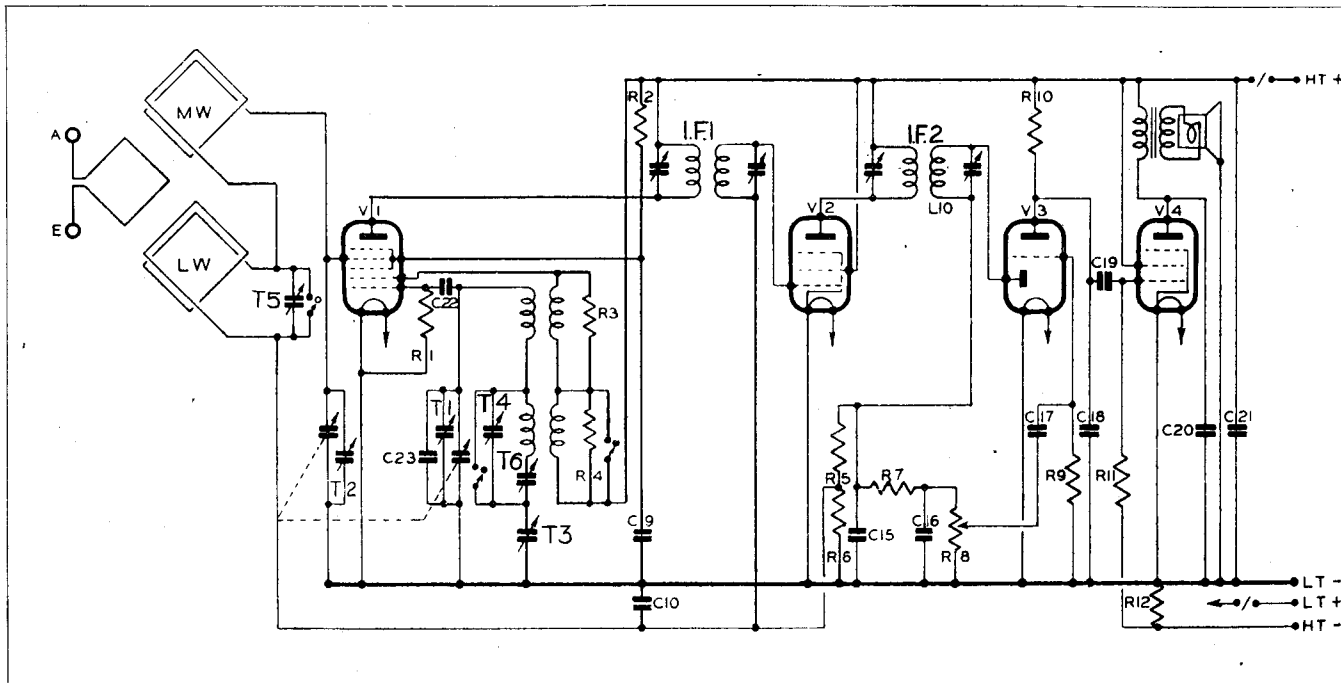
Even if a circuit is delivering more volts or current than expected, it will probably not be sufficient to slam the pointer over against the stop of the maximum range. Again, if the polarity is wrongly connected, the reverse strain on the movement will be minimised.

Lower ranges may be switched in afterwards. There is no point, however, in getting the reading as near the maximum end of the scale as possible. If the scale can be read with sufficient accuracy, the higher the range the better.

The further over the pointer goes, the greater the current necessary to put it there. This current is drawn from the circuit on test and, therefore, introduces an error. With high resistance radio circuits, even a slight meter current can cause a large alteration in circuit conditions.

For the same reason, the higher the internal resistance of a voltmeter the better. Meters costing only a few shillings take too much current to be of any value in set testing except for continuity checking; even then their use is attended by the danger of overloading some fine-wire component.

If there is any possibility of overloading the maximum current range, connect a series protective resistance for the initial test.



The set operates from a 1.4-volt dry L.T. unit and a 90-volt H.T. It follows usual superhet layout, with one diode for both demodulation and A.V.C. R12 provides automatic bias.