

# EVER READY 5132 RADIOGRAM

**CIRCUIT.**—On the short waves the input to V1, a triode hexode, is by a simple coupled circuit. On the medium and long bands use is made of a band-pass circuit, with separate coupled windings. The returns of all the tuned windings go down to the A.V.C. line. The oscillator section of V1 is perfectly conventional.

Trimmer-tuned intermediate frequency transformers precede and follow V2, the I.F. amplifier. V3, a double diode triode, provides for A.V.C. through the usual network, full decoupling being used on both V1 and V2 return circuits. Rectified voltages appear across the diode load and are taken through a coupling condenser to the volume control. This serves as the grid return for the triode section of V3.

Coupling to the output pentode, V4, is by resistance and capacity. The output valve is arranged for feedback by means of a resistance between the anode and grid, actually taken through the grid coupling condenser to isolate the H.T. from the grid circuit.

The pick-up is switched to the top of the diode load, the voltages being transferred through the coupling condenser. At the same time the H.T. circuit to the H.F. amplifier is removed to prevent signal break-through.

## QUICK TESTS

Quick tests are available on this chassis at the smoothing choke. The voltages are as follows:  
Chassis and brown, 265 volts, unsmoothed H.T.  
Chassis and red—yellow, 260 volts, smoothed H.T.  
Chassis and red—blue, 240 volts, V4 anode volts.

Power is derived from V5, a full-wave rectifier, through a smoothing choke and condensers. A permanent-magnet speaker is employed.

**Chassis Removal.**—Withdraw pick-up plug chassis and remove aerial and earth strip from cabinet or unsolder leads. Remove external speaker strip from cabinet. Remove the four control knobs from the panel and then unsolder the leads to the speaker assembly.

The tags are carried on a strip on the smoothing choke, and the colours are as follows: No. 1, brown; No. 2, red; and No. 3, blue. Tags 2 and 3 also have yellow and red leads respectively, which go to the speaker transformer.

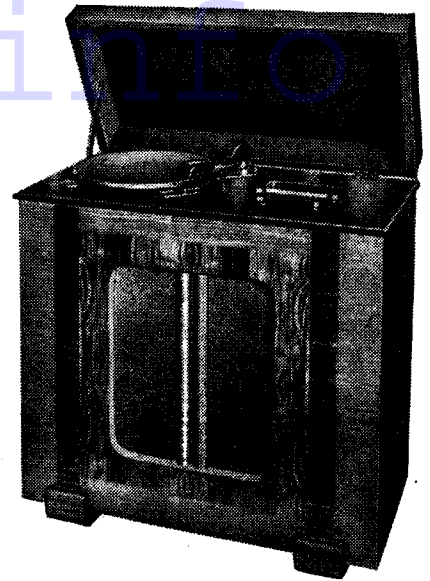
The chassis can now be removed by withdrawing the four retaining bolts.

**Special Notes.**—In examining our model no divergencies from the maker's specification or circuit were noted. With a few exceptions the components are easily found.

The grid stopper for V3—that is, R28—

## VALVE READINGS

V.	Type.	Electrode.	Volts.	Ma.
1	<i>All Ever Ready.</i> A36B	Anode ..	250	2.0
		Screen ..	168	4.7
		Osc. anode	128	5.3
		Anode ..	240	7.0
2	A50P	Screen ..	85	2.5
		Anode ..	94	3.2
3	A23A	Anode ..	240	45
		Anode ..	260	5.0
4	A70D	Screen ..	260	5.0
		Anode ..	260	5.0
5	A11D	Heater ..	265	300
		Heater ..	265	300
Pilot	Ever Ready		5.5	
1'm's				

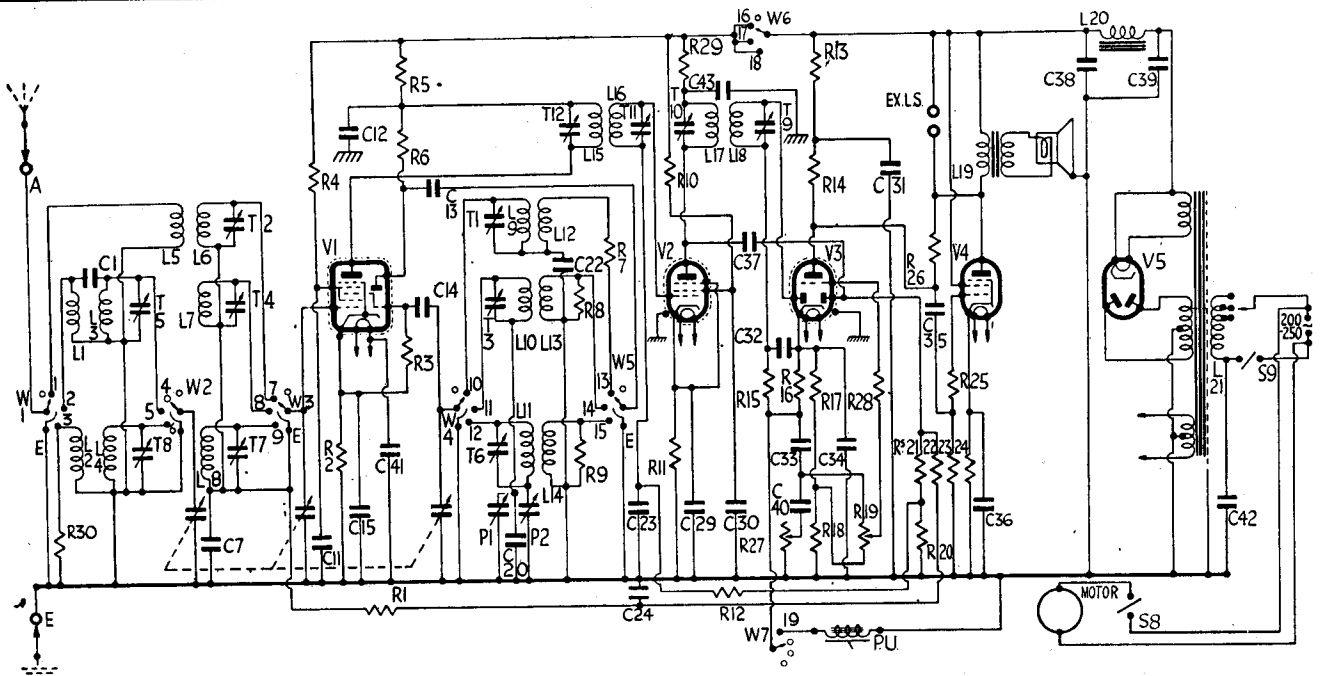


The Ever Ready 5132 is a four-valve, plus rectifier, three waveband super-het combined with a Garrard motor and pick-up unit in this attractive cabinet.

will be found in the grid cap. The heterodyne voltage-control resistances R8 and R9 are connected directly across the tuning coils, and they are therefore inside the coil can.

When carrying out voltage and current measurements care should be taken to see that the receiver is not switched to the gramophone position, as the H.T. is removed from the first two valves.

The gramophone side consists of a



Band-pass input on medium and long waves and negative feedback in the output stage (via R28 and C35) are two features of the 5132 circuit.

For more information remember  
www.savoy-hill.co.uk

Garrard motor and pick-up unit. These do not contain any novel features from the service point of view.

**Wavechange Switches.**—Switching is carried out by four wafers, although many of the contacts are not utilised. The switches are somewhat complicated in themselves owing to the construction of the earth plates on the rotors. In the drawings only the live contacts are shown. Some of the unused contacts are left on the wafers, while in other cases the contacts are completely removed.

The first bank, nearest to the "click" plate, carries W1 and W2, which control

the aerial circuits. The earthing contact, which operates through the earthing plates, is marked "E." The next wafer only performs one function, that of switching the bandpass circuit and the short-wave input. It carries only W3 and three live contacts, in addition to the earthing or shorting plate which is marked "E1," as this does not go direct to the earth but the A.V.C. line.

Pick-up switching is controlled by the next wafer, which carries W6 and W7. Here there are four live contacts. Finally, the last wafer carries the two wipers W4 and W5, which control the oscillator circuits, together with the earthing plates again marked "E" on the drawing.

(Continued on page 22)

## Ever Ready 5132 on Test

**MODEL 5132.**—For A.C. mains operation, 200-250 volts, 40-100 cycles. Price, 22 gns.

**DESCRIPTION.**—Four-valve, plus rectifier, three-band manually tuned radiogram.

**FEATURES.**—Full-vision scale, calibrated in names and wavelengths, with "aeroplane" type pointer. Controls for range, tuning, tone and volume combined with mains switch. Sockets for aerial and earth and extension speaker. Garrard automatic record changer and pick-up.

### Sensitivity and Selectivity

**SHORT WAVES (16-52 metres).**—Representative short wave performance with good gain and selectivity and easy handling.

**MEDIUM WAVES (198-575 metres).**—Good gain and excellent selectivity with local station spread on adjacent channels only. Gain well maintained and a clean background.

**LONG WAVES (860-2,200 metres).**—Very good selectivity and adequate gain. All main stations clear of interference, with ample volume.

**AUTOGRAM.**—The mechanism functioned perfectly, giving correct stopping and starting with representative records.

### Acoustic Output

Ample volume for an ordinary room, with a well balanced tone. There is good upper and lower note radiation, crisp, clean attack, and the tone control is not too vigorous in action.

Speech is very pleasing and free from marked colouration.

### Replacement Condensers

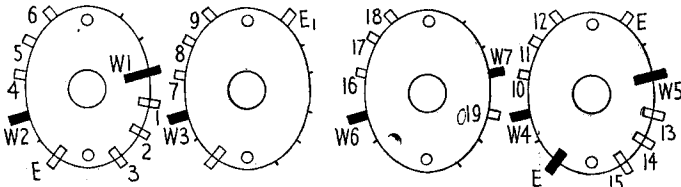
The electrolytic condensers in the 5132 are made by A. H. Hunt, Ltd., Garratt Lane, Wandsworth, London, S.W.18, and replacements are available at the following retail prices: For the block containing Cs 38, 39 and 12, unit list number 4239A, 8s. 6d.; for C31, 2964, 1s. 10d.; and for either C34 or C36, 2915, 1s. 9d.

### RESISTANCES

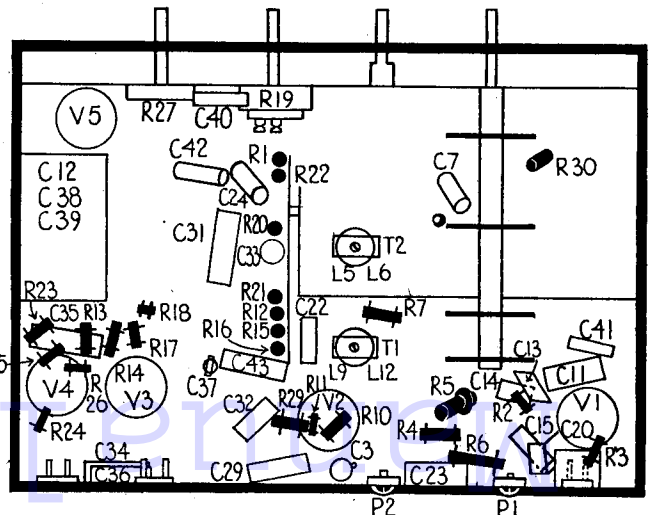
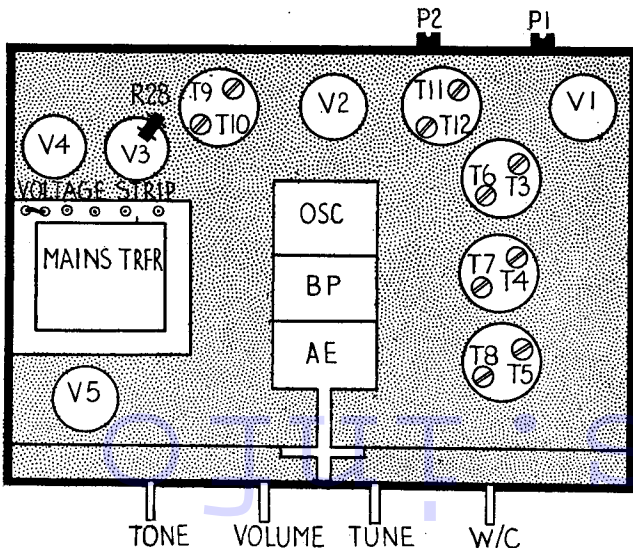
R.	Purpose.	Ohms.
1	V1 A.V.C. decouple ..	260,000
2	V1 cathode bias ..	200
3	V1 osc. grid lead ..	51,000
4	V1 screen decouple ..	41,000
5	V1 osc. anode decouple ..	5,000
6	Osc. anode load ..	20,000
7	S.W. het. volts control ..	200
8	M.W. het. volts control ..	1,500
9	L.W. het. volts control ..	5,100
10	V2 screen decouple ..	30,000
11	V2 cathode bias ..	250
12	V2 A.V.C. decouple ..	260,000
13	V3 anode decouple ..	11,000
14	V3 anode load ..	41,000
15	V3 signal diode load (part) ..	510,000
16	V3 signal diode load (part) ..	260,000
17	V3 cathode bias (part) ..	800
18	V3 cathode bias (part) ..	1,500
19	Volume control ..	500,000
20	A.V.C. diode load (part) ..	510,000
21	A.V.C. diode load (part) ..	510,000
22	A.V.C. decouple ..	510,000
23	V4 grid leak ..	510,000
24	V4 cathode bias ..	150
25	V4 grid stopper ..	51,000
26	Negative feedback coupling ..	250,000
27	Tone control ..	2 meg.
28	V3 grid stopper ..	100,000
29	V2 anode decouple ..	2,500
30	L.W. aerial primary shunt ..	5,100

### CONDENSERS

C.	Purpose.	Mfds.
1	M.W. aerial coupling ..	.000005
7	V1 A.V.C. decouple ..	.05
11	V1 screen decouple ..	.1
12	V1 anode and osc. decouple ..	.8
13	V1 osc. anode coupling ..	.0003
14	V1 osc. grid ..	.0001
15	V1 cathode shunt ..	.1
20	M.W. fixed padder ..	.0003
22	S.W. fixed padder ..	.0033
23	V2 A.V.C. decouple ..	.1
24	A.V.C. decouple ..	.1
29	V2 cathode shunt ..	.1
30	V2 screen decouple ..	.1
31	V2 anode decouple ..	2
32	H.F. filter ..	.00005
33	L.F. coupling ..	.05
34	V3 cathode bias shunt ..	.50
35	L.F. coupling ..	.05
36	V4 cathode bias shunt ..	.50
37	A.V.C. diode coupling ..	.00001
38	H.T. smoothing ..	.16
39	H.T. smoothing ..	.8
40	Tone control ..	.002
41	Heater by-pass ..	.005
42	Mains filter ..	.005
43	V2 anode decouple ..	.1



The switch banks, with the one nearest the "click" plate on left. Refer also to switch details in text above.



These two diagrams of the chassis identify all the components, and, in conjunction with the Valve Readings table, show the positions of the valves. Resistors are in solid black and condensers in outline.

# Pye Push-button 834

(Continued from page 19)

resistance R25 being carried on the speaker strip.

**Switch Details.**—All the switching is carried out by a multiple press-button unit consisting of two rows of ganged switches. In the normal or off position the moving contacts, which are of L formation, are all in line so that the bottom portions of the L are connected together.

When they are depressed, the bottom of the L moves forward and the L makes a three-point connection. This can be clearly followed by examining the first and second buttons marked "A" and "B" in the circuit.

Button "B" is depressed, connecting together the top of the M.W. tuned aerial winding, and the gang condenser. The leg of contact "B" remains connected to the bottom or foot of contact A, and through this goes direct to the grid of V1.

The oscillator circuit connections are exactly similar in principle.

## Alignment Notes

**I.F. Circuits.**—The transformers are of the permanently trimmed type, and only require adjustment if one is damaged or has to be changed.

Connect the output meter to the set and the signal generator to the control grid of either V1 or V2, as the case may be. Inject a signal of 465 kos., using a value below the A.V.C. voltage.

The inductance is matched by sliding the outer half of the coil until a maximum peak is obtained on the output meter. Then fix the coil with coil dope (preferably British Celanese solution, No. 202) and allow to dry for two hours before trimming the H.F. circuits.

**Short Waves.**—Connect the signal generator to the aerial and earth sockets and press in the S.W. button. Tune the set to 15 metres and inject this wavelength.

Adjust T1 for resonance and T2 for maximum output in that order. Adjust the trimmer T1 so that the signal is obtained on the higher frequency—that is, the lower or minimum position of the trimmer giving resonance.

Check the trimming at 30 and 50 metres.

**Medium Waves.**—Press the M.W. button and tune set and generator to 210 metres, adjusting T3 for resonance and T4 for maximum output in that order.

Then tune set and generator to 520 metres and adjust P1.

The trimming should be checked at 300 and 500 metres.

**Long Waves.**—Press the L.W. button and tune set and generator to 1,800 metres and adjust P2 for resonance. Then tune set and generator to 1,000 metres and adjust T5 for maximum.

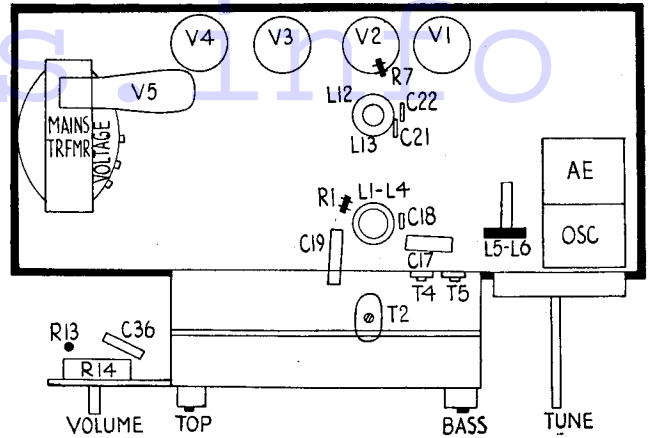
Retune set and generator to 1,800 metres and readjust P2. Then make check tests at 1,000, 1,300 and 1,800 metres.

## Push-button Adjustment

THE system used in this receiver is combined trimmer and permeability adjustment, variable inductances being used for the oscillator circuits.

The adjustments are located under the escutcheon, which must be removed by

This diagram identifies valves, coils and other components on the top of the Pye 834 chassis.



releasing the two retaining nuts, thereby disclosing two rows of screws. These can be operated either by a screwdriver or a special calibrated tool.

Identification of the various screws is obtained by indicator lines drawn from the various buttons to the appropriate screws.

To correct a slight lack of adjustment, the oscillator screw is turned until the correct setting is obtained as indicated either by an output meter and signal generator, or by ear on an actual transmission. The aerial trimmer is then adjusted for maximum output.

In the case of setting up a new position, it may be necessary to alter the aerial trimmer and the oscillator inductance. Use is made of four adjustable coils to cover the whole of the medium and long ranges. The ranges are as follows:—

- Coil E, 1,250-2,000 metres.
- Coil H, 192-305 metres.
- Coil J, 255-455 metres.
- Coil K, 320-560 metres.

## Ever Ready 5132 Alignment

(Continued from page 21)

**I. F. Circuits.**—Connect an output meter to the speaker sockets, short circuit the oscillator gang, tune to M.W. and connect signal generator to the grid of V1 through a 0.1 mfd. condenser and adjust generator to 473 kc.

Trim T9, T10, T11 and T12 in that order for maximum output, checking the trimming by repeating the operation.

Use a low input below the A.V.C. value.

**Long Waves.**—See that the pointer registers with the 180 degree line on the scale with the gang at maximum. Set P2 to two thirds of maximum value approximately. Connect the generator to A and E terminals and tune set and oscillator to 1,000 metres.

Adjust T6 for resonance and T7 and T8 for maximum output.

Tune set and oscillator to 1,700 metres and adjust P2 for maximum.

Retune set and generator to 1,000 metres and recheck T6, T7 and T8.

Recheck at 1,700 metres.

**Medium Waves.**—Having checked the pointer alignment, adjust P1 to approximately two thirds in and tune set and generator to 214 metres. Adjust T3, T4 and T5 for maximum output.

Tune set and oscillator to 500 metres and adjust P1 for maximum output.

Recheck at 214 metres adjusting T3, T4 and T5 if necessary.

## WINDINGS (D.C. Resistances)

L.	Ohms.	Range.	Where measured.
1	17.7	M.W.	A. and E.
2	137	L.W.	A. and E.
3	2.5	M.W.	Aerial gang and E.
4	48.5	L.W.	Aerial gang and E.
5	2.1	S.W.	A. and E.
6	Very low	S.W.	V1 grid and C7+R1.
7	2.5	M.W.	V1 grid and C7+R1.
8	44	L.W.	V1 grid and C7+R1.
9	Very low	S.W.	Osc. gang and C22+L12.
10	1.5	M.W.	Osc. gang and P1.
11	47	L.W.	Osc. gang and P2.
12	200	S.W.	W5 and C22+L9.
13	3	M.W.	W5 and E.
14	10	L.W.	W5 and E.
15	8	—	V1 anode and R5+R6.
16	7	—	V2 grid and C23+R12.
17	6.7	—	V2 anode and C43+R29.
18	6.7	—	Signal diode and C32+R15.
19	650	—	On tags 2 and 3.
20	230	—	On tags 1 and 2.
21	16.5	—	Mains plug.

Recheck at 500 metres.

**Short Waves.**—Having checked the pointer alignment, tune set and generator to 15 mc. and fully unscrew T1.

Slowly screw up the trimmer until the signal is heard. There are two settings of the trimmer which give the signal. The correct one is that which gives the signal at the lower capacity. Adjust T2 for maximum output.

Tune set and generator to 6 mc. and adjust the top turn of the short wave oscillator coil, L9, simultaneously rocking the gang.

Recheck the trimming at 15 mc. re-adjusting if necessary T1 and T2.