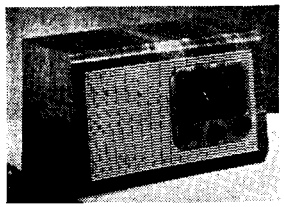
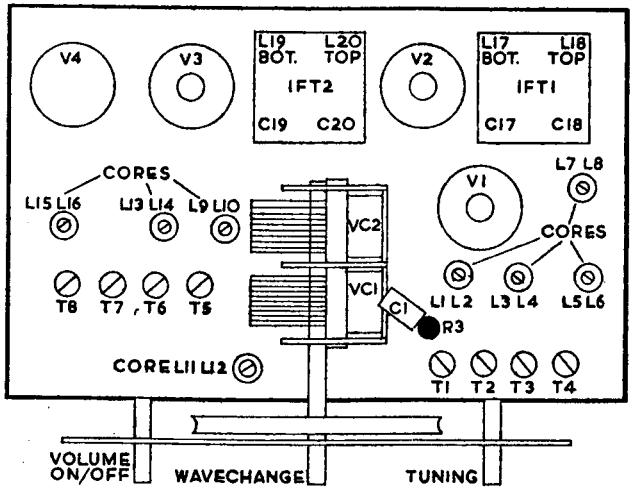
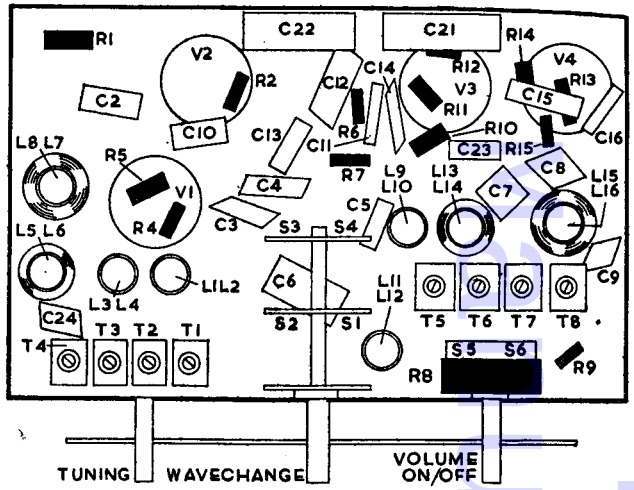
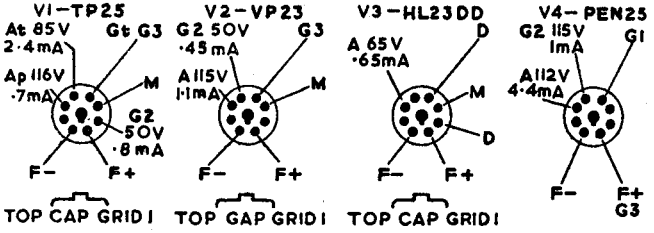
VIDOR CN361

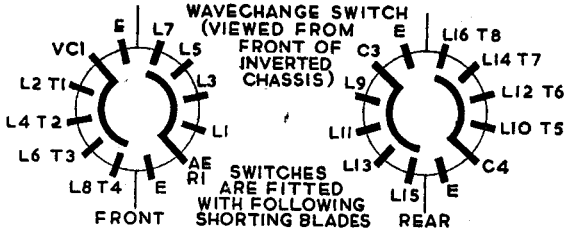


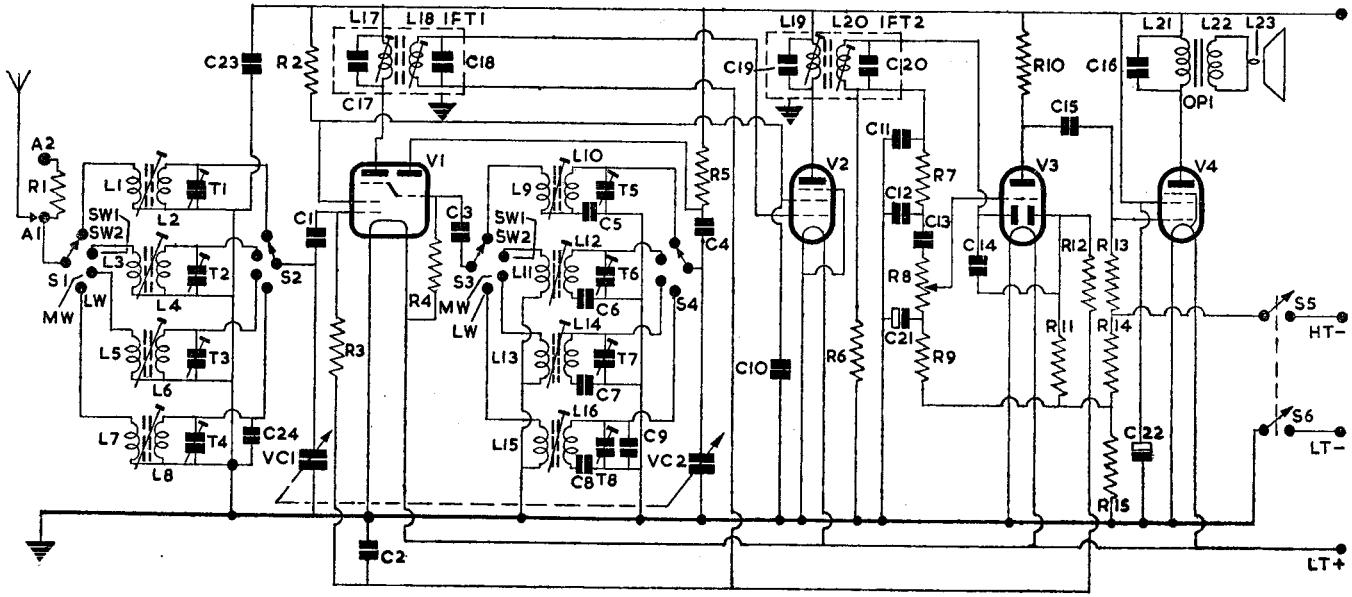
Four-valve, four-waveband superhet for operation from 2-volt accumulator and 120-volt HT battery. Walnut veneer cabinet. Made by Vidor, Ltd., West Street, Erith, Kent.











RESISTORS

R		Ohms	Watts
1	..	47K	¼W
2	..	68K	¼W
3	..	1 Meg	¼W
4	..	47K	⅛W
5	..	10K	⅛W
6	..	470K	⅛W
7	..	47K	⅛W
8	..	1 Meg Potr with D.P. switch	
9	..	1 Meg	¼W
10	..	100K	¼W
11	..	1 Meg	¼W
12	..	470K	⅛W
13	..	1 Meg	⅛W
14	..	180	¼W
15	..	120	⅛W

CAPACITORS

C		Mfds	Type
1	..	100 pf	Silver Mica
2	..	.1	Tubular 150V
3	..	200 pf	Silver Mica
4	..	100 pf	Silver Mica
5	..	.005	Mica
6	..	1480 pf	Silver Mica
7	..	645 pf	Silver Mica
8	..	250 pf	Silver Mica
9	..	120 pf	Silver Mica
10	..	.1	Tubular 150V
11	..	200 pf	Silver Mica
12	..	200 pf	Silver Mica
13	..	.01	Tubular 350V
14	..	100 pf	Silver Mica
15	..	.01	Tubular 1000V
16	..	.005	Tubular 500V

CAPACITORS—*Contd.*

C		Mfds	Type
17	..	65 pf	Silver Mica
18	..	65 pf	Silver Mica
19	..	65 pf	Silver Mica
20	..	75 pf	Silver Mica
21	..	25	Electrolytic 12V
22	..	8	Electrolytic 150V
23	..	.1	Tubular 150V
24	..	65 pf	Silver Mica

INDUCTORS

L		Ohms
1	..	Very low
2	..	Very low
3	..	.1
4	..	.6
5	..	.4
6	..	2.2
7	..	75
8	..	7.75
9	..	Very low
10	..	Very low
11	..	.2
12	..	.6
13	..	.8
14	..	1.75
15	..	2.5
16	..	3
17	..	8
18	..	8
19	..	8
20	..	8
21	..	600
22	..	.4
23	..	2.5

CIRCUIT consists of a triode-pentode frequency changer V1, coupled by a permeability tuned IF transformer to variable mu RF pentode V2 used as IF amplifier.

A second permeability tuned IF transformer couples V2 to a double-diode-triode V3, which combines signal rectification, AVC and audio amplification. Resistance capacity coupling is employed between V3 and V4 the pentode output valve. Output from V4 is fed into a 6½-in. PM speaker.

High tension is provided by a 120-volt standard type battery and LT by a 2-volt accumulator.

(*Continued overleaf*)

VIDOR CN361—*Continued*

Aerial. Alternative sockets are provided for connecting an aerial to the receiver. A1 socket connects through switch S1 to coupling coils L1 (SW2), L3 (SW1), L5 (MW), L7 (LW). When A2 socket is used a series resistor R1 is included in the input to attenuate strong signals. L2 (SW2), L4 (SW1), L6 (MW), L8 (LW) are the aerial tuned coils and S2 connects these to the aerial tuning capacitor VC1 and through C1 to grid of the triode-pentode frequency changer V1. T1, T2, T3, T4 and C24 are trimming capacitors. AVC and a small standing bias is fed to grid V1 through R3 decoupled by C2. Screen voltage is obtained from R2 decoupled by C10. L17, C17, the primary of IFT1, is in the anode circuit of V1.

Oscillator is connected in a tuned anode parallel-fed HT circuit. L10 (SW2), L12 (SW1), L14 (MW), L16 (LW) are tuned coils switched by S4 to oscillator tuning capacitor VC2 and through capacitor C4 to anode of triode oscillator section of V1. R5 is the anode load.

T5, T6, T7, T8 and C9 are trimmers and C5, C6, C7, C8 padders. Reaction voltages are developed inductively on L9, L11, L13, L15 switched by S3 through coupling capacitor C3, to oscillator grid. R4 is grid resistor and leak-condenser bias is provided by R4, C3.

IF amplifier operates at 456 kc/s. L18, C18, the secondary of IFT1, feeds signal to grid of variable mu RF pentode IF amplifier, V2. AVC is applied to grid through L18 decoupled by C2. Screen voltage is obtained from R2 decoupled by C10. L19, C19, the primary of IFT2, is in the anode circuit of V2.

Signal rectifier. L20, C20, the secondary of IFT2, feeds signal to one diode of V3. R6 is the load and R7, C11, C12 form an IF filter.

AVC. C14 feeds signal from secondary of IFT2 to second diode of V3. R11 is the diode load and R12 and C2 provide decoupling for AVC line.

For delay voltage on the AVC diode the earthy end of R11 is connected to junction of R14, R15, which form a potential divider for the automatic bias voltage developed between HT negative and chassis.

Audio amplifier. C13 feeds signal to R8, the volume control, and thence to grid of triode section V3. Negative grid bias is obtained through R8 and R9 at junction R14, R15. C21 decouples the bias voltage to grid V3 only. R10 is anode load.

Output stage. C15 feeds signal to grid of pentode output valve V4. R13 is grid resistor and bias for grid is obtained from voltage developed across R14 and R15 in the HT negative return to chassis. Screen voltage is taken from HT line of receiver. L21, the primary of output matching transformer OP1, is in the anode circuit of V4. C16 is for tone correction. L22, the secondary of OP1, feeds into a 6½-in. PM loudspeaker L23.

High tension is obtained from a 120-volt standard type HT battery. The total current consumption is approximately 11.5 mA. C22 provides decoupling. S5, which is ganged to S6, and operated by volume control spindle, is HT ON/OFF switch.

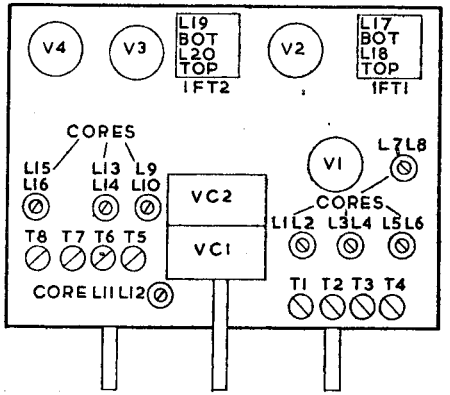
Low tension. Filaments of V1 to V4 are wired in parallel and obtain their current of .45 amps from a 2-volt accumulator.

Removal of chassis from cabinet. Remove three push-on type control knobs and unfasten the four chassis bolts on underside of cabinet.

The loudspeaker can be removed by unfastening screws in the four clamps positioned around its edge.

TRIMMING INSTRUCTIONS

Apply signal as stated below	Tune receiver to	Trim in order stated for maximum output
(1) 456 kc/s to top cap V1 via .01 capacitor	—	Core L20, L19, L18, L17
(2) 300 kc/s to AE socket via dummy aerial	1,000 metres	T8, T4
(3) 150 kc/s as above	2,000 metres	Core L16, L8 and repeat (2) and (3)
(4) 1.5 mc/s as above	200 metres	T7, T3
(5) 454 kc/s as above	550 metres	Core L14, L6 and repeat (4) and (5)
(6) 6 mc/s as above ..	50 metres	T6, T2
(7) 1.667 mc/s as above	180 metres	Core L12, L4 and repeat (6) and (7)
(8) 17.6 mc/s as above	17 metres	T5, T1
(9) 6 mc/s as above ..	50 metres	Core L10, L2 and repeat (8) and (9)



TWO USEFUL SERVICE BOOKS

Electric Clocks, by S. J. Wise, will help the reader to understand the mechanism of electric clocks and to service them when required. It not only covers the synchronous motor type, but also the impulsed pendulum or balance type and those in which an escapement or pendulum is driven by a spring or weight alternately wound and liberated electrically. 142 pages, 137 illustrations. Price 10s. 6d. net, from Heywood and Co., Ltd., Drury House, Russell Street, Drury Lane, London, WC2.

Radio and Car Battery Handbook.—By Charles Fleming. George Newnes, Ltd., Tower House, Southampton Street, Strand, London, WC2. 128 pages. 5s. A handbook for the radio serviceman and garage electrician concerned in the running of a charging plant and in the testing, servicing and repair of accumulators. There is a chapter on chargers themselves, with instructions for constructing suitable small equipment.