

VIDOR CN 349, 354

Model CN349, the "Chanson" receiver, and the CN354 are similar sets having four-valve three-band superhet chassis, and were placed on the market in April, 1946, by Vidor, Ltd., West Street, Erith, Kent.

CIRCUIT—Triode-hexode FC and local oscillator V1 feeds a VM HF pentode V2. Signal rectification and AVC is by a double-diode triode V3, the triode section of which provides LF amplification. **Output** stage consists of a high slope power pentode V5 feeding an eight-inch permanent magnet speaker. A "magic eye" tuning indicator V4 is incorporated. HT is derived from a full wave rectifier V6.

Aerial circuit consists of three iron-dust cored aerial transformers. S1 switches the aerial to the primary windings L1, L3 and L5. S2 switches the grid of V1 to secondary windings L2, L4 and L6. VC1 is the aerial tuning capacitor, and T1, T2 and T3 trimmers. C1 is additional capacity across T3, the LW trimmer.

AVC is fed to grid of V1 on all three wavebands via R3. C3 is grid isolating capacitor and C5 the AVC decoupling capacitor.

Cathode bias is obtained from R4 and decoupled by C4. **Screen voltage** is obtained from junction of R1 and R2 and is decoupled by C2. The primary L13 of IFT1 is in the anode circuit of V1.

Oscillator circuit consists of three iron-cored inductances connected in a parallel-fed, anode-tuned circuit. S4 switches the anode coils L8, L10 and L12, which are tuned by VC2. C10 is the anode coupling capacitor and R7 the oscillator anode load. T4, T5 and T6 are trimmers and C7, C8 and C9 are padding capacitors. C29 is additional capacity across T6, the LW trimmer. S3 switches the grid reaction coils L7, L9 and L11. C6 is grid coupling capacitor. R6 is grid limiter resistor. R5, C6 provide leak-condenser bias to grid of oscillator.

IF amplifier operates at 456 KCS. L14, the secondary of IFT1, a permeability tuned IF transformer, applies the signal to grid of V2. AVC is fed in series with L14 to grid of V2. Cathode bias is obtained from R8 and decoupled by C11. L15, the primary of IFT2, a permeability tuned IF transformer, is in the anode circuit of V2.

Signal rectifier, AVC and LF amplifier are combined in V3, a double-diode triode. L16, the

secondary of IFT2, feeds into the signal diode. R11 is the diode load and R10, C12 and C13 form an IF filter. R12 and R13 form a dividing network across R11. The potential across R13 is applied to the grid of the tuning indicator V4, the cathode of which is connected to the cathode of V3. R14, R15 are V4 anode resistors and TA voltage is obtained from the HT line. C14 transfers the rectified signal from the diode to R9, the volume control, and thence to grid of triode section. S5 switches the radio or PU signals to R9. AVC diode is fed from secondary of IFT2 by C17. R19 is diode load and R20 decoupling resistor. Cathode bias and AVC delay voltage is obtained from R18 and decoupled by C25.

R16, C16 provide decoupling to HT supply to anode V3. R17 is the anode load. C18 is anode LF bypass capacitor. C19 feeds the signal to grid of V5, the output valve.

Output—R24 is grid leak of V5 and R23 is grid stopper resistor. Cathode bias is derived from R25 and decoupled by C26. Screen voltage is obtained from LT line. L17, the primary of OP1, the output transformer, is in the anode circuit.

Negative feed-back is applied to grid of V5 via R22, R21 and C19. R26, the tone control, is shunted across R22. C20 is the tone control capacitor. L18, the secondary of OP1, drives an 8-inch PM speaker. Extension LS sockets are provided on the secondary of OP1.

HT supply is by an indirectly heated full wave rectifier V6. L22, the HT secondary of MT1, the main input transformer, supplies the anode voltages, and L21 supplies the heaters at four volts. L20, C27 and C28 provide HT smoothing and C30 provides HF decoupling.

Heaters, dial, and indicator lamps are supplied from L23. S6, ganged to the wave-change switch, controls the indicator lights. L24,

RESISTORS

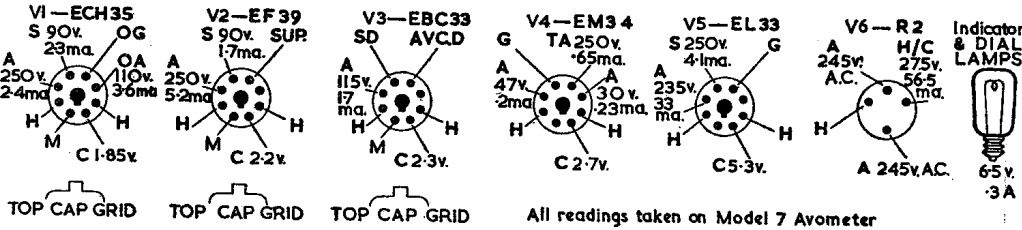
R	Ohms	Watts
1	100K	1
2	33K	1
3	470K	1
4	220	1
5	50K	1
6	100	1
7	33K	1
8	330	1
9	1 meg. potentiometer (with switch)	1
10	50K	1
11	220K	1
12	3.3M	1
13	2.2M	1
14	1.2M	1
15	1.2M	1
16	22K	1
17	47K	1
18	680	1
19	1M	1
20	470K	1
21	100K	1
22	100K	1
23	47K	1
24	100K	1
25	150	1
26	50K	Pot./meter

CAPACITORS

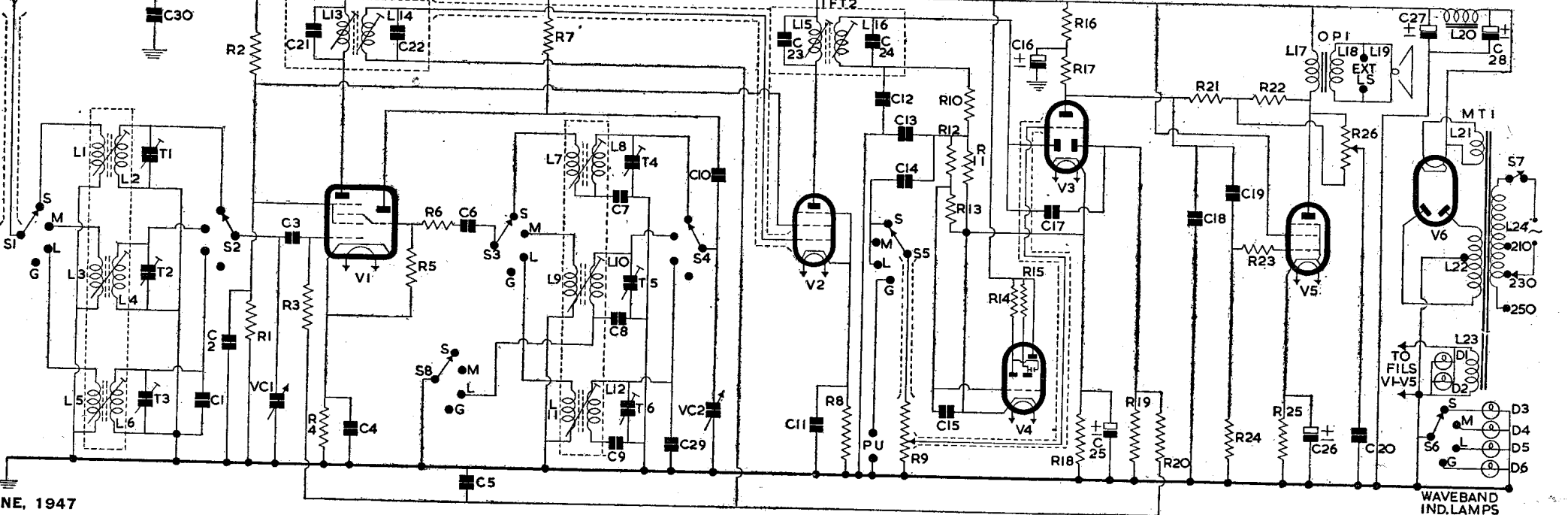
C	Mfd
1	47 pF Silver Mica
2	.1 Tubular 350V
3	100 pF Silver Mica
4	.1 Tubular 350V
5	.1 Tubular 350V
6	100 pF Silver Mica
7	.005 Mica 350V
8	645 pF Silver Mica
9	250 pF Silver Mica
10	100 pF Silver Mica
11	.1 Tubular 350V
12	100 pF Silver Mica
13	100 pF Silver Mica
14	.01 Tubular 350V
15	.01 Tubular 350V
16	4 Electrolytic 350V
17	100 pF Silver Mica
18	500 pF Silver Mica
19	.1 Tubular 350V
20	.05 Tubular 500V
21	150 pF Silver Mica
22	150 pF Silver Mica
23	150 pF Silver Mica
24	300 pF Silver Mica
25	50 Electrolytic 12V
26	50 Electrolytic 12V
27	24 Electrolytic
28	16 } 250V
29	100 pF Silver Mica
30	.1 Tubular 350V

INDUCTORS

L	Ohms
1	very low
2	very low
3	5
4	2
5	75
6	7.8
7	.25
8	very low
9	1.25
10	1.6
11	2.5
12	3
13	7



TOP CAP GRID TOP CAP GRID TOP CAP GRID All readings taken on Model 7 Avometer



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primary of MT1, is tapped for supply voltages from 200—250 AC, 40—100 c/s. S7, on/off switch, is ganged to volume control R9.

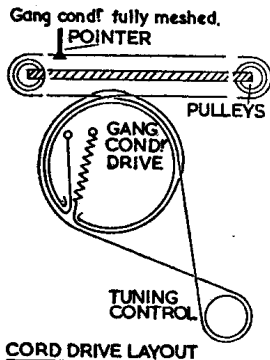
Removal of Chassis—Remove the slip-on control knobs and back of cabinet. Unfasten the four chassis bolts beneath cabinet. Chassis may now be removed complete with speaker.

Note—A removable panel on the underside of the cabinet permits tests and adjustments to be made without removal of chassis.

TRIMMING INSTRUCTIONS

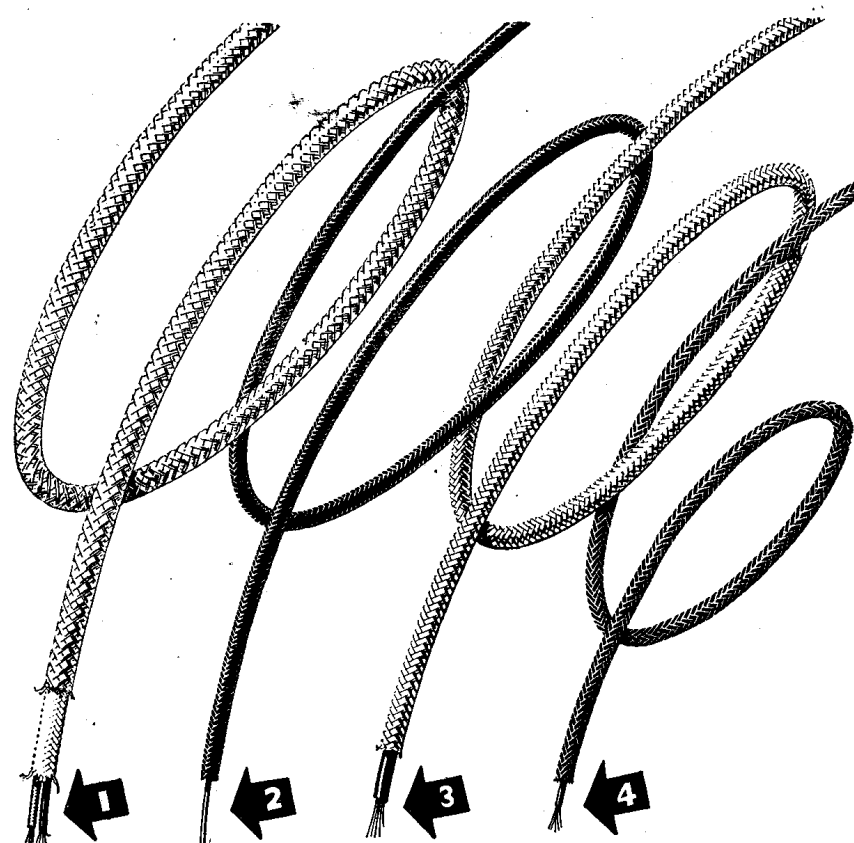
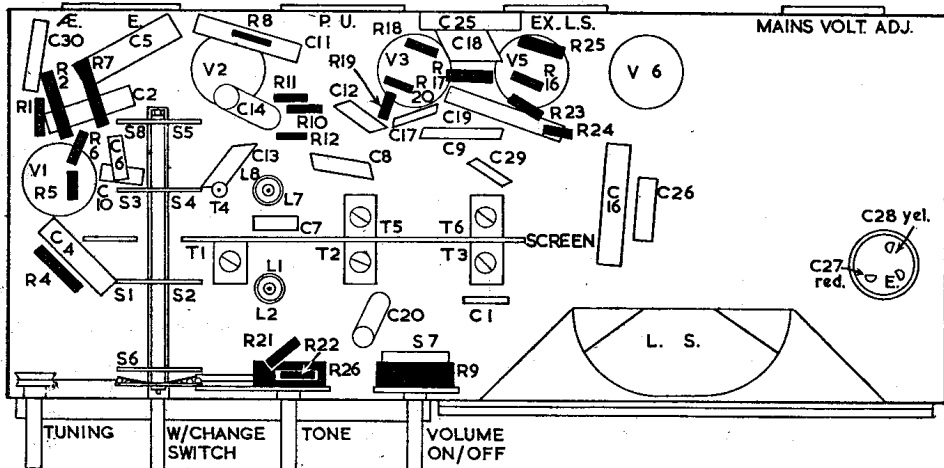
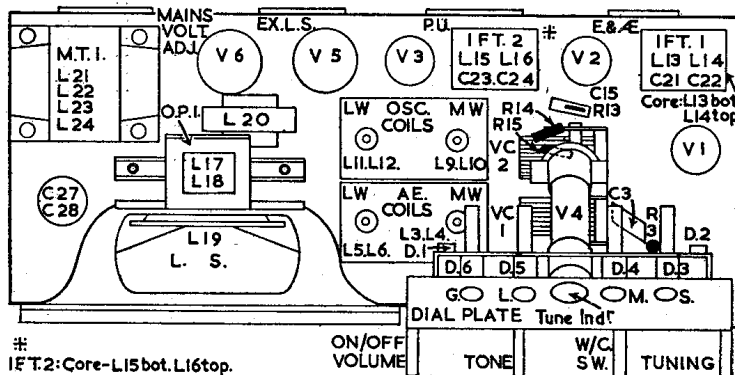
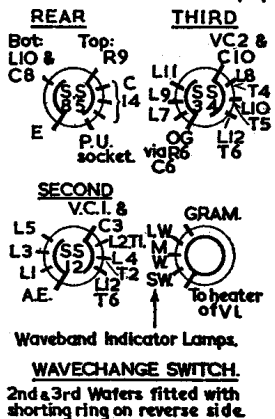
Apply Signal as Stated Below.	Tune Receiver to	Trim in Order stated for Max. Output.
(1) 456KC to top cap V1 via 100 pF capacitor (Short circuit VC2)	—	Core of L16, L15, L14 and, L13
(2) With gang condenser fully meshed set dial pointer to immediate left of 2000M calibration mark, on Model CN349 and to immediate left of 150KC calibration mark on Model CN354.	—	—
(3) 300KC to aerial 1,000 metres socket via 200 pF capacitor	—	—
(4) 150KC as above .. 2,000 metres	Core of L12, L6.	Repeat (3) and (4) until ad-

(5) 1.2MC as above .. 250 metres	T5, T2	justments do not disturb each other.
(6) 600KC as above .. 500 metres	Core of L10, L4.	Repeat (5) and (6) until adjustments do not disturb each other.
(7) 21.43MC as above 14 metres	T4, T1	—
(8) 6MC as above .. 50 metres	Core of L8, L2.	Repeat (7) and (8) until adjustments do not disturb each other.



CORD DRIVE LAYOUT

Viewed from rear of chassis correct way up.



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Illustrations are strictly accurate

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3 SINGLE SCREENED WIRE 14/36 SWG., a flexible for grid-leads, etc., at 4/6d. per 36 ft. coil.

2 SINGLE CORE PUSH-BACK WIRE 22 SWG., for chassis wiring, etc., Colours: Red, White, Black, Green, Yellow, Blue, at 4/6d. per 100 ft. coil.

4 STRANDED PUSH-BACK WIRE 7/33 SWG., for speaker leads, etc., Colours: Red, Black, Green, Yellow, Blue, at 4/3d. per 100 ft. coil.

(All these prices—nett trade.)

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