H.M.V. Model 1648

General Description: Seven-valve (plus metal rectifier), three-wave band, A.M./F.M. stereo radiogram with B.S.R. type UA14 record unit and TC8S or Ronnette Stereo 105 cartridge. Socket for use with tape recorder.

Power Supply: A.C. mains, 200–250 volts, 50 c/s., 62 watts (radio).

Valves: (V1) ECC85; (V2) ECH81; (V3) EBF89; (V4) EB91; (V5) ECC83; (V6) EL84; (V7) EL84. Voltages shown on circuit diagram measured with 20,000-ohms/volt meter.

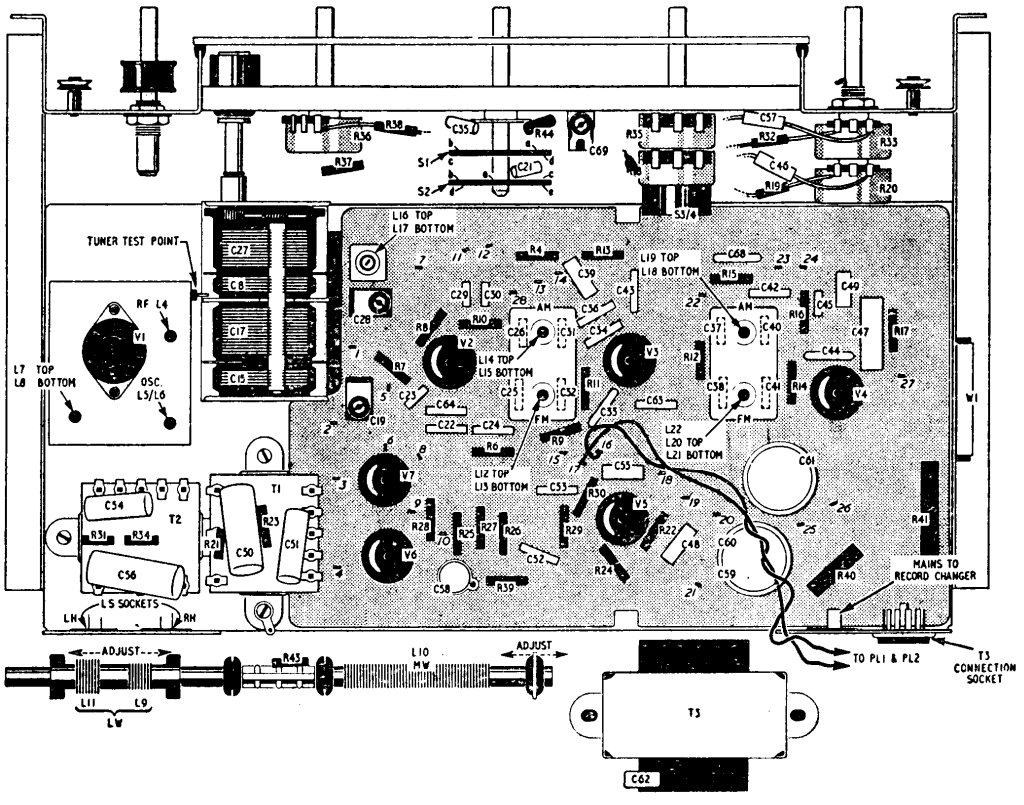
Note: In some receivers C18 is 100 pF.

Dismantling: Remove control knobs ("push" fit). Remove cabinet back, detach internal F.M. aerial plug and remove aerial panel from rear of cabinet. Remove plugs from socket panels on rear of chassis. Relative positions of speaker plugs should be noted for reassembly. Unclip rod aerial from support bracket, then unbolt mains transformer and unsolder pilot lamp leads from transformer tags before lifting out. Remove two wood screws and clamps securing rear of chassis to its mounting board and then withdraw it sufficiently to enable three-core lead from tape playback/record panel to be unsoldered from tag panel mounted on front chassis plate. Chassis may then be lifted out of cabinet by tilting it to clear tape socket panel and obstructing leads. Record-changer: Unsolder pick-up leads from five-way tag panel on underside of mechanism and disconnect motor supply leads by removing them from clips on transit screws to enable them to pass through motor board and lift unit out of cabinet.

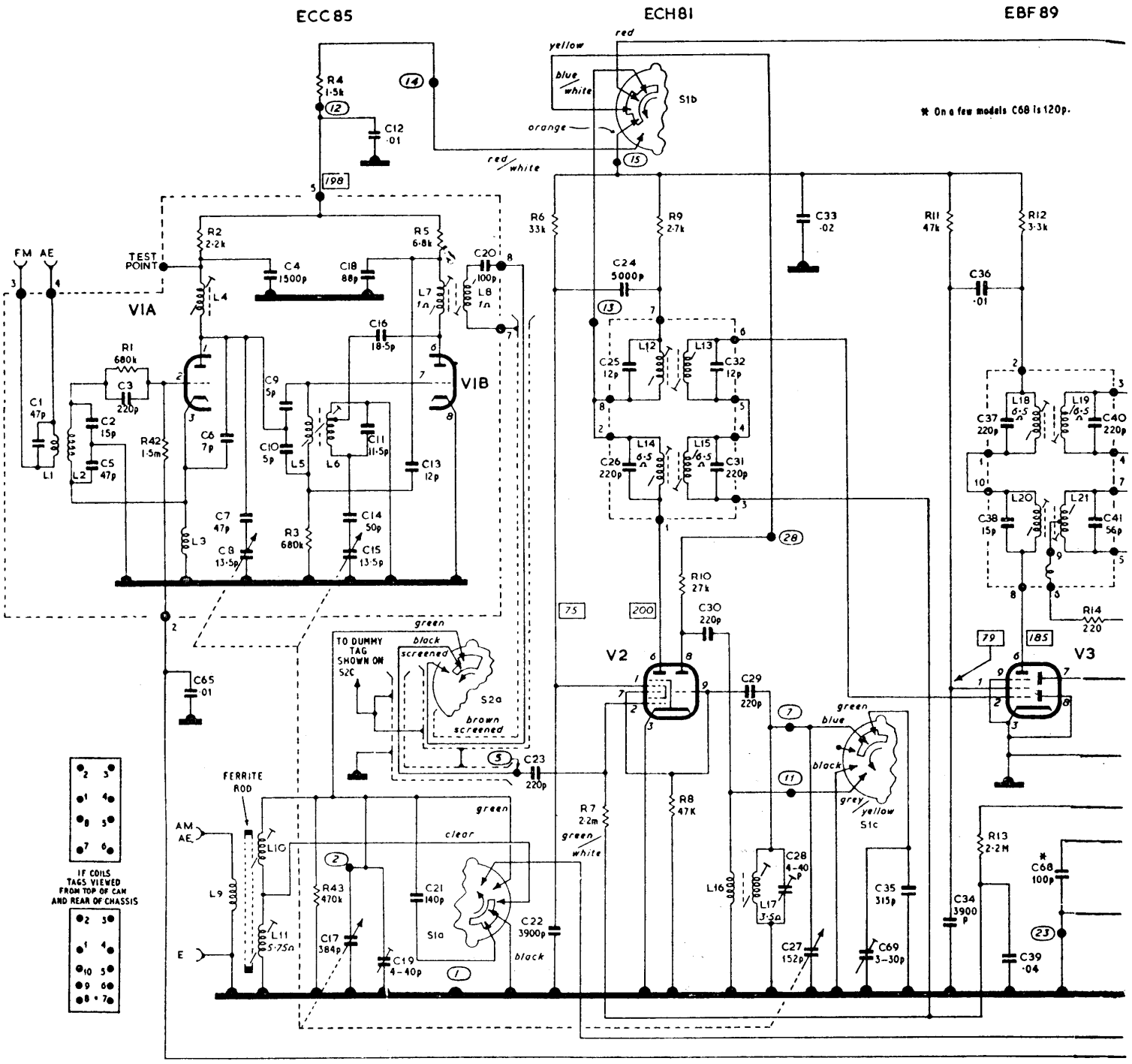
Alignment Procedure: Hexagonal trimming tool must be used for I.F. transformer cores; tune to outer peak in all cases.

I.F. A.M.: Set to M.W., gang fully open. Inject 470 kc/s. signal through 0·01 μF. to V2 control grid and adjust L19, L18, L15 and L14.

M.W.: M.W. must be aligned first. Inject signals via transmitting loop to



COMPONENT LAY-OUT H.M.V. MODEL 1648

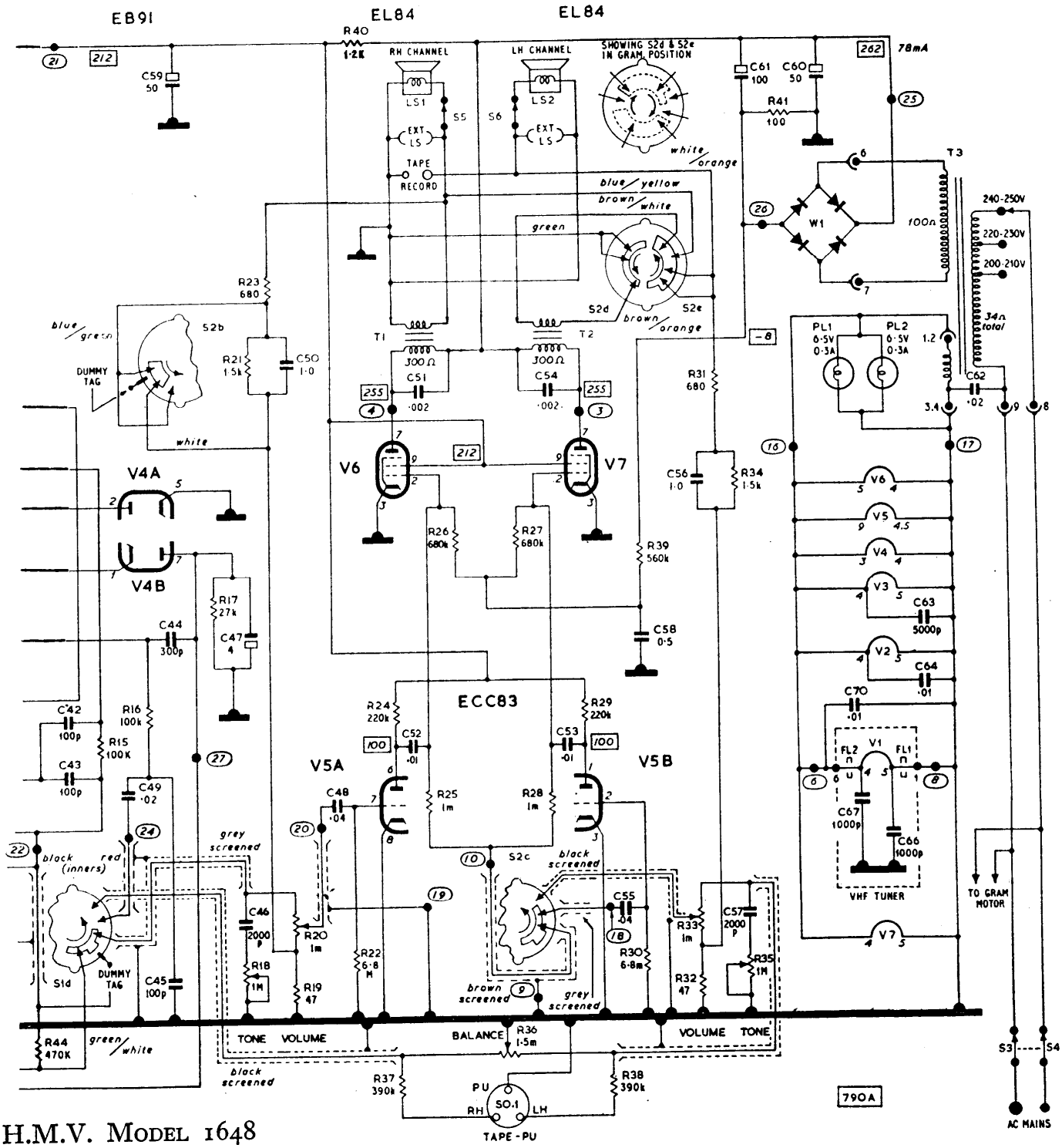


CIRCUIT DIAGRAM—

ferrite-rod aerial. With tuning gang fully meshed, set cursor to right-hand edge of scale opening. Pad and trim markers are provided on M.W. and calibration check point on L.W. Inject 580 kc/s., set to pad marker adjust L17 and L10 (sliding ring along aerial rod). Inject 1460 kc/s., set to trim marker and adjust C28, C19.

L.W.: Inject 220 kc/s., tune to signal, check calibration and adjust C69, L11 (by sliding coil former along rod).

I.F. F.M.: Use signal generator covering Band II and 10·7 Mc/s. (A.M. and F.M. 25 kc/s. deviation). During alignment input should be adjusted to maintain output of about 100 mW. Set to V.H.F. and allow at least ten minutes. Set volume control 90° back from maximum and tone to maximum treble. Inject 10·7 Mc/s. F.M. via 400 pF to V2 control grid and adjust L20, L21, L13 and L12 for maximum. Switch to 10·7 Mc/s. A.M. and tune



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L21 for minimum. Set generator to 10·7 Mc/s. F.M. and check that F.M. output has been retained. If maximum A.M. rejection does not coincide with maximum F.M. output, L21 should be tuned for maximum rejection at the expense of a slight reduction in F.M. output. Unscrew core of L8 in V.H.F. tuner unit so that it protrudes from former by about $\frac{3}{8}$ in. Inject 10·7 Mc/s. F.M. signal to tuner Test Point. Adjust L7 for maximum and then peak L8.

V.H.F.: Check that cursor coincides with edge of scale opening when tuning gang is fully closed. Adjust tuning control to set cursor to 91 Mc/s. on scale. Inject 91 Mc/s. F.M. signal at aerial sockets and tune in signal by adjusting L6. If two peaks occur within tuning range, that obtained with core nearest top of former must be chosen. Adjust L4 for maximum audio output with core towards bottom of former.