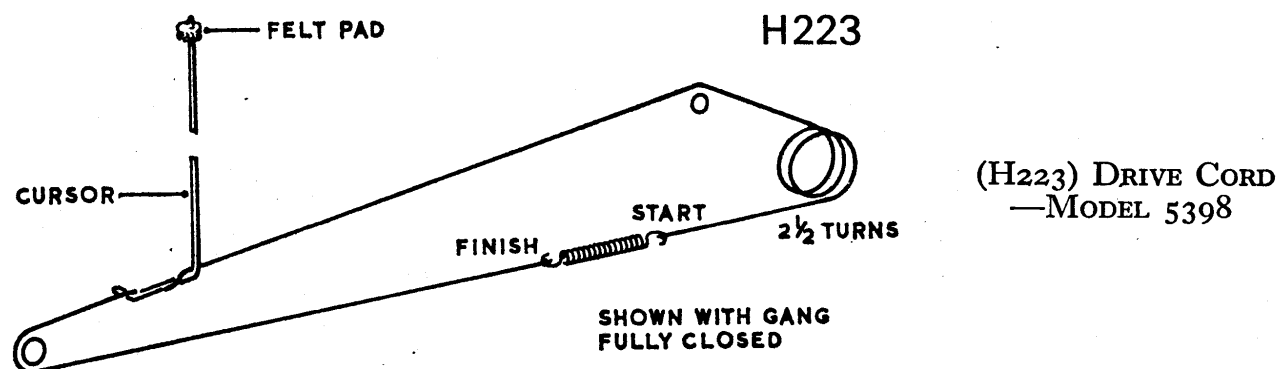


General Description: All-transistor stereogram with an output power of 1.8 W per channel. Record changer: BSR UA25 or UA27 with SX5H cartridge and turnover stylus ST8. Aerials: ferrite rod (M.W. and L.W.) and external socket (S.W.). Two loudspeakers, elliptical, 30Ω. Mains voltage range, 200/240 V 50 Hz.

Wavebands: L.W.: 1120–2027 metres. M.W.: 185–566 metres. S.W.: 16.7–51.5 metres.



Dismantling for Service

(1) Chassis Removal: Pull off knobs, then remove chassis compartment back cover and disconnect S.W. aerial lead from printed board. Remove two screws securing chassis, located under front edge of cabinet, then release one screw and washer securing scale backing plate inside cabinet. The chassis can now be pulled out of cabinet within the limits of the interconnecting leads. To remove chassis completely, pull off loudspeaker and pick-up leads from tags on printed board, then disconnect leads to printed board assembly from terminal block under cabinet floor and screened by cabinet base cover. In all the above movements note colour coding for ease of reassembly.

(2) Record Changer Removal: Screw transit screws down to fullest extent to free record changer then remove base cover. Turn the clips on the record changer transit screws to enable them to pass through motor board. Remove leads to motor from terminal block and pull off the pick-up leads from tags on printed board, then lift record change clear of cabinet.

(3) Stylus Replacement: Place indicator flag in L.P. position and prise out stylus using indicator flag as a lever. When replacing new stylus prise open locating clip with thumbnail and slide end stock of stylus into position. After replacement ensure that the stylus arm is engaged properly within the V-shaped fork of the cartridge.

Audio Output Check: 1. Connect a 30Ω impedance output meter in place of each loudspeaker, alternatively connect an oscilloscope across each loudspeaker and observe output waveform. 2. Switch to "GRAM" and turn volume control and tone control to maximum. 3. Pull of pick-up leads from

tags on printed board, then inject a 2.0 V 800 Hz signal from an audio oscillator into the right-hand pick-up input tags (A & C) and note output, this should be 1.5 W clean and unclipped. Transfer audio signal to left-hand pick-up tags (B & C) and note output from this channel. This should also be 1.5 W. The outputs should be within 2 dB of each other. 4. *Tone Control Check*: With test conditions as previously, inject an 8000 Hz audio signal to right-hand and left-hand channels respectively. Turn tone control to minimum and note change in output level, this should drop by 20 dB.

Alignment Procedure: Remove chassis as described in "Dismantling for Service". Connect an output meter adjusted for 30 Ω impedance in place of left-hand or right-hand loudspeaker, or a 20,000 ohm/volt meter set to a suitable A.C. voltage range across the left-hand or right-hand loudspeaker. Zero, trim and pad markers are provided on the scale diffuser.

(a) *I.F. Circuits*: Switch receiver to M.W.; turn gang to maximum capacitance position with volume and tone controls at maximum. Inject a 475 kHz, 30 per cent modulated signal via a 0.1 μF capacitor into aerial section of tuning capacitor (C5), then peak L16, L14, L13 and L12 in that order for maximum output adjusting signal input level as required to maintain an output level of 50 mW. On completion of alignment the generator output should be of the order of 15 μV.

(b) *R.F. Circuits*: M.W. should be aligned first. 30 per cent modulated signals should be injected via a loop loosely coupled to the ferrite rod aerial. Check that cursor registers with the zero mark on calibration strip. S.W. signals should be injected via a 20 pF capacitor into the S.W. aerial socket.

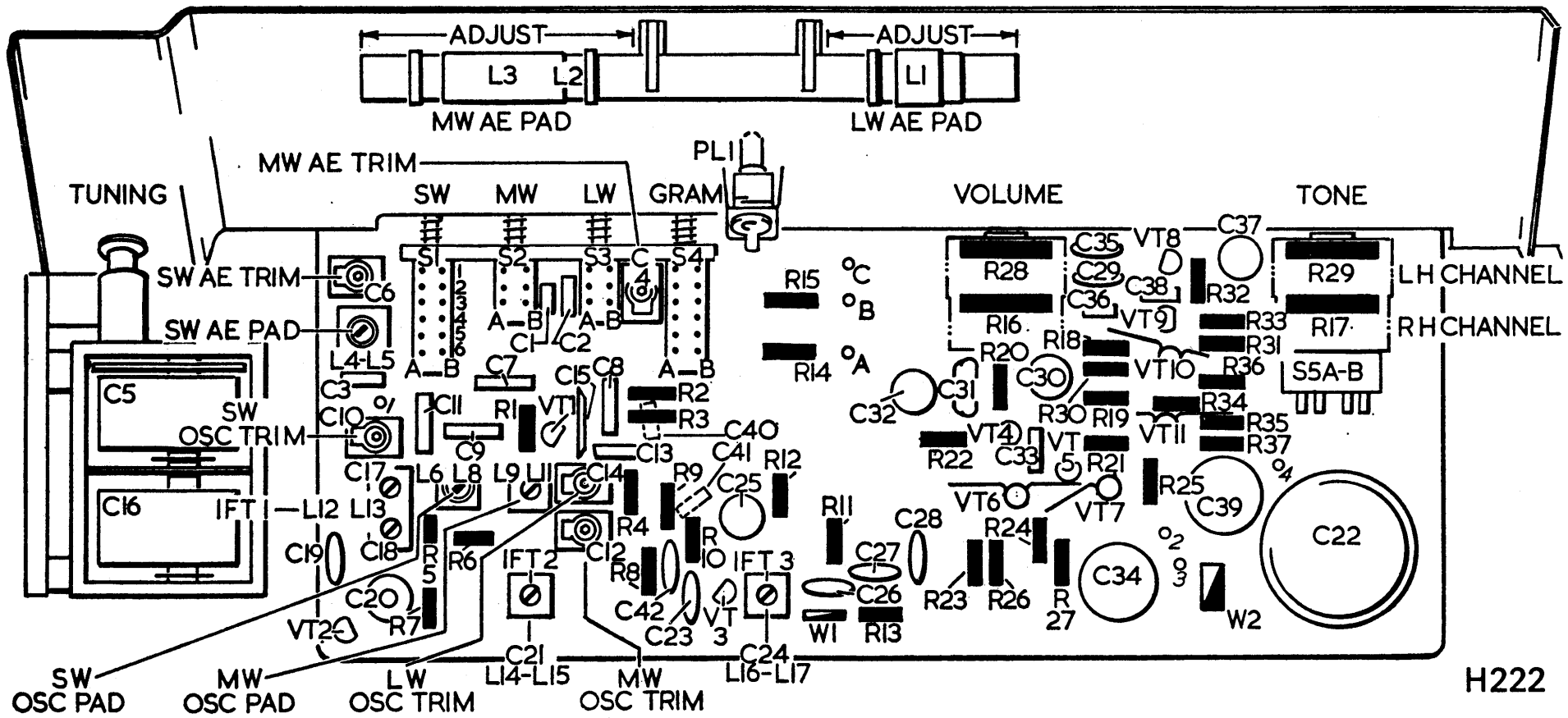
Range	Sig. Gen.	Cursor Position	Adjust
M.W.	600 kHz 1400 kHz	M.W. pad M.W. trim	L10, L3* C12, C4
L.W.	220 kHz	L.W. 220 kHz	C14, L1*
S.W.	6.7 MHz 15.8 MHz	M.W. pad M.W. trim	L7, L4 C10, C6

* Adjust by sliding coil along ferrite rod.

Frequency Modifications: Alignment may be carried out with the chassis *in situ*, in this case the glass scale may be used but the calibration frequencies require slight modification as follows:

Range	Sig. Gen.	Cursor Position	Adjust
M.W.	600 kHz 1500 kHz	500 metres 200 metres	L10, L3* C12, C4
L.W.	200 kHz	Centre of B.B.C. 2	C14, L1*
S.W.	7.0 MHz 16.0 MHz	7 MHz 16 MHz	L7, L4 C10, C6

* Adjust by sliding coils along ferrite rod.

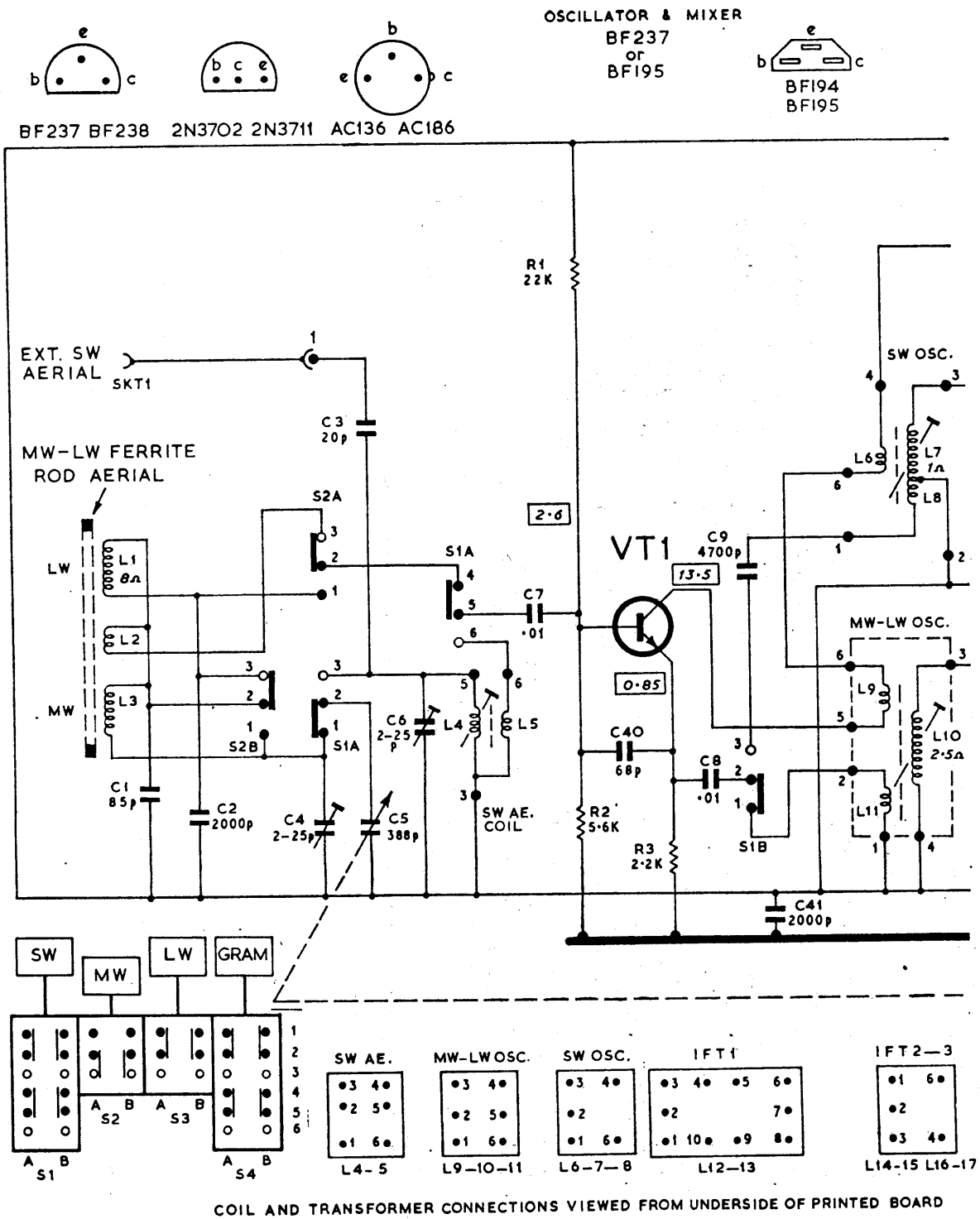


433

BRC

(H222) COMPONENT LOCATIONS AND ALIGNMENT ADJUSTMENTS—MODEL 5398

RADIO SERVICING



COIL AND TRANSFORMER CONNECTIONS VIEWED FROM UNDERSIDE OF PRINTED BOARD

H221a

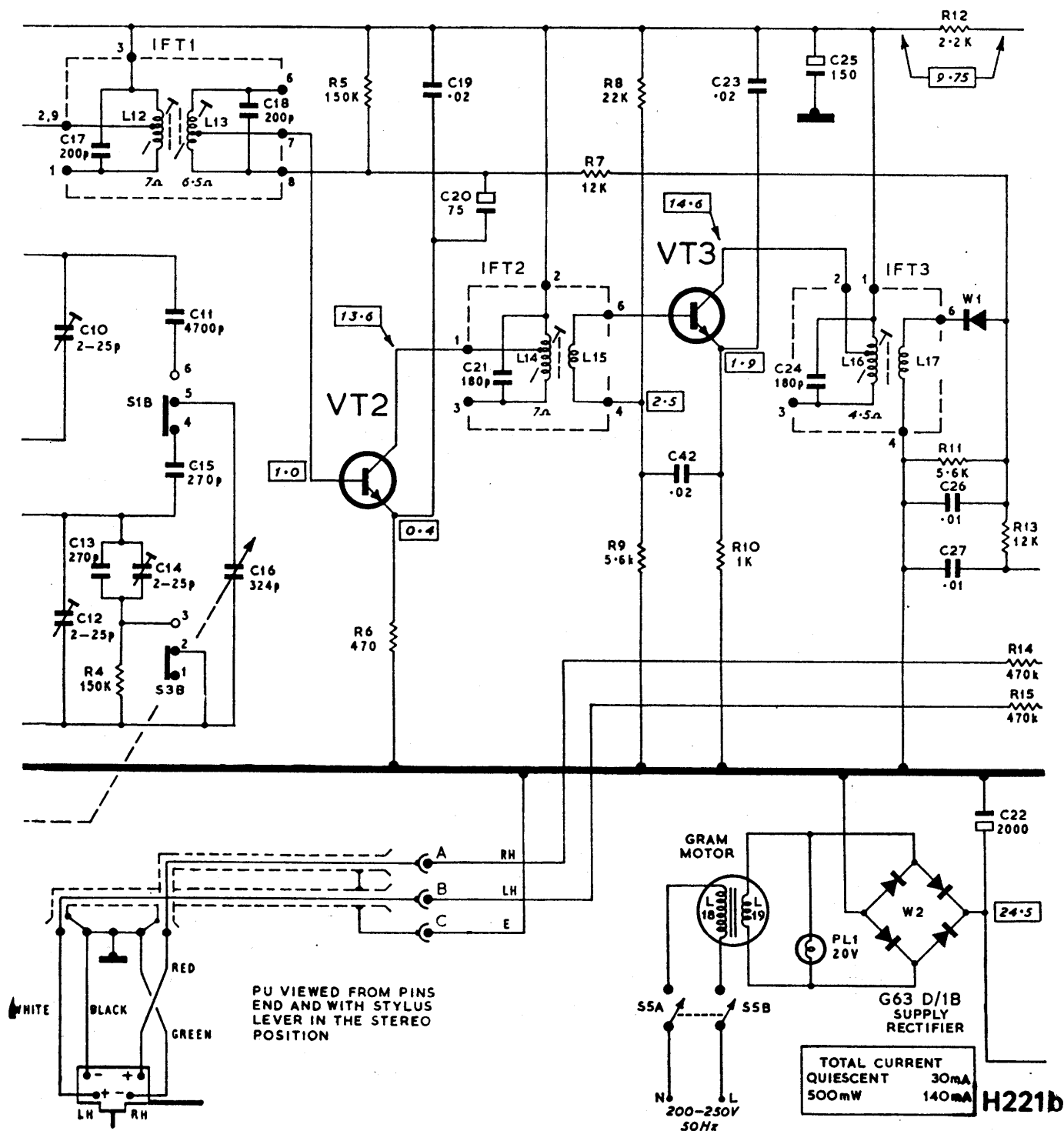
(H221a) CIRCUIT DIAGRAM—MODEL 5398 (PART)

Alternative Output Transistors: Output transistors used in the circuit arrangement shown are marked AC131F and AC186F. In receivers marked Schedule C, AC131 and AC186 transistors without the suffix F are used. In these receivers R24 and R34 are each replaced by a diode connected transistor, type ANK with the collector connected to the AC186 base and the base-emitter connected to the AC131 base. In addition, a 27Ω resistor in series with a 1μF reversible electrolytic is connected across each loudspeaker.

1ST IF AMPLIFIER
BF238
or
BF194

2ND IF AMPLIFIER
BF237
or
BF195

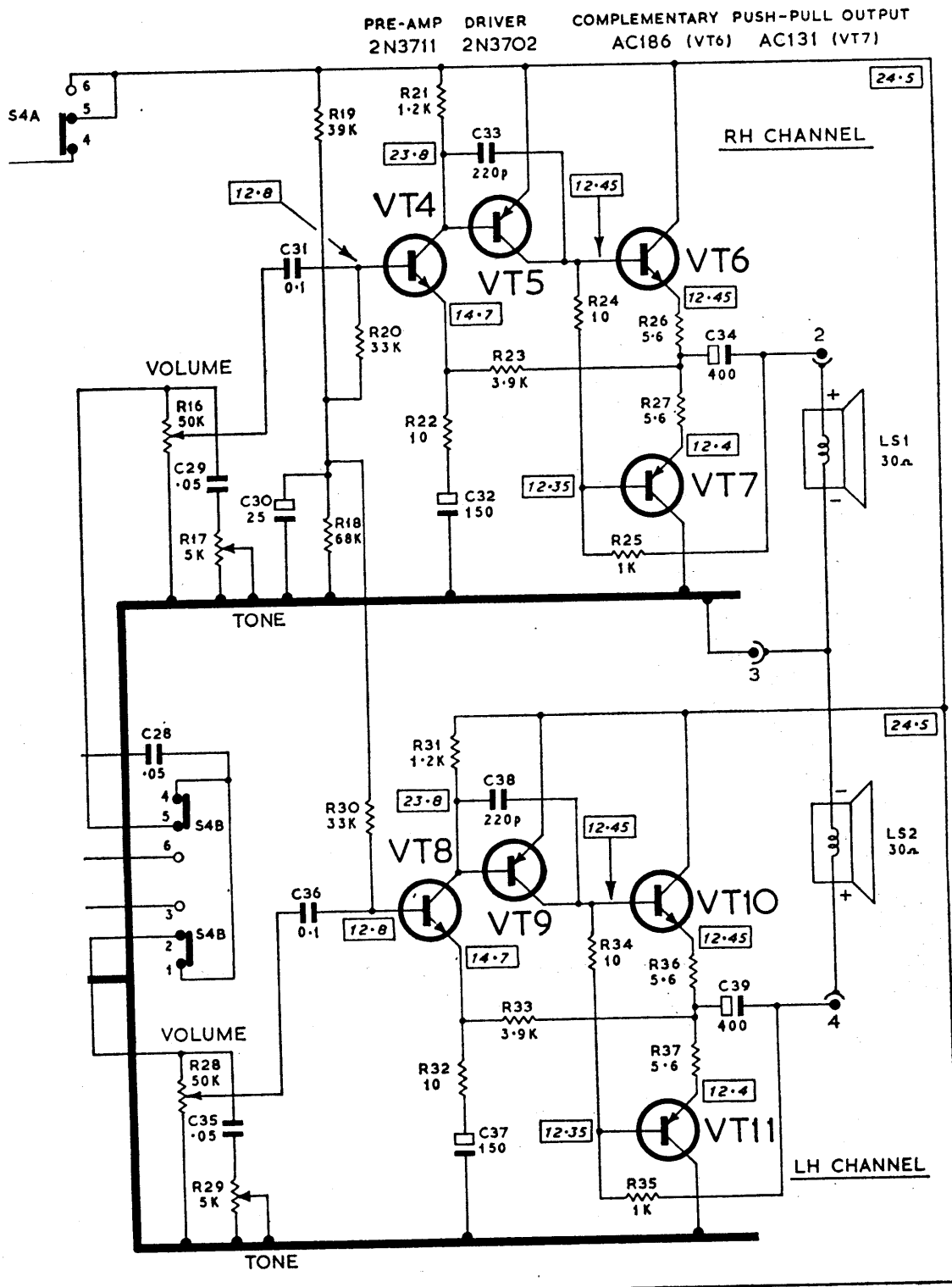
DETECTOR
OA90



(H221b) CIRCUIT DIAGRAM—MODEL 5398 (PART)

Circuit Diagram Notes: Voltage measurements shown in rectangles were taken relative to each transistor's positive chassis line (except where otherwise indicated) with a 20,000 ohms/volt meter, and with a mains input of 245 V. D.C. resistance readings are shown against inductors where these are 1 ohm or greater.

RADIO SERVICING



H221c

2N3711 2N3702 AC186 (VT10) AC131 (VT11)
 PRE-AMP DRIVER COMPLEMENTARY PUSH-PULL OUTPUT

(H221c) CIRCUIT DIAGRAM—MODEL 5398 (CONTINUED)