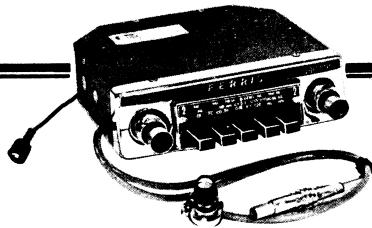




SERVICE MANUAL

MODEL 156 - "COACHLINER"

9 TRANSISTOR PUSH-BUTTON RADIO



SPECIFICATIONS

TUNING RANGE: 525 - 1610 Kc/s

INTERMEDIATE FREQUENCY: 455 Kc/s

TRANSISTOR COMPLEMENT:

- 1 x 2N1637 RF Amplifier
- 1 x 2N1639 Converter
- 1 x 2N1638 1st IF Amplifier
- 1 x 2N1638 2nd IF Amplifier
- 1 x 2N406 Microphone Pre-Amplifier
- 1 x 2N406 Audio Amplifier
- 1 x SE6001 Audio Driver
- 2 x 2N301 P.P. Power Output

DIODES:

- 1 x OA90 Detector and A.G.C.
- 1 x AS2 Bias Compensating

CONSUMPTION:

180 ma including dial lamp for 12 volts at zero signal.

LOUD SPEAKER:

Size & Type to suit vehicle
Voice Coil Impedance 3 ohms.

TUNING DRIVE RATIO:

4½ turns of knob for full pointer traverse.

POWER OUTPUT:

Undistorted 10 watts.
Maximum 12.0 watts.

DIMENSIONS: 7" x 5½" x 2"

WEIGHT: 5 lbs.

CONTROLS

A diecast metal knob operates permeability tuner via anti-back-lash gear system.

VOLUME CONTROL:

A diecast concentric knob controls receiver volume.

TOPE CONTROL:

A continuously variable tone control is external to the set, and is designed for either dash or bracket mounting.

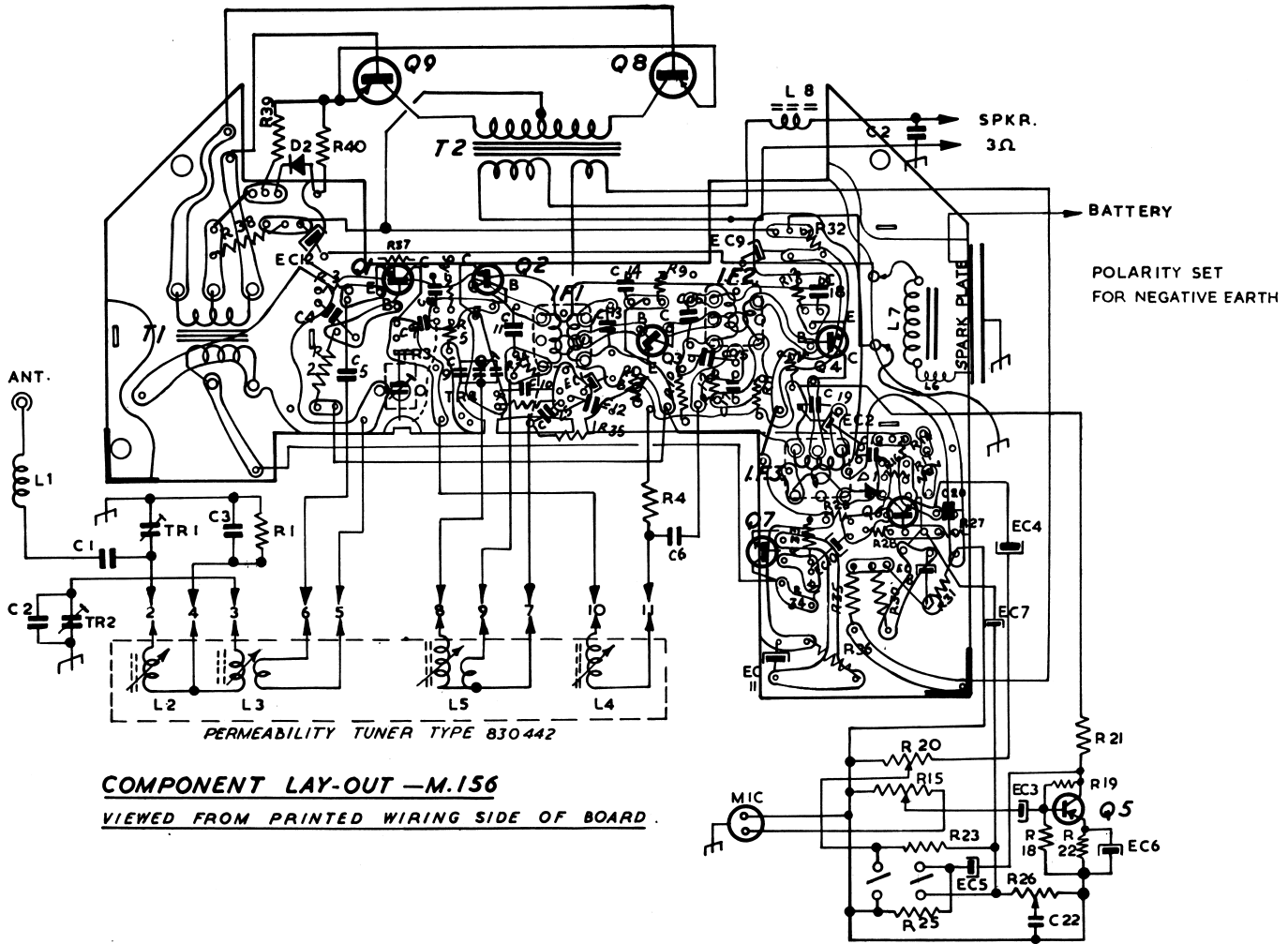
MICROPHONE VOLUME:

A combined volume and microphone on/off switch is concentric with the receiver volume knob. Pulling "on" the microphone control automatically mutes the receiver.

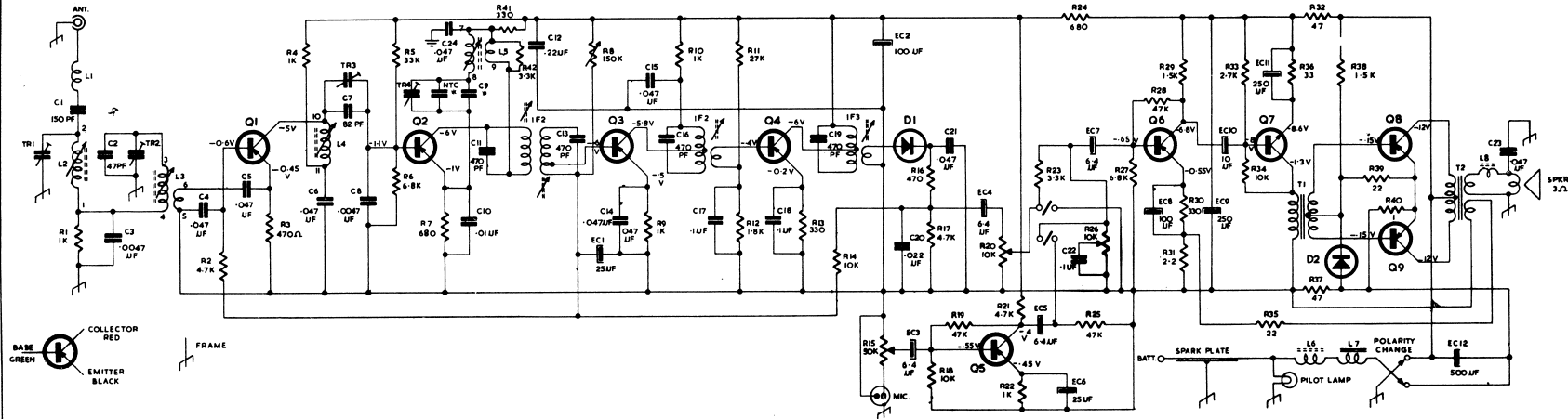
Microphone connection is via a double contact "Amphenol" connector. The microphone should have an impedance of 50 K ohms and must have its signal leads terminated independently of the outer shield of the microphone lead, i.e. twin shielded microphone lead must be used.

NOTE:

ALL OTHER EXTERNAL CONNECTIONS, ADJUSTMENTS AND COMPONENT DATA AS FOR THE MODELS 152 AND 159.



FERRIS ALL TRANSISTOR BUS RADIO PUSH-BUTTON MODEL 156



- R1 - 1K 10% RESISTOR
- R2 - 4.7K 10% RESISTOR
- R3 - 470Ω 10% RESISTOR
- R4 - 1K 10% RESISTOR
- R5 - 33K 10% RESISTOR
- R6 - 6.8K 10% RESISTOR
- R7 - 480Ω 10% RESISTOR
- R8 - 150K VARIABLE RESISTOR
- R9 - 1K 10% RESISTOR
- R10 - 1K 10% RESISTOR
- R11 - 27K 10% RESISTOR
- R12 - 1.8K 10% RESISTOR
- R13 - 330 10% RESISTOR
- R14 - 10K 10% RESISTOR
- R15 - 50K POTENTIOMETER
- R16 - 470Ω 10% RESISTOR
- R17 - 4.7K 10% RESISTOR
- R18 - 10K 10% RESISTOR
- R19 - 47K 10% RESISTOR
- R20 - 10K POTENTIOMETER

- R21 - 4.7K 10% RESISTOR
- R22 - 1K 10% RESISTOR
- R23 - 3.3K 10% RESISTOR
- R24 - 8.2Ω 10% RESISTOR
- R25 - 47K 10% RESISTOR
- R26 - 10K POTENTIOMETER
- R27 - 6.8K 10% RESISTOR
- R28 - 47K 10% RESISTOR
- R29 - 1.8K 10% RESISTOR
- R30 - 330Ω 10% RESISTOR
- R31 - 2.2Ω 10% RESISTOR
- R32 - 47Ω 10% RESISTOR
- R33 - 2.7K 10% RESISTOR
- R34 - 10K 10% RESISTOR
- R35 - 22Ω 10% RESISTOR
- R36 - 33Ω 10% RESISTOR
- R37 - 47Ω 10% RESISTOR
- R38 - 1.5K 10% RESISTOR
- R39 - 22Ω 10% RESISTOR
- R40 - 1Ω 10% RESISTOR

- C1 - 150PF 125V STYROSEAL CAP
- C2 - .47PF 500V CERAMIC CAP
- C3 - .0047UF 50V STYROSEAL CAP
- C4 - .047 UF 25V CAPACITOR
- C5 - .047 UF 25V CAPACITOR
- C6 - .047 UF 25V CAPACITOR
- C7 - .82 PF 25V CAPACITOR
- C8 - .0047UF 50V STYROSEAL CAP
- C9 - SEE NTC NOTE
- C10 - .01UF 125V CAPACITOR
- C11 - 470 PF 125V STYROSEAL CAP
- C12 - .22 UF 25V CAPACITOR
- C13 - 470 PF 125V STYROSEAL CAP
- C14 - .047UF 25V CAPACITOR
- C15 - .047UF 25V CAPACITOR
- C16 - 470 PF 125V STYROSEAL CAP
- C17 - .4UF 25V CAPACITOR
- C18 - .4UF 25V CAPACITOR
- C19 - 470 PF 125V STYROSEAL CAP
- C20 - .022UF 25V CAPACITOR
- C21 - .047 UF 25V CAPACITOR

- C22 - .1UF 25V CAPACITOR
 - C23 - .047UF 25V CAPACITOR
 - C24 - .047UF 25V CAPACITOR
- NTC & CO MAY BE ONE OF CAPACITOR COMBINATIONS
- A - 390 PF STYROSEAL + 88 PF 4.7K NTC
 - B - 200 PF 150Ω NTC + 200PF N750 NTC
 - C - 330 PF STYROSEAL + 140 PF N750 NTC
- C25 - 25 UF 6V ELECTRO
 - EC1 - 100UF 12V ELECTRO
 - EC2 - 6.4 UF 6V ELECTRO
 - EC3 - 6.4 UF 6V ELECTRO
 - EC4 - 6.4 UF 6V ELECTRO
 - EC5 - 6.4 UF 6V ELECTRO
 - EC6 - 25 UF 6V ELECTRO
 - EC7 - 6.4UF 6V ELECTRO
 - EC8 - 100UF 12V ELECTRO
 - EC9 - 250UF 16V ELECTRO
 - EC10 - 10UF 6V ELECTRO
 - EC11 - 250UF 3V ELECTRO
 - EC12 - 500UF 16V ELECTRO

- L1 - AERIAL CHOKE #6108
- L2 - PERMEABILITY TUNER
- L3 - PUSHBUTTON #30442
- L4 - HF CHOKE # R 828
- L5 - LF CHOKE # R127
- L6 - BEAD CHOKE #109

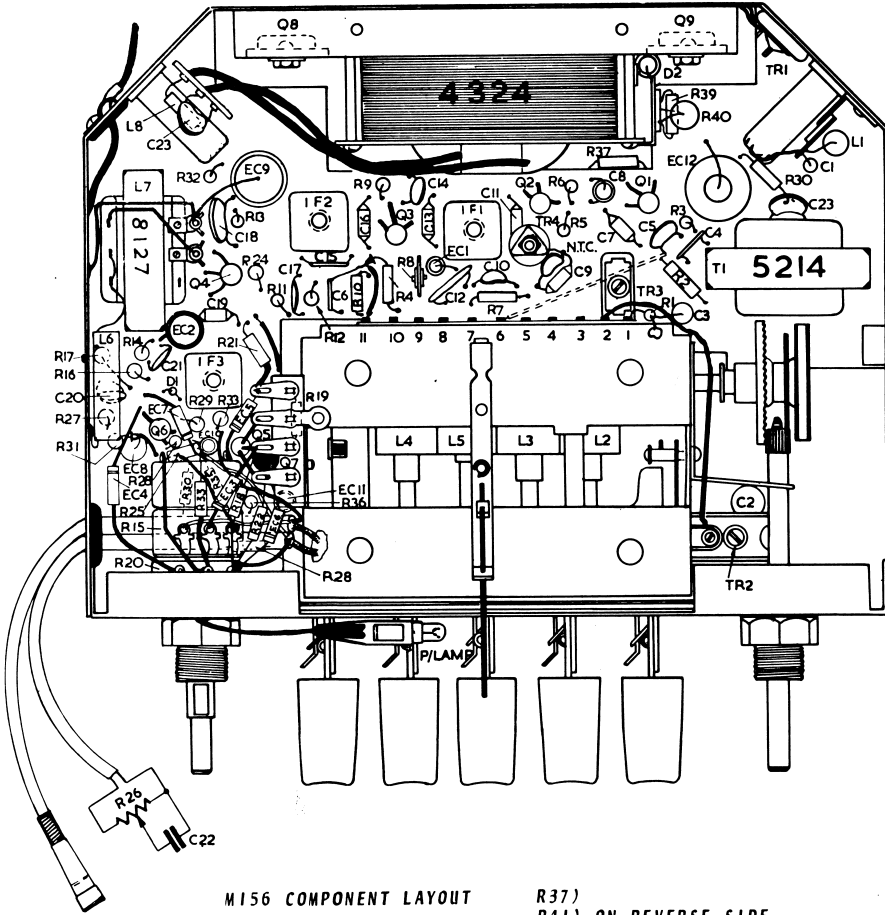
- TR1 - 3 PLATE TRIMMER
- TR2 - 3 PLATE TRIMMER
- TR3 - 2 PLATE TRIMMER
- TR4 - 3-30 AIR TRIMMER

- Q1 - 2N1637 2N374 AF116
- Q2 - 2N1639 2N374 AF116
- Q3 - 2N1638 2N373 AF117
- Q4 - 2N1638 2N373 AF117
- Q5 - 2N 406 AC125
- Q6 - 2N 406 AC125
- Q7 - 5E40C 2E281 4D331
- Q8 - 2N301 OC26 25B337
- Q9 - 2N301 OC26 25B337
- D1 - OA90 1N60A
- D2 - AS2 AV2

RADIO COVERAGE 525-1610 KC/S
 IF FREQUENCY 455 KC/S
 TOTAL BATTERY CURRENT 200MA FOR 12 V BATTERY
 COLLECTOR CURRENT OF QVP STAGE FOR ZERO SIG -35 MA.
 ALL RESISTORS IN OHMS, UNLESS OTHERWISE STATED.

DO NOT OPERATE SET WITHOUT SPEAKER CONNECTED

NOTE: ALL VOLTAGES CHECKED WITH 40,000 Ω/V METER AT ZERO SIGNAL INPUT.



MI56 COMPONENT LAYOUT

- R37)
- R41) ON REVERSE SIDE
- R42) OF BOARD
- C24)



FERRIS BROS. PTY. LIMITED
(A Division of Ferris Industries Limited)

THIS MODIFICATION FOR M152 - 156 - 159 FROM SERIAL NO.3801 ONWARDS.

- MODIFIED OUTPUT STAGE M152, 156, 159 FROM CLASS 'B' TO CLASS 'A.B.'
- R30 - 150 OHM 1 WATT (WAS 1.5K).
- D2 & R21 RESISTOR DELETED. REPLACED BY 8 OHM N.T.C. & 6.8 OHM RESISTOR.
- R25 RESISTOR 47 OHMS (WAS 22 OHMS).
- R32 RESISTOR DELETED. REPLACED BY TWO 0.47 OHM RESISTORS.

