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WARNING
 THE AREAS INDICATED BY SHADING
 CONTAIN COMPONENT PARTS WHICH
 GENERATE HEAT SUFFICIENT TO
 CAUSE INJURY. AVOID TOUCHING THE
 INDICATED AREAS WHEN WORKING
 WITH THE INSTRUMENT.

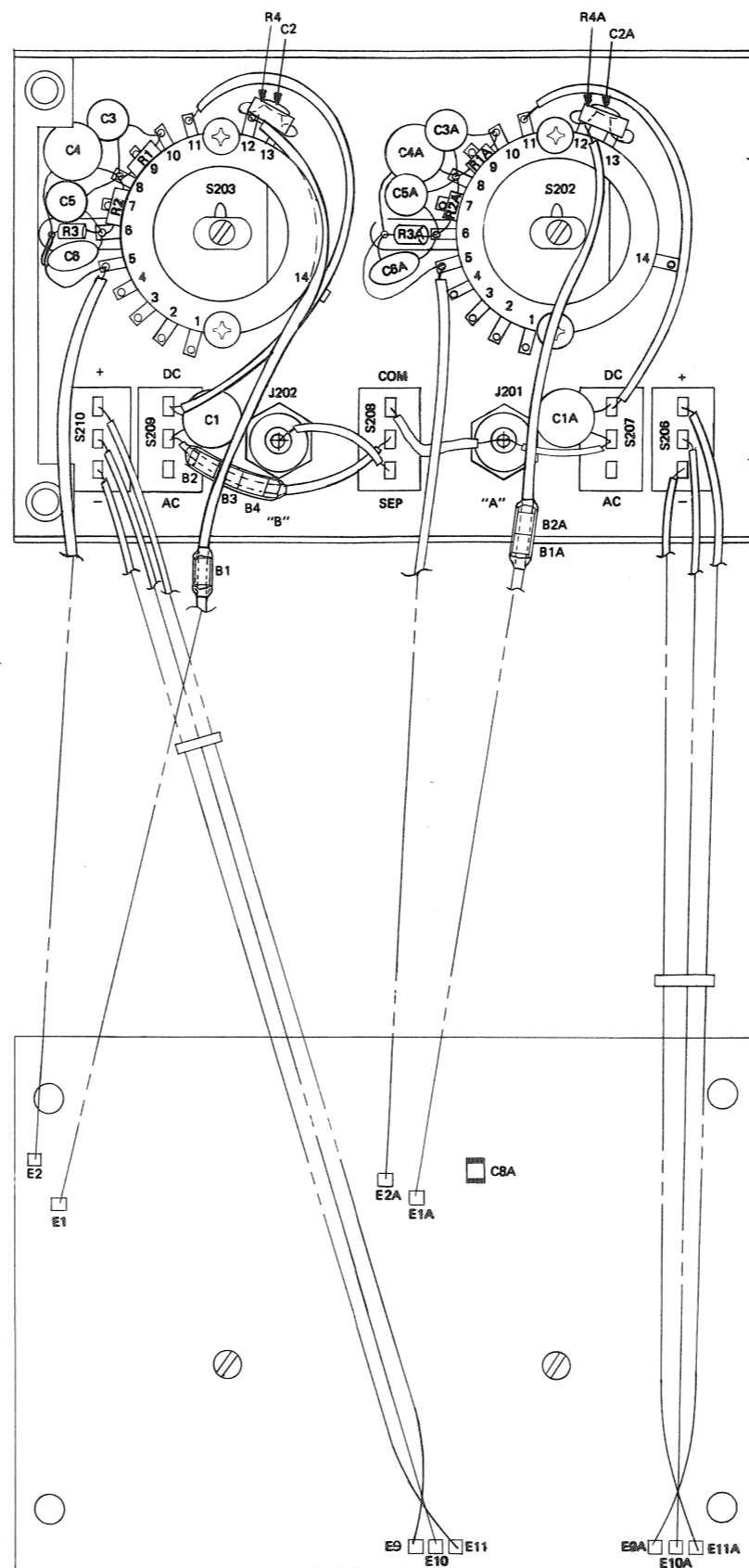
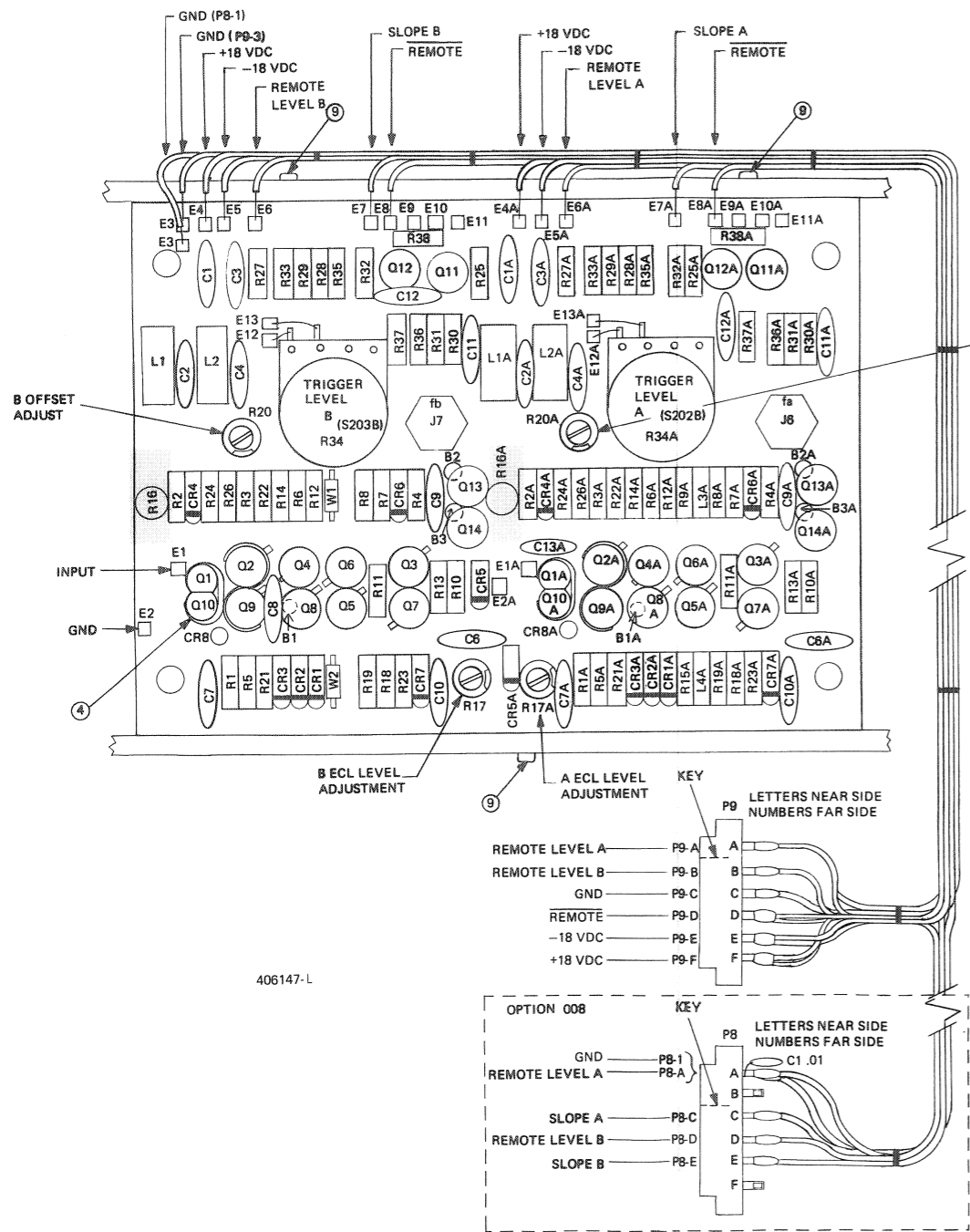


Figure 6.1 - Layout, Signal Conditioning - Dual

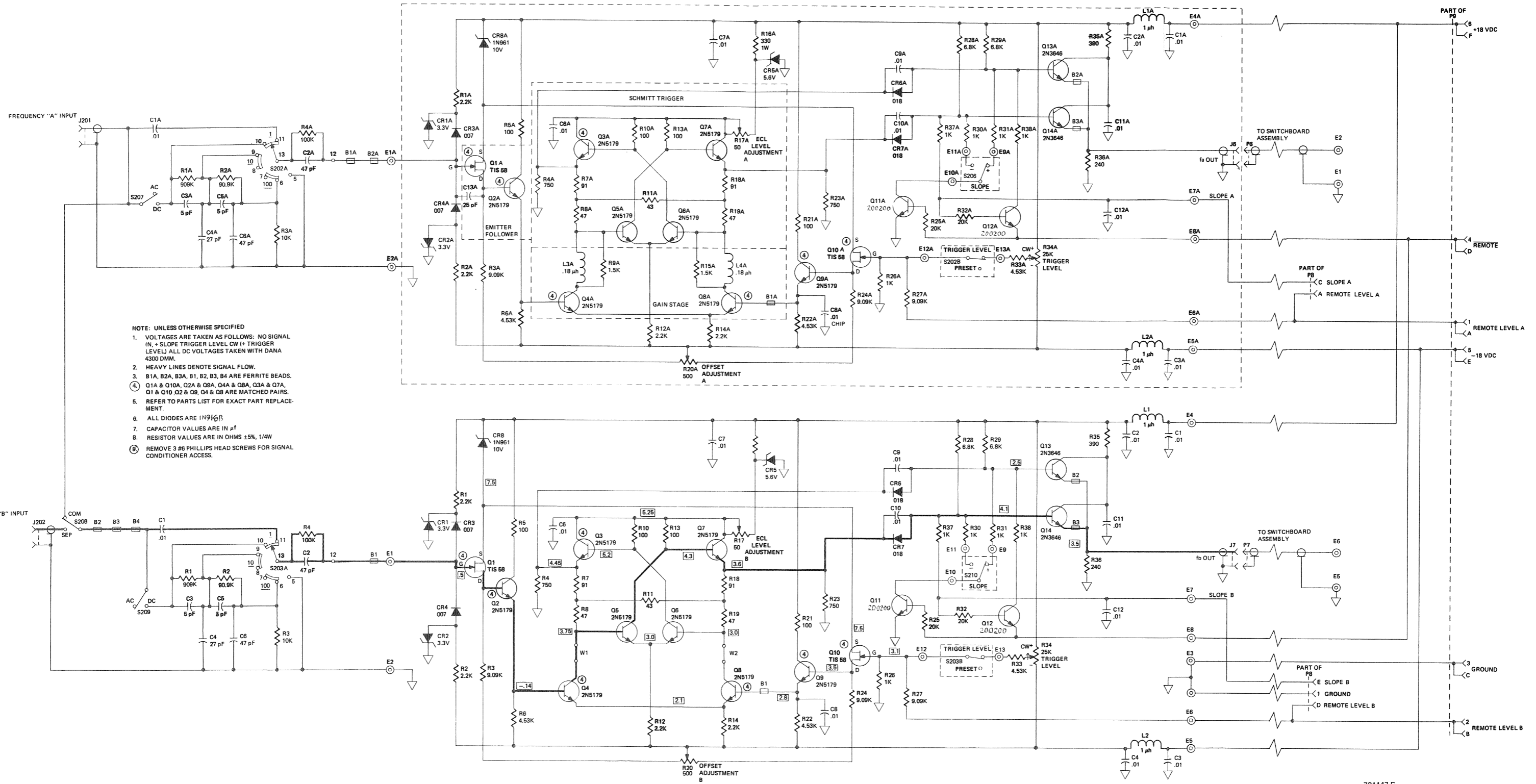


Figure 6.2 - Schematic, Signal Conditioning – Dual

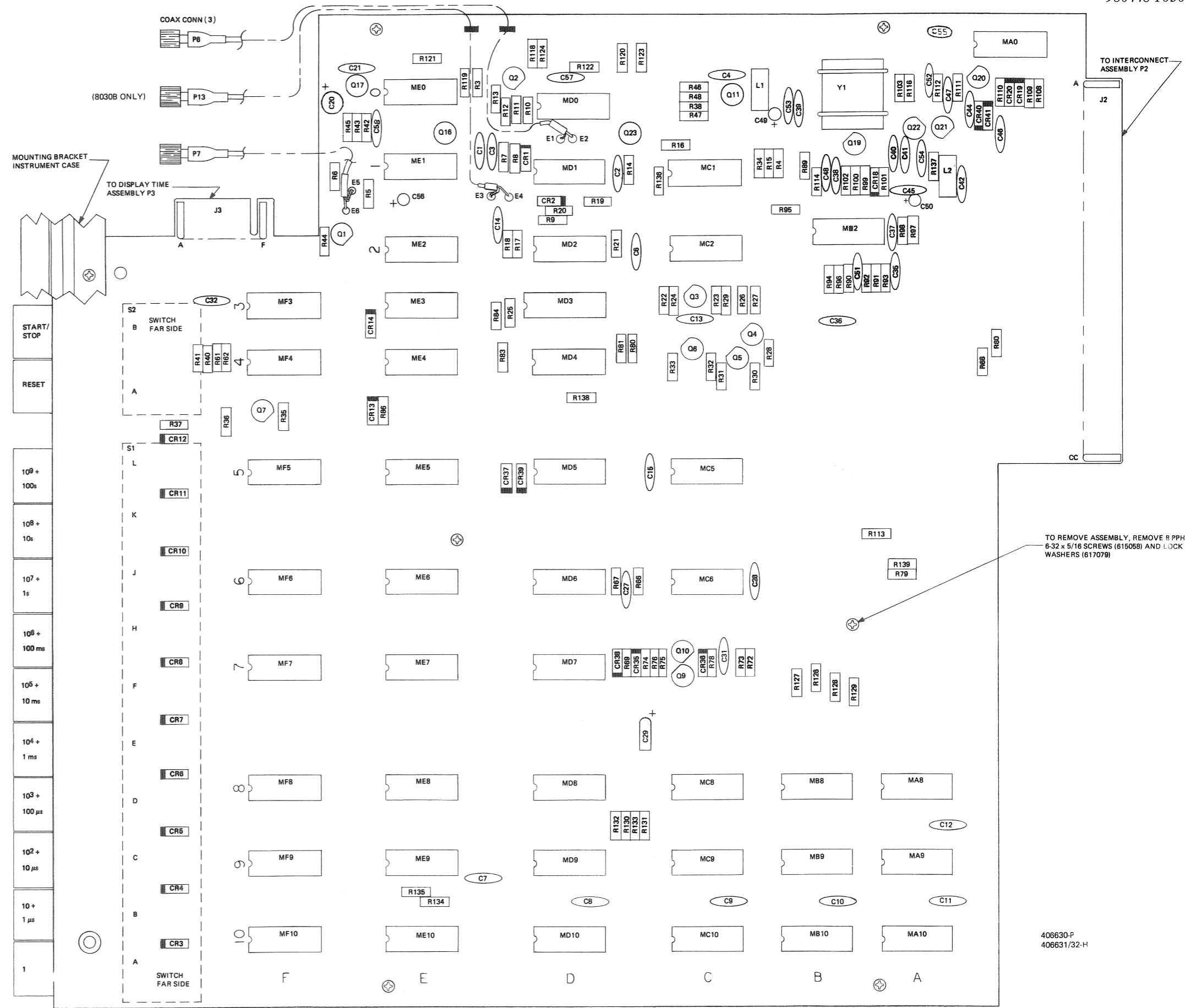
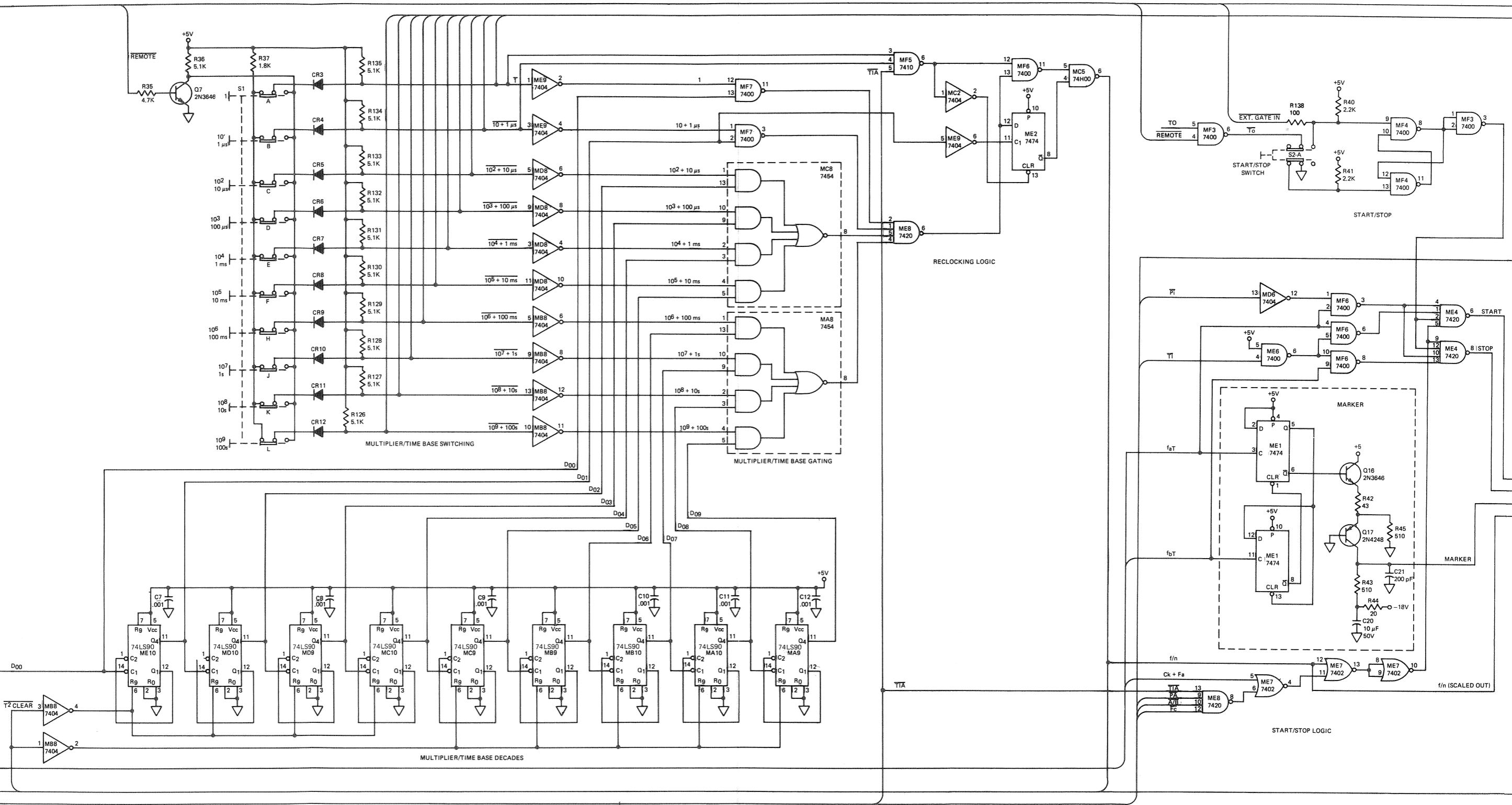


Figure 6.3 - Layout, Switch Board TIA



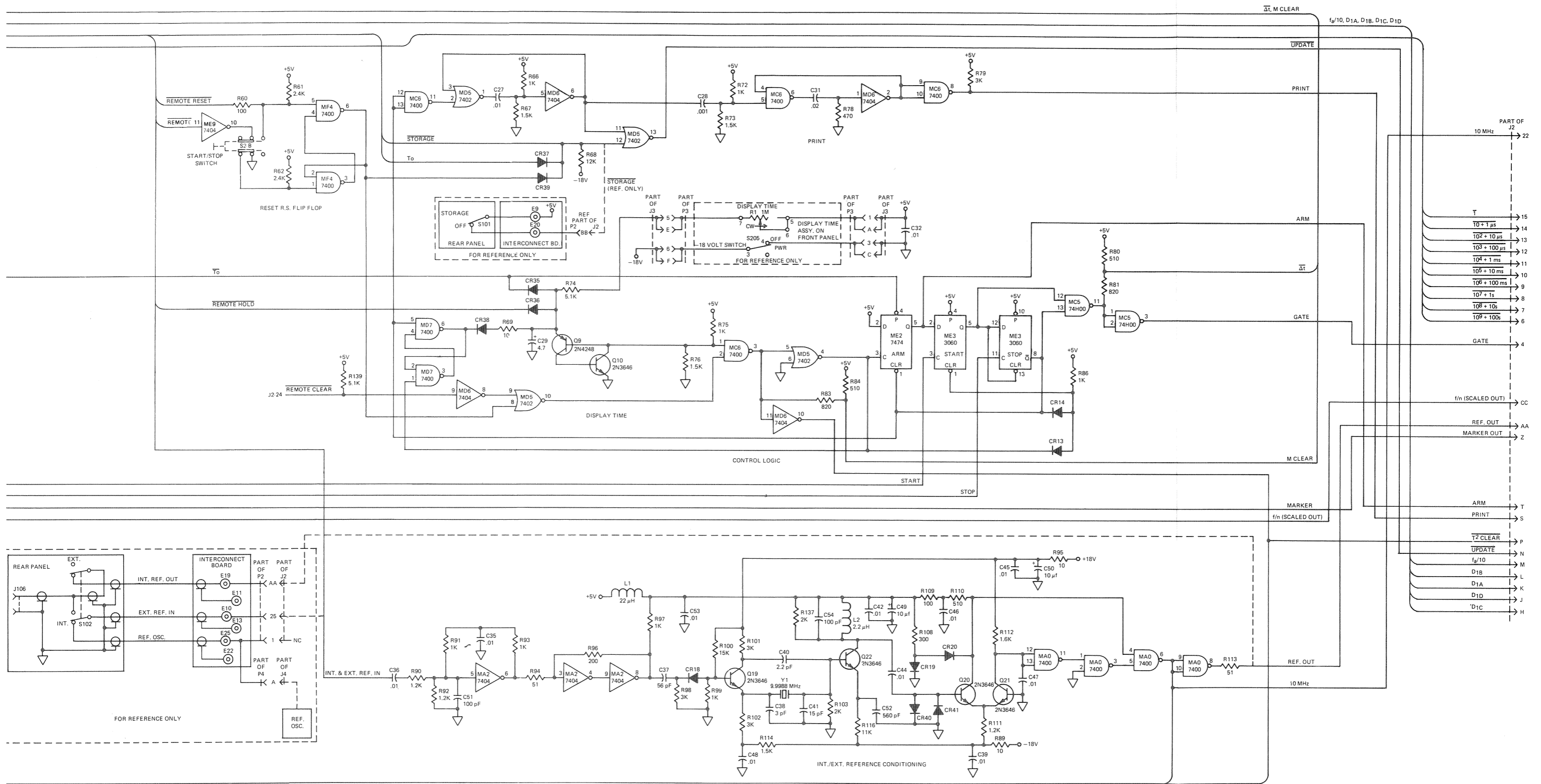


Figure 6.4 - Schematic, Switch Board TIA continued

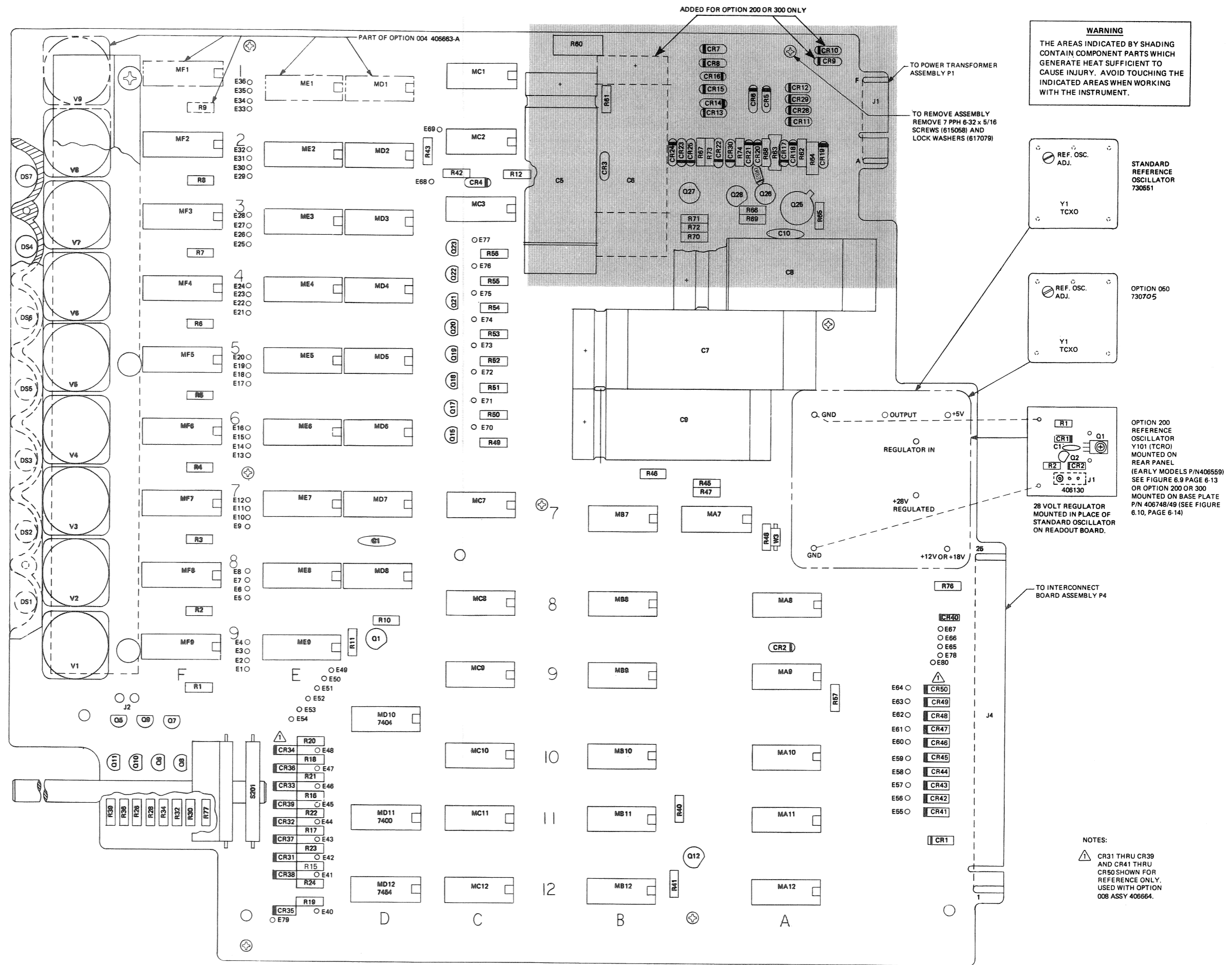
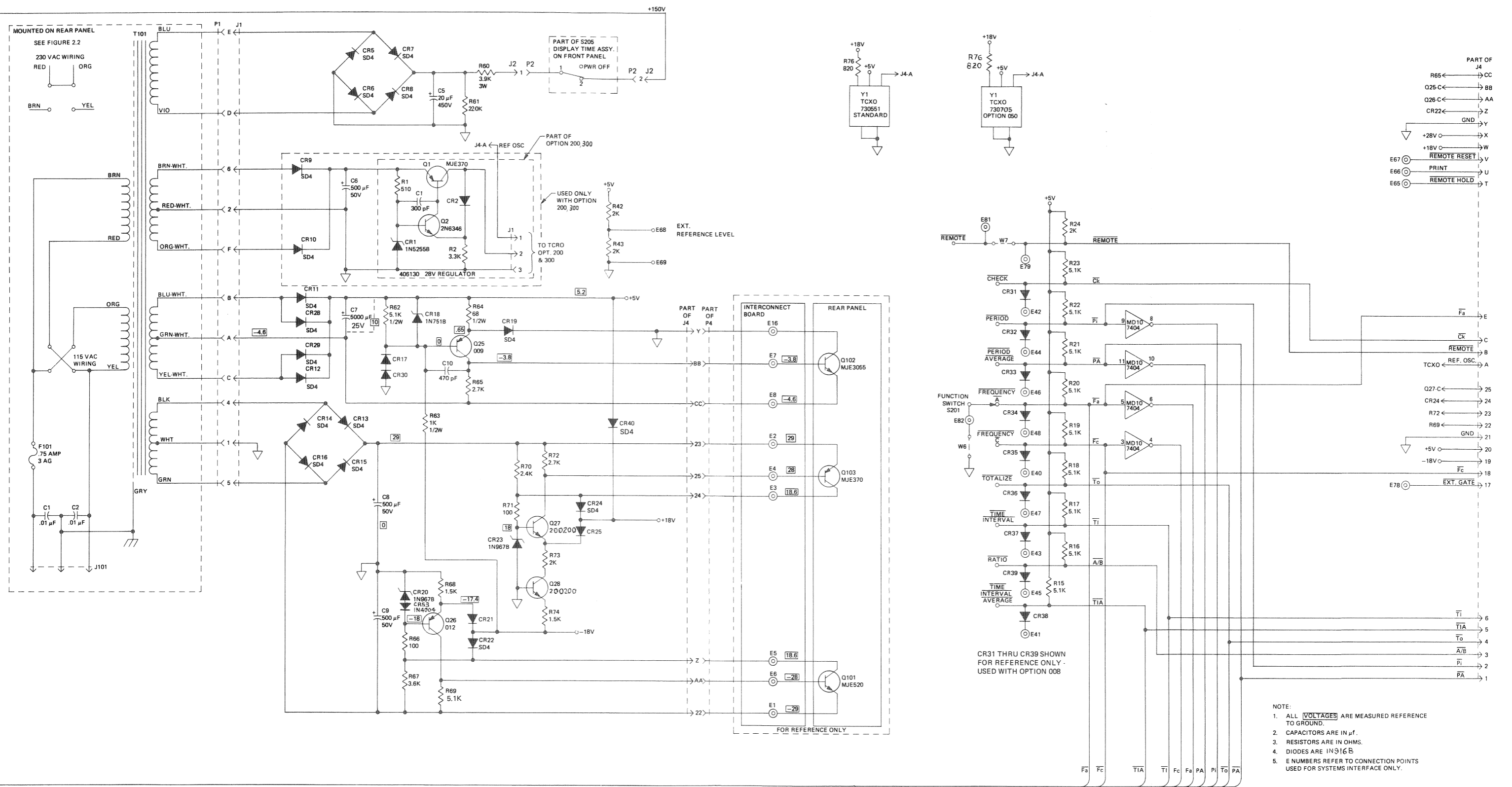


Figure 6.5 - Layout, Readout Board



NOTE:
 1. ALL VOLTAGES ARE MEASURED REFERENCE TO GROUND.
 2. CAPACITORS ARE IN μ F.
 3. RESISTORS ARE IN OHMS.
 4. DIODES ARE 1N916 B
 5. E NUMBERS REFER TO CONNECTION POINTS USED FOR SYSTEMS INTERFACE ONLY.

Figure 6.6 - Schematic, Readout Board continued
 6-11

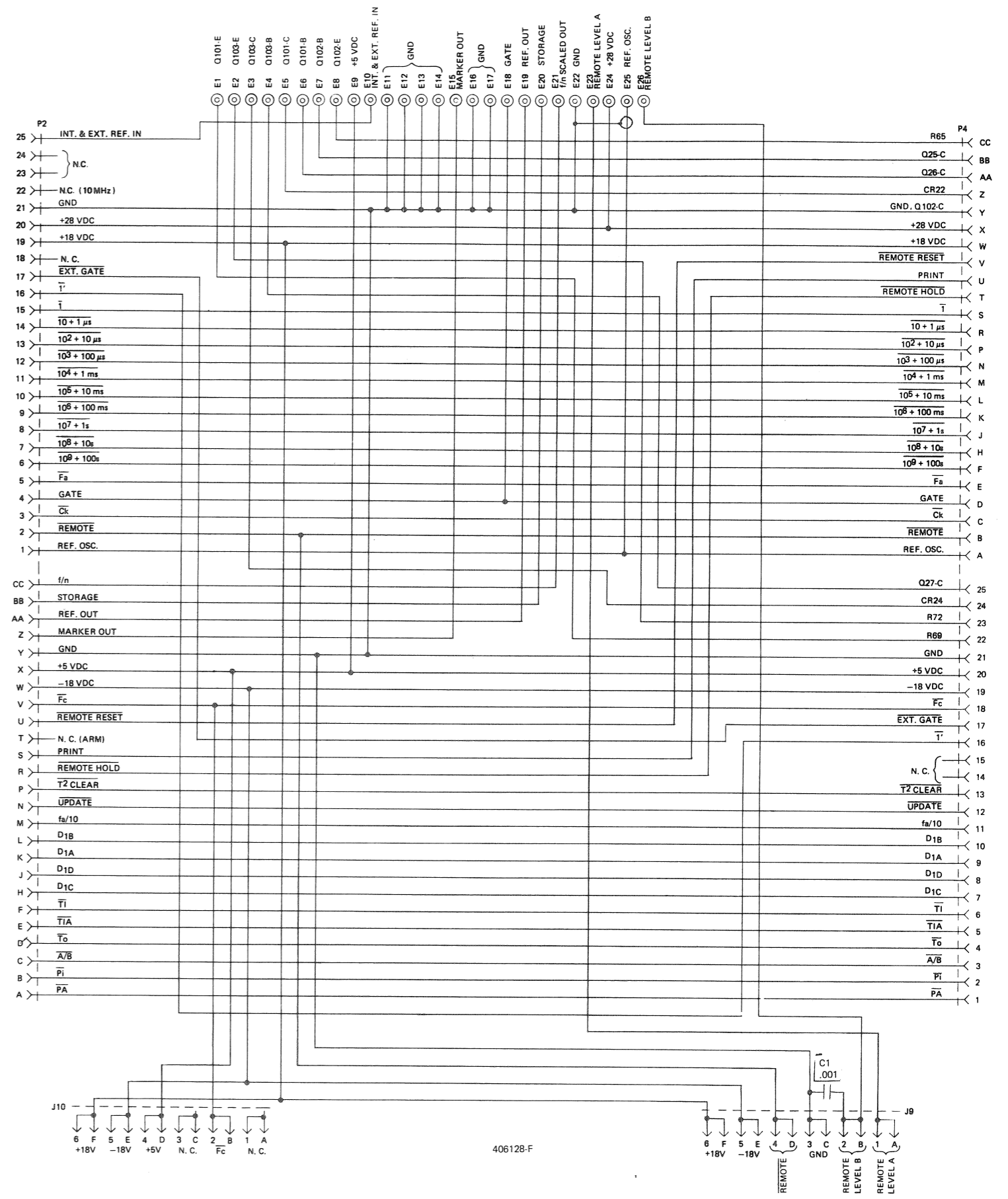
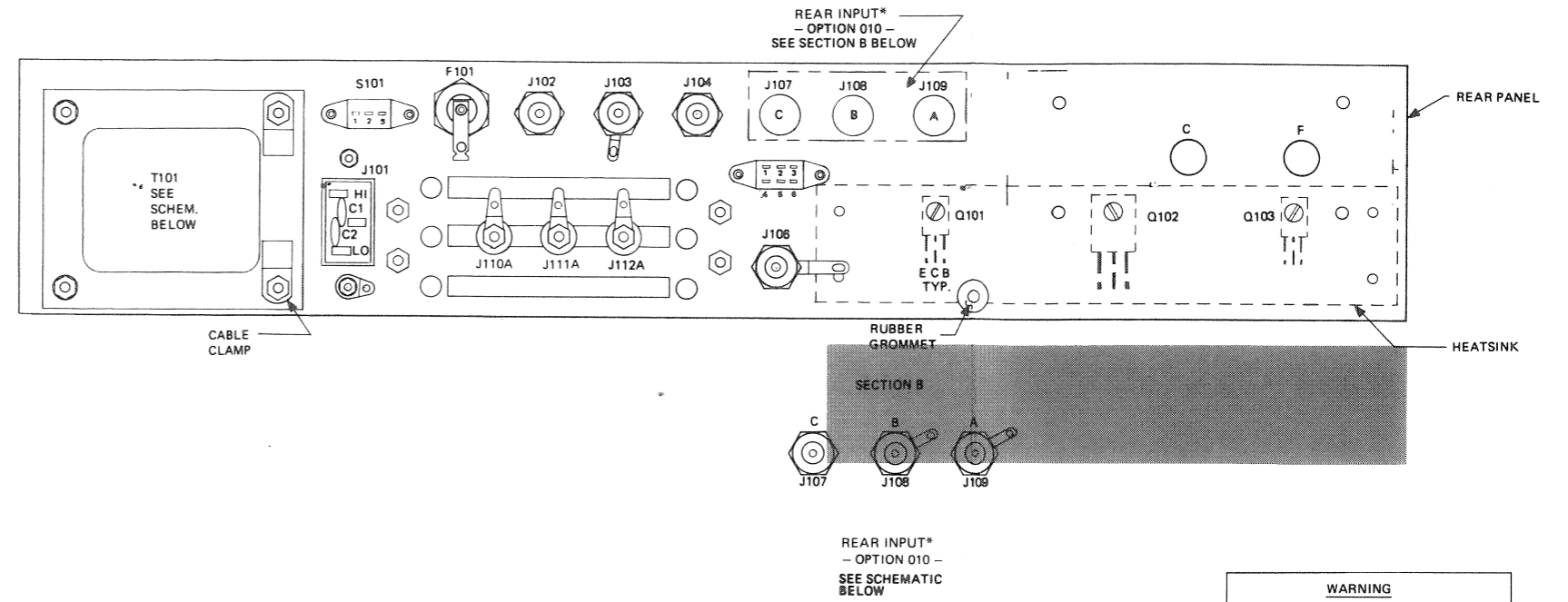
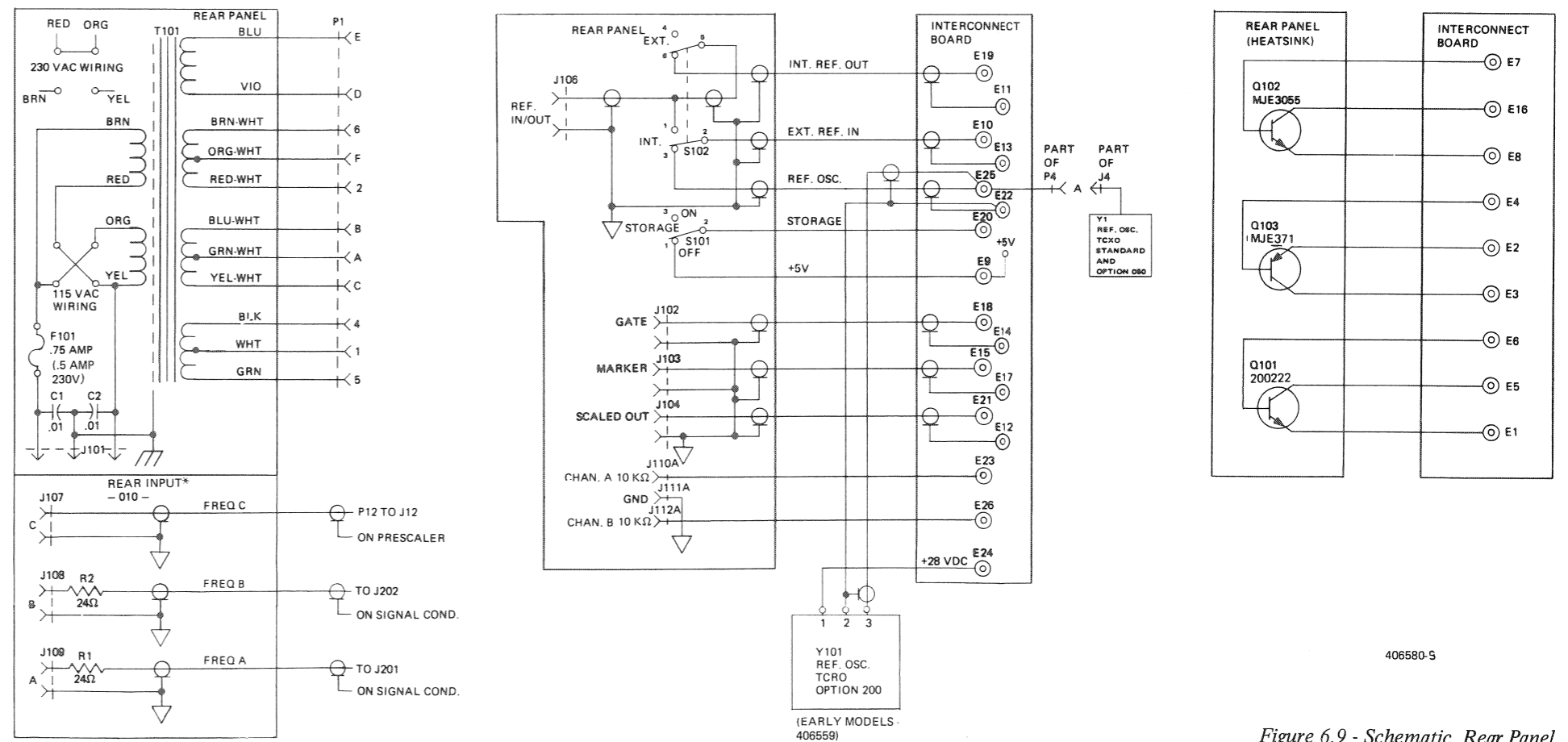


Figure 6.7 - Schematic, Interconnect Board



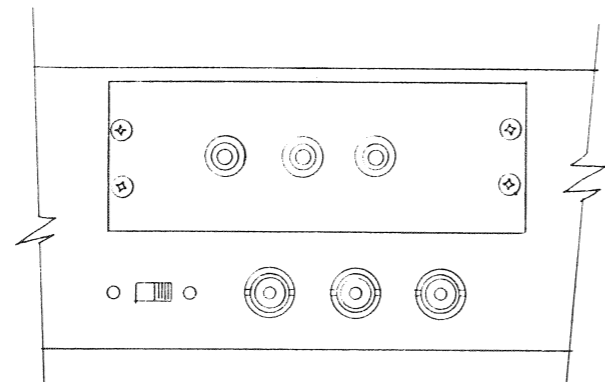
WARNING
 THE AREAS INDICATED BY SHADING
 CONTAIN COMPONENT PARTS WHICH
 GENERATE HIGH VOLTAGES WHICH
 CAN CAUSE INJURY. AVOID TOUCHING THE
 INDICATED AREAS WHEN WORKING WITH
 THE INSTRUMENT.



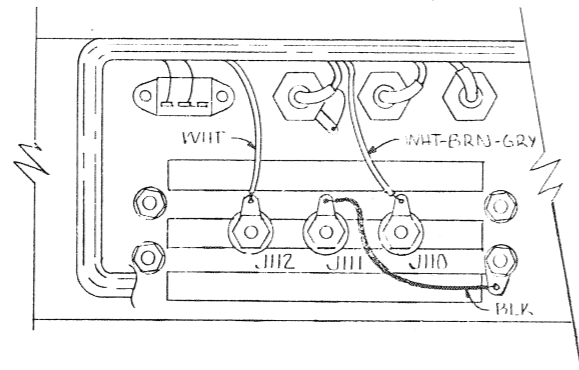
*INSTRUMENTS EQUIPPED WITH OPTION 200 OR 300
 REFER TO PAGE 6-15 TO SHOW LAYOUT OF OPTION
 010 REAR INPUT

406580-5

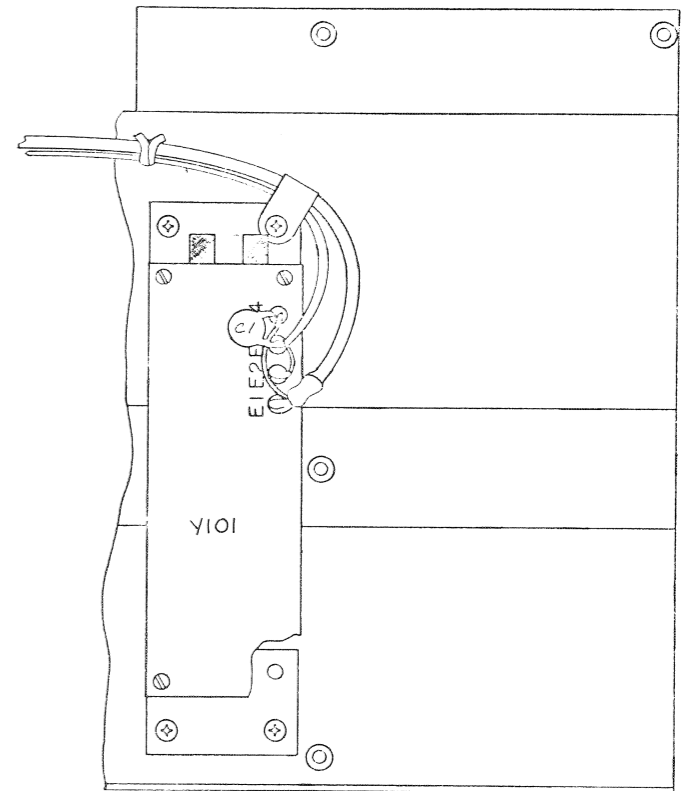
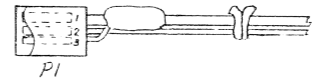
Figure 6.9 - Schematic, Rear Panel



FOR INSTRUMENTS WITHOUT OPTION 008 OR 009.
INSTRUMENTS WITH OPTION 008 OR 009 SEE PAGE 6-15.



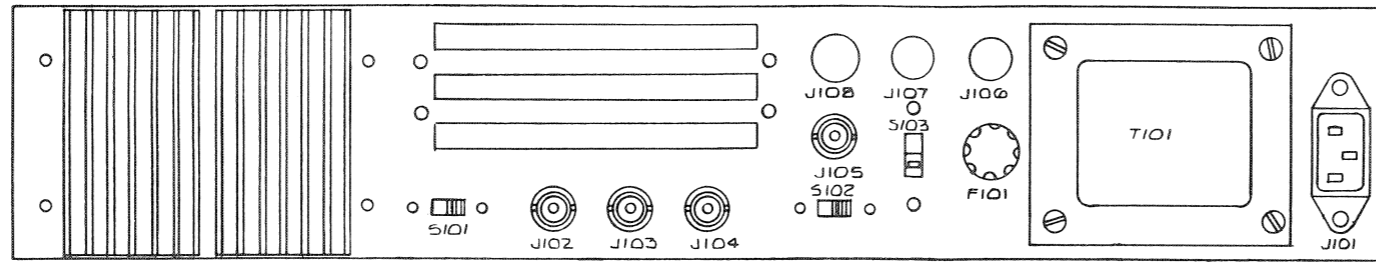
TO J1, 28V REGULATOR
406130) ON READOUT BOARD
SEE PAGE 6-8



IF 406654 OR 406655 SIGNAL CONDITIONER
MODULES ARE USED REMOVE 600245 JUMPER
ON 406732 REAR PANEL ASSY.

406748/749-F

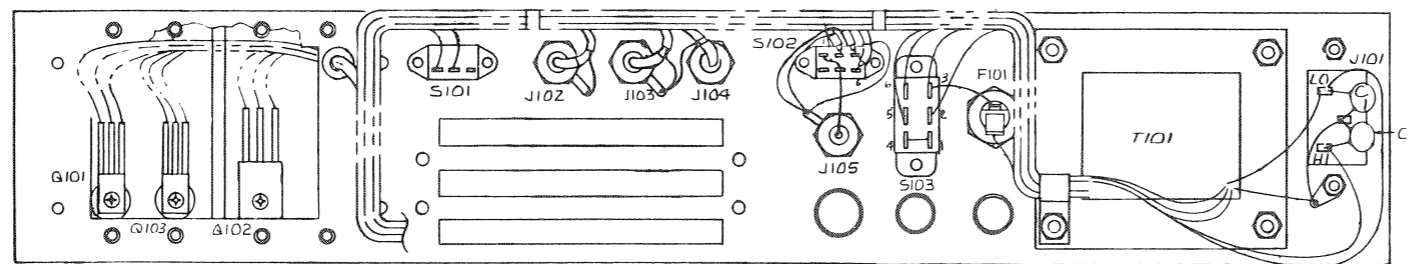
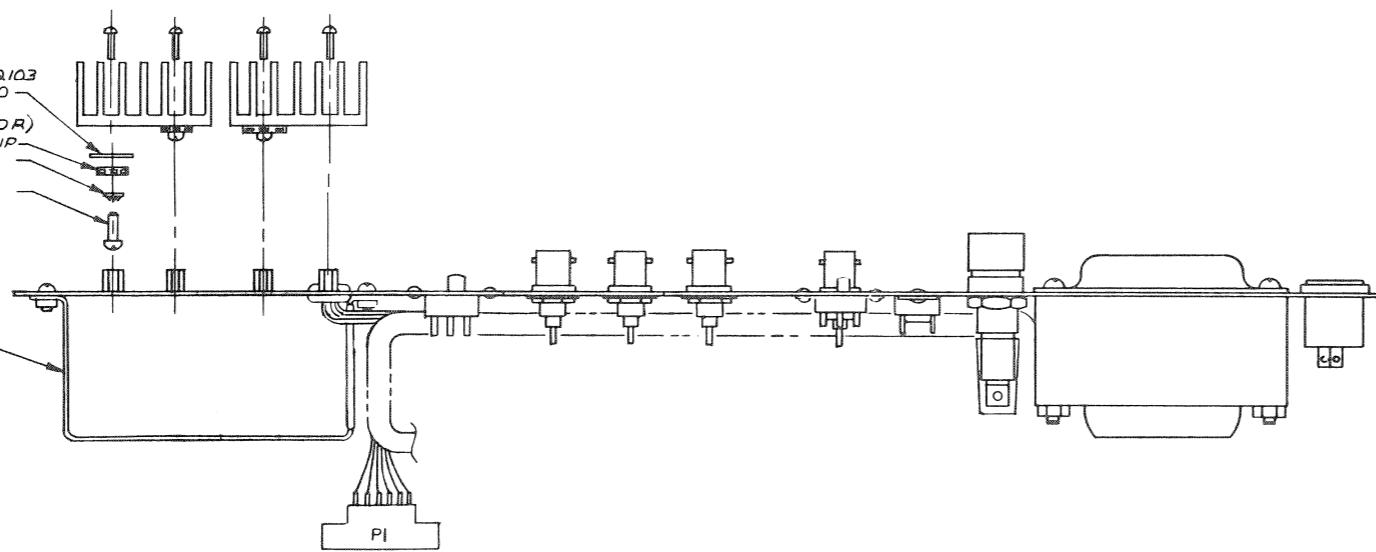
Figure 6.10 - Assembly, Oscillator (Option 200 or 300)



USE INSULATOR ON Q101, Q103
 USE DOW CORNING #390
 HEATSINK COMPOUND
 (BOTH SIDES OF INSULATOR)
 TRANSISTOR-METAL SIDE UP
 LOCKWASHER MTD WITH
 TEETH AS SHOWN
 TRUSS HD SCREW 4-40 X
 5/16 LG

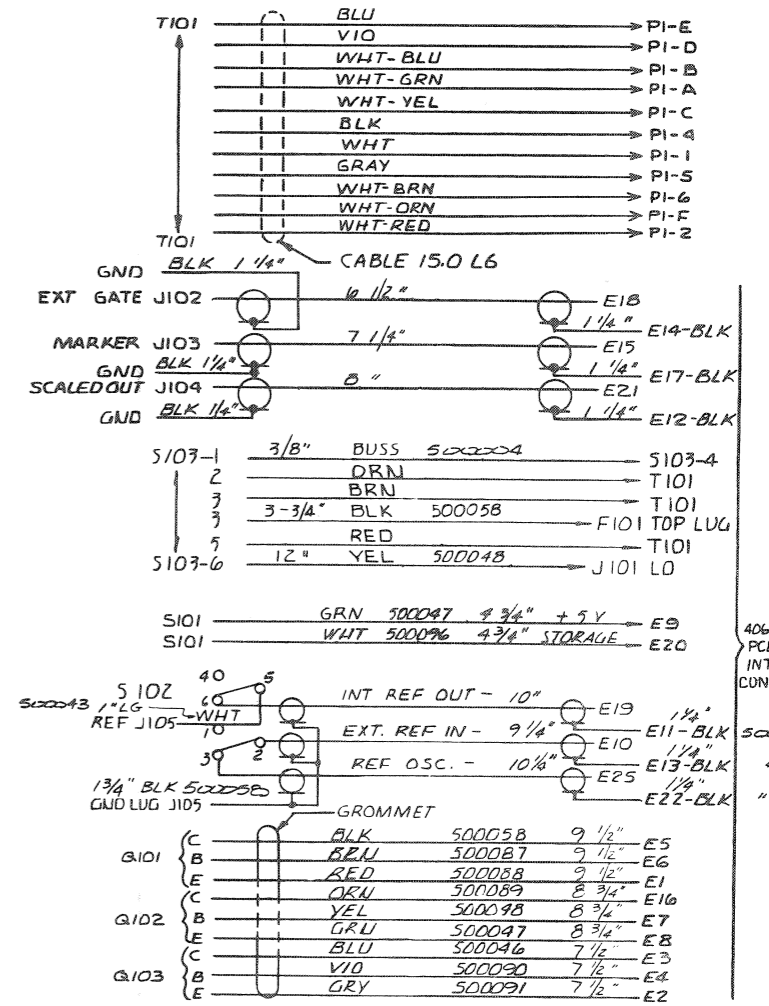
TYP
 3 PLACES

SEE NEXT PAGE
 - FAN MOUNTING
 & WIRING



WIRING

J101 LOW	YEL 500048	T101
J101 GND	GRN 500047	CHASSIS GND LUG
J101 HI	8 1/2" BLK 500058	F101 END LUG
T101	7 1/8" GRN 500047	CHASSIS GND LUG

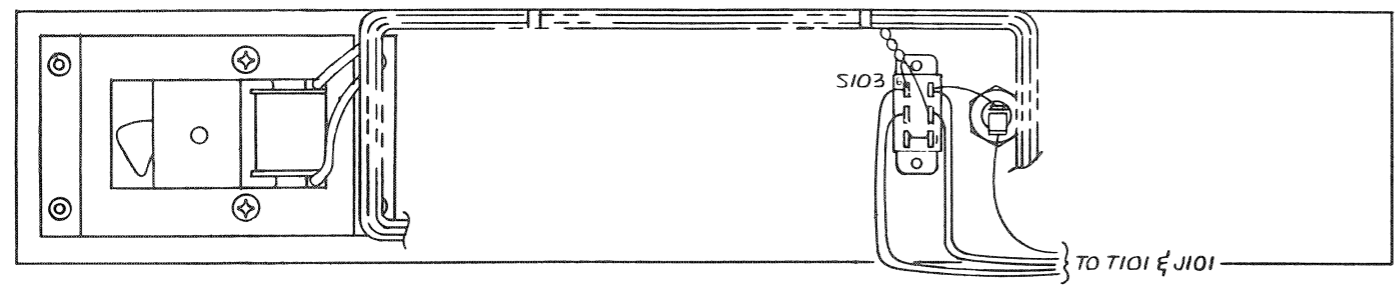
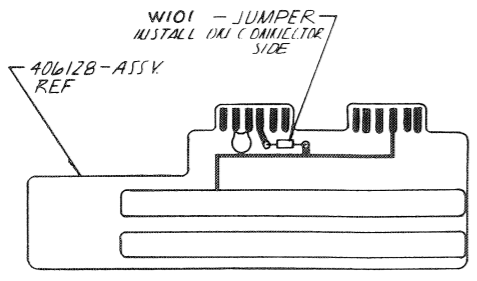


406732-E

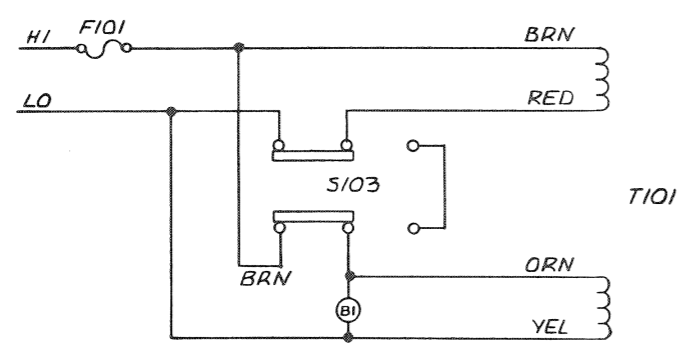
Part of P/N 406748/49 Option 200 & 300

FOR INSTRUMENTS WITH OPTION 008 OR 009.
 INSTRUMENTS WITHOUT OPTION 008 OR 009 SEE PAGE 6-14.

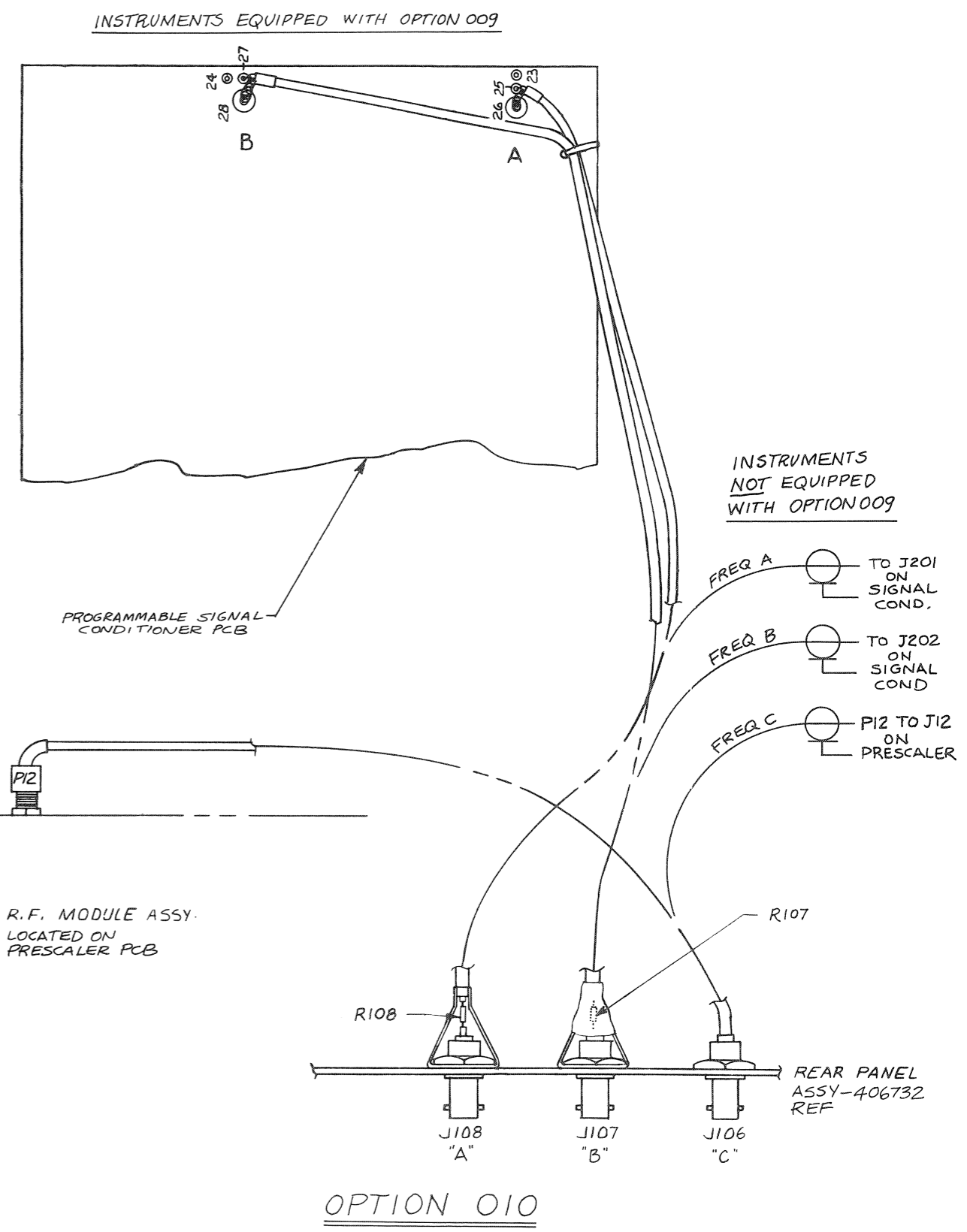
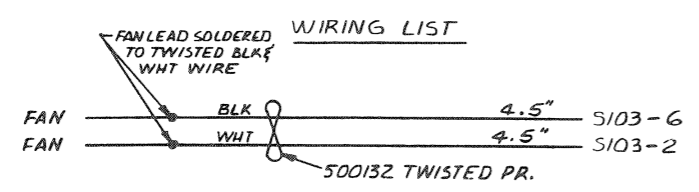
Figure 6.11 - Layout, Rear Panel (Part of Option 200 & 300)



FAN MOUNTING



WIRING DIAGRAM FOR FAN & P5



[Part of P/N 406748/49 Option 200 & 300]

Figure 6.11 - Layout, Rear Panel
(Part of Option 200 & 300) continued

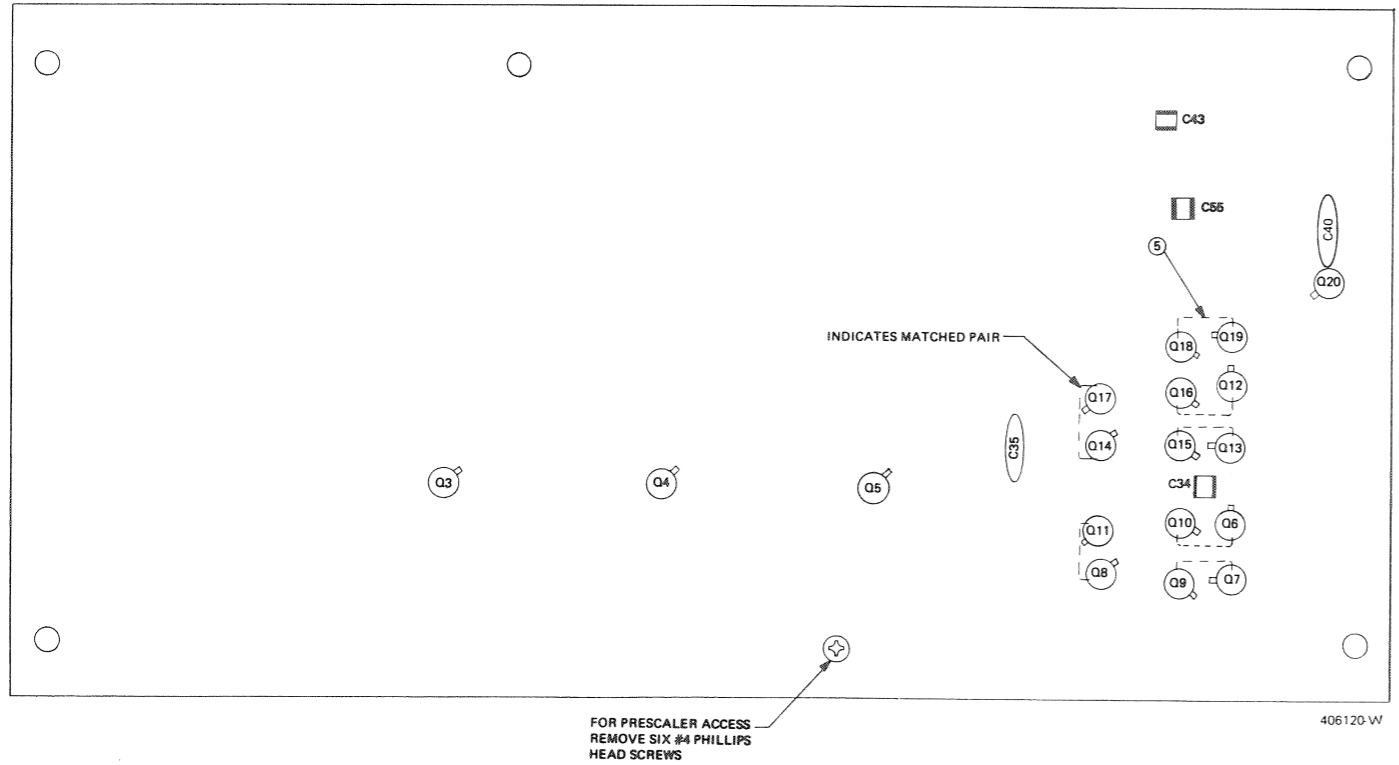
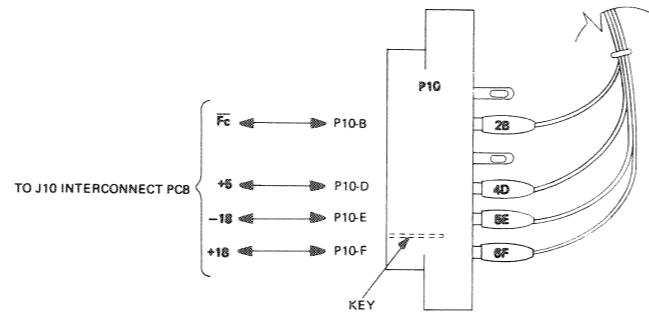
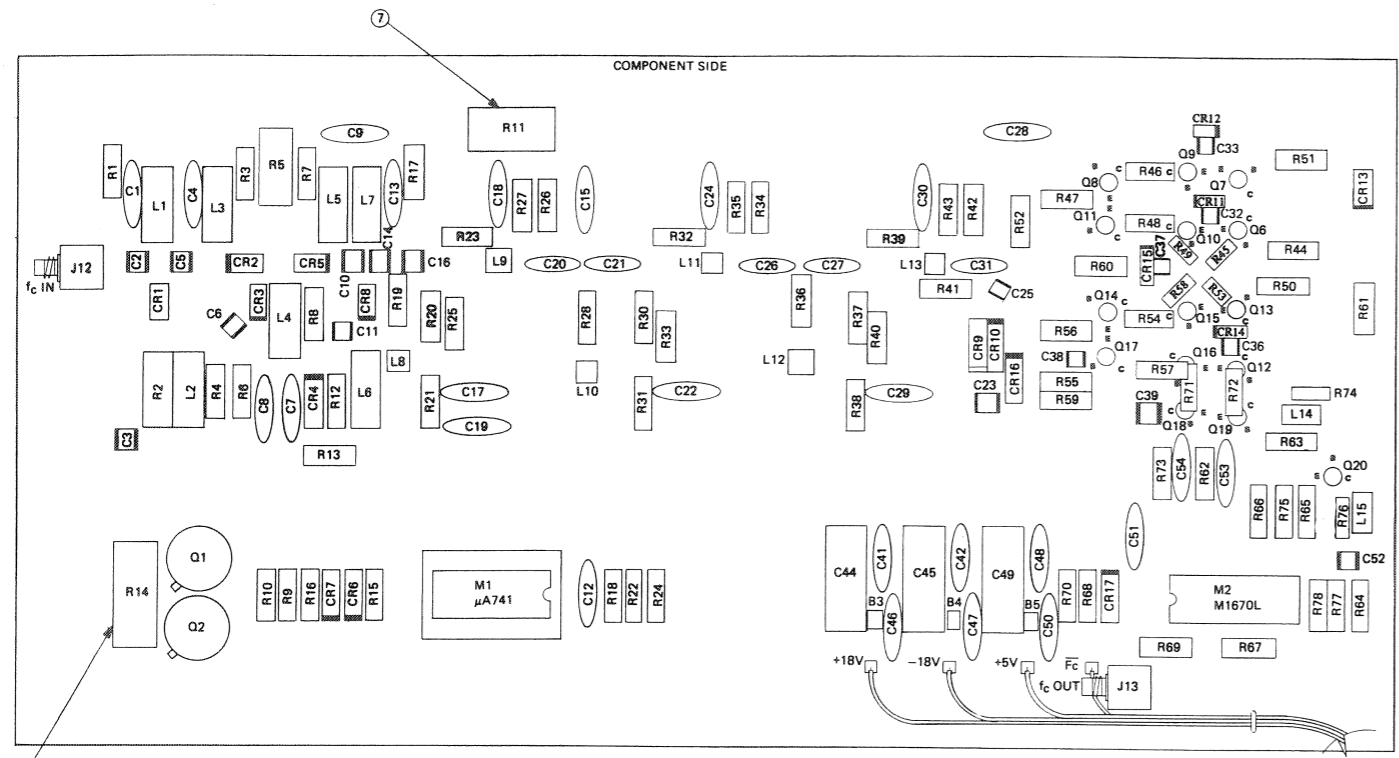
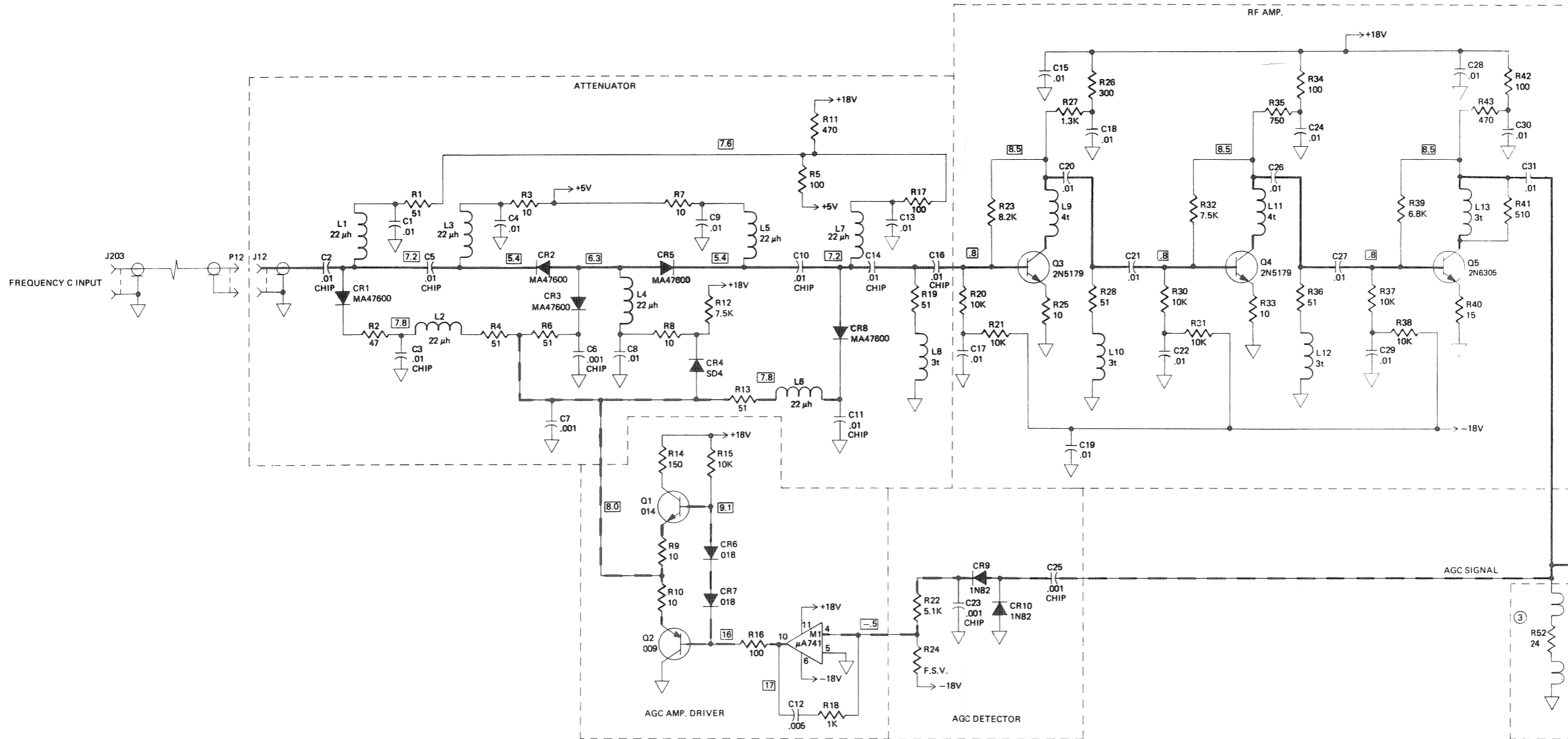
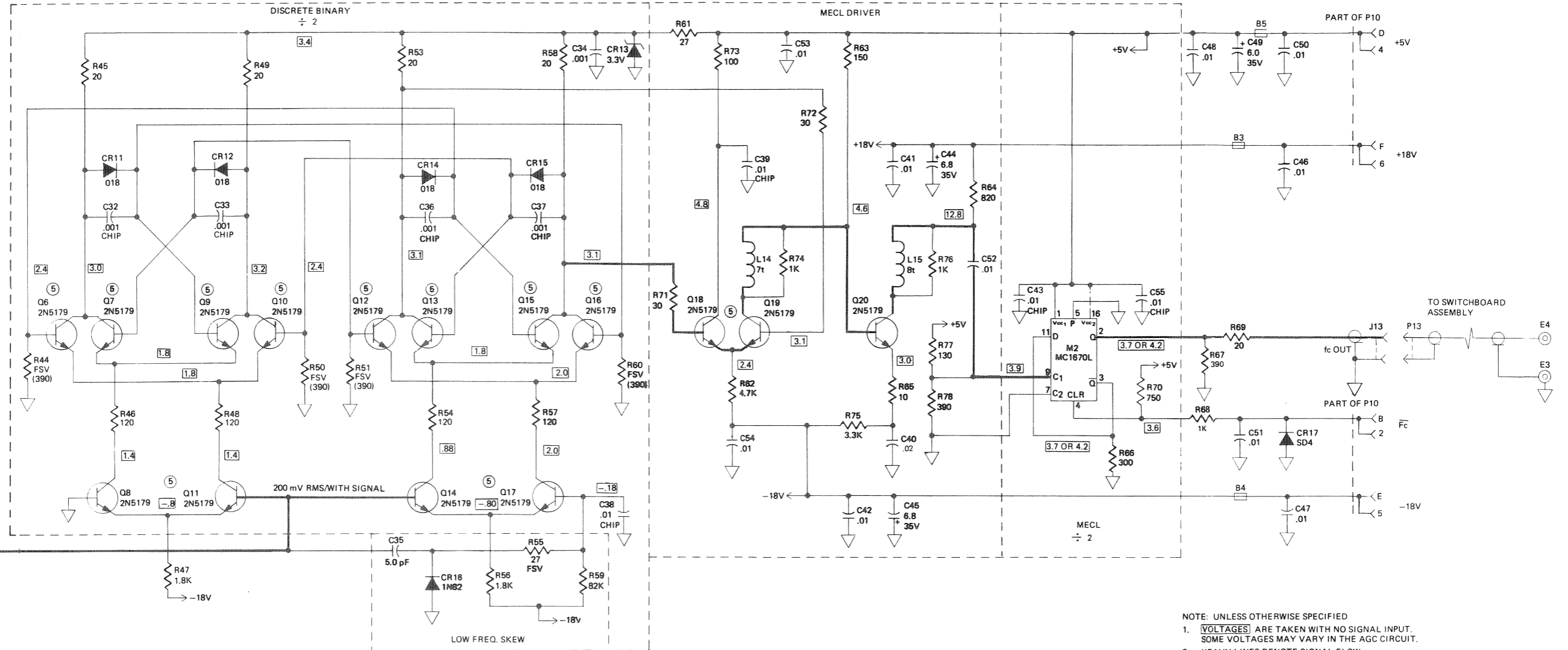


Figure 6.12 - Layout, Prescaler 550 MHz (50 mV)

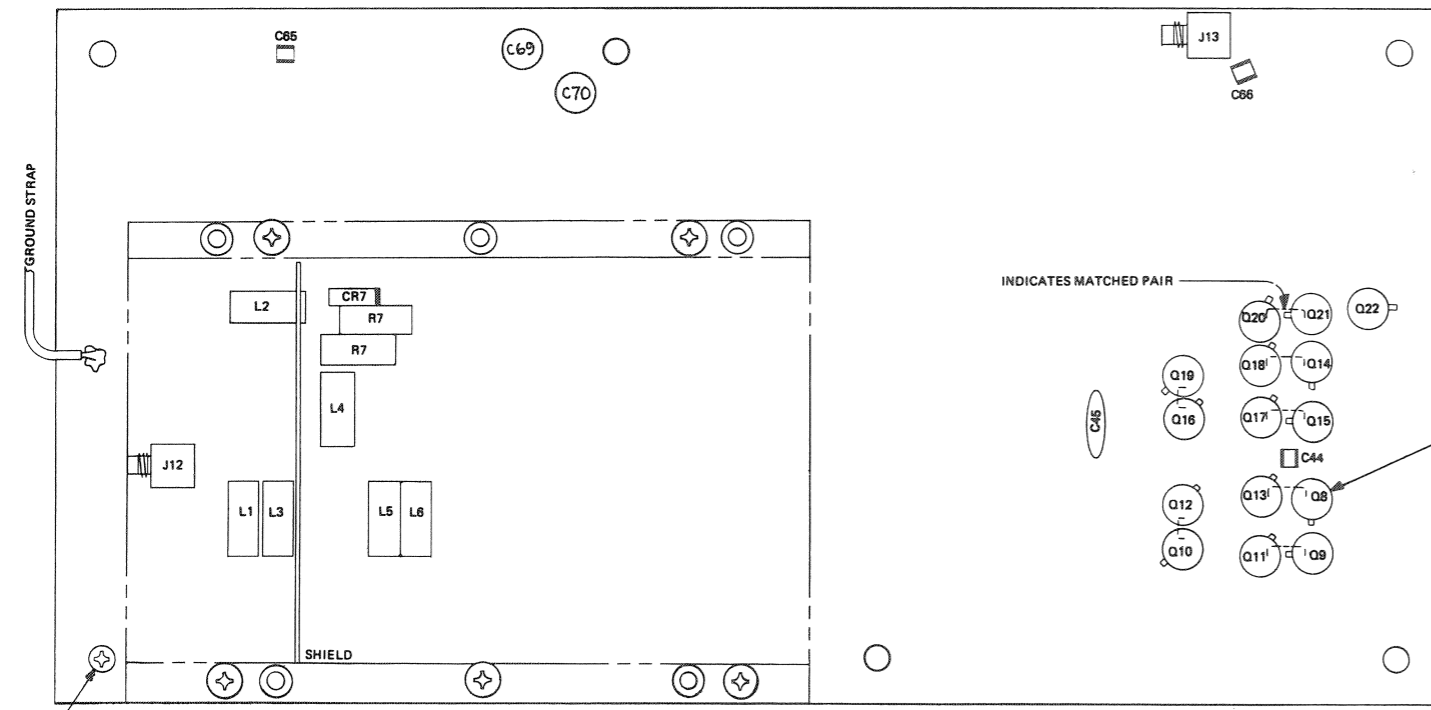
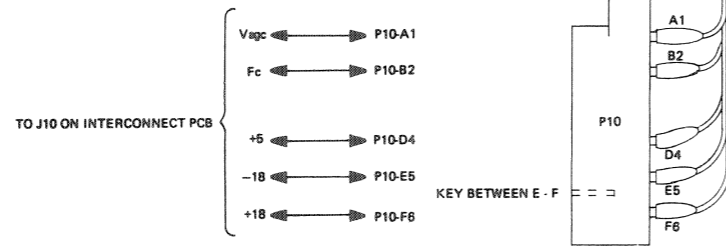
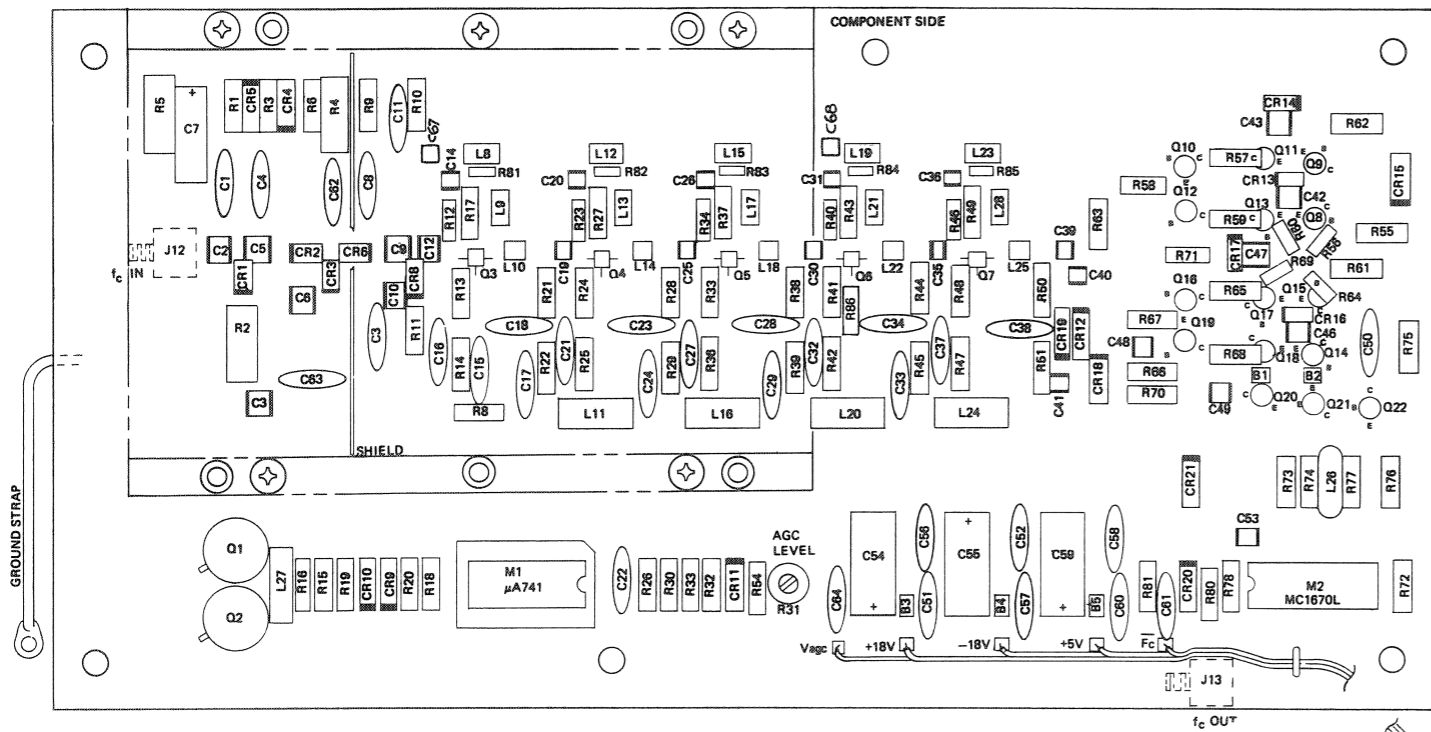




- NOTE: UNLESS OTHERWISE SPECIFIED
1. [VOLTAGES] ARE TAKEN WITH NO SIGNAL INPUT. SOME VOLTAGES MAY VARY IN THE AGC CIRCUIT.
 2. HEAVY LINES DENOTE SIGNAL FLOW.
 3. RESISTOR R52 FORMS A TUNED CIRCUIT UTILIZING THE LEADS AS INDUCTORS AND IS MOUNTED .25 ABOVE PCB.
 4. B3, B4 & B5 ARE FERRITE BEADS.
 5. Q6 & Q10, Q7 & Q9, Q8 & Q11, Q12 & Q16, Q13 & Q15, Q14 & Q17, Q18 & Q19 ARE MATCHED PAIRS.
 6. REFER TO PARTS LIST FOR EXACT PART REPLACEMENT.
 7. R11, R14, ARE MOUNTED ABOVE PCB FOR HEAT DISSIPATION.
 8. CAPACITOR VALUES ARE IN μ f.
 9. RESISTOR VALUES ARE IN OHMS $\pm 5\%$, 1/4W.
 10. ALL DIODES ARE 1N916 B

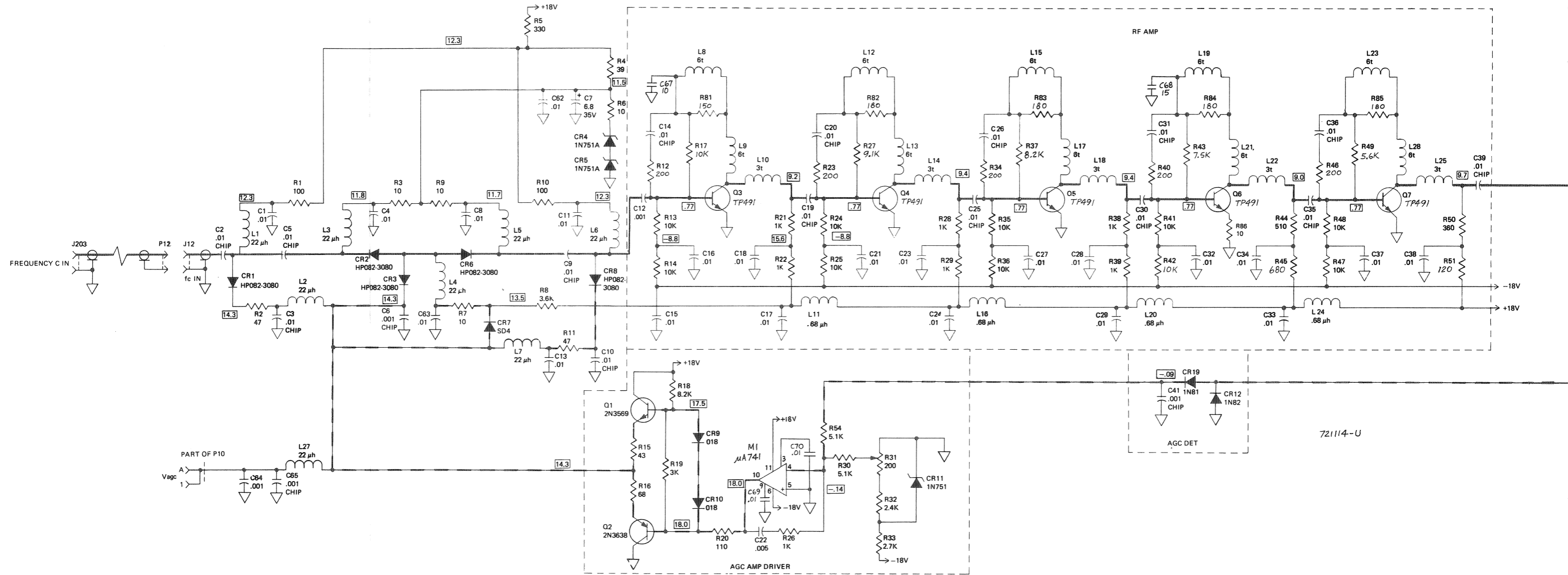
721120P

Figure 6.13 - Schematic, Prescaler 550 MHz (50 mV)

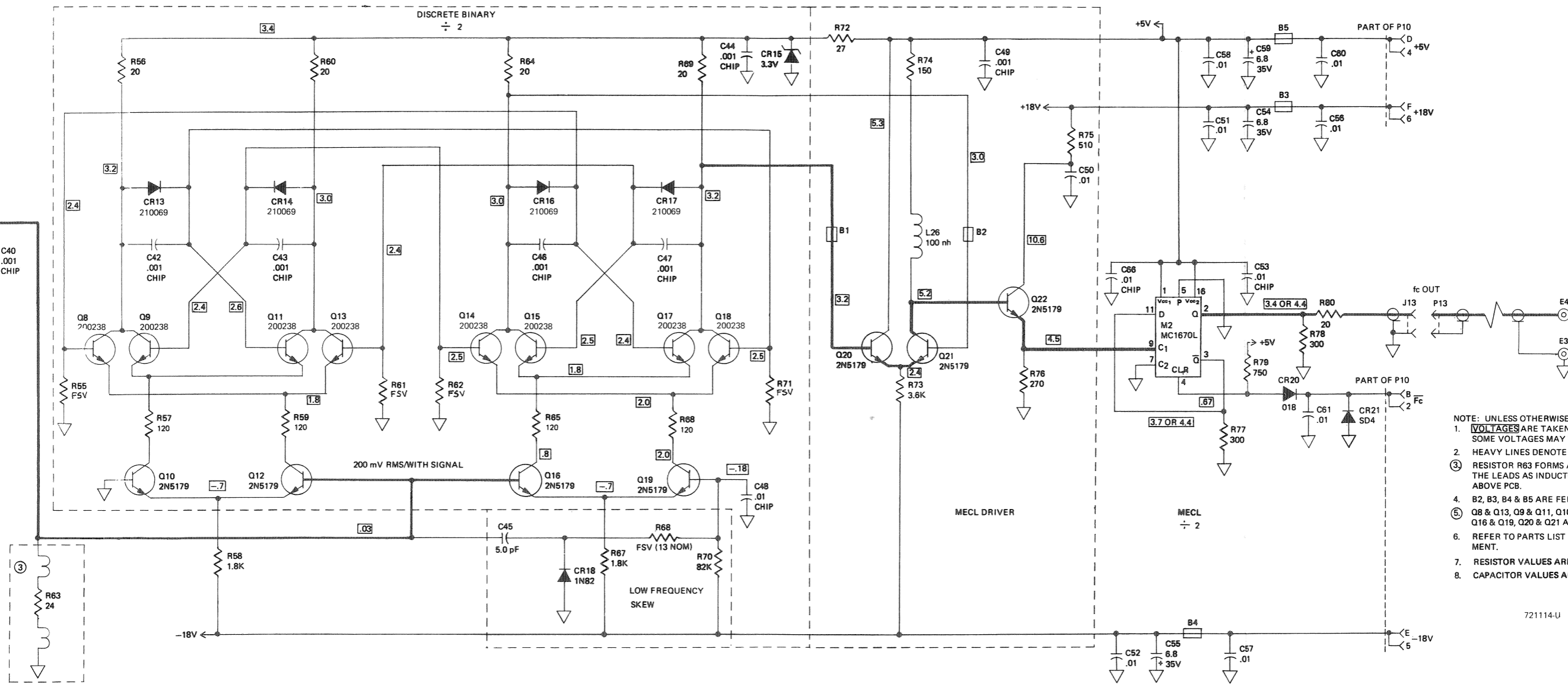


406114-A8

Figure 6.14 - Layout, Prescaler 500 MHz (1 mV)



72114-U



- NOTE: UNLESS OTHERWISE SPECIFIED
1. **VOLTAGES** ARE TAKEN WITH NO SIGNAL INPUT. SOME VOLTAGES MAY VARY IN THE AGC CIRCUIT.
 2. HEAVY LINES DENOTE SIGNAL FLOW.
 3. RESISTOR R63 FORMS A TUNED CIRCUIT UTILIZING THE LEADS AS INDUCTORS AND IS MOUNTED .25 ABOVE PCB.
 4. B2, B3, B4 & B5 ARE FERRITE BEADS.
 5. Q8 & Q13, Q9 & Q11, Q10 & Q12, Q14 & Q18, Q15 & Q17, Q16 & Q19, Q20 & Q21 ARE MATCHED PAIRS.
 6. REFER TO PARTS LIST FOR EXACT PART REPLACEMENT.
 7. RESISTOR VALUES ARE IN OHMS $\pm 5\%$, 1/4W.
 8. CAPACITOR VALUES ARE IN μ F.

721114-U

Figure 6.15 - Schematic, Prescaler 500 MHz (1 mV)
6-23