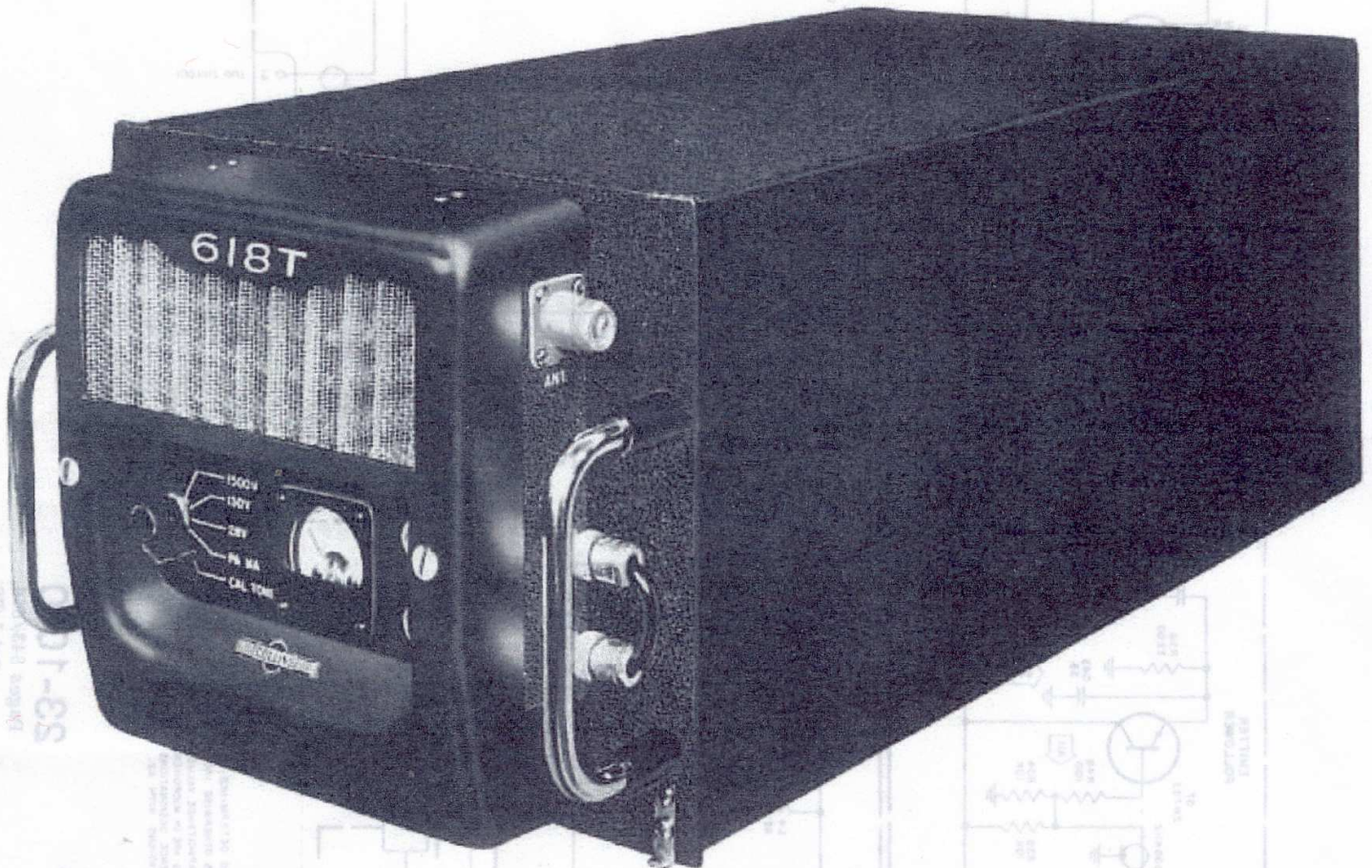




Collins 618T-(x) HF SSB Airborne transceiver



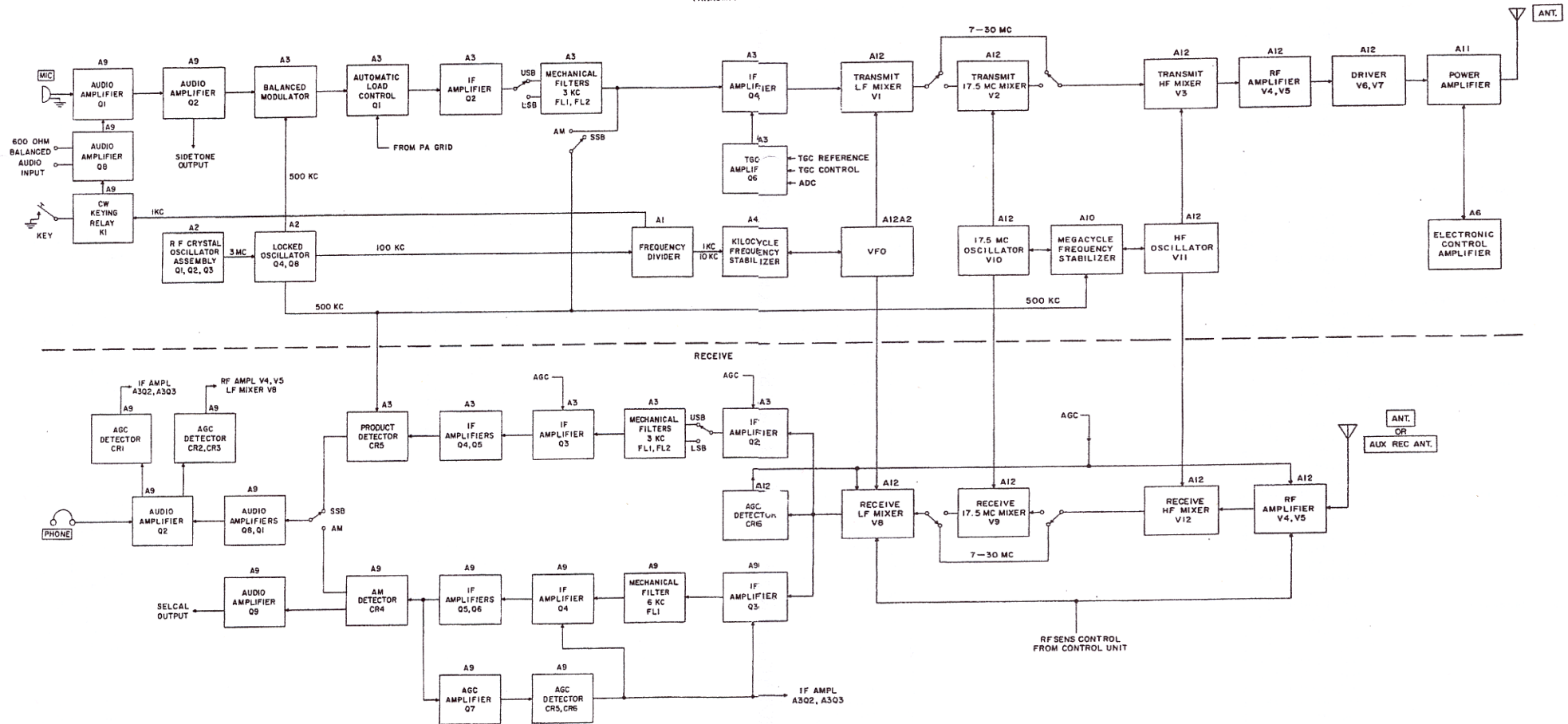
Schematic Diagrams

Courtesy AC5XP
Modified JA6ATY

Collins 618T-(x) HF SSB Airbone Transceiver

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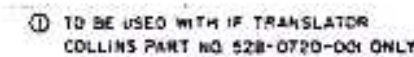
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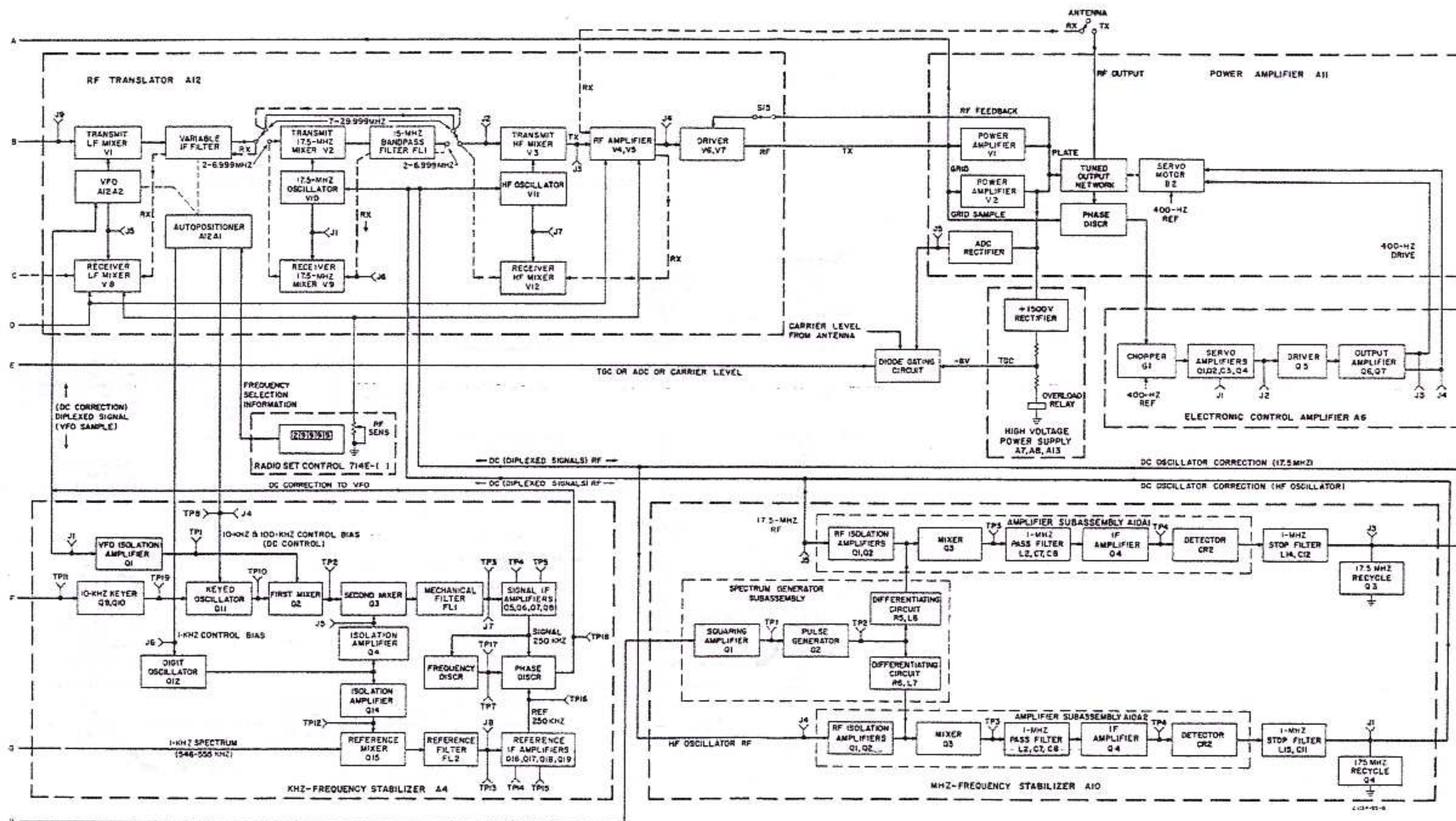
Airborne SSB Transceiver 618T-1,
Block Diagram
Figure 2

Aug 1/63

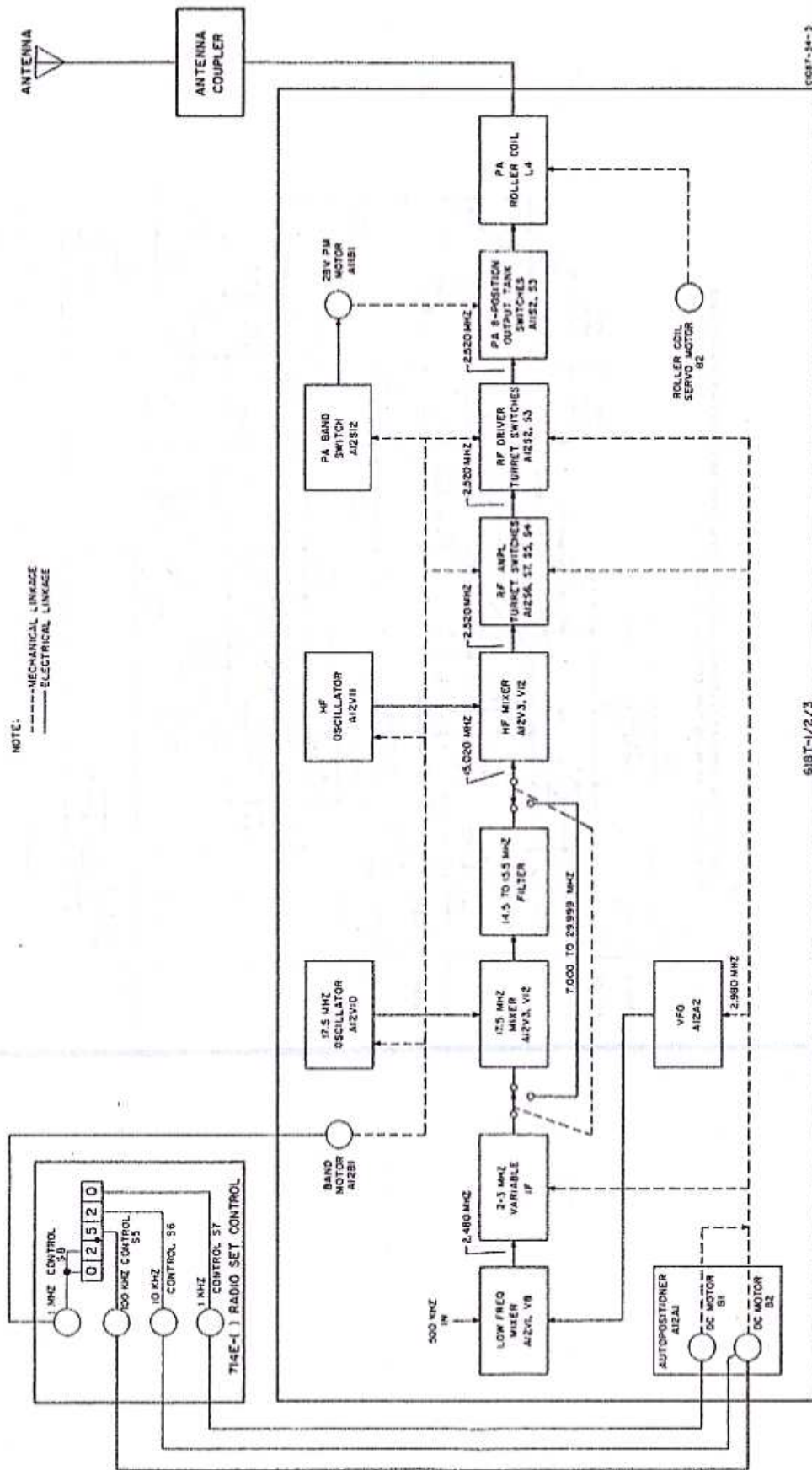
23-10-0
Pages 21/22



Mar 1/74



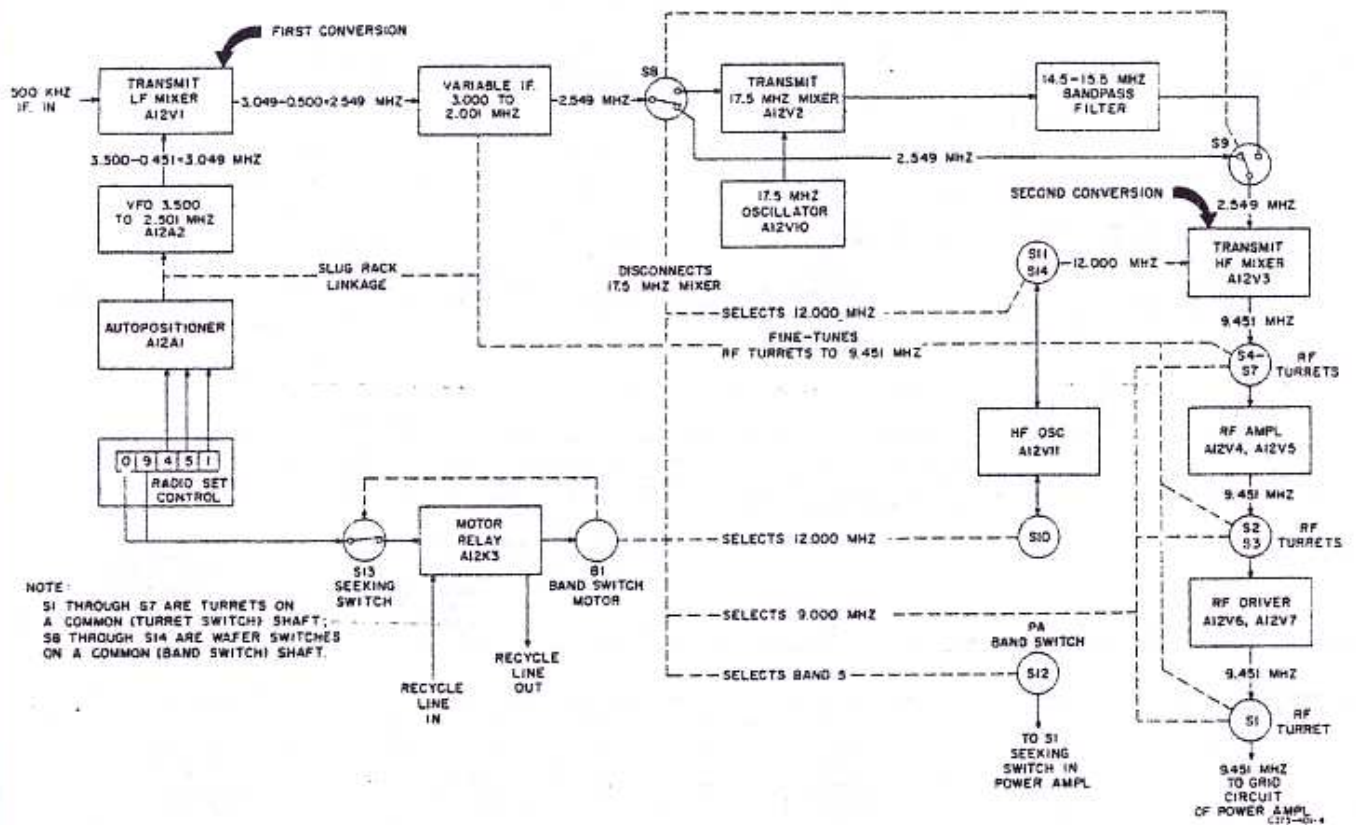
618T-1/2/3 Airborne SSB Transceivers, Block Diagram (Sheet 2 of 2)
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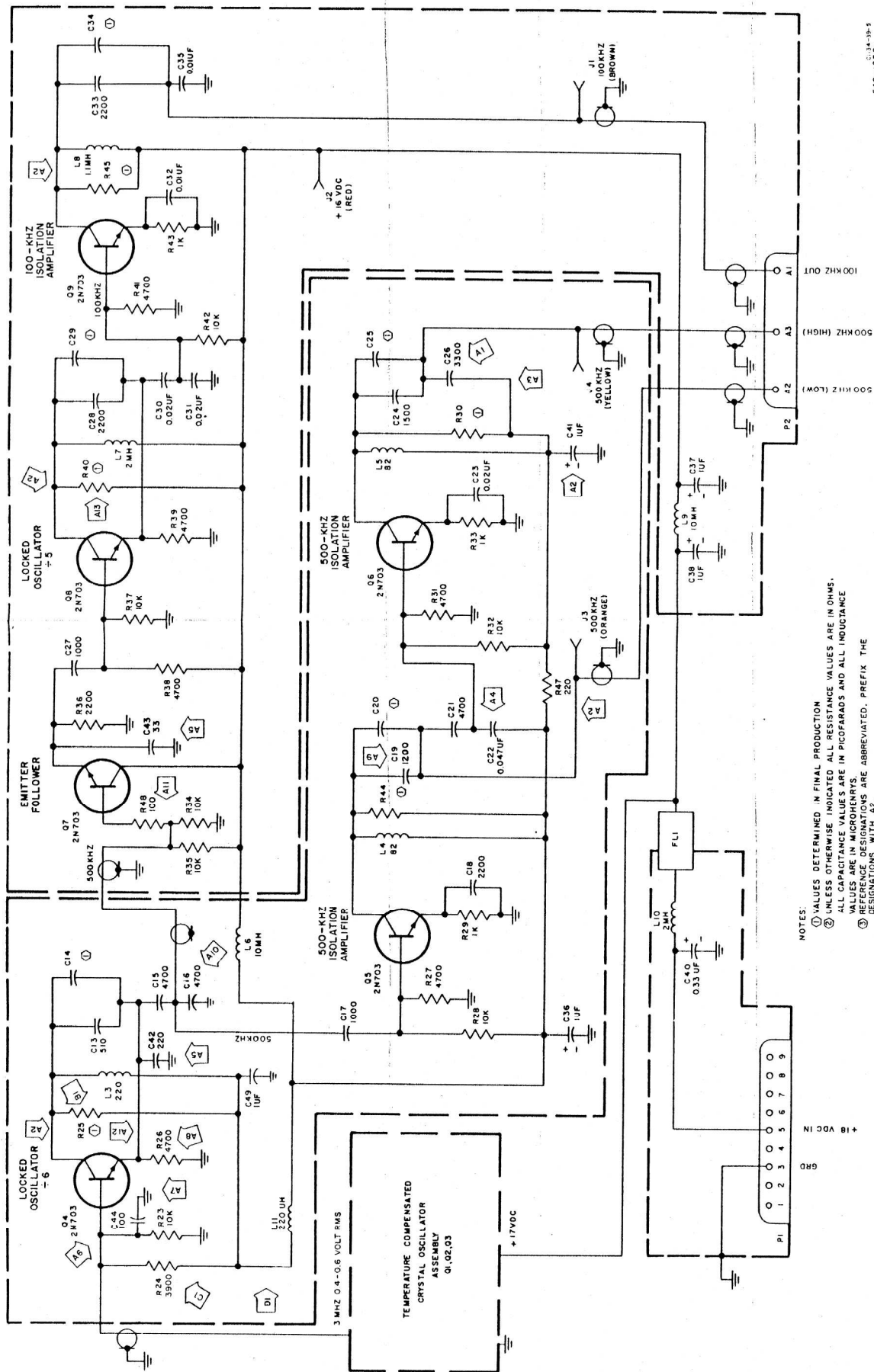
61ST-1/2/3 Frequency Selection and Translation, Block Diagram
Figure 19



OVERHAUL MANUAL



618T-1/2/3 Frequency Translation 7 to 29.999 MHz, Block Diagram
Figure 23



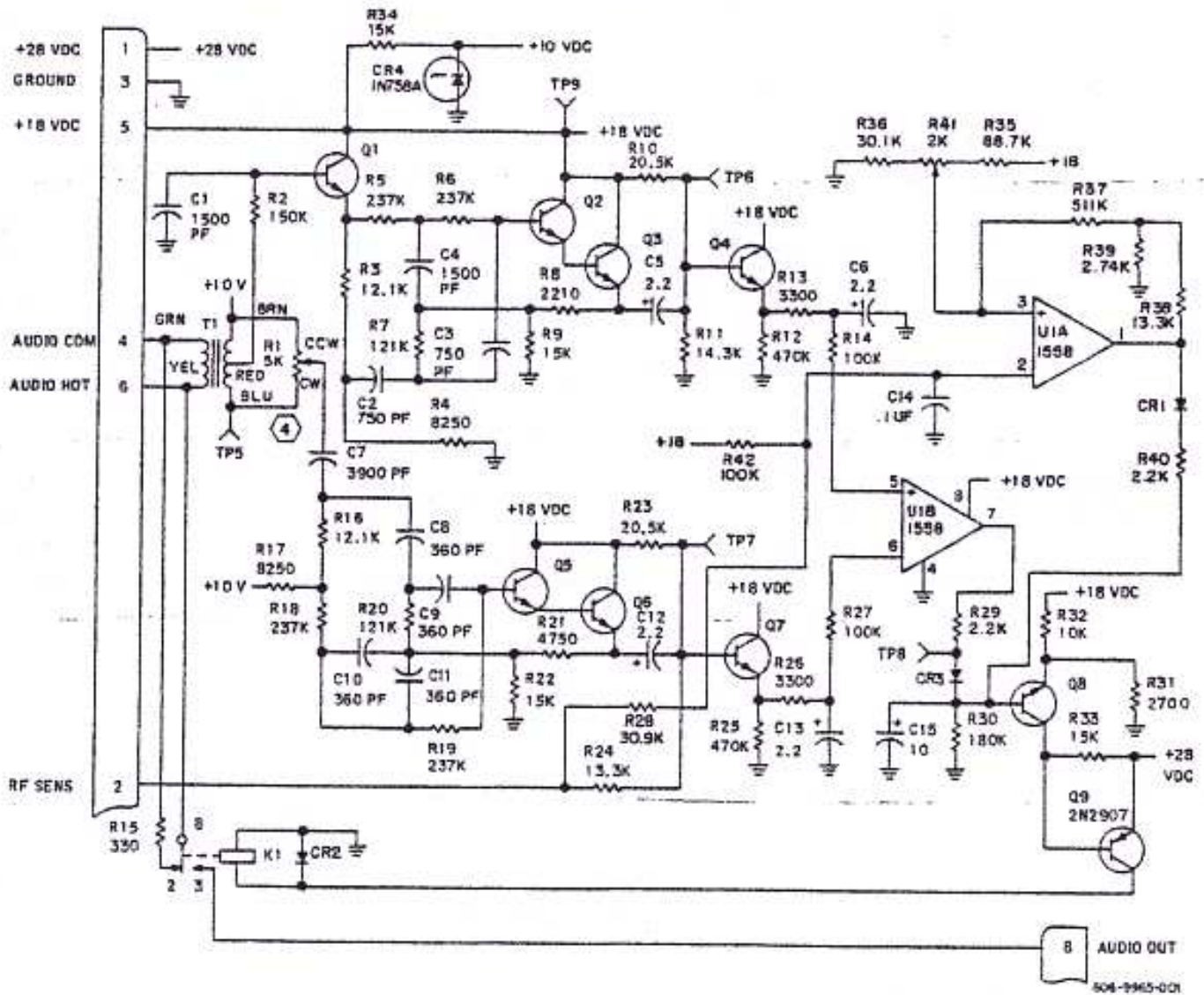
- NOTES:
- ① VALUES DETERMINED IN FINAL PRODUCTION
 - ② UNLESS OTHERWISE INDICATED ALL RESISTANCE VALUES ARE IN OHMS, ALL CAPACITANCE VALUES ARE IN PICOFARADS AND ALL INDUCTANCE VALUES ARE IN MICROHENRYS.
 - ③ DESIGNATION DESIGNATIONS ARE ABBREVIATED. PREFIX THE DESIGNATIONS WITH AL.

RF Oscillator A2 (528-0251-005),
Schematic Diagram
Figure 811



NOTE:

UNLESS OTHERWISE SPECIFIED; RESISTANCE VALUES ARE IN OHMS, CAPACITANCE VALUES ARE IN MICROFARADS
DIODES ARE TYPE 1N3064 AND TRANSISTORS ARE TYPE 2N930.

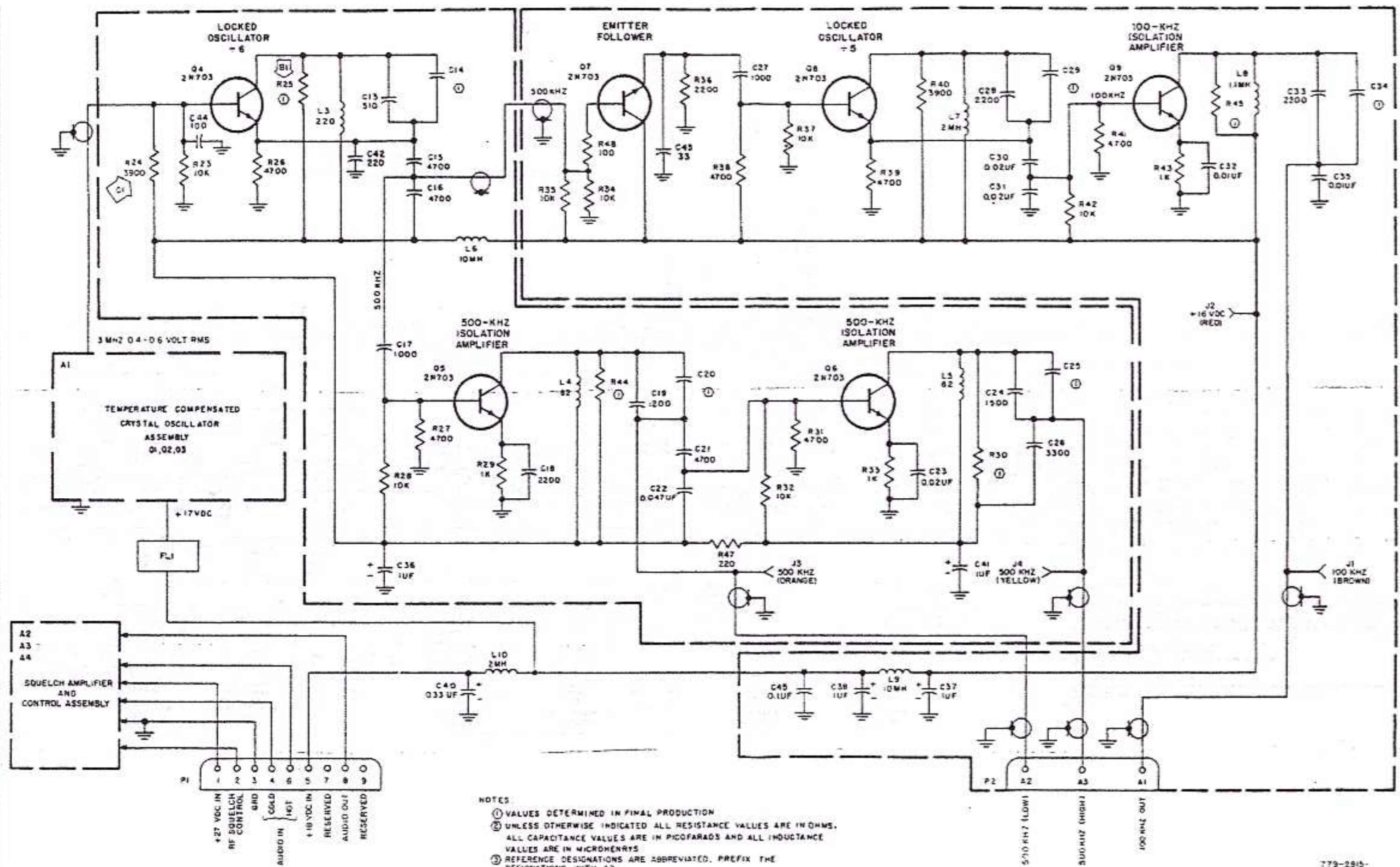


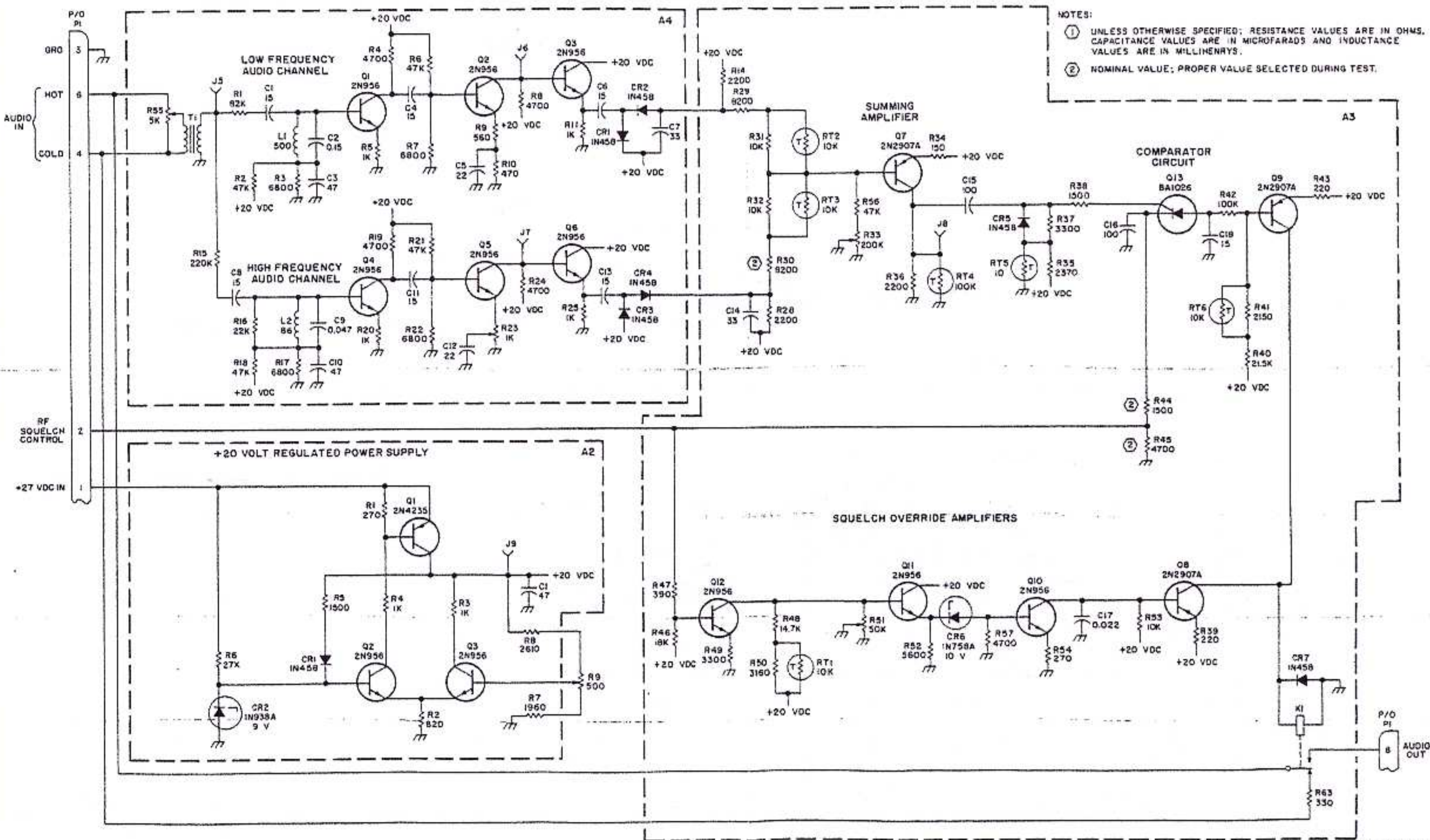
RF Oscillator (528-0690-002) Squelch Board (797-3684-002)

With Production Incorporation of Positive Override

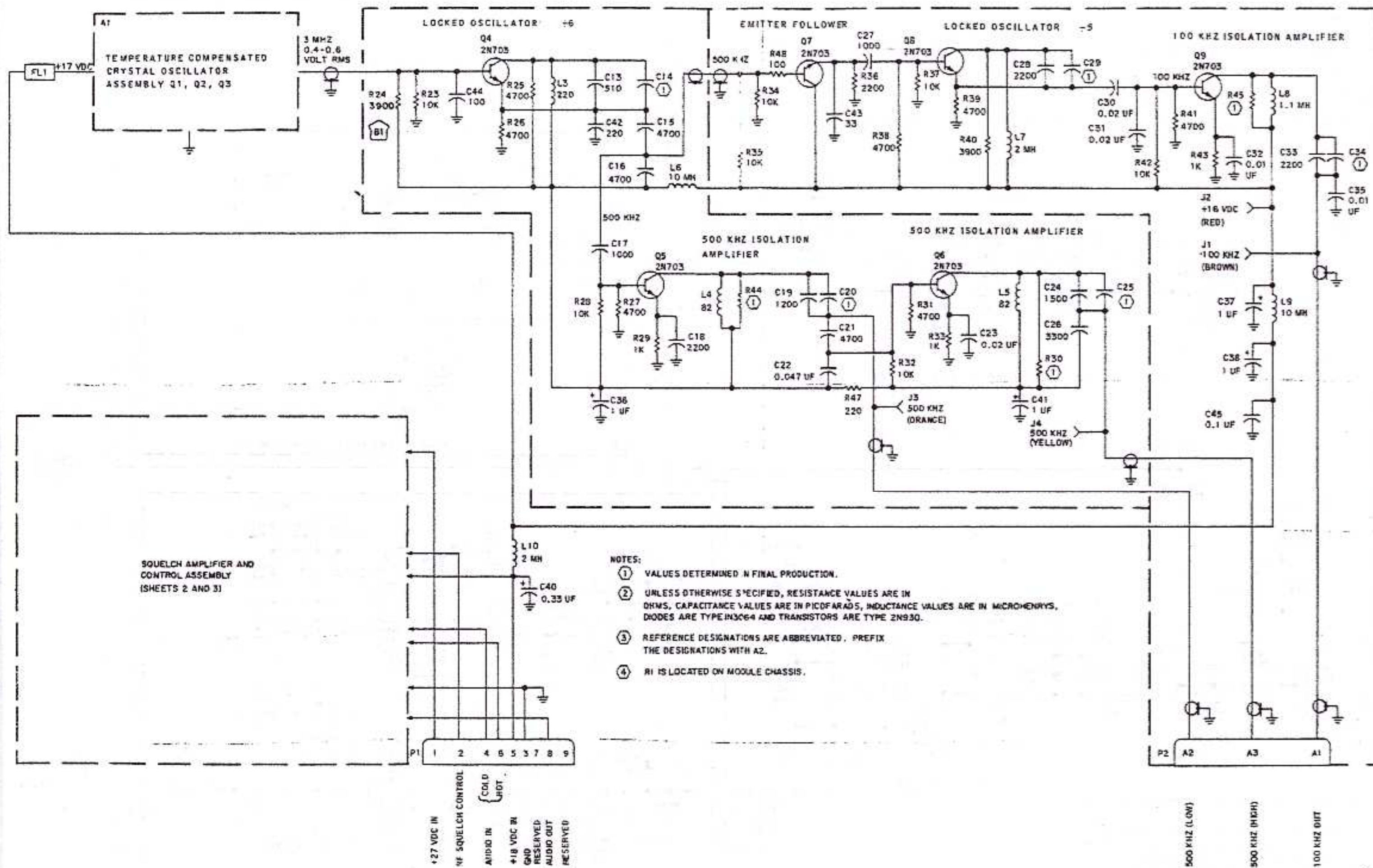
Squelch, Schematic Diagram (Sheet 3 of 3)

Figure 810A

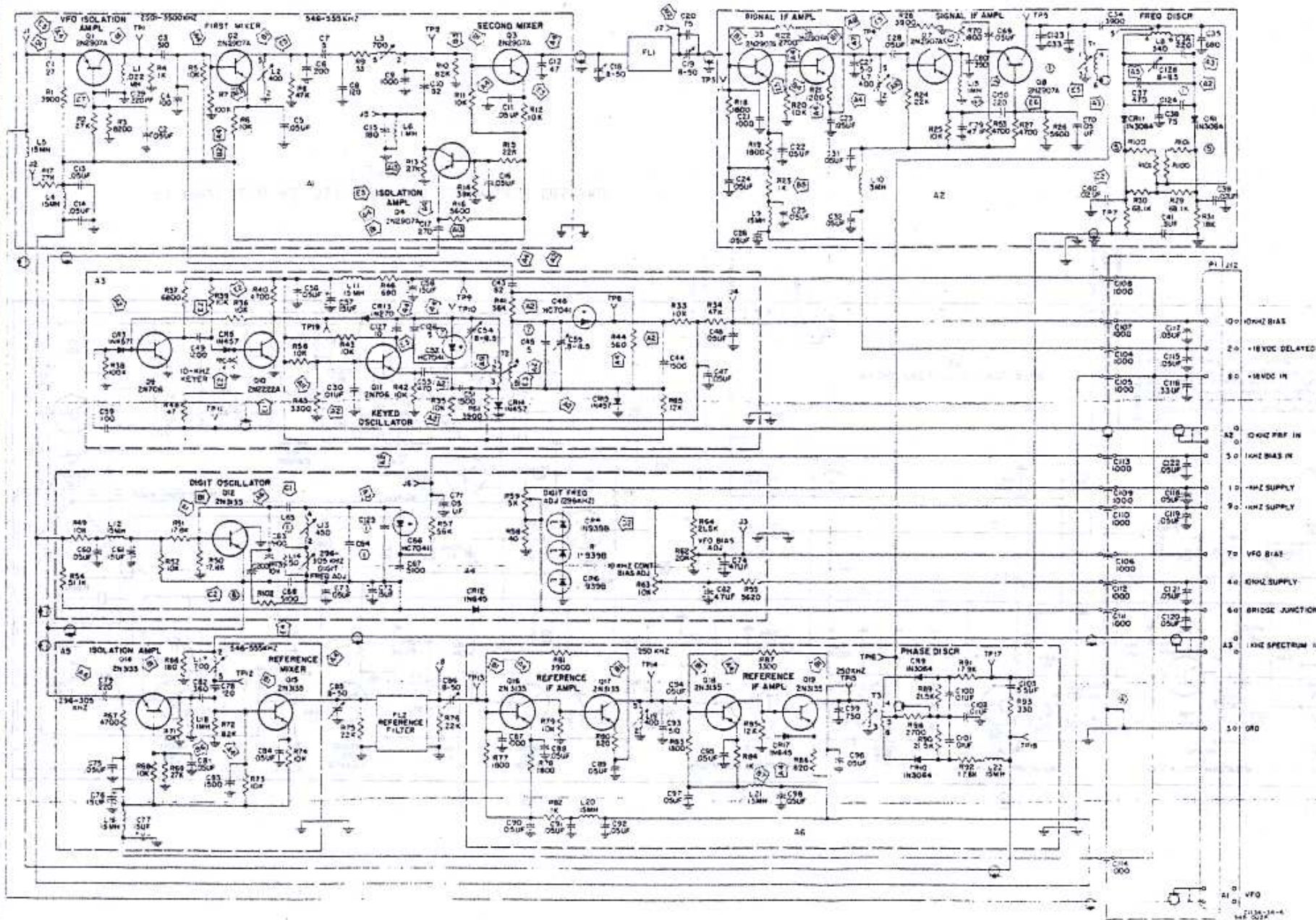




TPD-6120-C14

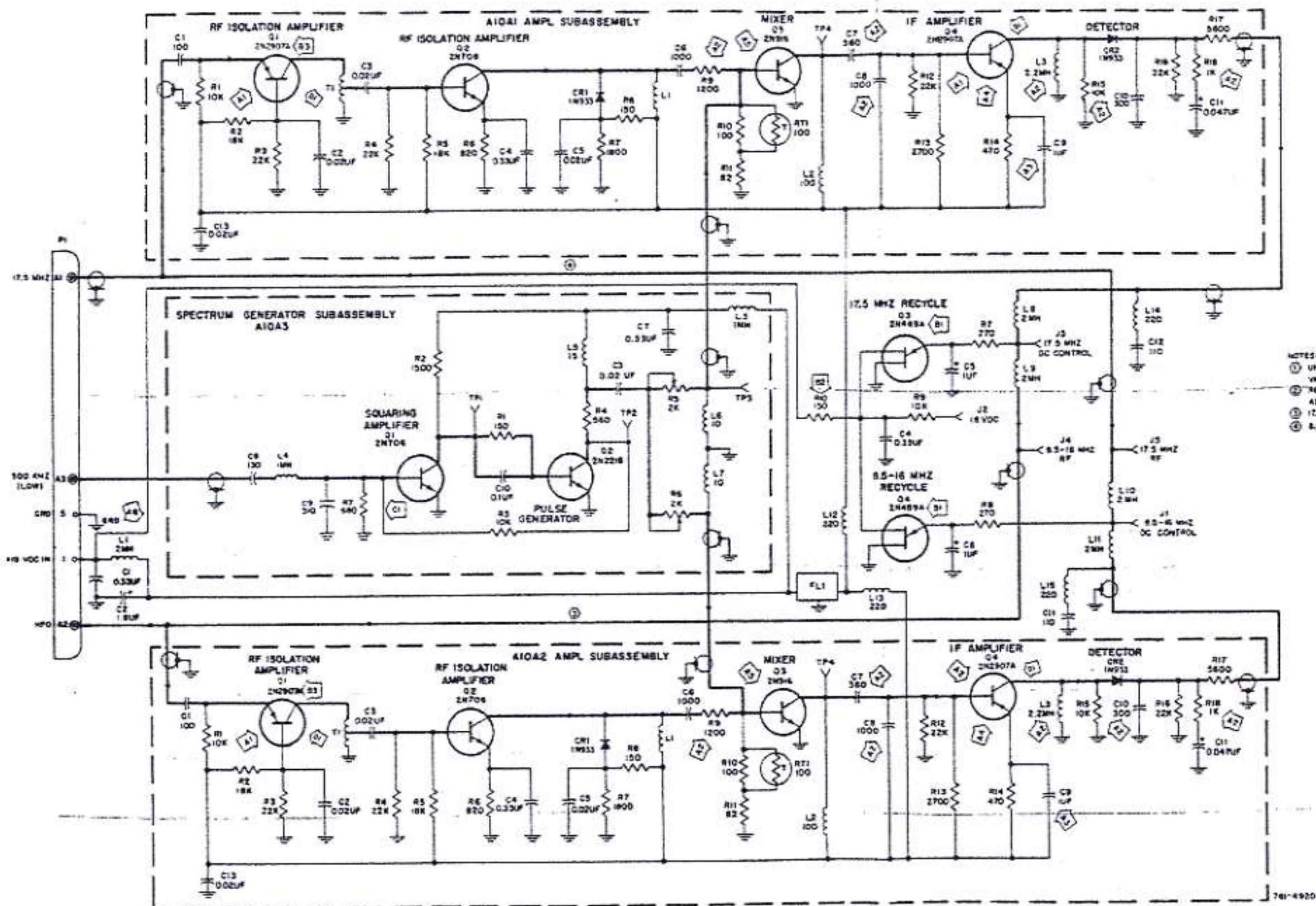


53-10-0



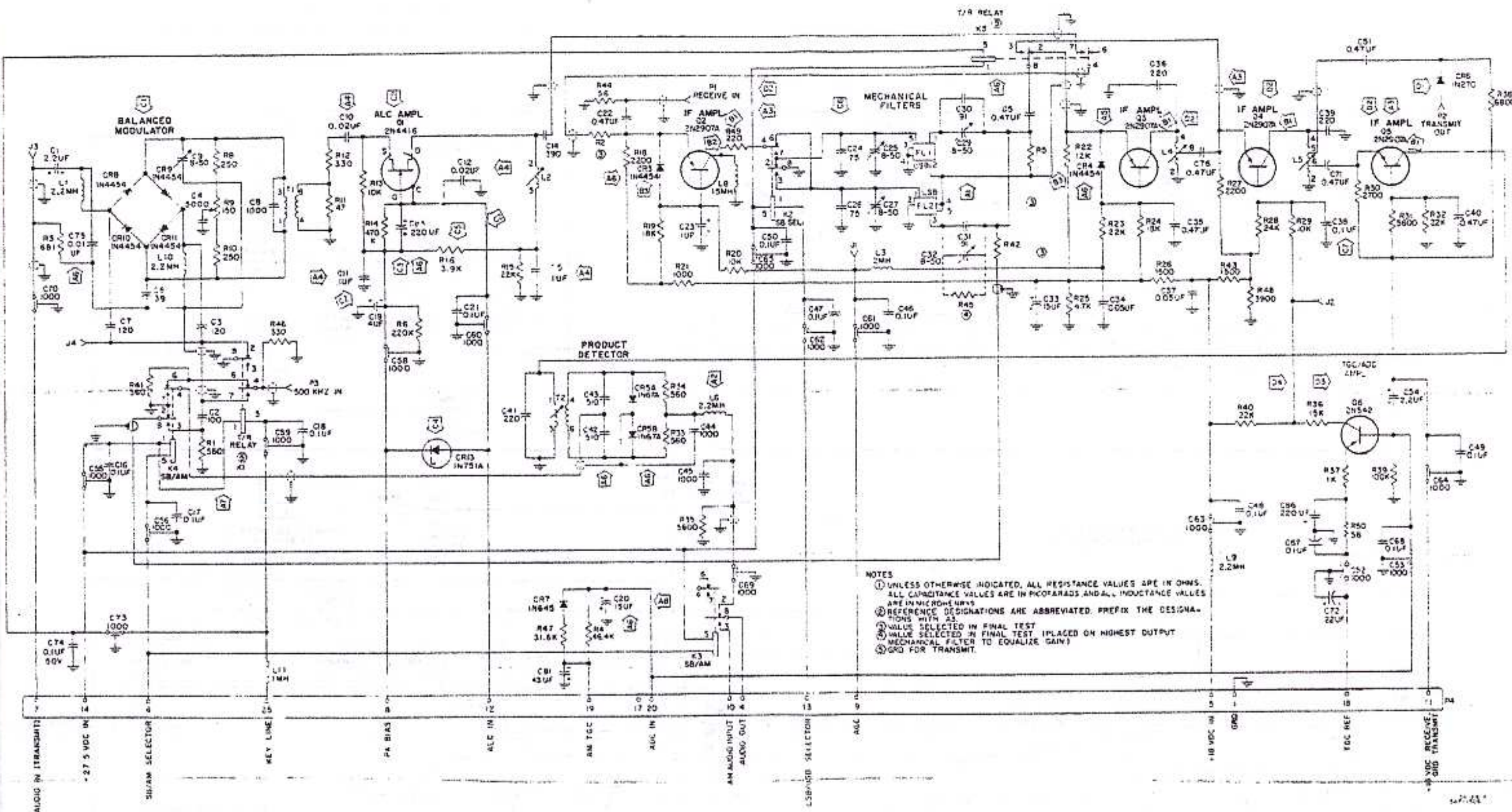
- NOTE:
1. VALUE DETERMINED BY FINAL TEST
 2. UNLESS OTHERWISE INDICATED ALL RESISTANCE VALUES ARE IN OHMS, ALL CAPACITANCE VALUES ARE IN MICROFARADS, ALL INDUCTANCE VALUES ARE IN MICROHENRYS.
 3. REFERENCE DESIGNATIONS ARE PRECEDED BY THE DESIGNATIONS WITH A.
 4. GROUND FEEDTHRU CAPACITORS TO P1-2.
 5. USE OF R100 AND R101 DETERMINED BY FINAL TEST. R100 AND R101 SHOULD BE CONNECTED IN SERIES ACROSS R29 TO COMPENSATE FOR MINUS-WINDING BOW CAUSED BY L2. CONNECT R100 AND R101 IN SERIES ACROSS R30 TO COMPENSATE FOR POSITIVE-POSITIVE BOW. R100 IS A 5 WAT 500 OHM THERMISTOR AND R101 IS A 220K OHM RESISTOR.
 6. USE OF R102 AND C200 DETERMINED BY FINAL TEST. R102 AND C200 SHOULD BE CONNECTED IN SERIES FROM C12 BIAS TO THE ANODE END OF C12 TO COMPENSATE FOR POSITIVE-POSITIVE BOW CAUSED BY L3. R102 IS A 100K OHM THERMISTOR AND C200 IS A 33PF CAPACITOR.
 7. C145 SECTION C12 MAY BE DELETED IN TEST

- 10 0KHZ BIAS
2 0VDC DELAYED
8 0VDC IN
0 0KHZ REF IN
5 0KHZ BIAS IN
1 0KHZ SUPPLY
9 0KHZ SUPPLY
7 0VDC BIAS
4 0KHZ SUPPLY
6 0KHZ SUPPLY
3 0KHZ SUPPLY
5 0KHZ SUPPLY
1 0KHZ SUPPLY
2 0KHZ SUPPLY
3 0KHZ SUPPLY
4 0KHZ SUPPLY
5 0KHZ SUPPLY
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7 0KHZ SUPPLY
8 0KHZ SUPPLY
9 0KHZ SUPPLY
10 0KHZ SUPPLY

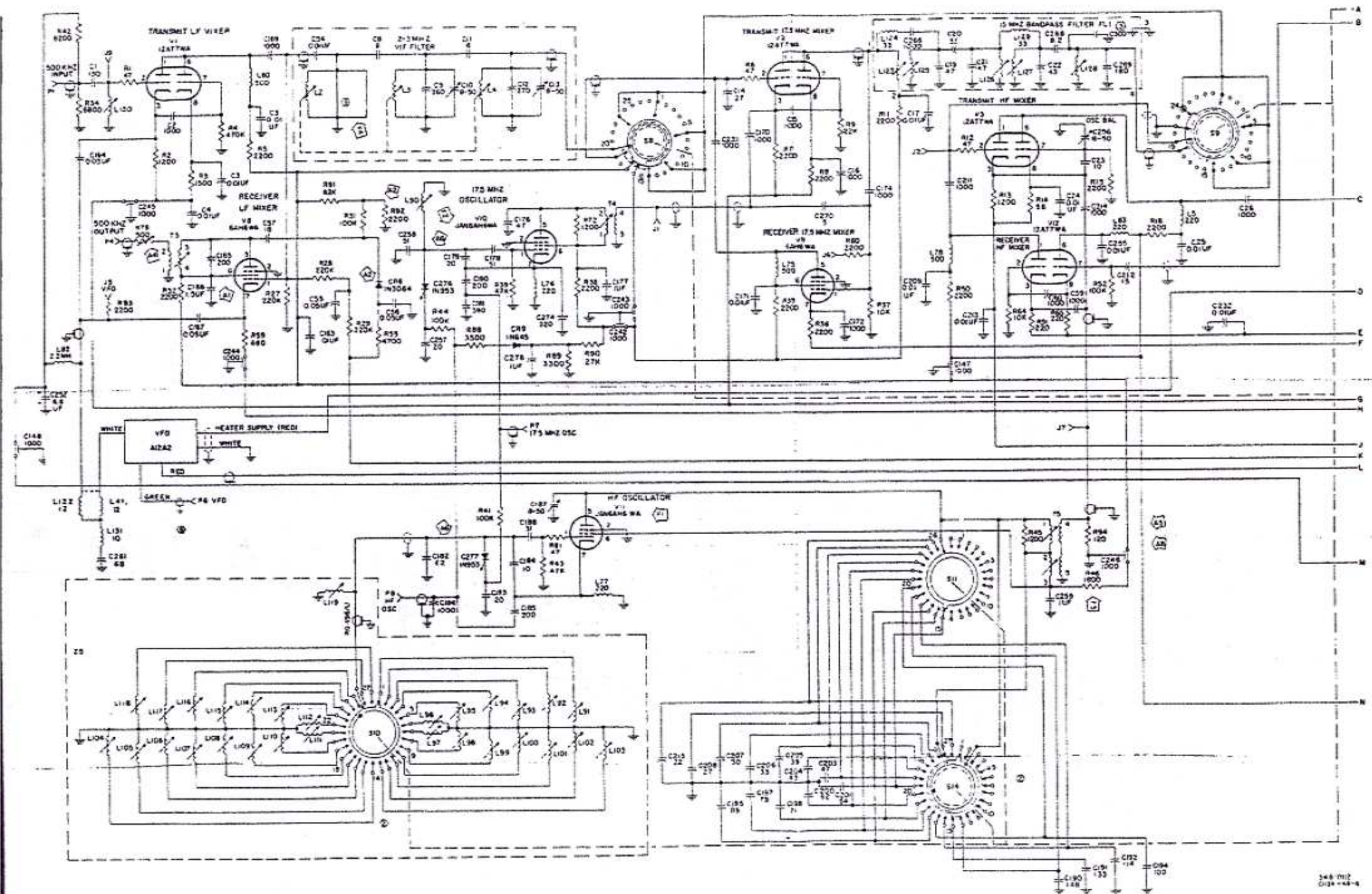


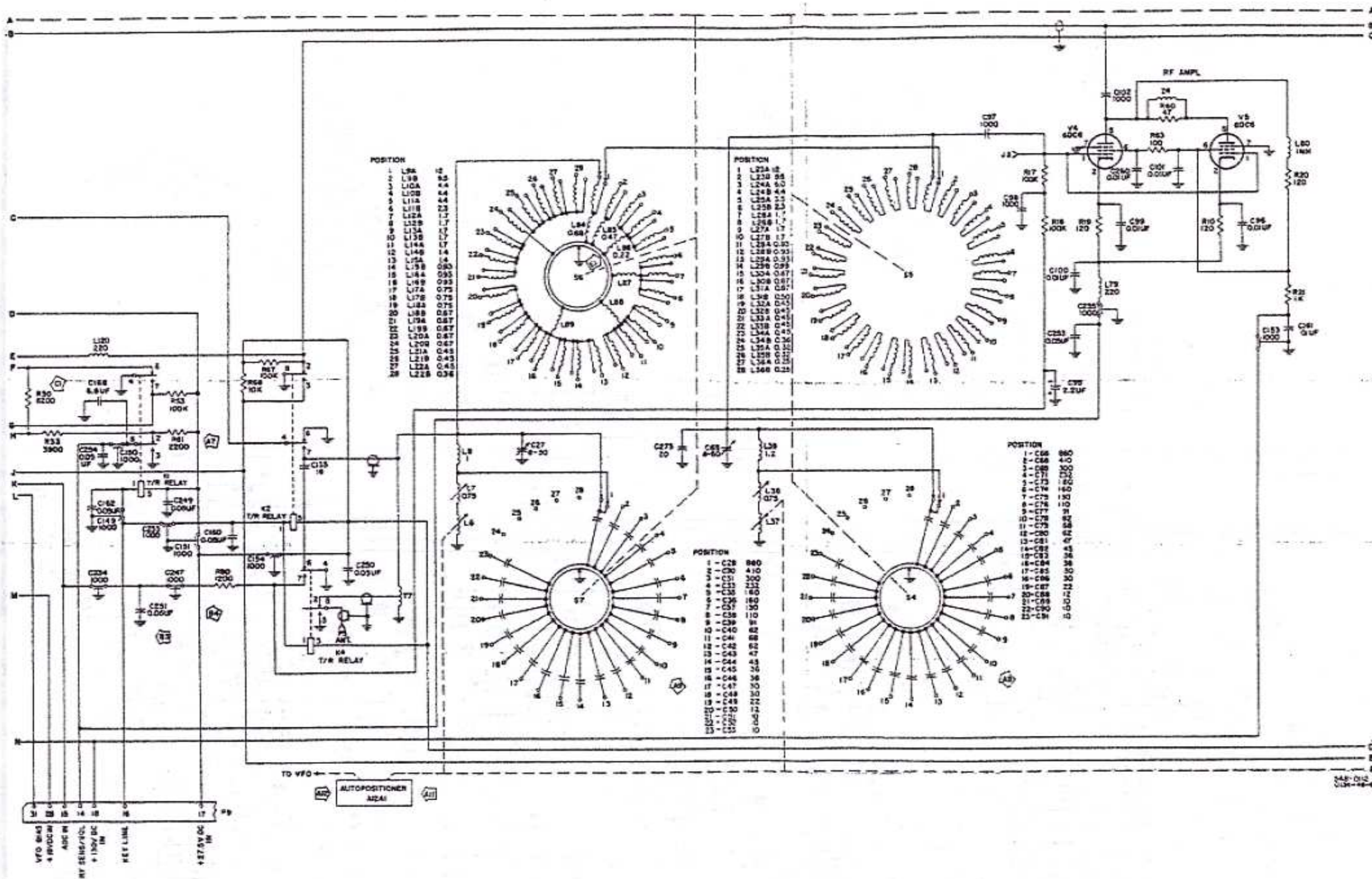
NOTES:

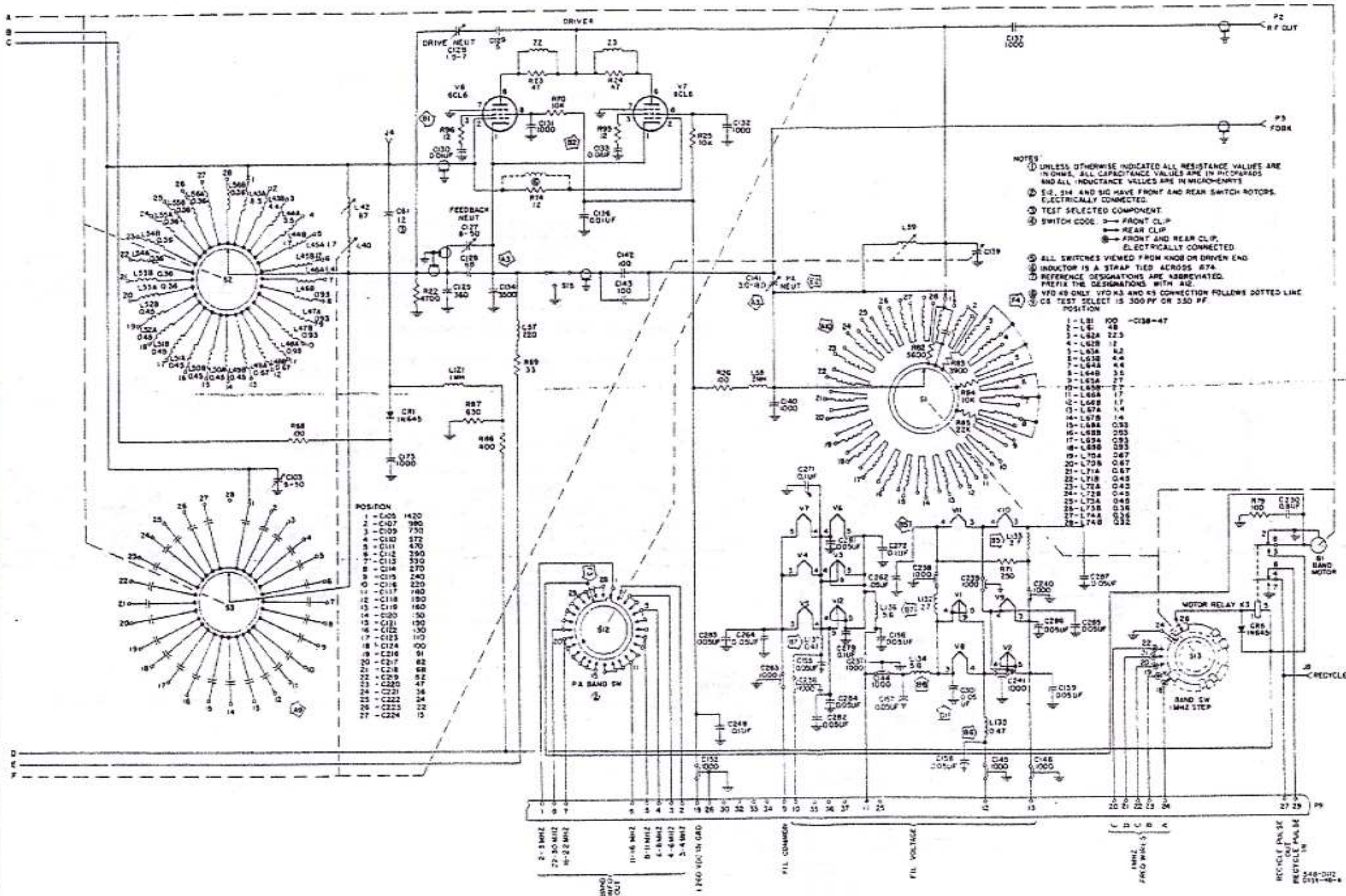
- ① UNLESS OTHERWISE INDICATED, ALL RESISTANCE VALUES ARE IN OHMS, ALL CAPACITANCE VALUES ARE IN PICOFARADS, AND ALL INDUCTANCE VALUES ARE IN MICROHENRYS.
- ② REFERENCE DESIGNATIONS ARE ABBREVIATED. PREFIX THE DESIGNATIONS WITH THE ASSEMBLY/SUBASSEMBLY DESIGNATION: A10, A10A1, OR A10A2.
- ③ 17.5 MHz DC CONTROL IS RETURNED TO RF TRANSLATOR BY 8.5-16 MHz RF LINE.
- ④ 8.5-16 MHz DC CONTROL IS RETURNED TO RF TRANSLATOR BY 17.5 MHz RF LINE.

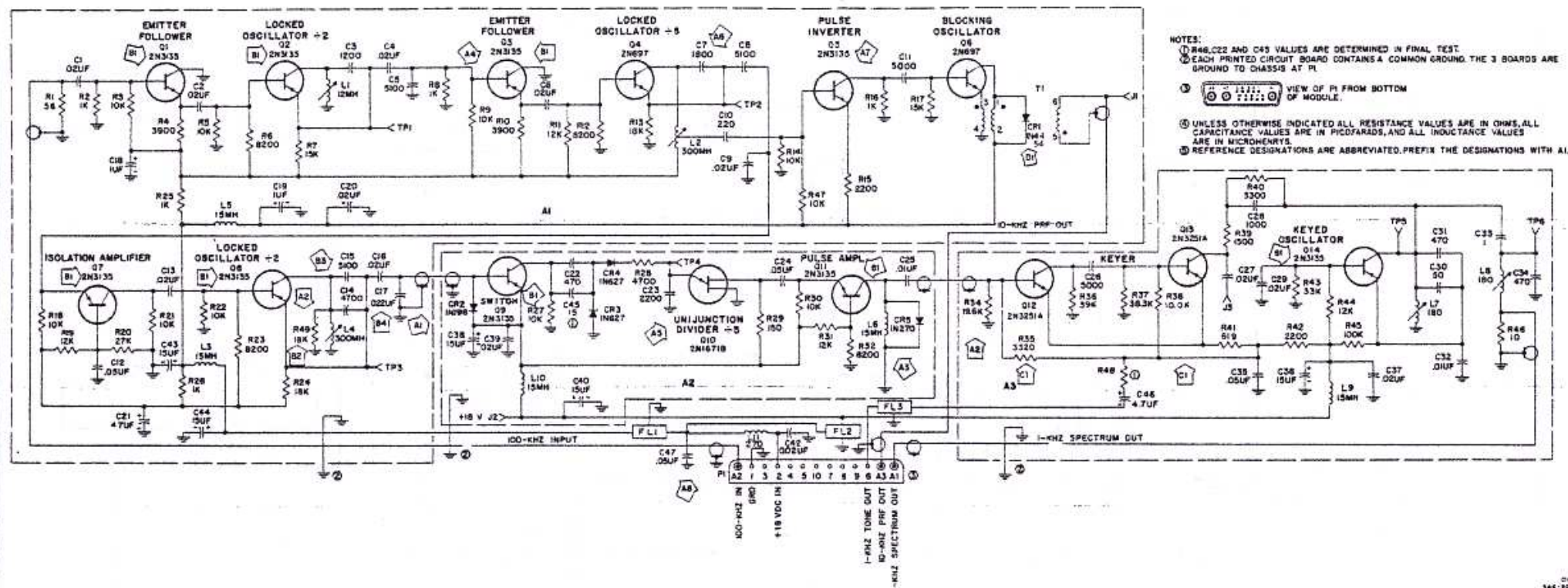


IF Translator A3 (544-9286-001), Schematic Diagram
Figure 813





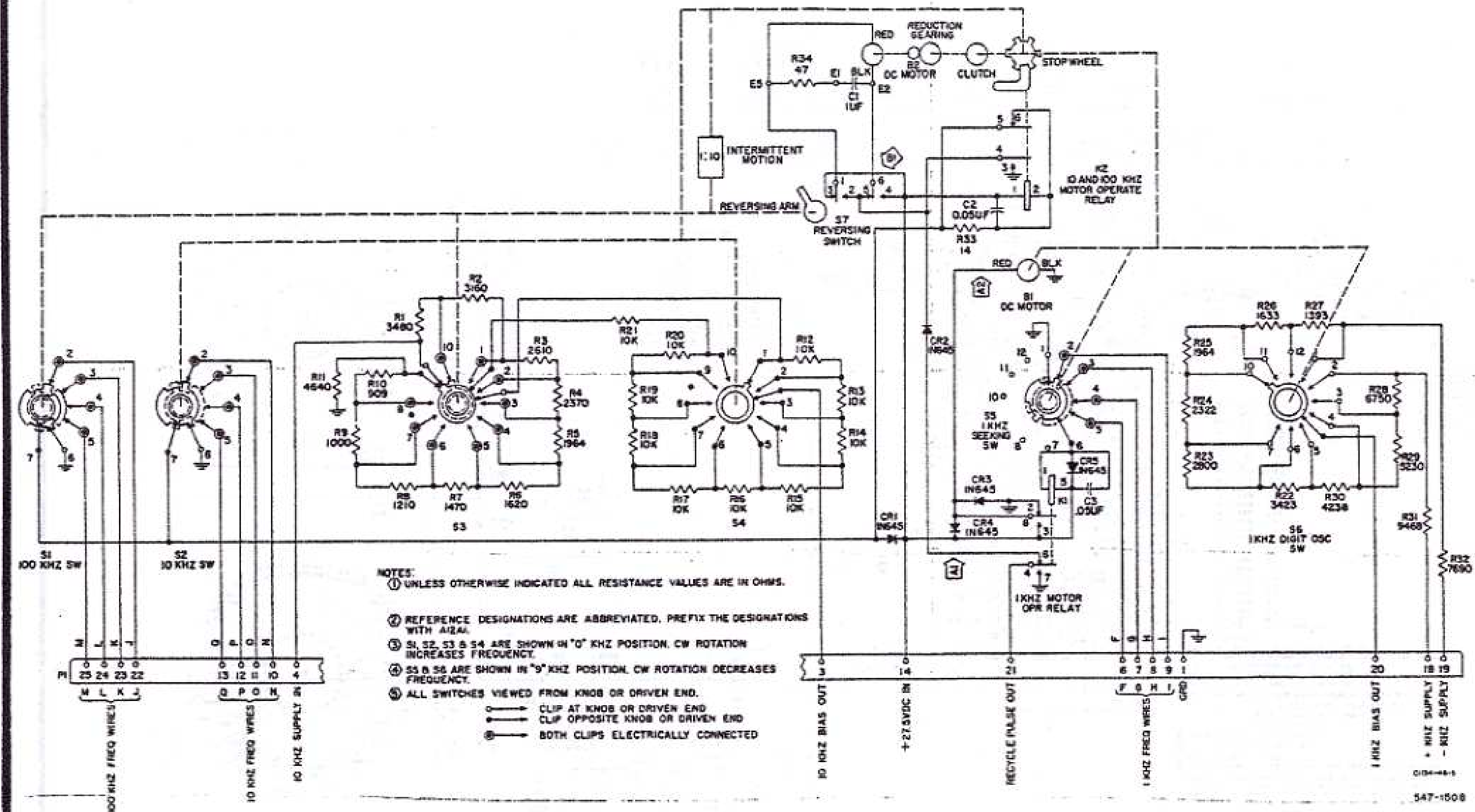


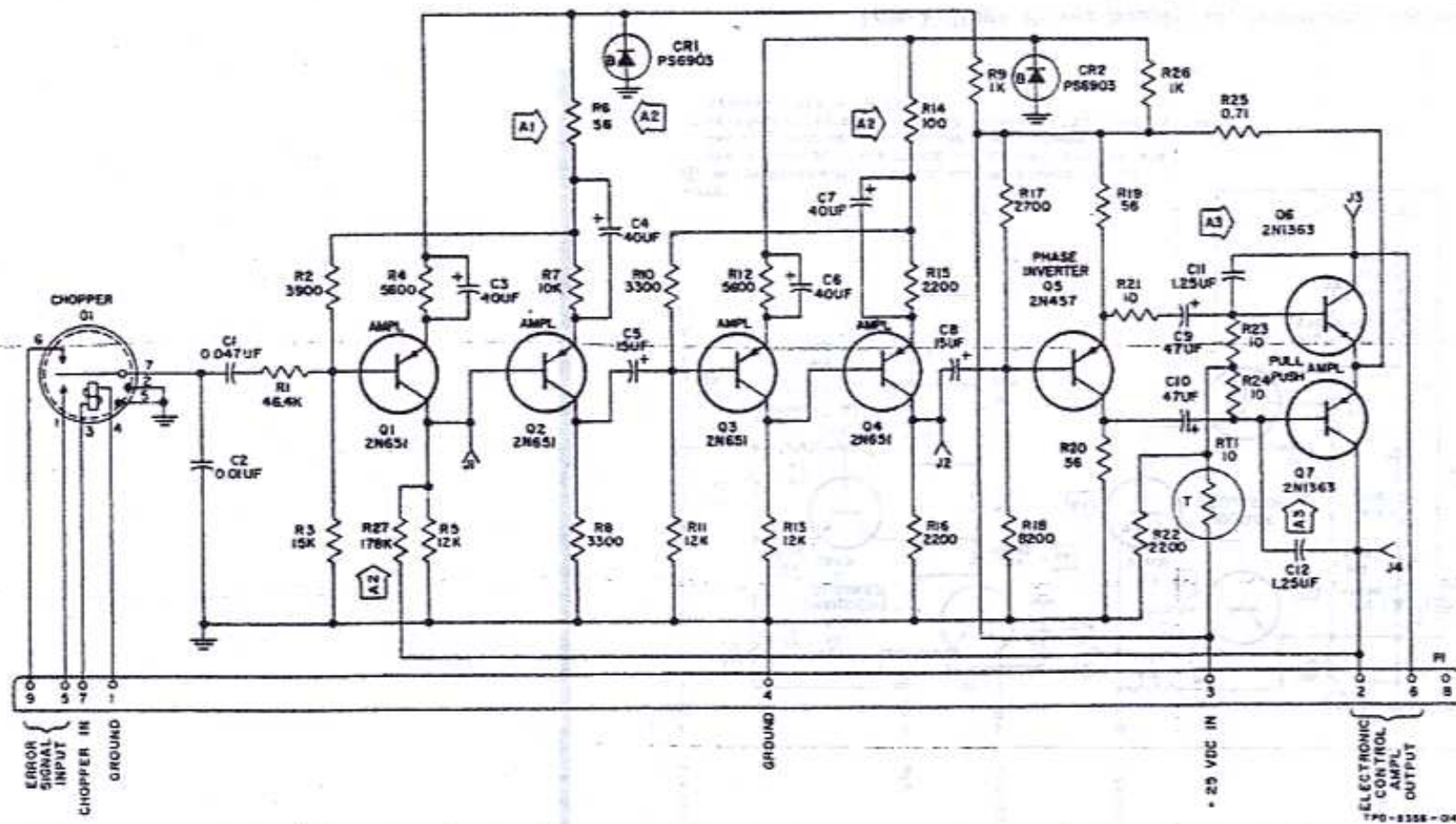


- NOTES:
- ① R48, C22 AND C45 VALUES ARE DETERMINED IN FINAL TEST.
 - ② EACH PRINTED CIRCUIT BOARD CONTAINS A COMMON GROUND. THE 3 BOARDS ARE GROUND TO CHASSIS AT P1.
 - ③ VIEW OF P1 FROM BOTTOM OF MODULE.
 - ④ UNLESS OTHERWISE INDICATED ALL RESISTANCE VALUES ARE IN OHMS, ALL CAPACITANCE VALUES ARE IN PICOFARADS, AND ALL INDUCTANCE VALUES ARE IN MICRONERYS.
 - ⑤ REFERENCE DESIGNATIONS ARE ABBREVIATED. PREFIX THE DESIGNATIONS WITH A1.

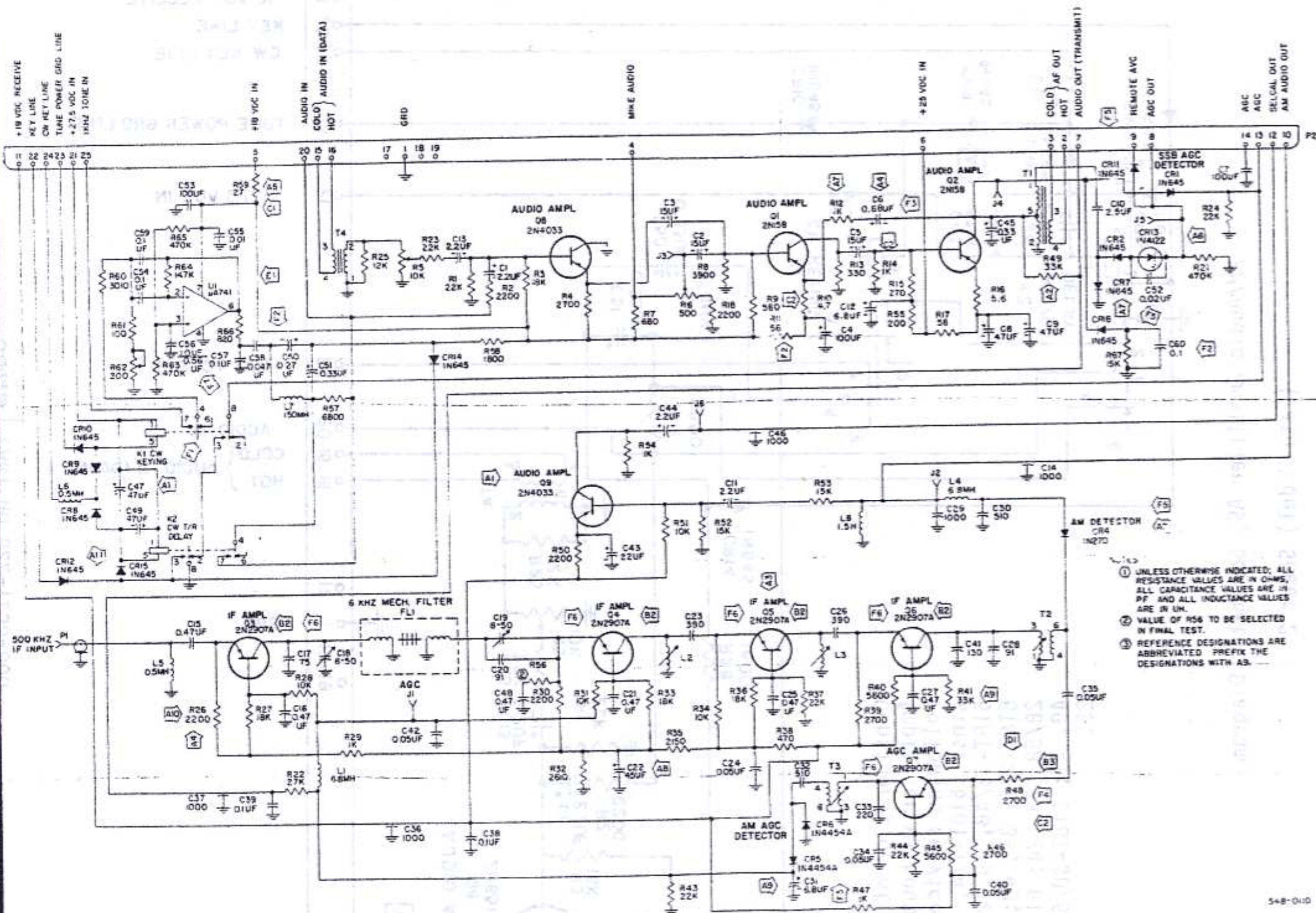
618T-1/2/3 Frequency Divider A1, Schematic Diagram
Figure 809

53 10 10

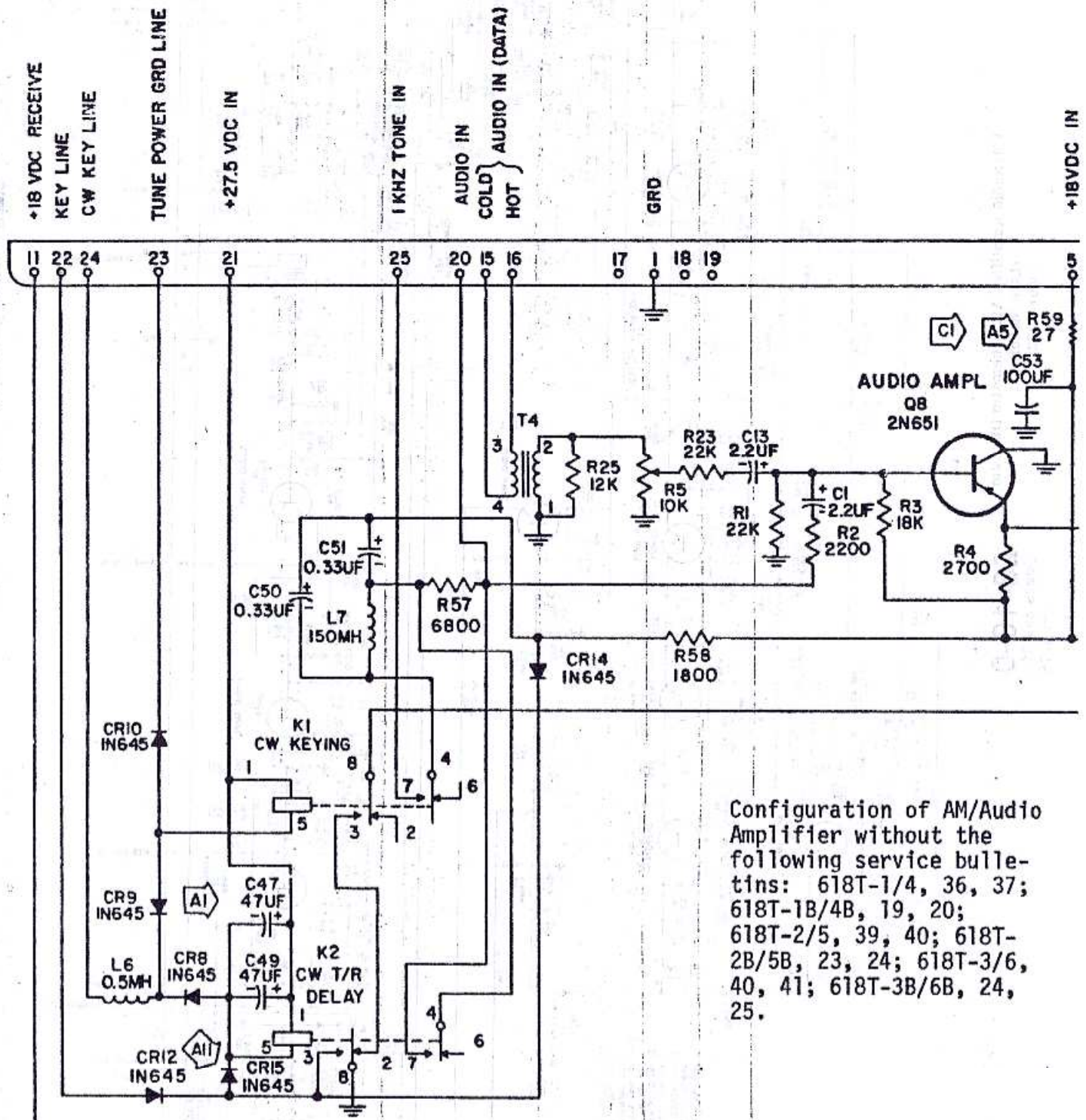




Electronic Control Amplifier A6, Schematic Diagram
Figure 817



AM/Audio Amplifier A9, Schematic Diagram
(Late Model)
Figure 822

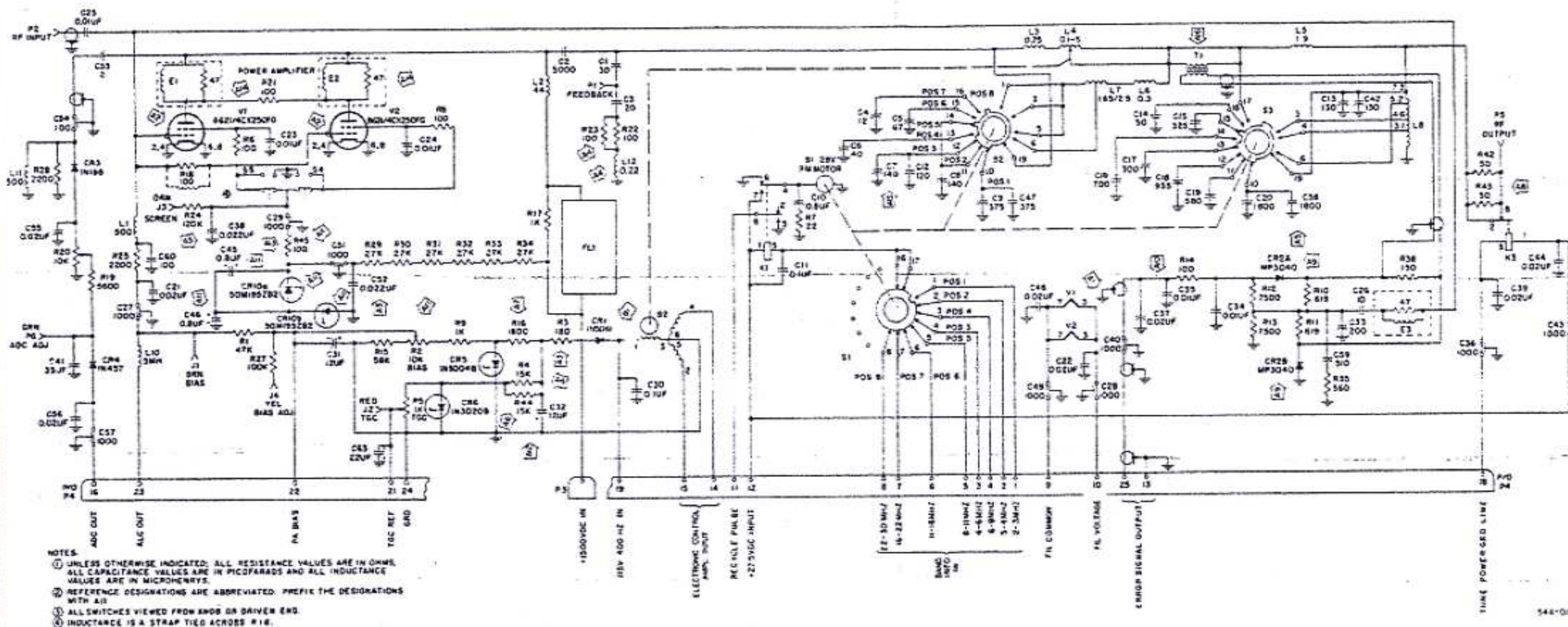


Configuration of AM/Audio Amplifier without the following service bulletins: 618T-1/4, 36, 37; 618T-1B/4B, 19, 20; 618T-2/5, 39, 40; 618T-2B/5B, 23, 24; 618T-3/6, 40, 41; 618T-3B/6B, 24, 25.

AM/Audio Amplifier A9, Schematic Diagram

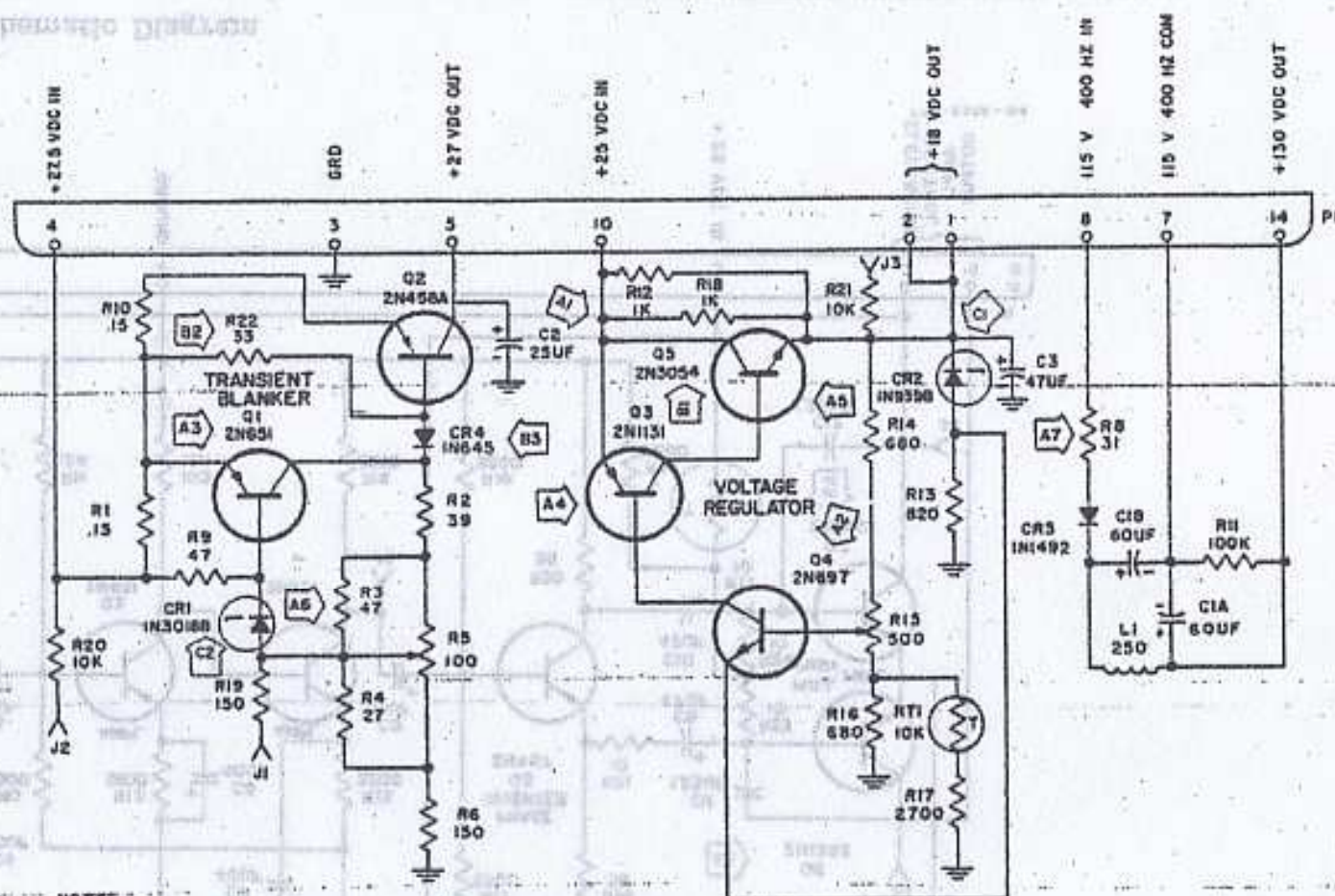
(Late Model) Sheet 2

Figure 822



Collins

OVERHAUL MANUAL
618T-()
PART NO 522-1230-000

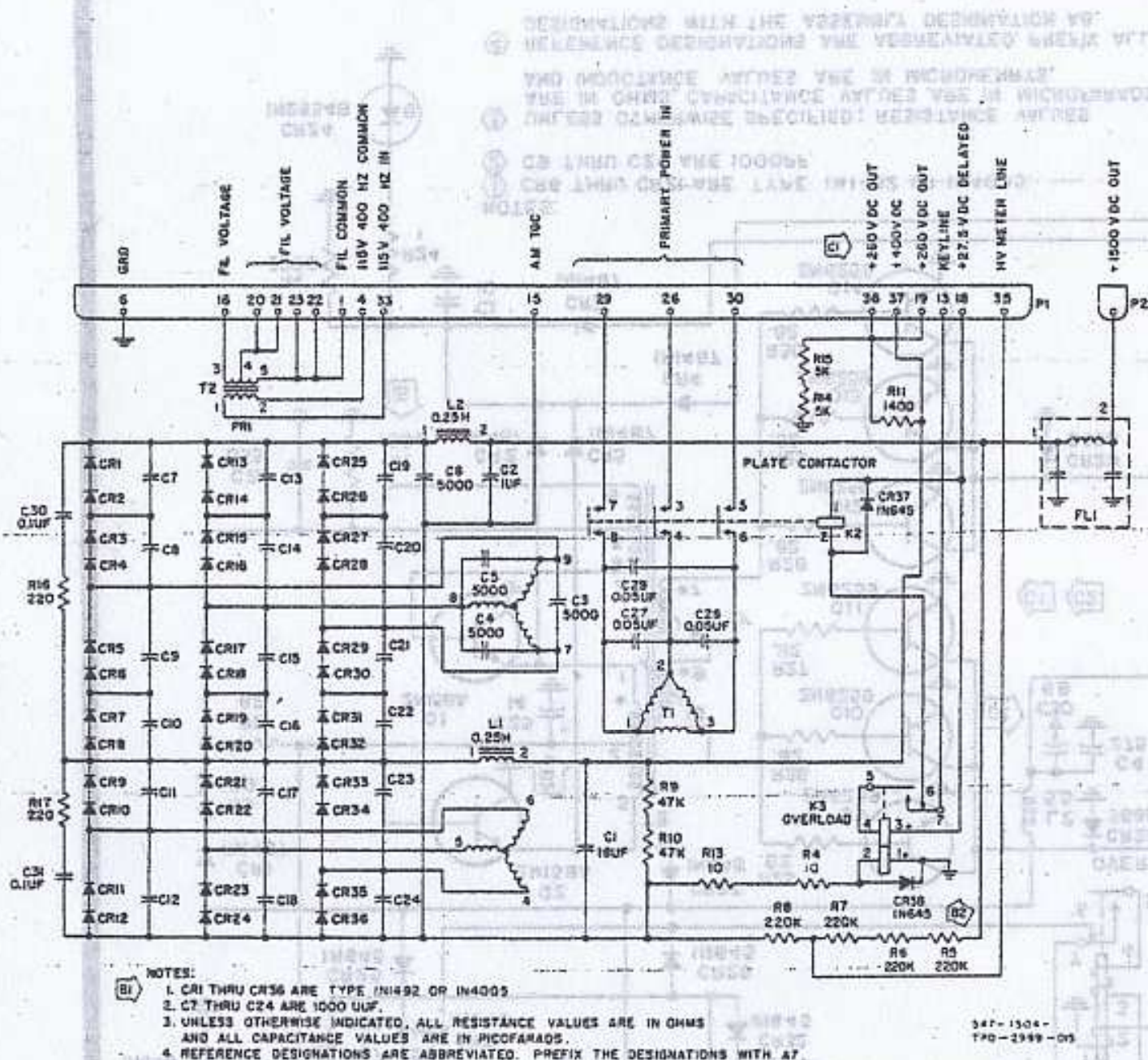


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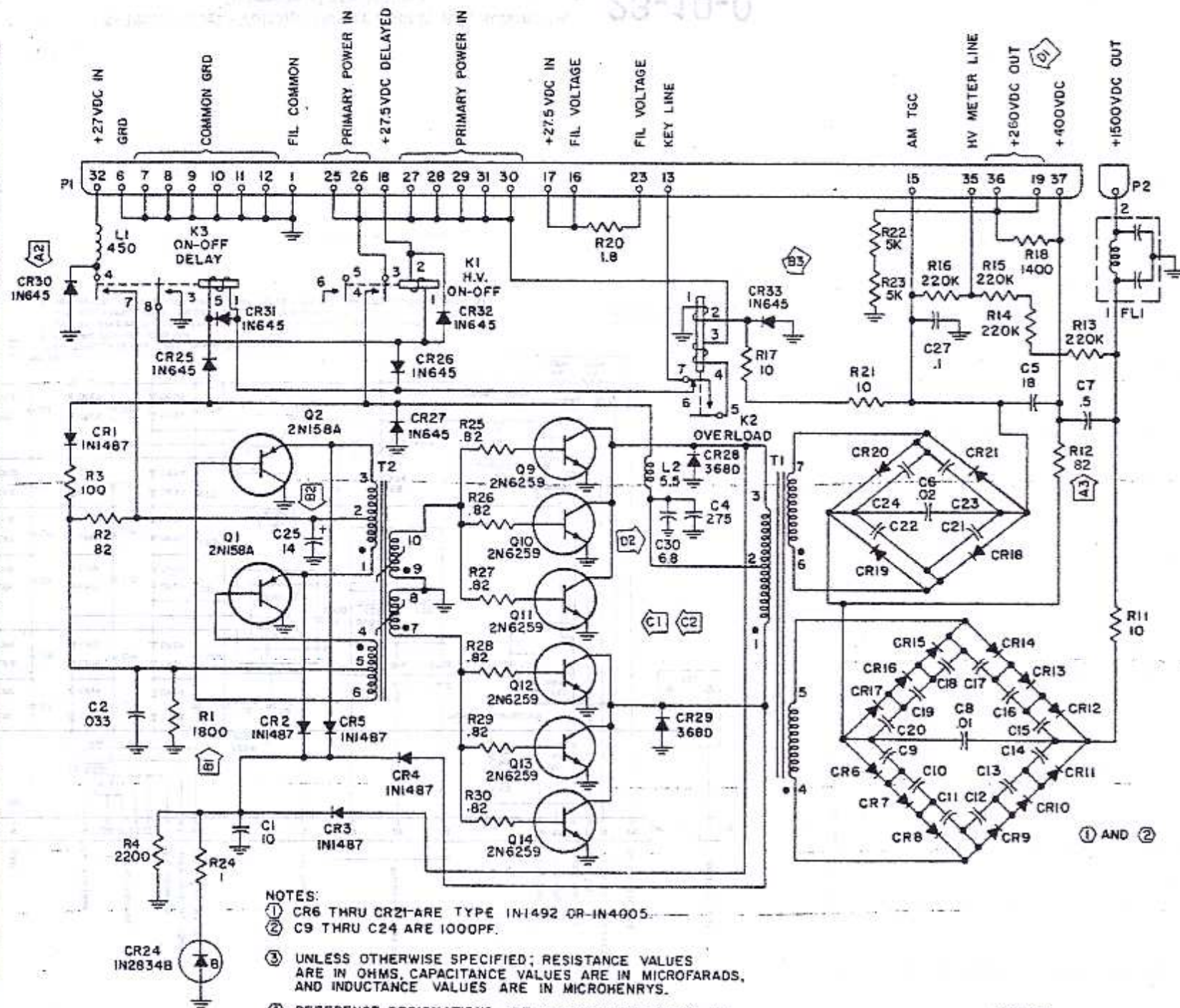
- ① UNLESS OTHERWISE INDICATED, ALL RESISTANCE VALUES ARE IN OHMS, ALL CAPACITANCE VALUES ARE IN PICOFARADS AND ALL INDUCTANCE VALUES ARE IN MILLIHENRYS.
- ② REFERENCE DESIGNATIONS ARE ABBREVIATED. PREFIX THE DESIGNATIONS WITH A5.

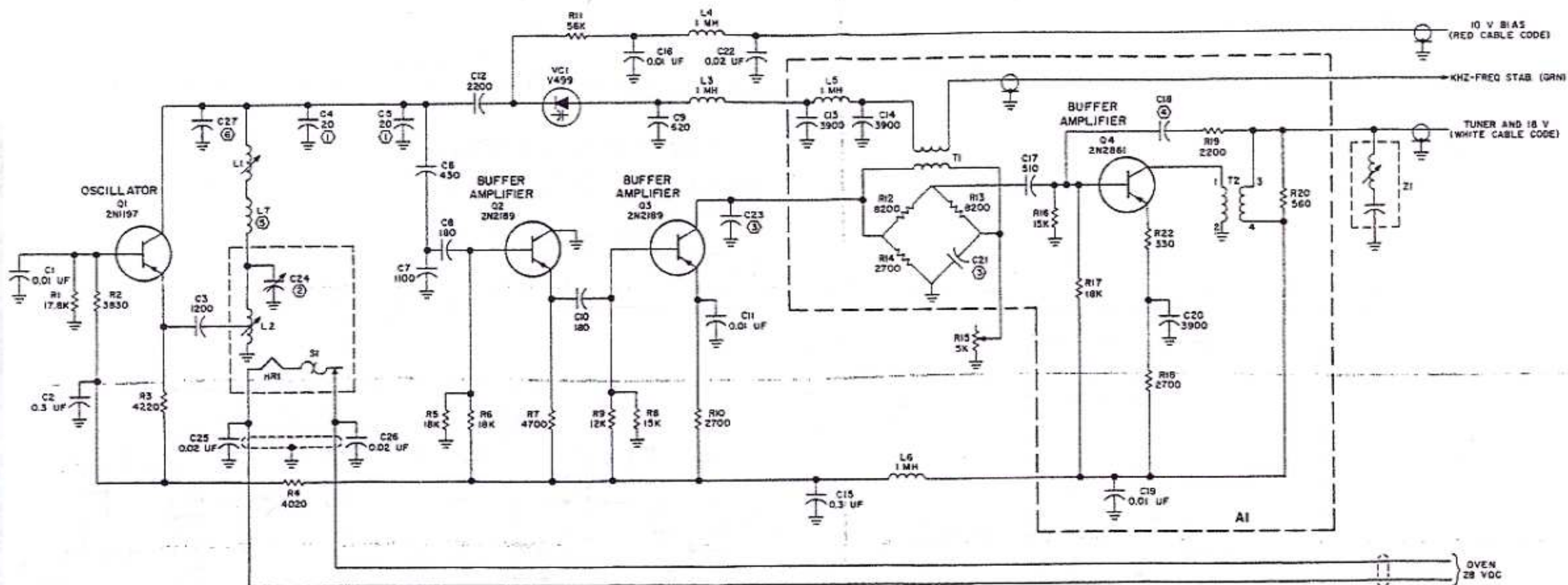
547-1506-
C1154-34-4

Low-Voltage Power Supply A5, Schematic Diagram
Figure 816



3-Phase High-Voltage Power Supply A7, Schematic
Diagram (Late Model)
Figure 818



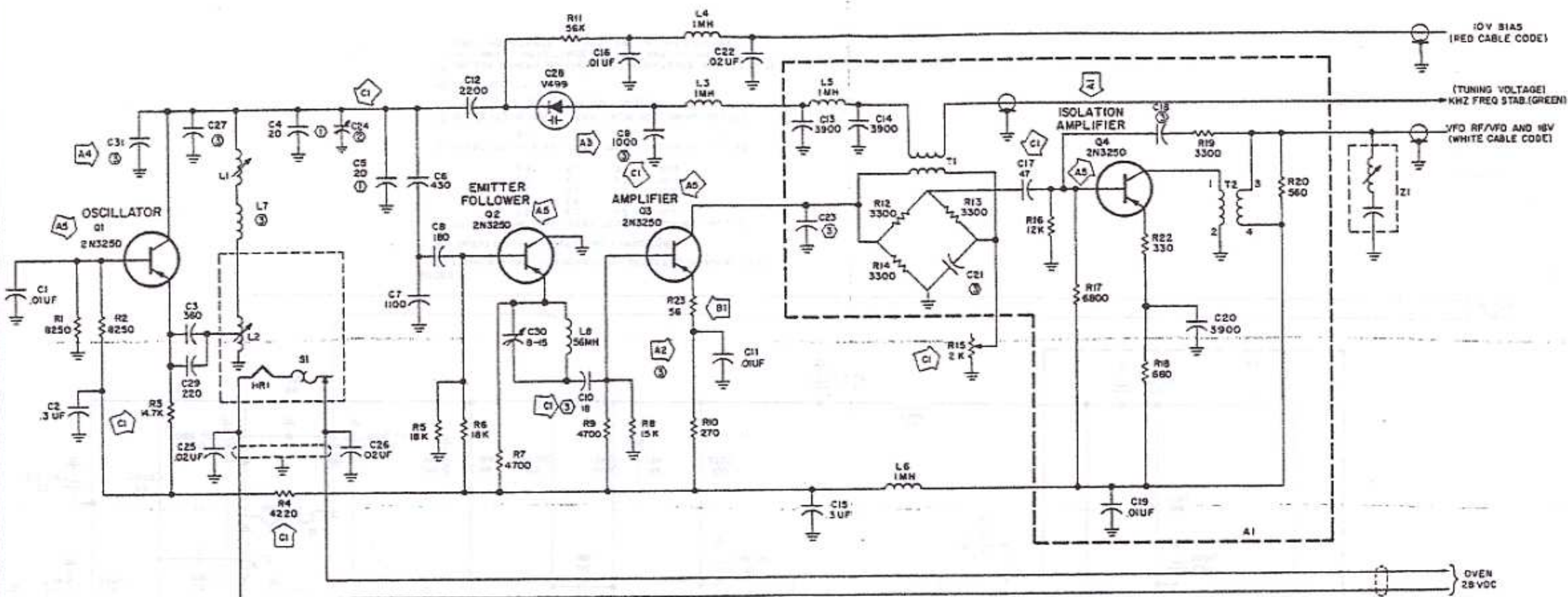


NOTES:

- ① TEMPERATURE COMPENSATION SELECTED IN FINAL TEST.
- ② VIBRATING COMPENSATING CAPACITOR.
- ③ SELECTED IN FINAL TEST FROM FOLLOWING VALUES:
- | | | | |
|------|-----|-----|------|
| 0.51 | 3.0 | 6.2 | 10.0 |
| 1.0 | 3.6 | 6.8 | 15.0 |
| 1.5 | 4.3 | 7.5 | 20.0 |
| 2.0 | 4.7 | 8.2 | 24.0 |
| 2.4 | 5.1 | 9.1 | 30.0 |
- ④ SELECTED IN FINAL TEST FROM FOLLOWING VALUES:
- | | | |
|-----|----|----|
| 5.2 | 10 | 15 |
|-----|----|----|
- ⑤ SELECTED IN FINAL TEST FROM FOLLOWING VALUES:
- DT UM 0.22 UM NONE
- ⑥ TEST SELECT.
- ⑦ UNLESS OTHERWISE SPECIFIED, RESISTANCE VALUES ARE IN OHMS, CAPACITANCE VALUES ARE IN PICOFARADS, AND INDUCTANCE VALUES ARE IN MICROHENRYS.

TPD-5498-014

618T-1/2/3 VFO A12A2 (Model 70K-9), Schematic Diagram (Early Model)
Figure 834



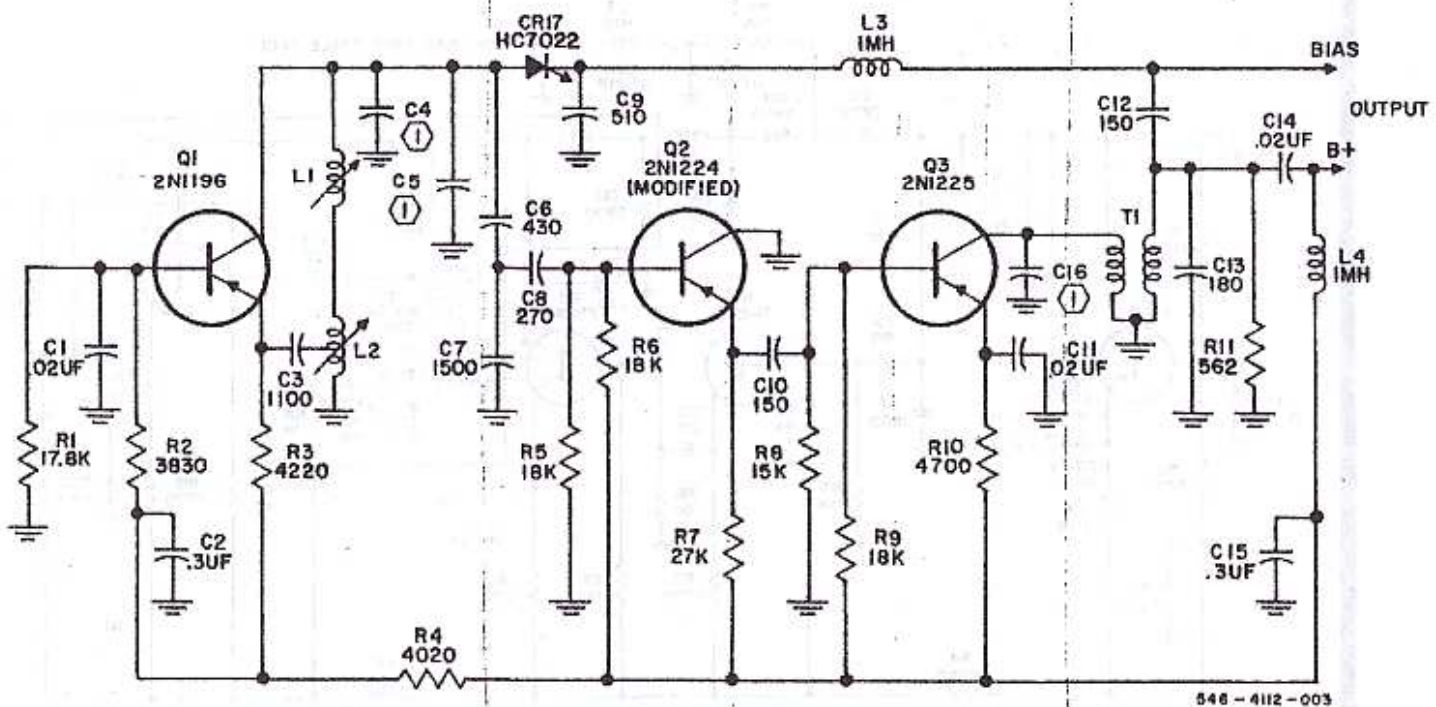
- NOTES:
- ① TEMPERATURE COMPENSATION SELECTED IN FINAL TEST.
 - ② VIBRATING COMPENSATING CAPACITOR.
 - ③ TEST SELECT.
 - ④ UNLESS OTHERWISE INDICATED, ALL RESISTANCE VALUES ARE IN OHMS, ALL CAPACITANCE VALUES ARE IN PICOFARADS, AND ALL INDUCTANCE VALUES ARE IN MICROHENRYS.
 - ⑤ REFERENCE DESIGNATIONS ARE ABBREVIATED. PREFIX THE DESIGNATION WITH THE REFERENCE DESIGNATION A12A2.

554-4243-005
C1134-61-4

618T-1/2/3 VFO A12A2 (Model 70K-9), Schematic Diagram (Late Model)
Figure 833



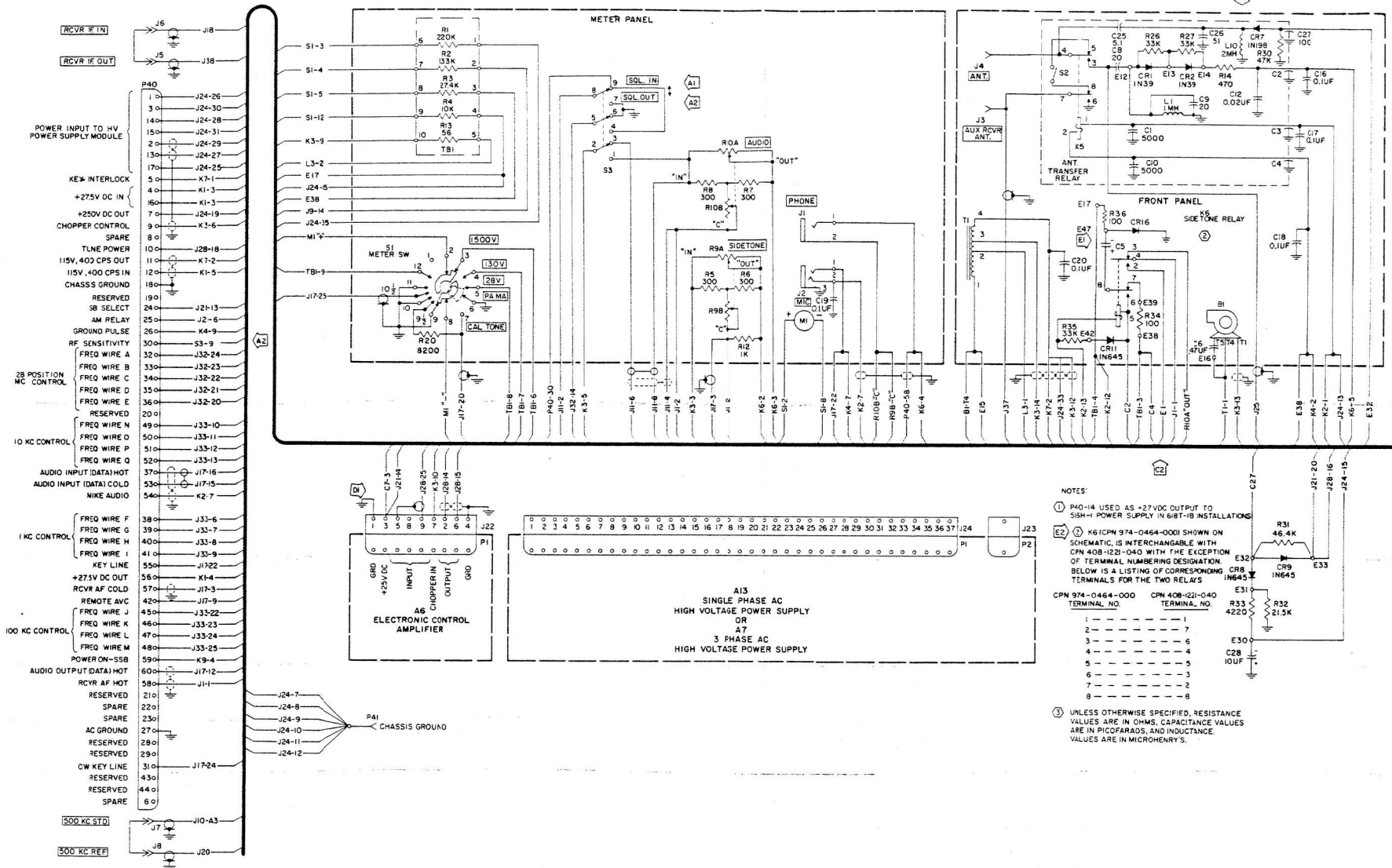
OVERHAUL MANUAL



NOTES:

- ① SELECTED AT FACTORY.
- ② UNLESS OTHERWISE SPECIFIED; RESISTANCE VALUES ARE IN OHMS, CAPACITANCE VALUES ARE IN MICROFARADS, AND INDUCTANCE VALUES ARE IN MICROHENRYS.

618T-1/2/3 VFO A12A2 (Model 70K-3), Schematic Diagram
Figure 836



618T-1/2/3 Chassis A, Schematic Diagram
(Late Model)
Figure 307 (Sheet 1 of 3)

618T-() AIRBORNE SSB TRANSCEIVERS

OVERHAUL MANUAL (520-5970003)

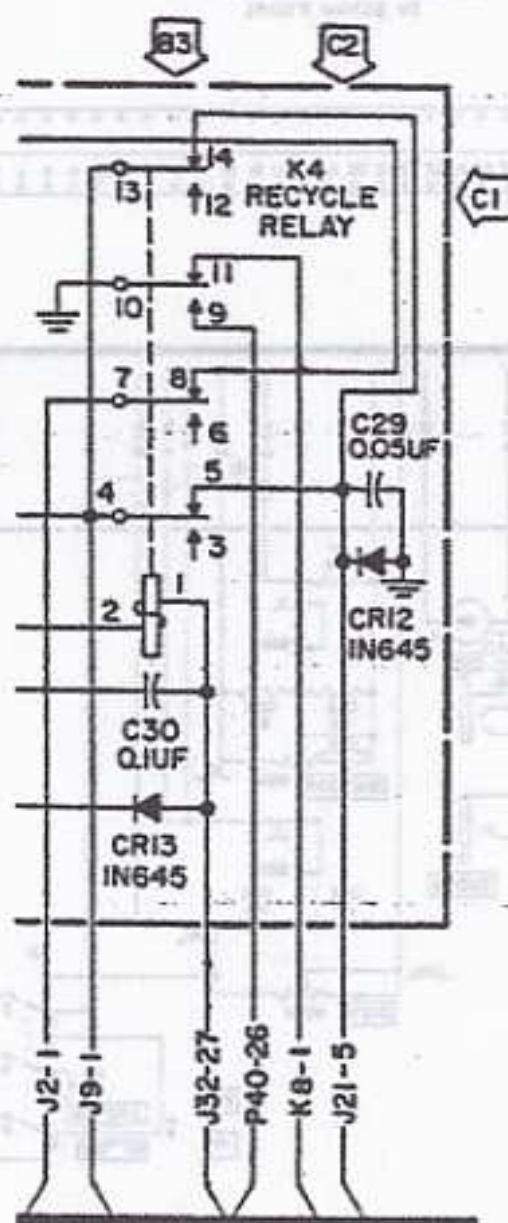
TEMPORARY REVISION NO 23-10-0-8

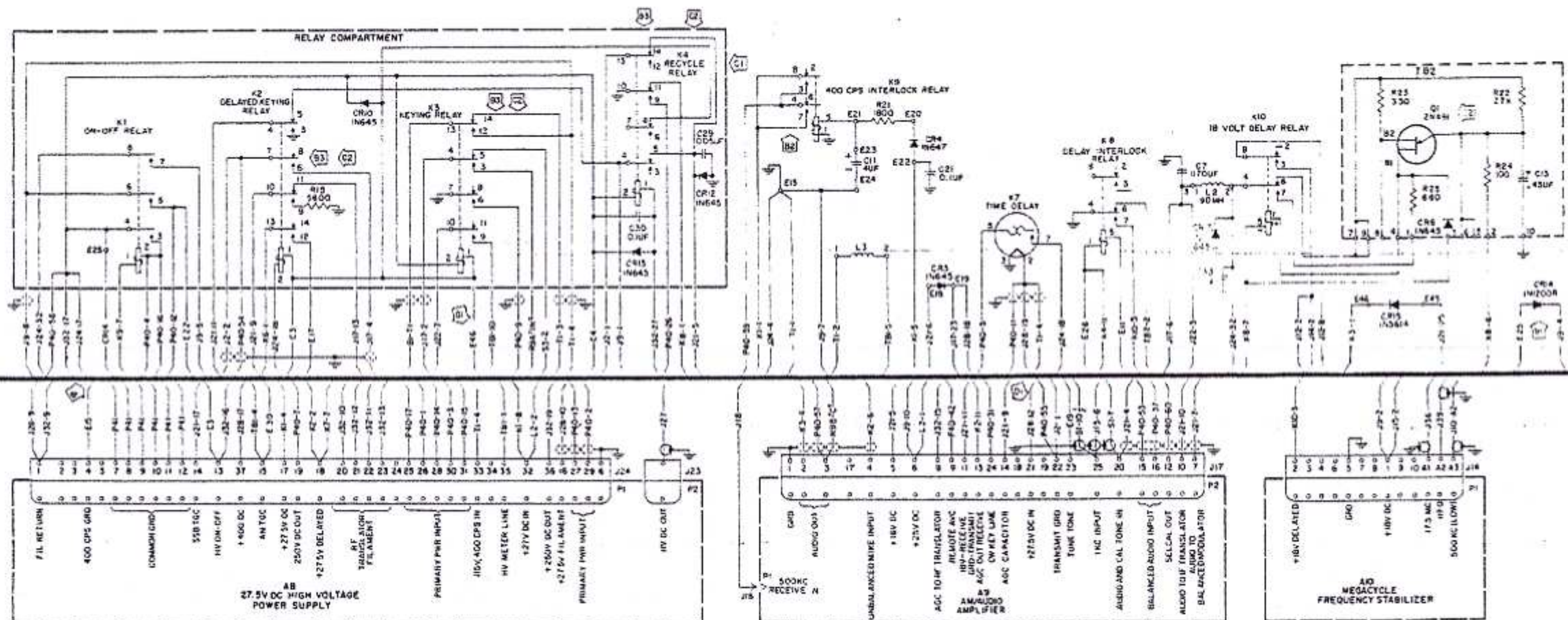
This TEMPORARY REVISION replaces TEMPORARY REVISION NO 23-10-0-7

Insert facing page 817/818, 23-10-0

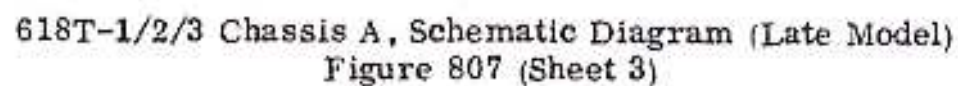
Subject: 618T-1/2/3 Chassis A, Schematic Diagram (Late Model), Figure 807
(Sheet 2).

Correct schematic wiring error of relay K4 pins 7 and 13 as follows:



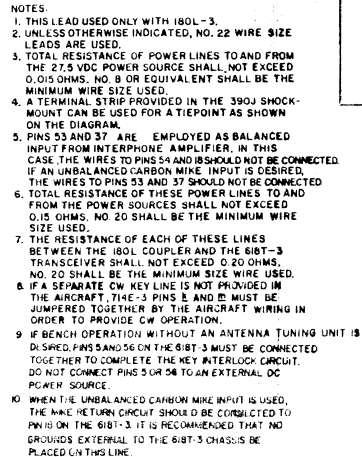


618T-1/2/3 Chassis A, Schematic Diagram (Late Model)
Figure 807 (Sheet 2)



Collins

INSTALLATION MANUAL



ARE
gl

Airborne SSB Transceiver 618T-3, Control Unit
714E-3, and Antenna Tuner 180L- (),
Interconnecting Wiring Diagram
Figures 123

NOTES;

1. THIS LEAD USED ONLY WITH 180L-3.
2. UNLESS OTHERWISE INDICATED, **NO.22** WIRE SIZE LEADS ARE USED.
3. TOTAL RESISTANCE OF POWER LINES TO AND FROM 27.5 VDC POWER SOURCE SHALL NOT EXCEED 0.015 OHMS. **NO.8** OR EQUIVALENT SHALL BE THE MINIMUM WIRE SIZE USED.
4. A TERMINAL STRIP PROVIDED IN THE 390J SHOCK-MOUNT CAN BE USED FOR A TIEPOINT AS SHOWN ON THE DIAGRAM.
5. PINS 53 AND 37 ARE EMPLOYED AS BALANCED INPUT FROM INTERPHONE AMPLIFIER. IN THIS CASE, THE WIRES TO PIN 54 AND 18 SHOULD NOT BE CONNECTED. IF AN UNBALANCED CARBON MIKE INPUT IS DESIRED, THE WIRES TO PINS 53 AND 37 SHOULD NOT BE CONNECTED.
6. TOTAL RESISTANCE OF THESE POWER LINES TO AND FROM THE POWER SOURCES SHALL NOT EXCEED 0.15 OHMS. **NO.20** SHALL BE THE THE MINIMUM WIRE SIZE USED.
7. THE RESISTANCE OF EACH OF THESE LINES BETWEEN THE 180L COUPLER AND THE 618T-3 TRANCEIVER SHALL NOT EXCEED 0.20 OHMS. **NO.20** SHALL BE THE MINIMUM WIRE SIZE USED.
8. IF A SEPARATE CW KEY LINE IS NOT PROVIDED IN THE AIRCRAFT, 714E-3 PINS k AND m MUST BE JUMPERED TOGETHER BY THE AIRCRAFT WIRING IN ORDER TO PROVIDE CW OPERATION.
9. IF BENCH OPERATION WITHOUT AN ANTENNA TUNING UNIT IS DESIRED, PINS 5 AND 56 ON THE 618T-3 MUST BE CONNECTED TOGETHER TO COMPLETE THE KEY INTERLOCK CIRCUIT. DO NOT CONNECT PINS 5 AND 56 TO AN EXTERNAL DC POWER SOURCE.
10. WHEN THE UNBALANCED CARBON MIKE INPUT IS USED, THE MIKE RETURN CIRCUIT SHOULD BE CONNECTED TO PIN 18 ON THE 618T-3. IT IS RECOMMENDED THAT NO GROUNDS EXTERNAL TO THE 618T-3 CHASSIS BE PLACED ON THIS LINE.