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NOTES FOR FIGURE 5-1 (CONTINUED)

6. TEST STEPS: (REFER TO NOTES 4 AND 5 BEFORE PERFORMING TEST.)

- TS-16** CONNECT THE AC VOLTMETER TO TERMINAL A2A1E6. METER SHOULD INDICATE 0.5 mVRMS NOMINAL. TEST PROBE MUST BE SHIELDED WITH SHORT GROUND CONNECTION AT PROBE END.
- TS-17** USE THE AC VOLTMETER TO MEASURE THE 500 kHz SIGNAL LEVEL AT A2A1A3TP2. METER SHOULD INDICATE 4 mVRMS NOMINAL.
- SET MODE SELECTOR SWITCH A2S2 TO ISB, AND MEASURE 500 kHz SIGNAL LEVEL AT A2A1A3TP2. METER SHOULD INDICATE 2.5 mVRMS NOMINAL.
- SET MODE SELECTOR SWITCH A2S2 TO LSB, AND OBSERVE AC VOLTMETER CONNECTED AT A2A1A3TP2. METER SHOULD INDICATE 4 mVRMS NOMINAL. LSB LINE LEVEL METER A2M1 SHOULD INDICATE -7 dB NOMINAL WITH LSB LINE LEVEL SWITCH A2S8 AT -10 dB.
- TS-18** USE THE AC VOLTMETER TO MEASURE THE 500 kHz SIGNAL LEVEL AT A2A1A3E6. METER SHOULD INDICATE 6.5 mVRMS NOMINAL.
- TS-19** USE THE AC VOLTMETER TO MEASURE THE 500 kHz SIGNAL LEVEL AT A2A1A2E4. METER SHOULD INDICATE 1.1 VRMS NOMINAL.
- TS-20** USE AC VOLTMETER TO MEASURE THE 500 kHz SIGNAL LEVEL FROM FREQUENCY STANDARD ASSEMBLY A2A5 AT A2A1A4E33. METER SHOULD INDICATE 175 mVRMS NOMINAL.
- TS-21** USE THE TRUE RMS VOLTMETER TO MEASURE THE SIGNAL LEVEL OF THE AUDIO AMPLIFIER OUTPUT AT A2A21A19TP4. METER SHOULD INDICATE 73 mVRMS NOMINAL.
- TS-22** USE THE TRUE RMS VOLTMETER TO MEASURE THE SIGNAL LEVEL AT CENTER ARM OF A2A21A19R4. METER SHOULD INDICATE 90 mVRMS NOMINAL.
- TS-23** USE THE TRUE RMS VOLTMETER TO MEASURE THE SIGNAL LEVEL AT CLIPPER OUTPUT A2A21A19TP3. METER SHOULD INDICATE 1.4 VRMS NOMINAL.
- TS-24** USE THE TRUE RMS VOLTMETER TO MEASURE THE SIGNAL LEVEL AT A2A21A19TP1. METER SHOULD INDICATE 0.63 VRMS NOMINAL.
- TS-25** USE THE TRUE RMS VOLTMETER TO MEASURE THE TGC AUDIO SAMPLE LEVEL AT A2A21A19TP2. METER SHOULD INDICATE 0.774 VRMS NOMINAL.

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NOTES FOR FIGURE 5-1 (CONTINUED)

TS-26 SET MODE SELECTOR SWITCH A2S2 TO USB. CHECK THAT DATA KEY ON AUDIO TEST SET IS DEPRESSED, AND THAT AMPLITUDE OF 15 TONE OUTPUTS IS 774 mVRMS AS SEEN ON TRUE RMS VOLTMETER. USE AC VOLTMETER TO MEASURE THE 500 kHz SIGNAL LEVEL AT A2A1E6. METER SHOULD INDICATE 0.5 mVRMS NOMINAL. TEST PROBE MUST BE SHIELDED WITH SHORT GROUND CONNECTION AT PROBE END.

TS-27 USE THE AC VOLTMETER TO MEASURE THE 500 kHz SIGNAL LEVEL AT A2A1A3TP1. METER SHOULD INDICATE 4 mVRMS NOMINAL. USB LINE LEVEL METER A2M2 SHOULD INDICATE -7 dB NOMINAL WITH THE USB LINE LEVEL SWITCH A2S7 IN -10 dB POSITION.

SET MODE SELECTOR SWITCH A2S2 TO LSB. RECHECK AUDIO TEST SET FOR 774 mVRMS AND OBSERVE VOLTMETER CONNECTED AT A2A1A3TP1. METER SHOULD INDICATE 2.5 mVRMS NOMINAL. USB LINE LEVEL METER A2M2 SHOULD INDICATE 10 dB NOMINAL WITH USB LINE LEVEL SWITCH A2S7 AT -10 dB.

TS-28 USE THE AC VOLTMETER TO MEASURE THE SIGNAL LEVEL AT TERMINAL A2A1A3E1. METER SHOULD INDICATE 6.5 mVRMS NOMINAL.

TS-29 USE THE AC VOLTMETER TO MEASURE THE SIGNAL LEVEL AT A2A1A1E4. METER SHOULD INDICATE 1.1 VRMS NOMINAL.

TS-30 USE THE TRUE RMS VOLTMETER TO MEASURE THE SIGNAL LEVEL AT A2A21A18TP4. METER SHOULD INDICATE 73 mVRMS NOMINAL.

TS-31 USE THE TRUE RMS VOLTMETER TO MEASURE THE SIGNAL LEVEL AT CENTER ARM OF A2A21A18R4. METER SHOULD INDICATE 90 mVRMS NOMINAL.

TS-32 USE THE TRUE RMS VOLTMETER TO MEASURE THE SIGNAL LEVEL AT CLIPPER OUTPUT A2A21A18TP3. METER SHOULD INDICATE 1.40 VRMS NOMINAL.

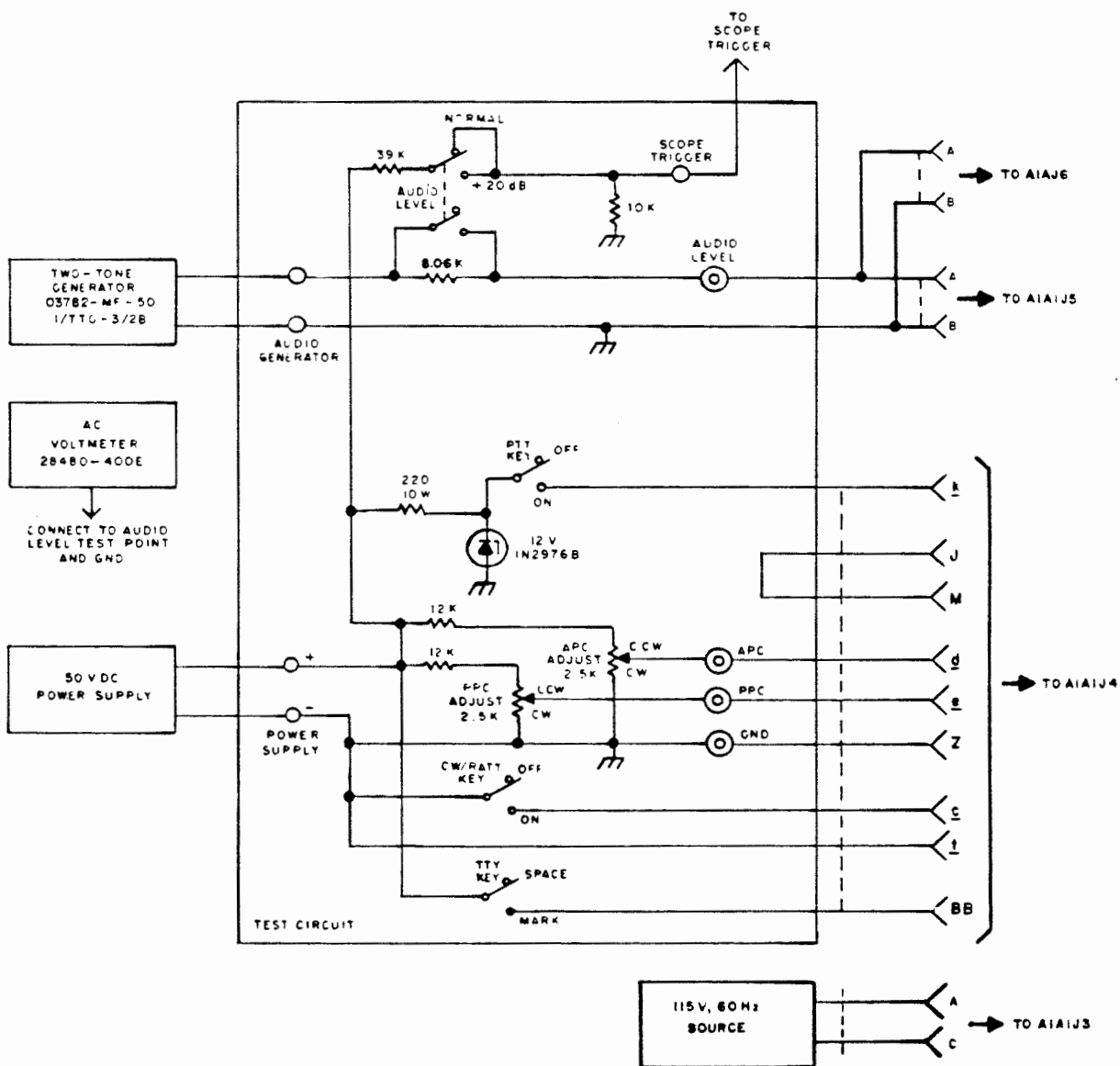
TS-33 USE THE TRUE RMS VOLTMETER TO MEASURE THE SIGNAL LEVEL AT A2A21A18TP1. METER SHOULD INDICATE 630 mVRMS NOMINAL.

TS-34 USE THE TRUE RMS VOLTMETER TO MEASURE THE TGC AUDIO SAMPLE LEVEL AT A2A21A18TP2. METER SHOULD INDICATE 0.774 VRMS NOMINAL.

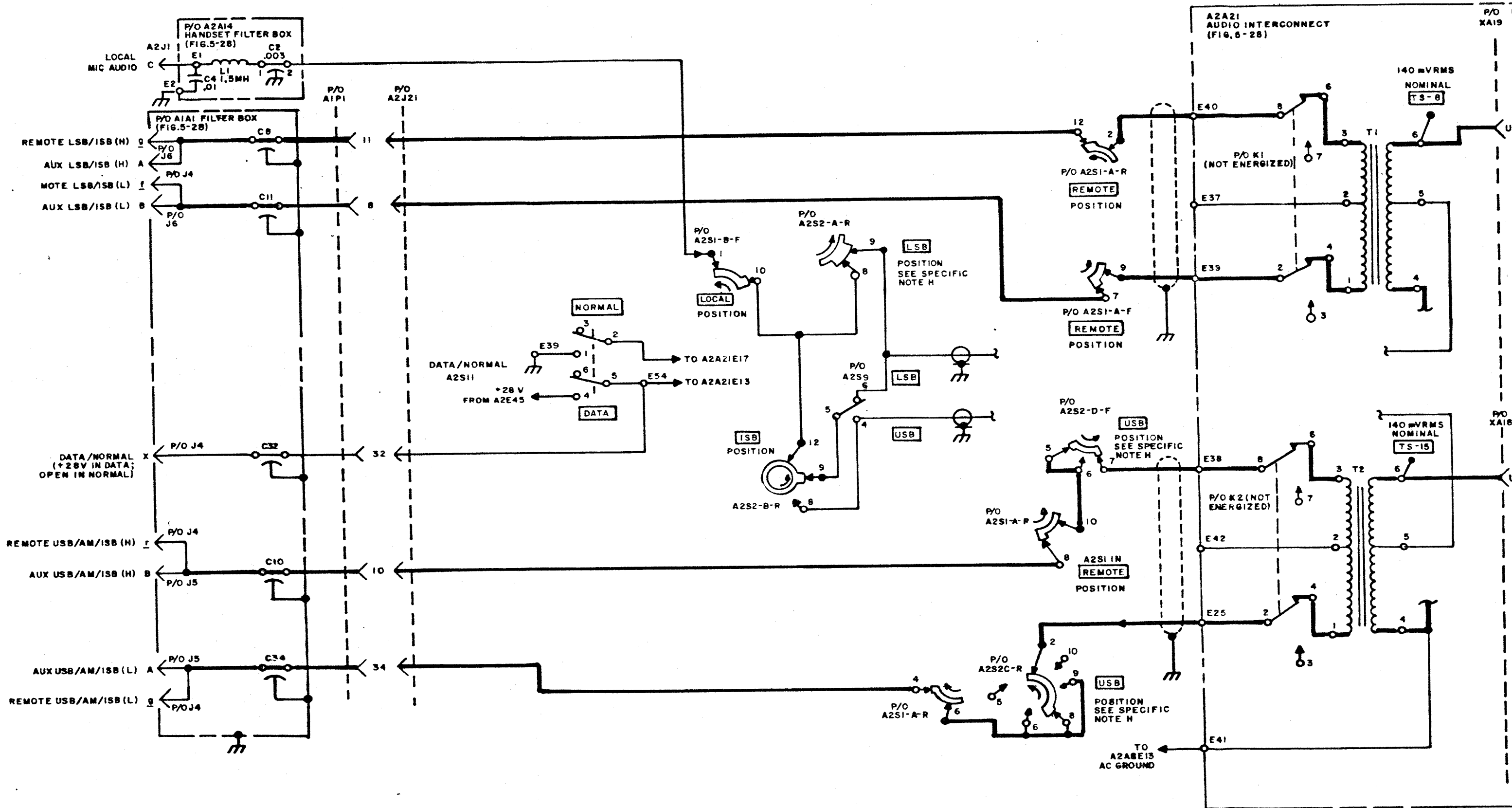
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NOTES FOR FIGURE 5-1 (CONTINUED)

7. TEST CIRCUIT



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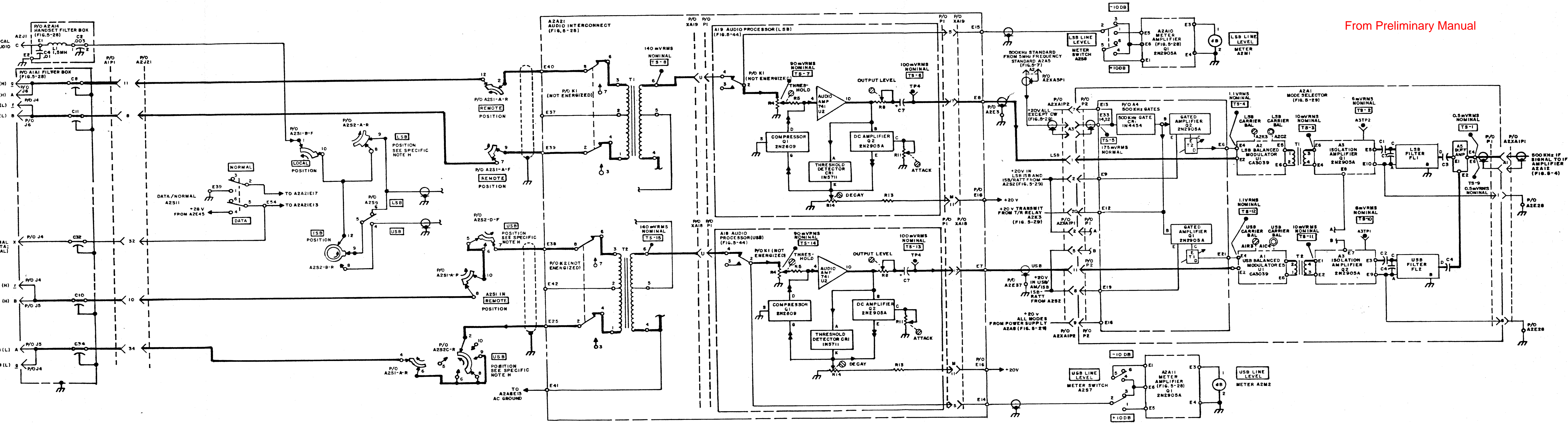
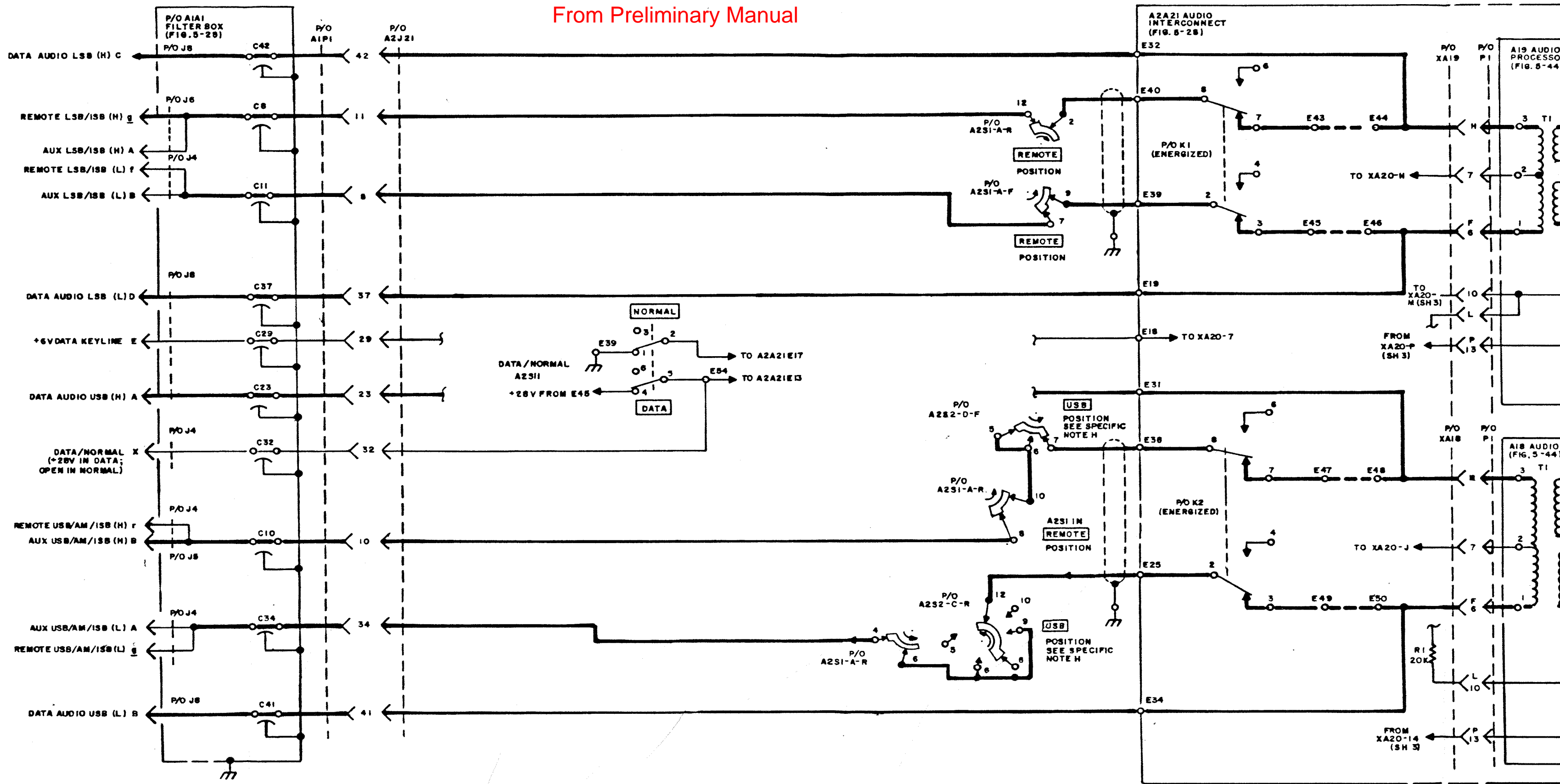


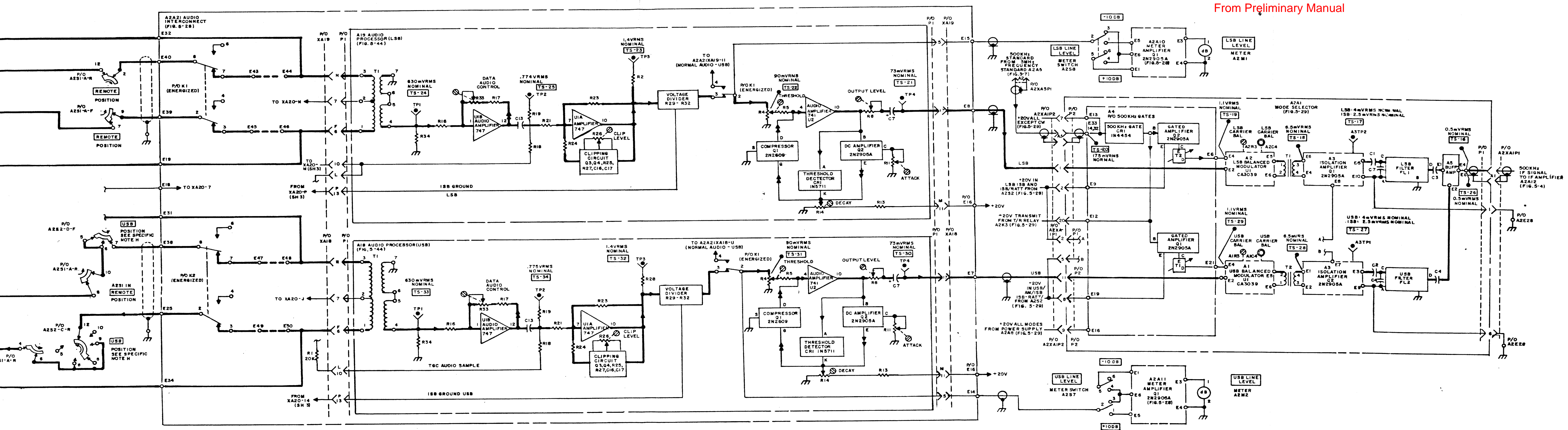
Figure 5-1. Audio Amplification and Modulation, Normal LSB/USB, Signal Flow Diagram (Sheet 1 of 3)

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Figure 5-1. Audio Amplification and Modulation, Data LSB/USB, Signal Flow Diagram (Sheet 2 of 3)

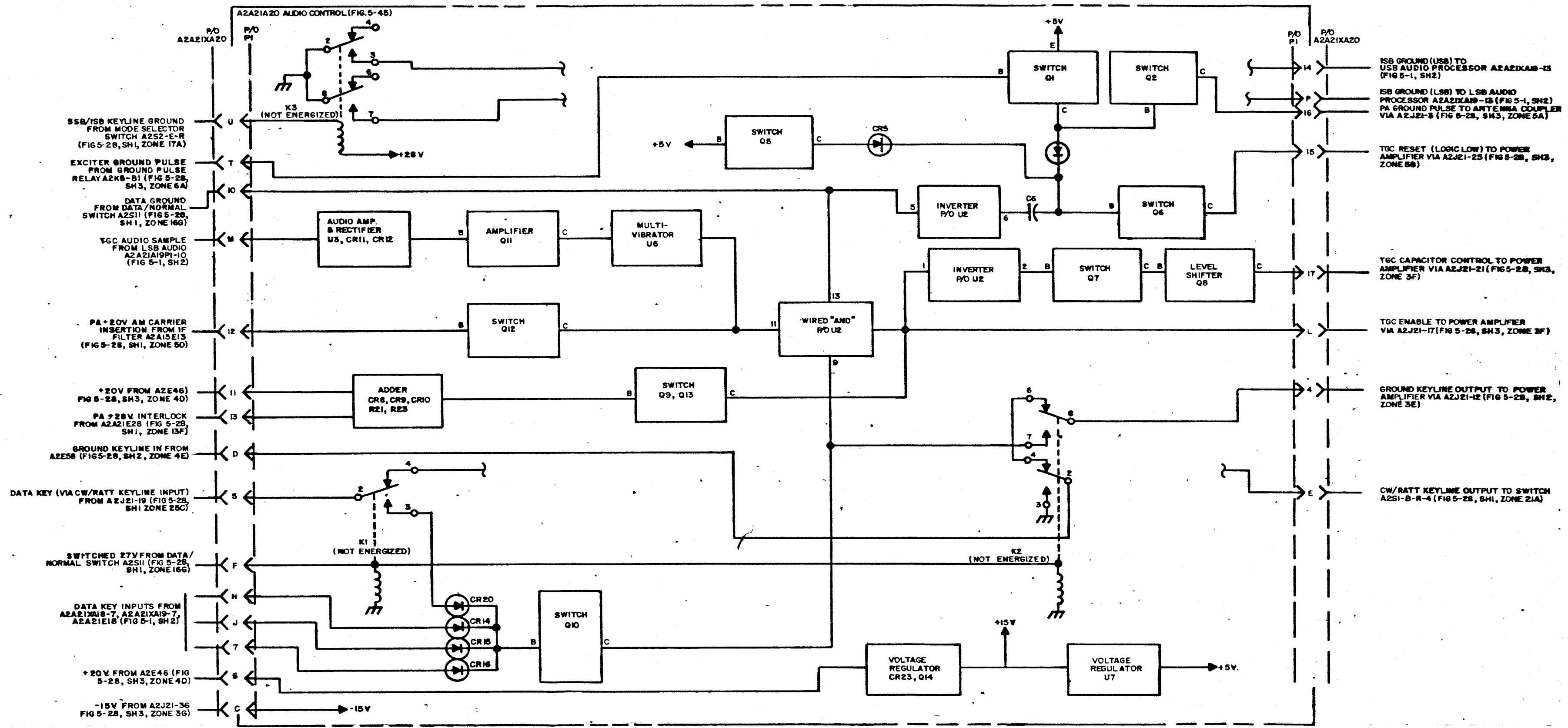


Figure 5-1. Audio Control Functions (Sheet 3 of 3)

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TEST DATA FOR FIGURE 5-2

GENERAL NOTES

- A. TEST EQUIPMENT REQUIRED:
 PLUG-IN UNIT TEST SET TS-2135/WRC-1 (MODIFIED)
 MULTIMETER 28480-410C OR EQUIVALENT
 ELECTRONIC COUNTER AN/USM-207 OR EQUIVALENT
 OSCILLOSCOPE AN/USM-281 OR EQUIVALENT
 TEST CIRCUIT ILLUSTRATED IN FIGURE 5-1, NOTE 7.
 DUMMY LOAD DA-91A/U
- B. THE INFORMATION CONTAINED IN THE FOLLOWING NOTES AND ON THE SIGNAL FLOW DIAGRAM IS ORGANIZED TO ALLOW TROUBLESHOOTING OF THE VARIOUS TRANSMITTER FUNCTIONS IN AN OPERATING T-827H/URT TRANSMITTER. FOR DEPOT MAINTENANCE THE MODULE UNDER TEST WILL BE OPERATED IN PLUG-IN UNIT TEST SET TS-2135/WRC-1 (MODIFIED). THE SIGNAL LEVELS INDICATED ON THE SIGNAL FLOW DIAGRAMS SHALL BE USED TO GUIDE THE SETTING OF THE ASSOCIATED TEST GENERATORS. TEST FIXTURE CONTROL SETTINGS SHALL CORRESPOND TO THE SETTINGS OF THEIR COUNTERPART CONTROLS OF THE T-827H/URT.
- C. REFERENCES: IF NECESSARY MAKE THE FOLLOWING REFERENCES:
 FUNCTIONAL DESCRIPTION, PARAGRAPH 3-38
 TROUBLESHOOTING SEQUENCE, FIGURE 5-17
 CORRECTIVE MAINTENANCE, PARAGRAPH 6-110
 MAINTENANCE SCHEMATIC, FIGURE 5-42
 PHYSICAL LOCATION OF TEST POINTS, FIGURE 7-76

SPECIFIC NOTES

1. PRELIMINARY SETUP. DISCONNECT JACKS A1A1J4 THROUGH A1A1J8 AT REAR OF T-827H/URT. CONNECT TEST CIRCUIT SHOWN IN NOTE 7 OF FIGURE 5-1 TO A1A1J3 AND A1A1J4, AND SET TEST CIRCUIT CW/RATT KEY ON. EXTEND MAIN FRAME CHASSIS, DEFEAT INTERLOCK, AND CONNECT DUMMY LOAD DA-91A/U TO A1A1J23.

<u>CONTROL</u>	<u>POSITION</u>
MODE SELECTOR SWITCH A2S2	RATT
LOCAL/REMOTE SWITCH A2S1	REMOTE
AUX/NORM SWITCH A1S1	AUX
FREQUENCY CONTROLS	2.000 MHz
Hz SWITCH A2S6	000
DATA/NORMAL SWITCH A2S11	NORMAL

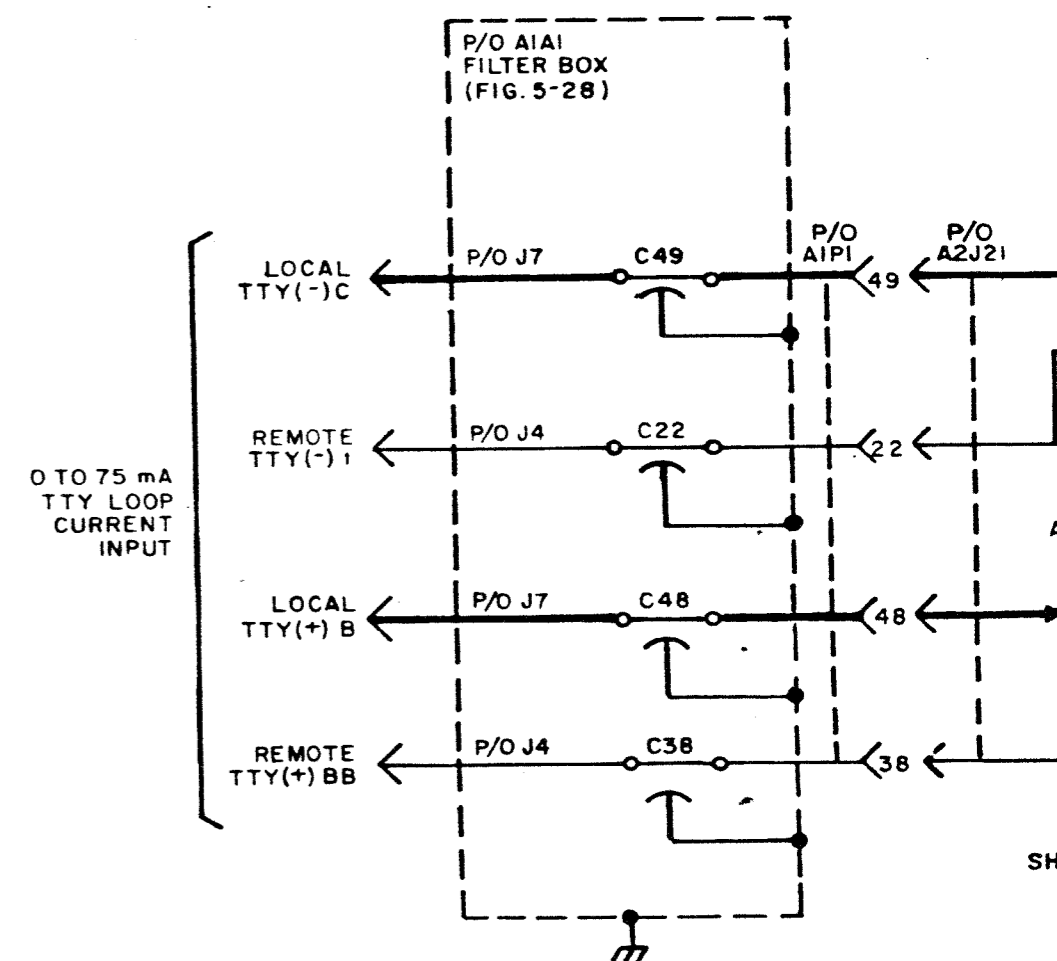
2. TEST STEPS:

- TS-1** WITH RATT SHIFT SELECT SWITCH A2S10 IN 850 Hz POSITION, SET TEST CIRCUIT TTY KEY TO MARK, AND MEASURE THE FREQUENCY AT A2A9A1-TP5 WITH ELECTRONIC COUNTER. IT SHOULD READ 3155 ± 20 Hz. SET TEST CIRCUIT TTY KEY TO SPACE. FREQUENCY SHOULD BE 4855 ± 20 Hz. SET RATT SHIFT SELECT A2S10 TO 170 Hz AND TEST CIRCUIT TTY KEY TO MARK. FREQUENCY SHOULD BE $3831 \text{ Hz} \pm 4$ Hz. SET TEST CIRCUIT TTY KEY TO SPACE. FREQUENCY SHOULD READ 4166 ± 4 Hz.

TEST DATA FOR FIGURE 5-2 (CONTINUED)

SPECIFIC NOTES (CONTINUED)

- TS-2** SET TEST CIRCUIT TTY KEY TO MARK, AND MEASURE THE VOLTAGE BETWEEN A2A9A1TP1 AND A2A9A1TP2. IT SHOULD READ BETWEEN 2.0 AND 6.8 VOLTS.



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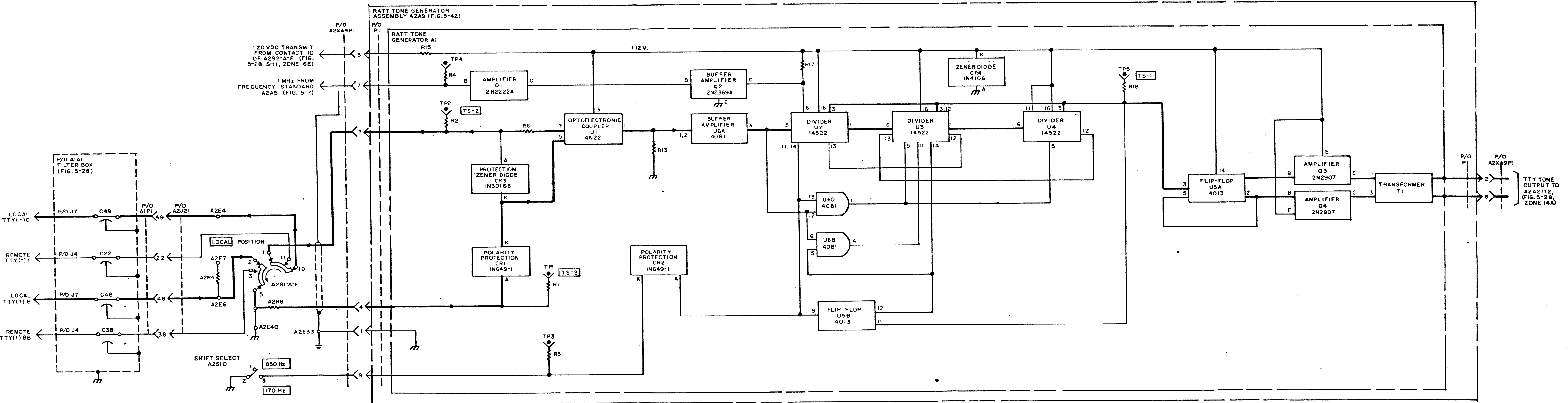


Figure 5-2. RATT Tone Generator, Signal Flow Diagram