

# Low Voltage Power Supply Alignment

Ref 6-511 5.5.2 low voltage power supplies UD3PS3 through UD3PS7



Low  
voltage  
power  
supplies  
behind  
the left  
door



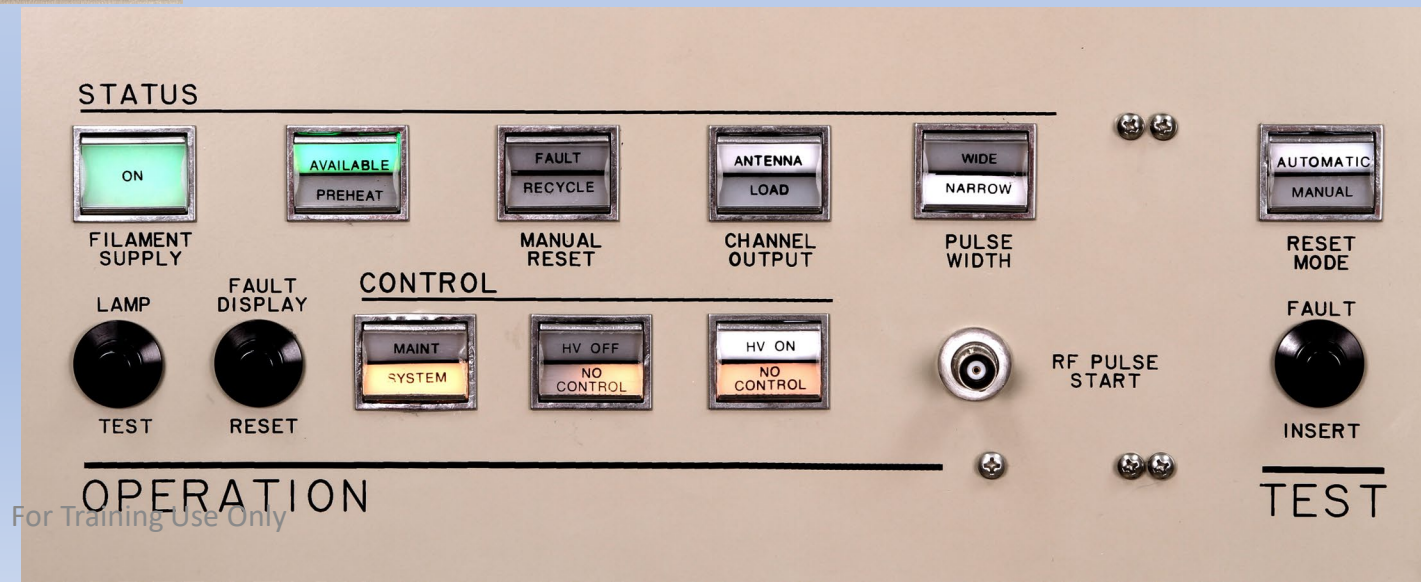
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### 5.5.2.2 Initial Conditions/Preliminary Setup

- Perform paragraph 3.4.1.2, steps 1 through 4 to power down the transmitter, lock HIGH VOLTAGE POWER CB1 circuit breaker, and remove the key.
  - 1 = “Enable Local (RDA)” control
  - 2 = Put the RDA in “Standby”
  - 3 = Put the transmitter in “MAINT” mode
  - 4 = Power the transmitter down and lock out high voltage (280V PS)
    - a. Set the CABINET LIGHTS CB3 circuit breaker to **OFF**.
    - b. Set HIGH VOLTAGE POWER CB1 circuit breaker to **OFF**.
    - c. Set the AUXILIARY POWER CB2 circuit breaker to **OFF**.
    - d. Lock HIGH VOLTAGE POWER CB1 circuit breaker to **OFF** and remove the key.



# Play 3.4.1.2 Transmitter Power-down Procedure. Steps 1-4



### 5.5.2.2 Initial Conditions/Preliminary Setup Continued

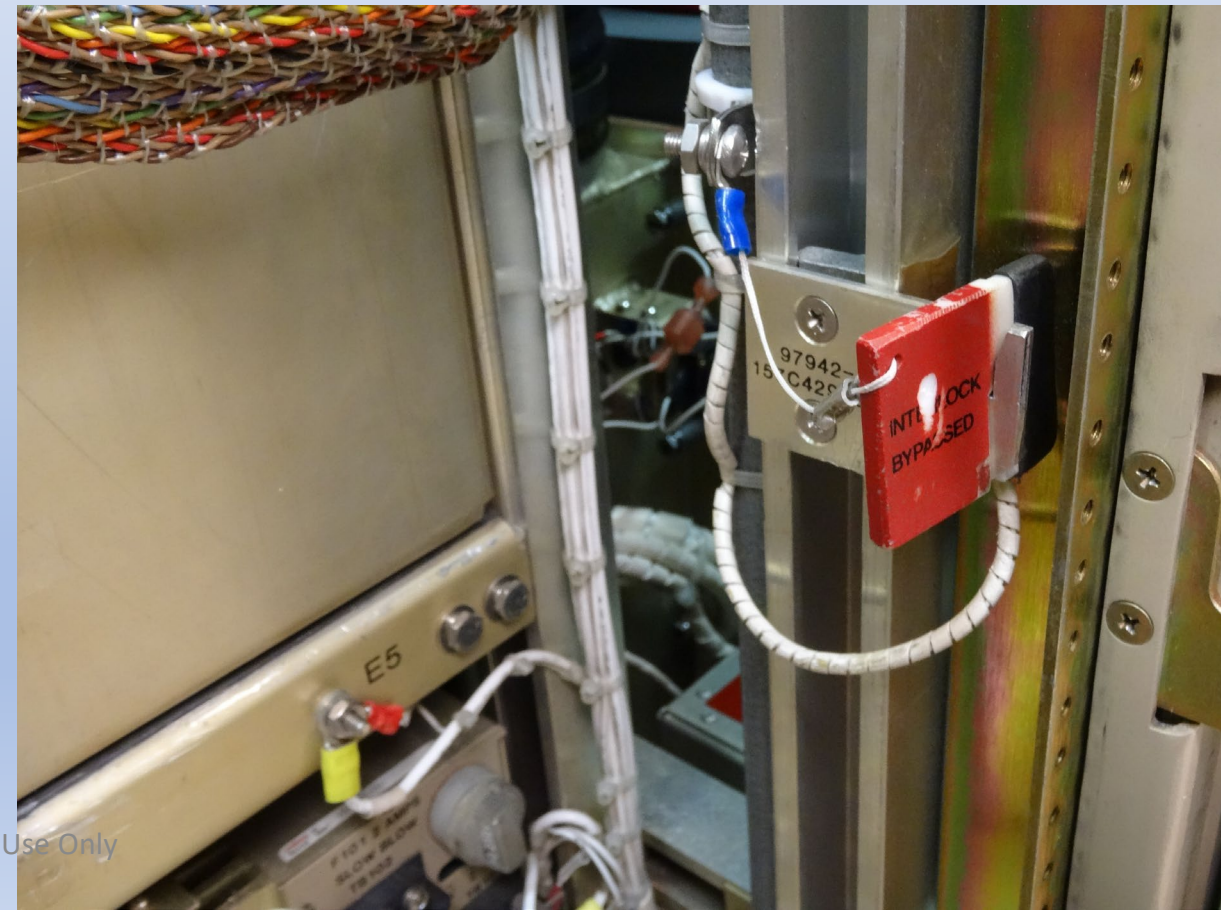
- 2. Use interlock key to unlock and open left bay inner door.





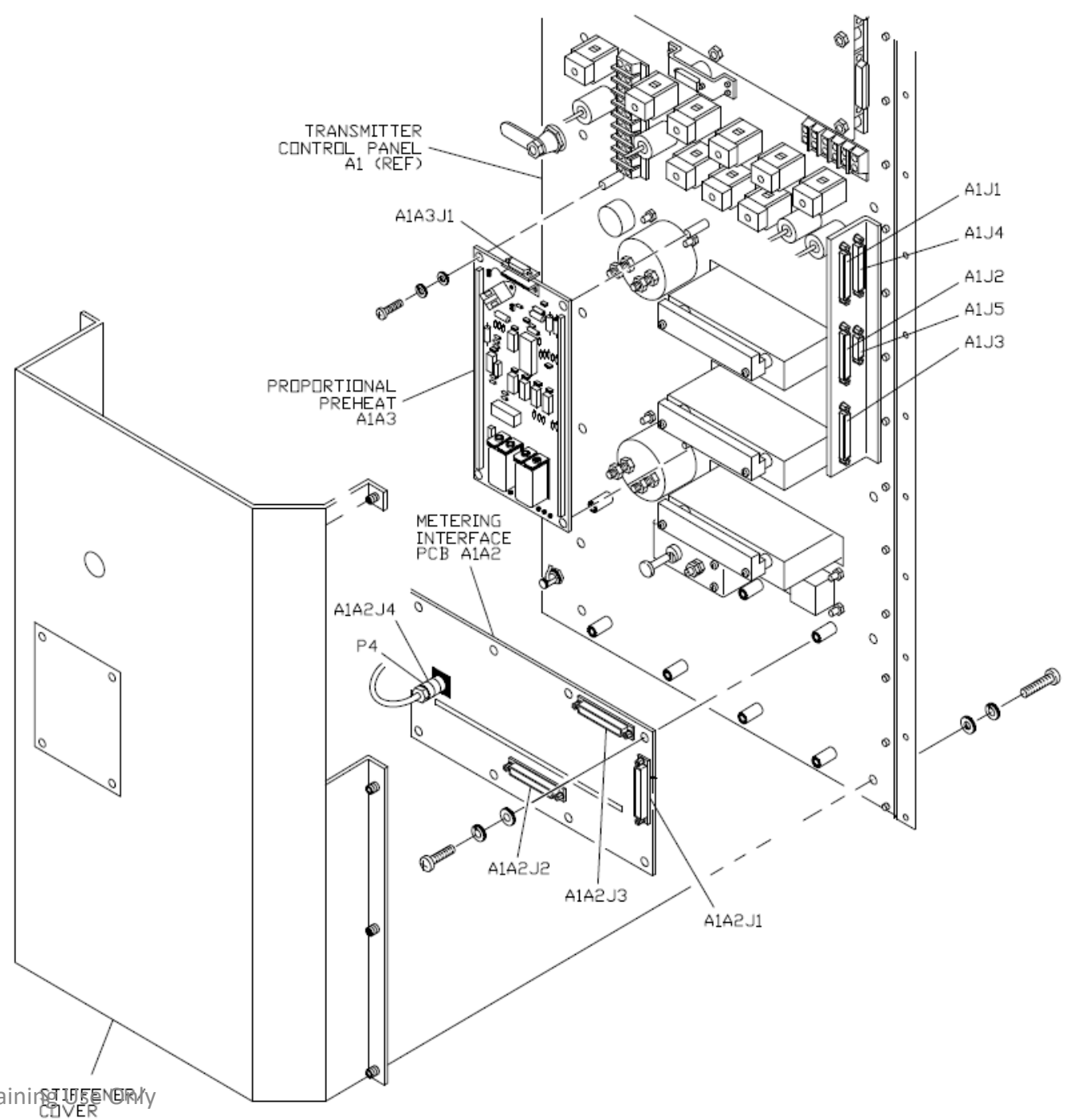
### 5.5.2.2 Initial Conditions/Preliminary Setup Continued

- 3. Insert the interlock bypass tool on the cabinet door Interlock Switch S4 per paragraph 5.1.4.1.



### 5.5.2.2 Initial Conditions/Preliminary Setup Continues

- 4. Remove panel stiffener from the back of Transmitter Control Panel A1.



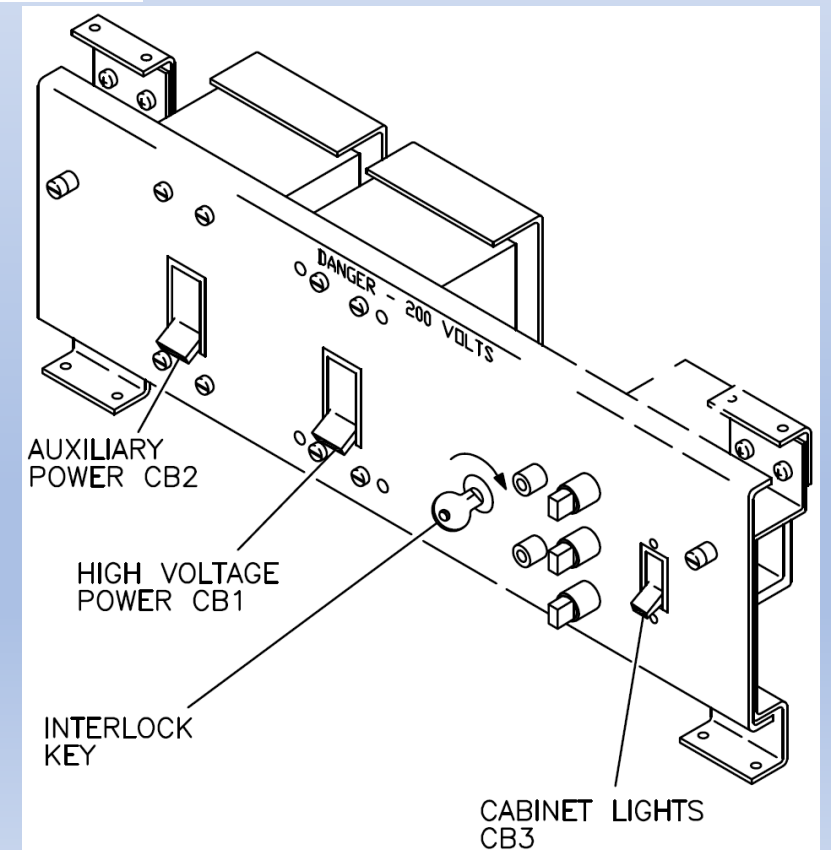


## 5.5.2.3 Adjustment

### WARNING

Hazardous voltages are present within the transmitter cabinet. Bypassing Transmitter Cabinet Interlock Switch S4 activates 280 Volt Power Supply A2, located in the left bay. Proceed with caution. Contact with a 280V potential may cause serious injury or **DEATH**.

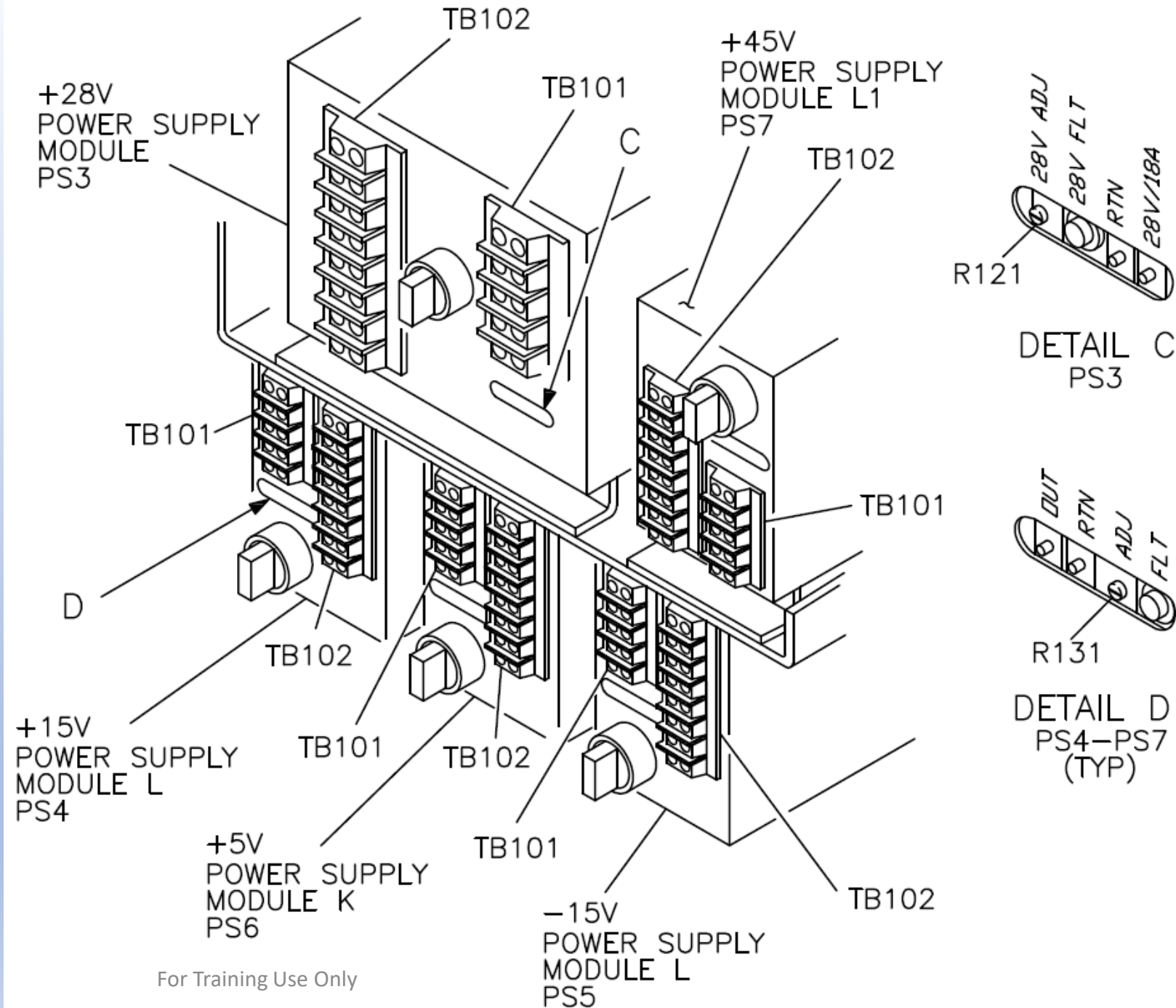
1. Set AUXILIARY POWER CB2 and HIGH VOLTAGE POWER CB1 to **ON**.





2. Using a voltmeter, measure the output voltage of the power supplies at test points TB102-2 (+) and TB102-3 (-). Adjust each power supply output potentiometer to set output voltage to the midrange of limits listed in [Table 5-3](#).

TB102 test points and voltage adjustment locations shown on the right



**Table 5-3. Low Voltage Power Supplies Adjustment Limits**

<b>Power Supply</b>	<b>Nominal Output Value</b>	<b>Output At Power Supply (TB102-2,3)</b>	<b>VOLTAGE/ CURRENT Selector Switch A1S9 Position</b>	<b>A1A2 Test Points</b>	<b>A1A2 Test Point Voltage Limits</b>
PS3	+28.0V	+27.5 to +28.8V	4	4/19	+27.5 to +28.8V
PS4	+15.0V	+14.8 to +15.4V	2	2/19	+14.8 to +15.4V
PS5	-15.0V	-14.8 to -15.4V (see Note)	3	3/19	-14.8 to -15.4V
PS6	+5.0V	+4.9 to +5.2V	1	1/19	+4.9 to +5.2V
PS7	+45.0V	+44.0 to +46.5V	5	5/19	+44.0 to +46.5V

**NOTE**

The power supply PS5 output voltage appears positive when measured from TB102-2 to TB102-3.



## NOTE

On Metering Interface A1A2, A1A2TP19 is ground (-) and A1A2TP1 through A1A2TP5 are positive (+).

3. With voltmeter connected to positive (+) and ground (-) test points on Metering Interface A1A2 as indicated in [Table 5-3](#), verify each power supply output is within the voltage limits specified in [Table 5-3](#).

Readjust power supply output potentiometers as necessary.

For each measurement, VOLTAGE/CURRENT Selector Switch A1S9 must be in position indicated.

Record each measured value.

4. If a power supply output cannot be adjusted to within limits, troubleshoot using Transmitter Secondary Fault Isolation procedures in NWS EHB 6-513, SECTION 6.3.

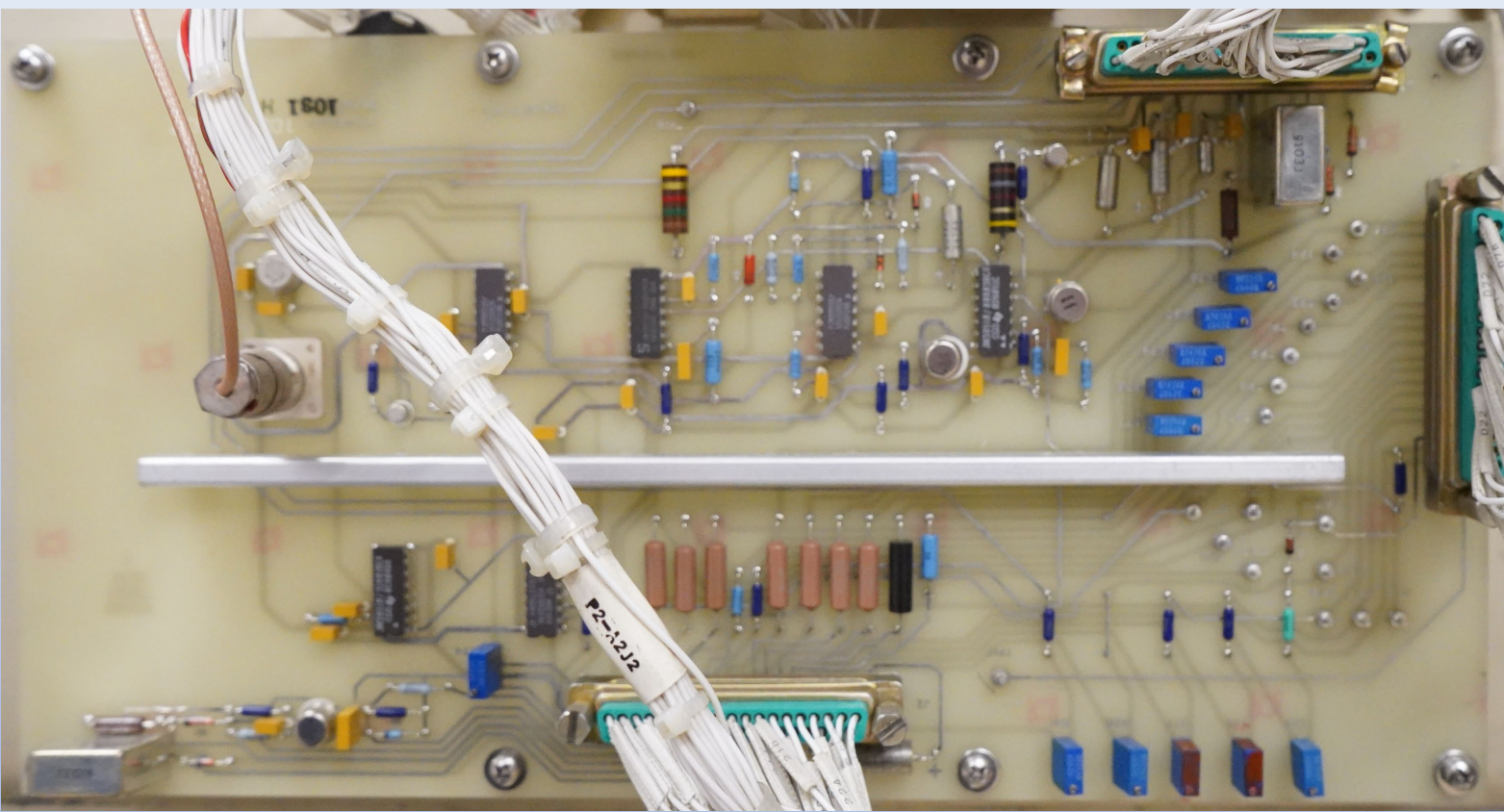
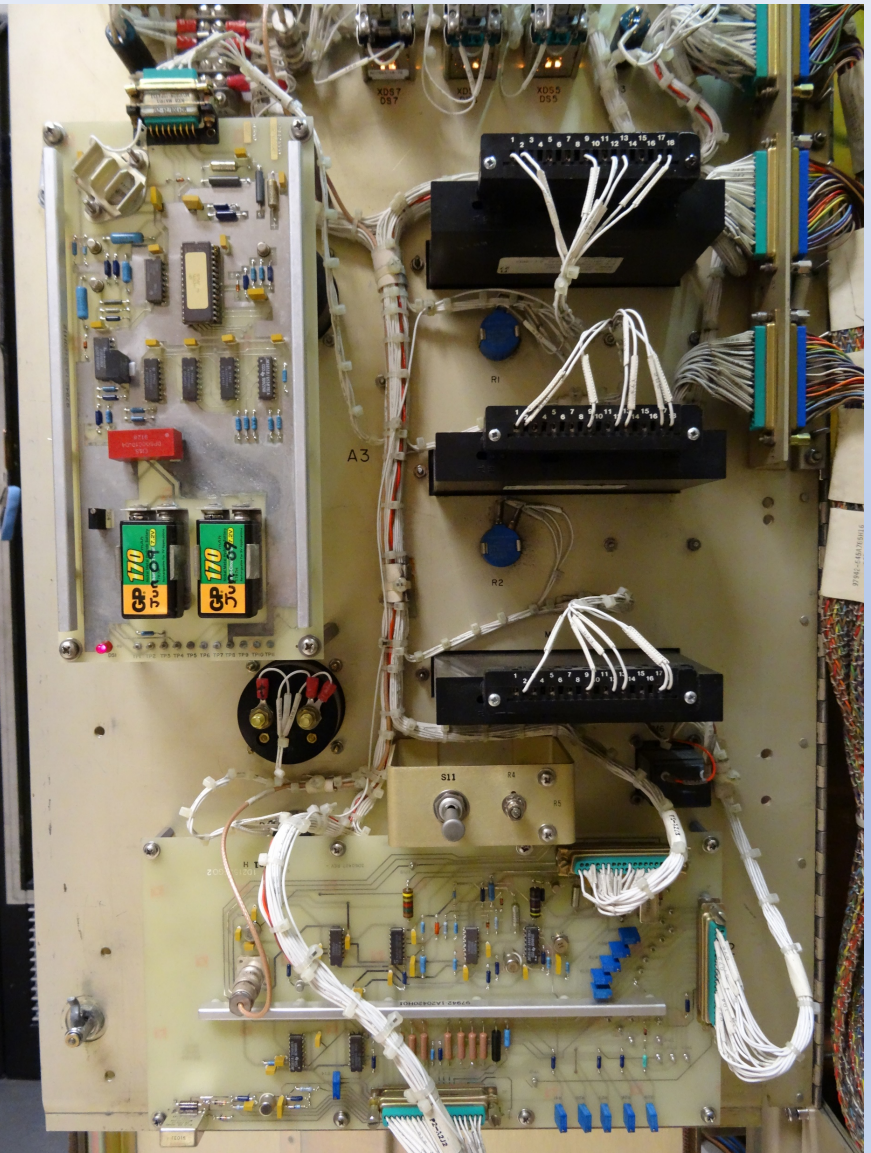
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PS5	-15.0V	-14.8 to -15.4V (see Note)	3	3/19	-14.8 to -15.4V
PS6	+5.0V	+4.9 to +5.2V	1	1/19	+4.9 to +5.2V
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## NOTE

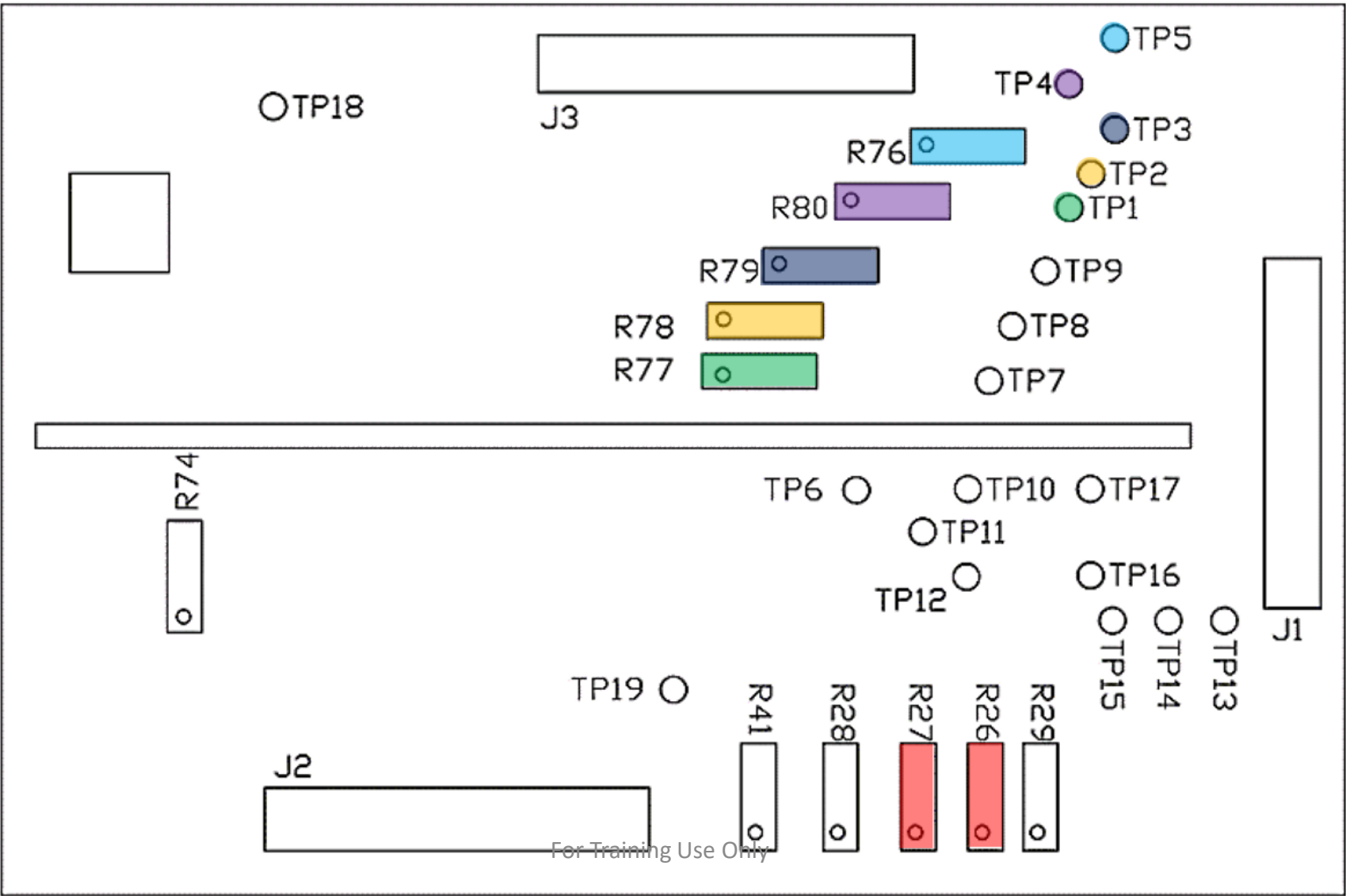
The power supply PS5 output voltage appears positive when measured from TB102-2 to TB102-3.

# A1A2 Metering Interface Board





# A1A2 Metering Interface Board



5. Using VOLTAGE/CURRENT Selector Switch A1S9, verify voltage readings on Transmitter

Control Panel VOLTAGE/CURRENT Meter A1M4 are within plus or minus one meter division of voltages measured in step 3 for each power supply measured. If any of the meter readings are not within plus or minus one meter division of the voltages measured in step 3, adjust the appropriate potentiometer(s) on the Metering Interface A1A2. [Table 5-4](#) correlates the meter reading with its associated adjustment potentiometer.

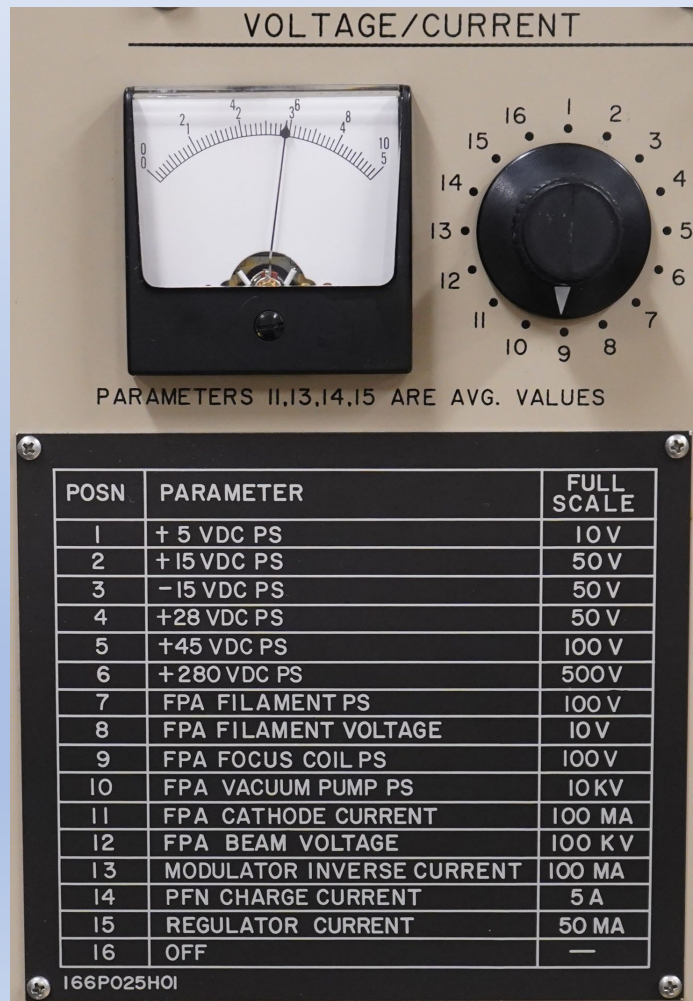
METER READING	POTENTIOMETER
+5 VDC	R77
+15 VDC	R78
-15 VDC	R79
+28 VDC	R80
+45 VDC	R76
FIL CUR	R26
FCPS CUR	R27
CATH I SAMP	R28
BEAM V SAMP	R29
PFN VOLTS	R41



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6. Compare meter reading values now indicated with values recorded in meter reading column of Transmitter Parameter and Adjustment Record Card described in paragraph 5.5.17. Update record card as necessary.



3A1S9 POS	TRANSMITTER PARAMETER	M4 READING (SP/PRF D5)	HIGH VOLTAGE	OPERATIONAL LIMITS
1	+5 VDC PS		OFF/ON	5.0 +/- 0.5 V
2	+15 VDC PS		OFF/ON	15.0 +/- 0.5 V
3	-15 VDC PS		OFF/ON	-15.0 +/- 0.5 V
4	+28 VDC PS		OFF/ON	28.0 +/- 1.0 V
5	+45 VDC PS		OFF/ON	45.0 +/- 1.5 V
6	+280 VDC PS		OFF/ON	240 - 370 V
7	FPA FILAMENT PS		OFF/ON	40 - 70 V
8	FPA FILAMENT VOLTAGE		OFF/ON	NAMEPLATE +/- 2.0 V
9	FPA FOCUS COIL PS		ON	40 - 85 V
10	FPA VACUUM PUMP PS		OFF/ON	2.75 - 4.00 KV
11	FPA CATHODE CURRENT		ON	20 (PRF S1) - 95 mA (PRF D8)
12	FPA BEAM VOLTAGE		ON	20 (PRF S1) - 95 KV (PRF D8)
13	MOD INVERSE CURRENT		ON	2.0 (PRF S1) - 20 mA (PRF D8)
14	PFN CHARGE CURRENT		ON	0.5 (PRF S1) - 4.5 A (PRF D8)
15	REGULATOR CURRENT		ON	5.0 - 20.0 mA
16	OFF	DATE:	NAME:	

# Putting things back together

- 7. Set HIGH VOLTAGE POWER CB1 and AUXILIARY POWER CB2 to **OFF**.
  - 8. Install panel stiffener to the back of Transmitter Control Panel A1.
  - 9. Remove the interlock bypass tool from the interlock switch and lock the left bay inner door.
  - 10. Return interlock key to HIGH VOLTAGE POWER CB1 lock and rotate the key CCW.
  - 11. Power the transmitter up and return the system to remote control by performing the procedures in paragraph 3.4.1.5, steps 2 through 4.
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- *NWSTC Note: If this is part of a full alignment, consider reading the next procedure. It will likely need the system in the current condition.*