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Authors: Nicholas Savard Michel Martin	Validated: Michel Martin	Apprvd:	Procedure: 164-20006-021	Rev. date: 2000-05-24	Rev. 1.0
Radio Interface Bulletin					
Tait 800 MHz Base Series I (diversity)					

Radio: 800MHz T880 Tait base station Series I (800-960MHz)

Interface type: DBA (DSP, based on D212A PCB)

Product: Paragon/PD

Note: This procedure includes the EEPROM modules implementation into the receiver & exciter.

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1. Material required

- 2x Pozidriv screwdrivers, 1x #1 and 1x #2.
- 1x Torx T-10 screwdriver
- 1x Sharp blade
- 1x T800-04-000 RSSI PCB and 1x 455kHz IF filter CFWS455DY (Murata)
- 1x EEPROM module (Dataradio 050-03375-000)
- 1x 0.75" long pieces of 26-AWG wire
- 2x 1.5" long pieces of 26-AWG wire
- 1x 3" long pieces of 26-AWG wire

2. Mechanical interface

Note 1: The modules pinout for both Series I and Series II chassis are compatible.

Note 2: No modification required to backplane T800-50-0001 (see Figure 11, page 14)

Note 3: After Module modification have been performed, refer to procedure 20160-54.01 (800 MHz Series I programming) and to procedure 20161-41a.00 (Paragon/PD mechanical assy.)

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2.1 T881 Exciter module modifications

Note: Modifications below applies to exciter PCB # 220-01181-02

1. Unscrew Pozidriv screws # 1 on the front panel to slide out the module.
2. On each side of the module, unscrew the 14 Pozidriv # 2 screws and remove both covers.
3. On the top side (handle side), locate and remove transformer T100, C102 and C103 from the audio processor circuit. Refer to Figure 4, page 7.
4. On the top side (handle side), place and solder the EEPROM board at the same location of T100. Make sure not to invert the PCB position. Refer to Figure 4, page 7.
5. On the bottom side, cut the trace between pin 1 of T100 and the pad going to pin 1 of DRANGE connector (PL100). Refer to Figure 5, page 7.
6. On the bottom side, solder a 3" wire (26AWG) from the +9 volts feedthrough to pin 1 of T100. Refer to Figure 5, page 7. (Note 6)
7. On the bottom side (opposite handle side), remove R257 (0Ω) resistor from the Transmit timer circuit. Refer to Figure 6, page 8. (Note 1)
8. On the top side, locate RV202, in the section close to the VCO, and set to fully clockwise to disable the Tail Timer. Refer to Figure 9, page 12.
9. On the bottom side, remove R189 (560Ω) resistor and &C160 (47nF) capacitor. .Refer to Figure 7, page 9.
10. On the bottom side, cut the trace between I/O PAD5 and the pad going to C156 and R146. Refer Figure 7.
11. On the bottom side, solder a 1.5" wire (26AWG) from the feedthrough (connected on one side of R189 pad) to I/O PAD5. Figure 7, page 9. (Note 2 & Note 6)
12. Fast TX-Key: On the bottom side, remove R78 and solder zero resistors (0Ω) at LKA and LKB. Refer to Figure 8, page 10. (Note 3)
13. Re-align according to the Paragon/PD production procedure. (Note 4)
14. Reinstall covers and screws. (Note 5)

Note 1: The FRONT and REAR labels in the illustrations refer to front and rear of the radio. Positioning the radio on your workspace that way facilitates part identification.

Note 2: The wide band analog (TXA) will then be available at "CTCSS" connected to PL200 pin 8 (DB-15 connector). The BDL C has to be set **AC coupled**.

Note 3: The /TXKEY signal is readily available on PL200 pin 13 (DB-15 connector).

Note 4: The radio alignment procedure can be found in the "800 MHz Paragon/PD Series I Radio test and adjustments procedure" (20161-53.01).

Note 5: Cover screws should be torqued to 12 in-lbs. maximum.

Note 6: Feedthrough must be cleaned of any varnish or coating.

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2.2 T885 Receiver module modifications

Note: Modifications below applies to receiver PCB # 220-01192-02

1. Unscrew the Pozidriv screws # 1 on the front panel to slide out the module.
2. On each side of the module, unscrew the 14 Pozidriv # 2 screws and remove both covers.
3. On the top side (handle side), locate and remove the transformer T100 from the audio processor circuit. Refer to Figure 1, page 4.
4. On the top side (handle side), place and solder the EEPROM board at the same location of T100. Make sure not to invert the PCB position. Refer to Figure 1, page 4.
5. On the bottom side, cut the trace between pin 5 of T100 and the pad going to pin 1 of DRANGE connector (PL100). Refer to Figure 2, page 5.
6. On the bottom side, solder a 1.5" wire (26AWG) from the +9 volts feedthrough to pin 5 of T100. Refer to Figure 2, page 5.
7. On the bottom side, cut PCB trace at the junction of PAD 119 and C141/R131/C112/IC101pin1/PL101. Refer to Figure 3, page 6.
8. Solder a 0.75" wire (26 AWG) from PAD111 and PAD119 (called Audio1). Refer to Figure 3.(Note 1)
9. On the handle side, full-channel RX only (T885-20), remove the IF filter &XF302 (CFW455E) and replace it with a CFWS455DY (Murata). Refer to Figure 3, page 6. (Note 2)
10. Install the RSSI PCB T800-04-0000 at SK301 & SK300. Add some silicone on the top, between the PCB and the IF's cavity wall. Refer to Figure 10, 13(Note 3)
11. Re-align according to the Paragon/PD production procedure. (Note 4)
12. Reinstall the cover and screws. (Note 5)

Note 1: The wide band analog (RXA) will then be available at "Audio 1" connected to PL200 pin 6 (DB-15 connector).

Note 2: Half channel RX (T885-25), do NOT replace the IF filter. Keep the original one (i.e.CFW455G)

Note 3: The RSSI signal is readily available on PL200 pin 5 (DB-15 connector).

Note 4: The radio alignment procedure can be found in the "800 MHz Paragon/PD Series I Radio test and adjustments procedure" (20161-53.01).

Note 5: Cover screws should be torqued to 12 in-lbs. maximum.

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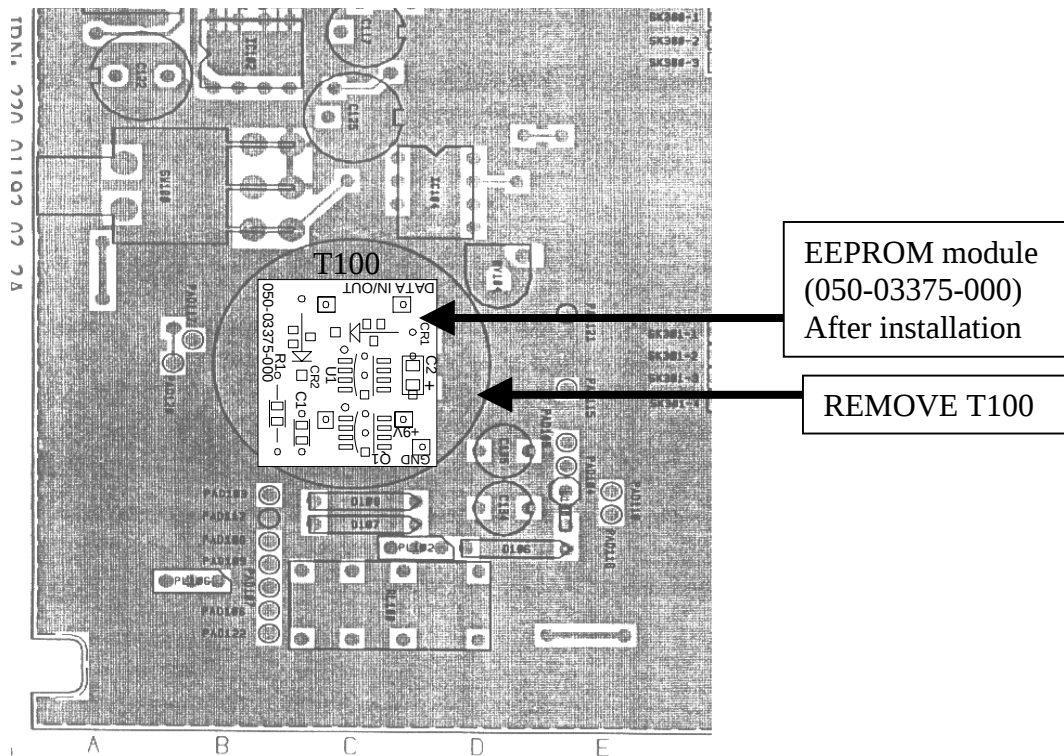


Figure 1 - T885 Receiver PCB, Top side (EEPROM Module). 1/3

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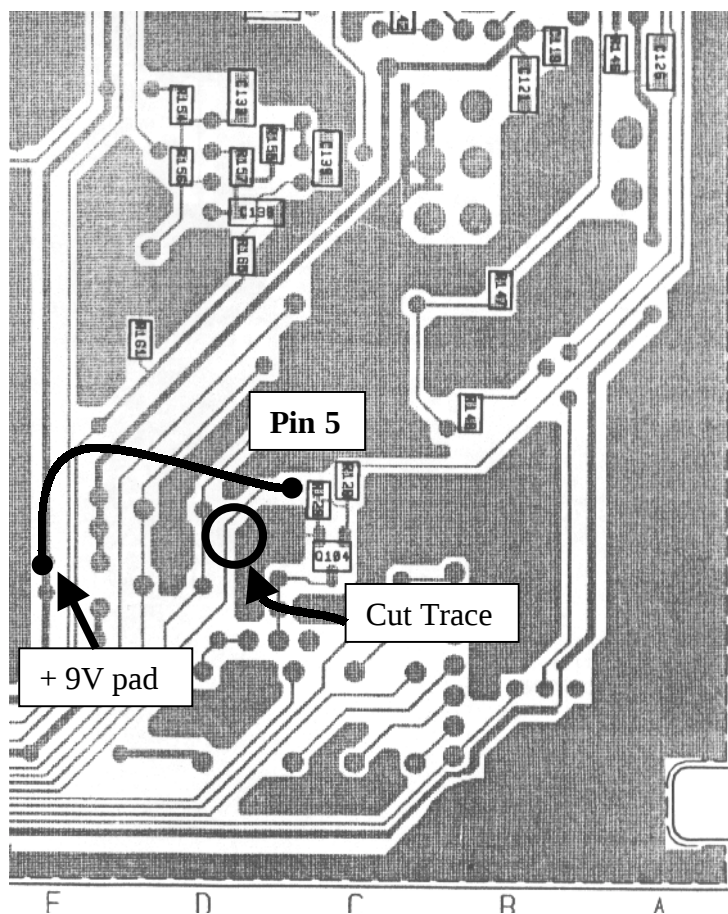


Figure 2 - T885 Receiver PCB, Bottom Side (EEPROM Module). 2/3

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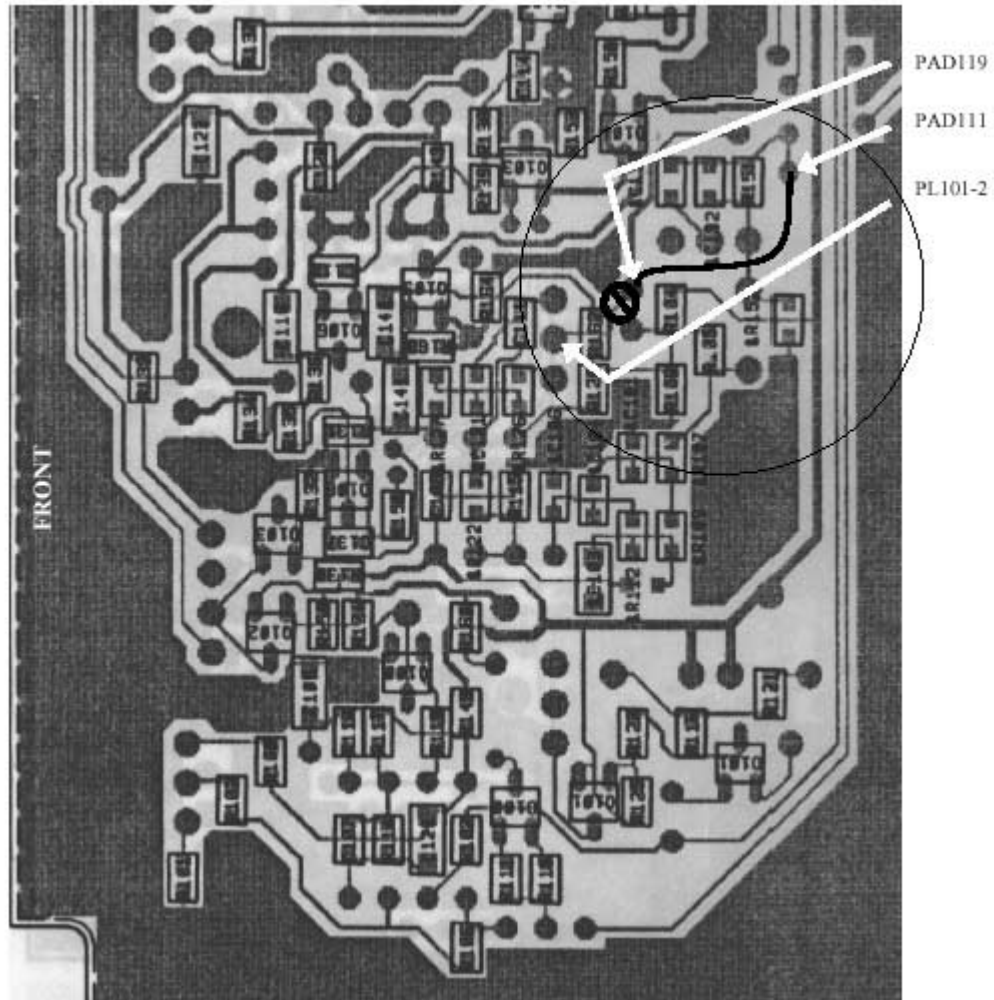


Figure 3 - T885 Receiver PCB. Bottom side (opposite handle side). 3/3

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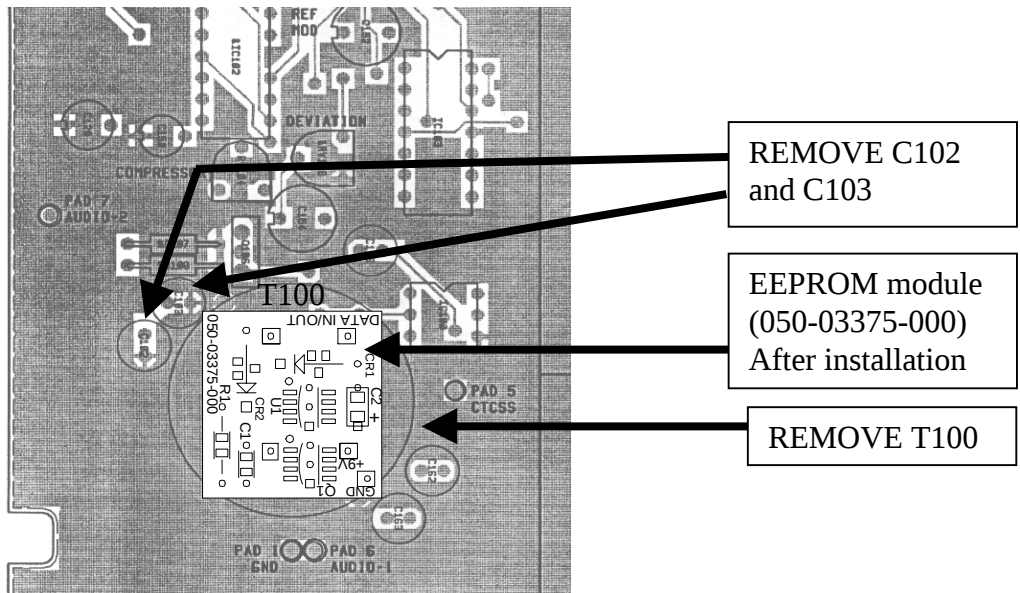


Figure 4 - T881 Transmitter PCB, Top Side (EEPROM Module). 1/5

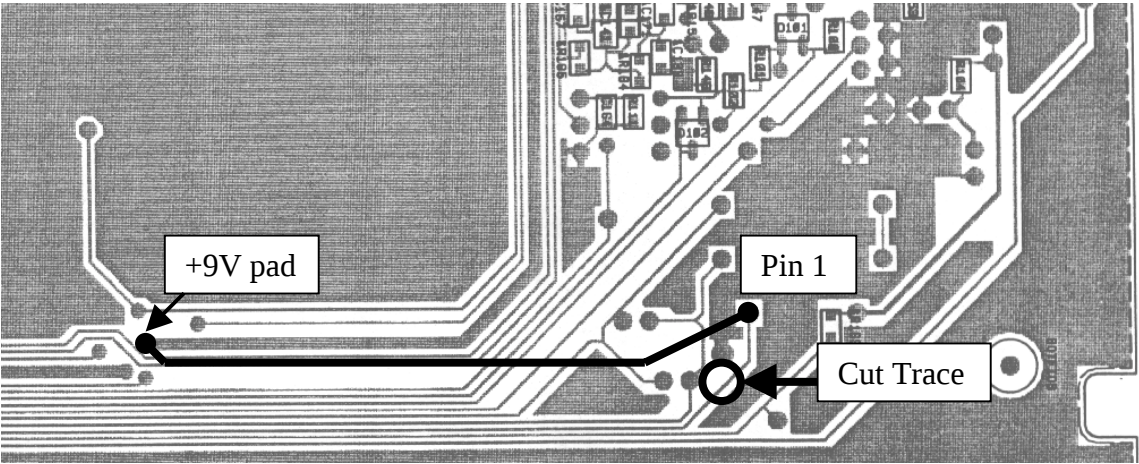


Figure 5 - T881 Transmitter PCB, Bottom Side (EEPROM Module). 2/5

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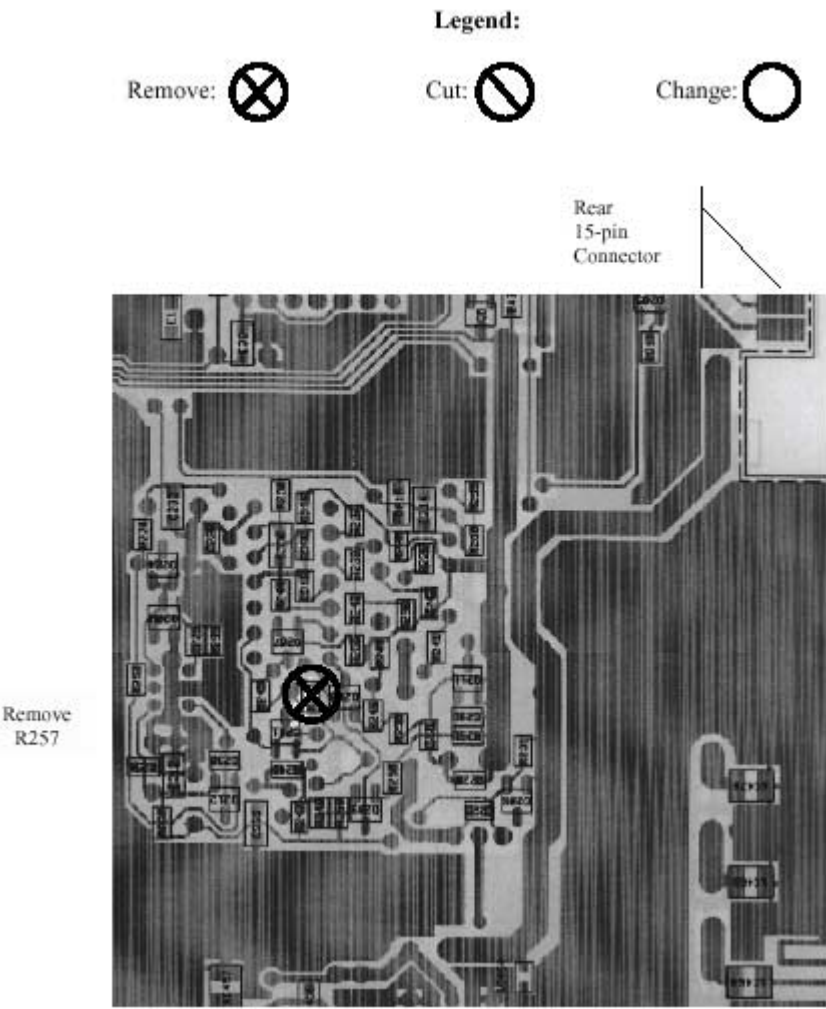


Figure 6 - T881 Exciter PCB. Bottom side (opposite handle side). 3/5

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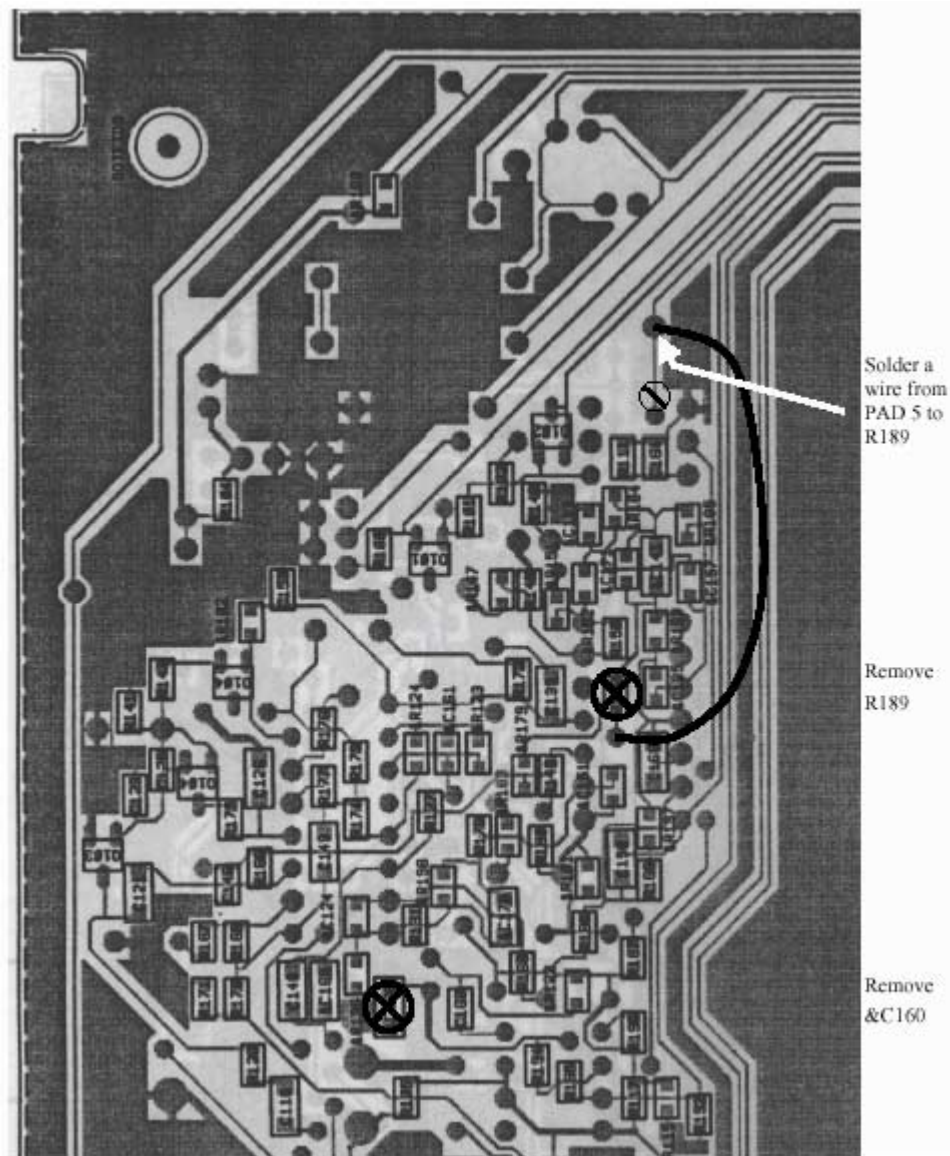


Figure 7 - T881 Exciter PCB. Bottom side (opposite handle side). 4/5

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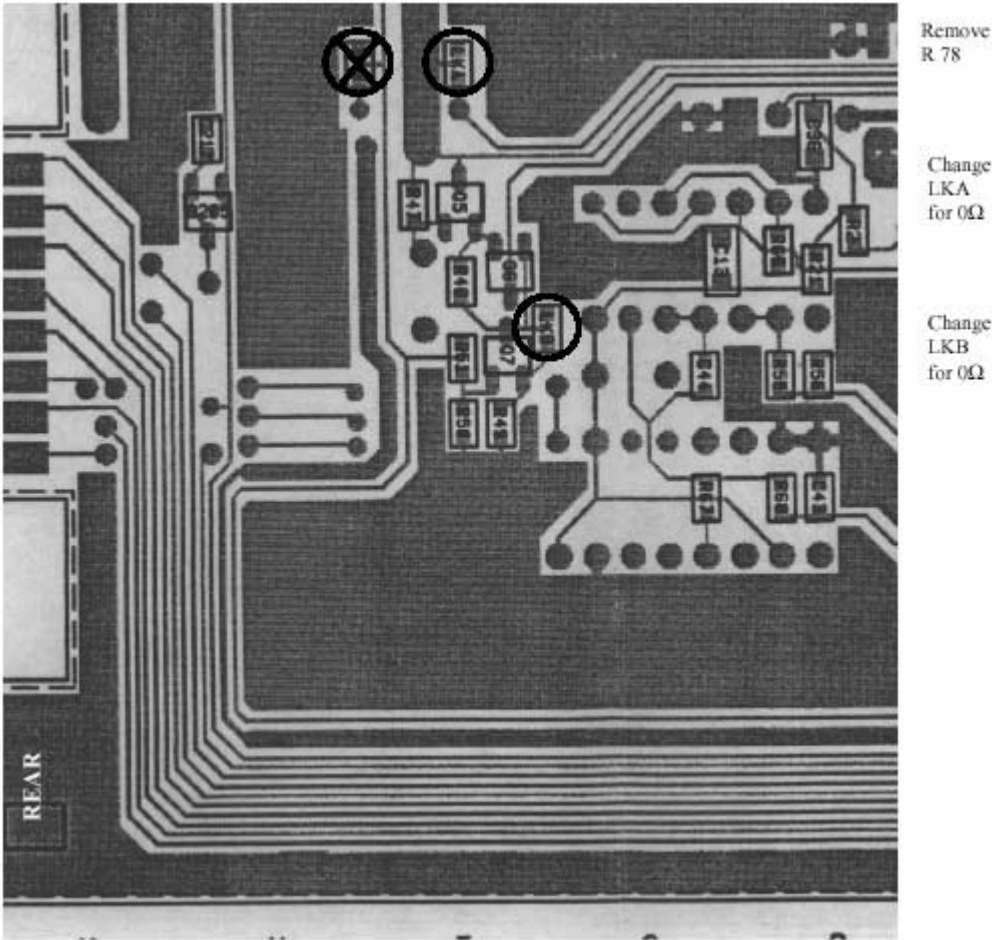
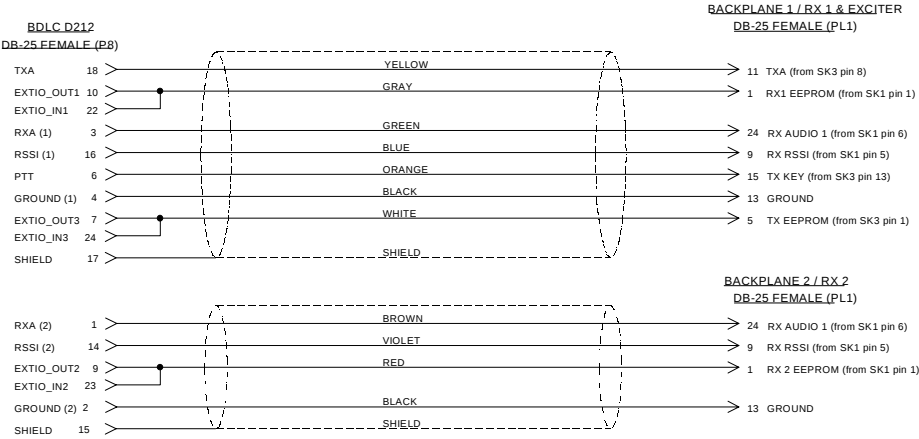


Figure 8 - T881 Exciter PCB. Bottom side, fast TX key settings. 5/5

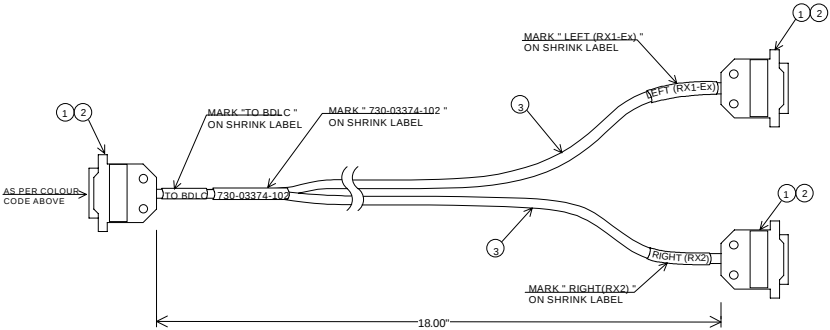
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3. Interconnections (For reference only)

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ITEM	QTY	DESCRIPTION	P/N
1	3	DB25 FEMALE SOLDER CUP CONNECTOR	RAZ25S-E
2	3	STRAIGHT-THROUGH PLASTIC HOOD AND GROMMET WITH 4/40 SCREW LOCKS	C88311004
3	2	SHIELDED 10 CONDUCTOR CABLE AWG #24	CSA CMG 60-C FT-4 LL61365 CSA AWM II A/B 105C 600 VOLTS #24 AWG RU AWM E107863 300 VOLTS VW-1 80C



2	CHANGED 2 CONNECTORS (PL1) TO DB25 FEMALE	000505	
1	RELEASED	000412	APPR
DATARADIO INC.			
DESIGNER	M. MARTIN / F. RODRIGUE	GEN. TOLERANCE: 1/32" XXXX-0102	SCALE: N.T.S.
DRAWN	D. NGUYEN	MAT.	
CHECKED	M. MARTIN / F. RODRIGUE	NEXT ASSY	DATE: 000505
PARAGON / PD RADIO INTERFACE CABLE (FOR BACKPLANE T800-50-0001)			
SIZE	B	PART No: 730-03374-102	SHEET 1/1
DRAWING No	265-03374-102		

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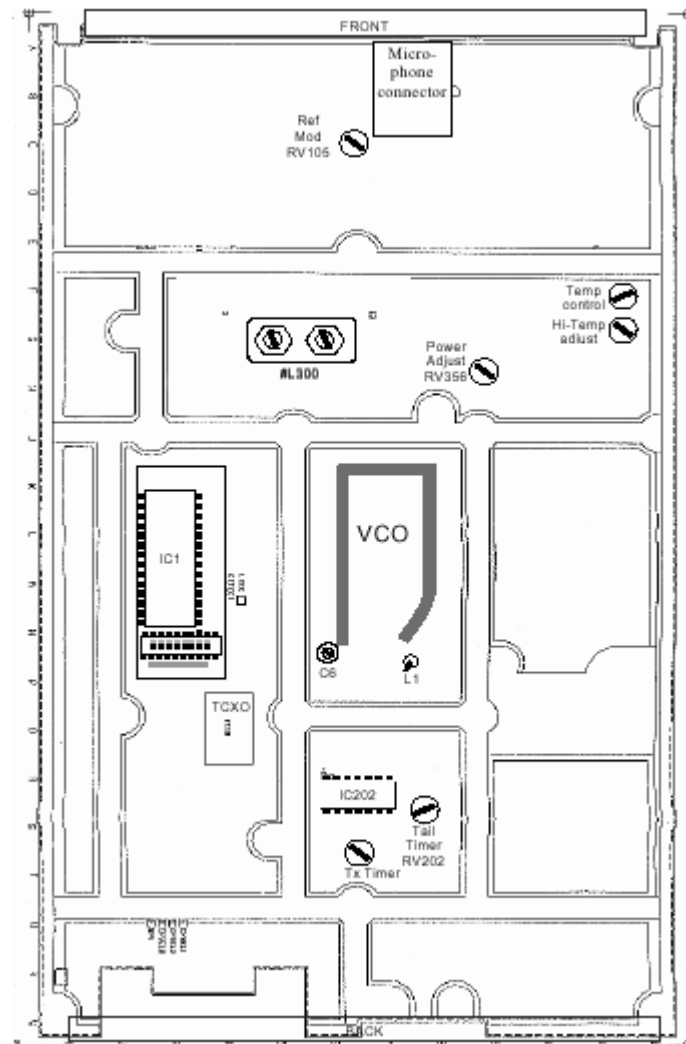


Figure 9 - T881 Exciter Tuning Controls Location

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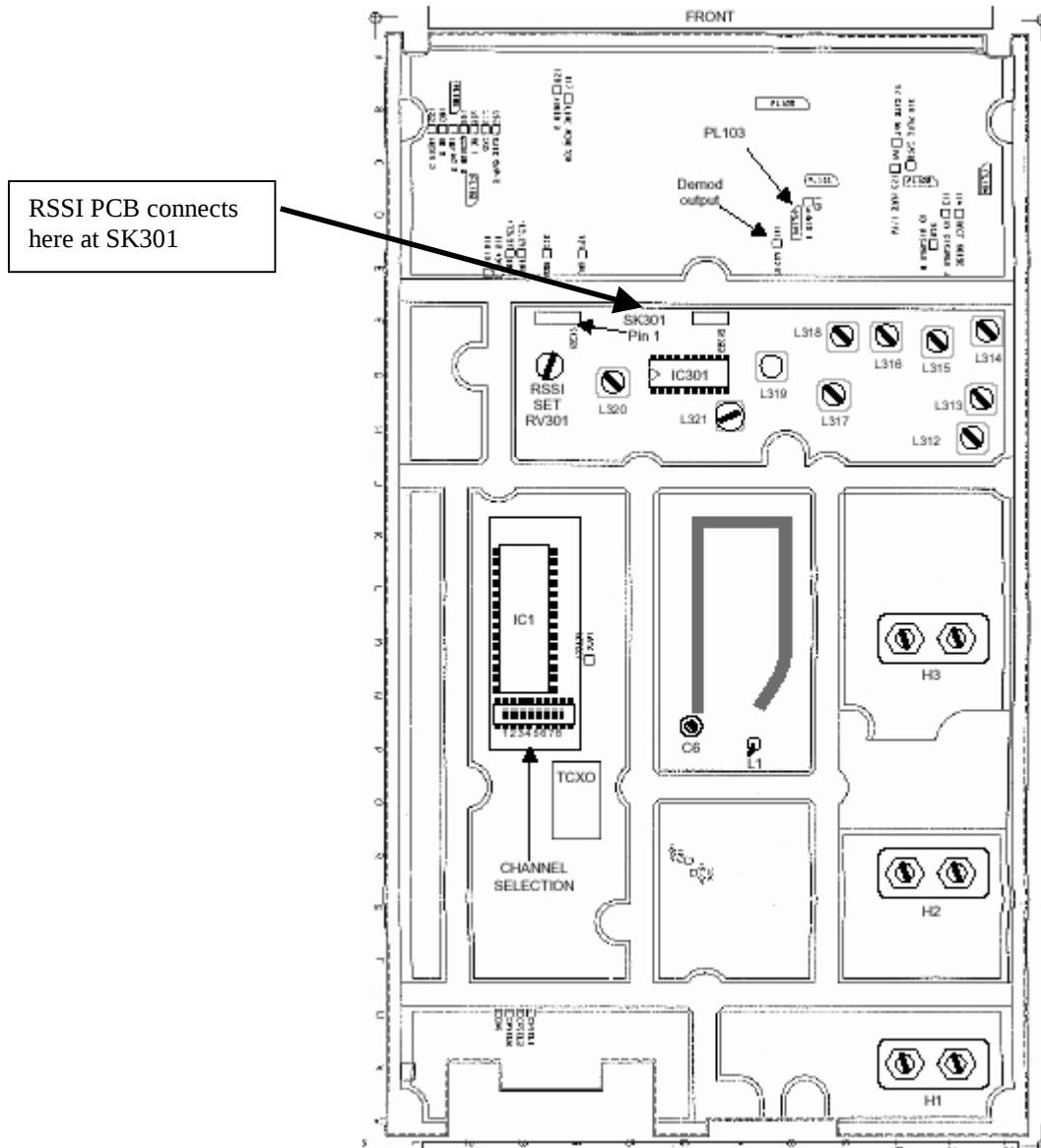


Figure 10 - T885 receiver RSSI PCB location

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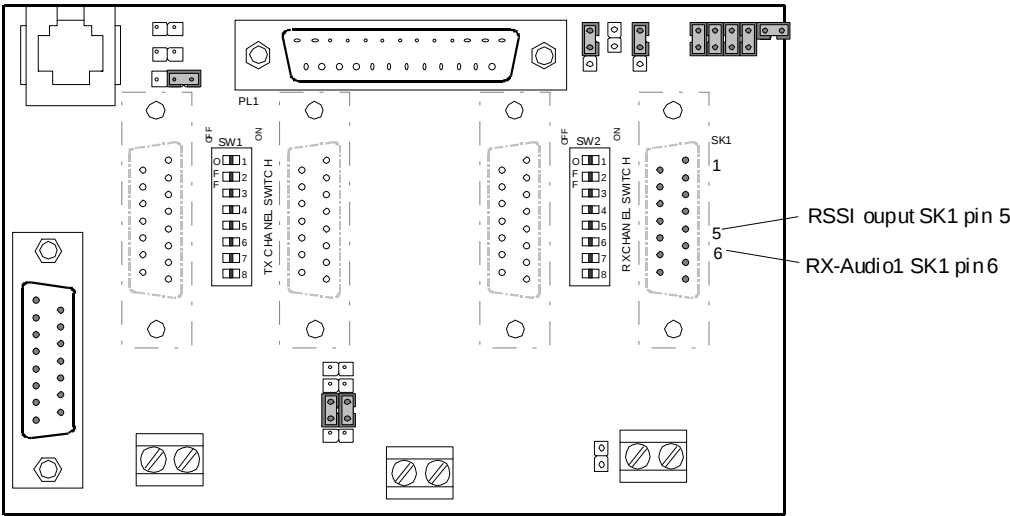


Figure 11 -- T800-50-0001Backplane (no mods needed)