



STL-20M Transmitter



SR-20M Receiver

MARTI ELECTRONICS

STL-20M Transmitter & SR-20M Receiver

Upgrade Instructions for 10 kHz Maximum Audio Bandwidth

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***MARTI* Electronics**

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Table of Contents

1. Upgrade Overview	2
1.1. Tools / Items Needed	2
1.2. ESD Awareness	2
1.3. Estimated Time for Upgrade	2
2. Upgrade the STL-20M Transmitter Audio Board	3
3. Upgrade the SR-20M Receiver Audio Board	5
4. Restart the Link	7
5. Marked-Up Schematics and PCB Assembly Drawings	7
5.1. STL-20M Audio Board (800-285A20M)	7
5.2. SR-20M Audio Board (913-2137)	7

1. Upgrade Overview

This document provides instructions to Upgrade the Marti STL-20M Transmitter and SR-20M Receiver for 10 kHz maximum audio bandwidth. This upgrade consists of adding/replacing capacitors on audio boards in both the STL-20M Transmitter and the SR-20M Receiver.

1.1. Tools / Items Needed

- No. 1 Phillips Screwdriver
- 700°F Soldering Iron with 1/10" Pencil Tip
- SN 63PB37 Solder or Equivalent
- General Soldering Tools
- Capacitors, STL-20M Transmitter (supplied by Marti Electronics)
 - P/N 215-301, Capacitor, Poly, 300pF, 2.5%, 100V (Qty 1 – C21)
 - P/N 255-221C, Capacitor, Ceramic, 220pF, X7R (Qty 1 – C22)
 - P/N 215-332, Capacitor, Poly, 3300pF, 2.5%, 100V (Qty 1 – C24)
 - P/N 255-271C, Capacitor, Ceramic, 270pF, 5%, 200V (Qty 1 – C25)
- Capacitors, SR-20M Receiver (supplied by Marti Electronics)
 - P/N 007-1512-500, Capacitor, Ceramic, 150pF, 2%, 50V (Qty 1 – C19)
 - P/N 007-5602-500, Capacitor, Ceramic, 56pF, 2%, 50V (Qty 2 – C20, C23)
 - P/N 007-1024, Capacitor, Ceramic, 0.001uF, 10%, 50V (Qty 1 – C22)

1.2. ESD Awareness



When handling the Audio Boards, be sure to exercise ESD precautions as the Audio Boards may contain ESD sensitive components.

1.3. Estimated Time for Upgrade

Providing that you have the tools listed above, it will take approximately 30 – 45 minutes to complete the Upgrade of the STL-20M Transmitter and the SR-20M Receiver.

2. Upgrade the STL-20M Transmitter Audio Board

Step 1 – Turn the unit OFF and disconnect the AC Power cord.

Step 2 – Disconnect all cables and remove the unit from the equipment rack.

Step 3 – Use a No. 1 Phillips Screwdriver and remove the cover from the unit.

Step 4 – Locate the Audio Board (P/N 800-285).

Step 5 – Disconnect wire harness connector J2 from P1 on the Board.

Step 6 – Disconnect wire harness connector J3 from P2 on the Board.

Step 7 – Use a No.1 Phillips Screwdriver and remove Audio Board (P/N 800-285) from the unit.

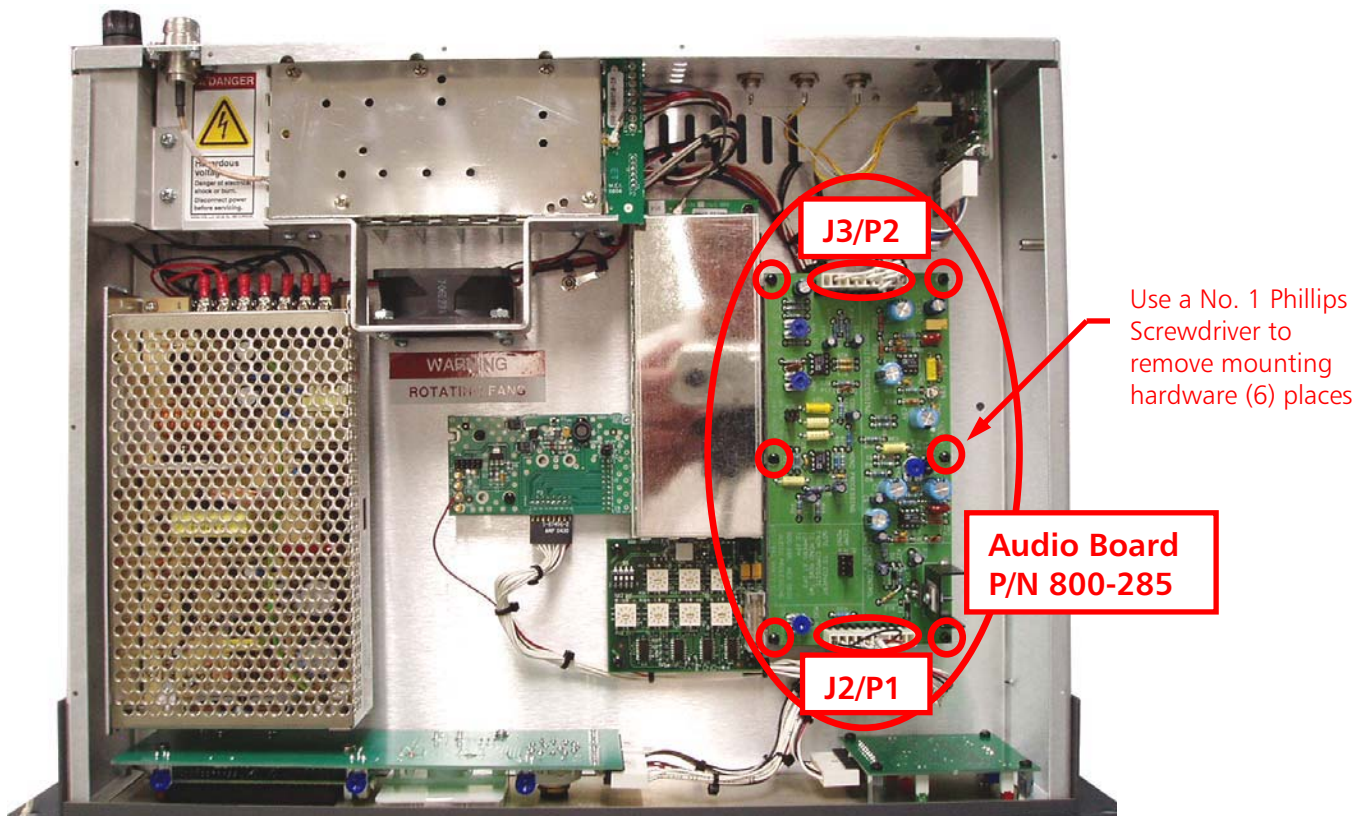


Figure 1 – Audio Board (P/N 800-285) Location

Step 8 – Remove C22, C24, and C25 from the Audio Board.

Step 9 – Install and solder C21 (P/N 215-301, 300pF – supplied by Marti Electronics) in parallel as shown with the existing C21 on the board.

Step 10 – Install and solder C22 (P/N 255-221C, 220pF – supplied by Marti Electronics).

Step 11 – Install and solder C24 (P/N 215-332, 3300pF – supplied by Marti Electronics).

Step 12 – Install and solder C25 (P/N 255-271C, 270pF – supplied by Marti Electronics).

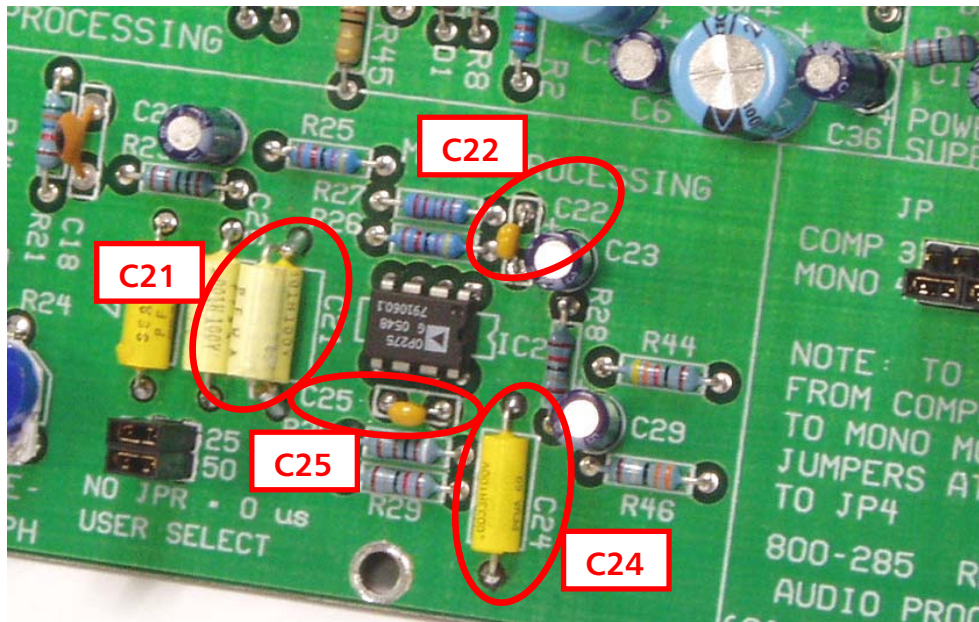


Figure 2 – Audio Board (P/N 800-285) Modifications

Step 13 – Install the Audio Board back into the unit ensuring that P1 and P2 are located as shown in **Figure 1**.

Step 14 – Re-connect wire harness connector J2 to P1 on the Audio Board.

Step 15 – Re-connect wire harness connector J3 to P2 on the Audio Board.

Step 16 – Install the cover on the unit.

Step 17 – Install the unit back into the equipment rack.

Step 18 – Re-connect all cabling.

3. Upgrade the SR-20M Receiver Audio Board

Step 1 – Turn the unit OFF and disconnect the AC Power cord.

Step 2 – Disconnect all cables and remove the unit from the equipment rack.

Step 3 – Use a No. 1 Phillips Screwdriver and remove the cover from the unit.

Step 4 – Locate the Audio Board (P/N 913-2137).

Step 5 – Disconnect wire harness connector P1 from J1 on the Board.

Step 6 – Disconnect wire harness connector P2 from J2 on the Board.

Step 7 – Use a No.1 Phillips Screwdriver and remove Audio Board (P/N 913-2137) from the unit.

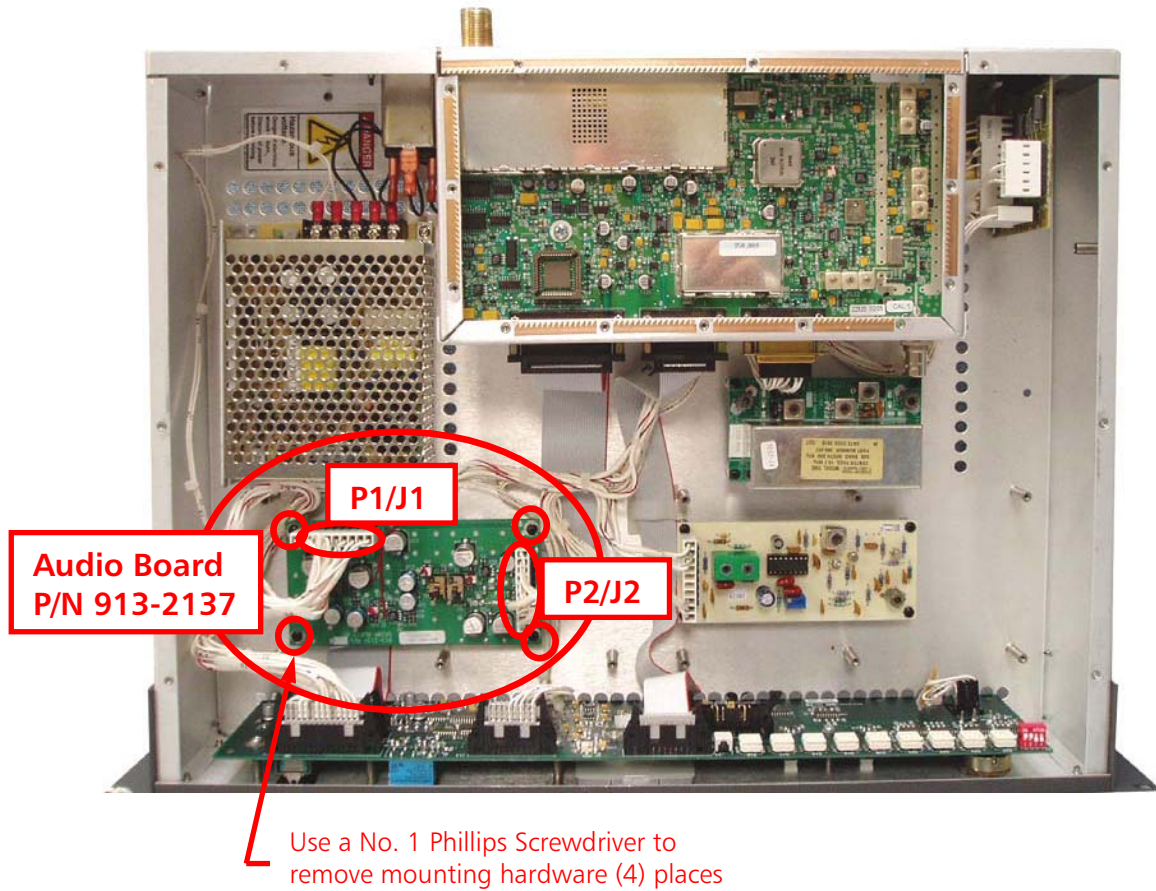


Figure 3 – Audio Board (P/N 913-2137) Location

Step 8 – Install and solder C19 (P/N 007-1512-500, 150pF – supplied by Marti Electronics) in parallel as shown with the existing C19 on the board.

Step 9 – Install and solder C20 (P/N 007-5602-500, 56pF – supplied by Marti Electronics) in parallel as shown with the existing C20 on the board.

Step 10 – Install and solder C22 (P/N 007-1024, 0.001uF – supplied by Marti Electronics) in parallel as shown with the existing C22 on the board.

Step 11 – Install and solder C23 (P/N 007-5602-500, 56pF – supplied by Marti Electronics) in parallel as shown with the existing C23 on the board.

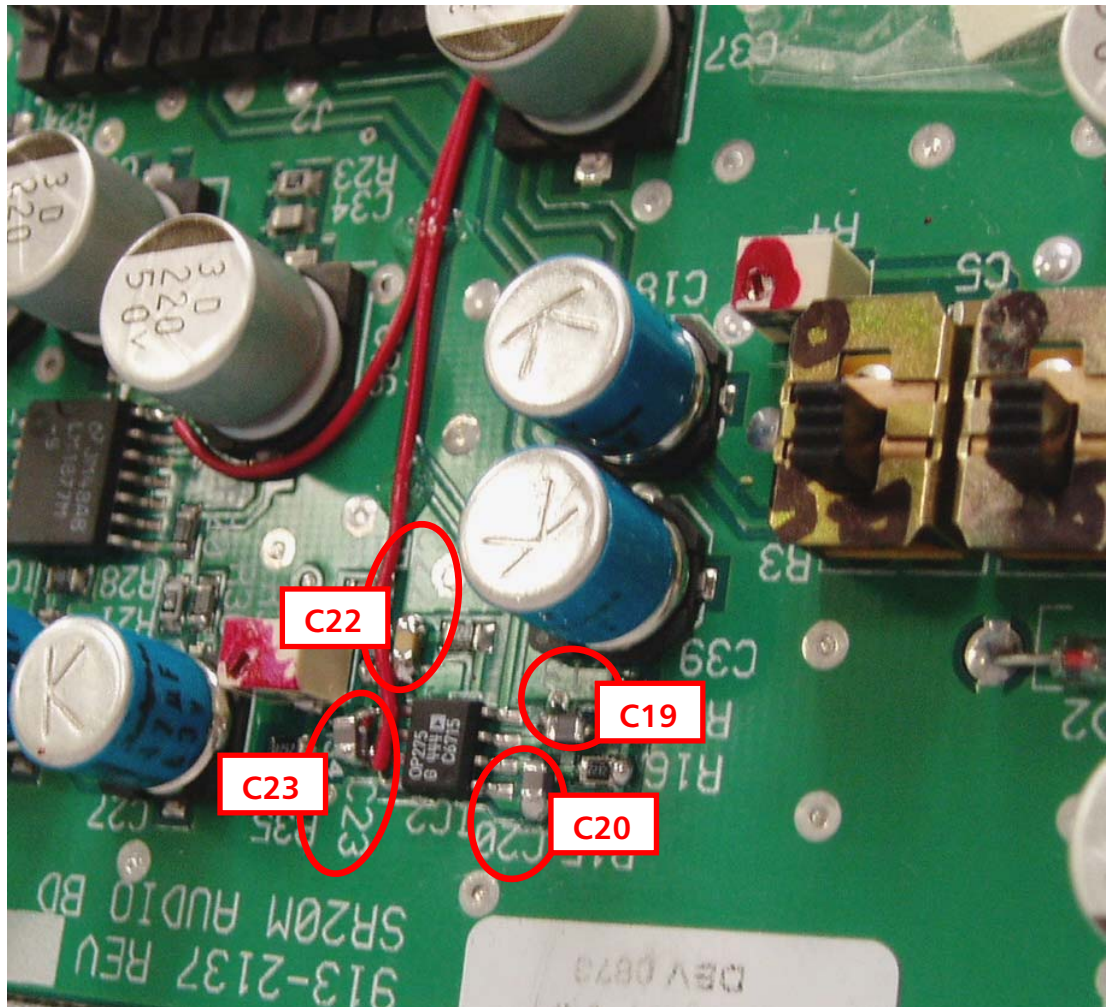


Figure 4 – Audio Board (P/N 913-2137) Modifications

Step 12 – Install the Audio Board back into the unit ensuring that J1 and J2 are located as shown in **Figure 3**.

Step 13 – Re-connect wire harness connector P1 to J1 on the Audio Board.

Step 14 – Re-connect wire harness connector P2 to J2 on the Audio Board.

Step 15 – Install the cover on the unit.

Step 16 – Install the unit back into the equipment rack.

Step 17 – Re-connect all cabling.

4. Restart the Link

Step 1 – Turn the STL-20M Transmitter ON.

Step 2 – Turn the SR-20M Receiver ON.

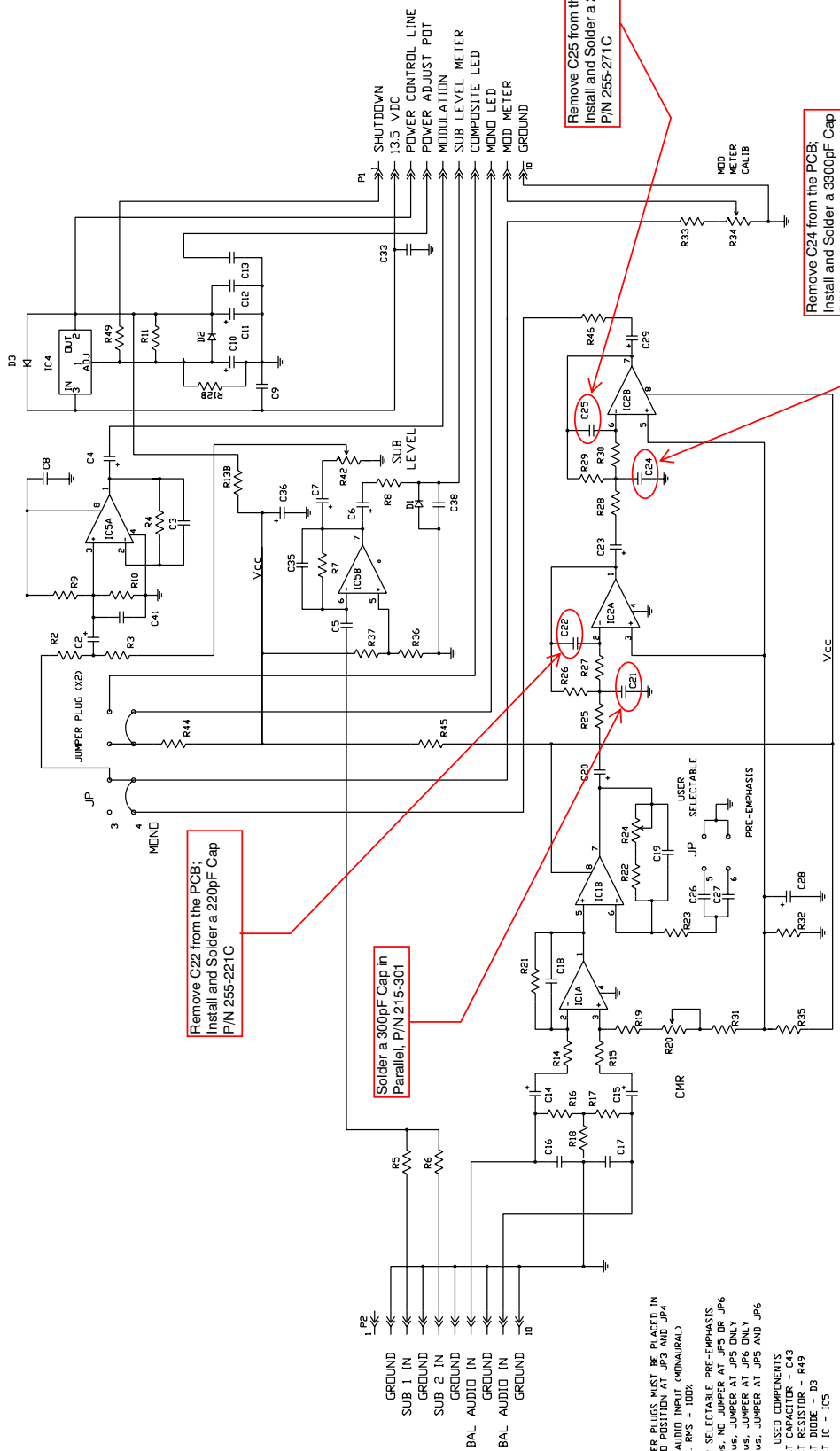
5. Marked-Up Schematics and PCB Assembly Drawings

5.1. STL-20M Audio Board (800-285A20M)

5.2. SR-20M Audio Board (913-2137)

REV DATE DESCRIPTION
 A 9-26-02 9-26-02
 B 1-27-06 CHG'D R14, R15 TO 121k
 C 1-30-06 CHG'D C26,C27,R21,R31 (VALUE CHG'S)

DRAFTER APPROVED ECN
 KT EJ -----
 JTB 11387
 JTB 11391



Remove C22 from the PCB;
 Install and Solder a 220pF Cap
 P/N 255-221C

Solder a 300pF Cap in
 Parallel, P/N 215-301

Remove C25 from the PCB;
 Install and Solder a 270pF Cap
 P/N 255-271C

Remove C24 from the PCB;
 Install and Solder a 3300pF Cap
 P/N 215-332

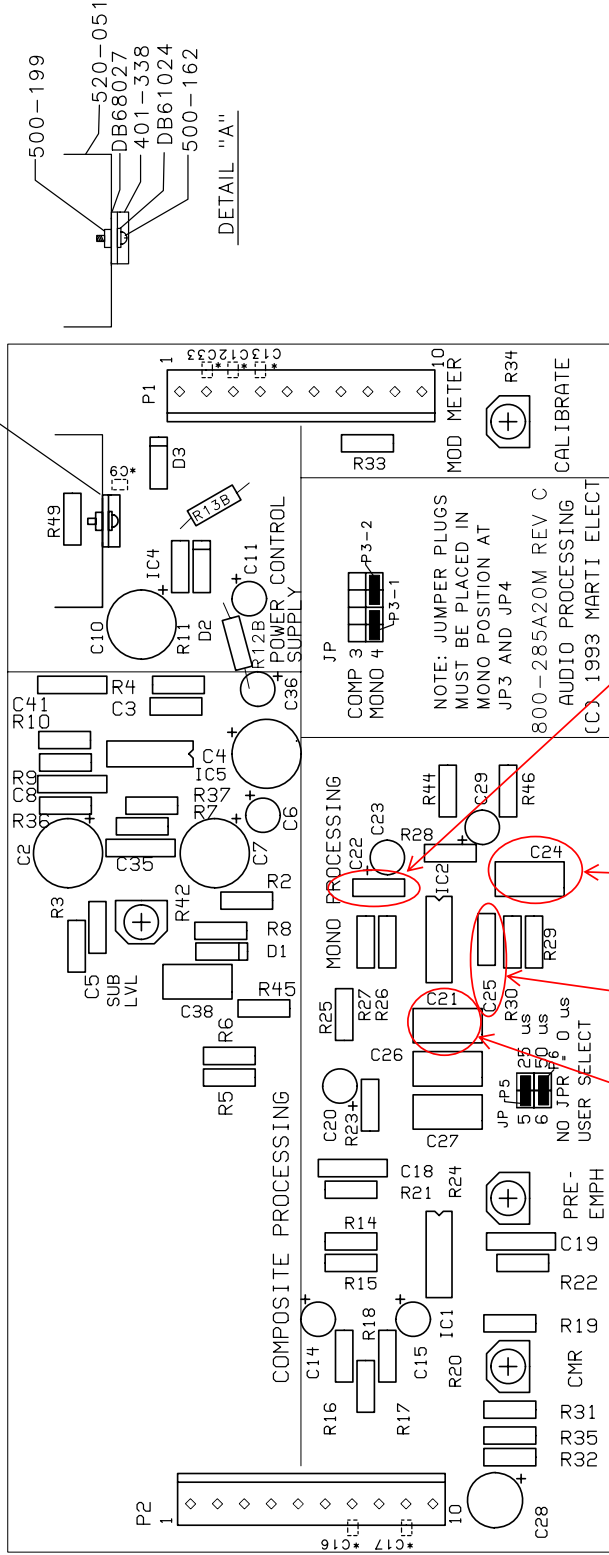
- NOTE:
- JUMPER PLUGS MUST BE PLACED IN MOD POSITION AT JP5 AND JP4
 - BAL AUDIO INPUT (MONAURAL)
 1 V. RMS = 100%
 - USER SELECTABLE PRE-EMPHASIS
 0 US. NO JUMPER AT JP5 OR JP6
 25 US. JUMPER AT JP5 ONLY
 50 US. JUMPER AT JP6 ONLY
 75 US. JUMPER AT JP5 AND JP6
 - LAST USED COMPONENTS
 LAST CAPACITOR - C43
 LAST RESISTOR - R49
 LAST DIODE - D3
 LAST IC - IC5

MARTI ELECTRONICS CLEBURNE, TX 76033-0661	DRAWING NO. 800-285A20M COPYRIGHT REV C <DATE>	TITLE STL-20M AUDIO PROCESSING BOARD
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REV A 9-26-02 CREATED DRAWING
 REV B 1-27-06 CHG'D R14,R15 TO 103-1261
 REV C 1-30-06 CHG'D C26,C27,R21,R31 (VALUE CHG'S)

KT
 JTB 11387
 JTB 11391

SEE DETAIL "A"



NOTES:

- 1) * INDICATES COMPONENTS STUFFED ON SOLDER SIDE OF PCB (C9,C12,C13,C16,C17,C33)

Solder a 300pF Cap in Parallel, P/N 215-301

Remove C25 from the PCB; Install and Solder a 270pF Cap, P/N 255-271C

Remove C24 from the PCB; Install and Solder a 3300pF Cap, P/N 215-332

Remove C22 from the PCB; Install and Solder a 220pF Cap, P/N 255-221C

