Interactive
T e c h n o l o g i e s

Application Note AN-1027

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MicroTech DMX Circuit Board
Removal and Replacement Procedure

Abstract

This application note describes how to remove and replace the MicroTech DMX printed circuit board (PCB). This procedure is used to replace the MicroTech's Firmware IC, the Memory IC or to repair the PCB.

Step-By-Step PCB Removal Instructions

1. Remove the batteries from the battery compartment.

2. Unscrew the two (2) Phillips head screws from the rear of the unit.

3. Open the MicroTech case by lifting the back of the case away from the MicroTech unit.

4. Disconnect the 3-conductor cable that is attached to the XLR panel assembly.

5. Lift the XLR panel assembly from the case.

6. Remove the four (4) screws from the back of the PCB, releasing the PCB stack (the PCB stack is actually two small PCBs that are attached "back-to-back" with four nylon 0.25" inch spacers between them.

Note: When removing the PCB stack, several small parts will be released. All MicroTechs have four 0.25" nylon spacers between the top and bottom halves of the PCB stack. Older MicroTech units also have four 0.02" nylon washers on the face of the top circuit board. Newer MicroTechs (with round, black pushbutton actuators) do not require the small washers. Use care to not misplace these small parts.

7. Carefully lift the circuit board out of the case.

To Replace Firmware or Memory ICs

1. To replace the Firmware IC, gently remove and replace the long, thin 28-pin IC that is positioned between the front panel buttons on the PCB. An IC extraction tool or a very small and thin (jewelers) straight-blade screwdriver can be used to lift the IC from the socket. Be sure to replace the IC with the small notch facing towards the left side of the PCB.

2. To replace the Memory IC, gently remove and replace the small 8-pin IC that is positioned to the left side of the Mode button on the PCB. An IC extraction tool or a very small and thin (jewelers) straight-blade screwdriver can be used to lift the IC from the socket. Be sure to replace the IC with the small notch facing towards the larger Firmware IC on the PCB.

Step-By-Step PCB Replacement Instructions

1. Replace the four (4) screws into the back side of the PCB that were removed in step 6 above (this is the side with the battery contacts).

2. While holding the heads of the screws in with your fingertips, flip the board over and place the four (4) nylon spacers onto the screws.

3. While continuing to hold the screw heads, fold the top of the circuit board onto the screws.

4. If your MicroTech uses the small nylon washers (as described in the note above), place the four (4) washers on the top side of the PCB over the screws.

5. Carefully place the top of the MicroTech case over the circuit board stack so the ends of the screws are aligned with the threaded posts inside the case.

6. While still holding the screws into the PCB, flip the entire assembly over so that it is face down. You can now release the screws.

7. Tighten the four (4) PCB screws, holding the PCB stack into the top of the case.

8. Replace the XLR panel assembly removed above and attach the 3-conductor cable to the back of the PCB.

9. Replace the back cover of the MicroTech case using the two (2) remaining screws.

10. Replace the batteries.

11. Turn on the MicroTech and verify that it functions properly.

Note: When replacing either the Memory or Firmware ICs as part of a firmware upgrade, the MicroTech may reset it's internal memory, if necessary. If this happens, you will see an initialization sequence shown briefly on the display. Make sure any recorded scenes or settings are saved elsewhere before performing this procedure.

Note: If the MicroTech's front panel buttons fail to operate properly after reassembling the unit, make sure that the two (2) case screws have not been over tightened. Also, if required, make sure that the four (4) small washers on top of the PCB stack were replaced correctly.

If any difficulties are encountered, please do not hesitate to contact the Technical Support department at Interactive Technologies to speak with a technician.