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Dolby Laboratories Inc

Field Bulletin 214

Modifying CP500 Power Supplies For Use in High Humidity Environments

- ☐ Modification Urgent
- ☐ Modification Recommended
- ☐ Modification Required on Early Units
- ☐ Modification if Problem is Present
- ☒ Information Bulletin

Some CP500 power supplies may fail if used in very high humidity conditions. If the power supply has failed, it cannot be repaired in the field. This problem can be prevented by adding a resistor to the power supply board. If you anticipate seasonal high-humidity conditions or air conditioning problems leading to high humidity in the projection room, then you may wish to take this preventative measure. This field bulletin describes how to perform the modification. If you are experienced in proper soldering techniques then you may follow the procedure shown below.

Affected Units

- CP500 serial numbers below 2395
- CP500 serial numbers below 503328
- All power supply units below serial number 2667 and individual power supply serial number 2696 (label located above the AC mains power connector)

Current production units have been corrected to avoid this problem.

Required Materials:

- One 10kΩ 5% 1/4W carbon film resistor - This may be obtained locally or from Dolby Laboratories (Part No. 11097).
- Approximately one inch of Teflon® insulating tubing to fit over the resistor body and leads. (If Teflon is not available, any shrink tubing such as Alpha FIT-105 is suitable)

Modification Procedure

1. Disconnect the power cord from the CP500. **Wait a minimum of 10 minutes after mains power is removed before performing this modification. Hazardous voltage is stored as a charge on the power supply capacitors.**

2. Remove the four indicated screws **and no others** from the power supply housing. **Note:** Watch the posts inside the power supply housing as you remove these four screws. **If the post begins to turn, stop removing the screw**. Insert a second screwdriver through a nearby cooling slot and press it against the side of the post so it cannot turn. Finish removing the screw. When the power supply has been removed, tighten the posts until they are secure.

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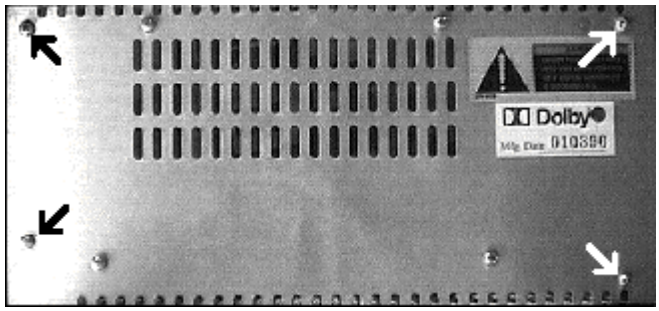
The reason for this caution is that the posts are attached to the CP500 with a screw from behind the metal rear panel. If this screw should loosen and fall out, considerable work will be required to take apart the rear panel assembly, retrieve, and reinstall the internal screws.



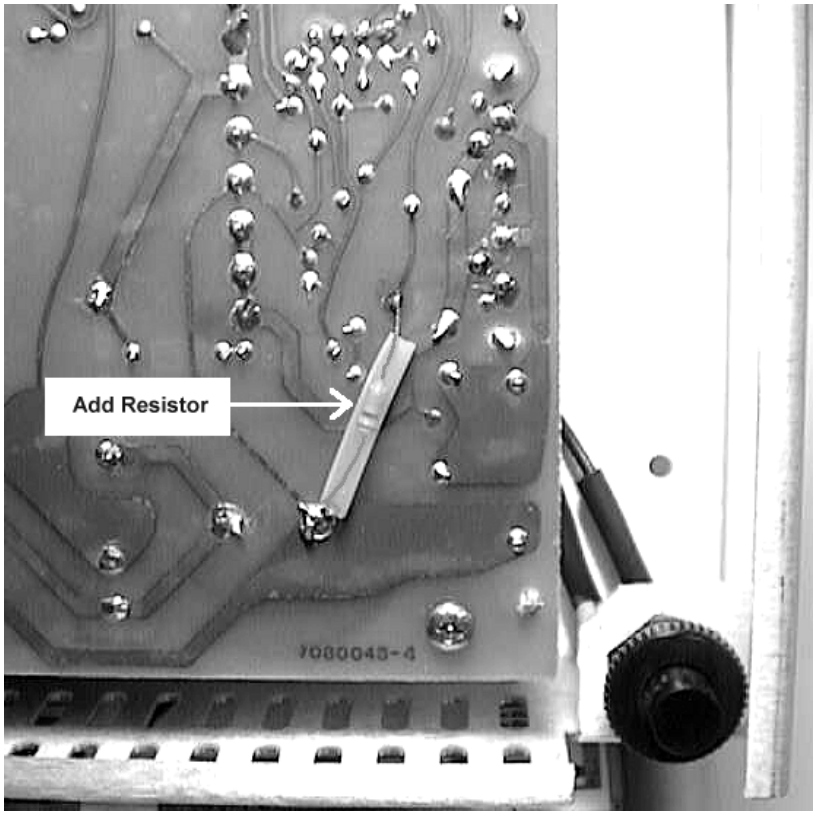
3. Withdraw the housing from the rear of the CP500 and disconnect the 12-contact plastic connector from the CP500.

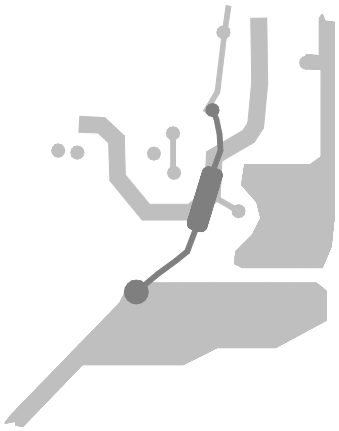
4. Lay the power supply housing down with the power supply PC board facing up and the switch located in the lower right-hand corner as shown in the picture below. You should be able to identify the locations on the board where the resistor is to be connected..

5. Cut the tubing to cover the entire length of the resistor body and the unsoldered portion of the resistor leads.

6. Slip the tubing over the resistor body and solder it to the board as shown in the picture.

NOTE: This resistor is connected to the hot (live/line) side of the AC mains. It MUST be properly insulated and placed against the PC board to prevent the possibility of a short from the circuit to the housing.





7. Clear away any cut off pieces of wire and solder splashes in the power supply or its housing and verify that the new resistor leads are well insulated and cannot short to anything.

8. Re-connect the 12-contact plastic connector to the CP500 with the red wires to the left.

9. Carefully press the power supply and housing into place, being careful that the DC power lead to the 12-contact connector and its ferrite cylinder are neatly placed. Be sure that no wires are trapped between the housing and the CP500 panel.

10. Re-install the four screws. The upper right corner is usually the easiest screw to start since the threaded post is visible through the cooling slots in the housing. When tightening the screws be sure that the power supply housing is directly against the CP500 rear panel. In particular, any slack at the lower left corner will make operation of the power switch difficult.

11. Perform any safety testing as required by local or national regulations (i.e. PAT test).

12. Reconnect the AC mains cord to the CP500 and confirm that it is operating normally.