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Dolby *Technical Memo*

Model CP500 Remote Functions and / or Remote Fader Inoperative

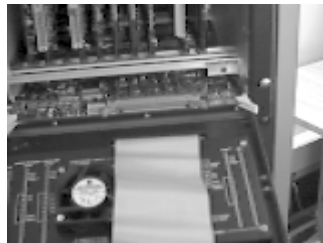
We have received occasional reports of a problem with the CP500 Digital Cinema Processor remote system. The CP500 will not respond to remote button commands and/or will ignore changes in the remote fader control. This memo describes the modifications which can be performed to eliminate the problem. Section 1 describes replacing the Cat. No. 684 board with an updated one rather than perform modifications in the field.

1. Installing a Replacement Cat. No. 684 Board

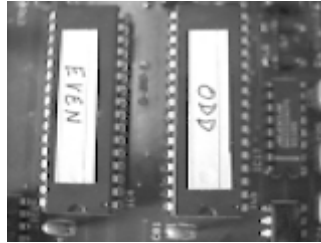
NOTE: *Components on the main PC board are extremely sensitive to static electricity. To avoid static damage, touch the chassis of the unit before proceeding.*

Open the door of the CP500 and locate the board lying horizontally at the base of the unit. This board has two levers at the left and right sides which allow the easy removal of the unit. Lift the levers and the board will start to ease itself out of its connectors. When the levers are at their maximum extension, the board can be freely moved out of its place in the unit.

Locate the wide flat cable plugged into a connector at the front of the board. This connector has a similar arrangement to ease out the cable connector. Use the two levers at the ends of the connector to ease it out. Fold the cable back out of the way, see photos.



Identify, the two 28 pin IC's which hold the program instructions for the CP500. They are visible in the center of the board. (see photo). These IC's should be interchanged with those on the replacement board. Be sure to identify the correct orientation of these ICs.



If you wish to avoid working with the IC's on the CAT684 board and there is a computer with a serial port available, follow the instructions in the manual for transferring the data between CAT684 memories.

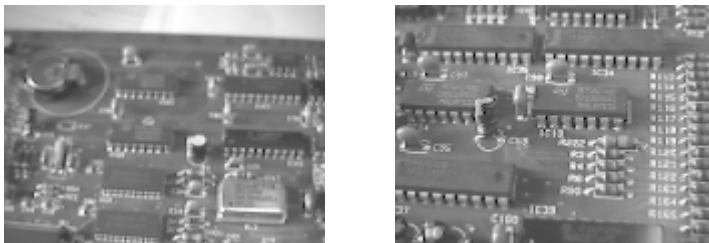
Replace the board by reversing the steps above. Some force is required to mate the connectors but if resistance is obviously greater than reasonable, remove the board again and check that the edges of the board are properly engaging with the plastic guides.

Power up the CP500 and ensure that the unit loads the software modules from the IC's replaced in steps above. Check that all the usual remote functions work and that the remote fader adjusts the volume normally.

2. Modifications to Cat. No. 684 Board

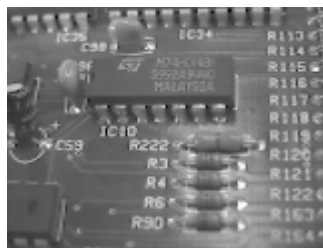
These modifications are covered in change note 7167. See the end of this memo for details..

Withdraw the CAT684 card as outlined above. Locate IC47 and IC10, see photo.



Carefully clip pin 3 of IC 47 to disconnect it from the pad beneath. (The pin can be clipped back short. It will not be used.

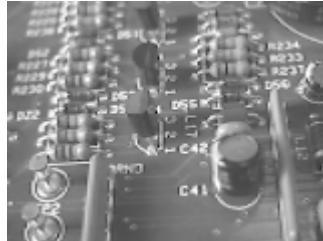
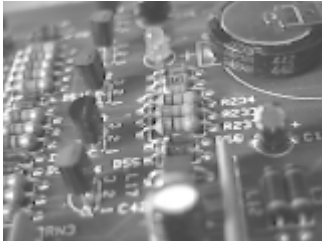
Next locate R222 (zero ohm link)



Clip out the resistor and locate the end which is on the left hand side as viewed in the photo. Jumper the component side left hand pad of R222 to pin 17 of IC47 using fine wire and a fine tipped soldering iron. Dress the wire carefully so it does not snag on components. (Usually the best way to achieve this is to pass the wire through the spaces between the leads of resistors and the top surface of the board as it traverses the distance between the joined points).

Jumper pin 12 of IC10 to the newly free pad under pin 3 of IC47.

Next identify and remove R234 (22K 5% ¼W).



Next identify L17. Solder a 4.7kΩ 5% ¼W resistor as shown in the photo. Connect this resistor between the square pad of L17 and the pad on R234 nearest to the large flat capacitor C1.

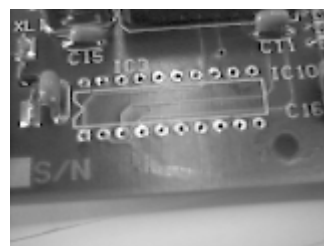
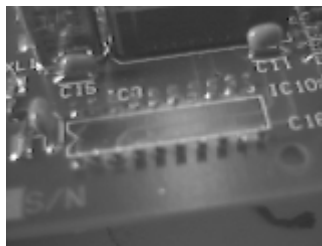
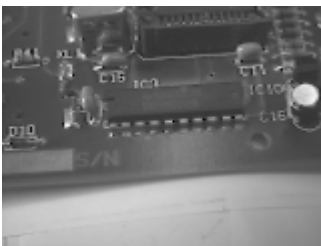


When the modifications are completed, inspect the board carefully for evidence of any solder shorts etc. Next put the board back into the CP500 and ensure that the unit boots up as expected. Thoroughly test the remote functions with all keys and the fader. If there is still evidence of occasional missed commands, continue on with section 3: modifying the CAT689 remote unit.

3. Modifications to Cat. No. 689 Remote Unit

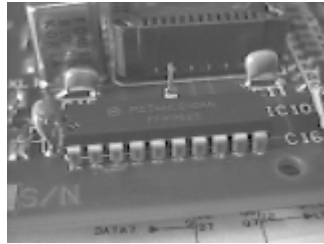
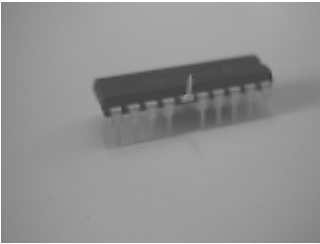
If the modifications described in Section 2 fail to solve the problem disconnect the Ca. No. 689 remote unit, open the box and remove the pcb card inside.

Identify IC3 mounted below the processor.



Using wire cutters, clip each pin as it turns into the IC body. Unsolder and remove the pins as shown above.

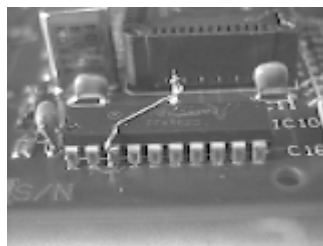
Modify a new IC (74HC240) as follows.



Bend out pin 15 so it will not pass through the hole in the board. (Bear in mind that the IC has 20 pins when identifying pin 15).

Solder the new IC into the board. (Make sure pin 1 of the IC lines up with the notch printed on the board).

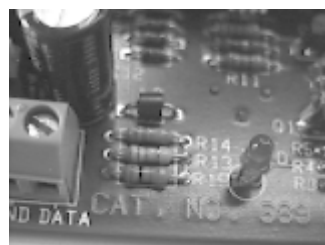
Solder a jumper wire between pin 3 and the erect pin 15.



Solder a 100k Ω 1/8W resistor between IC3 pins 5 and 17 on the solder side of the board.



Identify R14 beside the main input-output connector and red LED.

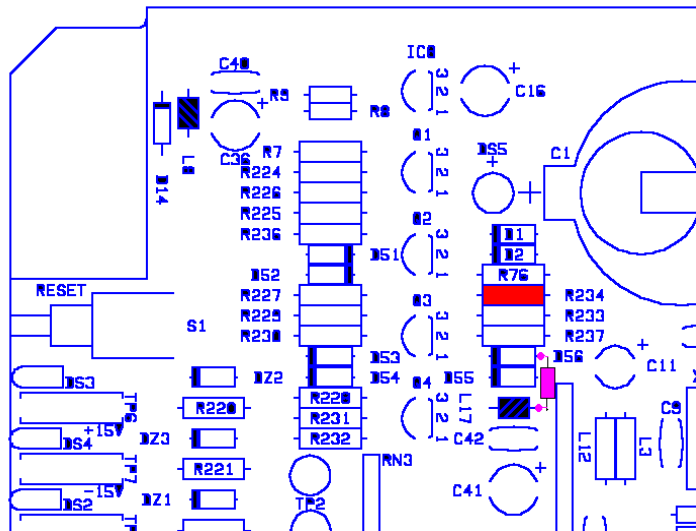


Remove R14 and replace it with a 1M 5% 1/4 W resistor.

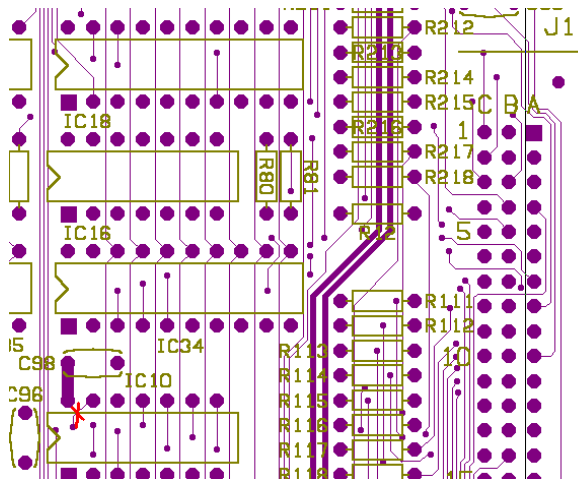
Reassemble the remote box and test for proper operation with the CP500.

4. Modifications to Cat. No. 684 as described in Change Note 7167

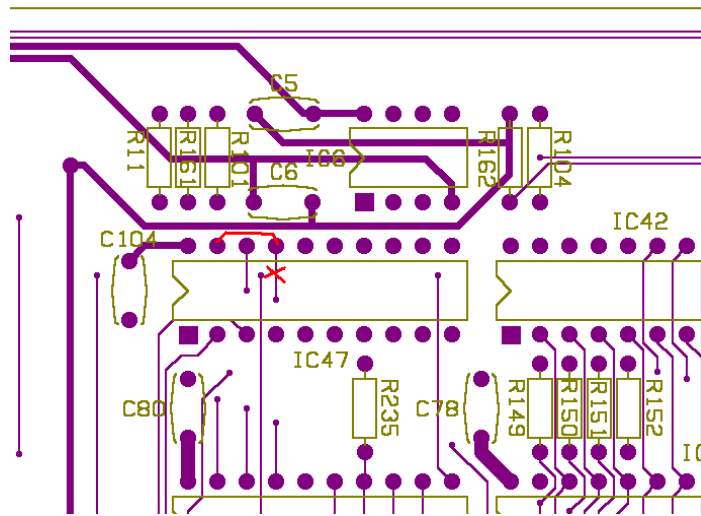
1. Cut out R234
2. Fit a 4k7 resistor between the anode of D56 and the right end of L17



3. Cut **solder side** trace to pin 13 of IC 10. This is the short trace running from pin 13 to the via hole.



4. Cut **solder side** trace to pin 17 of IC 47, and add a link between pin 17 and 19 on the component side.



5. Desolder pin 3 of IC 47 and cut lead flush to IC body.
6. On component side run a wire from IC 10 pin 12 to the now vacant pcb pad of IC 47 pin 3 and solder in the hole.
7. On the component side run a wire from IC 10 pin 13 to the right end of R237 and solder.

