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Dolby Laboratories Inc

Field Bulletin 200

Model CP500
Random Clicking Noises or High Hiss Level
Cat. No. 681 Digital Audio Clock Circuit

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

If your CP500 exhibits any or all of the symptoms listed below, then the digital audio clock circuit located on the Cat. No. 681 card can be modified in order to improve the performance of your CP500. This modification involves removing five resistors on the circuit card and inserting five inductors in their place. This improves the clock waveform quality, raising the noise margin for correct detection of clock signals.

If you are experienced in proper soldering techniques then you may follow the procedure shown below. Alternatively, contact Dolby Laboratories or your dealer for details on returning your Cat. No. 681 card for modification.

NOTE: *If you exchange the Cat. No. 681, you will need to re-adjust the non-sync levels and microphone gains on the replacement card.*

Symptoms

- Random, irregular clicking noises in any or all channels
- In some cases, there may also be a slightly (6 dB or less) elevated hiss level in all channels.
- Confused, incorrect sound placement in various channels (matrix decoder mis-steering)

Cause

Clock waveform distortion leading to incorrect decoding by the Cat. No. 675A Matrix Decoder card (Location J12) and / or the Cat. No. 675A Equalization card (Location J14). This clock waveform distortion may in turn be made worse by high level interference signals present in the installation. (The CP500 is built to the highest electromagnetic compatibility standards, including the latest CE norms. However, we have found a few situations in which **extremely high level interference** was caused by other equipment). In the interest of reliable long term performance of all digital equipment in the projection booth, such sources of extreme electromagnetic radiation **must** be eliminated, shielded, or installed far from other equipment and from associated wiring.

Dolby

Signal Processing and Noise Reduction Systems

100 Potrero Avenue
San Francisco, California 94103-4813
Telephone 415-558-0200
Facsimile 415-863-1373

Wootton Bassett
Wiltshire SN4 8QJ
Telephone 01793-842100
Facsimile 01793-842101

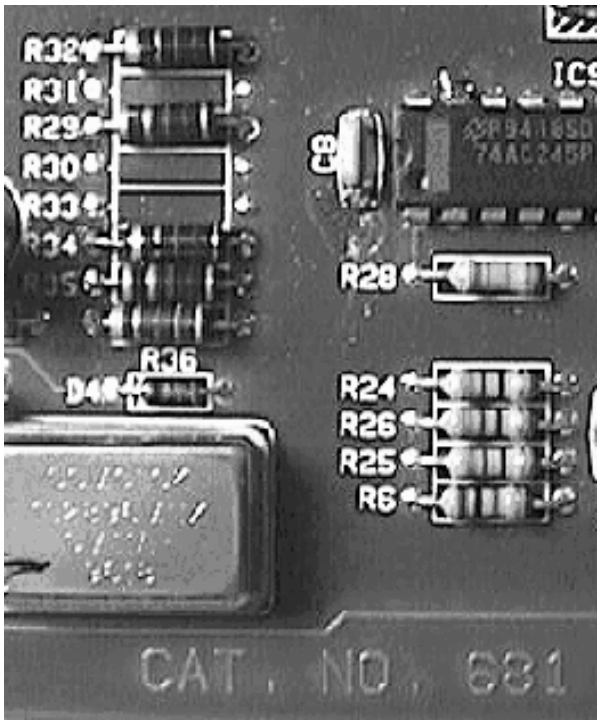
S96/11155

Procedure

1. Switch off the CP500 then remove the Cat. No. 681 card. **Components on this card are extremely sensitive to static electricity. To avoid static damage, touch the chassis of the unit before handling this board.** *Preferably wear an earthed wrist strap and place the card on an anti-static mat. Use an earthed soldering iron.*

2. Looking at the board with the component side towards you and the connector on the left, find the small metal can at the lower left corner. Directly above this is a column of five resistors. The components to be replaced are designated R32, R29, R34, R35, and R36. Note that there are three empty component positions (R30, R31, and R33). This is intentional and these positions should remain empty.

   De-solder and remove each resistor and replace it with a 0.15 microhenry inductor (Dolby Part Number 14086 available at no charge from Dolby offices). The inductors will fit correctly in the spaces vacated by the resistors.

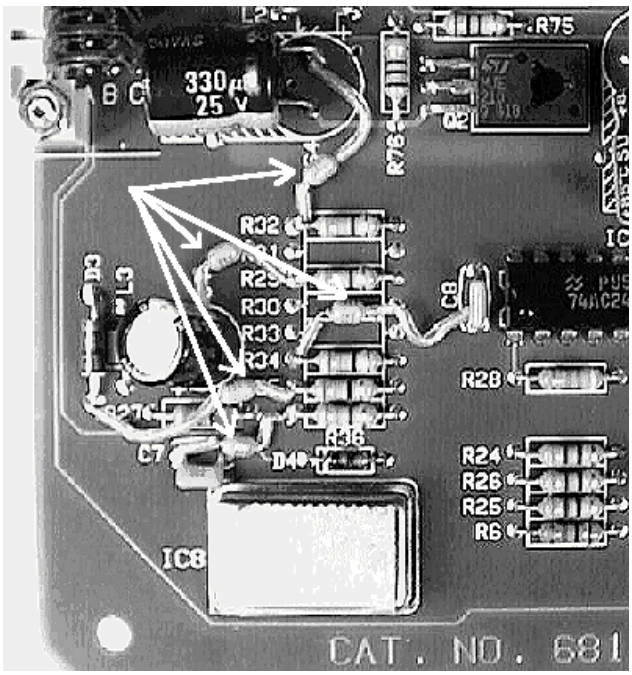


Note: The original resistors and the new inductors are similar in shape:

The **resistors** contain a blue and a gray color band.

The **inductors** contain a brown and a green color band.

NOTE: On some versions of this card, you will find small ceramic capacitors connected to one end of some resistors you are replacing. Be sure that they are re-connected as you replace the resistors with inductors as shown.



3. Carefully check that all solder joints are secure and that there are no short circuits.

4. Re-install the board in the CP500.

5. Re-apply power to the CP500 and confirm correct operation.