Technical Bulletin #60

To: Coulometrics Support Personnel

From: Engineering Dept.

Date: 06-16-05

Subject: Changing CM110-065 Processor PCB in CM5014/CM5014S Coulometers

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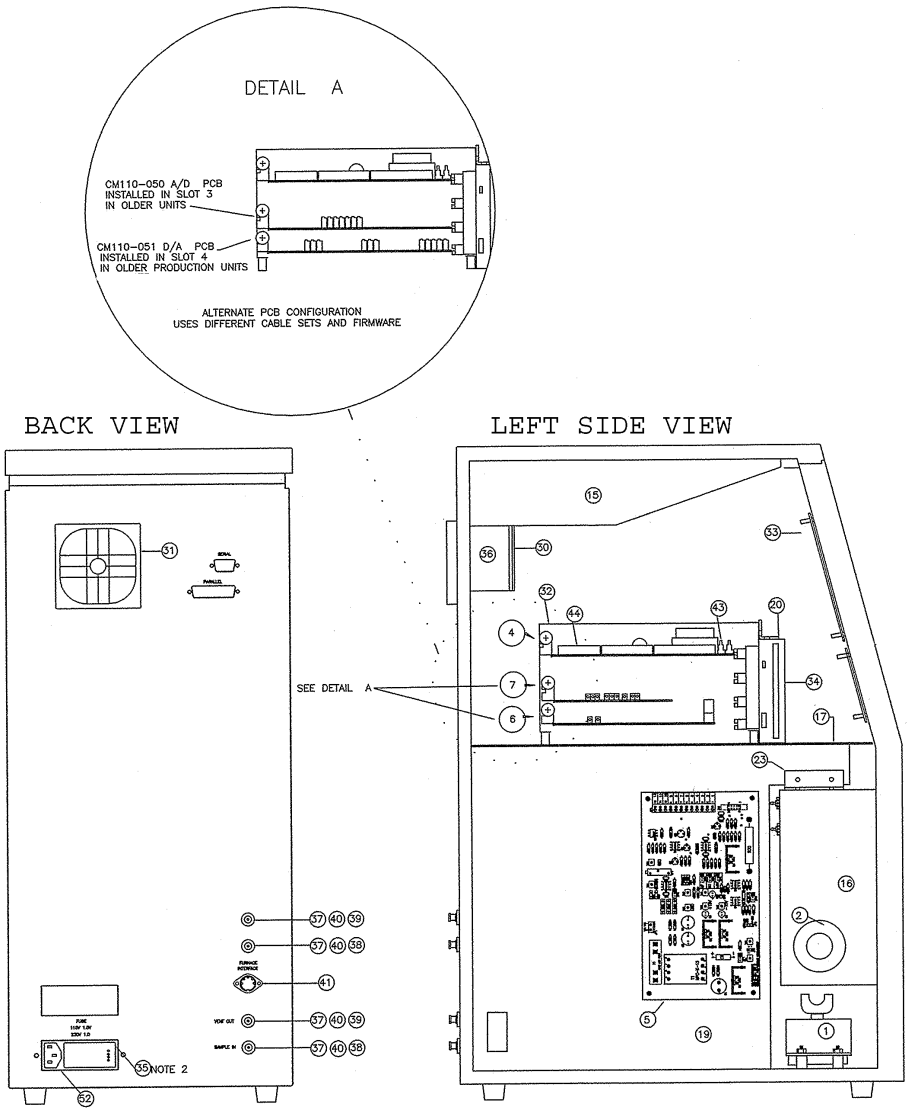
1. Turn instrument off and disconnect the power cord from the instrument. **Caution Shock Hazard!! The instrument operates on 120V or 220 VAC and the display develops 185 Volts DC when on. DO NOT WORK ON THE INSTRUMENT WITH THE POWER CORD PLUGGED INTO A WALL OUTLET!**

FIGURE 1 CM5014 SUBASSEMBLIES



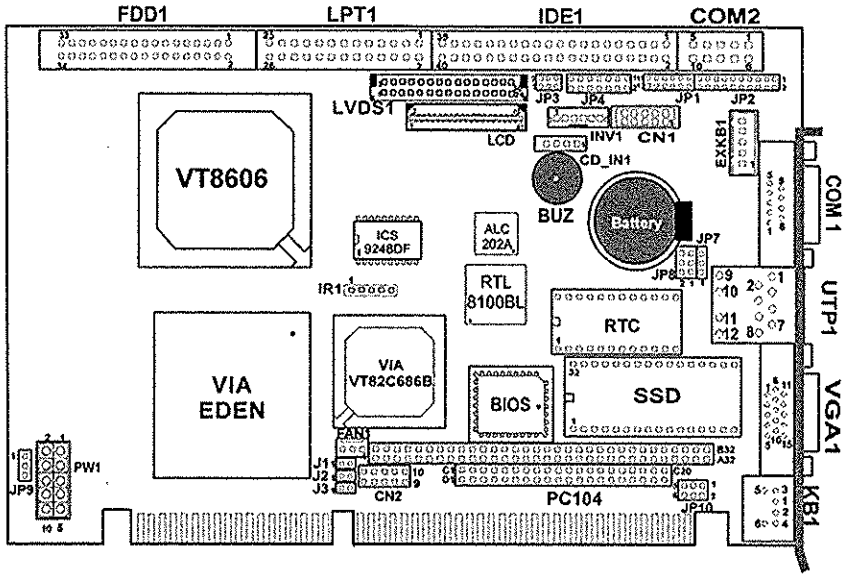
2. Remove the left side panel from the instrument by removing the 6 Phillips screws holding the left panel on. Remove the Right side panel by removing its 6 Phillips screws Note the green, side cover ground wires can be removed by unplugging the connectors.

3. Locate the CM110-065 Processor card. It is in the top circuit board Item # 4 on the CM5014 Subassemblies (figure 1). It is installed in the 4-slot chassis item # 32.

FIGURE 2

CM110-065 PCB

COMPONENT LOCATIONS



4. Unplug the gray ribbon printer cable(LPT1) from the circuit board.

5. Unplug the gray ribbon cable for the floppy disk (FDD1) from the board.

6. Loosen the two thumbscrews for serial port COM1 and unplug the serial port connector from the PCB.

7. Unplug the gray ribbon cable for serial port 2 (COM2) from the board.

8. Unplug the mini din connector for the keyboard (KB1)noting that the flat sides point up. This connector is keyed and can only go on one way.

9. Remove the Phillips screw holding the card in the card rack.

10. Grabbing the PCB from the edge of the black connectors gently pull the board towards you while rocking it back and forth to unplug the card from the edge connector. The old card should be placed on an anit static surface.

11. Install the new card by removing it from the anti static bag. Avoid touching the board except from the edges.

12. Insert the card into the card rack slot until the edges of the gold traces of the board contact the edge connector of the card cage. Apply pressure until the card snaps in place in the edge connector slot. Note the card will snap into place when properly seated. The golden edge foils will be inserted into the card cage edge connector.

13. Using the Phillips screw and screwdriver install the retaining screw to hold the card in the card rack.

14. Connect the keyboard connector with the flat edge towards the top of the board to KB1.

15. Connect serial port 1 connector to COM1 and tighten each thumbscrew.

16. Plug in the ribbon cable for COM2 into the connector COM2 noting proper polarity.

17. Plug in the ribbon cable for the printer port to LPT1 noting proper polarity.

18. Plug in the ribbon of the floppy disk drive to FDD1 noting proper polarity.

19. Turn on the Coulometer and look for the start up screen. Run a dummy sample to test for full functionality.

20. If the system tests OK turn the Coulometer off.

21. Finish the instillation by putting the side covers back on using the 6 Phillips screw for the left and right side.