

Technical Bulletin # 27

To: Coulometrics Support Personnel

From: Engineering Dept.

Date: November 18, 1999

Subject: Installation of Program Upgrade EPROM in CM5014 Coulometer

The following parts and equipment are necessary to install a firmware upgrade in a CM5014 Coulometer:

1. 1 CM133-070 EPROM, Firmware, CM5014
2. 1 DIP IC extraction tool.
3. This 3 page instruction sheet.

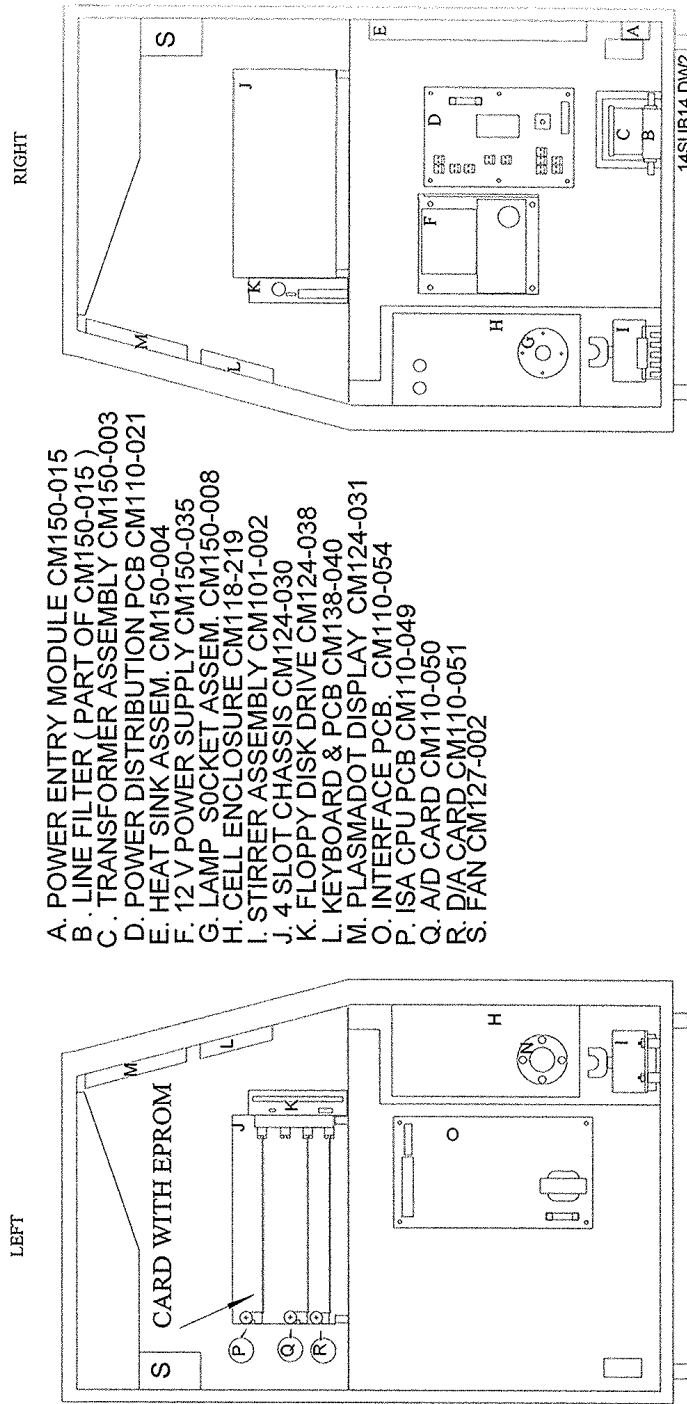
The following steps explain the installation:

1. **Turn the instrument off and Unplug the instrument from the AC Power. AC is present when the instrument is turned off. The instrument must be unplugged to avoid a shock hazard!**
2. **Remove the left side panel.** This is the left panel referenced from the front of the instrument. There are six Phillips head screws holding the panel.
3. **Locate the CM110-049 CPU circuit board.** This is the top circuit board installed in the 4-slot chassis assembly of the CM5014 Coulometer. See the CM5014 subassemblies print attached to this document. The card is marked as item P in the left side drawing of the sub assemblies drawing.
4. **Locate the old version EPROM IC to be removed from the card.** It is in the extreme lower left hand corner of the CM110-049 board. See the attached documentation of the CM110-049 PCB. The IC is located in the slot marked M1 of the board.
5. **Using an IC extraction device, squeeze the device around and under the ends of the IC.** Carefully pull up on the chip while rocking the device slightly back and forth. The old chip should unplug from the socket.
6. **Remove the new IC from the antistatic tube.** Be careful not to bend the pins as they have been pre formed to fit in the socket. Also, avoid touching the pins as much as possible.
7. **Holding the chip by the top carefully set it in the M1 socket.** The notch of the chip must be aligned toward the front of the instrument and **must match the notch on the socket on the board!**
8. **Make sure that all the pins are aligned over their respective holes** in the socket and that no pins of the new chip is outside the socket hole.
9. If you have made sure each leg (pin) of the IC is properly aligned and that the notch is aligned properly, then gently press on the chip to force it into the socket of the board until it is seated.
10. Plug the instrument in and turn it back on.
11. After the normal 26 second boot up test the instrument should boot up and display the start screen. If no boot up occurs, the chip is not properly seated or one leg of the chip is not in the socket.
12. The old chip should be put in the antistatic tube and returned to UIC.

If there are any problems or questions contact the UIC Service Department 800-342-5842, 815-727-5431.

techbul27.doc 11/18/1999 sheet 1 of 3

Figure 3.3
CM5014 SUBASSEMBLIES



- A. POWER ENTRY MODULE CM150-015
- B. LINE FILTER (PART OF CM150-015)
- C. TRANSFORMER ASSEMBLY CM150-003
- D. POWER DISTRIBUTION PCB CM110-021
- E. HEAT SINK ASSEM. CM150-004
- F. 12 V POWER SUPPLY CM150-035
- G. LAMP SOCKET ASSEM. CM150-008
- H. CELL ENCLOSURE CM118-219
- I. STIRRER ASSEMBLY CM101-002
- J. 4 SLOT CHASSIS CM124-030
- K. FLOPPY DISK DRIVE CM124-038
- L. KEYBOARD & PCB CM138-040
- M. PLASMA DOT DISPLAY CM124-031
- N. INTERFACE PCB. CM110-054
- O. ISA CPU PCB CM110-049
- P. A/D CARD CM110-050
- Q. D/A CARD CM110-051
- R. FAN CM127-002
- S.

