



**TELEDYNE
INSTRUMENTS**
Advanced Pollution Instrumentation

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Service Note

95-036 Rev B
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METHOD FOR SOFTWARE UPGRADE TO VERSION C.4 IN THE M700 CALIBRATOR

Background: Software version C.4 was implemented to improve the linearity of ozone generation and dilution in the M700 calibrator, greatly enhancing accuracy of ozone concentrations.

The methodology for this change required changes in the manner of storage of ozone correction tables. Due to this change, you must recalibrate the ozone generator to store a new correction table in the EEPROM.

Tools: #2 Philips screwdriver
IC removal tool for PROM

Procedure:

To upgrade from software version C.0, C.2 or C.3 to version C.4 (700C4STD.1_1)

1. Record current value of the following VAR quantities
RS232_MODE =
PERM_FLOW=
O3_GEN_FLOW=
FACTORY_OPT=

Method: At the main menu, press SETUP - MORE - VARS - 929 - ENTR - NEXT. Continue pressing NEXT until the VARS listed are displayed.

2. Record current MFC calibration data for MFC1 and MFC2. Method: At the main menu, press SETUP - MORE - DIAG - 929 - ENTR. Press NEXT until DIAG MFC CALIBRATION is displayed. Press ENTR - MFC1. The front panel will now display the calibration values. If you connect a computer or serial printer to the RS232 output on the rear of the M700 and press PRNT, the MFC1 compensation table will be directed to the RS232. Alternatively, by repeatedly pressing NEXT, you will display each compensation value for manual recording. Repeat the procedure for MFC2.

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3. Turn Power off. Remove PROM from CPU board and replace it with the new C.4 PROM.
4. Turn power on. The calibrator will go through its normal startup. At completion there will be two error messages "SYSTEM RESET" and "RAM INIT".
5. Clear EEPROM memory using the key sequence: SETUP - MORE - DIAG - (929) - ENTR, then use the next key to scroll to reset memory. Press ENTR - EEPROM - ENTR.
6. Reenter VARS recorded in Step 1.
7. Turn power off. Wait 10 seconds. Turn power on.
8. Reenter MFC compensations as recorded in step 2. See Section 9.4.1.2 in the M700 manual.
9. It will be necessary to re-enter your bottle concentration(s).
10. If you have a permeation tube, reenter the data for it.
11. If you have the ozone option, run the O₃ calibration procedure. (see section 9.1.4.3 in the M700 manual).