



CANNON® CCS with VISCPRO Installation Notes

Issue:	CCS Installation
Instrument(s):	CCS-2050, CCS-4/5 Series II Cold Cranking Simulators

IMPORTANT INSTALLATION AND SETUP INFORMATION: DO NOT DISCARD!

This document is intended to highlight important information relating to initial installation and setup of the CCS w/VISCPRO software. Consult Chapter 1 of the *CCS with VISCPRO Instruction & Operation Manual* for additional installation and setup details.

There are three types of CCS installations:

1. CCS-2050/2100 new instrument installation
2. CCS-2050/2100 software and firmware upgrade
3. CCS-4/5 Series II software, firmware and EPROM upgrade (Series I instruments ineligible)

CCS Software Installation – All Installation Types:

The VISCPRO software application requires access to the Windows® Registry. After installation, please have your network administrator use REGEDT32.EXE to give you full access rights to the HKEY_LOCAL_MACHINE\SOFTWARE registry key.

CCS-2050/2100 New Instrument Installation

CCS Configuration

The new CCS-2050/2100 instrument is shipped with the VISCPRO installation program on CD-ROM including a database file ([samples.mdb](#)) with configuration information. Complete the software installation per instructions in Chapter 1 of the *CCS-2050/2100 with VISCPRO Instruction & Operation Manual*.

This factory configuration data should be available the first time VISCPRO software is loaded. There is no need to install firmware. The current version will have been installed at the factory.

CCS-2050/2100 Software and Firmware Upgrade

If you are installing VISCPRO as an upgrade to your present DOS CCS software, BEFORE UPGRADING make a copy your existing instrument configuration data, including temperature probe constants (see probe certificate or copy values from Setup/Temperature Probe Constants screen) and calibration constants. To obtain a printed reference copy of the current calibration constants with the DOS software, use the up and down arrow keys to select **Calibrate Instrument**, **Enter** and **Display/Edit/Print CCS Calibration Constants**, **Enter**. Then press **P** to print the Calibration Constants screen.

Complete the software installation per instructions in chapter 1 of the *CCS-2050/2100 with VISCPRO Instruction and Operation Manual* prior to loading the new firmware.

Firmware Procedure:

1. Ensure the CCS unit is connected to a communication port on your computer via an RS-232 serial connection. An RS-232 connection must be used to transfer the firmware.
2. Power instrument ON and insert the VISCPRO installation CD-ROM into your computer's hard drive.
3. If the VISCPRO software is open, close it. Close any other applications.
4. Click **Start/Run** and navigate to the appropriate firmware directory on the CD-ROM for your instrument (all current firmware is located in a directory on the CD-ROM labelled FIRMWARE. Select the **firmload.exe** file and click **OK**.
5. Follow the on-screen prompts to download the firmware update to the CCS.

After a successful software and firmware installation, load VISCPRO. Log in as a Manager per the procedure on page 15 of the *CCS Instruction & Operation Manual*.

Click **Configure/CCS Setup** to access the Setup window. Input the instrument serial number and click the radio button corresponding to your instrument type. Click both **Update** buttons. Then click **Close**.

Click **Configure/Instrument Settings** to access the **Instrument Settings** window. Input the desired instrument ID and temperature probe ID and constants a0, a1 and a2 (page 16). Click **OK**.

Input and save the calibration constants for each temperature by following the instructions in the *Instruction & Operation Manual – Performing the Calibration*.

Click **Configure/Instrument Settings** to access the **Instrument Setting** window. Input the desired instrument ID and the temperature probe ID and constants a0, a1 and a2. Click **OK**. Then input and save the calibration constants for each temperature by following the instructions in the section *Performing the Calibration*.

CCS-4/5 Series II Software, EPROM and Firmware Upgrade

If you are installing VISCPRO as an upgrade to your present DOS CCS software, obtain copies of your existing temperature probe and calibration constants per the procedure in the previous section. Then complete the EPROM installation BEFORE installing software or firmware updates.

EPROM Replacement – Tools Required:

Phillips screwdriver; IC Extraction Tool; Grounding Strap and/or other ESD protective devices



Caution: This procedure requires access to internal power components of the CCS instrument. Make certain to remove all electrical power from the unit during EPROM replacement procedure. Touching internal Control Unit components while power is supplied to the CCS could result in damage to the instrument, personal injury or death. The boards contain static-sensitive components. Take proper electrostatic discharge (ESD) precautions. Ground yourself to the CCS metal frame just prior to touching the board stack.

Access the EPROM Component

1. Ensure the CCS instrument is powered OFF.
2. Remove the screws securing the CCS Control Unit housing to the Control Unit frame. Remove the panel and set it aside.
3. Locate the microprocessor or board stack and identify the EPROM component to be removed. Refer to Figure 1.

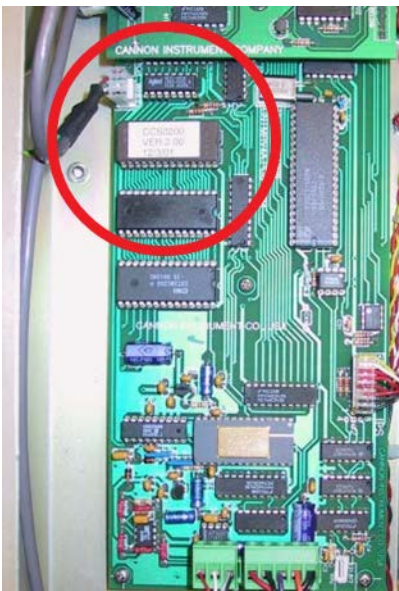


Figure 1: Micro-controller Board with EPROM highlighted

EPROM Replacement Procedure

1. Obtain the replacement EPROM.
2. After taking proper ESD precautions, gently pry the original EPROM free of the terminal lead sockets with an appropriate IC extraction tool. Refer to Figure 3.
3. Install the new EPROM by aligning ALL terminal leads with their respective sockets and gently push the EPROM into place. Make certain to correctly align Pin 1. Refer to Figure 2.



Note: Make certain that the EPROM is installed with the notch properly aligned with the line on the circuit board. Refer to Figure 2.

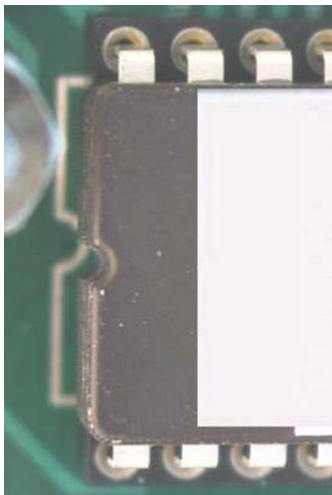


Figure 3: Correct EPROM alignment

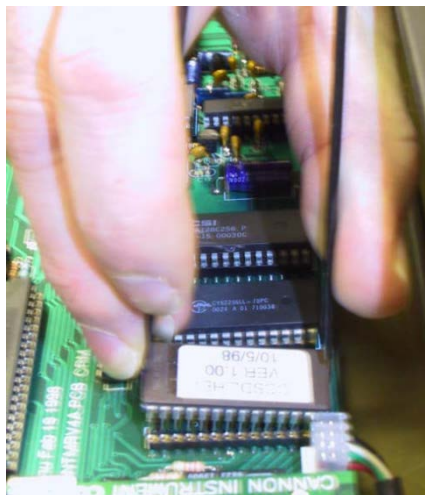


Figure 2: Removing EPROM (CCS-4/5 only)

Final Assembly

1. Return the CCS housing to its original position and secure in place with the previously removed screws.
2. Restore power to the CCS. The EPROM replacement procedure is complete.

VISCPRO Software/Firmware Installation

Complete the software installation per instructions in Chapter 1 of the *CCS with VISCPRO Instruction & Operation Manual* prior to loading the new firmware.

1. Make certain the CCS unit is connected to a communication port on the computer via an RS-232 serial connection. An RS-232 connection must be used to transfer firmware.
2. Ensure the CCS instrument is powered ON. Insert the VISCPRO installation CD into your CD disk drive.
3. If the VISCPRO software application is open, close it. Close any other applications.
4. Click **Start/Run** and navigate to the appropriate firmware directory on the CD for your instrument. All current firmware is located in the directory on the CD labelled FIRMWARE. Select **firmload.exe** and click **OK**.
5. Follow the on-screen prompts to download the firmware update to the CCS.

After successful software and firmware installation, load VISCPRO. Log in as a Manager per the procedure on page 15 of the *CCS Instruction & Operation Manual*.

Click **Configure/CCS Setup** to access the Setup window. Input your instrument serial number and click the radio button corresponding to your instrument type. Click both **Update** buttons, and click **Close**.

Click **Configure/Instrument Setting** to access the **Instrument Settings** window. Input your desired instrument ID and the temperature probe ID and constants a0, a1 and a2 (page 16). Click **OK**.

Input and save the calibration constants for each temperature by following the instructions in the *CCS Instruction & Operation Manual* section on *Performing the Calibration*.