

# Technical Bulletin, Reflashing 68-6201 CPU



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## Scope

**Equipment used:** Computer (PC or laptop), USB cable standard A to 5 Pin Mini B USB Cable. This cable is also available through OMNI as part # K0200404 (10 foot length).

## Abstract

**URGENT NOTICE:** During the time taken to reflash the CPU All users are required to make sure that the flow computer is not forced closed during the reflashing procedure. Extreme damage may occur to the CPU board. The USB connector will be torn away from the CPU and users will not be able to continue to reflash the CPU.

## Reflashing Steps

Use the following steps to update FLASH memory:

Before re-flashing any CPU:

**NOTE:** Ensure you have the latest revision of SmartFlash installed on your laptop or PC. Available at [www.omniflow.com](http://www.omniflow.com) (Downloads).

- Use OMNICOM® to retrieve the current configuration. Changing Applications will cause the configuration to be cleared during the update process.
  - Make sure the USB drivers are loaded on the computer to be used (see Section “Installing USB Drivers”)
  - Power down the flow computer
  - Open the OMNI Flow Computer (**CAUTION:** these units have an integral cabinet latching mechanism which first must be disengaged by lifting the bezel upwards before withdrawing the inner chassis from the case) and remove the CPU module. (Figures 1 and 2 for the location of the CPU module). Please use caution when extracting the CPU module as the ribbon cable connecting it to the front panel could be damaged.

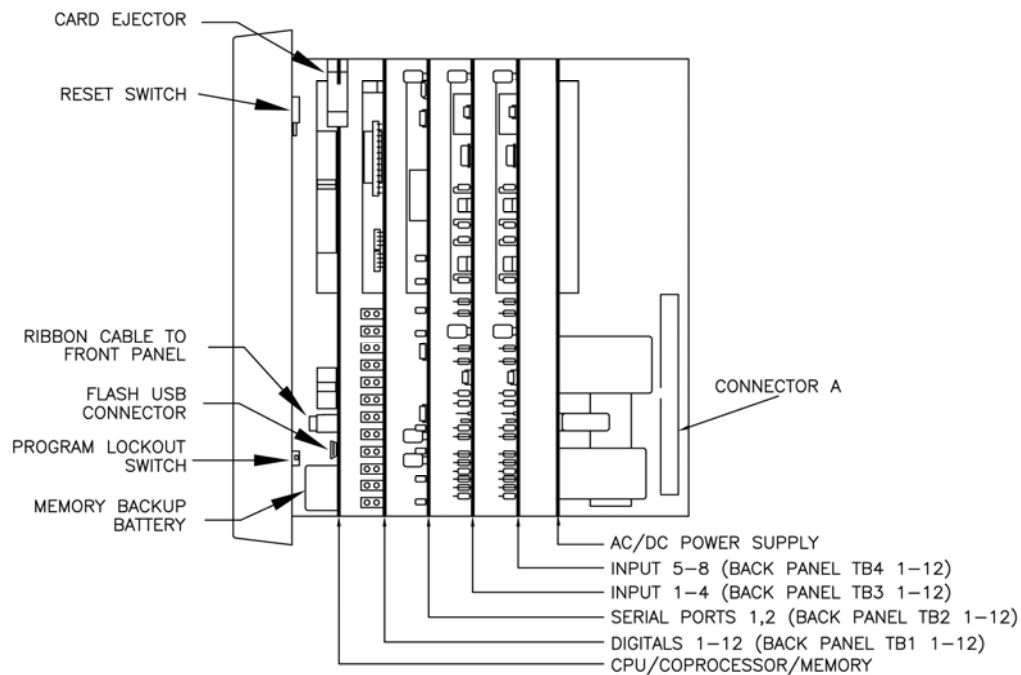


Figure 1. OMNI 3000 Layout

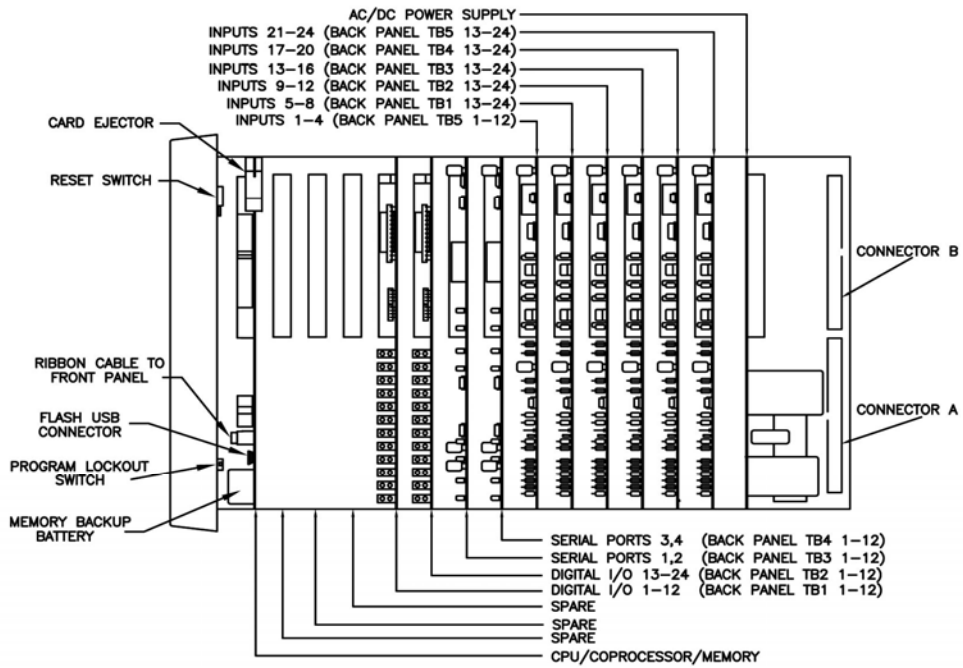


Figure 2. OMNI 6000 Layout

- Change the “Flash Update” jumper on the module from the “Disabled” position to the “Enabled” position (Figure 3).

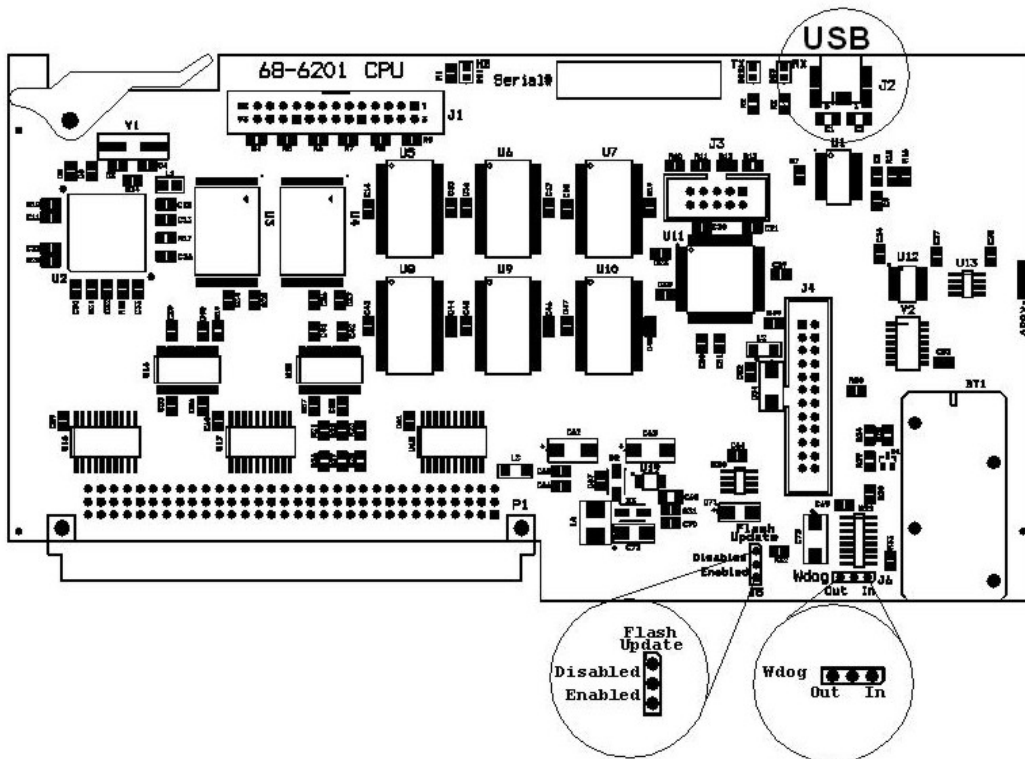
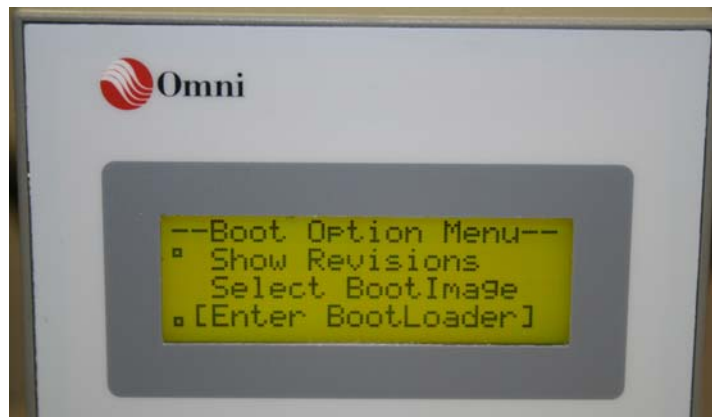


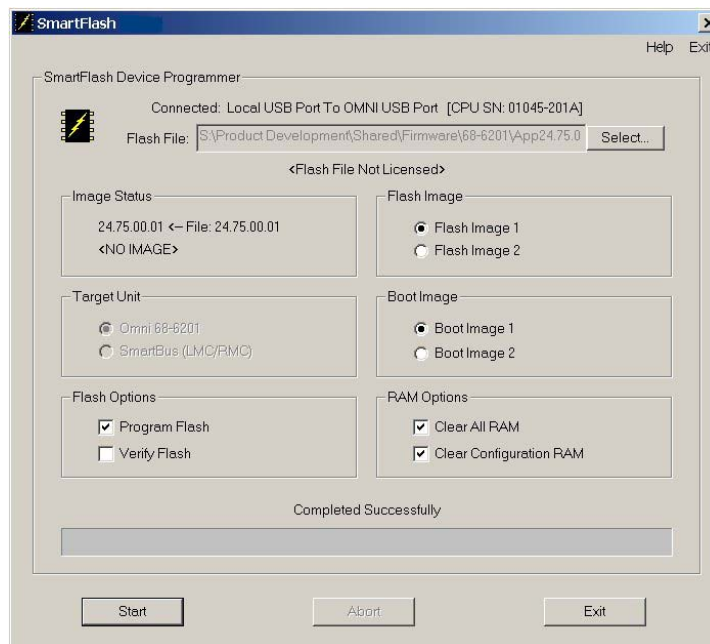
Figure 3. 68-6201 CPU Layout

- Re-install the CPU module and power up the flow computer (PC or Laptop).
- Make sure the “Program Lockout Switch” (lower red switch), located on the rear face of the front panel is in the “Program Enabled” position (Figures 1 and 2 for location).
- Power up Computer (PC or laptop) and connect USB cable from computer to the USB connector (Figure 3) on the CPU Module in the OMNI.
- Press and hold the <Prog> key on the front panel keypad.
- Press the “Reset” switch (upper red switch), located on the rear face of the front panel (Figures 1 and 2 for location).
- Release the “Reset” switch while continuing to hold the <Prog> key on the front panel keypad. A “Boot Option Menu” should appear on the front panel display.
- On the front panel display, scroll down to the **Enter BootLoader** option using the down arrow key and press the <Enter> key. A sample screen is shown in Figure 4.



**Figure 4. Sample Screen**

- Run SmartFlash, (SmartFlash.exe), from the computer. Usually, this is located in the C:\Omni\flow folder of your PC or laptop. Figure 5 SmartFlash Device Programmer screen should appear.



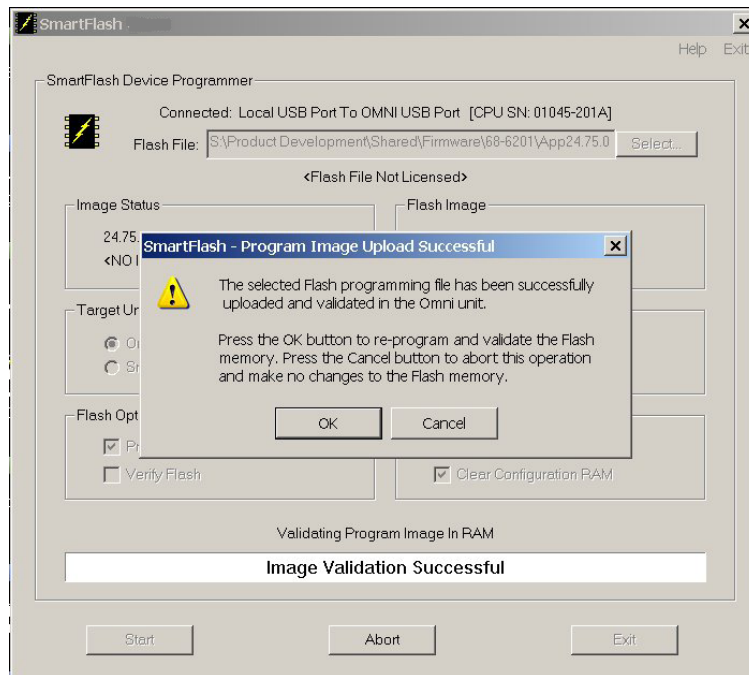
**Figure 5. SmartFlash Device Programmer**

Make the following selections:

- For the Target Unit, select “OMNI 68-6201”
- Select the Connect button for SmartFlash to retrieve the current FLASH memory configuration.
- Select the binary flash file to be transferred to the CPU.
 

**NOTE:** When flashing more than one (1) image into FLASH memory, they are done one at a time.
- Select which FLASH application image location you want the application file to be programmed to (“Flash Image 1” or “Flash Image 2”).
- Select which of the two (2) application images is to be booted by default on power-up or reset.
- Select whether you would like to clear configuration memory only, or clear all memory.
 

**NOTE:** Clearing all memory will also force a unit to reset and boot up to the selected default application.
- However, if the boot memory application is changed, if there is a jump in revisions, or if a previous revision is installed, the configuration will be cleared at the first power-up reset. Always back-up the configuration before starting the flash process. Clearing all memory does not lose any of the I/O calibrations, these are restored from EEPROM that is located on the CPU module.
- Select the “Start” button to initiate the programming sequence (Figure 6).
  - Once the flash image is transferred to temporary holding RAM on the CPU module, it will be automatically verified and you will be prompted to select whether you want to go ahead and program the actual FLASH memory (Figure 6). Select “OK”.



**Figure 6. Programming Sequence**

- When installing the second flash image for multiple applications, select the next flash image file on your PC, select the desired image location (Flash Image 1 or Flash Image 2) and repeat the previous step.
- Exit the SmartFlash application on the PC.
- Remove the USB cable from the OMNI Flow Computer. This can be done before powering down the OMNI Flow Computer.

- Power down the OMNI Flow Computer, remove the CPU module (take care with the front panel ribbon cable) and place the “Flash Update” jumper in the ‘disabled’ position. Failure to do so will cause an alarm to be displayed on reset or power-up.
- Replace the CPU module and power-up the flow computer.
- Using OMNICODEM<sup>®</sup>, transfer the saved configuration if required.

## Installing USB Drivers

### Win XP, 2000, Vista

There are two (2) methods for installing the necessary USB drivers for Win2000/XP/Vista. Method number 1 is the easiest method and is recommended. Method number 2 is the standard method for installing a driver in Windows which involves interaction with the “Found New Hardware Wizard” dialogs.

#### Method 1 - RECOMMENDED

This method should be implemented PRIOR to connecting your PC to a OMNI 68-6201 unit. Locate the file “CDM\_Setup.exe” within the SmartFlash application installation directory. The standard SmartFlash installation directory is given as follows:

- C:\OmniFlow\SmartFlash

Execute the executable file “CDM\_Setup.exe” using the Windows Start menu “Run” selection. Use the “Run” dialog’s “Browse...” button to navigate to the “CDM\_Setup.exe” file. Press the “OK” button to execute the file. Alternately, the file can be executed from within Windows Explorer – navigate to the file location and double-click it to execute the file. A message dialog will appear indicating that the driver was successfully installed.

#### Method 2

Apply power to a unit with an installed 68-6201 CPU board. Connect the USB between the unit and the PC requiring driver installation. Windows will recognize that a new device type has been connected and will invoke the “Found New Hardware Wizard” series of dialogs to perform a manual installation of the required driver files. Driver files are located in the following standard location:

- C:\OmniFlow\SmartFlash\USB Drivers\Windows Vista-XP-2K

The SmartFlash installation includes driver installation guides for both Windows 2000 and Windows XP/Vista. These guides are in the form of PDF files and are specified as follows:

- C:\OmniFlow\SmartFlash\USB Drivers\Windows Vista-XP-2K\Windows 2000 Installation Guide.pdf
- C:\OmniFlow\SmartFlash\USB Drivers\Windows Vista-XP-2K\Windows XP Installation Guide.pdf

Follow Section 2.1 “Installing CDM Drivers” in the appropriate installation guide to complete the installation.

Follow Section 2.1 “Installing D2XX Drivers” in the appropriate installation guide to complete the installation.

## DOCUMENT REVISION HISTORY

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DOCUMENT INITIAL RELEASE DATE..... 10-August-2008

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<u>REVISION</u>	<u>DATE</u>	<u>PURPOSE / CHANGE REQUEST</u>
A	10-August-2008	Maintained on the Web - Initial release
B	10-March-2009	DCR 090054
C	10-May-2011	DCR 110080