

eDrive Expansion Module Microcontroller Programming Guide

Summary

This technical note describes the programming procedure for the eDrive Expansion Module (EM) Microcontroller.

Scope

This technical note applies to all 2U and 4U eDrives

Materials and Equipment

- A #2 Phillips® screwdriver
- A PC running Windows XP or later with COM port or USB port
- Analog Devices USB-EA-CONVZ Dongle and USB Cable
- Analog Devices MicroConverter Windows Serial Downloader Software (WSD)
- A Version Description Document and data package provided by NGCEO

Contact NGCEO for assistance in obtaining any of these items.

Programming Instructions

1. Remove all 22 screws around the perimeter of the eDrive top cover.
2. Remove the top cover by lifting it gently off the chassis.
3. Download the Version Description Document package and all files to your computer.
4. Connect the Analog Devices USB-EA-CONVZ Dongle and USB cable to your PC.
5. Connect the white 2-pin connector to the EM **J20** connector.

Note No.	SVC-FSB-0030
Release Date	9/17/2015
Contact	ngceoservice@ngc.com

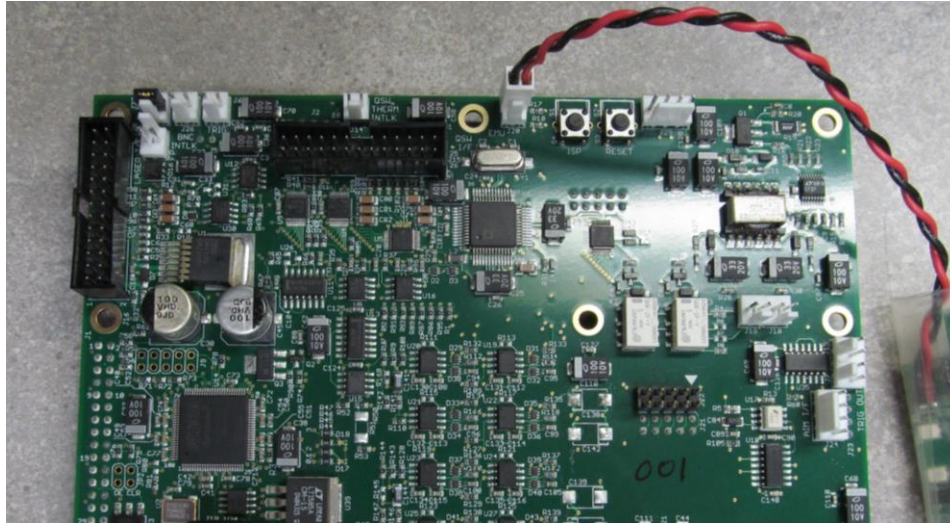


Figure 1-1: Analog Devices USB-EA Dongle connected to EM 1 connector.

6. Run the Analog Devices MicroConverter WSD software.
7. Select **Configuration**.

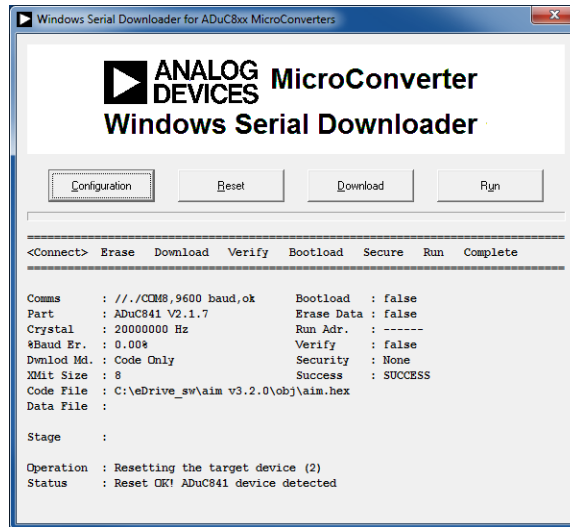


Figure 1-2: Startup Screen for the MicroConverter WSD

8. Under the **Port** field, select the proper COM port.
 - a. To discover the proper COM port, first unplug the USB-EA dongle.
 - b. Open your computer's **Device Manager** and view the list of available Com ports.
 - c. Plugging the USB-EA dongle back into the computer should reveal a new Com port in the **Ports** field.

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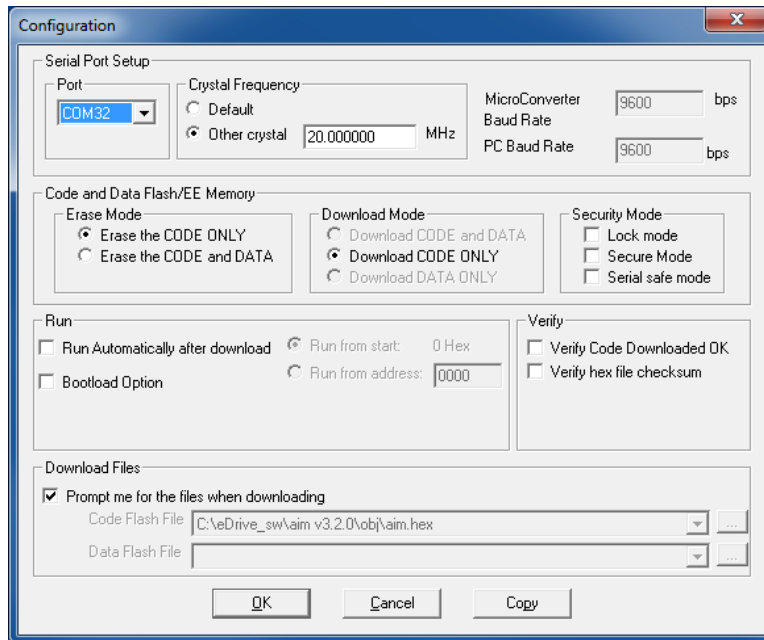


Figure 1-3: Configuration Screen in MicroConverter WSD

9. In the **Crystal Frequency** field, **Other crystal** should be selected.
10. Set the frequency to 8 MHz.
11. In the **Code and Data Flash/EE Memory** field, the **Erase Mode** should be set to **Erase the CODE ONLY**.
12. Under the **Download Files** field, ensure that **Prompt me for the files when downloading** is checked.
13. Select **OK**.
14. The home screen will appear again. Select **Reset**. The status should read **Reset OK! ADUC841 Device Detected!**
15. Select **Download**.
16. Browse to the **.hex** file included in the data package from NGCEO.
17. Select **Open**. The loading will begin.

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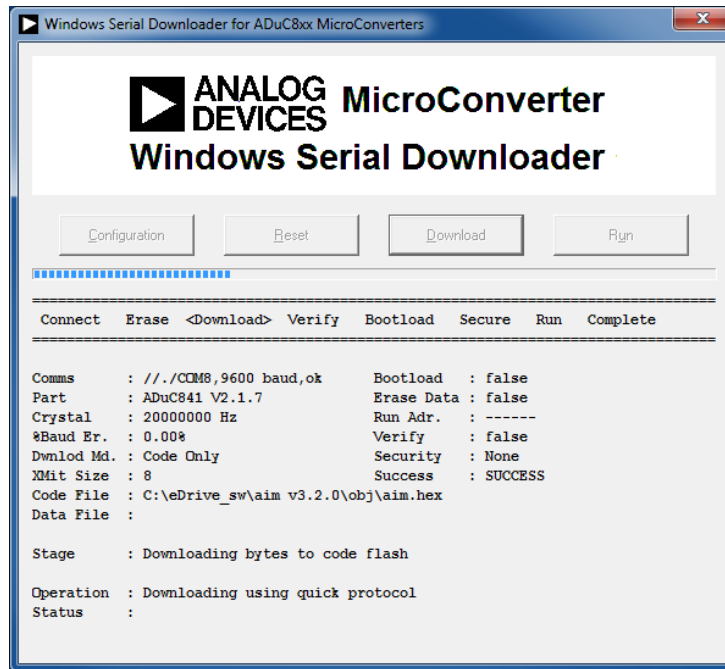


Figure 1-4: Downloading the .hex file

18. When the process has completed, the status will read **OK!**
19. **Close the WSD software**
20. Remove the USB-EA dongle from the computer and the EM board.
21. Turn the eDrive on to initiate the reloading of the firmware.
22. To verify that the firmware has installed correctly, select the following functions on the eDrive user menu: **Utility Functions → Systems Status → EM.**
23. Ensure that the firmware listed matches the number specified in the Version Description Document provided by NGCEO.
24. Turn the eDrive off.
25. Remount the cover to the chassis.
26. Reinstall the 22 screws to secure the cover.