

BOOTLOADER AND FIRMWARE UPDATE INSTRUCTION FOR ENVIROMUX-MINI

In order to update the firmware in the NTI ENVIROMUX-MINI to version 1.27 (or later), the unit must have bootloader version 1.34. Follow these steps to determine the bootloader version (see figure below) and update the bootloader as needed.

Typographic Conventions

The following table describes the typographic changes used in this instruction.

Typeface	Meaning	Example
AAaaBBaaCCcc123	The names of commands, files, and directories On-screen computer output	Download the x.hex file C:> eZ80L92>
AAaaBBaaCCcc123	What you type, contrasted with on-screen computer output	eZ80L92> C
<i>AAaaBBaaCCcc123</i>	Names of menu choices in the operating system	<i>Transfer</i> <i>Send File</i>

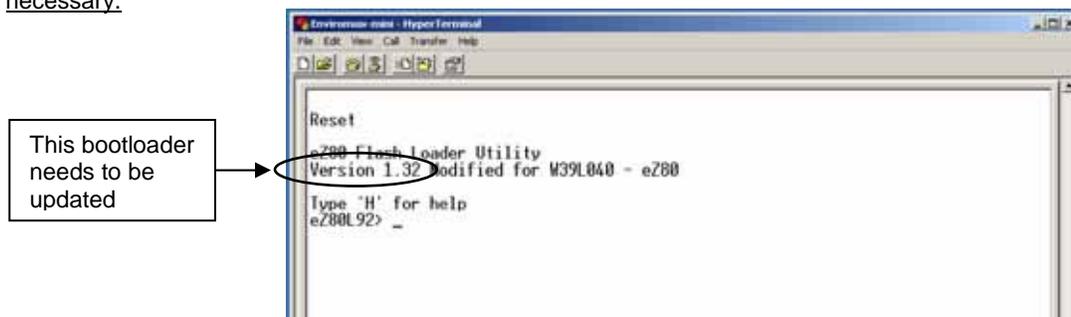
The following is needed:

- 1 CAT5 cable with RJ45 connectors on each end (maximum 25 feet in length) wired straight thru (pin to pin)-not supplied
- 1 DB9 female to RJ45 female adapter (to connect the CAT5 cable to a DB9 communication port)-supplied with the ENVIROMUX-MINI
- The firmware files `minienv-btldr-rev1.34.hex` and `minienv-rev1.xx.hex` (from the chart "Current Release") downloaded from <http://www.networktechinc.com/download/d-enviro-mini.html>
- A PC with an available DB9 male communication port and HyperTerminal loaded

Determine the bootloader version:

1. Attach the DB9-to-RJ45 adapter to the CAT5 cable
2. Disconnect power from the ENVIROMUX-MINI
3. Connect the port labeled "RS232" on the ENVIROMUX-MINI to a serial port on the PC using the CAT5 patch cable with adapter
4. Open HyperTerminal and connect to the ENVIROMUX-MINI through the PC, (port settings 57600 / 8-N-2 /no flow).
5. Press and hold the **spacebar** on the keyboard of the PC
6. Apply power to the ENVIROMUX-MINI
7. Continue to hold the **spacebar** on the PC until the prompt "eZ80L92>" appears.
8. Release the **spacebar**.

The hypertext window will show the bootloader version number above the prompt "eZ80L92>" (see below). If the version number is 1.33 or earlier, proceed with step 9 to update the bootloader. If the version number is 1.34 or later, a bootloader update is not necessary.



Update the Bootloader

9. Download the new bootloader file (`minienv-btldr-rev1.34.hex`) from the website and save it to a known location in the PC.
10. In the HyperTerminal window, press **c** to clear (erase) the existing firmware. You will be prompted to either press **Enter** to continue, or any other key to cancel.
11. When the erasure is complete, the prompt "eZ80L92>" appears.

12. Press **L** to load the `minienv-btldr-rev1.34.hex` file from the PC.

When prompted by the message "Start sending file via Xmodem protocol..." from the HyperTerminal window;

- choose *Transfer* (from the HyperTerminal menu bar),
- choose *Send File...*,
- browse to the `minienv-btldr-rev1.34.hex` file
- choose the *Xmodem protocol* (from the scroll menu of the popup window),
- press *Send* from the popup window

13. Wait until the transfer is complete (the dialog window will close itself). The message "The Vector Table @8000h: installing..." will appear on the PC.

Note: If this transfer fails, repeat steps 10-13.

14. When installation is complete, the prompt "`eZ80L92>`" appears.

15. Repeat steps 2-8 above. Then proceed to step 9 under "Update the Firmware".

Update the Firmware

9. Download the new firmware file (`minienv-rev1.xx.hex`) from the website and save it to a known location in the PC.
10. In the HyperTerminal window, press **C** to clear (erase) the existing firmware. You will be prompted to either press **Enter** to continue, or any other key to cancel,
11. When the erasure is complete, the prompt "`eZ80L92>`" appears.
12. Press **L** to load the `minienv-rev1.xx.hex` file from the PC.

When prompted by the message "Start sending file via Xmodem protocol..." from the HyperTerminal window;

- choose *Transfer* (from the HyperTerminal drop down menu),
- choose *Send File...*,
- browse to the `minienv-rev1.xx.hex` file
- choose the *Xmodem protocol* (from the scroll menu of the popup window),
- press *Send* from the popup window

13. Wait until the transfer is complete (the dialog window will close itself). The message "The Vector Table @8000h: installing..." will appear on the PC.

Note: If this transfer fails, repeat steps 10-13.

14. When installation is complete, the prompt "`eZ80L92>`" appears.

15. Press the Restore button on the ENVIROMUX-MINI as described under *Restore Defaults* on page 21 of the user manual. Firmware update is complete.

16. Connect to the ENVIROMUX-MINI as normal.