



WOODS HOLE OCEANOGRAPHIC INSTITUTION

Acoustic Communications Group

Co-Processor Firmware Updater User's Guide

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Introduction

The Co-Processor Firmware Updater is an additional application that runs on the Micro-Modem to facilitate upgrading firmware in the field. You must first load the updater application on your Micro-Modem, and then run it to load new firmware on your co-processor.

Note that both the Micro-Modem bootloader and the Co-Processor Firmware Updater will time out and reboot after a period of no activity. For the bootloader, this period is about 10 seconds, so you may want to make sure you have read and understood these directions before beginning.

Before you can use it, your co-processor may need a hardware update. Contact the WHOI Acoustic Communications Group for more information.

Loading the Updater on the Micro-Modem

1. Enter the Micro-Modem bootloader. This can be done in different ways depending on your configuration. With most WHOI modem deck boxes, this can be done by connecting to the default serial port and setting the "Off-Prog-Run" switch to "Prog". When the prompt appears in your serial terminal program to "Press any key to enter the bootloader," press a key.
2. Press "d" to select Download.
3. Type "4" to select Location 4.
4. Press "y" to indicate that you are sure that you want to download.
5. Send the "cpflash-0-1-0-1.dl" file when prompted using ASCII transfer mode. This can be done in Hyperterminal by using the Transfer -> Send Text File... menu item.
6. After the file is downloaded, the bootloader will print, "Executable 4 replaced" and show the main menu.
7. You can now proceed to step 2 of "Upgrading Co-Processor Firmware."

Upgrading Co-Processor Firmware

1. Enter the Micro-Modem bootloader.
2. Press “r” to select Reboot.
3. Type “4” to select Location 4.
4. Assuming the process of loading the updater worked (above), you will see the Coprocessor Firmware Updater menu.
5. Press “d” to select “Download new firmware”.
6. Press “y” when asked if you are sure.
7. If you are shown the following error: “ERROR: Coprocessor not ready (status xx).”, your co-processor probably needs a hardware update, and you will need to send it to the Acoustic Communications group for service.
8. Otherwise, the application will indicate that it has erased the co-processor flash memory and prompt you to send a HEX firmware file.
9. Send the “psk-0-1-0-xx.hex” file using ASCII transfer mode. This can be done in Hyperterminal by using the Transfer -> Send Text File... menu item.
10. After the file is downloaded, the application will print, “Firmware download complete” and show the menu.
11. You can now choose “x” to exit the application and reboot your modem, or power-cycle the modem.