**Updating Hyper-bb Firmware**

The Hyper-bb firmware can be updated via the serial port. The Hyper-bb instrument has a base program called a bootloader that allows the instrument to download new firmware. The bootloader must be entered manually, then the new firmware file (.bin file) is sent over the serial port. Follow the instructions below to load new firmware.

Materials needed:

* Hyper-bb with power source and communication cable
* Windows based computer
* LISST File Transfer program (version 2.2)
* New firmware file (.bin file)

Install the LISST File Transfer program, if not already installed. Connect the Hyper-bb to power and connect the USB connector to the computer. Open the LISST File Transfer program. The program should automatically connect to the Hyper-bb and display a list of files on the instrument. Select ‘Communication -> Open Terminal’ from the menu bar. A serial terminal window will open allowing direct communication with the Hyper-bb.

Send the firmware load command by typing ‘fwload’ and hitting enter. After a brief delay the instrument will enter the bootloader. A menu page will be displayed.

If the menu page is not displayed and only unrecognizable characters are displayed, you may need to change the baud rate. Go to ‘Setting -> Change Baud Rate’ in the terminal window menu bar. Set the baud rate to 9600. Press enter in the terminal window and the bootloader menu should appear.

Press the number corresponding to ‘Load new firmware’ as shown in the bootloader menu. From the terminal window menu bar select ‘Send -> Y-Modem Send’. Select the new firmware .bin file. The progress bar will appear indicating the status of the upload. When finished, the bootloader menu will appear again. Press the number corresponding to ‘Run the current firmware’ as shown in the bootloader menu. Close the terminal window and press the refresh button in the upper left corner of LISST File Transfer. The program should automatically connect to the Hyper-bb and display a list of files on the instrument. The firmware update is complete.