

Updating the firmware in your Matrix and BlueBox audio codecs

The Matrix and BlueBox give the user the ability to update the firmware that drives the main control processor. This procedure, also known as “flashing”, requires that you have access to:

- A PC running a terminal emulation program capable of Xmodem uploading (Windows 98 Hyperterminal, Tera Term Pro (<http://hp.vector.co.jp/authors/VA002416/teraterm.html>), and Procomm 95 have been tested)
- A 9 pin male to 9 pin female straight through serial cable or A 25 pin female to 9 pin male “modem” cable with the pin-outs in Table 1 (Radio Shack p/n 26-117 for 9-9 pin, p/n 950-0271 to convert a 25 pin serial port to DB9) Do not use a “null modem” type cable, as this does not have “straight through” type pinning.
- A control upgrade file (Matctrl.bin or Bluctrl.bin) Note that once the Flash memory in the Matrix or Bluebox is erased, you won’t be able to use the product until the upgrade procedure is complete. So don’t go past step 7 below if you’re unsure of either your upgrade file or your terminal software.

Matrix & Bluebox Firmware Update Instructions

- Run the emulation program and set it to communicate directly to the desired serial port (usually com1 or com2)
- Set the serial Port Parameters as follows: Baud Rate - 57600 (57.6Kbaud) No parity, 8 data bits, 1 Stop bit (n,8,1) No handshake required (Software handshake MUST be off, hardware handshake shouldn’t matter)
- If your emulation software has an option to pre-set the file transfer protocol, select Xmodem.
- Connect the serial cable to the “multi-purpose port”. Connect the other end to the proper serial port connector on your computer
- Remove any Matrix Accessory modules. Turn on the Matrix or BlueBox. Quickly, while the “Initializing” display is on, press the “Hangup” key 3 times. The display will then say “Flash Upgrade Mode”.
- In about 5 seconds, the following words should appear on your computer display:

Comrex Matrix (or BlueBox)

Flash Upgrade Mode

All Control Software will Be DESTROYED

Are You Sure? (y/n)

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- If these words don't appear, try pressing the key on the computer. If you still don't see the text, turn off the unit and recheck all connections and settings. No change has been made to the firmware at this point.
 - If you are certain you have the correct upgrade file, and you are certain your program supports Xmodem, press the Y key on your computer. You will then see:

Erasing....

and then:

Begin Xmodem transfer

- Using your terminal software, send (or upload) the file using the Xmodem protocol. Don't use Xmodem-CRC or Xmodem-1K, simply Xmodem. There's no rush to do this, as the unit will wait until you begin sending the file. Also, there may be a ten second delay before the file transfer actually starts. If there's an error or power failure during this process, simply reboot and enter Flash upgrade mode again. Your unit will still be able to enter flash upgrade mode, but it won't work in its regular mode until the upgrade procedure is completed successfully.
- On completion, wait for the Main Status Display to reappear. Press "Hangup" three times to enter the Hidden Menu. Select "4" for "More" followed by "3" for "Rev". Be sure the control revision on the Display bottom line matches the number on the file name. You can then cancel back to the Main Status Display and use your Matrix or BlueBox.