



FXi 60/250 Exciter

Software Upgrade Application Guide

Updating the FXi Controller to v02.xx.xx

FXi 60/250 Exciter w/Exgine

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Updating the FXi Controller to v02.xx.xx

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1 Purpose of this Document

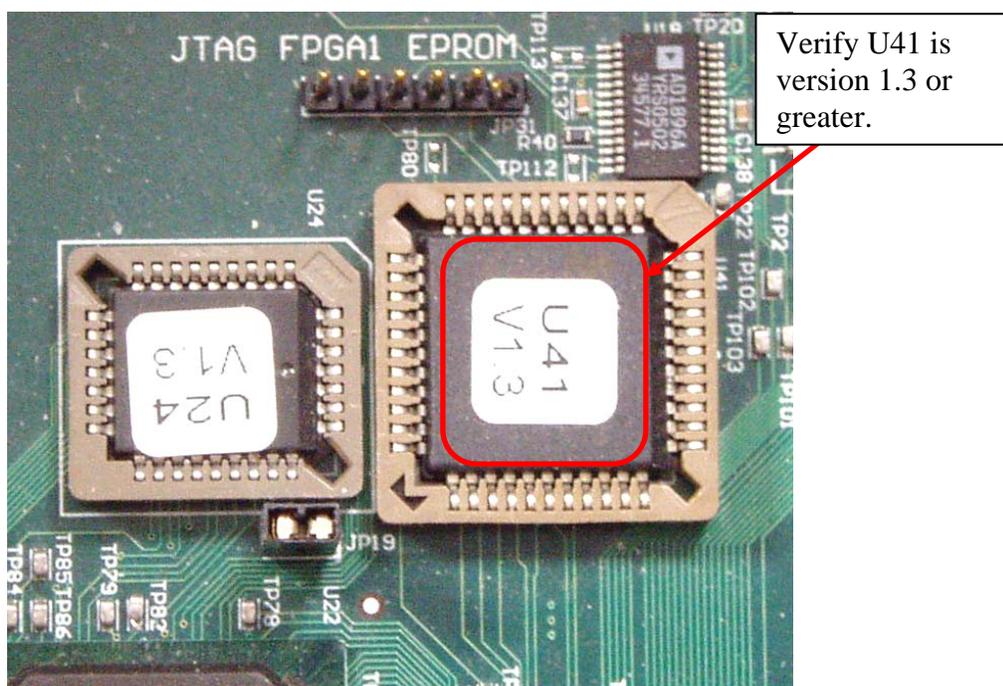
The purpose of this document is to describe the necessary steps required to update **FXi 60/250 Software to v02.xx.45 (or greater)**.

NOTE: The "xx" refers to the firmware on the CLOCK FILTER board; that firmware is independent of the Control Board software and will not be changed.

2 Tools / Items Needed

- v02.xx.45 (or greater) FXi 60/250 Upgrade CD (or files downloaded from B.E. Website)
- Personal Computer with Windows HyperTerminal Communication Program installed
- 9 Pin Female to Female Null Modem Serial Cable (or Straight Thru Cable with Null Modem Adapter)

NOTE: Verify that U41 on the DSP board is version 1.3 or greater. A "low RF Input" fault will be present if the controller code is upgraded and U41 is not at least version 1.3.



3 Estimated Time to Complete Upgrade

Providing that you have the tools listed above, it will take approximately 30 minutes to update FXi 60/250 Controller software. The Exciter will be off of the air during this process.

4 Upgrading FXi Exciter Controller Software via Serial Port

⚠ Note: Failure to upload software properly will cause the FXi Exciter to be off of the air! Furthermore, if the steps below are not strictly followed, it is very likely that the FXi Exciter will need to be returned to B.E. via a work authorization for repair!

Step 1 – Using Windows Explorer, copy the “02_00_45 (or greater).bin” file from the FXi Controller Software Upgrade CD (or extract from the zip file downloaded from the B.E. Website) to the hard drive “C:\” of the personal computer that will be used for upgrading the FXi.

⚠ Note: Copying the upgrade file to the personal computer’s hard drive **MUST** be done! Accessing upgrade files from a CD drive tends to be very slow when transferring data and will cause the FXi Exciter to lock up!

Step 2 – Ensure that the FXi Exciter is ON and Operational. Connect a Null Modem Cable to the Serial Port (J10) on the FXi Exciter and then to the Serial Port on a Personal Computer. After the physical connections are made, the communication program parameters must then be configured.

The following text presents the procedure to configure the communication parameters using Windows HyperTerminal. If a different program is used, refer to that program’s instruction manual to configure its parameters.

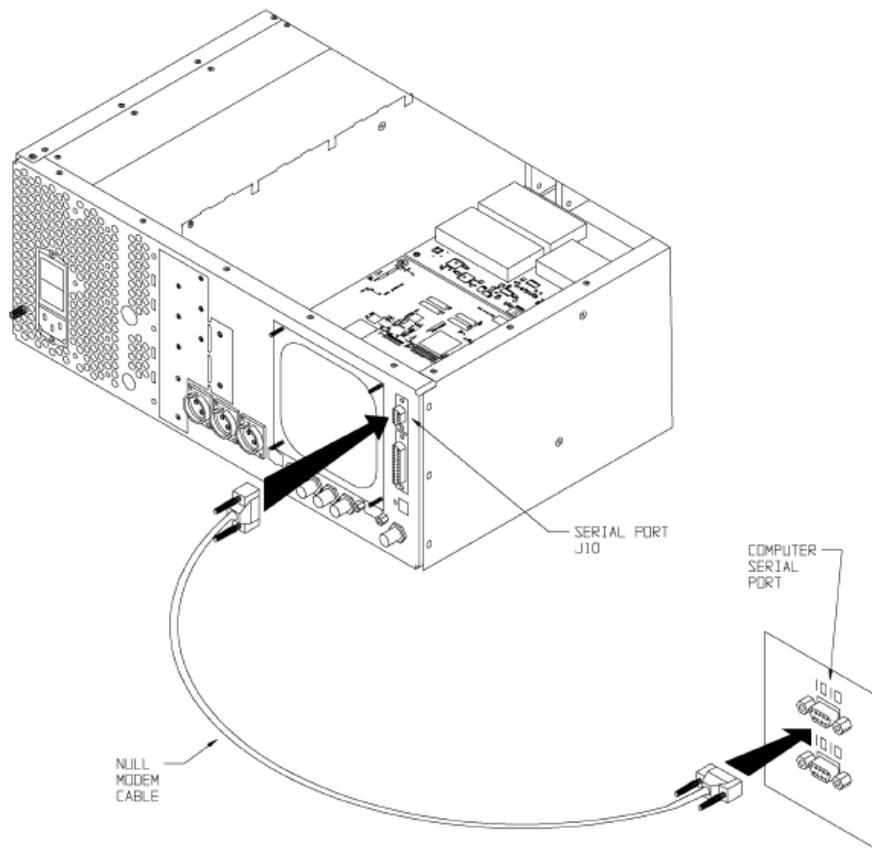


Figure 1 – PC to FXi Serial Port Null Modem Cable Connection

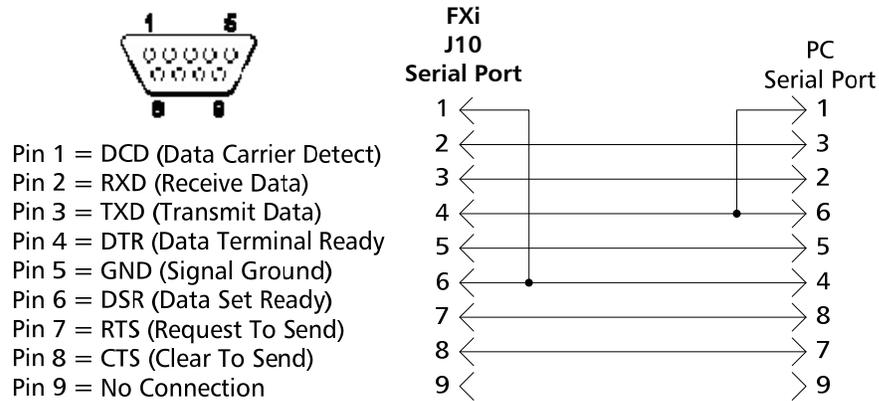


Figure 2 – Null Modem Cable Pinout

- Step 3** – From the Desktop go to: **START-> ALL PROGRAMS-> ACCESSORIES-> COMMUNICATION-> HYPERTERMINAL** and click the mouse.
- Step 4** – The HyperTerminal dialog box should now be displayed. In the **CONNECTION DESCRIPTION** box, enter the name of the shortcut that you want to be created such as *FXi Upgrade*.
- Step 5** – Select and click **OK**.
- Step 6** – The **CONNECT TO** dialog box will now appear. In the **CONNECT USING** dialog box, ensure that the correct COM Port is selected (typically **COM 1** is used) and then click **OK**.
- Step 7** – The **COM1 PROPERTIES** dialog box will appear. Move the cursor to the **BITS PER SECOND** dialog box and select **19200**.
- Step 8** – Move the cursor to the **DATA BITS** dialog box and select **8**.
- Step 9** – Move the cursor to the **PARITY** dialog box and select **NONE**.
- Step 10** – Move the cursor to the **STOP BITS** dialog box and select **1**.
- Step 11** – Move the cursor to the **FLOW CONTROL** dialog box and select **NONE**.
- Step 12** – Select and click **OK**.
- Step 13** – From the Personal Computer's Keyboard press "u" to enter the Software Upgrade Mode of the FXi. *The following command-line message will appear on the terminal:*
- u**
This entry will erase the flash memory.
Are you sure this is what you want to do?
- Step 14** – Next, press "y" to accept. The screen should now look as shown in **Figure 3** on the next page.

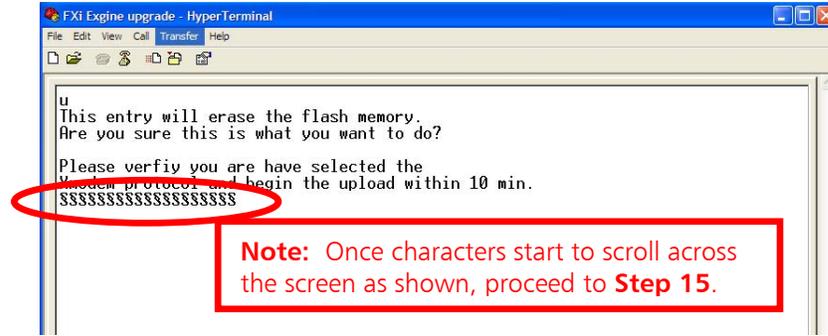


Figure 3 – Hyper Terminal Screen

Step 15 – Once characters start to scroll across the screen as shown in **Figure 3**, click the **Transfer** icon and then select **Send File**.

Step 16 – Select **Xmodem** from the **Protocol** drop down list.

Step 17 – Click on **Browse** and then navigate to and select the software upgrade file "**02_00_45 (or greater).bin**" that was previously copied to the hard drive "C:\\" of the personal computer

IMPORTANT: Ensure that **02_00_45 (or greater).bin** is selected and not some other file!
Loading
an incorrect file WILL cause the FXi to crash and require factory repair!

Step 18 – Select **SEND**.

Step 19 – When the Software Upload Process is complete, the original screen will appear with a message stating "**Upload Completed Successfully.**"
The upload process will take approximately 4-5 minutes.

Step 20 – Restart the FXi Exciter by turning the AC Power Switch OFF and then back ON.

Step 21 – Navigate to the Diagnostic Screen on the FXi GUI to verify that the "SOFTWARE" now displays 02.xx.41 (where xx equals the firmware version of the CLOCK FILTER Board).

IMPORTANT: If you are using the FXi Exciter with a B.E. **FMi 17T, FMi 21T**, or a **FMi 25T** Series High Power HD Tube Transmitter, you **MUST** turn **APC** (Automatic Power Control) to **OFF** before turning the **FMi T Transmitter's RF Output ON**.

Proceed to **Step 21** on the following page if you are using a **FMi 17T, FMi 21T**, or a **FMi 25T** Series High Power HD Tube Transmitter.

If you are using the FXi Exciter with any other B.E. Transmitter, proceed to Step 23.

Step 22 – Launch HyperTerminal (see **Steps 3 – 12** for connection properties). When the HyperTerminal screen appears type **Enter**.

Next, type “a”(must be lowercase) to toggle **APC** to **OFF**.

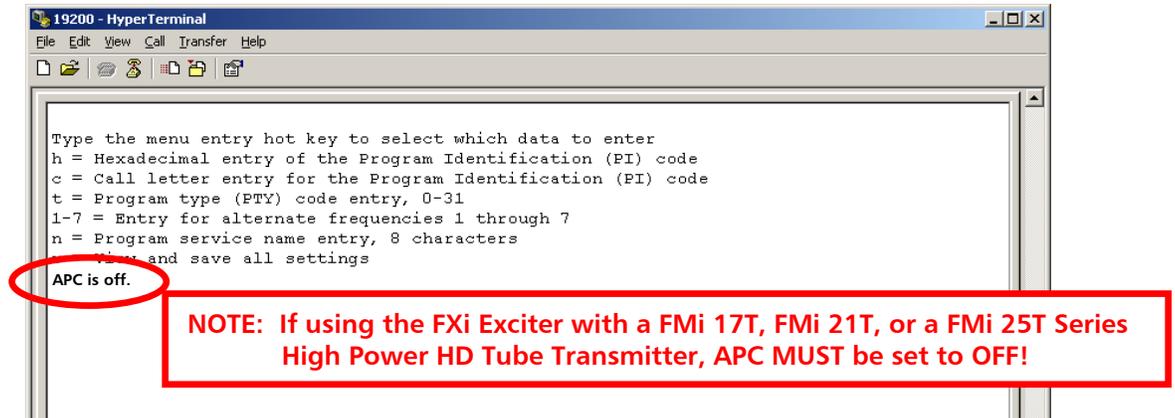


Figure 4 – IBOC Menu (Digital Carrier ON)

Step 23 – Disconnect the Null Modem Cable from the FXi Exciter.

The Software Upgrade of the FXi Exciter Controller is now complete.

5 RF Technical Services Contact Information

RF Technical Services -

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