



Information Sheet ISO6005B

Nautel Firmware Uploader – J1000

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INFORMATION SHEET

1 INTRODUCTION

This document describes how to install a firmware update on a Nautel J1000 transmitter.

1.1 Equipment Affected

This procedure involves the J1000 transmitter and a Windows-based PC or laptop.

1.2 Responsibility for Implementation of Procedure

This procedure should be carried out by qualified station maintenance personnel.

1.3 Scheduling

Implement this procedure at the convenience of station maintenance personnel.

1.4 Manpower Requirements

This procedure requires approximately one hour for a technician to complete.

1.5 Parts Required

You will need a null-modem (cross-over) DB9 serial cable that is long enough to connect between the PC or laptop and the rear of the J1000's exciter. Note the PC or laptop normally has a male connection and will require a female plug while the J1000 has a female connection requiring a male plug. The connection method to the PC or laptop should be a serial connection OR a USB port and a customer-provided USB-to-serial adapter.

2 PREPARING THE J1000 TRANSMITTER

- (a) Press **RF OFF** on the J1000 transmitter.
- (b) Connect a null-modem (cross-over) DB9 serial cable from an available COM port on a Windows-based PC to the DB9 serial port on the rear of the J1000 transmitter's exciter (J10).

3 UPLOADING FIRMWARE

From a windows-based PC or laptop, install the firmware upgrade on the J1000 transmitter as follows:

- (a) Connect to a web browser and download:

- the firmware upgrade (.hex) file from <http://www3.nautel.com/pub/J1000/>. Select the .hex file in the sub-folder that represents the desired version (e.g., 2.7.2), of J1000 firmware. The file name is:

J1000_NAPC143_VX.Y.Z.A.hex

(X.Y.Z.A indicates the version of the firmware file)

- the Nautel Code Uploader application to the PC or laptop from this link: <http://www3.nautel.com/pub/Utilities/NCcodeUploader/NCcodeUploader1.8.0.exe>. Open this file from the PC or laptop.
- (b) Open the **Settings** dialog box. Ensure that the correct COM port is selected for use with the programmer. Note that a USB port and USB to serial adapter can be used. High-speed programming is optional; if a programming attempt is made with High-speed programming enabled, and it fails, try again with High-speed programming disabled. The **Additional Timeout** setting should be set to 100 ms. Click **OK** when done.
 - (c) Open the **Upload Atmel Firmware** dialog box. A popup window will indicate the status of establishing a connection to the transmitter. A message will indicate if the connection was successful.
 - If a connection failure message appears, check the COM port, null modem, and any other cabling, then restart the computer and/or restart the J1000, and return to step (b).
 - Upon a successful indication proceed to step (d).



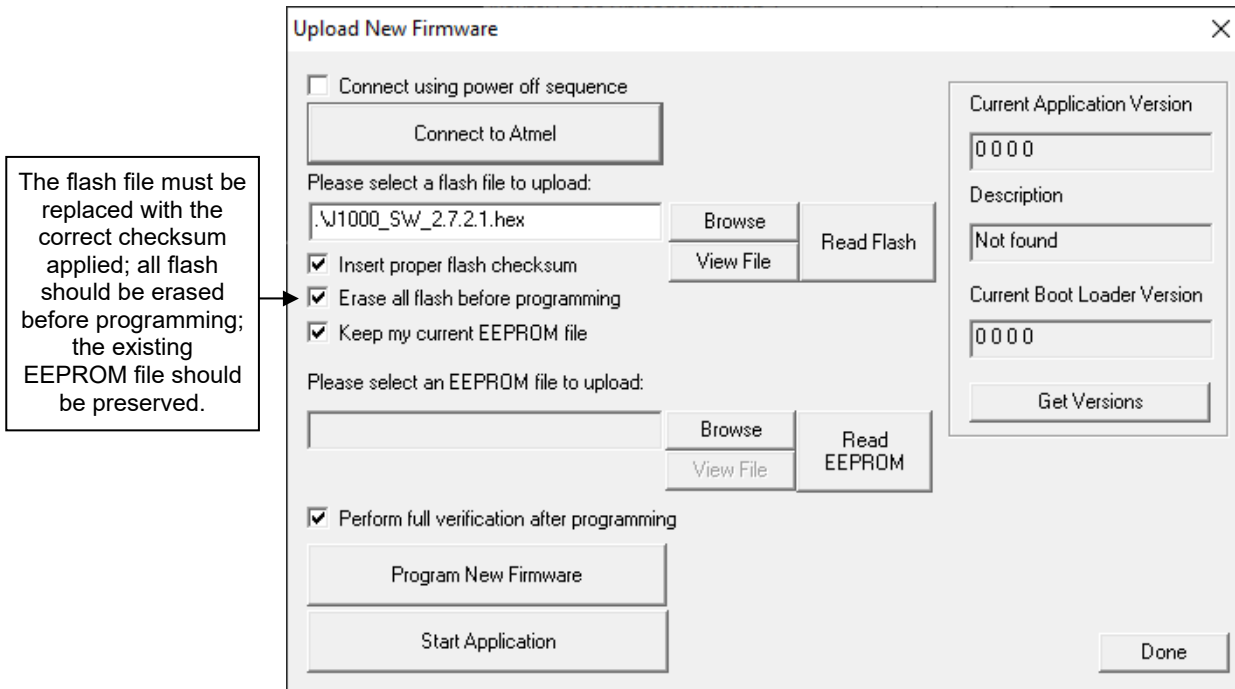


Figure 1: Upload New Firmware Screen

- (d) Check the **Insert proper flash checksum**, **Erase all flash before programming**, and **Keep my current EEPROM file** checkboxes.
- (e) Load the flash file containing the firmware update [obtained in step (a)].
 - Press the upper-most **Browse** button to locate the file.
- (f) Click on the **Read EEPROM** button (see Figure 1) to save the EEPROM to a local folder. Note the location of the saved file for future reference.
- (g) NcodeUploader will verify the integrity of the flash file and a pop-up will indicate success or failure.
- (h) Click on the **Program New Firmware** button to begin the update process.
- (i) A pop-up will appear indicating the progress of the update. When the upgrade finishes, a second pop-up will appear to indicate whether the update failed or succeeded.
- (j) If the update was successful, click on the **Read Flash** button to begin a verify cycle. Select “*verify against existing file*” and press OK. The dialogue *reading firmware from device* will appear. After reading is complete, a new dialogue to select the file to compare to will open. Browse to the file that was programmed and click open.
- (k) If the response is *Verified Flash File Successfully*, press **OK**, otherwise repeat paragraph 3.
- (l) Press the **Start Application** button to re-boot the J1000 transmitter. Close NcodeUploader and disconnect the serial cable.
- (m) The procedure is complete. Return the J1000 transmitter to normal operating service.