

The purpose of this application note is to describe how to upgrade Bitstream Pro built-in firmware. Wave Idea highly recommends following this application note if a firmware upgrade is required.

Requirements

This document only concerns owners of Bitstream Pro featuring built-in **ROM V1.3 or higher**, for older versions, please contact Wave Idea in order to know how to get an up to date firmware version.

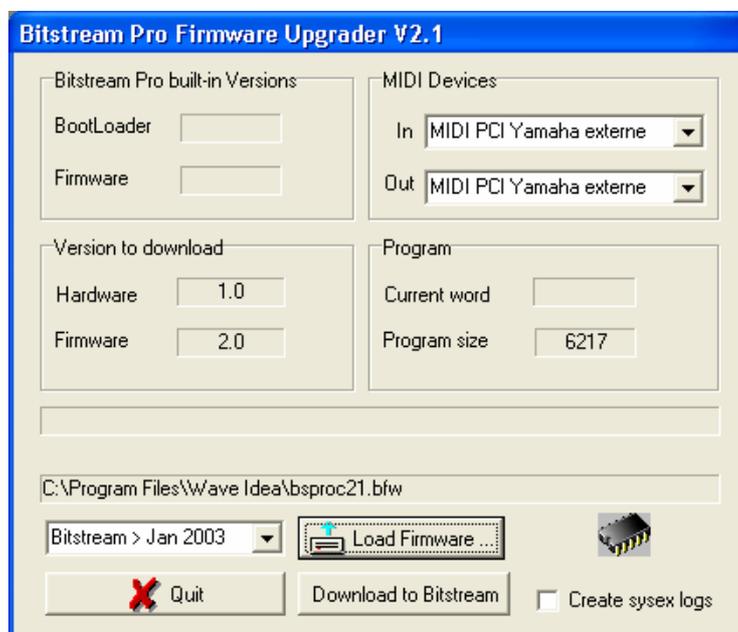
An application (Windows 9x, 2K, Xp) is available from Wave Idea website, it allows to upgrade Bitstream Pro firmware, without electronic knowledge since the upgrade is done via MIDI Sysex.

To check Bitstream Pro ROM version, please refer to the user's manual.

“Firmware Upgrader” software

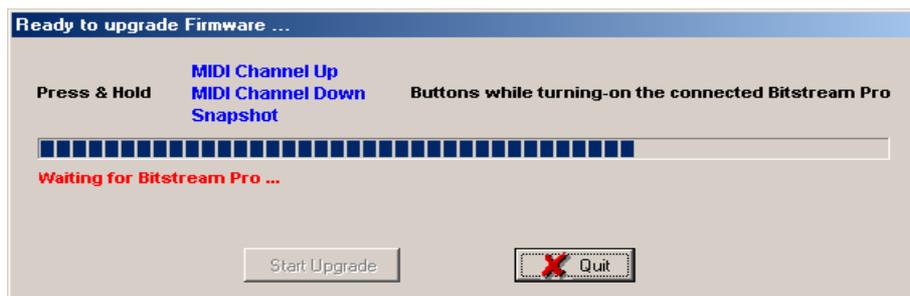
Once launched, the dedicated software allows to load a firmware file (with bfw extension), this can be achieved by simply clicking on the Load button from the main window.

Once loaded, decrypted and checked, the firmware can be sent to Bitstream Pro via MIDI.



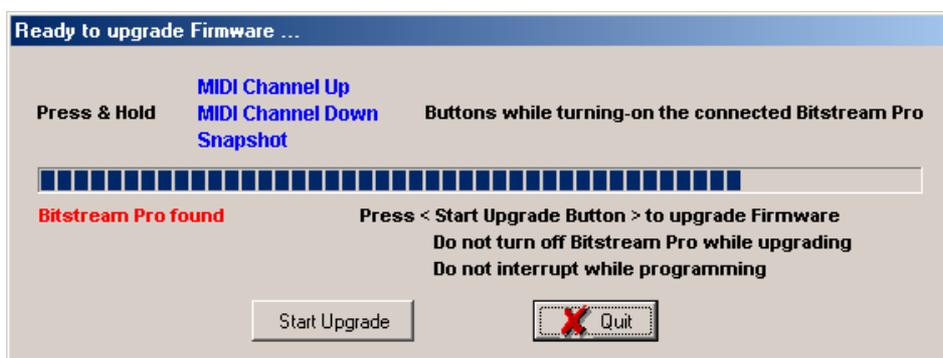
To start upgrading process, turn-off the Bitstream unit, select the required MIDI devices corresponding to the MIDI In & Out physical connector where the Bitstream is plugged, load the firmware file by clicking on “Load firmware”, select your Bitstream Pro purchase date then click on “Download to Bitstream” button,

The “Create sysex logs” option allows logging all MIDI communication sysex while performing the upgrade, the default mode is unchecked.

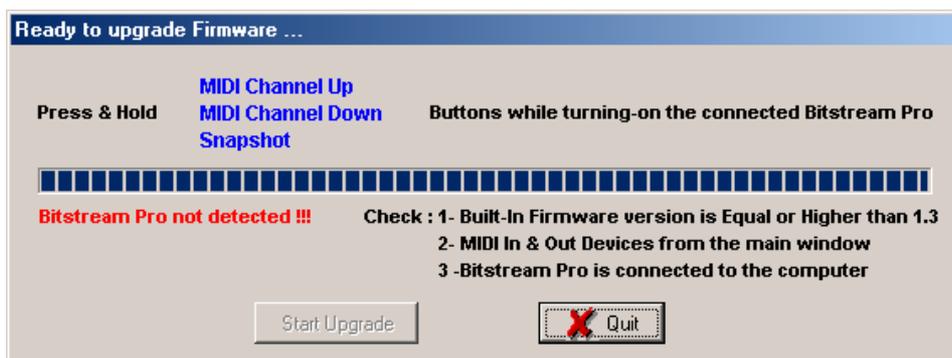


Once the “Download to Bitstream” button is pressed, the software waits for the Bitstream unit, as indicated by the above window, turn-on the connected Bitstream while pressing and holding MIDI channel Up, MIDI channel Down, as well as Snapshot button.

If the controller is properly connected, the window should indicate the unit has been found, and should propose to start upgrading, as follow :



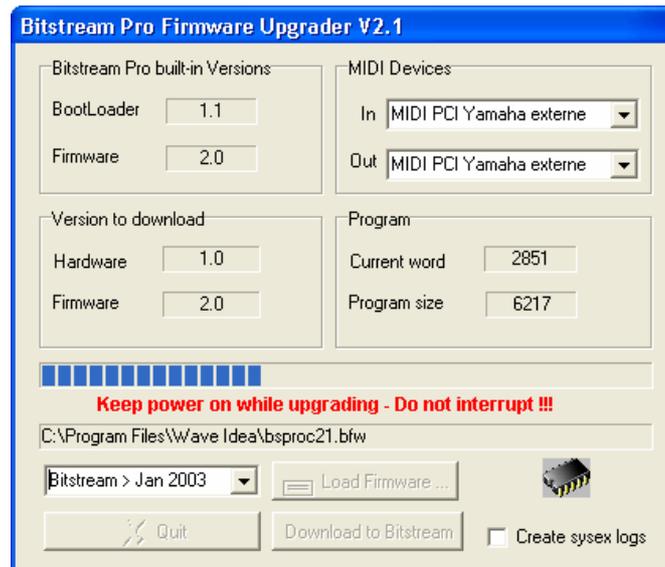
On the other hand, if Bitstream is not recognized by the software, the following window should appear



As indicated, check that the current Bitstream firmware is equal or higher than version 1.3, that the selected MIDI devices are properly selected, as well as the Bitstream Pro power supply and connections to the computer.

The software searches for Bitstream Pro during about 10 seconds, before a time-out occurs, indicated with a bar-graph during the searching process.

As soon as the unit has been detected, the “start upgrade” button is enabled, click it to start upgrading.



Bitstream pro built-in bootloader version is shown at the top left of the main window, as well as the current firmware version. Below these information are displayed both hardware and firmware versions of the loaded firmware file

Upgrading the firmware requires about 1 minute, once it is finished, Bitstream Pro should starts, and the following window should appear



If an error occurs during the upgrading process, it is necessary to re-start the full upgrade, if the problem persists, please contact Wave Idea.

Note that during the upgrade, Bitstream LCD is turned off, while MIDI led indicates an upgrade is in progress.

Troubleshooting

In order to perform the upgrade properly, it is mandatory to fully control the MIDI data flow incoming to the Bitstream Pro while upgrading its firmware.

It is therefore recommended to isolate the Bitstream from a complex MIDI setup, simply connect both In & Out connectors to the computer where the upgrader software is running.

The upgrader is not compatible with some USB MIDI interface such as the edirol interfaces, since they always send a active sense MIDI event that cannot be disabled, causing the upgrade to fail.

The Bitstream is properly detected by the software, but the controller leaves the upgrade operating mode once it receives an active sense MIDI event.

It is therefore recommended to use the upgrader firmware that doesn't send this active sense, such as all standard MIDI interfaces (on motherboards, soundcards ...)

IT IS HIGHLY RECOMMENDED TO KEEP THE POWER ON WHILE UPGRADING THE FIRMWARE