



FX8 MULTI-FX PEDALBOARD FIRMWARE RELEASE NOTES

VERSION 5.02

JANUARY 13, 2017

FX8 V5.02 is a minor maintenance and enhancement release incorporating the Axe-FX Quantum V7.00 changes.

Additions:

- Added "LEARN" to the "CUST. SHIFT" in the PITCH block.

Fixes:

- Corrected a bug that prevented the front panel buttons from working during startup. This was particularly troublesome for folks when present with "ERROR 101" at boot time, as there was no way to press <ENTER> to continue. **PLEASE NOTE:** this will not correct you corrupted global configuration. You will still need to restore the system parameters from a recent backup, or manually change them.
- Corrected a potential crash bug in the DRIVE block initialization.

VERSION 5.01

DECEMBER 19, 2016

FX8 V5.01 is a minor enhancement release incorporating the Axe-FX Quantum V6.02 changes.

Additions:

- Improved Drive model frequency response accuracy for models based on op-amp architectures. Models now behave with near-perfect accuracy even when Drive control is set to extreme values.
- Updated "BB PRE" Drive model.
- Added "TIMMY" Drive model.
- Optimized DRIVE Block, gaining a performance increase of approximately 1%.

Fixes:

- Fixed "PI FUZZ" output level too low. The Drive and Level tapers have also been changed so any presets using this model should be auditioned and adjusted accordingly.
- Fixed wrong capacitor value in "Esoteric ACB" Drive model. Any presets using this model should be auditioned and the model deselected and reselected to reset the internal parameters.
- When "DISPLAY LARGE PRESET" is set to "ALWAYS", the display now correctly updates when renaming the preset from both FX8-Edit and the STORE screen.

VERSION 5.00

DECEMBER 01, 2016

FX8 V5.00 implements the WAH block improvements introduced in the Axe-FX Quantum V6.0, and well as some other cool new features and fixes.

Additions:

- Greatly improved Wah block. Two new parameters have also been added: "Coil Bias" parameter allows the user to adjust the DC offset of the virtual inductor. "Low Cut Freq" sets the highpass filter due to the input coupling capacitor. It is recommended that existing presets be auditioned and, in most cases, deselecting and reselecting the desired model to reset dependent parameters.
- Added Persistent Large Preset Display. Please see **NOTE 1**.
- Added "DEFAULT SCENE" to all presets; this allows the default to be configured for each preset. Please see **NOTE 2**.
- Added "CURRENT" to the GLOBAL DEFAULT SCENE.

- Added “EXIT” to the F-Switches. This allows the F-SWITCHES to act like the <EXIT> Button. This has primarily been added to allow the user to toggle the LARGE PRESET DISPLAY when it is set to ALWAYS.

Fixes:

- Fixed a bug that was affecting audio output when attaching an external pedal to the DRIVE block X/Y

NOTE 1: Persistent Large Display

The large display feature has been modified to allow for a persistent display. To access this feature to the GLOBAL MENU:

SETUP->GLOBAL->SETTINGS

Change the “DISPLAY LARGE PRESET” parameter to “ALWAYS”.

Once this feature is enabled, the large preset name will appear every time you switch presets. The display will remain unchanged until the <EXIT> button is pressed. Pressing the <EXIT> button will return the FX8 to its Main display page. To return to the Large Preset Display, simply press <EXIT> again from any one of the Main display pages.

NOTE 2: Default Scene per Preset

The Default Scene is defined as the scene that is loaded any time a new Preset is selected. Prior to V5.00, the Default Scene was strictly a global setting. Starting with this release, each preset can override the Global setting and select a different Default Scene. Take the following steps to access this new parameter.

From the Main screen, use the <PAGE> button and navigate to the “CFG” page.

Use the <NAV> knob to select the parameter menu item “DEF SCN”. This parameter is modified by the “NAV” knob.

The choices for DEFAULT SCENE are:

- Scenes 1 – 8
- CUR – This leaves the current scene unchanged from what was currently selected prior to the Preset Change.
- GLB – This uses the previously mentioned Global DEFAULT SCENE setting. *Note: This is the default for all presets created prior to V5.00.*

VERSION 4.00

NOVEMBER 03, 2016

FX8 V4.00 provides support for the DRIVE block improvements introduced in the Axe-Fx Quantum 5.0.

Additions:

- Improved diode clipping algorithms in Drive block. As a result the following Drive models have been rematched:
 - Rat Dist
 - Super OD
 - T808 OD
 - T808 MOD
 - Plus Dist
 - Esoteric ACB
 - Esoteric RCB
 - Zen Master
 - Ruckus
- Optimized the DRIVE block to improve run-time performance 1% - 2% (your mileage may vary).

Fixes:

- Fixed a bug where attempting edit an empty block on the footswitch grid disabled the soft knobs.
- Activating a control switch attached to a modifier no longer triggers a refresh when attached to FX8-Edit.

VERSION 3.60

SEPTEMBER 16, 2016

FX8 V3.60 introduces separates FX8-Edit from control of the front panel, as well as some bug fixes.

Additions:

- All operation of FX8-Edit is now separate from the operation of the front panel. NOTE: any changes made on the front panel of the FX8 while FX8-Edit is attached will still cause a refresh of the editor.
- Removed the Footswitch grid restriction of allowing the same block on multiple footswitches. Now that footswitches have the ability to be latching or momentary, it can adventitious to attach both a latching (for both BYPASS and X/Y Toggle) to a block, while allowing the BYPASS to be assigned to a momentary switch at the same time.
- Added TILTEQ, LOWSHELF2, HIGHSHELF2, and PEAKEQ2 to the Filter block.

Fixes:

- Buttons (SCENE, ENTER, PAGE, EXIT, EDIT, and STORE) now work correctly while on the LOOPER screen.
- CS1 and CS2 now correctly load the default state on a preset change.
- The Filter on Voice 2 of the Synth block works correctly now.
- Adding a controller to a modifier with AX8-Edit correctly lights the edit LED.
- Panning all the way right with Pan parameters other than the Balance no longer mutes the output on the following effect blocks:
 - Pitch
 - Multi-Tap
 - Enhancer
 - Delay

VERSION 3.50

JULY 12, 2016

FX8 V3.50 introduces some cool new features as well as a couple of bug fixes.

Additions:

- Added new “Control Switch Blocks” CS1 and CS2 – NOTE: see instructions below
- Added new GLOBAL and PER-PRESET momentary switches – NOTE: see instructions below
- Added the BANK LIMIT feature – NOTE: see instructions below

Fixes:

- Fixed a bug that prevented Pedals from driving controllers other than External.
- Fixed Recall Effect; bug was preventing loading effects from older presets.
- Corrected the behavior of Scene footswitches on preset load.

GLOBAL and PER-PRESET Momentary Footswitches

Momentary switches do not “latch” when you step on them. They activate *while* your foot is down on the switch, and deactivate when you lift it up. Any of the numbered footswitches of the FX8 may now be designated as MOMENTARY.

This can be done either GLOBALLY, or PER-PRESET.

If a momentary footswitch is used to BYPASS/ENGAGE effects, the effect state will be *reversed* by the action of the switch.

A block that is saved as ENABLED will by momentarily bypassed. A block that is saved as BYPASSED will by momentarily enabled. The same is true for a momentary footswitch assigned to SCENE 1/2 Toggle: depending on whether Scene 1 or Scene 2 is selected, the switch will momentarily toggle to the other.

1. To Set Up a Global Momentary Switch

- a. Navigate to the GLOBAL FOOTSWITCH (“GBL FS”) page of the GLOBAL menu under SETUP.
- b. Set each switch as desired to one of the following options:
 - i. PER-PRESET
 - ii. GLOBAL LATCHING (This is equivalent to the “GLOBAL” setting from older firmware versions).
 - iii. GLOBAL MOMENTARY

2. To Set Up a Per-Preset Momentary Switch

- a. First, call up the preset you want to edit footswitches for.
- b. From the main FOOTSWITCH ("FS") page of the FX8, page right to the MISC page.
- c. Select the new FOOTSWITCH MODE ("FS MODE") option and press <ENTER>
- d. Set Each footswitch as desired:
 - i. LATCHING
 - ii. MOMENTARY
- e. Save the preset! (STORE -> ENTER -> ENTER)

NOTE: The settings on the FS MODE page have no effect for a footswitch if it is set to one of the GLOBAL options on the GBL FS page!

Controller Footswitch Blocks CS1 and CS2

The FX8 now has the ability for footswitches 1-8 to operate as "Control Switches".

Control Switch 1 and Control Switch 2 now appear in the list of SOURCES on every MODIFIER page.

Using this feature, for example, you can create a BOOST footswitch (Volume Modifier) a WHAMMY effect (Pitch Block: Control Modifier) or a single footswitch that toggles two or more effects on or off in unison (BYPASS MODE modifiers).

CONTROL SWITCH 1 and 2 are *footswitch blocks* that can be assigned Globally or Per-Preset like any other Footswitch Block from the main Footswitch ("FS") page. Use NAV to select the desired location and turn "VALUE" to step through the list of available footswitch assignments.

To Set Up a Control Switch Footswitch:

1. On the Footswitch ("FS") page of the FX8, use **NAV** and **VALUE** knobs to assign CS1 or CS2 to footswitch 1 – 8
2. Add a modifier to the desired parameter, setting "CTRL SW1" or "CTRL SW2" as the SOURCE.
3. Adjust the modifier to work as desired.

Now, when you step on the footswitch, the modifier will change the value of the assigned parameter.

NOTE: Coupled with the new "Momentary Footswitch" options, Control Switches are quite powerful!

The **initial value** of each Control Switch is saved per scene. The initial values are set on the new Control Switches ("CTRL SW") page of the CONTROLLERS area of the MISC page.

To Set Initial Values for a Control Switch:

1. From the main FOOTSWITCH ("FS") page of the FX8, page right to the MISC page.
2. Select the CONTROLLERS option and press <ENTER>
3. Page to the CONTROL SWITCH ("CTRL SW") page.
4. Set the initial value of each switch for each scene to either "ON" or "OFF".

Bank Limit

Bank Limit is a new feature designed to prevent "oops" when stepping up or down through banks during a live performance.

It limits the available banks you can access through the footswitches with an UPPER and LOWER limit. For example, you could limit your FX8 to footswitch access to banks A through D for one gig, and banks L and M for another. Bank Limit is enabled through the global menu, and adds three new parameters to the GLOBAL SETTINGS menu.

To set up Bank Limit:

1. Navigate to the SETTINGS page of the GLOBAL menu under SETUP.
2. Set BANK LIMIT as desired: "NO", "WRAP", & "NO WRAP"
 - a. NO – Banks are NOT limited. Lower and Upper limit settings are IGNORED.
 - b. WRAP – Banks ARE limited and will wrap around from the highest back to the lowest (or vice versa).
 - c. NO WRAP – Banks ARE limited and will NOT wrap.
3. Set BANK LOWER LIMIT: A – P as desired. Cannot be higher than the UPPER limit.
4. Set BANK UPPER LIMIT: A – P as desired. Cannot be lower than the lower limit.

This feature has no effect on FX8 Edit.

This is a maintenance release meant to address a few lingering bugs.

Additions:

- Added support for Footswitch Grid swapping when loading presets from disparate hardware. When the FX8 Mark I loads a preset that was created/saved on a Mark II, the footswitch rows are swapped to maintain current location. Example: The block on FS1 is assigned to FS5, and the block on FS5 is assigned to FS1. This will prevent users from having to manually reassign footswitches.

Fixes:

- Optimize MIDI output to support devices with a very short timeout (such as Diezel Amps).
- All Pan Right or Balance Parameters are no longer mute the output.
- Fixed a crash bug when using an external footswitch set to latching. This bug was originally reported on the Mark I using the Mission SP-1 toe switch.
- Pressing 2 function switches can disable Press and Hold for X/Y.
- FX8 did not handle MIDI "Running Status" messages. This prevented some MIDI expression pedals (Roland / Boss) from working correctly.
- Balance Controls on OUT PRE and POST now pan correctly.

VERSION 3.02**APRIL 19 2016**

This is small maintenance to correct a couple of issues discovered on the heels of releasing V3.01.

Additions:

- None

Fixes:

- Preset Number now displays correctly on the Large Preset Display Screen.
- EMPHASIS on the Pedal Compressors now works the same as the AxeFX.

VERSION 3.01**APRIL 15 2016**

FX8 Firmware 3.01 is primarily a maintenance release that also includes a couple of new features that folks have been requesting.

Additions:

- Added Configurable Large Preset Name Display. This feature, when enabled, displays as much of the preset name as will fit in two lines in large font. This feature is enabled through SETTINGS page of the GLOBAL menu under SETUP. The Feature is called "DISPLAY LARGE PRESET", the configurable choices are: NO, or 1,2,3 or 4 seconds.
- Modified the PRESET RECALL screen to display all 8 preset names in the currently selected bank. The current preset is highlighted. This new screen is available in both SINGLE and STICKY PRESET/BANK.
- User is no longer restricted by CPU load when adding blocks. PLEASE NOTE: The unit still automatically disables blocks until the CPU drops below the maximum threshold. This change allows users to add blocks, then make adjustments without having to remove blocks in an effort to add others.
- Modified the Footswitch Graphic states to better notify the user of the effect state in a live setting. The previous graphical states were:
 - RAISED: Engaged
 - NORMAL VIDEO (not raised): Bypassed
 - REVERSE VIDEO (not raised): Selected for Editing
- The new graphical states are:
 - RAISED (normal or reverse video): Selected for Editing

- NORMAL VIDEO (not raised): Bypassed
 - REVERSE VIDEO (not raised): Engaged
- Added Support for the “FOOTSWITCH” screen option in FX8-Edit. Please see the release notes for FX8-Edit.
- Optimized MIDI input from external MIDI Devices
- Force a scene reload if SCENE REVERT is enabled.

Fixes

- Fixed a small bug when selecting a scene, using SINGLE SCENE mode it is possible to leave the previously active “S x” Footswitch Block in the ACTIVE state (LED illuminated) erroneously.
- Fixed Gate block X/Y loading.
- Added access to the Balance Parameter in the Gate/EXP block.
- Fixed Bypass Toggling when using Y on the MultyDelay block.
- Fixed High CPU load when placing a modifier on REVERB TIME.
- Fixed Reverse Delay being modulated slightly for long delay times.
- Fixed a bug where attaching a controller to Volume Increment or Decrement could potentially corrupt a preset.

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FIRMWARE 3.0 – Feb 1, 2016

FX8 Firmware 3.0 contains major innovations, improvements and changes.

We strongly suggest that you review the updated Owner's Manual, available from <http://www.fractalaudio.com/manuals-and-docs.php>

Chapter 6 may be especially helpful given that it details the change from a single "Stompbox Mode" screen to separate "Footswitch" and "Config" pages.

IMPORTANT: After installing Firmware 3.0, it is recommended that you perform RESET SYSTEM PARAMETERS in the Utility Menu under SETUP. If not, you will at least need to check all I/O:CONTROLLER and I/O:PEDAL settings. RESET SYSTEM PARAMETERS does NOT erase your presets; it merely reverts GLOBAL, I/O, and TUNER settings to their default values.

ADDITIONS

- Added latest DRIVE & DELAY types (as of Axe-Fx II Quantum 1.06.)
- Added the SYNTH block.
- Added MIDI CC support to SCENES. Each Scene can now transmit one
- MIDI CC message (any number, value, MIDI Channel.)
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MAJOR CHANGES

1. "Stompbox Mode" is now the Footswitch page ("FS"). It may help to think of the Footswitch page as a separate MIDI controller for your preset. Functions assigned here determine *only* what the eight footswitches do. This no longer changes which effects are in your preset, or the order of effects. THEREFORE, you must first insert an effect before it can be assigned to a footswitch. This is done on the Config page (see below).
2. The effects present in a preset--and their order in the signal flow--is now determined using the redesigned Config page ("CFG"). Here, the eight entries once used only to set SERIES/PARALLEL are now actually SLOTS where effects must be placed in order. To change the effect for a given slot, select that slot, press ENTER, turn the VALUE wheel until the desired effect is shown, then press ENTER again to confirm the change. Select a slot and turn VALUE to select Series/Parallel. Select a slot and double-tap EDIT to toggle X/Y without using the footswitches. Select a slot and double-tap ENTER to BYPASS/ENGAGE without using the footswitches.
3. The FX8 no longer limits footswitch assignments to effects: you can now build custom layouts of Effects, Presets, Scenes, and more. Footswitches are still

assigned as they always were—by navigating to one of the eight Footswitch page slots and turning the VALUE knob—but the list of available functions now also includes useful Footswitch Blocks. These include Preset and Scene Selectors, plus the MIDI blocks, Relay blocks and Bank Up/Bank Down. A fringe benefit to this is that MIDI and RELAY blocks no longer need to present on the Config Page to be available on the footswitch page.

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- Note: If you load an older preset which had a MIDI or RELAY block in the signal path, those footswitch will still work but you'll find available empty spaces where the block(s) were previously located in the config.
- 4. Footswitches can now be designated as GLOBAL, making their assigned function the same across all presets. Footswitches are designated as "Global" or "Per-Preset" using the Global Footswitch ("GBL FS") page of the GLOBAL Menu under SETUP. Once a footswitch has been designated as GLOBAL, you need to check and set its function on the Footswitch page as you would any other footswitch. IMPORTANT NOTE: Understand that in order for a Global Footswitch to do anything in a given preset, the effect it controls must be present in that preset. If an effect is not present, its Global Footswitch will be disabled and shown as "grayed" in the display.
- 5. Added MODE and AUTO TRIGGER to the Relays. The existing functionality where a relay is toggled on or off with a footswitch is the LATCHING mode (and the default). A new mode "AUTO OFF" is used to momentarily flip a relay on and then off, as required by certain amps (e.g. 5150 III, some Bogners, etc.). Relays set to AUTO-OFF quickly make/break contact. The LED will flash ON and OFF when you stomp the switch. Setting AUTO TRIGGER to "ON" causes the relay to fire automatically when a scene is selected. By using X and Y both set to Auto-Trigger, you can use scenes to control the channels of a connected amp.
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ENHANCEMENTS AND FIXES

- Improved the switch/button/knob performance at high CPU loads.
- Bank Up and Bank Down switches now fire repeatedly when you press and hold the up/down footswitches in Preset/Bank Select Mode.
- On the main footswitch page, Footswitch MOVE is now Footswitch SWAP.
- All effect BALANCE controls now display a range of +/- 100. (Note that fully right is actually shown as 99.9)
- When in "Single Preset/Bank" mode, the LED that corresponds to the current preset no longer blinks.
- PEDAL 1 and PEDAL 2 can now be assigned to ANY function in the I/O:CTRL menu. (Previously they were only working correctly for limited items).
- SysEx messages used for FX8-Edit no longer appear at the MIDI OUT port as this was overloading certain MIDI-operated amps.
- Preset names now correctly display out to 23 characters.
- Removed Bank "DUMP" Utilities. Use Fractal-Bot instead of manual dumps for all backups.
- Moved "ERASE ALL PRESETS" to the RESET page,
- Fixed incorrect knob labels in the Tempo menu.
- Fixed a bug that prevented Scene 2 Relay 1 from saving its state when the signal chain was configured for "8 pre / 0 post".
- Fixed a bug in the Filter block that prevented BYPASS from working correctly when changing scenes.
- Fixed "Learn Mode" not working correctly for Pedal 2.
- Fixed "Auto Engage" bogging down FX8-Edit.
- Fixed modifier on Reverb Input Gain not working correctly.

- Fixed a bug where setting Tap Tempo to the "SCENE" function switch disabled the "LOOPER" and "TEMPO" LEDs or setting Tap Tempo to the "LOOPER" function switch disabled the "TEMPO" LED.

2.00

Please see V2.00 (Public Beta) notes below.

Fixed a couple of small screen navigation bugs discovered during the public beta.

Added Function Switch LED support for True Bypass and the Looper

Fixed a small bug that provides LED selection support during STICKY PRESET.

2.00 (Public Beta)

Dramatically improved preset loading times by orders of magnitude.

Fixed TAP TEMPO. User should now be able to capture correct tempo in as few as two taps (depending on your timing capabilities).

Separated per-SCENE MIDI PC (PROGRAM CHANGE) from the MIDI Block. The PC numbers configured for SCENE changes are no longer disabled by the presence of a MIDI block.

Fixed a bug that would cause screen navigation issues during a "Sticky" preset load.

Reduced the input gain on the FACE FUZZ drive block.

Added a new global setting "PRESS/HOLD FOR X/Y" to the SETTINGS tab. This setting defaults to ENABLED. The options are as follows:

ENABLED - Pressing and holding footswitches 1 - 8 will toggle the X/Y setting of the corresponding block. In this mode, effects are engaged or bypassed when you release the footswitch.

DISABLED - Pressing and holding footswitches 1 - 8 performs no function. In this mode, effects are engaged or bypassed immediately when you press the footswitch.

NOTE: You can disable press/hold X/Y switching and still change X/Y using SCENES, or by using the new XY FUNCTION FOOTSWITCHES (see below.)

In fact, the setting for this parameter is IGNORED and treated as DISABLED if you assign any XY function to any FUNCTION FOOTSWITCHES.

Added FUNCTION FOOTSWITCH capabilities:

The three switches on the right side of the FX8 are labeled SCENE, LOOPER, and TEMPO.

It is now possible to change what these switches do using the "**FUNCTIONS**" page in the **GLOBAL** menu under **SETUP**. For each of these three switches, you can select what happens when you tap, and what happens when you press and hold:

- **SINGLE PRST/BANK** - activates PRESET/BANK mode (see Chapter 2 of the FX8 manual). This function can only be assigned to the SCENE switch because while SINGLE PRESET/BANK is active, the LOOPER and TEMPO switches ALWAYS operate as BANK UP or BANK DOWN.
- **STICKY PRST/BANK** - activates STICKY PRESET/BANK mode. Like SINGLE PRESET/BANK, this function can only be assigned to the SCENE switch. To exit Sticky Preset/Bank mode, tap the switch again.
- **STICKY PRST +/-** activates the **NEW** STICKY PRESET +/- mode. When activated the LOOPER switch becomes PRESET +1 (up), and the TEMPO switch becomes PRESET -1 (down). Like other PRESET/BANK functions, this function can only be assigned to the SCENE switch. To exit Sticky Preset +/- mode, tap this switch again.
- **SINGLE SCENE** - activates SCENE SELECT mode. When you choose a scene, the FX8 automatically returns to STOMPBOX MODE.
- **STICKY SCENE** - activates STICKY SCENE SELECT mode. To exit Sticky Scene mode, tap this switch again.
(See Number 8 in Chapter 2 of the FX8 Owner's Manual for more on Sticky Scene Mode).
- **PRESET UP, PRESET DN** - Each of these functions can be assigned to a switch.
(See *STICKY PRST +/-* above)
- **TEMPO TAP** - activates TEMPO TAP. *NOTE: This function can only assigned to the TAP of a footswitch (not HOLD)... Think about it.*
- **TUNER** - activates the TUNER.
- **SINGLE X/Y** - when this mode is activated, pressing the numbered footswitch associated with an effect block toggles the X/Y state of that block. See "Note 1" below.
- **STICKY X/Y** - same as *SINGLE X/Y* except it is persistent until you step on this switch again. See "Note 1" below.
- **LOOPER** - activates the LOOPER.
- **TRUE BYPASS** - activates TRUE BYPASS.
- **NONE** - The selected switch has no function.

NOTES:

- 1) Assigning SINGLE X/Y or STICKY X/Y to ANY function switch will **DISABLE PRESS AND HOLD for X/Y ON FOOTSWITCHES 1 - 8**. Now, all effects will be BYPASSED or ENGAGED immediately on the down stroke of the footswitch (instead of the upstroke, as it worked previously.)
- 2) If you set any FUNCTION SWITCH to NONE on "HOLD" the TAP function switch will activate on down instead of up. This is useful for switches assigned to PRESET UP and PRESET DN as it causes them to execute immediately.
- 3) The default switch assignments match the screen printing on the FX8. Resetting your global defaults will return these switches to the default configuration. (Yes, we're talking to the people who make magnets!)

1.02

Added remaining "G3" drive blocks.

Enhanced the delay block to make the "drive" parameter more responsive.

Fixed two bugs in the multitap delay block that prevented the use of modifiers and to correctly processes filter frequencies 2 and 4.

Fixed a bug in scene changes to correctly update the noisegate, looper, and outputs.

1.02 (Public Beta "b")

Fixed a bug affecting XY and effect bypass switching on scene change.

Fixed presets loading wrong TIME or RATE into tempo synched effects.

Improved spring reverb for a more natural sound.

Added currently available "G3" drive blocks, recent compressor block changes from Axe-Fx II FW 19.

Re-designed how "STICKY PRESET MODE" LEDs work; the LED corresponding to the current preset now flashes as long as you remain in sticky preset mode.

1.01

Initial Public Release