

# AX8 Release Notes

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## V2.02

This release is based on the modifications made to the AxeFX II Quantum V2.02, hence the jump in version numbers. This is a major release, and we strongly urge you to RESET YOUR SYSTEM PARAMETERS upon successful installation of this firmware.

- Improved tube modeling. New algorithms use more accurate plate current formulas based on actual measurements rather than theoretical values. This results in smoother, thicker distortion and better dynamic response.
- Improved power supply modeling. New algorithms improve sag and feel. For convenience the virtual power supply voltage (B+) can now be monitored on the PWR DYN tab of the amp block. When the Supply Sag control is selected the gain reduction meter will display the supply voltage in dB relative to the idle voltage.
- Improved cathode bias algorithm for “Class-A” amp models (i.e. Class-A 30W, AC-20 Dlx, etc). In conjunction with this the Cathode Squish parameter has been repurposed as “Cathode Bias” and controls the value of a virtual cathode resistor. A value of 50% is “optimum” and biases the power tubes at true Class A operation (neglecting any bias shifting due to supply sag, screen droop, etc.). Values greater than 50% increase the resistance and therefore bias the power tubes “colder”. Values less than 50% bias the tubes beyond Class A. In a real amp this would probably destroy the tubes but that limitation does not exist in our virtual amp. Most real amps of this type actually operate far below Class A and the default values for the models will reflect this. Note that the Power Tube Bias value should be set to 1.00 for these amp types (since that parameter controls the grid voltage and the grid voltage is at a maximum in these types of amps). Existing presets will be automatically updated with new default Cathode Bias and Power Tube Bias values.
- Improved Phaser block CPU usage.
- Added “Filter Slope” parameter to Cabinet block. This can be used to select between first-order (6 dB/octave) or second-order (12 dB/octave) filters for the Low Cut and High Cut filters.
- Improved Plexi “Jump” models to account for interaction between Drive controls.
- Renamed Plexi 50W High amp model to “Plexi 50W Hi 1” (see below).
- Added “Plexi Hi 2” amp model which is similar to Plexi 50W Hi 1 except the second triode stage has a 0.68uF cathode bypass capacitor. The second bypass capacitor was added in the early 70’s and gives a slightly brighter tone.
- Added “Plexi 100W 1970” based on a 1970 Marshall 1959SLP 100. This particular amp has a darker, smoother sound than earlier Plexis.
- Added “Ruby Rocket” amp model based on a Paul Ruby Rocket with the Bright switch in the down position. The existing model has been renamed “Ruby Rocket Brt” to reflect the state of the Bright switch being in the up position.
- Added “AC-20 12AX7 B” amp model based on an AC-20 Deluxe with the rear switch set to 12AX7 and the Bass/Treble switch set to Bass. The existing models have been renamed AC-20 EF86 B, AC-20 EF86 T, and AC-20 12AX7 T.
- Added “Spawn Nitrous 1” amp model based on the OD-1 mode of a Splawn Nitro with KT-88 power tubes.
- Fixed Spawn Nitrous model broken by earlier firmware update. If you are using this model in your presets you should reset the model by deselecting and reselecting the amp type. This model has been renamed “Spawn Nitrous 2” to indicate that it is the OD-2 mode (see above).

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- Fixed wrong default Negative Feedback value in all “Dizzy” models. Note that the Presence control in these models has more range than the actual amp as the amps have a limiting resistor that the models do not have. Turning the Presence all the way up on the real amps is equivalent to around 7-8 on the models.
- Fixed wrong Bass taper in Recto2 amp models. Previous taper was Log30A. Taper is now Log10A. Existing presets should be auditioned as the amount of bass will be less.
- Improved power tube saturation modeling. This yields warmer, “tubier” distortion. The PA Hardness parameter is automatically set for each power tube type but may be overridden if desired.
- Improved virtual output transformer saturation modeling.
- Change “Thru” bypass mode so that effect input is muted. This prevents, for example, delays from creating echoes when engaged.
- Added “Invert” mic type to Cabinet block. This inverts the signal allowing for interesting effects in conjunction with the delay parameter.
- Fixed Reverse Delay being modulated slightly for long delay times.
- Fixed Mr Z MZ-8 amp model sounding “off”.
- Added Bright Knob Control to all amp models.
- Fixed a bug where the hardware TREBLE knob did not correctly control the Treble on some amp models.
- GATE/EXP block now correctly stores and loads the Y parameters.
- Added access to the Balance Knob in the GATE/EXP block.
- Fixed a bug where attaching a controller to Volume Increment or Decrement could potentially corrupt a preset.
- Fixed Bypass Toggling when using Y on the Multi-Delay block.
- Fixed a bug on the Layout grid; placing a block no longer automatically connects to a previous empty block.
- Fixed a user reported bug: Dialing the AMP Block Drive parameter to zero quickly using the dedicated "DRIVE" knob would cause a loud oscillation on the Angle Severe amp models.
- Modified Scene Revert so selecting the current scene will revert to saved settings.
- Fixed a bug where the Looper Control did not like to be initially triggered by the F-switches
- The user is no longer restricted from inserting blocks that create CPU overload. Unit now continues disabling the highest load effects.
- Fixed a bug that produced unpredictable behavior when pressing <ENTER> on an empty block on the layout grid.
- Fixed Crash bug using AX8-Edit: placing shunt in upper left corner, and then editing Input Gate.

NOTE: This firmware represents a significant update in the amp modeling and the amp models themselves. Many models have been redone. Although care was taken to ensure as much compatibility with existing presets as possible, your presets may be altered.

### V1.01

V1.01 is a maintenance release, and contains the following BUG fixes:

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- Added FAS Boost to the DRIVE Block
- Fixed Modifiers on the PAGE3 of the WAH Block
- FXLOOP Block correctly restores its state on Preset and Scene change
- Metronome in the TEMPO now works
- Controllers no longer cause an audible pop or click
- Scene Changes made on the LAYOUT GRID, such as Effect BYPASS, are now correctly saved to the preset
- Replacing a CPU intensive effect block, with a less intensive block (such as a SHUNT), is no longer blocked by the unit
- Global Controllers Volume Increment and Decrement now work
- Fixed a bug where:
  - Setting Tap Tempo to the “SCENE” function switch disabled the “LOOPER” and “TEMPO” LEDs.
  - Setting Tap Tempo to the “LOOPER” function switch disabled the “TEMPO” LED.
- Single TAP TEMPO will now timeout correctly and return you to the main screen
- Compressor Side Chain now works correctly
- Both channels of the stereo CABINET block now output the same level
- Attaching a controller to the DRIVE parameter of the AMP block no longer causes a +25% increase in CPU utilization
- PHASER LFO phase works correctly

## V1.00

Welcome to the AX8. This is the initial release, so there is nothing to report here. Please enjoy.