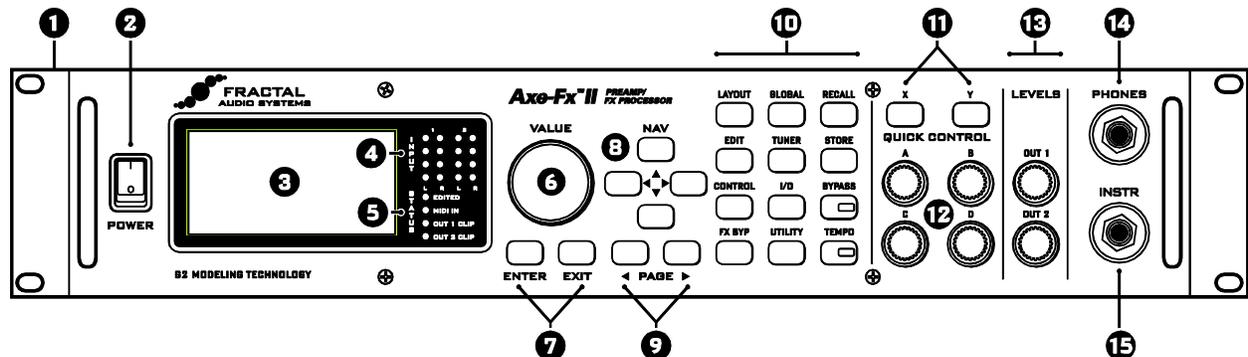
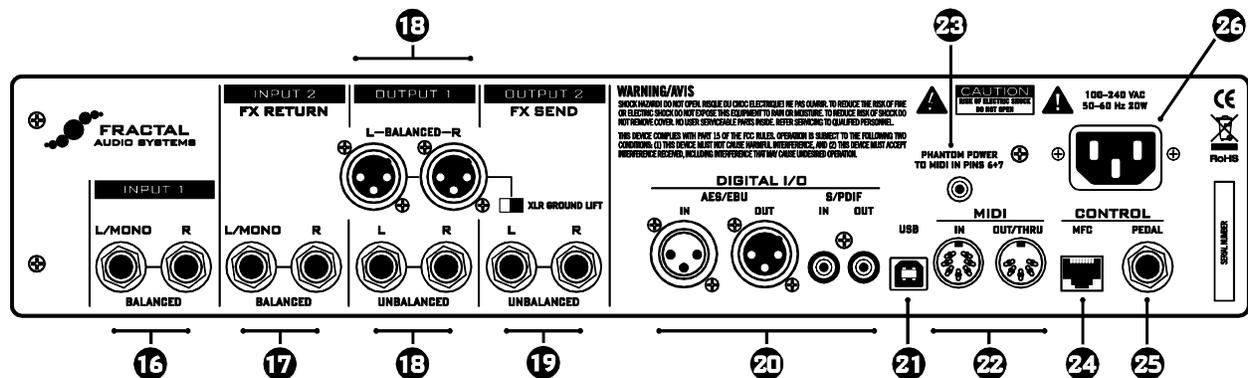


Introducing the Axe-Fx II™

The Axe-Fx II™ is the successor to the very successful Axe-Fx Standard and Ultra Preamp/Effect Processors. The original Axe-Fx is widely heralded as the one of the best-sounding amp modeler and FX processors ever created. Never willing to rest on our laurels, we are excited to present the Axe-Fx II. This brief introduction outlines the features of the Axe-Fx II and improvements over previous models. First, let's take a look at the new hardware design and features:



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| <ul style="list-style-type: none"> 1. Steel Enclosure
(19" x 3.5" x 12") 2. Power Switch 3. 160 x 80 pixel LCD display 4. LED INPUT 1 and 2 meters | <ul style="list-style-type: none"> 5. Status LEDs:
EDITED, MIDI IN,
CLIP 1, and CLIP 2 6. VALUE wheel 7. ENTER and EXIT buttons 8. NAV buttons 9. < PAGE > Buttons | <ul style="list-style-type: none"> 10. Main Menu/
Function Buttons 11. X-Y Select Buttons 12. Quick Control Knobs 13. Output 1+2 Level Controls 14. Headphones jack 15. Instrument Input Jack |
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- | | | |
|---|--|---|
| <ul style="list-style-type: none"> 16. INPUT 1 Jacks
L+R Bal. (1/4" TRS) 17. INPUT 2 Jacks
L+R Bal. (1/4" TRS)
"FX RETURN" 18. OUTPUT 1 JACKS
L + R Unbal. (1/4") plus
bal. (XLR) w/ Ground Lift | <ul style="list-style-type: none"> 19. OUTPUT 2 JACKS
L + R Unbal. (1/4")
("FX SEND") 20. S/PDIF + AES/EBU
Ins/Outs 21. USB connector 22. MIDI IN + OUT/THRU 23. MIDI Phantom Power | <ul style="list-style-type: none"> 24. MFC Control Port 25. Expression Pedal Jack 26. Main Power Input |
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What's Inside...

The Axe-Fx II is the new flagship processor from Fractal Audio, with more power and capabilities than our previous flagship, the Axe-Fx Ultra. It contains our best-ever guitar amplifier simulation and effect technology, with state-of-the-art algorithms achieving the ultimate in sound and feel. It is a fully programmable, fully routable, real-time controllable, multi-effects processor offering the utmost in sound quality, flexibility and control.

Processing Power

It has never been our way to skimp on processing power. Advanced algorithms require a powerful platform on which to operate. The Axe-Fx II features two 600 MHz dual-core Analog Devices TigerSHARC™ Digital Signal Processors working in tandem. One processor is devoted solely to amp modeling while the other handles effects processing and housekeeping. An ultra-high-speed bus interconnects the two processors shuttling data back and forth. Mated to the processors is a high-speed, 64-bit external memory bus and twice the RAM of the previous Axe-Fx. A 200K gate FPGA provides peripheral functionality and system bus management. The Axe-Fx II is by far the most powerful instrument processor ever created, with more raw, real-time audio processing horsepower than anything available, at any price. Yet, unlike power-hungry PCs, the Axe-Fx II consumes less than 40W and is nearly silent in operation.

G2 Amp Modeling™

All this power would be useless without state-of-the-art algorithms to go with it. Three years of research has yielded what we call “G2 Amp Modeling” technology. G2™ is comprised of major advancements in both preamp and power amp modeling.

First we created our new Virtual Vacuum Tube™ technology. VVT™ is a complete departure from the static waveshaping technology used by other products. It is a digital replica of a vacuum tube complete with time, frequency and level dependence. Just like a real vacuum tube, our digital replica is truly dynamic and changes with your playing. This creates a level of realism, complexity and response that other products just can't match.

Next we rewrote the book on power amp modeling. G2 models the entire power amp including the phase inverter, power tubes, output transformer, power transformer, choke, filter caps and more. The results are amazing: warm, yet tight bass, powerful midrange and silky highs. We even model speaker voice coil interaction and speaker distortion. In addition, the amplifier block now includes an integrated 8-band graphic equalizer for additional tone shaping capabilities without additional blocks.

As of this writing the Axe-Fx II contains 59 meticulously crafted G2 amp types. Almost all of these were created by incredibly detailed analysis of the actual amps. We spent a small fortune searching out and purchasing vintage and modern amplifiers to add to our reference collection.

Improved Speaker Emulation

Along with the dynamic speaker modeling in the amp block the Axe-Fx II features a new higher resolution convolution cabinet emulator with 64 factory Impulse Responses (IRs) and 50 “USER CAB” memory locations. Factory IRs also include selections from the Redwirez™ and Ownhammer™ collections.

USB

An Audio Class 2.0 compliant USB interface is provided for both audio streaming and remote editing. Three channels of audio are streamed out with the first two channels comprising the output channel pair and the third channel, available on USB 2.0 systems, carries a raw unprocessed copy of the Instrument Input. Raw tracks can be sent back into the unit for effortless “reamping”. Two channels of audio can be streamed into the unit at any time. If the input source is set to USB these two channels are routed to the input, otherwise they are mixed at the

output. The USB interface also provides high speed MIDI connectivity and remote editing capability via our Axe-Edit™ software. This software makes editing the Axe-Fx II quick and easy via a comfortable graphic interface.

MFC Interface

The Axe-Fx II features a dedicated jack for connection to our MFC line of MIDI Foot Controllers. Using readily available CAT-5 cable the unit can be connected to an MFC and provides power and bi-directional communications. Cable lengths of hundreds of meters are possible. Of course you can still use the MIDI In jack as in the previous Axe-Fx along with a 7-pin MIDI cable and external AC adapter.

Balanced I/O

All analog inputs (except the front panel Instrument Input) are fully balanced and can be connected to balanced or unbalanced equipment. The ¼" unbalanced outputs feature our new Humbuster™ technology. When used with a simple stereo-to-mono cable these outputs remotely sense the ground noise of the connected equipment and subtract the noise. This can provide up to 20 dB reduction in ground noise without resorting to dangerous “cheater plugs” or expensive isolation transformers. Balanced XLR outputs are provided for interconnection to mixing boards and other balanced equipment.

“Four-Cable Method” Optimization

The Axe-Fx II was also designed with the “Four-Cable Method” in mind. Special processing keeps the noise floor as low as possible.

Digital I/O

In addition to the USB interface the Axe-Fx II sports SPDIF and AES Input and Output connectors. MIDI In and Out/Thru are provided for interconnection with other MIDI controllable equipment.

Headphone Jack

A high-quality headphone driver is provided along with a front panel headphone jack for silent monitoring.

Dedicated Instrument Input

The front panel input is specifically designed for use with electric and acoustic guitars and basses. A proprietary low-noise circuit and dedicated A/D converter provide astonishingly low noise and pristine audio quality. The original Axe-Fx was hailed for its low-noise performance. The Axe-Fx II provides an almost 10 dB SNR improvement.

Unity-Gain Processing

By using digitally controlled potentiometers the Axe-Fx II is able to calculate the precise amount of gain to provide a unity-gain system. When the output level controls are set to their maximum the Axe-Fx II operates as a unity-gain device irrespective of the input trim controls. This simplifies use in “Four-Cable” systems or as an outboard effects processor. No tedious gain trimming is required. Simply set the input trims such that the input LEDs indicate optimum operation and you are done. Another benefit of this technique is that the gain of the Amp and Drive blocks are unaffected by the input trim. The input trim can be set to the optimum value for a given instrument without affecting the gain of the nonlinear effects.

Preset Directory, Quick Load, and Swap

Presets may now be selected with the NAV buttons (+/-1; +/-10) or via a “Directory” which shows names

Quick-Control Knobs

In addition to the main Value knob, four Quick-Edit knobs are provided for rapid access to parameters. When used in conjunction with the Value knob, up to five parameters can be accessed without changing parameter focus.

Large LCD

A new, custom-designed 160x80 backlit LCD provides improved readability. Integrated into the LCD bezel are the LED status indicators and input level monitors.

X-Y Switching Dual-Parameter Sets

Eight block types—amp, chorus, drive, delay, flanger, phaser, pitch, and wahwah—are equipped with two fully independent parameter sets, called X and Y. X-Y “channel” switching allows one block to have all of its settings switched at the touch of a button (during editing) or via MIDI remote control (during performance.) X-Y buttons also double as user-definable Quick Edit Select keys, which can be set to open the edit menus of any blocks without prior selection on the grid.

Global Blocks

Those familiar with “Global Amps” from previous Axe-Fx products will find this system greatly broadened and improved, with 10 global entries for every block type in the inventory. Those new to the Axe-Fx II will appreciate how global blocks allow centralized control over multiple presets. Save “normal” blocks from your presets to a separate and independent global memory area. Load Global Blocks into presets and create “links,” which keep presets instantly and seamlessly as they are recalled.

Dedicated Looper

A dedicated 60-second Looper is now available and can be placed anywhere in the grid.

Effect Types

Pre-defined effect “types” are now available in many blocks to ease preset creation. These include tape delay models, analog choruses, “script logo” flangers and phasers, Vibe simulations and many more. When you select the desired type all requisite parameters are set automatically (and may then be further adjusted to taste). Effect sound capabilities have been specifically modified to provide very authentic representation of the characteristics of these classic originals.

Improved Effects

Many of the effects and algorithms have been improved and enhanced. The Delay and Reverb blocks now feature many improvements including integrated parametric EQ. The Chorus, Flanger and Wah blocks now feature improved modeling along with nonlinearity modeling and BBD simulation. Compressors now use ms values for attack and release times. Graphic Equalizers (including Global) are 10-band. Tempo parameters now offer 64 different rhythmic values. Max. Global LFO and sequencer rates upped to 30 Hz. And more...

Expanded Modifiers and Controllers

The Axe-Fx II increases the maximum number of External Controllers from 8 to 12. The total number of modifiers which may be used in a single preset is increased from 16 to 24.

Preset Backup

An integrated FLASH memory chip allows backup and retrieval of user preset banks and system information. Primary preset memory is provided by a battery-backed SRAM which provides superior write speeds and endurance.

Renewed capacity for future updates: Whereas the Axe-Fx Standard and Ultra are fully mature in terms of their capacity for further development, the Axe-Fx II is well equipped for a future of free upgrades and updates in the tradition that established our commitment to product evolution.

For more information on the Axe-Fx II, please watch for updates and announcements at our web site <http://www.fractalaudio.com>

Specifications

FRONT PANEL INPUT

Connector:	1/4" phone jack, unbalanced.
Impedance:	1 Mohm (less if Input-Z is active)
Max. Input Level:	+16 dBu (conditioned for guitar use)

REAR INPUTS

Connector:	1/4" phone jack, balanced.
Impedance:	1 Mohm
Max. Input Level:	+20 dBu

A/D CONVERSION

Bit Depth:	24 bits
Sample Rate:	48 kHz
Dynamic Range:	> 110 dB
Frequency Response:	20 - 20kHz, +0 / -1 dB
Crosstalk:	< -60 dB over full bandwidth

ANALOG OUTPUTS

Connectors:	1/4" phone jack unbalanced (hum-canceling), XLR balanced (for main output)
Impedance:	600 ohm
Max Output Level:	+20 dBu
Dynamic Range:	> 110 dB
Frequency Response:	20 - 20kHz, +0 / -1 dB
Crosstalk:	< -60 dB over full bandwidth

DIGITAL I/O

Connectors:	RCA Coaxial Type for S/PDIF I/O, XLR for AES I/O
Format:	S/PDIF - 24 bit
Sample Rate:	48 kHz

MIDI INTERFACE

Input Connector:	7-pin DIN (pins 6&7 connected to phantom power in jack)
Out/Thru Connector:	5-pin DIN

PEDAL INTERFACE

Connector:	1/4" TRS phone jacks
Format:	Compatible with expression and momentary or latching pedals

MFC INTERFACE:

Connector:	RJ-45 "CAT-5". NOTE: Do NOT connect this jack to an Ethernet port. This jack is only intended for connection to an MFC MIDI Foot Controller.
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GENERAL

Finish:	Powdercoated steel chassis with anodized aluminum faceplate
Display:	160x80 dot matrix graphic LCD
Dimensions:	19" x 3.5" x 12" (483 x 88 x 305 mm)
Weight:	10 lbs 4.5 kg)
Input Voltage:	100-240 VAC, 47 - 63 Hz (universal input)
Power Consumption:	< 40 W
Backup Battery Life:	> 10 years
Backup Battery Type:	CR2450 Lithium

ENVIRONMENTAL

Operating Temperature:	32 to 122 °F (0 to 50 °C)
Storage Temperature:	-22 to 167 °F (-30 to 70 °C)
Humidity:	Max. 90% non-condensing

(Specifications subject to change without notice)