

EMULATOR 4 ULTRA



E-MU SYSTEMS introduced the first Emulator in 1981, setting the standard for digital samplers and forever changing the world of electronic music. Since then, E-MU has given users new and innovative technologies with each successive Emulator generation in our quest to produce the world's finest samplers. Now E-MU proudly introduces the new Emulator 4 Ultra: a professional sampling instrument with unrivaled speed, versatility and sonic fidelity that allows you to realize any sound imaginable. The success of the Emulator line over the last 18 years has resulted from the close ties between engineers at E-MU and you, our customer.

We recognize our users as the primary driving force in the Emulator's evolution, and the feedback and experiences you've shared with us has resulted in useful and intuitive features based on your real-world needs. When you acquire an Emulator, you are investing in a professional instrument that will be supported and developed into the future with sounds, software upgrades and hardware options. It's no wonder that Emulators are found in countless studios around the world and serve as the standard against which all other samplers are compared.

 **E-MU SYSTEMS**

Ultra Hardware

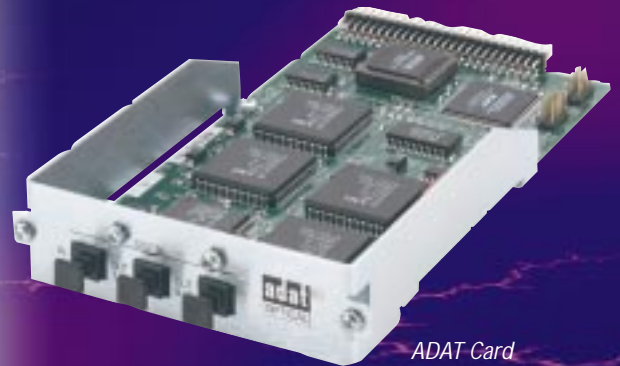
The E4 Ultra features a completely new hardware architecture that provides you with a host of benefits. The E4 Ultra's new 32-bit RISC processor gives you ultra-fast MIDI response time, SCSI, DSP operations and sampling, making your time more productive. All E4 Ultra samplers are upgradeable to 128 voices of polyphony (standard on E4XT Ultra), allowing you to layer and sequence complex sounds without fear of losing any notes, freeing you to concentrate on the creative process and not on the limitations of your sampler. You can install up to 128 MB of RAM (E4XT Ultra ships with 64 MB standard, the E6400 and E-Synth Ultras ship with 16 MB standard), offering you tremendous flexibility in manipulating huge banks of quality sounds. The E4 Ultra also accommodates Flash ROM, allowing you to create and edit custom soundsets that are instantly accessible. With its combination of polyphony, memory capacity, and blazing processor speed, the E4 Ultra will deliver your most intense layered sounds and sequences with dead-on timing and pristine fidelity.

Sonic Manipulation

The E4 Ultra ships with the new EOS (Emulator Operating System) version 4.0 operating system, which offers faster and more intuitive loop point placement, enhancements to the sequencer, and many other breakthrough features. EOS has constantly evolved through the years, providing you with an unparalleled software upgrade path full of new features that you can easily load into the E4 Ultra's operating system memory via floppy disk. Inspired engineering has been combined with user feedback to create new EOS features like Beat-Munging, providing you with solutions to real-world problems and keeping your Emulator state-of-the-art.

Beat-Munging is a new real-time DSP tool that analyzes your drum loops and phrases, automatically determines the tempo, and then perfectly loops the sample for ultimate groove preservation. Beat-Munging also allows you to change your loop's time signature (i.e. from 4/4 to 7/8), tempo, swing factor and individually manipulate beats within your loop, all in real time. Beat-Munging gives you unprecedented rhythmic control over your audio and may radically change the way you create and manipulate loops and grooves—and you will only find this breakthrough technology in the E4 Ultra.

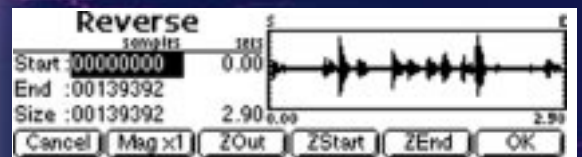
The E4 Ultra also provides you with a large palette of DSP tools like stereo phase-locked time compression, pitch change, Doppler shift panning functions, sample reverse, transform multiply, digital re-sampling, and an Aphex Aural Exciter® algorithm to add clarity and brilliance to your sounds. Together with a dual 24-bit stereo-effects processor with over 40 algorithms, the E4 Ultra provides the tools that allow you to transform your original, raw waveforms into new, complex timbres that will serve as the building blocks for creating inspired presets. From sound effects and film scores to the latest dance grooves, the E4 Ultra will always deliver your sound accurately, placing the creative power of sound manipulation where it belongs—in your hands.



ADAT Card



Beat-Munger



Reverse



EOS Link Software

Total Integration

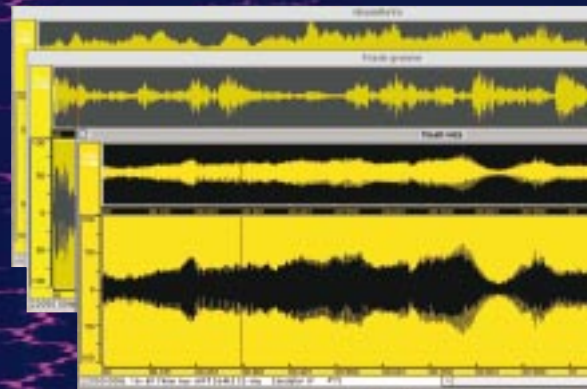
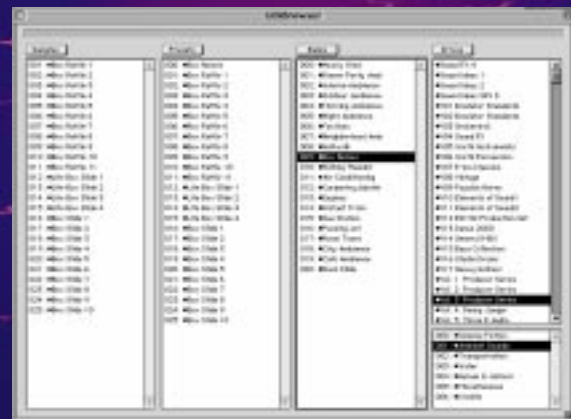
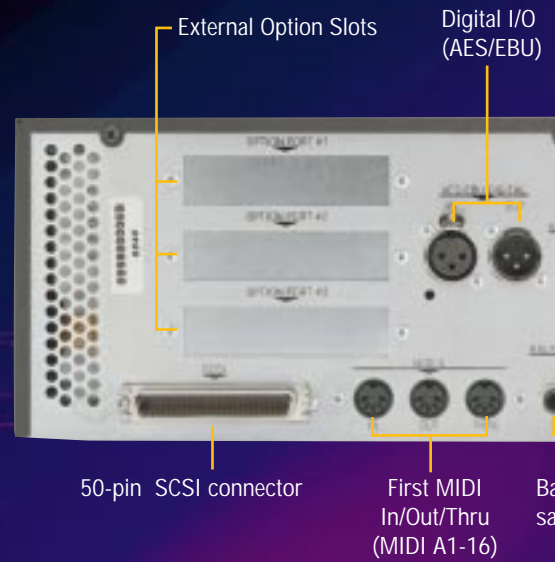
With the increasing convergence of digital and analog technologies, the E4 Ultra has been designed to seamlessly integrate with your computer and the rest of your studio. The E4 Ultra ships with EOS Link, a software application that allows you to control the Emulator from your computer desktop. Combined with EOS Browser and EOS File Assistant from Gallery Software, you can now fully integrate the E4 Ultra with your computer to catalog your sounds and transfer samples, presets and multimode setups between your E4 Ultra and various storage media. And the E4 Ultra's 50-pin SCSI connector offers you compatibility with a variety of mass storage devices, including external hard disks (up to 18 GB), CD-ROMs, DVD-RAM, Jaz, Zip and others, giving you true flexibility in storing your sounds and projects. You can use the E4 Ultra with a wide variety of audio/MIDI software by third party manufacturers to enhance the Emulator's many professional features even further, including some specifically designed to support E-MU samplers. The E4 Ultra also integrates into your digital studio with AES/EBU digital I/O, Word Clock I/O, and the optional 16 output/8 input ADAT card, keeping your audio entirely in the digital domain.

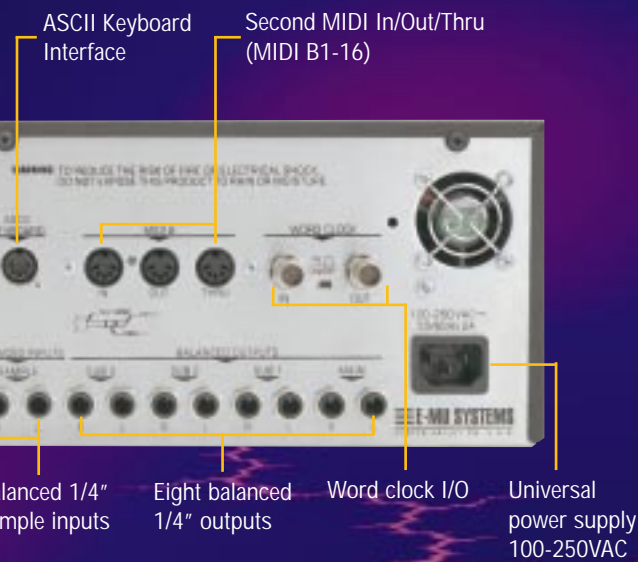
Powerful Synthesis

The Emulator 4 Ultra is more than just a sampler— it is also a powerful synthesizer with Digital Modular Synthesis (DMS). DMS technology lets you patch control sources to the synthesis parameters found in each preset for an incredible number of modulation possibilities. E-MU's roots go back to the days of analog modular synthesis, and we developed DMS to allow you to recreate desirable analog synth features and effects while staying entirely in the digital domain. You can use the E4 Ultra's virtual Patch Cord architecture to easily target the 21 patented Z-Plane filters, 2 LFOs, tuning functions, and three fully independent six segment envelope generators (per sample!) to create any sound imaginable. The E4 Ultra provides you with the world's most powerful, professional synthesis tools to allow you to create that "just right" sound that is uniquely yours.

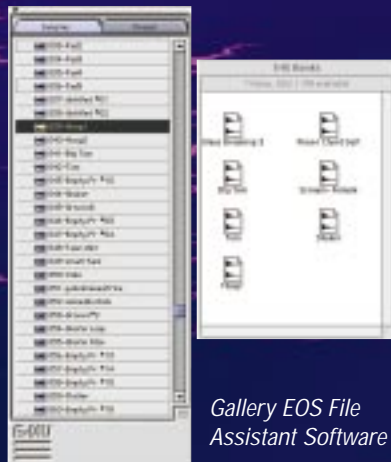
Legendary E-MU Sound

Our Emulator samplers have always been known and trusted for their musical warmth and sonic integrity. The E4 Ultra gives you 128x over-sampling sigma/delta conversion to ensure that every subtle nuance of your original source material is captured during sampling. Our proprietary chip technology with 32-bit processing provides you with virtually distortionless pitch transposition over an incredible 10-octave range, giving you unmatched flexibility in the use of your samples, free of aliasing, clock noise and other digital artifacts. The discrete 20-bit digital-to-analog converters and balanced outputs provide you with increased headroom and the assurance that the E4 Ultra's pristine audio quality is accurately translated to the analog domain. The E4 Ultra also imports other sample file formats with optimal sound quality, including the Roland S-700 Series and AKAI S-3000/1000/1100 sound libraries, as well having the ability to read AIFF and .WAV files from floppy. This compatibility allows you to play all of your old favorite sounds, while giving you access to the legendary Emulator sound library.





Balanced 1/4" sample inputs
 Eight balanced 1/4" outputs
 Word clock I/O
 Universal power supply 100-250VAC



Gallery EOS Browser Software

Gallery EOS File Assistant Software



Bias PEAK™ Software



Versatility

Since the inception of the Emulator line, E-MU has offered a variety of models and configurations tailored to the way you work. You can choose from three different E4 Ultra models depending on your needs and budget: the E4XT Ultra is our top-of-the line 128 voice sampler and comes loaded with a host of professional options. The mid-priced E-Synth Ultra gives you 64 voices with instant access to onboard ROM sounds. Our highly affordable E6400 Ultra offers you a way to harness the power of the Ultra series on a budget. And in keeping with our product upgrade philosophy, the E-Synth and E6400 Ultra's can be fully upgraded to E4XT Ultra specification. All E4 Ultra's are equipped with ten expansion ports (seven internal and 3 rear-panel) that accommodate additional hardware options like the new 16 output/8 input ADAT card, the revolutionary 32-bit, multi-channel R-Chip FX card (available Fall '99), sound ROMs, and additional analog and digital I/O options that allow your E4 Ultra to integrate into any studio environment.

The new 16 and 32 MB Flash ROMs for the E4 Ultra are of particular interest to musicians who work on long term projects or have the need to take their rig on the road. These ROMs provide non-volatile storage of sounds with instant access, avoiding the need to load banks. Flash ROMs can be re-written again and again, with the added bonus of being able to create custom sound ROM sounds that can also be used in the Proteus 2000, E-MU's new 128 voice, single rack space sound module. The E4 Ultra and Proteus 2000 combination is the ultimate system solution for composers, recording studios, location based entertainment installations and touring musicians.

A Sound Investment

We believe that purchasing an E-MU sampler is an investment: if you already invested in an E4X, E4XT, e6400 or E-Synth Rack, you can upgrade your rackmount sampler to the new Ultra hardware platform with a processor and software upgrade, performed either at the E-MU factory or E-MU approved service centers. We can turn your already powerful Emulator investment into the most advanced sampler in the world at a very reasonable price. Our commitment to protecting your investment is just one more reason to choose an E-MU sampler.

Go With the Leader

Whether you compose in the studio, work as a sound designer or perform live, E-MU's Emulator 4 Ultra line of samplers offers you the greatest power and flexibility of any sampler in the world to deliver your unique sound. E-MU virtually invented affordable, high performance sampling, and we are committed to providing the quality and features you need and have come to expect from the leader in digital sampling. Visit your E-MU dealer today and experience state-of-the-art sampling for yourself.

Ultra Models



E4XT Ultra

- 128 Voice Polyphony
- 64 MB RAM (expandable to 128 MB)
- 3.2 GB Hard Drive
- Dual MIDI (32 Channels)
- 24-bit Stereo-Effects Processor
- 8 Balanced Analog Outputs (expandable to 16)
- Word Clock & AES/EBU I/O
- New Ultra-fast 32-bit RISC Processor
- EOS 4.0 Software
- 9 CD ROMs (over 2 GB of sounds)



E-Synth Ultra

- 16 MB Internal Sound ROM
- 64 Voice Polyphony (expandable to 128)
- 16 MB RAM (expandable to 128 MB)
- Dual MIDI (32 Channels)
- 24-bit Stereo-Effects Processor
- 8 Balanced Analog Outputs (expandable to 16)
- Word Clock & AES/EBU I/O
- New Ultra-fast 32-bit RISC Processor
- EOS 4.0 Software
- 9 CD ROMs (over 2 GB of sounds)



E6400 Ultra

- 64 Voice Polyphony (expandable to 128)
- 16 MB RAM (expandable to 128 MB)
- 24-bit Stereo-Effects Processor
- 8 Balanced Analog Outputs (expandable to 16)
- New Ultra-fast 32-bit RISC Processor
- EOS 4.0 Software
- 9 CD ROMs (over 2 GB of sounds)

	6860	6861	6862	6863	6864	6870
E4XT Ultra	Standard	Optional	Standard	Optional	Optional	Optional
E-Synth Ultra	Optional	Optional	Standard	Optional	Optional	Standard
E6400 Ultra	Optional	Optional	Optional	Optional	Optional	Optional
	6871	6876	6877	6301	6313	
E4XT Ultra	Optional	Optional	Optional	Standard	Optional	
E-Synth Ultra	Optional	Optional	Optional	Optional	Optional	
E6400 Ultra	Optional	Optional	Optional	Optional	Optional	

Options

6860 128 Voice Polyphony Upgrade

This kit allows you to upgrade your 64 voice E4 Ultra to 128 voices of polyphony (standard on the E4XT Ultra).

6861 16 Out/ 8 In A-DAT

This kit allows you to connect 16 channels of ADAT outputs and 8 channels of ADAT inputs.

6862 D-WAM (AES/EBU, Word Clock I/O, ASCII, additional 16 MIDI)

This daughter card upgrade for the E6400 allows you to add digital I/O, Word Clock I/O, ASCII and an additional 16 channels of MIDI to your E6400 Ultra (standard on E4XT Ultra and E-Synth Ultra).

6863 EDI (E-MU Digital Interface)

This kit allows you to add a multi-channel EDI interface to connect your E4 Ultra to EDI equipped E-MU products.

6864 R-Chip Multi-channel Studio Effects Processor

This kit allows you to add the revolutionary, multi-channel R-Chip Studio Effects Processor to your E4 Ultra.

6870 E-Synth 16 MB Sound ROM

This kit provides your E4 Ultra with 16 MB of instantly accessible samples and 500 presets that are optimized for the E4 Ultra's synthesis capabilities. The E-Synth Sound ROM features a diverse blend of both standard instruments and digital waveforms to provide you with an array of useful and cutting-edge sounds (standard on E-Synth Ultra).

6871 Orbit/ Phatt Sessions 16 MB Sound ROM

This kit is similar to the E-Synth Sound ROM with 500 funky/electronic presets, and features all of the samples from E-MU's famous Orbit and Planet Phatt sound modules.

6876 16 MB Flash ROM

This kit allows you to create your own custom 16 MB sound ROMs that never require loading and provide you with the perfect way to take your sounds on the road. You can edit your flash ROMs whenever needed, putting your most-used sounds at your fingertips.

6877 32 MB Flash ROM

This kit is similar to the 16 MB Flash ROM above, but offers you 32 MB of Flash memory for even more flexibility in storing your sounds.

6301 Hard Drive Mounting Kit

This kit allows you to mount an internal hard drive into your E4 Ultra (standard on the E4XT Ultra).

6313 (8 Analog Output Expander)

This kit enables you to expand your E4 Ultra's number of balanced 1/4" outputs from 8 to 16.

Specifications

• Controls

Power switch, Data Entry Control, Master Menu Select, Disk Menu Select, Preset Manage and Edit Menu Select, Sample Manage and Edit Menu Select, New Sample Menu Select, Sequencer Menu Select, FX Menu Select, Cursor Control, Page Control, F1-F6 Function Keys, Audition, 10 Key Pad, Enter, Exit, Increment, Decrement, Master Volume, 240 x 64 Custom Backlit Display

• Menus

• Master Menu

Memory; Utilities (assignable keys, channel volume, tones, re-calibration, tests); Bank (erase, name, auto load, flash copy); Setup (tune, output (headroom, output boost, format, clock, AES Boost); Miscellaneous (contrast, screen saver, undo/redo enable, SCSI (ID, termination, Mac on SCSI bus, Play while Xfer), import, memory allocation); FX (FXA setup, FXB setup, bypass, control channel); Sequencer, MIDI (mode, controls 1, controls 2 (MIDI A-H), preferences 1 (velocity curve linear, 1-23, control #7 curve), preferences 2)

• Disk Menu

Utilities (mount, copy system, format, backup, search); Browse (drives, folders, banks, presets, samples, sequences); View; Load; Save (save as EIV, EIIIx, AIFF, .Wav); Info; SoundSprint™

• Preset Manage Menu

Utilities (erase, dump, re-map); Name; New; Copy; Export; Info

• Preset Edit Menu

Voices (1-255) = one sample, or Multi-sample
Per Voice Parameters:

Volume, Pan, Course Tuning, Fine Tuning, Transpose, Original Note, Key Range Windows (fade, switch), Key Velocity Windows (fade, switch), Key Real-Time Windows (fade, switch), Non-Transpose, Chorus (amount, width, delay, start offset), Glide Rate, Glide Curve, Solo Mode (multiple trigger, melody (last, low, high), synth (last, low, high), Finger Glide), Assign Group, Latch Mode, Amp Envelope Depth, Submix, Amplifier Envelope (6 rates, 6 levels), Filter Type (21 types), Filter Frequency, Filter Resonance, Filter Envelope (6 rates, 6

levels), LFO 1 Rate, LFO 1 Shape (17 types), LFO 1 Delay, LFO 1 Variation, LFO 1 Sync (key, free run), LFO 2 Rate, LFO 2 Shape (17 types), LFO 2 Delay, LFO 2 Variation, LFO 2 Sync (key, free run), Lag 0, Lag 1, Auxiliary Envelope (6 rates, 6 levels), Patch Cords (24, >60 sources, >60 Destinations)

• Editing tools:

Voice Select, Copy, Delete, Solo Voice, Group 1-32, New Sample Zone, Get Multi-sample, Split, Combine, Subsume, Edit Zone, Edit Group, Edit All
Preset Common Parameters:

Effects: FXA (>30 algorithms, delay, high frequency damp, FXB->FXA send, send amount), FXB (>30 algorithms, feedback, LFO rate, delay, send amount), Initial Controllers (A-D), Transpose, Volume, Internal Preset Links (1-255), External MIDI Links (1-255), Links (program, volume, pan, transpose, fine tune, key and velocity windows, MIDI filters)

• Sample Manage Menu

Utilities (erase, dump, re-map, de-frag); Name; New (source, threshold, monitor, length, trigger key sampling, arm/rorce sampling, ADC gain, auto normalize, auto placement, auto loop, auto truncate, auto crossfade, sample rates (22.05, 24, 44.1, 48kHz); Copy; Export (EIIIx, .Wav, AIFF, EIV); Place; Info

• Sample Edit Menu

Utilities (cut, copy, paste, insert (linear mix, equal mix, source amount (0-100%)), truncate, taper); Tools 1 (loop (fix size, auto correlate, crossfade), digital tune (filter type), sample rate convert (filter type, sample calculator); Tools 2 (DC filter, swap sides, stereo->mono, reverse, integrity); Tools 3 (gain change/normalize, compressor, parametric EQ, phase linear filter (5 types), Aphex® Aural Exciter); Tools 4 (transform multiply, doppler (8 paths), pitch shift, duration, repeat, time compression (12 types, ratio, original tempo, new tempo), pitch change (12 types, ±1200 cents), Bit Convert (bit resolution 0-15), Beat Munging (tempo, swing, loop, bar edit, metronome, process, re-analyze)); UNDO

• Sequencer Manage Menu

Select (50 RAM, 50 Flash); Erase; Copy; Memory; Jukebox (1-7); Name; Export (EIV, Standard MIDI File); Loop Song

• Sequencer Edit Menu

Utilities (cut, copy, paste, track delete, track copy, UNDO); Tools (quantize, swing amount, transpose, velocity scaling, channelize, extract); Setup (metronome/click, clock, input quantize, record, loop, transport, locate (1-10))

• Multi Setup

MIDI channels 1-32, Volume, Pan, Submix, Pitch, Modulation, Controller (A-H)

• Whole Setup

FX, Sprint, Load, Save, Layer, Split, Arpeggiator

• Technical Specifications

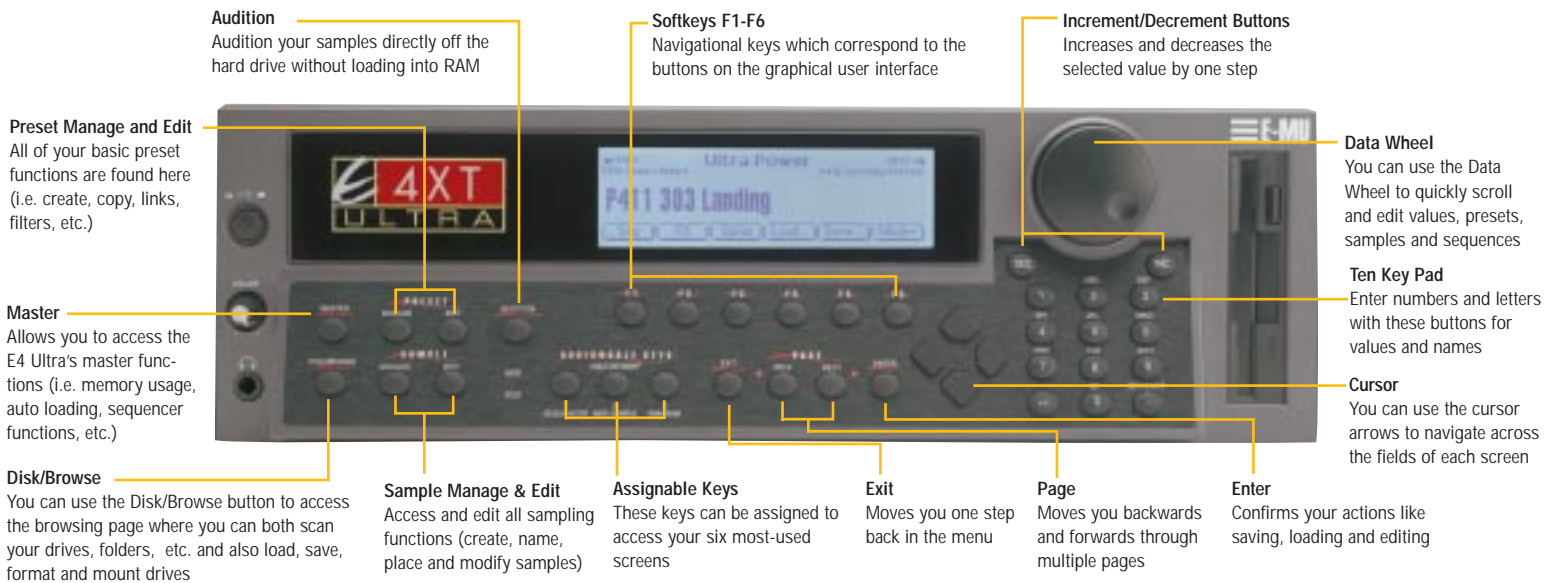
Audio Channels: 128 (E4XT Ultra); 64 (E-Synth Ultra/E6400 Ultra, upgradeable to 128)
MIDI Channels: 32 (E4XT Ultra/E-Synth Ultra); 16 (E6400 Ultra, upgradeable to 32)
Presets: 2000 (1000 Ram, 1000 Internal/Flash)
Layers: 32
Zones: 255
Crossfade/Switch zones: 128
Sound Memory: expandable to 128 MB (RAM, Flash or ROM) (72-pin simms)
Filters: 6th Order (21 different types)
Data Encoding: 20-bits
Signal to Noise: 105db
Frequency Response: 20Hz-20kHz ±1db
THD + Noise: .044%
Power Consumption: <50 watts
Voltage Input: 100-250 VAC, 50/60Hz. auto select
Maximum Output Level: +10 dBV
Output Sample Rate: 44.1Khz, 48Khz
Effects Engine: 24-bit internal processing

• Analog Inputs/Outputs

Balanced Stereo 1/4", 8 Balanced 1/4" (upgradeable to 16 balanced outputs)

• Digital Inputs/Outputs

AES/EBU (optional for E6400), Optional 16 out/ 8 in ADAT card



Check out E-MU's comprehensive E4 Ultra Sound Library at www.emusoundcentral.com

Including: The new E4 Definitive Series, the Formula 4000 Series, the Classic Series and the Producer Series

E-MU SYSTEMS

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