# PROTEUS 2500

## 128-VOICE EXPANDABLE COMMAND MODULE

**128 Voice Polyphony • USB Port • Expandable Soundset (up to 128 MB)
16 Track Real-time/Step/Grid Sequencer • Over 40 assignable knobs and buttons**

The new E-MU Proteus 2500 is a powerful 128 Voice Expandable Command Module designed to meet the needs of the most demanding studio and stage musician with a unique combination of processing power, sequencing flexibility, hands-on control and unsurpassed sound quality. Proteus 2500 is the culmination of over a decade of sound module development that started in 1989 with the Proteus 1. Since then, E-MU engineers have been tireless in their efforts to develop new, more powerful technologies, and are proud to introduce a host of new innovations with Proteus 2500. Proteus 2500 features the most powerful processor of any sound module on the market today, offering you three times the processing power of its predecessor, Proteus 2000. This new processor assures you flawless MIDI timing of even your most massive sequences, and allows you to sync a host of arpeggiators and modulation parameters that would be unthinkable using a slower sound engine. Another new feature of Proteus 2500 is its full-blown 16 track sequencer that works seamlessly with computer-based sequencers via the Proteus 2500's USB port — perfect for taking your sequences on the road, as well as providing all of the tools needed to record complete songs from scratch. And with real-time, step and grid recording modes, Proteus 2500's sequencer lets you record your tracks in whatever manner you prefer, all without having to stop the creative process. Proteus 2500 also features over 40 knobs and buttons to give you total hands-on control of all synthesis/filter parameters (cutoff, Q, attack, delay, etc.) as well as sequencer functions (track mute/enable, panning, volume, BPM, etc). Proteus 2500's knobs and buttons can even be efforlessly be programmed to control all of your external MIDI gear, making Proteus 2500 the perfect centerpiece of your studio and stage rigs. Finally, Proteus 2500 can be expanded using any of the many Proteus expansion ROMs available (including Flash ROMs authored using E-MU E4 Ultra samplers) up to 128 MB of sounds. Proteus 2500 offers you everything that you have come to expect from the leader in state-of-the-art sound modules, and introduces a host of innovative new features that have never been offered before. The Proteus legacy continues with Proteus 2500.

**E·MU** ®

# Polyphony and Power

Proteus 2500 combines 128 voice polyphony with a lightning-fast new processor that delivers three times the processing power of its predecessor, Proteus 2000. This unique combination not only gives you the power to sequence gigantic scores and layer complex sounds without the frustration of voice robbing, but it also insures that they will be played back with unparalleled timing and accuracy. In addition, the 32 MIDI channels (1 MIDI IN, 2 MIDI OUT/THRU) give you ultimate flexibility in connecting to your other MIDI gear and make Proteus 2500 the perfect centerpiece of your MIDI studio. Proteus 2500 also features a S/PDIF digital output for instant integration into the digital studio environment.

# Sound

Proteus 2500 ships with a 32 MB soundset, 512 presets and 512 user presets that provide you with a comprehensive and versatile sound palette that includes everything from lush strings and pristine pianos to synth stabs and hip-hop scratches. In addition to this 32 MB soundset, Proteus 2500 is fully expandable using the many Proteus expansion ROMs available, up to 128 MB total, and typically feature more genre-specific soundsets.  Proteus 2500's SoundNavigator feature allows you to quickly find and sort presets by category— you can even create your own custom categories. SoundNavigator works in concert with the Audition button on the front panel, allowing you to easily find and verify the right sound in a matter of moments. Need even more flexibility? You can author your own custom soundROMs for Proteus 2500 using E-MU's E4 Ultra samplers, giving you access to the world's largest sampler sound libraries. You can take your favorite samples, create presets optimized for Proteus 2500's powerful architecture, and take them on the road. Only E-MU allows you to  customize your sound module with unlimited ROM support!

# Real-time Control

Proteus 2500 gives you hands-on access to 16 programmable real-time control knobs from its front panel, allowing you to tweak and mix your sounds without ever having to enter the edit screen. These 16 knobs perform four functions 1. real-time control over filter and synthesis parameters, 2. programmable real-time control over your external MIDI gear (tweak parameters within other modules/samplers), 3. volume control for your 16 sequencer tracks, and 4. panning control for your 16 sequencer tracks. You can quickly toggle between these four modes of operation, giving you unprecedented real-time control over a host of parameters, making Proteus 2500 an incredibly powerful addition to your studio and stage setup. You can also set these controls to transmit MIDI controller messages to the sequencer to record all your real-time performances. Make your piano brighter, change your string section from pizzicato to legato, or speed up the LFO of your favorite synth pad— Proteus 2500's real-time controls encourage you to experiment with your sounds and achieve new levels of expressivity.

# Deep Editing

Beyond Proteus 2500's comprehensive real-time controls are its deep editing features that allow you to edit envelopes, layers, keyboard tunings, the 24-bit dual stereo-effects processor and more. Proteus 2500 allows you to use up to four layers and 24 patchcords per preset to create incredibly complex sounds, and you can use the front panel buttons and control knobs to access and edit your presets more quickly, without having to scroll through endless menus. Choose from over 50 filter types to give your sounds the expressivity that only E-MU filters can deliver. Once you have modified your preset, you can save it to one of your 512 user presets for instant recall. Proteus 2500 allows you to add outboard effects, EQ and other processing by sending different channels out of any of its six analog outputs. Whether you play it straight out of the box or customize every feature, Proteus 2500 will satisfy your hunger for easy-to-use power and professional features.

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Preset Button
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## 7 Segment Display

This display allows you to view key
elements of the Proteus 2500 while
using the main screen to edit and
sequence. Pressing the Edit Button
next to the display allows you to
change things like Tempo very
quickly. You can also view Bars and
Beats, current Pattern and Track.

## Edit

This section allows you to edit your Songs,
Patterns, Presets, Controllers and Arpeggiators, with
dedicated buttons for important functions like MIDI
setup, Save/Copy and Global Settings. Pressing the
Audition button will play a small MIDI sequence
that previews your currently selected Preset.

## Transport

This section provides you with sequencer
control: Stop, Play and Record. The Record
Button also allows you to choose one of three
recording styles: Real-Time, Step and Grid.
You can use the Tap Tempo button to lock-in
your sequence.

## Command Functions

These multi-functional buttons provide you
with quick jumps while editing a Preset, and
act as note inputs for Grid and Step recording.
They act as Track Select and Mute Buttons
during Pattern or Song playback, and can also
be programmed as MIDI trigger buttons. Each
MIDI trigger can have its own MIDI channel
(A1-16, B1-16), Note number, Latch or
Unlatch status, and velocity parameters. This
is very useful for firing off presets that have
Arpeggiators, patterns or externally locking in
Sound Effects, drum loops or vocal samples
from your E-MU sampler.

# Integrated Sequencing

Not only does Proteus 2500 deliver unmatched sound quality,
expandability and real-time control, but it also provides you with a fully
integrated 16 track sequencer that has been developed from the ground
up to work seamlessly with Proteus 2500's sound engine. The 16 track
interactive sequencer allows you to record in real-time, step and grid
record modes, and you can record up to 16 MIDI channels per
sequencer track, allowing you to record and group massive
compositions. The sequencer can be programmed to address 32
internal and/or 32 external MIDI channels, making Proteus 2500 the
perfect sequencer to control your entire MIDI setup. Proteus 2500's
sequencer imports and exports Standard MIDI Files, so even if you
prefer recording and editing sequences on your computer, you can
effortlessly transfer them to and from Proteus 2500 via its USB port .
Proteus 2500 also features 16 dedicated track mute/enable buttons,
allowing you to add, monitor and modify parts on the fly without the
usual cumbersome menu scrolling (they also can serve as trigger
buttons for up to 16 sounds). Combined with its 16 real-time control

knobs, Proteus 2500 gives you unparalleled control over your
sequences, making it an indispesable edting tool! In addition to its
powerful sequencer, Proteus 2500 can play up to 32  programmable,
synced arpeggiators simultaneously. These arpeggiators are a powerful
performance tool that can be saved with your sequence for instant recall
and can be modified in real-time using the control knobs.

Proteus 2500 redefines the state-of-the-art for the professional sound
module by offering you 128 voice polyphony, up to 128 MB of sounds,
a host of programmable real-time knobs and buttons, a full-blown 16
track sequencer and a USB port for sequnce loading. Most importantly,
Proteus 2500 sounds incredible. Regardless of what genre of music
you play, whether you perform on stage or in the studio, Proteus 2500
gives you more tools to achieve total sonic satisfaction in one module
than you ever thought possible.

# Technical Specifications

**Audio Channels:** 128
**MIDI Channels:** 32 Internal/ 32 External
**Controllers:** 16 knobs – Quick edit, Mix, Programmable (MIDI channel, CC#)
**Controllers:** 2 Footswitches, 16 triggers (Latch, MIDI Channel, Note and Velocity)
**Displays:** 2x24 LED, Four Digit 7 Segment LED
**Navigation:** Data Knob, two Cursor buttons, two Track/Channel select buttons, 16 synth edit menu jump buttons
**Presets:** 512 RAM, 512 User
**Layers Per Preset:** 4
**BPM/ MIDI synchronized parameters per Preset:** >100
**Sound Memory:** 32 MB (expandable to 128 MB)
**Internal Expansion slots:** 3 additional
**Expansion format:** ROM (16/32MB) Flash (16/32MB)
**Filters:** 6/12th order (50 types)
**Sequencer PPQN:** 384
**Songs:** 512
**Patterns:** 1024
**Tracks:** 16 per pattern, 16 MIDI channels per Track, plus 1 Song Track (16 MIDI channels)
**Record Types:** Real Time, Step, Grid
**Sequencer Format:** Proteus 2500, SMF import/export
**Sequencer Storage Size:** Internal, > 300,000 notes. External, unlimited using E-MU's E-Loader software file assistant (Mac/PC)
**Arpeggiators:** 32 simultaneous pattern based or traditional
**Arp Patterns:** 300 ROM, 100 User
**Arp Editor:** 32 steps – Key, Velocity, Duration, Repeat
**Effects:** Dual 24-bit
**Audio Outputs:** 6 analog (configured as 3 stereo), Stereo S/PDIF
**Audio Inputs:** Effects Return 1 In (Stereo), Effects Return 2 In (Stereo)

**MIDI:** In, MIDI Out A/Thru, MIDI Out B/Thru
**Data Encoding:** 16-bit linear, 24-bit DACs,
**Signal to Noise:** >100 dB
**Frequency Response:** 20-20,000Hz (+0.0/-0.1dB)
**THD + Noise (DAC's):** <0.002%
**Power Consumption:** 15 watts
**Voltage Input:** 90VAC – 260VAC at 50Hz – 60 Hz
**Maximum Output Level:** +6dBV
**Output Impedance:** 1000 Ohms

**Dimensions:** Height  7" (4 rackspace), Width 19",  Depth 8.75",
**Modes:** Song, Pattern
**Views:** Song, Pattern, Preset, Mix
**Menus:**  Song Edit, Pattern Edit, Preset Edit, Global, Controllers, Arpeggiator and MIDI
**Additional functions:** Audition, Compare, Save/Copy Home/Enter, Tap Tempo

*All specifications subject to change



Sub Analog Outputs — Main Analog Outputs — MIDI In — MIDI Out/Thru A & B — S/PDIF Output — Footswitch Inputs 1 & 2 — USB Connector

# Proteus 2500 Expansion ROMs

### X-LEAD
The X-Lead soundset consists primarily of analog, noise and modern synthesizer waveforms. These sounds are rich in harmonic texture and are a perfect match with the Z-plane filters in your Proteus® family sound module. With the included software upgrade, you now have access to dynamic and rhythmic features not found on any other instrument.

### WORLD EXPEDITION
An amazing collection of traditional instruments from the four corners of the globe including exotic stringed instruments, winds, percussion, and chromatic percussion. World Expedition provides you with the most realistic ethnic soundset in the world. Discover a world of sounds to bring to your music.

### DEFINITIVE B-3
John Novello and E-MU present the 32 MB Definitive B-3 expansion ROM, a diverse collection of tone wheel organ drawbar settings sampled direct and with rotary speakers (chorale and tremolo) to give you the most  versatile and playable B-3 available!

### ORCHESTRAL SESSIONS VOL 1
The Orchestral Sessions Vol. 1 expansion 32MB ROM offers you the most realistic and comprehensive collection of section strings available—the same sounds featured in E-MUs Virtuoso™ 2000 sound module, complete with legato, spiccato, pizzicato and tremolande samples, and includes special presets for 4 speaker applications.

### SIEDLACZEK
**ADVANCED ORCHESTRA-SPECIAL EDITION**
The Peter Siedlaczek 32 MB expansion ROM offers you some of the finest orchestral samples ever recorded from one of Europe's most respected sound designers, and brings together the finest string, brass, wind and percussion ensembles of  Siedlaczek's legendary Advanced Orchestra library.

### BEAT GARDEN
Dutch sound designer Rob Papen and E-MU introduce the 32 MB Beat Garden expansion ROM, a  diverse palette of all-new Electronica/Dance beats, synths, basses, drumkits, acoustic and electronic percussion. Experience the Beat Garden for yourself and add a unique dimension to your tracks.

### PURE PHATT
The 32 MB Pure Phatt is E-MU's latest Hip-Hop  soundset that produces the freshest and newest sounds and grooves from top notch producers from the East, Southeast and West coasts. Pumping leads and  basses, silky pads and those unique hits, scratches and drones that your mix needs to bring it to the next level are ready to provide the love. Pure Phatt goes where no other ROM set has grooved before.

### TECHNO SYNTH
Rob Papen and E-MU introduce the 32 MB Techno Synth Construction Yard Expansion ROM, a compilation of synth, techno, and ambient sounds from one of Europe's finest programmers. From atmospheric pads to punchy sub-basses and crunch drum loops, these sounds will help you tear up the dance floor!
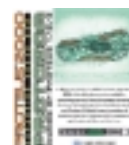
### SOUNDS OF THE ZR
The Sounds of the ZR Expansion ROM faithfully reproduces the diverse sounds of ENSONIQ's popular ZR-76 keyboard, including William Coakley's Perfect Piano. You'll find everything from synths and orchestral instruments to one of the finest pianos ever sampled in one soundset. Put this collection of ENSONIQ®'s finest sounds to work in your Proteus 2000 today!

### ORCHESTRAL SESSIONS VOL 2
The Orchestral Sessions Vol. 2 expansion 32MB ROM offers you the most realistic and comprehensive collection of woodwinds, brass, percussion, and solo strings available– the same sounds featured in E-MU's Virtuoso™ 2000 sound module, complete with velocity switching between p/mf/ff samples, special presets for 4 speaker applications and a percussion battery with over 20 instruments.

### PROTOZOA
E-MU presents the 16 MB Protozoa expansion ROM– the ultimate sound compilation  containing presets from the groundbreaking Proteus sound modules, all optimized for your Proteus 2000's advanced synthesis and filter architecture.

**E-MU®**

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