Some useful information about the E-MU UltraProteus module

Background|Overview|Rom Cards|RAM Cards|Other Info|Patches|Links

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I'm selling my last UltraProteus with a ram card
UltraProteus for sale

Due to popular demand, here are the UltraProteus demos in Ogg Vorbis format (Ogg is better than .mp3 and free!):
up1.ogg
up2.ogg
For a free Ogg player, see zinf.org

General Background

The UltraProteus is essentially a sample playback device (also called Wavetable, Rompler, or PCM synthesis) with Z-plane filters and built in effects. This means it has internal memory that stores recorded sounds (called samples or waveforms) which can be played, altered or morphed (blending multiple waveforms together). The final sound the user hears has been changed, or synthesized by the rules programmed into the preset (also called Program or Patch by other manufacturers).

Here are some useful terms:

Synthesizer -- From the Greek root synthesis, which means either "to make" or "composition." Put simply an electronic device that intentionally "makes" sound.

Sampler -- A device that records (samples), plays back and modifies sounds.

PCM -- Pulse Code Modulation, a technique for digitizing or sampling sound. Wav files and CD audio both use PCM.

Preset -- (program or patch) a set of variables that control the synthesizer in order to produce sound.

HyperPreset -- A preset that is made from mixing or layering other presets.

Layering -- the act of playing one or more presets per key, or assigning presets to specific zones of the keyboard.

ROM -- Read Only Memory can be read from (accessed) but not written to (saved to). Thus ROM is the same as it was when it was created at the factory and cannot be altered. The UltraProteus has two types of ROM, the internal waveforms, and the ROM presets found in bank 1.

RAM -- Random Access Memory can be read from or written to (accessed from or saved to). This can be modified by the user and the modification can be retained for use at a later date. The UltraProteus uses RAM only for user presets and hyper presets (whereas a "Sampler" synthesizer would use RAM to hold waveforms as well).

ROM and RAM are expressed in units of either bits (b) or Bytes (B). One Byte equals eight bits. Examples: 1MB = 1 million Bytes, or 8 million bits. Common prefixes: K-kilo = one thousand M-mega = one million G-giga = one billion.

PCMCIA -- Personal Computer Memory Card International Association -- The memory card standard widely used by many synthesizers and other electronic devices for expansion cards such as the slot found on the UltraProteus.

Overview

The E-MU UltraProteus (model number 9060) is a Z-plane synthesizer with 16MB of ROM samples. It was originally released in 1994 for a list price of $1795(US). On power-up it displays "UltraProteus @1994 E-MU v2.00" I don't know of any other version or update.

E-MU gave the UltraProteus five preset banks, the first three are internal with the last two being accessed via the front panel card slot. This slot is PCMCIA compliant and accepts either ROM cards (Read Only Memory -- can only be read, not saved to) or user RAM cards (Random Access Memory -- can be read and saved to). Each of the five banks contain 128 presets. The hyper presets are used for layering other presets, or setting up keyboard zones for using multiple presets with different keys.

Bank 0 -- User RAM presets
Bank 1 -- ROM presets
Bank 2 -- Hyper presets (User editable)
Bank 3 -- Card presets *
Bank 4 -- Card Hyper presets *
* if using a RAM card, banks 3 and 4 are user editable.

The UP contains the same engine as it's sister, the Morpheus, but an entirely different sound set and additional filters (288 compared to 197 in the Morpheus). The 16MB sound ROM includes the complete sample set of the Proteus 1, 2 and 3 plus the Performance Piano module. This gives it a great assortment of bright, acoustic instrumental sounds. Unfortunately, it doesn't encompass the cool synth/new age samples found in the Morpheus. But one can still tweak the patches to get nice ambient/new age type sounds from the UP.

Note that while the UP has the entire sample set from the Proteus 1, 2 and 3, it doesn't have all the presets from the 1, 2 or 3, just the "highlights." It would have been nice if E-MU included more presets in this module, allowing all of the P1,2,3 presets, plus two banks of new sounds and user ram. Heck, they could have included the 8mb Morpheus sample set too! That would have certainly justified the name "Ultra" :)

The Proteus Family

Model	Samples	Presets
Proteus 1	4mb	?
Proteus 1+2/XR	?	?
Proteus 2 Orchestral	8mb	192
Proteus 2/XR Orchestral	8mb	384
Proteus 3 World	4mb	192
Proteus 3/XR World	4mb	384
Proteus FX	8mb	512
Morpheus	8mb	?
UltraProteus	16mb	256+128 hyper

Note: table in progress, info not verified!

ROM cards

EMU issued 6 ROM cards for this beast. The cards originally sold for $99.00 but can now only be found second hand. Each card adds 1 preset bank, 1 Hyper preset bank and 16 MIDI maps. E-MU was at one time planning to release all of the presets from the cards on-line, but has since dispensed with this idea.

UltraProteus ROM cards		
Volume	**Name**	**Model #**
Volume One	Proteus 1, 2, 3	9211
Volume Two	Expressive Orchestral	9212
Volume Three	Real World	9213
Volume Four	Dance/Techno	9214
Volume Five	General MIDI	9215
Volume Six	Trance Tracks	9216

RAM cards

The UltraProteus uses 256kB PCMCIA SRAM (Static RAM) cards. The kind that have 3v lithium batteries on the back. They can be found at www.voicecrystal.com/blankram.htm and www.pretec.com/index2/product/SSD/sram.htm . Larger cards will work fine, but they will only be formatted to 256kb, which can store one user bank and one hyper bank, as well as 16 MIDI maps.

Note: the SRAM cards come in four possible flavors: attributable/non-attributable and 3.3V/5V; I don't know if all types will format in the UP. It has been confirmed that the Pretec 5V Attributable cards will work: Pretec part number SA5256-P *Thanks Mike!*

Also, some SRAM cards made for other synths, calculators or computers can be used. I am told the SM256K-NN for the Alesis Quadra Synth series works. The Lexicon PCM80 series RAM cards should work, but no one has yet confirmed this. I currently am using a Norand 1MB SRAM PCMCIA card with sucess (PN: 856-004-002).

Diagnostic mode, RAM Initialize and hidden features:

Once I got the Error Code:

SYSTEM ERROR
BND pc=57A1C_

It freaked me out! How did I fix it? There is an undocumented Diagnostic Mode*. You can access it by powering on the synthesizer while holding down both cursor keys. In Diagnostic mode, there are 16 options for testing the UP. One of the options, number 16, allows one to re-initialize the RAM. This will reset everything back to factory presets and solve some problems. This *will* erase all of your banks: 0,1 and 2. It will initialize factory presets back into 0 and 1, leaving the hyper presets in bank 2 blank. To get these back you must download the factory default sysex file from EMU and send it to your UP (or just start over with your own hypers from scratch).

* Major note: EMU tech support told me that some tests in diagnostic mode require bench diagnostic tools. The frequency diagnostic tool can blow out your speakers (or your ears!). The MIDI tests require a single cable be looped from the MIDI-in to MIDI-out port.

I've had it crash twice in four years... so I recommend backing up all of your custom sounds. Something like Cakewalk works fine... though, if you have the cash, invest in a Librarian/Editor such as SoundDriver or MIDIQuest.

User Presets (Patches) Exchange

It is my sincere hope that we can get a user preset exchange going. I would be happy to host this. Please e-mail me your user presets in sysex (.syx on the PC) MIDI dumps. That way they should work in any librarian software.

I would get things started, but when my UP took a dump this weekend, I lost all my custom patches (DOH!). It was that crisis the precipitated the creation of this web page, so not all was for the worst. Once I make more presets, I will place them here.

UltraProteus links!

E-MU UltraProteus support - The manual in .pdf format and the original factory preset banks in sysex.
MorphEdit - A free Morpheus/UltraProteus editor/librarian!
The Gear-Head List UP review - A review of the differences between the UP and Morpheus.
The Synth Site UP review - User reviews of this any many other EMU synths. Their links are also very extensive.
Eumlator Archive's UltraProteus page - Much of the same info here. They really have updated their page recently!
The Synth Zone's E-MU Zone - Many links to EMU resources on the web and a discussion board.

Sources for RAM cards:
www.voicecrystal.com/blankram.htm - A source for UP/Morpheus approved RAM cards at $120 a peace.
www.pretec.com/index2/product/SSD/sram.htm - A source for 256kb PCMCIA RAM cards for around $50 each.

Originally created 12-10-2000 --- Last modified 9-29-2002
Written in pure text via UNIX command line and pico text editor (no weenie GUI here)

Back to my MIDI page!
Send Mail to Brad Franzella

my home page

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