

# CreamWare PowerPulsar

## Audio interface/DSP Accelerator

Power to  
burn for  
computer-  
based  
studios

When CreamWare's Pulsar first appeared, I appreciated the hardware and software engineering. However, because much of my studio remained outside the computer, I didn't really "get" the full picture; the benefits didn't seem to compensate for the price.

But after using PowerPulsar 3.1c (PP for short), I finally got it. PP isn't just about an audio interface, software synths, processing plug-ins, patch bay, mixer, and set of samplers, although that's part of the picture. The key point is that in addition to virtualizing a studio's functions in software, PP integrates a studio's *hardware* as well, thanks to the 15 SHARC DSP chips.

It's as if someone took an inventory of all my outboard gear, removed all the DSP chips, put them on a PCI card, then designed a software interface. You can then run a sequencer (Cubase, Logic, Sonar, etc.) within this environment, but its role is more like a multitrack machine in traditional studios. (We'll call this type of program a "recording app" because PP is more like the "host.") Of course, the record-

## ► CREAMWARE POWERPULSAR

**MANUFACTURER:** CreamWare US, 6879 Russel Ave., Burnaby, B.C., V5J 4R8, Canada. Tel: 604-435-5158. Web: [www.creamware.com](http://www.creamware.com).

**SUMMARY:** With 15 SHARC DSP chips, comprehensive software, and 24/96 audio hardware, this system turbocharges existing computer environments with interfacing, mixing, synths, and processors, all of which integrate with hard disk recording programs

**STRENGTHS:** Customizable. Expandable. Exceptionally low latency. Great selection of soft synths, samplers, and signal processors. Sophisticated mixer. Third-party support. Rich, full sound quality. Visually appealing. XTC mode allows ASIO/VST applications to use PowerPulsar effects and soft synths. Blows my mind every time I boot it up.

**LIMITATIONS:** Audio pop upon opening and closing. XTC mode not available for Mac. This level of performance doesn't come cheap.

**MINIMUM SYSTEM REQUIREMENTS:** Windows 95/98/2000/XP, 400 MHz processor, 128 MB RAM; MacOS 9.2, G3/400 MHz, 128 MB RAM.

**PRICE:** Classic 20 version with software, \$1,999; until 3/31/03, \$2,495 with one optional software package (Mix 'n' Master Pack or Synths 'n' Sampler Pack). Other configurations/variations available.

ing app can host its own soft synths and plug-ins too.

## THE HARDWARE

The PCI card is 12 inches long, so it needs room. Four I/O daughterboard options plug into the main board. I reviewed the Classic 20, with 16 channels of ADAT, two channels analog unbalanced, two channels S/PDIF, and MIDI in/out/thru. The ADAT connectors are on the backplane, while a multipin connector/breakout cable provides the other connections.

The PLUS version has balanced analog and AES/EBU instead of S/PDIF; the ADAT24 offers 24 channels of ADAT; and a board with CreamWare's Z-Link interface is optimized for multichannel 24/96 audio (however, any board handles the Sonorus S-Mux protocol for running ADAT interfaces at 24/96).

With WDM or ASIO, under 5 ms of latency was cake. Other drivers include DirectSound, MME, tripleDAT, GigaSampler, Sound Manager and OMS. PP also uses CreamWare's S/TDM bus (SCOPE Time-Division Multiplexing, not the Digidesign protocol), which interconnects additional SCOPE-family boards for extra DSP or I/O.

## INSTALLATION

Windows XP installation was simple: The OS saw the new hardware device, asked for the CD, and installed the drivers — done. However, some installation issue (apparently unique to my



*Clockwise from top middle: The STM1632 provides 16 stereo channel strips; next is the routing window. The small strip along the right is the Live Bar, which controls the PowerPulsar and floats over any sequencer you're using. Next up: the Prisma and EZSynth, and MasterVerb processor. Lower left shows the Six-String, and upper left, part of the Modular III. These are set for lots of voices, so the DSP meter is just about hitting max.*

## ON THE OPTION FRONT

I also checked out some optional software: the Minimax (a blockbuster Minimoog emulation, \$249), Modular III (awesome update from the Modular V2, \$249 or \$98 upgrade from V2), and Six-String (\$249). Bottom line: they're great. Six-String does beautiful physical modeling of guitar timbres, from distorted leads to acoustics, but has enough programming options so you can also create abstract, synth-like tones. It's both traditional and original.

**Minimax has to be heard to be believed. The sound is incredibly big — I think my head would probably explode if multiple instances were playing in surround with a giant subwoofer, especially with the patches done by Dr. Walker.**

setup) failed to copy over all the DSP files. With some help from responsive tech support, I dragged over the missing files from the distribution CD, and all was well.

I tested Cubase SX and Sonar in the PowerPulsar environment — zero problems. ASIO programs can also access the interface directly. The system didn't crash once during all my testing. For best results, I highly recommend a second monitor — one for your recording app, and one for PP.

### THE STUDIO'S HEART

The hardware lets PP talk to the rest of the world. In its own world, start with the routing window — a cross between a schematic diagram of your studio and a patch bay.

A typical setup starts with one (or several) of the five included mixers, from a micromixer that sums 16 stereo channels, to a 24-channel 5.1 surround mixer with four auxes, to a 62 channel eight-bus console with six mono aux channels, inserts, and dynamics/EQ for each channel. All mixer parameters, like seemingly everything else in PP, can be MIDI-controlled with a painless "learn" mode. Other modules represent software and hardware I/O (patched with virtual patch cords), and everything can be saved as a setup. So, you can create a setup for tracking in Cubase SX, another for mixing in Sonar, another for live synth performance, etc.

The mixer can blend the synths and samplers, add processors, then patch the outs back into your recording app's input. This works just like plugging an outboard synth into a

mixer — but with no latency! Synths can be triggered by your app's sequencer (with multiple soft MIDI ports available) or an external controller plugged into PP's MIDI in.

This means you can load up a great-sounding synth that eats processing power, set it for mondo voices, feed it through PP's lush-sounding reverb and perhaps some other processors, layer it with more synths, play the whole thing with less latency than many (if not most) hardware synths, then record it as a track in your recording app — *all without stressing your computer's CPU.*

You get options that aren't part of normal digital life, such as routing sequencer tracks through outboard analog effects then back into the system, or monitoring through effects without annoying echoes — and voices sure sound wonderful through the MasterVerb.

### MORE SOFTWARE

There are 60 stereo, 32-bit effects (with many available in mono); these include delay, distortion, filtering, modulation, reverb, dynamics, vocoder, and "utility" effects like a DC filter. They sound great, and really benefit from the DSP headroom.

There are plenty of fat, luscious synths (10 including a modular synth system, vector synthesis playback module, two Minimoog emulations, wavetable synth with Prophet VS waveshaping abilities, drum machine, etc.), and a cool arpeggiator. Of the two samplers, one is mostly for Akai format playback, while the other is more like the PowerSampler (reviewed March '01), with full edit-

ing. (Another sampler, the Volksampler, comes with PC systems only). And don't get me started on the Modular Version 2 synth with 140 modules and 80 pre-patched synthesizers...and that pales next to the optional Modular III.

### I'M IN XTC....

Furthermore, an XTC mode that allows ASIO/VST programs (I tested with Cubase SX and Acid 4.0) to use PP's processors and synths as standard VST and VSTi plug-ins with no CPU loading. However, you can't run the PP system simultaneously; the mixer, routing, etc. aren't available in XTC mode, nor could I get XTC effects to work with Sonar with a VST wrapper.

There was severe distortion running XTC under Cubase SX; CreamWare's site advised disabling SX multiprocessor support. Oh well...but it solved the problem. Given the plug-in quality and how much they reduce the processor's load, it's an okay tradeoff.

### MOST EXCELLENT, INDEED!

To call this an "audio interface" is like calling the Taj Mahal a house — technically correct, but conceptually wrong. There is no equivalent product that offers such a wide range of software to "accessorize" a virtualized studio and interface. Nor are you forced into a specific recording app — PP plays nicely with others.

PP is like adding afterburners to your setup; it's not too much to say it has transformed my studio in a way that reminds me of when I first started using computers. Not dealing with synth latency is a huge attraction, the sound quality is awesome, the software is visually striking, and the whole concept is genius. Although it's not too hard to figure out (despite somewhat scattered documentation), it's deep enough to keep the surprises coming.

So what's the bottom line? For the price of a decent synth, my virtual studio made a quantum leap in power, flexibility, and sound quality. In fact, when it was time to return PowerPulsar to the factory, I had no choice: I bought it.■