

THE BEST OF MULTICHANNEL PREAMPLIFIERS WITH I/O

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Most audio processing takes place today within a CPU. So our most relied upon hardware (other than the CPU itself) is often a comprehensive I/O unit featuring ample microphone preamps and the necessary portals for, ideally, near-zero round-trip latency.

Such I/O options are increasingly small (often 1U thick) considering their capabilities, and may feature a variety of hardware interfaces, or perhaps just one that's blazingly fast, like Thunderbolt. Either way, a modern, on-the-go audio content creator really can't go wrong with any of the following choices in I/O.



Antelope Audio's Orion32+ and Orion Studio interfaces are fully compatible with Apple Thunderbolt technology. Orion32+ features 32 channels of I/O within a compact 1U rackspace. Features include 24-bit, 192kHz performance; zero-latency monitoring; comprehensive connectivity with ADAT and S/PDIF throughput, D-Sub 25 analog I/O, etc.; and 120 dB of dynamic range via "mastering grade" monitor outputs. The Orion Studio is a 24-bit, 192kHz-capable 32-channel I/O featuring USB compatibility; fast operation; 12 commercial-quality microphone preamplifiers; 16 analog outputs; and more. Orion32+ and Orion Studio software for OS X and Windows OS features a color-coded routing matrix, four separate mixers and DSP effects integration.



Ideal for Apple Logic users, **Apogee Electronics** announced its new Element series of three Thunderbolt audio interfaces for Mac—the 192kHz/24-bit capable Element 24, Element 46 and Element 88—last year at AES, each with a different number of analog and digital I/O. Element 24 offers 10 in, 12 out; Element 46 offers 12 in, 14 out; and Element 88 offers 16 in, 16 out. While Apogee explains that the Element series' performance is comparable to its impressive Ensemble series, but is more affordable and streamlined to best serve a broader range of potential users. The Element series 48V phantom-power ready preamps are indeed low-latency; they reportedly perform a 1.41 ms roundtrip latency at 96 kHz with a 32-buffer setting when using Apple's Logic Pro X DAW.



For those who don't need a direct connection to their CPU—or for users of the popular **Audient** iD Series who need more than two microphone preamps—the Audient ASP880 is a great-sounding, traditionally styled 8-channel microphone preamplifier with 48V phantom power, Burr-Brown A/D converters, variable input impedance, variable highpass filters, eight useful insert points, and dual DI instrument inputs. Digital outputs include ADAT, AES and S/PDIF.



Specifically built for Pro Tools users, **Avid's** PRE is an 8-channel digitally controlled preamplifier that is adjustable from its front panel or entirely

within Pro Tools, or an associated Avid controller. Each input supports XLR, DI or TRS line-level inputs. DB-25 outputs are provided for universal analog connectivity, too. All eight channels are provided insert points as well as highpass filter, phase reversal and 48V phantom power.

Affordable and well-equipped with I/O options, **Behringer's** Firepower FCA1616 is a 16 in, 16 out 24-bit/96kHz-capable multichannel preamplifier/interface featuring FireWire, USB, MIDI, ADAT, S/PDIF, etc., connectivity. Key features include four Midas-designed microphone preamplifiers with phantom power, individual pad, low-cut and high-impedance selectivity eight analog inserts, and much more. Most attractively, the unit is priced at a low \$249.99 street.



DiGiGrid IOS, an audio interface with a built-in SoundGrid DSP server for plug-in processing developed by Waves and

DiGiCo, features eight mic/line inputs, eight line outputs, dual headphone outputs, and MIDI I/O, S/PDIF, and AES ins and outs. Connectivity is via a single Ethernet cable (Cat 5e/Cat 6). Notably, IOS comes with SoundGrid Studio System software, including the SoundGrid Studio application, Stu-