				Analogue I/O				Digital I/O									
Product	Hardware	Interface	Simultaneous Audio I/O	Simultaneous Analogue I/O	Analogue I/O Conections	Converter Chips Used	Analogue S/N	S/PDIF, AES/EBU	ADAT	Maximum Bit-Depth/Sample Rate	Sync	MIDI I/O	Other	Drivers	Bundled Software	Add-ons Available	Comments
E-MU 0404	Card plus Breakout Cables requires 1 PCI slot	PCI	Input: 4 Channels Output: : 4 Channels	2 Input 2 Output	2 x 1/4" Input 2 x 1/4" Output Unbalanced	A/D: Texas Instruments PCM1804 D/A: AKM AK4395	Input: 20 Hz — 20 kHz (+0.20/-0.10 dB) 3.3 kOhm input impedance 100dB THD+N (1 kHz @ —1 dBFS) Crosstalk less than —120dB (1 kHz @ —1 dBFS) SNR (A-weighted): 111dB Output: 20 Hz — 20 kHz (+0.20/-0.10 dB) 560 Ohm input impedance	2 in/2 out coaxial 2 in/2 out optical AES/EBU or S/PDIF format	No	44.1, 48, 96, 192 at 16 or 24 bits from internal crystal or externally clock	Internal crystal sync at 44.1, 48, 96 External sample rate sync via SP/DIF (optical or coax)	1 in, 1 out (16 channels)	No	WDM DirectSound ASIO 2.0	Cakewalk SONAR LE Ableton Live Lite 4 for E-MU IK Multimedia AmpliTube LE SFX Machine LT E-MU Proteus X LE Steinberg Cubase LE Steinberg Wavelab Lite diskWelder BRONZE Trial E-MU PatchMix DSP	**Sync Daughtercard** SMPTE, Word Clock and MTC sync **Cables**	24-bit 192kHz audio interface with MIDI. A powerful onboard DSP chip allows complex mixing and effects to be used without any CPU overhead. High quality sound card for those on a tight budget
E-MU 1212M	Card plus Daughterboard: requires 1 PCI slot plus additional back plate	PCI	Input: 12 Channels Output: : 12 Channels	2 Input 2 Output	2 x 1/4" Input 2 x 1/4" Output Balanced or Unbalanced Uses same high quality converter as in Digidesign Pro Tools I/O interface	A/D: AKM AK 5394A D/A: Cirrus Logic CS4398	Input THD+N (1 kHz at -1 dBFS) -110 dB (.0003%) SNR (A-weighted): 120 dB Output THD+N (1 kHz at -1 dBFS) -105 dB (.0006%) SNR (A-weighted): 120 dB	2 in/2 out coaxial 2 in/2 out optical (or ADAT) AES/EBU or S/PDIF format **note:** Optical I/O switched with ADAT via software	8 channels, 24-bit @ 44.1/48 kHz 4 channels, 24-bit @ 96 kHz 2 channels, 24-bit @ 192 kHz	44.1, 48, 96, 192 at 16 or 24 bits from internal crystal or externally clock	Internal crystal sync at 44.1, 48, 96, 192. External sample rate sync via, ADAT or SP/DIF (optical or coax)	1 in, 1 out (16 channels)	FireWire Interface	WDM DirectSound ASIO 2.0	Cakewalk SONAR LE Ableton Live Lite 4 for E-MU IK Multimedia AmpliTube LE SFX Machine LT E-MU Proteus X LE Steinberg Cubase LE Steinberg Wavelab Lite IK Multimedia T-Racks EQ diskWelder BRONZE Full Vers E-MU PatchMix DSP	**Sync Daughtercard** SMPTE, Word Clock and MTC sync **Audiodock-M** same breakout box as 1820M **Audiodock** same breakout box as 1820 **Cables** **Emulator X Software** (UK 0800 901 2168) **Adcon** Additional analogue I/O via ADAT	Mastering grade 24-bit 192kHz audio interface with MIDI, ADAT, Digital and **balanced analogue I/O**. A powerful onboard DSP chip allows complex mixing and effects to be used without any CPU overhead. The1212M uses the same A/D converters as Digidesign's ProTools HD 192 card giving a truly professional dynamic range. **Cost effective audio solution with excellent upgrade options.**
E-MU 1616	E-MU 02 CardBus Card plus E-MU MicroDock Breakout Box. Requires: Type II CardBus slot (PCMCIA slot)	Type II CardBus slot (PCMCIA slot)	Input: 16 Channels Output: : 16 Channels	6 Input 6 Output	2 x E-MU XTC™ Ultra-low Noise Mic/Line/Hi-Z Preamps with Soft Limiter and 48V Phantom Power 4 x 1/4" Balanced Inputs 6 x 1/4" Balanced Outputs Turntable input (w/ground lug and hardware RIAA preamp) 3 stereo 1/8" Speaker Outputs (configurable for 5.1) 2 Stereo Headphone Output one on card, one on MicroDock	A/D: Texas Instruments PCM1804 D/A: Cirrus Logic CS4392 AK4396 (card)	Phono Input Signal-to-Noise Ratio (15mV RMS unbal input, A-weighted): 96dB THD+N (1kHz, 15mV RMS input): -88dB (.004%) Headphones Signal-to-Noise Ratio (A-weighted): 112dB (dock), 115dB (card) THD+N (1kHz, max gain): 600ohm load: -92dB (dock), -96dB (card) Combo Microphone Preamplifier/Line Inputs Line Input: Signal-to-Noise Ratio (A-weighted, min gain): 112dB THD+N (1kHz at -1dBFS, min gain): -102dB (.0008%) Microphone Preamplifier: Signal-to-Noise Ratio (A-weighted, min gain): 112.5dB THD+N (1kHz at -1dBFS, min gain): -103dB (.0007%) Analogue Line Outputs Signal-to-Noise Ratio (A-weighted): 112.5dB THD+N (1kHz at -1dBFS): -98dB (.0012%) Analogue Line Inputs Signal-to-Noise Ratio (A-weighted): 112dB THD+N (1kHz at -1dBFS): -102.5dB (.0007%)	2 in/2 out coaxial 2 in/2 out optical (or ADAT) AES/EBU or S/PDIF format **note:** Optical I/O switched with ADAT via software	8 channels, 24-bit @ 44.1/48 kHz 4 channels, 24-bit @ 96 kHz 2 channels, 24-bit @ 192 kHz	44.1, 48, 96, 192 at 16 or 24 bits from internal crystal or externally clock	Internal crystal sync at 44.1, 48, 96, 192. External sample rate sync via, ADAT or SP/DIF (optical or coax up to 96kHz)	2 in, 2 out (32 channels)	No	WDM DirectSound ASIO 2.0	Cakewalk SONAR LE Ableton Live Lite 4 for E-MU IK Multimedia AmpliTube LE SFX Machine LT E-MU Proteus X LE Steinberg Cubase LE Steinberg Wavelab Lite IK Multimedia T-Racks EQ diskWelder BRONZE Full Vers E-MU PatchMix DSP	**Adcon** Additional analogue I/O via ADAT **SMPro PR 8** 8 analogue pre-amps **SMPro PR 4** 4 analogue pre-amps **Emulator X Software** (UK 0800 901 2168) **Cables**	Pristine 24-bit 192kHz audio interface with 6 simultaneous balanced I/O. Flexible breakout box supporting connections such as RIAA Turntable, Phantom Power Mic and Hi-Z Guitar eliminates the need for external mixers and preamps. MIDI, ADAT and Digital I/O interfaces are also included for maximum connectivity. The powerful onboard DSP allows complex mixing and effects to be used without any CPU overhead. **Multi I/O card ideal for demanding situations**.
E-MU 1616M	E-MU 02 CardBus Card plus E-MU MicroDock M Breakout Box. Requires: Type II CardBus slot (PCMCIA slot)	Type II CardBus slot (PCMCIA slot)	Input: 16 Channels Output: : 16 Channels	6 Input 6 Output	2 x E-MU XTC™ Ultra-low Noise Mic/Line/Hi-Z Preamps with Soft Limiter and 48V Phantom Power 4 x 1/4" Balanced Inputs 6 x 1/4" Balanced Outputs Turntable input (w/ground lug and hardware RIAA preamp) 3 stereo 1/8" Speaker Outputs (configurable for 5.1) 2 Stereo Headphone Output one on card, one on MicroDock	A/D: AKM AK 5394A D/A: Cirrus Logic CS4398 AK4396 (card)	Phono Input Signal-to-Noise Ratio (15mV RMS unbal input, A-weighted): 96dB THD+N (1kHz, 15mV RMS input): -90dB (.003%) Headphones Signal-to-Noise Ratio (A-weighted): 118dB (dock), 115dB (card) THD+N (1kHz, max gain): 600ohm load: -96dB (dock), -96dB (card) Combo Microphone Preamplifier/Line Inputs Line Input: Signal-to-Noise Ratio (A-weighted, min gain): 118dB THD+N (1kHz at -1dBFS, min gain): -105dB (.0006%) Microphone Preamplifier: Signal-to-Noise Ratio (A-weighted, min gain): 119dB THD+N (1kHz at -1dBFS, min gain): -110dB (.0003%) Analogue Line Outputs Signal-to-Noise Ratio (A-weighted): 120dB THD+N (1kHz at -1dBFS): -105dB (.0006%) Analogue Line Inputs Signal-to-Noise Ratio (A-weighted): 120dB THD+N (1kHz at -1dBFS): -110dB (.0003%)	2 in/2 out coaxial 2 in/2 out optical (or ADAT) AES/EBU or S/PDIF format **note:** Optical I/O switched with ADAT via software	8 channels, 24-bit @ 44.1/48 kHz 4 channels, 24-bit @ 96 kHz 2 channels, 24-bit @ 192 kHz	44.1, 48, 96, 192 at 16 or 24 bits from internal crystal or externally clock	Internal crystal sync at 44.1, 48, 96, 192. External sample rate sync via, ADAT or SP/DIF (optical or coax up to 96kHz)	2 in, 2 out (32 channels)	No	WDM DirectSound ASIO 2.0	Cakewalk SONAR LE Ableton Live Lite 4 for E-MU IK Multimedia AmpliTube LE SFX Machine LT E-MU Proteus X LE Steinberg Cubase LE Steinberg Wavelab Lite IK Multimedia T-Racks EQ diskWelder BRONZE Full Vers E-MU PatchMix DSP	**Adcon** Additional analogue I/O via ADAT **SMPro PR 8** 8 analogue pre-amps **SMPro PR 4** 4 analogue pre-amps **Emulator X Software** (UK 0800 901 2168) **Cables**	This is the choice for anyone serious about making music on there PC- for relatively little more money you get around 8dB more dynamic range and a flatter frequency response via the mastering grade 24-bit converters, Wordclock, MIDI Timecode and SMPTE connections over the 1820. **Extremely flexible audio solution with no compromise in sound quality**.
E-MU 1820	Card plus External Breakout box: requires 1 PCI slot	PCI	Input: 18 Channels Output: : 20 Channels	8 Input 8 Output	2 TFPro Mic/Line/Hi-Z preamps (w/48V phantom power) 6 x 1/4" Balanced Inputs 8 x 1/4" Balanced Outputs Turntable input (w/ground lug and hardware RIAA preamp) 4 stereo 1/8" Speaker Outputs (configurable for 7.1) Stereo Headphone Output	A/D: Texas Instruments PCM1804 D/A: Cirrus Logic CS4392	Phono Input THD+N (1 kHz, 10 mV RMS unbalanced input): -76 dB (.015%) SNR (10 mV RMS unbalanced input, A-weighted): 90 dB Headphones THD+N (1 kHz, max level): -33 ohm load: -70 dB (0.032%) -600 ohm load: -85 dB (0.006%) SNR (A-weighted): 112 dB Dynamic Range (A-weighted): 112 dB Combo Microphone Preamplifier/Line Inputs Line Input: THD+N (1 kHz at -1 dBFS, min gain): -94 dB (.002%) SNR (A-weighted, min gain): 100 dB Microphone Preamplifier: THD+N (1 kHz at -1 dBFS, min gain): -95 dB (.0018%) SNR (A-weighted, min gain): 100 dB Analogue Line Outputs THD+N (1 kHz at -1 dBFS): -98 dB (.0013%) SNR (A-weighted): 112 dB Analogue Line Inputs THD+N (1 kHz at -1 dBFS): -102 dB (.0008%) SNR (A-weighted): 111 dB	2 in/2 out coaxial 2 in/2 out optical (or ADAT) AES/EBU or S/PDIF format 2 out optical **note:** Optical I/O switched with ADAT via software	8 channels, 24-bit @ 44.1/48 kHz 4 channels, 24-bit @ 96 kHz 2 channels, 24-bit @ 192 kHz	44.1, 48, 96, 192 at 16 or 24 bits from internal crystal or externally clock	Internal crystal sync at 44.1, 48, 96, 192. External sample rate sync via, ADAT or SP/DIF (optical or coax)	2 in, 2 out (32 channels)	FireWire Interface	WDM DirectSound ASIO 2.0	Cakewalk SONAR LE Ableton Live Lite 4 for E-MU IK Multimedia AmpliTube LE SFX Machine LT E-MU Proteus X LE Steinberg Cubase LE Steinberg Wavelab Lite IK Multimedia T-Racks EQ diskWelder BRONZE Full Vers E-MU PatchMix DSP	**Sync Daughtercard** SMPTE, Word Clock and MTC sync **Adcon** Additional analogue I/O via ADAT **SMPro PR 8** 8 analogue pre-amps **SMPro PR 4** 4 analogue pre-amps **Emulator X Software** (UK 0800 901 2168) **Cables**	Pristine 24-bit 192kHz audio interface with 8 simultaneous balanced I/O. Flexible breakout box supporting connections such as RIAA Turntable, Phantom Power TFPro Mic and Hi-Z Guitar eliminates the need for external mixers and preamps. MIDI, ADAT and Digital I/O interfaces are also included for maximum connectivity. The powerful onboard DSP allows complex mixing and effects to be used without any CPU overhead. **Multi I/O card ideal for demanding studio situations**.
E-MU 1820M	Card plus External Breakout box: requires 1 PCI slot	PCI	Input: 18 Channels Output: : 20 Channels	8 Input 8 Output	2 TFPro Mic/Line/Hi-Z preamps (w/48V phantom power) 6 x 1/4" Balanced Inputs 8 x 1/4" Balanced Outputs (Uses same high quality converter as in Digidesign Pro Tools I/O interface) Turntable input (w/ground lug and hardware RIAA preamp) 4 stereo 1/8" Speaker Outputs (configurable for 7.1) Stereo Headphone Output	A/D: AKM AK 5394A D/A: Cirrus Logic CS4398	Phono Input THD+N (1 kHz, 10 mV RMS unbal input): -76 dB (.015%) SNR (10 mV RMS unbal input, A-weighted): 90 dB Headphones THD+N (1 kHz, max level) - 33 ohm load: -69 dB (0.035%) - 600 ohm load: -94 dB (0.002%) SNR (A-weighted): 117 dB Dynamic Range (A-weighted): 117 dB Combo Microphone Preamplifier/Line Inputs Line Input: THD+N (1 kHz at -1 dBFS): -100 dB (.001%) SNR (A-weighted, min gain): 107 dB Microphone Preamplifier: THD+N (1 kHz at -1 dBFS, min gain): -100 dB (.001%) SNR (A-weighted, min gain): 106 dB Analogue Line Outputs THD+N (1 kHz at -1 dBFS): -105 dB (.0006%) SNR (A-weighted): 120 dB Analogue Line Inputs THD+N (1 kHz at -1 dBFS): -110 dB (.0003%) SNR (A-weighted): 120 dB	2 in/2 out coaxial 2 in/2 out optical (or ADAT) AES/EBU or S/PDIF format **note:** Optical I/O switched with ADAT via software	8 channels, 24-bit @ 44.1/48 kHz 4 channels, 24-bit @ 96 kHz 2 channels, 24-bit @ 192 kHz	44.1, 48, 96, 192 at 16 or 24 bits from internal crystal or externally clock	Internal crystal sync at 44.1, 48, 96, 192. External sample rate sync via, ADAT or SP/DIF (optical or coax) Word Clock I/O SMPTE I/O MTC Out	2 in, 2 out (32 channels)	FireWire Interface	WDM DirectSound ASIO 2.0	Cakewalk SONAR LE Ableton Live Lite 4 for E-MU IK Multimedia AmpliTube LE SFX Machine LT E-MU Proteus X LE Steinberg Cubase LE Steinberg Wavelab Lite IK Multimedia T-Racks EQ diskWelder BRONZE Full Vers E-MU PatchMix DSP	**Adcon** Additional analogue I/O via ADAT **SMPro PR 8** 8 analogue pre-amps **SMPro PR 4** 4 analogue pre-amps **Emulator X Software** (UK 0800 901 2168) **Cables**	This is the choice for anyone serious about making music on there Laptop- for relatively little more money you get around 8dB more dynamic range and a flatter frequency response via the mastering grade 24-bit converters, over the 1616. **Extremely flexible audio solution with no compromise in sound quality**.
E-MU Proteus X	Card plus Breakout Cables requires 1 PCI slot	PCI	Input: 4 Channels Output: : 4 Channels	2 Input 2 Output	2 x 1/4" Input 2 x 1/4" Output Unbalanced	A/D: Texas Instruments PCM1804 D/A: AKM AK4395	Input: 20 Hz — 20 kHz (+0.20/-0.10 dB) 3.3 kOhm input impedance 100dB THD+N (1 kHz @ —1 dBFS) Crosstalk less than —120dB (1 kHz @ —1 dBFS) SNR (A-weighted): 111dB Output: 20 Hz — 20 kHz (+0.20/-0.10 dB) 560 Ohm input impedance 100dB THD+N (1 kHz @ —1 dBFS) Crosstalk less than —109dB (1 kHz @ —1 dBFS) SNR (A-weighted): 116dB	2 in/2 out coaxial 2 in/2 out optical AES/EBU or S/PDIF format	No	44.1, 48, 96, 192 at 16 or 24 bits from internal crystal or externally clock	Internal crystal sync at 44.1, 48, 96 External sample rate sync via SP/DIF (optical or coax)	1 in, 1 out (16 channels)	No	WDM DirectSound ASIO 2.0	Proteus X Software Cakewalk SONAR LE Ableton Live Lite 4 for E-MU IK Multimedia AmpliTube LE SFX Machine LT Steinberg Cubase LE Steinberg Wavelab Lite diskWelder BRONZE Trial E-MU PatchMix DSP	**Sync Daughtercard** SMPTE, Word Clock and MTC sync **Cables**	Proteus X is a 24-bit sound module for your PC. Awesom quality sound module with a high quality sound card for those on a **tight budget**
E-MU Emulator X	Card plus Daughterboard: requires 1 PCI slot plus additional back plate	PCI	Input: 12 Channels Output: : 12 Channels	2 Input 2 Output	2 x 1/4" Input 2 x 1/4" Output Balanced or Unbalanced Uses same high quality converter as in Digidesign Pro Tools I/O interface	A/D: AKM AK 5394A D/A: Cirrus Logic CS4398	Input THD+N (1 kHz at -1 dBFS) -110 dB (.0003%) SNR (A-weighted): 120 dB Output THD+N (1 kHz at -1 dBFS) -105 dB (.0006%) SNR (A-weighted): 120 dB	2 in/2 out coaxial 2 in/2 out optical (or ADAT) AES/EBU or S/PDIF format 2 out optical **note:** Optical I/O switched with ADAT via software	8 channels, 24-bit @ 44.1/48 kHz 4 channels, 24-bit @ 96 kHz 2 channels, 24-bit @ 192 kHz	44.1, 48, 96, 192 at 16 or 24 bits from internal crystal or externally clock	Internal crystal sync at 44.1, 48, 96, 192. External sample rate sync via, ADAT or SP/DIF (optical or coax)	1 in, 1 out (16 channels)	FireWire Interface	WDM DirectSound ASIO 2.0	Emulator X with 4 sample CDs Cakewalk SONAR LE Ableton Live Lite 4 for E-MU IK Multimedia AmpliTube LE SFX Machine LT E-MU Proteus X LE Steinberg Cubase LE Steinberg Wavelab Lite IK Multimedia T-Racks EQ diskWelder BRONZE Full Vers E-MU PatchMix DSP	**Sync Daughtercard** SMPTE, Word Clock and MTC sync **Audiodock-M** same breakout box as 1820M **Audiodock** same breakout box as 1820 **Cables** **Sample CDs** **Adcon** Additional analogue I/O via ADAT	All the audio features of 1212M plus E-MU's flagship software sampler Emulator-X.. It's powerful synthesis engine has 36 patchcords per voice, over 50 patented Z-Plane morphing filters, multi-wave LFO's plus much more. With comprehensive format support including EOS, EIII, GigaSampler, Akai, HALion, EXS24, SoundFont 2.1,. WAV and more, this could be the only sampler you'll ever need. Not only that, it ships with over 2GB of sounds including the legendary Proteus Producer sound set. A comprehensive wave editor is also included even more sound manipulation and creation. The Emulator-X is a product of 30 years of sampler production. '**That' E-MU sound is now available to those on the tightest of budgets**
E-MU Emulator XS	Card, Daughterboard plus External Breakout box: requires 1 PCI slot plus additional back plate	PCI	Input: 18 Channels Output: : 20 Channels	8 Input 8 Output	2 TFPro Mic/Line/Hi-Z preamps (w/48V phantom power) 6 x 1/4" Balanced Inputs 8 x 1/4" Balanced Outputs (Uses same high quality converter as in Digidesign Pro Tools I/O interface) Turntable input (w/ground lug and hardware RIAA preamp) 4 stereo 1/8" Speaker Outputs (configurable for 7.1) Stereo Headphone Output	A/D: AKM AK 5394A D/A: Cirrus Logic CS4398	Phono Input THD+N (1 kHz, 10 mV RMS unbal input): -76 dB (.015%) SNR (10 mV RMS unbal input, A-weighted): 90 dB Headphones THD+N (1 kHz, max level) - 33 ohm load: -69 dB (0.035%) - 600 ohm load: -94 dB (0.002%) SNR (A-weighted): 117 dB Dynamic Range (A-weighted): 117 dB Combo Microphone Preamplifier/Line Inputs Line Input: THD+N (1 kHz at -1 dBFS): -100 dB (.001%) SNR (A-weighted, min gain): 107 dB Microphone Preamplifier: THD+N (1 kHz at -1 dBFS, min gain): -100 dB (.001%) SNR (A-weighted, min gain): 106 dB Analogue Line Outputs THD+N (1 kHz at -1 dBFS): -105 dB (.0006%) SNR (A-weighted): 120 dB Analogue Line Inputs THD+N (1 kHz at -1 dBFS): -110 dB (.0003%) SNR (A-weighted): 120 dB	2 in/2 out coaxial 2 in/2 out optical (or ADAT) AES/EBU or S/PDIF format 2 out optical **note:** Optical I/O switched with ADAT via software	8 channels, 24-bit @ 44.1/48 kHz 4 channels, 24-bit @ 96 kHz 2 channels, 24-bit @ 192 kHz	44.1, 48, 96, 192 at 16 or 24 bits from internal crystal or externally clock	Internal crystal sync at 44.1, 48, 96, 192. External sample rate sync via, ADAT or SP/DIF (optical or coax) Word Clock I/O SMPTE I/O MTC Out	2 in, 2 out (32 channels)	FireWire Interface	WDM DirectSound ASIO 2.0	Emulator X with 4 sample CDs Cakewalk SONAR LE Ableton Live Lite 4 for E-MU IK Multimedia AmpliTube LE SFX Machine LT E-MU Proteus X LE Steinberg Cubase LE Steinberg Wavelab Lite IK Multimedia T-Racks EQ diskWelder BRONZE Full Vers E-MU PatchMix DSP	**Adcon** Additional analogue I/O via ADAT **SMPro PR 8** 8 analogue pre-amps **SMPro PR 4** 4 analogue pre-amps **Sample CDs** **Cables**	This is simple the best value for money of the whole range: A bundle of the superb 1820M plus all the power of the Emulator X software. **Martin Walker the Sound Card Guru of Sound on Sound** had this to say -"Overall, the 1820M and *Emulator X* bundle is the most impressive 'soundcard' that I've had the pleasure of reviewing for several years, and I've no doubts that it will sell and sell."

All the above systems now ship with E-MU Power FX Hardware - accelerated VST Effects