



## Sonnet Technologies Thunderbolt Expansion Systems PCIe Card Compatibility

PCIe Card	macOS Windows Linux VMWare	Echo Express SEL	Echo Express SE I	Echo Express SE II	Echo Express SE III, IIIe	Echo Exp III-D/R, xMac Pro Server	xMac mini Server
		TB2 or TB3	TB2 or TB3	TB2	TB3	TB2, TB3, TB3 HDX	TB2 or TB3
		1 Low Profile	1 Full Height Half Length + 1 AUX	2 Full Height Half Length + 1 AUX	3 Full Height Half Length	3 Full Height Full Length	1 FHFL + 1 FHHL + 1 AUX <sup>(1)</sup>
<b>Audio Pro Cards</b>							
Apogee Symphony 64 PCIe Card <sup>(d, 2)</sup>	M	-	-	√	√	√	√
Avid HD Native <sup>(d, 2)</sup>	M	-	-	√	-	√ <sup>(3)</sup>	√
<b>Avid Pro Tools   HDX</b>	MW	-	-	-	-	3 Cards <sup>(3)</sup>	1 Card <sup>(3)</sup>
BSS Audio BLU-PCI 64-channel PCIe BLU Link Card <sup>(d, 4)</sup>	W	√	√	√	√	√	√
<b>Dante PCIe-R Soundcards</b>	M	-	(5)	(5)	(5)	(5)	(5)
Audinate PCIe-R Soundcard	M	-	(5)	(5)	(5)	(5)	(5)
Focusrite RedNet Dante PCIe-R Soundcard	M	-	(5)	(5)	(5)	(5)	(5)
Solid State Logic Dante PCIe-R Soundcard	M	-	(5)	(5)	(5)	(5)	(5)
Yamaha Dante Accelerator PCI-R Audio Soundcard	M	-	(5)	(5)	(5)	(5)	(5)
<b>Lynx AES16e</b>	MW	-	√	√	√	√	√
<b>Lynx AES16e-SRC</b>	MW	-	√	√	√	√	√
<b>Lynx AES16e-50</b>	MW	-	√	√	√	√	√
<b>Lynx E22</b>	MW	-	√	√	√	√	√
<b>Lynx E44</b>	MW	-	√	√	√	√	√
<b>RME HDSPe AES</b>	MW	-	√	√	√	√	√
<b>RME HDSPe AIO</b>	MW	-	√	√	√	√	√
<b>RME HDSPe MAD1</b>	MW	-	√	√	√	√	√
<b>RME HDSDe MAD1 FX</b>	MW	-	√	√	√	√	√
<b>RME HDSPe RayDAT</b>	MW	-	√	√	√	√	√
<b>RME HDSPe PCI<sup>(d)</sup></b>	MW	√	√	√	√	√	√
Solid State Logic MadiXtreme 64 <sup>(d)</sup>	-	-	-	-	-	-	-
Solid State Logic MadiXtreme 128 <sup>(d)</sup>	-	-	-	-	-	-	-
Universal Audio UAD-2 Solo, Duo, Quad DSP Accelerator <sup>(6)</sup>	MW	-	√	√	√	√	√
Universal Audio UAD-2 Octo Accelerator <sup>(6)</sup>	MW	-	√	√	√	√	√
<b>Ethernet Adapters (Gigabit)</b>							
<b>Siig CN-GP1211-S1 LB-GE0014-S1</b>	W	√	√	√	√	√	√
<b>Siig CN-GP1211-S1 LB-GE0114-S1</b>	W	-	√	√	√	√	√
<b>Small Tree GbE P2EGS-1T, P2EGS-2T</b>	M	√	√	√	√	√	√
<b>Small Tree GbE P2EGS-4T, P2EGS-6T</b>	M	-	√	√	√	√	√
Small Tree GbE PEG1 <sup>(d)</sup> , PEG1F <sup>(d)</sup> , PEG2 <sup>(d)</sup> , PEG2F <sup>(d)</sup>	M	√	√	√	√	√	√
Small Tree GbE PEG4 <sup>(d)</sup> , PEG2G6 <sup>(d)</sup>	M	-	√	√	√	√	√
Sonnet Presto Gigabit Pro PCIe GE1000LAB-E <sup>(d, 7)</sup>	MW	√	√	√	√	√	√
<b>Ethernet Adapters (10 Gigabit)</b>							
ASUS XG-C100C	-	-	-	-	-	-	-
ATTO Fast Frame NT11, NT12 (10GBASE-T)	MWLV	√	√	√	√	√	√
ATTO Fast Frame NS11, NS12 (SFP+)	MWLV	√	√	√	√	√	√
ATTO Fast Frame NS14 <sup>(d)</sup>	MWLV	-	√	√	√	√	√
CSPi (Myricom) 10G-PCIE2-8C-T	M	√	√	√	√	√	√
CSPi (Myricom) 10G-PCIE2-8C2-2T	M	√	√	√	√	√	√
CSPi (Myricom) 10G-PCIE-8B-S	M	√	√	√	√	√	√
CSPi (Myricom) 10G-PCIE-8CS-2S	M	√	√	√	√	√	√
Myricom 10G-PCIE-8B-1S+E <sup>(d)</sup>	M	√	√	√	√	√	√
Myricom 10G-PCIE-8B-2C <sup>(d)</sup>	M	√	√	√	√	√	√
Myricom 10G-PCIE-8B-2S <sup>(d)</sup>	M	√	√	√	√	√	√
Myricom 10G-PCIE-8B-C <sup>(d)</sup>	M	√	√	√	√	√	√
Myricom 10G-PCIE2-8B2-2C <sup>(d)</sup>	M	√	√	√	√	√	√
Myricom 10G-PCIE2-8B2-2S <sup>(d)</sup>	M	√	√	√	√	√	√
Myricom 10G-PCIE2-8C2-2S <sup>(d)</sup>	M	√	√	√	√	√	√
Myricom 10G-PCIE2-8C2-T <sup>(d)</sup>	M	√	√	√	√	√	√
Myricom 10G-PCIE2-8C2-2S+E <sup>(d)</sup>	M	-	√	√	√	√	√
QNAP QXG-10G1T	-	-	-	-	-	-	-
Siig CN-GP1211-S1	W	√	√	√	√	√	√
Small Tree 10GbE P2E10G-1-T, P2E10G-2-T	M	√	√	√	√	√	√
Small Tree 10GbE P3E10G-4-T	M	√	√	√	√	√	√
Small Tree 10GbE P2E10G-2-XR/SR	M	√	√	√	√	√	√
Small Tree 10GbE P3E10G-4-XR/SR, P3E10G-6-XR/SR	M	-	√	√	√	√	√
Small Tree 10GbE PETG2NDA <sup>(d)</sup> , PETG2-CAT6 <sup>(d)</sup>	M	√	√	√	√	√	√
Small Tree 10GbE PETG2-CX4 <sup>(d)</sup> , PETG1SFP+ <sup>(d)</sup> , PETG2SFP+ <sup>(d)</sup>	M	√	√	√	√	√	√
Small Tree 10GbE PETG4NDA <sup>(d)</sup> , PETG4SFP+ <sup>(d)</sup>	M	-	√	√	√	√	√
Small Tree 10GbE PETG6NDA <sup>(d)</sup> , PETG6SFP+ <sup>(d)</sup>	M	-	√	√	√	√	√
<b>Sonnet Solo10G G10E-2X-E3 1-Port Card (10GBASE-T)</b>	MWL	√	√	√	√	√	√
<b>Sonnet Solo10G SFP+ G10E-SFP-1X-E3 1-Port Card (SFP+)</b>	MWL	√	√	√	√	√	√
<b>Sonnet Presto 10GbE G10E-2X-E3 2-Port Card (10GBASE-T)</b>	MWLV	√	√	√	√	√	√
<b>Sonnet Presto 10GbE SFP+ 2-Port Card (SFP+)</b>	MWLV	√	√	√	√	√	√
Sonnet (Myricom) G10E-SFP-E <sup>(d)</sup>	M	√	√	√	√	√	√
Sonnet (Myricom) G10E-SFP-2X-E2 <sup>(d)</sup>	M	√	√	√	√	√	√

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		TB2 or TB3	TB2 or TB3	TB2	TB3	TB2, TB3, TB3 HDX	TB2 or TB3
		1 Low Profile	1 Full Height Half Length + 1 AUX	2 Full Height Half Length + 1 AUX	3 Full Height Half Length	3 Full Height Full Length	1 FHFL + 1 FHHL + 1 AUX <sup>(1)</sup>
<b>Fibre Channel</b>							
ATTO Celerity FC-81EN <sup>(d)</sup>	MWLV	√	√	√	√	√	√
ATTO Celerity FC-82EN <sup>(d)</sup>	MWLV	√	√	√	√	√	√
ATTO Celerity FC-84EN <sup>(d)</sup>	MWLV	-	√	√	√	√	√
ATTO Celerity FC-161E	MWLV	√	√	√	√	√	√
ATTO Celerity FC-162E <sup>(8)</sup>	MWLV	√	√	√	√	√	√
ATTO Celerity FC-164E <sup>(8)</sup>	MWLV	-	√	√	√	√	√
ATTO Celerity FC-321E <sup>(8)</sup>	MWLV	√	√	√	√	√	√
ATTO Celerity FC-322E <sup>(8)</sup>	MWLV	√	√	√	√	√	√
ATTO Celerity FC-324E <sup>(8)</sup>	MWLV	√	√	√	√	√	√
<b>FireWire</b>							
Sonnet Allegro FW400 PCIe <sup>(d)</sup>	M	-	√	√	√	√	√
<b>Sonnet Allegro FW800 PCIe</b>	M	-	√	√	√	√	√
Sonnet Tango 3.0 PCIe USB3 FW800 Combo <sup>(d)</sup>	M	-	√	√	√	√	√
Startech PEX1394A2V FW800	M	-	√	√	√	√	√
Startech PEX1394B3LP FW800	M	√	√	√	√	√	√
<b>GPU Cards</b>							
AMD Radeon Pro WX7100	MW	-	-	-	-	√ TB3 Only	√ TB3 Only
NVIDIA Quadro P4000	W	-	-	-	-	√ TB3 Only	-
NVIDIA Quadro RTX 4000 <sup>(19)</sup>	W	-	-	-	-	√ TB3 Only	-
<b>PCIe Bus Extender</b>							
Accusys ExaSAN Single Port QSFP to PCIe HBA Card	MW	√	√	√	√	√	√
Accusys ExaSAN Dual Port QSFP to PCIe HBA Card	MW	√	√	√	√	√	√
Avid Mojo DX (with PCIe Host Interface Board) <sup>(15)</sup>	MWL	√	√	√	√	√	√
Avid Nitris DX (with PCIe Host Interface Board) <sup>(15)</sup>	MWL	√	√	√	√	√	√
<b>SAS/SATA</b>							
Areca ARC-1883x 8-port 12Gb SAS RAID adapter <sup>(8)</sup>	MWLV	√	√	√	√	√	√
ATTO ExpressSAS H680	MWLV	√	√	√	√	√	√
ATTO ExpressSAS H1280	MWLV	√	√	√	√	√	√
ATTO ExpressSAS H12F0	MWLV	√	√	√	√	√	√
ATTO ExpressSAS R680 RAID Adapter <sup>(d, 9)</sup>	MW	√	√	√	√	√	√
CalDigit FASTA-2e <sup>(d)</sup>	-	-	-	-	-	-	-
CalDigit FASTA-6GU3 <sup>(d)</sup>	-	-	-	-	-	-	-
CalDigit FASTA-6GU3 PRO <sup>(d)</sup>	MW	-	√	√	√	√	√
HighPoint Rocket RAID SAS 2711/2722	M	√	√	√	√	√	√
HighPoint Rocket RAID SAS 4522	M	√	√	√	√	√	√
HighPoint Rocket RAID SATA 644L/644LS	M	-	√	√	√	√	√
NewerTech MAXPower USB/eSATA 2x2 Host Adapter	M	-	√	√	√	√	√
Sonnet Tempo Duo PCIe <sup>(d)</sup>	MW	-	√	√	√	√	√
Sonnet Tempo SATA E2P	-	-	-	-	-	-	-
Sonnet Tempo SATA Pro 6Gb PCIe 2.0 <sup>(d)</sup>	MW	√	√	√	√	√	√
Sonnet Tempo SATA 6Gb Pro 4-port	MWL	-	√	√	√	√	√
<b>SSD</b>							
ASUS Hyper M.2 x16 PCIe 3.0 Expansion Card	-	-	-	-	-	-	-
Dell Ultra-Speed Drive Quad NVMe M.2 PCIe x16 Card	-	-	-	-	-	-	-
HP Turbo Drive Quad Pro	-	-	-	-	-	-	-
Intel SSD 750 Series <sup>(d)</sup>	M <sup>(10)</sup> W	√	√	√	√	√	√
Intel Optane 900P, 905P PCIe SSD	MW	√	√	√	√	√	√
<b>Sonnet M.2 4x4 PCIe Card</b>	MWL	-	-	-	-	√	√ (FHFL slot)
<b>Sonnet Fusion Dual U.2 PCIe Card</b>	MWL	-	-	-	-	√	√ (FHFL slot)
<b>Sonnet Fusion Dual 2.5 Inch SSD RAID</b>	MWL	-	-	-	-	√	√ (FHFL slot)
Sonnet Tempo PCIe SSD <sup>(d)</sup>	MW	√	√	√	√	√	√
<b>Sonnet Tempo SSD</b>	MWL	-	√ <sup>(11)</sup>	√ <sup>(11)</sup>	√ <sup>(11)</sup>	√	√
Sonnet Tempo SSD Pro <sup>(d)</sup>	MW	-	-	-	-	√	√ (FHFL slot)
Sonnet Tempo SSD Pro Plus <sup>(d)</sup>	MW	-	-	-	-	√	√ (FHFL slot)
Western Digital BLACK AN1500 NVMe SSD Card	MWL	-	√	√	√	√	√ (FHFL slot)
<b>Signal Acquisition</b>							
Acquiris U5309A	WL	-	-	-	√ SE IIIe only <sup>(12)</sup>	√	-
Acquiris U5310A	WL	-	-	-	-	√	-
Acquiris U5303A	WL	-	-	-	√ SE IIIe only <sup>(12)</sup>	√	-
Acquiris SA220P	WL	-	-	-	√ SE IIIe only <sup>(12)</sup>	√	-

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		1 Low Profile	1 Full Height Half Length + 1 AUX	2 Full Height Half Length + 1 AUX	3 Full Height Half Length	3 Full Height Full Length	1 FHFL + 1 FHHL + 1 AUX <sup>(1)</sup>
<b>Video Capture &amp; Processing</b>							
AJA Corvid 3G <sup>(d)</sup>	MWL	-	√ TB2 only	√	√	√	√
AJA Corvid 3G LP <sup>(d)</sup>	MWL	√ TB2 only	√ TB2 only	√	√	√	√
AJA Corvid 3G Fibre <sup>(d)</sup>	MWL	-	√ TB2 only	√	√	√	√
AJA Corvid	MWL	-	√	√	√	√	√
AJA Corvid LP	MWL	√	√	√	√	√	√
AJA Corvid 22	MWL	-	√	√	√	√	√
AJA Corvid 24	MWL	-	√	√	√	√	√
AJA Corvid 44/44LP	MWL	-	-	-	√	√ TB3 only	NR <sup>21</sup>
AJA Corvid 44 12G	MWL	-	-	-	√ SE IIIe only <sup>(12)</sup>	√ TB3 only	NR <sup>21</sup>
AJA Corvid 44 BNC	MWL	-	-	-	√	√ TB3 only	NR <sup>21</sup>
AJA Corvid 88/88LP	MWL	-	-	-	√	√ TB3 only	NR <sup>21</sup>
AJA Corvid HEVC	MWL	-	-	-	√ SE IIIe only <sup>(12)</sup>	√ TB3 only	NR <sup>21</sup>
AJA Corvid HB-R	MWL	-	√	√	√	√	√
AJA Kona LHe Plus	MWL	-	√ TB2 only	√	√	√	√
AJA Kona LHi	MWL	-	√ TB2 only	√	√	√	√
AJA Kona 1	MWL	-	√	√	√	√	√
AJA Kona 3G <sup>(d)</sup>	MWL	-	√	√	√	√	√
AJA Kona HDMI	MWL	-	-	-	√	√ TB3 only	NR <sup>21</sup>
AJA Kona 4	MWL	-	-	-	√	√ TB3 only	NR <sup>21</sup>
AJA Kona IP	MWL	-	-	-	√	√ TB3 only	NR <sup>21</sup>
AJA Kona 5 <sup>(18)</sup>	MWL	-	-	-	√ SE IIIe only <sup>(12)</sup>	√ TB3 only	-
Blackmagic DeckLink 4K <sup>(d)</sup>	MW	√	√	√	√	√	√
Blackmagic DeckLink 4K Extreme <sup>(d, 13)</sup>	MW	-	√	√	√	√	√
Blackmagic DeckLink 4K Extreme 12G <sup>(8, 13)</sup>	MWL	-	-	-	√ SE IIIe only <sup>(12)</sup>	√	NR <sup>21</sup>
Blackmagic DeckLink 4K Pro <sup>(d)</sup>	MW	-	√	√	√	√	√
Blackmagic DeckLink Duo 2	MWL	-	√	√	√	√	√
Blackmagic DeckLink Duo 2 Mini	MWL	√	√	√	√	√	√
Blackmagic DeckLink Mini Monitor	MWL	-	√	√	√	√	√
Blackmagic DeckLink Mini Monitor 4K	MWL	-	√	√	√	√	√
Blackmagic DeckLink Mini Recorder	MWL	-	√	√	√	√	√
Blackmagic DeckLink Mini Recorder 4K	MWL	√	√	√	√	√	√
Blackmagic DeckLink HD Extreme 3D <sup>(d)</sup>	MW	-	√	√	√	√	√
Blackmagic DeckLink Quad <sup>(d)</sup>	MW	-	√	√	√	√	√
Blackmagic DeckLink Quad 2	MWL	-	-	-	√	√ TB3 only	NR <sup>21</sup>
Blackmagic DeckLink Quad HDMI Recorder	MWL	-	√ TB3 only	-	√	√ TB3 only	NR <sup>21</sup>
Blackmagic DeckLink SDI <sup>(d)</sup>	MW	-	√	√	√	√	√
Blackmagic DeckLink SDI 4K	MWL	-	√	√	√	√	√
Blackmagic DeckLink Studio <sup>(d)</sup>	MW	-	√	√	√	√	√
Blackmagic DeckLink Studio 2 <sup>(d)</sup>	MW	-	√	√	√	√	√
Blackmagic DeckLink Studio 4K <sup>(14)</sup>	MWL	-	√	√	√	√	√
Blackmagic DeckLink 8K Pro	MWL	-	-	-	√ SE IIIe only <sup>(12)</sup>	√ TB3 only	NR <sup>21</sup>
Blackmagic Intensity Duo <sup>(d)</sup>	MW	-	√	√	√	√	√
Blackmagic Intensity Pro <sup>(d)</sup>	MW	-	√	√	√	√	√
Blackmagic Intensity Pro 4K	MWL	-	√	√	√	√	√
Bluefish444 2K Core <sup>(d)</sup>	M	-	-	-	-	√	-
Bluefish444 2K Ultra <sup>(d)</sup>	M	-	-	-	-	√	-
Bluefish444 Create HD <sup>(d)</sup>	M	-	-	-	-	√	-
Bluefish444 Create 3D <sup>(d)</sup>	M	-	-	-	-	√	-
Bluefish444 Create 3D Ultra <sup>(d)</sup>	M	-	-	-	-	√	-
Bluefish444 Epoch 2K Horizon <sup>(d)</sup>	M	-	-	-	-	√	-
Bluefish444 Epoch Neutron	MWL	-	√	√	√	√	√
Bluefish444 Epoch Neutron LP	MWL	√	√	√	√	√	√
Bluefish444 Epoch 4K Neutron	MWL	-	√	√	√	√	√
Bluefish444 Epoch 4K Neutron LP	MWL	√	√	√	√	√	√
Bluefish444 Epoch 4K Neutron Turbo (2 cards)	MWL	-	√	√	√	√	-
Bluefish444 Epoch 4K Neutron Turbo LP (2 cards)	MWL	-	√	√	√	√	√
Bluefish444 Epoch 4K Supernova	MWL	-	-	-	-	√	√
Bluefish444 Epoch 4K Supernova EX (2 cards)	MWL	-	-	-	-	√	-
Bluefish444 Epoch 4K Supernova Turbo (2-3 cards)	MWL	-	-	-	-	√	-
Bluefish444 Epoch 4K Supernova S+	MWL	-	√	√	√	√	√
Bluefish444 Epoch 4K Supernova S+ Turbo (2 cards)	MWL	-	-	-	√	√	-
Bluefish444 Epoch 4K Supernova S+ Ex (2 cards)	MWL	-	-	√	√	√	-
Bluefish444 Epoch Supernova CG	MWL	-	√	√	√	√	√
Bluefish444 KRONOS elektron	MWL	-	√	√	√ SE IIIe only <sup>(12)</sup>	√	√
Bluefish444 KRONOS optós	MWL	-	√	√	√ SE IIIe only <sup>(12)</sup>	√	√

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		TB2 or TB3	TB2 or TB3	TB2	TB3	TB2, TB3, TB3 HDX	TB2 or TB3
		1 Low Profile	1 Full Height Half Length + 1 AUX	2 Full Height Half Length + 1 AUX	3 Full Height Half Length	3 Full Height Full Length	1 FHFL + 1 FHHL + 1 AUX <sup>(1)</sup>
<b>Video Capture &amp; Processing (continued)</b>							
Deltacast Delta-3G-el-p-d 8c	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p-d 8b	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p-d 80	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p-d 84	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p-d 4c	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p-2key-d 22	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p-key-d 2K	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p-2key-d 44	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p -01	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p -02	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p -10	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p -11	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p -key-11	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p -20	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p -40	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p -d 01	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p -d 02	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p -d 04	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p -d 10	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p -d 11	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p -d 12	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p -d 20	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p -d 21	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p -d 22	MW	√	√	√	√	√	√
Deltacast Delta-3G-el-p -d 40	MW	√	√	√	√	√	√
Deltacast Delta-3G40-hd40-el-p-d	MW	√	√	√	√	√	√
Deltacast Delta-h3k2-el-p 20	MW	√	√	√	√	√	√
Deltacast Delta-h4k-el-p 20	MW	√	√	√	√	√	√
Deltacast Delta-asi-el-p-d 8C	MW	√	√	√	√	√	√
Deltacast Delta-3G4c-ASI4c-el-p-d	MW	√	√	√	√	√	√
Deltacast Delta-asi-el-p-d 4C	MW	√	√	√	√	√	√
Deltacast Delta-asi-el-p 11	MW	√	√	√	√	√	√
Deltacast Delta-asi-el-p 40	MW	√	√	√	√	√	√
Deltacast Delta-HD-E XX	MW	-	-	-	-	√	-
Deltacast Delta-HD-E-KEY 22	MW	-	-	-	-	√	-
Deltacast Delta-3G-ELP 40	MW	√	√	√	√	√	√
Deltacast Delta-3G-ELP 20	MW	√	√	√	√	√	√
Deltacast Delta-3G-ELP-KEY 11	MW	√	√	√	√	√	√
Deltacast Delta-3G-E-KEY 22	MW	-	√	√	√	√	√
Deltacast Delta-HD-ELP-D 80	MW	√	√	√	√	√	√
Deltacast Delta-HD-ELP-D 44	MW	√	√	√	√	√	√
Deltacast Delta-HD-ELP-D 62	MW	√	√	√	√	√	√
Deltacast Delta-3G-ELP-D 22	MW	√	√	√	√	√	√
Deltacast Delta-3G-ELP-D 04	MW	√	√	√	√	√	√
Deltacast Delta-H4K-ELP 20	MW	√	√	√	√	√	√
Deltacast Delta-3G-DVI-E 20	MW	-	√	√	√	√	√
Matrox Mojito MAX <sup>(d)</sup>	W <sup>(15)</sup>	-	-	-	-	√	-
Magewell Pro Capture HDMI	MWL	√	√	√	√	√	√
Magewell Pro Capture Dual HDMI	MWL	√	√	√	√	√	√
Magewell Pro Capture Quad HDMI	MWL	-	√	√	√	√	√
Magewell Pro Capture HDMI 4K	MWL	√	√	√	√	√	√
Magewell Pro Capture HDMI 4K Plus	MWL	√	√	√	√	√	√
Magewell Pro Capture HDMI 4K Plus LT	MWL	√	√	√	√	√	√
Magewell Pro Capture Dual HDMI 4K Plus LT	MWL	-	√	√	√	√	√
Magewell Pro Capture SDI	MWL	√	√	√	√	√	√
Magewell Pro Capture Dual SDI	MWL	√	√	√	√	√	√
Magewell Pro Capture Quad SDI	MWL	-	√	√	√	√	√
Magewell Pro Capture SDI 4K Plus	MWL	√	√	√	√	√	√
Magewell Pro Capture Dual SDI 4K Plus	MWL	-	√	√	√	√	√
Magewell Pro Capture AIO	MWL	-	√	√	√	√	√
Magewell Pro Capture AIO 4K	MWL	√	√	√	√	√	√
Magewell Pro Capture AIO 4K Plus	MWL	√	√	√	√	√	√
Magewell Pro Capture DVI	MWL	√	√	√	√	√	√
Magewell Pro Capture Dual DVI	MWL	-	√	√	√	√	√
Magewell Pro Capture DVI 4K	MWL	√	√	√	√	√	√
Magewell Pro Capture Hexa CVBS	WL	√	√	√	√	√	√
RED ROCKET <sup>(d, 16)</sup>	MW	-	-	-	-	√	√
RED ROCKET X <sup>(d, 17)</sup>	MW	-	-	-	-	√	√

PCIe Card	macOS Windows Linux VMWare	Echo Express SEL	Echo Express SE I	Echo Express SE II	Echo Express SE III, IIIe	Echo Exp III-D/R, xMac Pro Server	xMac mini Server
		TB2 or TB3	TB2 or TB3	TB2	TB3	TB2, TB3, TB3 HDX	TB2 or TB3
		1 Low Profile	1 Full Height Half Length + 1 AUX	2 Full Height Half Length + 1 AUX	3 Full Height Half Length	3 Full Height Full Length	1 FHFL + 1 FHHL + 1 AUX <sup>(1)</sup>
<b>USB 3</b>							
<b>Sonnet Allegro USB 3.0 PCIe 4-Port</b>	MWL	-	✓	✓	✓	✓	✓
Sonnet Allegro Pro USB 3.0 PCIe (4-Port) <sup>(d)</sup>	MWL	-	✓	✓	✓	✓	✓
<b>Sonnet Allegro Pro USB 3.1 PCIe (4-Port)</b>	MWL	-	✓	✓	✓	✓	✓
<b>Sonnet Allegro USB-C PCIe (2-port)</b>	MWL	✓	✓	✓	✓	✓	✓
<b>Sonnet Allegro USB-C 4-Port PCIe</b>	MWL	-	✓	✓	✓	✓	✓

#### Technical Notes

d. These cards has been discontinued. Continuing OS support may be limited.

- Only 2nd Generation Thunderbolt 2 xMac mini Server, part number XMAC-MS-A, supports an AUX card. All Thunderbolt 3 models support an AUX card.
- These cards draw more than 3 Amps at 3.3V, exceeding the specification for a single PCIe slot chassis.
- Only TB2 and TB3 HDX Echo Express III chassis support HDX card (standard TB3 Edition not compatible). Both TB2 and TB3 xMac mini Server models compatible with HDX.  
Sonnet Power Adapter Cable for HDX card, P/N TCB-HDXB supports these chassis; sold separately.
- BSS Audio believes that BLU-PCI 64-channel PCIe BLU Link Card is Thunderbolt compatible, but they have not tested it. Worst case is that the card may not be hot-pluggable.
- Dante PCIe-R Soundcards have software anomalies in Thunderbolt Expansion Chassis. Sonnet is working with Audinate to resolve the issues.
- Mac Pro 6,1 (Late 2013) computers require UAD v9.6.1 Build 62772 or higher.
- Only Sonnet Presto Gigabit Pro PCIe model number GE1000LAB-E (shipping on or after January 1, 2014) is Thunderbolt compatible.
- For maximum performance, Thunderbolt 3 chassis with PCIe 3.0 slots recommended for these cards.
- Cooling Kit for ATTO R680 RAID Card (Sonnet Part No. CK-R680) required for Echo Express III or xMac mini Server chassis.  
Ambient temperature limited to 30°C in Echo Express SE series chassis.  
Note: Cooling kit not compatible with ATTO R680 RAID card installed with optional ATTO CacheAssure™ module.
- Requires macOS 10.13.6+
- Single SSD in this chassis.
- These cards require PCIe auxiliary power. The Echo Express SE IIIe provides a total power of 80W to the auxiliary power and PCIe connectors.  
Please make sure that the combined power requirements of all installed cards fit within this power budget.
- This is a single slot but doublewide PCIe card that occupies two slot spaces.
- This card has a cabled daughter card that can be installed in the SE I or SE II AUX card space, and takes two slots in other chassis.
- The Matrox Mojito Max does not support Windows 10 Fast Startup. Please disable this feature if you are using a mobile workstation.  
After every Windows Update you may have to disable Fast Startup again.
- Uses beta driver. Hot plug not supported.  
In Sonnet tests, RED ROCKET with a Thunderbolt 2-equipped Echo Express III supported:
  - 24 fps @ 5K, full-frame, 8-bit
  - 11 fps @ 5K, full-frame, 16-bit
These results may vary depending on configuration and are provided for information purposes. Sonnet does not guarantee any particular performance of third-party cards.
- In Sonnet tests, RED ROCKET X with a Thunderbolt 2-equipped Echo Express III supported:
  - 32 fps @ 5K, full-frame, 8-bit (note: should be sufficient for playback of dailies in the field)
  - 16 fps @ 5K, full-frame, 16-bit
  - 22 fps @ 6K, full-frame, 8-bit
  - 12 fps @ 6K, full-frame, 16-bit
  - 64.5 fps @ 6K, full-frame, 8-bit, exporting to 1080
  - 58.5 fps @ 6K, full-frame, 8-bit, exporting to 1080 (note: should be able to do 3D 1080 in real time)
These results may vary depending on configuration and are provided for information purposes. Sonnet does not guarantee any particular performance of third-party cards.
- In Sonnet tests, a Kona 5 card in an Echo Express SE IIIe with AJA Device Test, we have achieved
  - 103 FPS to capture and 105 FPS to playback footage at a resolution of 4096x2160 4K-2160 and a pixel format of 10 bit YUV.
These results may vary depending on configuration and are provided for information purposes. Sonnet does not guarantee any particular performance of third-party cards.
- 6-pin to 8-pin PCIe power adapter cable required, sold separately.
- Requires macOS 10.15.6+
- Not Recommended. These cards are supported, but the resolution and/or number of video streams may be limited.

Sonnet provides this table as a courtesy based on the information made available to Sonnet by the card manufacturers. Sonnet has tested Sonnet cards; but has not tested every 3rd-party card, and we cannot guarantee their compatibility. For most current information, contact the PCIe card manufacturer. Specifications are subject to change without notice. 10/13/2020 ©2019-2020 Sonnet Technologies, Inc. All Rights Reserved.