

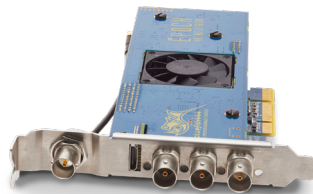


DEVELOPER DATA SHEET

ÈPOCH 4K NEUTRON



ÈPOCH **A**
4K NEUTRON VARIANT



ÈPOCH **B**
4K NEUTRON VARIANT



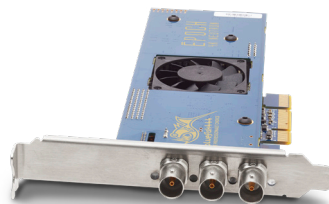
ÈPOCH **C**
4K NEUTRON VARIANT



ÈPOCH **D**
4K NEUTRON VARIANT



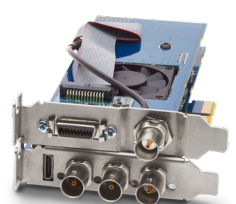
ÈPOCH **E**
4K NEUTRON VARIANT



ÈPOCH **X**
4K NEUTRON VARIANT



ÈPOCH **F**
4K NEUTRON LP VARIANT



ÈPOCH **G**
4K NEUTRON LP VARIANT

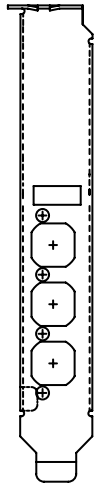
MAJOR FEATURES FOR ALL ÈPOCH | 4K NEUTRON VARIANTS

SD-SDI	2	Customisable Pixel Formats	YES
1.5G HD-SDI	3	Breakout Cable	YES*
3G-SDI (Level A+B)	NO	16-bit Half Float Pixel Format	YES
Dual Link 1.5G (4:2:2/4:4:4:4)	YES	Interlocking Genlock with CAB_ILOK Cable	YES
Dual Link 3G (Level A+B)	YES	Bypass Relays	YES
Quad Link 1.5G	NO	Full Duplex DMA	YES
Quad Link 3G (Level A+B)	NO	VBI, HANC & VANC	YES
2K/HD/SD HDMI (Output)	YES	Embedded Audio	YES
4K HDMI (Output)	YES	NVIDIA GPU Direct	YES
Low-latency Hardware Keyer	YES	AMD Direct GMA	YES
Multi-card Support	YES	SDI <=> ASI switching	YES
Colour Space Converter	YES	Range of Firmware Options	YES

*Refer to optional connectivity table on page 2 for more information.

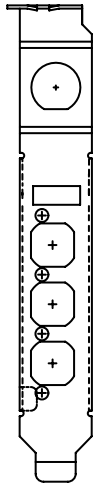
DELIVER CUTTING EDGE VIDEO WORKFLOWS WITH ÈPOCH | 4K NEUTRON





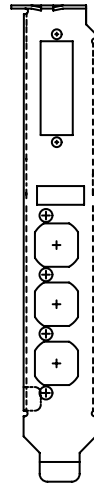
ÈPOCH
4K NEUTRON

Part No. EB3006A



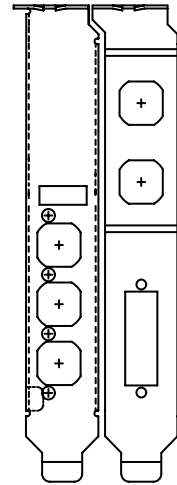
ÈPOCH
4K NEUTRON

Part No. EB3006B



ÈPOCH
4K NEUTRON

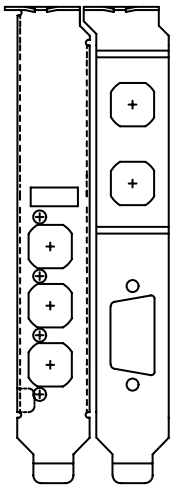
Part No. EB3006C



ÈPOCH
4K NEUTRON

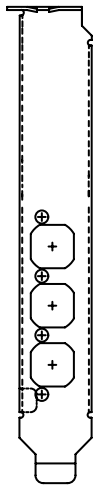
Part No. EB3006D

PART NUMBER	PRODUCT	DESCRIPTION
EB3006A	Epoch 4K Neutron	Full-height - HDMI Only
EB3006B	Epoch 4K Neutron	Full-height - Aux Genlock
EB3006C	Epoch 4K Neutron	Full-height - AES Audio I/O / Analogue Audio Out / RS-422 / Aux Genlock
EB3006D	Epoch 4K Neutron	Full-height - AES Audio I/O / Analogue Audio Out / RS-422 / LTC I/O
CAB_ILOK	Optional Interlock Cable	Locks multiple cards to a single sync source



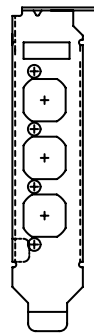
ÈPOCH
4K NEUTRON

Part No. EB3006E



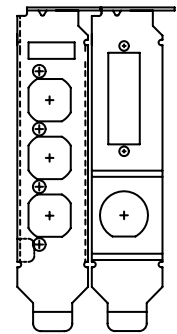
ÈPOCH
4K NEUTRON

Part No. EB3006X



ÈPOCH
4K NEUTRON LP

Part No. EB3006F



ÈPOCH
4K NEUTRON LP

Part No. EB3006G

PART NUMBER	PRODUCT	DESCRIPTION
EB3006E	Epoch 4K Neutron	Full-height - LTC I/O / RS-422
EB3006X	Epoch 4K Neutron	Full-height - Non HDMI
EB3006F	Epoch 4K Neutron LP	Low-profile - HDMI
EB3006G	Epoch 4K Neutron LP	Low-profile - AES audio I/O / Analogue Audio Out / RS-422 / Aux Genlock
CAB_ILOK	Optional Interlock Cable	Locks multiple cards to a single sync source

SPECIFICATIONS	EPOCH 4K NEUTRON	EPOCH 4K NEUTRON LP
Width	120MM	80MM
Length	185MM	185MM
Internal Clearance (L)	169MM	169MM
Height	1 PCIE SLOT	1 PCIE SLOT
Weight	220G	180G

VIDEO I/O		
SDI VIDEO		
SD SMPTE 295M		2
HD 1.5G SMPTE 292M		3
3G (Level A+B) SMPTE 424M		3
Dual Link 1.5G SMPTE 372M	YES	
Dual Link 3G	YES	
Quad Link 1.5G SMPTE 2036-1	NO	
Quad Link 3G SMPTE 2036-1	NO	
Maximum Video Channels		4
12/10/8-bit 4:4:4:4 SDI	YES	
12/10/8-bit 4:2:2:4 SDI	YES	
ASI		
ASI EN50083-9		YES
ASI/SDI input auto-detection		YES
Burst and non-burst packet auto-detection		YES
Inverted bitstream auto-detection & correction		YES
HDMI OUTPUT		
2K/HD/SD	YES*	
4K DCI (4096 x 2160p) @ 24FPS	YES*	
UHD (3840 x 2160p) @ 24, 25, 29, 30FPS	YES*	
GENLOCK		
Bi-Level/Tri-Level Genlock		YES
Bi-Level/Tri-Level Genlock Auxillary (Dedicated BNC)		YES*
Bi-Level/Tri-Level Genlock Auxillary (Via Breakout Cable)		YES*
Interlocking Genlock between Neutron cards		YES

ANCILLARY		
HANC		
RP 188 Timecode		YES
16 Channels of Embedded Audio per SDI		YES
Video Payload ID		YES
Custom Packets		YES
VANC		
Closed captioning		YES
3 Line VITC		YES
Custom Packets		YES

AUDIO I/O		
AUDIO SIGNALS		
16 channels of Embedded Audio Input per SDI		YES
8 Channels of AES ID3 Input(unbalanced, BNC)		YES*
16 channels of Embedded Audio Output per SDI		YES
8 Channels of AES ID3 Output(unbalanced, BNC)		YES*
2 channels -10DBU Analogue Output(unbalanced, RCA)		YES*
Dolby Digital Pass-through SDI		YES

HARDWARE		
MAJOR HARDWARE FEATURES		
High Performance, Bypass Relays		YES
Fully Programmable 4 x 4 x 33-bit Colour Matrix		YES
12-bit video signal path throughout		YES
Automatic Cross-Locking and intelligent output phasing across formats		YES
Audio sample-rate converters		YES
(MR ²) Master Routing Resource		YES
ISIM (Input Stream Integrity Management)		YES
4-lane PCI-Express (8 and 16 lane compatible)		YES
Full Duplex DMA data transfer bandwidth 1.1GB/s		YES
256MB On Board Memory		YES

HARDWARE		
MAJOR HARDWARE FEATURES		
Hardware Downstream Keyer		YES
LTC I/O BNC		YES*
RS-422 Serial Port (Via Breakout Cable)		YES*
DVB ASI		YES
ASI-SPECIFIC CAPABILITIES		
Full DVB/ASI support as per EN50083-9		YES
Ideal performance as per ETSITR101891 V1.1.1 (2001-02)		YES
Bypass relays operate on power failure		YES
Programmable interrupt latency		YES
ASI INPUT CAPABILITIES		
188 & 204 byte packet auto-detection		YES
Burst & non-burst packet auto-detection		YES
Inverted bit-stream auto-detection & correction		YES
Time-stamping of packets with genlockable clock		YES
Bit-rate reporting		YES
Automatic ASI/SDI detection		YES
Huge receive packet buffer		YES
ASI OUTPUT CAPABILITIES		
188 & 204 byte packet generation		YES
Burst & non-burst packet generation		YES
Very high resolution output bit-rate generator		YES
Switchable low-latency loop-through path from input		YES
Automatic time-stamp removal		YES
Automatic packet underflow tracking and recovery		YES
Ideal (zero) aperiodicity of output packets		YES
ASI carrier can be genlocked or manually tuned		YES
Huge transmit packet buffer		YES

VIDEO FORMATS		
SUPPORTED YUV SDI VIDEO MODES		
(2K) 2048 x 1080p/PsF @ 23.976, 24, 25, 29.97, 30FPS		YES
(2K) 2048 x 1080p/PsF @ 48, 50, 59.94, 60FPS		YES
(HD) 1920 x 1080p/PsF @ 23.976, 24, 25, 29.97, 30FPS		YES
(HD) 1920 x 1080p/PsF @ 48, 50, 59.94, 60FPS		YES
(HD) 1920 x 1080i @ 25, 29.97, 30FPS		YES
(HD) 1280 x 720p @ 23.976, 24, 25, 29.97, 30, 50, 59.94, 60FPS		YES
(SD) 720 x 576i @ 25FPS PAL		YES
(SD) 720 x 486i @ 29.97FPS NTSC		YES
SUPPORTED RGB SDI VIDEO MODES		
(2K) 2048 x 1080p/PsF @ 23.976, 24, 25, 29.97, 30FPS		YES
(HD) 1920 x 1080p/PsF @ 23.976, 24, 25, 29.97, 30FPS		YES
(HD) 1920 x 1080i @ 25, 29.97, 30FPS		YES
(SD) 720 x 576i @ 25FPS PAL		YES
(SD) 720 x 486i @ 29.97FPS NTSC		YES
SUPPORTED HSDL SDI VIDEO MODES		
(2K) 2048 x 1556PsF @ 14.98, 15FPS		YES
SUPPORTED 4K YUV SDI VIDEO MODES		
(4K) 4096 x 2160p @ 23.976, 24, 25, 29.97, 30FPS		YES ¹
(4K) 4096 x 2160p @ 48, 50, 59.94, 60FPS		NO
(UHD) 3840 x 2160p @ 23.976, 24, 25, 29.97, 30FPS		YES ¹
(UHD) 3840 x 2160p @ 48, 50, 59.94, 60FPS		NO
SUPPORTED 4K RGB SDI VIDEO MODES		
(4K) 4096 x 2160p @ 23.976, 24, 25, 29.97, 30FPS		NO
(UHD) 3840 x 2160p @ 23.976, 24, 25, 29.97, 30FPS		NO
SUPPORTED PIXEL FORMATS		
2VUY, YUVS, BV8, V210, AYUV _ 4224, AYUV _ 4444, YV12, I420		YES
ARGB, BGRA, RGB24, Cineon, DPX, RGB48		YES
Custom using flexible hardware pixel format engine		YES

¹Available on all models except EB3006X. *Refer to optional connectivity table on page 2 for more information. ¹4K SDI support provided by Dual Link 3G level B (2 BNC).

BUNDLED SOFTWARE



Bluefish444 Symmetry is a proprietary integrated DI acquisition, review and play out software for Windows and is bundled FREE with all Bluefish444 video I/O cards.

BUNDLED
FREE



Bluefish444 IngeStore is a multi-channel ingest tool capable of up to four independent streams of SD or HD video from separate SDI sources. Bundled FREE with all Bluefish444 video I/O cards.

BUNDLED
FREE



Bluefish444 SDK is designed for developers who wish to integrate Bluefish444 video products into their own solutions, across Windows, macOS and Linux systems.

BUNDLED
FREE

CROSS-PLATFORM SUPPORT WITH INDUSTRY-LEADING 3RD PARTY SOFTWARE



For a comprehensive and up-to-date list of supported software, visit bluefish444.com/software

Bluefish444 | Telephone: +61 3 9682 9477 | **Facsimile:** +61 3 9682 9466 | info@bluefish444.com
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