



**Low Profile
Form Factor**

**12-bit
Processing**

**8/10/12-bit
SDI I/O**

TINY STARS RADIATING IMMENSE POWER



ÉPOCH | NEUTRON

Developer Variants

November 2014

Table of Contents

Epoch | Neutron Developer Variants

Bluefish444 Epoch | Neutron Developer Full Height Variants

Page 3	EB3007A	Full Height Standard
Page 3	EB3007B	Full Height Genlock
Page 3	EB3007C	Full Height External Audio/RS422
Page 3	EB3007D	Full Height External Audio/RS422/LTC
Page 3	EB3007E	Full Height RS422/LTC
Page 4	EB3007X	Full Height Non HDMI

Bluefish444 Epoch | Neutron Developer Low Profile Variants

Page 4	EB3007F	Low Profile Standard
Page 4	EB3007G	Low Profile External Audio/RS422
Page 5		Technical Specifications

Bluefish444 Epoch | Neutron Developer Full Height Variants

EPOCH | NEUTRON

Full Height Standard

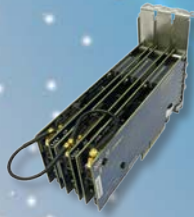
Part No. **EB3007A**



Optional Interlock Cable

Part No. CAB_ILOK

Locks multiple cards in a single server to a common sync source.



Available for all Epoch | Neutron models.

Major Features of all Epoch | Neutrons:

2 out	2 in
1 in 1 out	1.5G SDI
Dual link SDI	4224 SDI
4444 SDI	HDMI out to HD/2K
Low Latency Hardware Video Keyer	16-bit Half Float pixel format*
Colour Space conversion	Interlocking Genlock
Full Duplex DMA	VBI, HANC & VANC
Embedded Audio	Bypass Relays
NVIDIA GPU Direct	AMD Direct GMA
Licence Upgradeable to 4K Neutron	

*TBC – Available with future free firmware update.

EPOCH | NEUTRON

Full Height Genlock

Part No. **EB3007B**



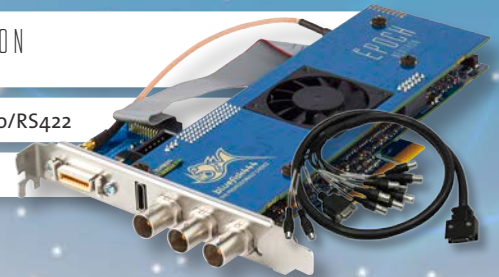
Additional Features:

Alternative Genlock BNC	Optional Interlock Cable
-------------------------	--------------------------

EPOCH | NEUTRON

Full Height External Audio/RS422

Part No. **EB3007C**



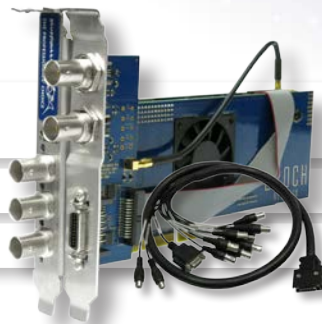
Additional Features:

8 Channels of AES/EBU digital audio I/O	2 Channels of Analog Audio Output
RS422 I/O on External Cable	Alternative Genlock on External Cable
Optional Interlock Cable	

EPOCH | NEUTRON

Full Height External Audio/RS422/LTC

Part No. **EB3007D**



Additional Features:

8 Channels of AES/EBU digital audio I/O	2 Channels of Analog Audio Output
RS422 I/O on External Cable	Alternative Genlock on External Cable
Linear Time Code I/O	Optional Interlock Cable

EPOCH | NEUTRON

Full Height RS422/LTC

Part No. **EB3007E**



Additional Features:

RS422 I/O	Linear Time Code I/O
Optional Interlock Cable	

Full Technical Specifications available at the end of the document.

Bluefish444 Epoch | Neutron Developer Full Height Variants

EPOCH | NEUTRON

Full Height Non HDMI

Part No. **EB3007X**



Additional Features:

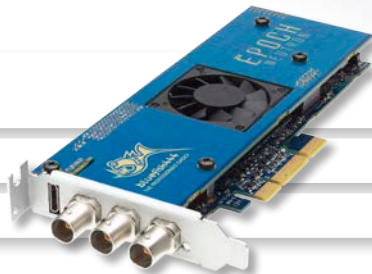
Optional Interlock Cable

Bluefish444 Epoch | Neutron Developer Low Profile Variants

EPOCH | NEUTRON

Low Profile Standard

Part No. **EB3007F**



Additional Features:

Optional Interlock Cable

EPOCH | NEUTRON

Low Profile External Audio/RS422

Part No. **EB3007G**



Additional Features:

8 Channels of AES/EBU digital audio I/O

RS422 I/O on External Cable

Optional Interlock Cable

2 Channels of Analog Audio Output

Alternative Genlock on 2nd Shield

Full Technical Specifications available at the end of the document.

Feature	Epoch Neutron	Epoch 4K Neutron	Feature	Epoch Neutron	Epoch 4K Neutron
SDI Video			Supported YUV SDI Video Modes		
SD	Yes	Yes	720 x 486i @ 29.97fps NTSC	Yes	Yes
HD 1.5G	Yes	Yes	720 x 576i @ 25fps PAL	Yes	Yes
3G	No	Yes	1280 x 720p @ 23.976, 24, 25, 29.97, 30, 50, 59.94, 60fps	Yes	Yes
Dual Link 1.5G	Yes	Yes	1920 x 1080i @ 25, 29.97, 30fps	Yes	Yes
Dual Link 3G	No	Yes	1920 x 1080P/PsF @ 23.976, 24, 25, 29.97, 30fps	Yes	Yes
Quad Link 1.5G	No	No	1920 x 1080P/PsF @ 48, 50, 59.94, 60fps	Yes (DL only)	Yes
Quad Link 3G	No	No	1920 x 1080P/PsF @ 23.976, 24, 25, 29.97, 30fps	Yes	Yes
Maximum Channels	2	4	2048 x 1080P/PsF @ 23.976, 24, 25, 29.97, 30fps	Yes	Yes
8/10/12-bit 4:4:4 SDI	Yes	Yes	2048 x 1080P/PsF @ 48, 50, 59.94, 60fps	Yes (DL only)	Yes
8/10/12-bit 4:2:2 SDI	Yes	Yes	Supported RGB SDI Video Modes		
HDMI 1.4a			Supported 4K YUV SDI Video Modes SMPTE 2036-1		
SD/HD/2K	Yes	Yes	3840 x 2160p @ 23.976, 24, 25, 29.97, 30fps	No	Yes
ARC	No	No	3840 x 2160p @ 48, 50, 59.94, 60fps	No	Yes**
UHD (3840 x 2160) @ 24, 25, 29, 30	No	Yes*	4096 x 2160p @ 23.976, 24, 25, 29.97, 30fps	No	Yes
4K DCI (4096 x 2160) @ 24	No	Yes*	4096 x 2160p @ 48, 50, 59.94, 60fps	No	Yes**
3D Frame Packing	No	Yes*	Supported 4K RGB SDI Video Modes SMPTE 2036-1		
Deep Color	Yes	Yes	3840 x 2160p @ 23.976, 24, 25, 29.97, 30fps	No	Yes**
Genlock			Supported Pixel Formats		
Bi-Level/Tri-Level Genlock A	Yes	Yes	2VUY, YUVS, BV8, V210, AYUV_4224, AYUV_4444, YV12	Yes	Yes
Bi-Level/Tri-Level Genlock B	Yes	Yes	ARGB, BGRA, RGB24, Cineon, DPX, RGB48	Yes	Yes
Interlocking Genlock between Neutron cards	Yes	Yes	Custom using flexible hardware pixel format engine	Yes	Yes
HANC			Supported API'S		
RP188 timecode	Yes	Yes	Windows API C/C++	Yes	Yes
16 Channels of Embedded Audio per SDI	Yes	Yes	DirectShow Filters API	Yes	Yes
Video Payload ID	Yes	Yes	Mac OS X API C	Yes	Yes
Custom Packets	Yes	Yes	Linux API C/C++	Yes	Yes
VANC			Compatible With Popular Retail Apps		
Closed captioning	Yes	Yes	Bluefish444 Symmetry®	Yes	Yes
3 Line VITC	Yes	Yes	Bluefish444 Fluid® Modules	Yes	Yes
Custom Packets	Yes	Yes	Adobe Creative Cloud®	Yes	Yes
Audio Signals			Avid Media Composer®		
16 channels of Embedded Audio Input per SDI	Yes	Yes	Assimilate Scratch®	Yes	Yes
8 Channels of AES ID3 Input(unbalanced, BNC)	Yes	Yes	Drastic Technologies Quick Clip Pro®	Yes	Yes
16 channels of Embedded Audio Output per SDI	Yes	Yes	Drastic Technologies Media NXS®	Yes	Yes
8 Channels of AES ID3 Output(unbalanced, BNC)	Yes	Yes	Drastic Technologies Preview Pro®	Yes	Yes
2 channels -10DBU Output (Unbalanced, RCA)	Yes	Yes	Drastic Technologies 4K Scope®	Yes	Yes
Dolby Digital Pass-through SDI	Yes	Yes	Telestream Wirecast® - Direct Show (windows)	Yes	Yes
Major Hardware Features			The Foundry Nuke® - Monitor out support		
High Performance, 3G Bypass Relays	Yes	Yes	<p>*Available with future free firmware update. **Requires 2 x Epoch 4K Neutron synchronised.</p> <p>Epoch Neutron + 4K Neutron come with a two year warranty</p>		
Fully Programmable 4 x 4 x 32-bit Colour Matrix	Yes	Yes			
12-bit video signal path throughout	Yes	Yes			
Automatic Cross-Locking and intelligent output phasing across formats	Yes	Yes			
LTC I/O (optional)	Yes	Yes			
Audio sample rate converters	Yes	Yes			
(MR2) Master Routing Resource	Yes	Yes			
ISIM (Input Stream integrity management)	Yes	Yes			
RS 422 Serial Port	Yes	Yes			
4-lane PCI-Express (8 and 16 lane compatible)	Yes	Yes			
Full Duplex DMA data transfer bandwidth 1.1GB/s	Yes	Yes			
256MB On Board Memory	Yes	Yes			

CONTACTS

Head Office

Bluefish444
t. +61 (0)3 9682 9477
f. +61 (0)3 9682 9466
info@bluefish444.com

Europe

Bluefish444 Europe
t. +44 (0)20 8429 8345
f. +44 (0)20 8866 8207
info@bluefish444europe.com

North America

Broadfield Dist, Inc
t. 800 634 5178
sales@broadfield.com

North America

JB&A
t. 415 256 2800
f. 415 699 4627
sales@jbanda.com

China

UBS Consulting
t. +86 (10) 5820 6929
f. +86 (10) 5820 6930
services@ubschina.com

Japan

Crescent Video
t. +81-3-5638-1818
f. +81-3-5638-1819
kotani@crescentvideo.co.jp

South Korea

DVNest
t. +82 1544 5596
manager@dvnest.com

www.bluefish444.com

