



**4K 60p**

# EPOCH | 4K SUPERNOVA & S+

A NEW BRIGHT STAR EMERGES

Powered By



## The new Epoch | 4K Supernova & S+ dare to go where no other card has gone before!

In an increasingly broadcast IT infrastructure dominated world, Bluefish444's ambition is to 'ever-stretch' the boundaries to deliver tomorrows solutions today. Epoch | 4K Supernova & S+ are just that! A card that can do what no other on the market can do. Reduce your hardware costs, increase your capabilities, and give you more choice and flexibility than ever before.

### **New bidirectional I/Os deliver unparalleled flexibility**

Like nothing ever seen before, Epoch | 4K Supernova & S+ encapsulate all the ground-breaking qualities of Epoch, yet now offers the user complete flexibility to choose between BNC connectors. With bidirectional connectivity built-in, you choose whether you want the BNC connectors to be EITHER input or output, SD, HD, 3G or ASI.

### **Combining two cards into one**

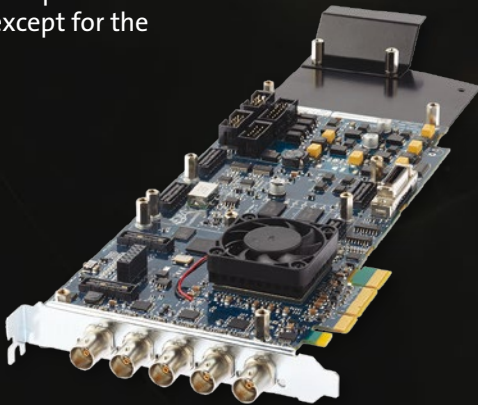
The integration of bidirectional BNC Formats means you no longer have to invest in cards that only do input or output. Now, you can include as many Epoch | 4K Supernova & S+ cards as your hardware can take and decide what job you want the I/Os to do. The bottom line is a reduction in hardware costs, but the bright new star in this galaxy is that one Epoch | 4K Supernova or S+ with 4 independent BNC I/Os can do the job of two Epoch | 2K Horizon's.

### **Everything Epoch | 2K + More**

Epoch | 4K Supernova & S+ contain the current Epoch offering – Jetstream, Symmetry, Fluid, Adobe, Avid & Assimilate plug ins, Windows, Linux and Mac OSX SDK's + an entirely new star that is 4K 60p. A world first bidirectional BNC I/O enables as many different combinations of I/O's as Bluefish444 can engineer in firmware! And its all delivered with the same Bluefish444 reliability that you've come to expect and demand.

# Product Differences Between Epoch | 4K Supernova & S+

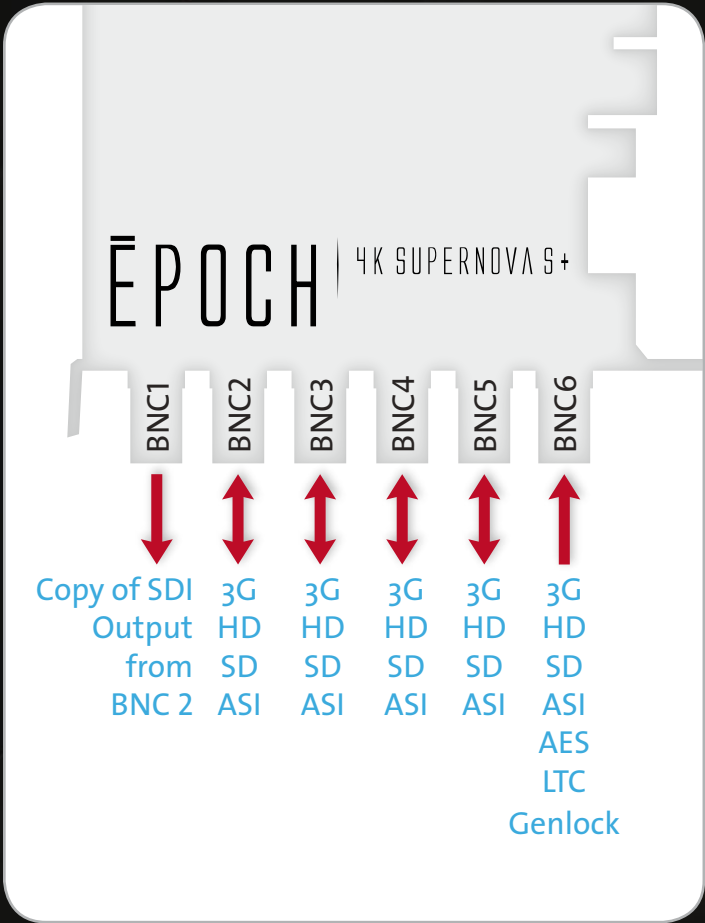
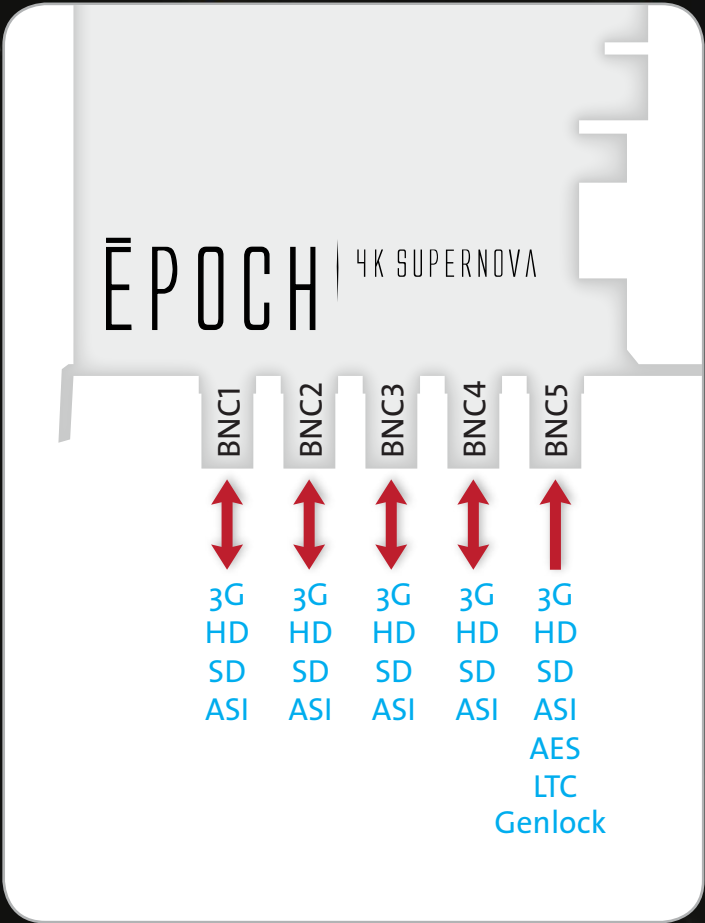
The Epoch | 4K Supernova and Epoch | 4K Supernova S+ have an identical product specification except for the below differences:-



Feature	Epoch   4K Supernova	Epoch   4K Supernova S+
Length	Full Length PCIe	185mm
Bi Directional BNC's + Genlock BNC	4 + 1 Genlock	4 + 1 Genlock
Copy Preview BNC	0	1

## How it works

The flexibility to be able to choose the role of BNC connectors offers fantastic scope and long-term useability.



# Epoch | 4K Supernova & S+ Software Support

## Flexible SDK to exploit bi directional, multi-channel BNC functionality

Our Windows, Linux and Mac OSX SDK's share a common API allowing developers to port from one platform to another with greater ease and efficiency. An extensive set of samples and interfaces are provided making integration of Bluefish444 cards with developer applications extremely efficient. Please visit our website for further information or to download our "free" SDK.



Windows 7™



MAC OS X



Linux

## Compatible with the industry's most popular retail applications

### Avid Media Composer

Avid and Bluefish444 have partnered to bring together the world's highest quality SDI I/O support for Media Composer®, Symphony® and Newscutter®. AVID have created an open plug-in architecture, "Open IO", enabling Bluefish444 hardware to input and output full resolution HD-SDI video using the Avid Media Composer family of software. [www.bluefish444.com/avid](http://www.bluefish444.com/avid)



Windows 7™

HD 1080

### Adobe Creative Cloud

Adobe and Bluefish444 have partnered to bring together the world's highest quality SDI I/O support for Adobe Creative Cloud. Adobe have launched a new plug in architecture called "Adobe Mercury Transmit" which, when combined with Bluefish444's SDI I/O solutions enables up to 4K 60p playback of the industry's most widely used formats. [www.bluefish444.com/adobe](http://www.bluefish444.com/adobe)



Adobe Creative Cloud



Windows 7™

4K 60P

### ASSIMILATE SCRATCH® & SCRATCH Lab®

Bluefish444 have partnered with ASSIMILATE to develop a freely available 12 bit and 2K SDI plug-in to enable SCRATCH® and SCRATCH Lab® customers to preview their 2K workflows in 12 bit SDI, including 3D Stereoscopic. Bluefish444 have also developed a freely available 3G SDI 8/10 bit YUV/RGB 4K plug in to SCRATCH® & SCRATCH Lab®. [www.bluefish444.com/assimilate](http://www.bluefish444.com/assimilate)



SCRATCH®  
SCRATCH Lab®



Windows 7™

4K 24P

## Symmetry

Symmetry is Bluefish444's integrated 3D and DI acquisition, review and playback software for Windows included free with the Epoch|4K Supernova & Supernova S+ video cards.

Symmetry dispenses loss issues associated with color conversion by giving the user the choice of which color spaces best suits their needs from 8-bit YUV up to 16 bit RGB. Bluefish444 has continually added to Symmetry giving customers new features like 3D stereoscopic capture, side by side, 3D playback and new format integration including 2K and 4K R3D Red files all at no cost.



Symmetry™



Windows 7™

## Fluid MODULAR WORKFLOW SOLUTIONS

4K  
REVIEW



Windows 7™

Cost Effective 4K YUV/RGB Player utilising 4 simultaneous HD SDI outputs to achieve 4K SDI review.

DNxHD  
MULTI-  
CHANNEL  
INGEST



Windows 7™

Ingest up to 4 simultaneous streams of HD/SD SDI recording directly to AVID DNxHD and other AVID compatible MXF media.

BLUEFISH444  
VIRTUAL  
VTR



Windows 7™

Bluefish444 Virtual VTR enables media files to be delivered via SDI to various 3rd party equipment for presentation, processing, mastering or analysis using the RS422 control protocol.

H264  
EZ Capture



Windows 7™

Capture multiple streams of SDI to H264 for archiving with automated capture feature.

For a full list of supported 3rd party software please visit:  
[www.bluefish444.com/products/retail/software.asp](http://www.bluefish444.com/products/retail/software.asp)



FEATURE	EPOCH   4K SUPERNOVA & S+	FEATURE	EPOCH   4K SUPERNOVA & S+
<b>ADVANCED MULTI-FORMAT I/O BNC CONNECTORS (4 x BIDIRECTIONAL)</b>		GENERAL PURPOSE INPUT PINS, OPTO-ISOLATED	
3G-SDI, HD-SDI, SD-SDI, ASI	Yes	GENERAL PURPOSE OUTPUT PINS, OPTO-ISOLATED	2
DUAL LINK CHANNELS, MAXIMUM	2	BUILT-IN SAFE AREA, SAFE TITLE AND LETTERBOX GENERATOR	Yes
SINGLE-LINK CHANNELS, MAXIMUM	4	ISIM (INPUT STREAM INTEGRITY MANAGEMENT)	Yes
<b>GENLOCK &amp; MULTI-FORMAT INPUT BNC</b>		RS 422 SERIAL PORTS	2
BI-LEVEL & TRI-LEVEL ANALOGUE GENLOCK, 3G-SDI, HD-SDI, SD-SDI, ASI, AES/EBU, LTC	Yes	4-LANE PCI-EXPRESS (8 AND 16 LANE COMPATIBLE)	Yes
<b>COPY OF SDI CHANNEL PREVIEW (EPOCH   4K SUPERNOVA S+ ONLY)</b>		FULL DUPLEX DMA DATA TRANSFER BANDWIDTH	1.1GB/s
COPY OF SDI OUTPUT FROM BNC 2	Yes	ON BOARD MEMORY	256MB
<b>SDI SPECIFIC CAPABILITIES</b>		<b>OPTIONAL HARDWARE ENHANCEMENTS</b>	
FULL SUPPORT FOR 12-BIT, 4:4:4, 4:4:4:4, RGBA, YUVA	Yes	JETSTREAM SCALING & 3D PROCESSING MODULES, MAXIMUM	2
<b>HANC I/O</b>		BREAKOUT CABLE: 8x AES 3ID IN, 8x AES 3ID OUT, 2x ANALOG AUDIO OUT, RS422, GENLOCK IN	Yes
RP188 TIMECODE	Yes	<b>SUPPORTED VIDEO MODES (SEE SEPARATE 4K CHART FOR SPECIFIC DETAILS)</b>	
16 CHANNELS OF EMBEDDED AUDIO PER SDI	Yes	720x486i @ 59.94 Hz NTSC	Yes
VIDEO PAYLOAD ID	Yes	720x576i @ 50.00 Hz PAL	Yes
CUSTOM PACKETS	Yes	1280x720p @ 23.976Hz, 24Hz, 25Hz, 29.97Hz, 30Hz, 50Hz, 59.94Hz, 60Hz	Yes
<b>VBI/Vanc I/O</b>		1920x1080i @ 47.96Hz, 48Hz, 50Hz, 59.94Hz, 60Hz	Yes
CLOSED CAPTIONING	Yes	1920x1080PsF @ 23.976Hz, 24Hz, 25Hz, 29.97Hz, 30Hz	Yes
3 LINE VITC	Yes	1920x1080P @ 23.976Hz, 24Hz, 25Hz, 29.97Hz, 30Hz, 47.96Hz, 48Hz, 50Hz, 59.94Hz, 60Hz	Yes
CUSTOM PACKETS	Yes	2048X1080P @ 23.976Hz, 24Hz, 25Hz, 29.97Hz, 30Hz, 47.96Hz, 48Hz, 50Hz, 59.94Hz, 60Hz	Yes
<b>ASI SPECIFIC CAPABILITIES</b>		2048X1080i @ 47.96Hz, 48Hz, 50Hz, 59.94Hz, 60Hz	Yes
FULL DVB/ASI SUPPORT AS PER EN 50083-9	Yes	2048x1556PsF @ 14.98Hz, 15Hz, 18.98Hz, 19Hz	Yes
IDEAL PERFORMANCE AS PER ETSI TR 101 891 V1.1.1 (2001-02)	Yes	<b>SUPPORTED 4K VIDEO MODES</b>	
BYPASS RELAYS OPERATE ON POWER FAILURE	Yes	DIGITAL CINEMA 4096 x 2160 4:2:2 YUV 8/10 BIT HD-SDI	Yes
PROGRAMMABLE INTERRUPT LATENCY	Yes	4K QFHD 3840 x 2160 4:2:2 YUV 8/10 BIT HD-SDI	Yes
<b>ASI INPUT CAPABILITIES</b>		DIGITAL CINEMA 4096 x 2160 4:4:4 RGB 8/10 BIT DUAL LINK HD-SDI	Yes
188 & 204 BYTE PACKET AUTO-DETECTION	Yes	4K QFHD 3840 x 2160 4:4:4 RGB 8/10 BIT HD-SDI	Yes
BURST & NON-BURST PACKET AUTO-DETECTION	Yes	<b>SUPPORTED PIXEL FORMATS</b>	
INVERTED BIT-STREAM AUTO-DETECTION & CORRECTION	Yes	2VUY, YUVS, BV8, V210, AYUV _ 4224, AYUV _ 4444, YV12, I420	Yes
TIME-STAMPING OF PACKETS WITH GENLOCKABLE CLOCK	Yes	ARGB, BGRA, RGB24, CINEON, DPX, RGB48	Yes
BIT-RATE REPORTING	Yes	CUSTOM USING FLEXIBLE HARDWARE PIXEL FORMAT ENGINE	Yes
AUTOMATIC ASI/SDI DETECTION	Yes	<b>SUPPORTED API'S</b>	
HUGE RECEIVE PACKET BUFFER	Yes	WINDOWS API C++	Yes
<b>ASI OUTPUT CAPABILITIES</b>		DIRECTSHOW FILTERS API	Yes
188 & 204 BYTE PACKET GENERATION	Yes	MAC OS X API C++	Yes
BURST & NON-BURST PACKET GENERATION	Yes	LINUX API	Yes
VERY HIGH RESOLUTION OUTPUT BIT RATE GENERATOR	Yes	<b>COMPATIBLE WITH POPULAR RETAIL APPS</b>	
SWITCHABLE LOW LATENCY LOOP-THRU PATH FROM INPUT	Yes	BLUEFISH444 SYMMETRY™	Yes
AUTOMATIC TIME-STAMP REMOVAL	Yes	BLUEFISH444 FLUID MODULES	Yes
AUTOMATIC PACKET UNDERFLOW TRACKING AND RECOVERY	Yes	ADOBE CREATIVE CLOUD	Yes
IDEAL (ZERO) APERIODICITY OF OUTPUT PACKETS	Yes	AVID MEDIA COMPOSER®	Yes
ASI CARRIER CAN BE GENLOCKED OR MANUALLY TUNED	Yes	ASSIMILATE SCRATCH®	Yes
HUGE TRANSMIT PACKET BUFFER	Yes	DRASTIC TECHNOLOGIES QUICK CLIP PRO™	Yes
<b>MAJOR HARDWARE FEATURES</b>		DRASTIC TECHNOLOGIES MEDIA NX5™	Yes
HIGH PERFORMANCE, 3G BYPASS RELAYS	2	EYEON DIGITAL FUSION™	Yes
FULLY PROGRAMMABLE 4 x 4 x 32-BIT COLOUR MATRIX	Yes	FOR A FULL LIST OF SOFTWARE COMPATIBILITY VISIT: WWW.BLUEFISH444.COM/PRODUCTS/RETAIL/SOFTWARE.ASP	
4 x 1D x 12-BIT LUTs ON ALL SDI OUTPUTS	Yes	WHERE IMPLIED IN THE ABOVE, SMPTE SPECIFICATIONS 12M, 125M, 259M, 272M, 274M, 291M, 292M, 296M, 299M, 372M, 424M, 425M AND SMPTE RECOMMENDED PRACTICE RP188 ARE CONFORMED TO.	
12-BIT VIDEO SIGNAL PATH THROUGHOUT	Yes	<b>EPOCH   4K SUPERNOVA &amp; S+ COME WITH A THREE YEAR WARRANTY</b>	
3:2 PULLDOWN SUPPORT	Yes	<b>FOR A FULL DESCRIPTION OF I/O FIRMWARES AVAILABLE PLEASE CONSULT A BLUEFISH444 PRODUCT SPECIALIST</b>	
AUTOMATIC CROSS-LOCKING AND INTELLIGENT OUTPUT PHASING ACROSS FORMATS	Yes		
LTC I/O	Yes		
AUDIO SAMPLE RATE CONVERTERS (MR2) MASTER ROUTING RESOURCE	Yes		

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