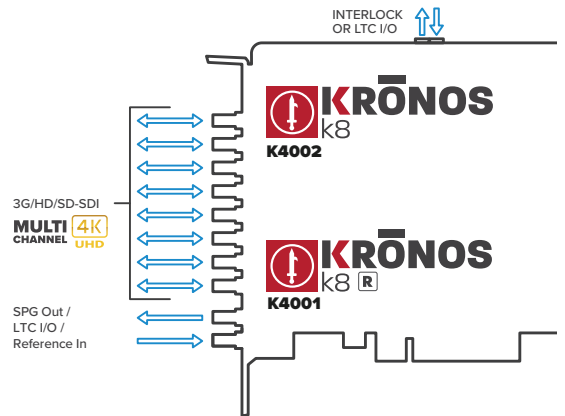
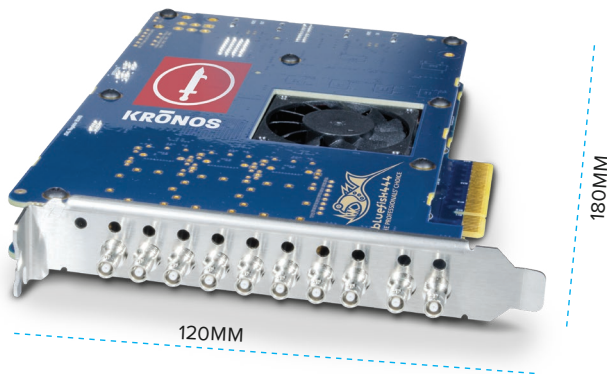




**KRÖNOS**  
k8

**DATA SHEET**  
**K4001**  
**K4002**

**A VIDEO CARD WITH BI-DIRECTIONAL 3G SDI HD-BNC'S PROVIDING MULTI-CHANNEL SD/HD/3G & 4K 60P CAPTURE AND PLAYBACK**



**8x3G UPGRADE**

Upgrade any **KRÖNOS K8<sup>R</sup>** SKU to **8x3G** for **multi-channel 4K** via a licence.

MAJOR FEATURES FOR KRÖNOS K8 & K8[R]	K8 K4002	K8[R] K4001		K8 K4002	K8[R] K4001
Bi-directional SDI (HD-BNC)	8	8	Interlocking I/O	YES	YES
1.5G HD/SD-SDI	8	8	Bundled Software BlueToolbox and BlueSigGen	YES	YES
3G-SDI (Level A+B)	8	4	Embedded audio	YES	YES
Maximum UHD Channels	2	1	Low-latency hardware keyers	4	4
Dual Link 1.5G (4:2:2/4:4:4:4)	YES	YES	Bypass relays	4	4
Dual Link 3G (Level A+B)	YES	YES	Colour space converter	YES	YES
Quad Link 1.5G / 3G (Level A+B)	YES	YES	Customisable pixel formats and rasters	YES	YES
4K/UHD HDR HFR	YES	YES	Multi-card support	YES	YES
Reference In / SPG Out	YES	YES	Thunderbolt compatible	YES	YES
LTC In / Out	YES	YES	Full-duplex DMA	YES	YES
Optional AUX I/O via STEM port	YES	YES	VBI, HANC & VANC	YES	YES
LTC I/O (HD-BNC), RS-422 (RJ45), AES Audio I/O (DB25)	EX-1	EX-1	NVIDIA GPUDirect	YES	YES
Analogue Audio I/O (2 x 3.5mm TRS), RS-422 (RJ45), AES Audio I/O (DB25)	EX-2	EX-1	Stereoscopic/3D imaging	YES	YES

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



For a comprehensive and up-to-date list of supported software, visit [bluefish444.com/software](http://bluefish444.com/software)

SPECIFICATIONS	KRONOS K8 & K8[R]
Width	18.4MM (SINGLE SLOT PCIE)
PCle Length	167MM (HALF LENGTH PCIE)
Total Length	180MM
PCle Height	111MM (FULL HEIGHT PCIE)
Total Height	120MM
Weight	300G
Power requirement	PCI 12V 2A

VIDEO I/O	K8	K8[R]
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SDI VIDEO		
SD SMPTE 295M	8	8
HD 1.5G SMPTE 292M	8	8
3G (Level A+B) SMPTE 424M	8	4
Dual Link 1.5G SMPTE 372M	YES	YES
Dual Link 3G	YES	YES
Quad Link 1.5G	YES	YES
Quad Link 3G SMPTE 2036-1	YES	YES
Maximum HD video channels	8	8
Maximum UHD video channels	2	1
12/10/8-bit 4:4:4:4 SDI	YES	YES
12/10/8-bit 4:2:2:4 SDI	YES	YES

REFERENCE		
Reference IN / SPG OUT (Dedicated HD-BNC)	YES	YES
Interlocking I/O supporting KRONOS and Epoch   Neutron cards	YES	YES

ANCILLARY		
HANC		
RP-188 timecode		YES
16 channels of embedded audio per Memory Channel		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 IN per Memory Channel		YES
16 channels of embedded audio OUT per Memory Channel		YES
Dolby digital pass-through SDI		YES

OPTIONAL AUX I/O VIA STEM PORT		
LTC I/O (HD-BNC), RS-422 (RJ45), AES audio I/O (DB25)		EX1
Analogue audio I/O (2 x 3.5mm TRS), RS-422 (RJ45), AES audio I/O (DB25)		EX2

OPTIONAL AUX LTC I/O VIA INTERLOCK		
LTC I/O (BNC) Aux shield		EX3

MAJOR HARDWARE FEATURES		
High-performance, 3G bypass relays		4
Low-latency hardware keyers		4
Fully programmable 4 x 4 x 33-bit colour matrix		YES
12-bit video signal path throughout		YES
Automatic cross-locking and phasing across formats		YES
Audio sample-rate converters		YES
(MR2) Master Routing Resource		YES
ISIM (Input Stream Integrity Management)		YES
4K/UHD HDR modes		YES
Stereoscopic/3D modes		YES
8-lane PCI-Express Gen3 (16-lane compatible)		YES
Full-duplex DMA data transfer bandwidth		YES
LTC I/O (Via reference BNC)		YES
LTC I/O (Via Interlock) *requires EX3		YES
STEM Port		YES

VIDEO FORMATS		
SUPPORTED YUV SDI VIDEO MODES		
(2K) 2048 x 1080p/PsF @ 23.98, 24, 25, 29.97, 30 FPS		YES
(2K) 2048 x 1080P/PsF @ 48, 50, 59.94, 60 FPS		YES
(HD) 1920 x 1080p/PsF @ 23.98, 24, 25, 29.97, 30 FPS		YES
(HD) 1920 x 1080p/PsF @ 48, 50, 59.94, 60 FPS		YES
(HD) 1920 x 1080i @ 25, 29.97, 30 FPS		YES
(HD) 1280 x 720p @ 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 FPS		YES
(SD) 720 x 576i @ 25 FPS PAL		YES
(SD) 720 x 486i @ 29.97 FPS NTSC		YES
SUPPORTED RGB SDI VIDEO MODES		
(2K) 2048 x 1080p/PsF @ 23.98, 24, 25, 29.97, 30 FPS		YES
(HD) 1920 x 1080p/PsF @ 23.98, 24, 25, 29.97, 30 FPS		YES
(HD) 1920 x 1080i @ 25, 29.97, 30 FPS		YES
(SD) 720 x 576i @ 25 FPS PAL		YES
(SD) 720 x 486i @ 29.97 FPS NTSC		YES
SUPPORTED HSDL SDI VIDEO MODES		
(2K) 2048 x 1556PsF @ 14.98, 15 FPS		YES
SUPPORTED UHD YUV SDI VIDEO MODES		
(4K) 4096 x 2160p @ 23.98, 24, 25, 29.97, 30 FPS		YES
(4K) 4096 x 2160p @ 48, 50, 59.94, 60 FPS		YES
(UHD) 3840 x 2160p @ 23.98, 24, 25, 29.97, 30 FPS		YES
(UHD) 3840 x 2160p @ 48, 50, 59.94, 60 FPS		YES
SUPPORTED UHD RGB SDI VIDEO MODES		
(4K) 4096 x 2160p @ 23.98, 24, 25, 29.97, 30 FPS		YES
(UHD) 3840 x 2160p @ 23.98, 24, 25, 29.97, 30 FPS		YES
SUPPORTED PIXEL FORMATS		
2VUY, YUVS, BV8, V210, AYUV _ 4224, AYUV _ 4444, YV12, I420		YES
ARGB, BGRA, RGB24, CINEON, DPX, RGB48		YES
Customisable hardware pixel or video format engine		YES