# bLuefisH444
## THE PROFESSIONALS' CHOICE

# KRŌNOS RANGE

## MEET THE WORLD'S MOST FLEXIBLE VIDEO, AUDIO, AND DATA INTERFACE CARDS

*SMPTE 2110/2022 IP
SDI FIBER*

**KRŌNOS**

*Interchangeable Interfaces
SMPTE 2110/2022
SDI COAX/FIBER
HDMI*

*3G SDI HDBNC
Bypass Relays
Reference and SPG*

**4K
SDI
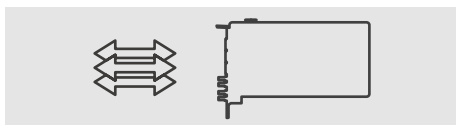COAX**

**4K
SDI
FIBER**

**2K
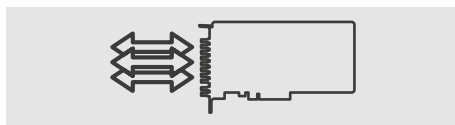SMPTE
2110/2022**

**2K
HDMI**

**12-BIT** PROCESSING

**SDK**

## INTEGRATE BLUEFISH444 INTO THE FOLLOWING VERTICAL MARKETS

**RANGE BROCHURE**
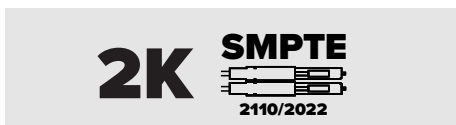
# THE KRONOS RANGE HAS THE FOLLOWING FEATURES

**Flexible IO Interfaces** for unrivalled workflow flexibility with two dedicated 3G SDI HDBNC, and three Dual Channel SFP+ Cages on Optikos3G models.

**Bi-directional I/O's for unrivalled flexibility** with eight HD-BNC video connectors, each allowing 3G/HD/SD-SDI input or output on K8 models.

**Maximum Connectivity** with reference and LTC I/O as standard, and options for RS-422, AES digital audio, or stereo analogue audio I/O.

**SMPTE 2110 or 2022 IP Interfaces** available as SFP+ modules allowing input and output of SMPTE 2110-20/30/40 or SMPTE 2022-6 IP Strems on Optikos3G models.

**3G SDI Coaxial Interfaces** available as SFP+ modules allowing input and output of reclocked 3G SDI signals via Coaxial and HDBNC on Optikos3G models.

**3G SDI Fiber Interfaces** available as SFP+ modules allowing Input and output of 3G SDI over Single Mode Fiber LC for extended distances on Optikos3G models.
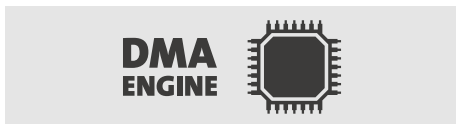
**HD/2K HDMI** supporting high frame rates available as SFP+ modules enabling Capture and Playout of multiple HDMI signals on Optikos3G models.

**High-quality 3G/HD/SD Bypass Relays**, hardware and software watchdog timer for disaster recovery during live broadcasts on K8 models.
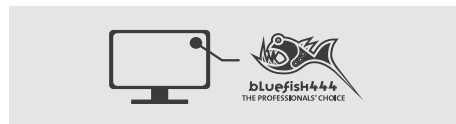
**4K/UHD 60p plus HDR/SDR Support** for capture and playout of 4K/UHD, HD high frame-rate, and High Dynamic Range content.
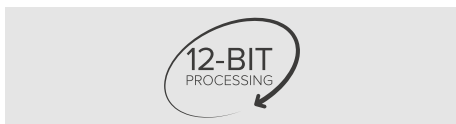
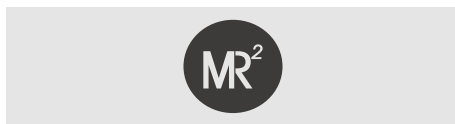**Full-duplex asynchronous DMA** to independently transfer video, audio and ancillary data.

**Low-latency AutoCapture, and full card control** supporting frame, field and AutoCapture allowing access to the video at sub-frame latency.

**Low-latency HD/UHD hardware keyers** allowing video layers to be combined in hardware with microseconds of delay.

**Maintaining a 12-bit processing pipeline** means maximum quality, and is 4 times the colour precision of traditional 10-bit processing!

**MR$^2$ Routing Resources** enables a user to flexibly configure main and preview outputs to suit individual workflows.

**SPG Output** allowing a Psuedo Sync signal to be generated and sent to other video equipment requiring syncronisation.
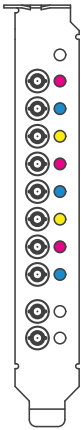
**Popular 3rd-party API support** for DirectShow, V4L2, Medialooks, CUDA and more, supporting accessible video, audio and ancillary I/O.

**VR/AR/Stereoscopic workflows** synchronise multiple SDI inputs into various formats for VR/AR/3D imaging.

**Reference and LTC IO** dedicated HDBNC I/O that can be used for Reference In/Out or LTC In/Out signals.
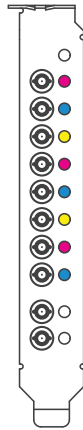
## KRONOS k8 ℝ

### K4001

**USD$4,495**

- 4 x 3G/HD/SD-SDI I/O
- 8 x 1.5G/HD/SD-SDI I/O
- 1 x 4K/UHD I/O
- 4 x Bypass Relays
- 4 x Low Latency Hardware Keyers
- Full-height, 2/3rd-length PCIe
- Reference In / LTC I/O / SPG Out

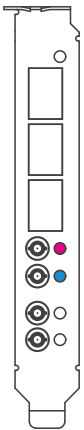8x 1.5G  4x 3G  1x 4K UHD

## KRONOS k8

### K4002

**USD$5,495**

- 8 x 3G/HD/SD-SDI I/O
- Multi-channel 4K/UHD I/O
- 4 x Bypass Relays
- 4 x Low Latency Hardware Keyers
- Full-height, 2/3rd-length PCIe
- Reference In / LTC I/O / SPG Out

8x 1.5G  8x 3G  MULTI CHANNEL 4K UHD

## 8x3G UPGRADE

Upgrade any **KRONOS K8 ℝ** SKU to **8x3G** for **multi-channel 4K** via a licence.

## KRONOS Optikos3G

### K4102

**USD$5,395**

- 3 x SFP+ Cages for customised IO
- 2 x 3G/HD/SD-SDI I/O
- 1 x Bypass Relay
- 4 x Low Latency Hardware Keyers
- Full-height, 2/3rd-length PCIe
- Reference In / LTC I/O / SPG Out

2x 3G  3x SFP+

## KRONOS Optikos3G CX SDI

### K4202

**USD$6,745**

- 8 x 3G/HD/SD-SDI I/O
- 2 x 4K/UHD I/O
- 1 x Bypass Relay
- 4 x Low Latency Hardware Keyers
- Full-height, 2/3rd-length PCIe
- Reference In / LTC I/O / SPG Out

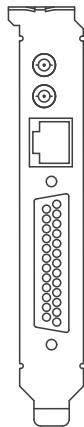8x 3G  MULTI CHANNEL 4K UHD  3x SFP+

## KRONOS Optikos3G ST IP

### K4502

**USD$13,120**

- 6 x SMPTE IP (2022 or 2110)
- 2 x 3G/HD/SD-SDI I/O
- 1 x Bypass Relay
- 4 x Low Latency Hardware Keyers
- Full-height, 2/3rd-length PCIe
- Reference In / LTC I/O / SPG Out
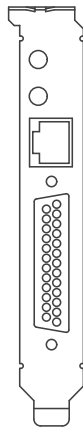- PTP ST 2059-1 SMPTE 2110 locking

2x 3G  6x IP  3x SFP+

## EX-1

### EX1

**USD$TBC**

- LTC I/O
- RS422 CONTROL
- AES 16CH

LTC IN/OUT  RS422 CONTROL  AES 16 CH

## EX-2

### EX2

**USD$TBC**

- Analogue Audio 2CH I/O
- RS422 Control
- AES 16CH

STEREO ANALOGUE SOUND  RS422 CONTROL  AES 16 CH
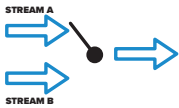
## EX-3

### EX3

**USD$149**

- LTC I/O

LTC IN/OUT

## OPTIKOS3G ONLINE CONFIGURATOR

**WWW.BLUEFISH444.COM/KRONOS-OPTIKOS3G-SFP-CONFIGURATOR.HTML**

# KRONOS SFP & LICENSING OPTIONS

**SFP IP 1C**
Part No.
1C-IP-SFP
$1,575

**SFP IP 2C**
Part No.
2C-IP-SFP
$2,575

**SFP SDI COAX**
Part No.
CX-SFP
$450

**Clean Switch**
Part No.
1P-CS
$445

STREAM A
STREAM B

**Frame Sync**
Part No.
IP-FS
$445

**FRAME SYNC**

**SFP SDI FIBER**
Part No.
FBR-SFP
$290

**IP 1 Channel**
Part No.
1C-IP
$715

**1C SMPTE**
2110/2022

**IP 2 Channel**
Part No.
2C-IP
$1,385

**2C SMPTE**
2110/2022

**SFP HDMI**
Part No.
HDMI-SFP
$1,035

| FEATURE | KRONOS K8R / K8 | | Optikos3G | Optikos3G CX SDI | Optikos3G ST IP |
|---|---|---|---|---|---|
| **Part Number** | K4001 | K4002 | K4102 | K4202 | K4502 |
| **MSRP (USD)** | $4,495 | $5,495 | $5,395 | $6,745 | $13,120 |
| **Bi-directional SDI (HD-BNC)** | 8 | | 2 | 2 | 2 |
| **Interchangeable SFP+ Interfaces** (SDI COAX/SDI FIBER/HDMI SFP+ Modules) | NONE | | 3 | 3 | 3 |
| **1.5G HD/SD SDI COAX** | 8 | | 2 | 8 | 2 |
| **3G SDI COAX (Level A + B)** | 4 | 8 | 2 | 8 | 2 |
| **High Quality 3G Bypass Relays** | 4 | | 1 | 1 | 1 |
| **SMPTE 2022/2110 Streams** | NONE | | *NONE (add up to 6)\** | *NONE (add up to 6)\** | 6 |
| **Dual Link 1.5/3G SDI** | YES | | YES | YES | YES |
| **Quad Link 1.5/3G SDI** | YES | | *NO\** | YES | *NO\** |
| **Reference In / SPG Out** | YES | | YES | YES | YES |
| **LTC I/O** | YES | | YES | YES | YES |
| *Optional Add on Ex cards for LTC, RS422, AES digital, and Analogue audio IO* | YES | | YES | YES | YES |

*\*Interchangeable SMPTE IP/SDI/HDMI I/O available via the purchase of additional SFP+ modules. See SFP & Licensing options above.*

## 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** contact sales@bluefish444.com, or visit **bluefish444.com/contacts**