



2023 —
PRODUCT BRIEF

COBALT

ENGINEERING
BEYOND
THE SIGNAL

[COBALTDIGITAL.COM](https://cobaltdigital.com)

BEYOND THE SIGNAL

ENGINEERING BEYOND THE SIGNAL STARTS WITH INNOVATION.

Cobalt Digital has proudly provided engineering solutions to meet customers' needs since 1997. By speaking and listening closely to end users, Cobalt has developed equipment offering the answer for many challenges. Our innovative products feature 24/7 service and support and many come with a five-year warranty, vital in today's broadcast industry. Our products are used extensively worldwide in production trucks, and by terrestrial, satellite and cable broadcasters, as well as many government facilities. As we enter the second half of our third decade of innovation and service, we reflect on how far the industry has come, and look forward to engineering products for tomorrow's broadcast and beyond.

COBALT



MOUNT BEHIND THE MONITOR WITH EASE.

SAPPHIRE BBG-2110-2H DUAL CHANNEL JPEG-XS MINI-CONVERTER WITH HDMI OUTPUTS

The Sapphire BBG-2110-2H mini-converter addresses the need to display received JPEG-XS content on HDMI monitors in a simple and cost-effective way. The BBG-2110-2H features two independent HDMI outputs and can be mounted behind the monitor.

The converter includes dual SFP cages with support for 10Gb/s and 25Gb/s Ethernet ports, one additional 1Gb copper Ethernet port for out-of-band management, support for SMPTE ST 2022-7 Seamless Switching up to Class C operation for WAN environments, support for NMOS IS-04/IS-05 control and management (both in-band and out-of-band), and PTP support. Also included is a fan-less option for quiet environments and higher reliability. Uncompressed ST 2110-20 video is also supported.

The Sapphire BBG units are the ideal choice for directly displaying incoming JPEG-XS content on HDMI monitors, including content originating from a WAN connection. The units can be mounted directly behind the monitor, will not take up any rack space, and are incredibly quiet, which makes them ideal for control rooms.

ALSO AVAILABLE

SAPPHIRE BBG-2110-H/S Single-Channel JPEG-XS to HDMI/SDI

SAPPHIRE BBG-2110-4H Quad-Channel JPEG-XS to HDMI



NEW
— FOR —
2023

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KEY FEATURES

- Converts two JPEG-XS streams with associated audio and ancillary data essences to HDMI.
- Supports SMPTE ST 2022-7 Seamless Redundancy up to Class C for WAN operation.
- Fan-less option for quiet operation.
- Can be mounted behind the monitor. WxDxH 5.52in x 5.5in x 1.42in (140mm x 139.5mm x 36 mm)
- Supports NMOS IS-04/IS-05 control, both in-band and out-of-band.
- Web interface and DashBoard™ control.
- Dual power supplies for redundancy.
- Supports all popular formats: 720p, 1080i and 1080p.



SAPPHIRE CONVERTERS ALSO AVAILABLE IN OPENGear®

SAPPHIRE 9926-2HtoS 3G/HD/SD Dual-Channel openGear®

HDMI-to-SDI Converter with Per-Channel Frame Sync

SAPPHIRE 9926-4HtoS 3G/HD/SD Quad-Channel openGear®

HDMI-to-SDI Converter with Per-Channel Frame Sync

SAPPHIRE 9927-2StoH 3G/HD/SD Dual-Channel openGear®

SDI-to-HDMI Converter with Per-Channel Frame Sync

SAPPHIRE BIDI-2H2S

3G/HD/SD BIDIRECTIONAL DUAL CHANNEL CONVERTER

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The Sapphire BIDI-2H2S is a dual channel bidirectional HDMI to SDI and SDI to HDMI Converter. Each channel can be independently configured to have either SDI or HDMI inputs and each channel has simultaneous SDI and HDMI outputs. This provides input and output options with independent paths of true 3G and HD conversions to and from all the SD-SDI, HD-SDI and 3G-SDI formats and HDMI. With both SDI and HDMI inputs and outputs (2 each), each path is equipped with frame sync as well as full input and output audio cross-points and optional per-path color correction. Input and output SDI and HDMI cross-points allow bidirectional program sourcing and distribution across the both sets of inputs and outputs.

Input and output options with independent paths of true 3G and HD conversions to and from all the SD-SDI, HD-SDI and 3G-SDI formats and HDMI.

In existing openGear® installations, the bidirectional capacity can save space and lend to installation integrity. Preset save/load allows saving custom card settings and instant revert to factory settings. Layered presets allow invoking changes related only to a specific area of concern (audio routing, for example) while not changing any other processing settings or aspects. Full user DashBoard™ or Remote Control Panel remote control allows full status and control access locally or across a standard Ethernet network.

SAPPHIRE
CONVERTERS



KEY FEATURES

- Supports all popular formats: 480i, 576i, 720p, 1080i, 1080p and 1080PsF
- Independent processing paths on a single card provides high capacity in openGear® environments
- Each path equipped with frame sync with configurable manual or LOS-detect insertion of frozen frame or selectable-color flat-field. Optional per-path color correction.
- Full input and output audio cross-points, including independent flex mix, stereo downmixers, and audio delay functions
- EDIO Capture and Management
- Remote control/monitoring via DashBoard™ software or OGCP-9000 Remote Control Panel
- Hot-swappable
- Make Sapphire BIDI-2H2S a standalone unit with our BBG-1300-FR 1RU Enclosure for openGear® Cards
- Five year warranty


openGear

INDIGO 2110-DC-01

SMPTE ST 2110 INTEGRATED SUPPORT DAUGHTERCARD OPTION FOR 9904-UDX-4K AND 9905-MPX CARDS

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The Indigo 2110-DC-01 is a factory add-on option to Cobalt 9904-UDX-4K and 9905-MPx models. This option adds native SMPTE ST 2110 support for these cards, with dual 25G Ethernet interfaces.

The Indigo 2110-DC-01 avoids the cumbersome, error-prone, and expensive prior solutions of deploying multiple devices in the data path. Adding native ST 2110 interfaces to the audio/video processing elements, Cobalt is providing a cost-effective, easily manageable, integrated solution to this problem. Multiple boxes or processing elements are no longer needed in the data path, going back and forth between IP and SDI. By natively doing all the processing directly over IP, unnecessary complexity and cost is avoided.

High Density Native 2110 Solution – Native SMPTE ST 2110 Interface Option

With this option, all the advanced processing in these cards is now available with IP inputs and outputs, without the need for an external gateway. Indigo 2110-DC-01 includes support for ST-2022-7 seamless redundancy switching, as well as IS-04/IS-05 NMOS for automatic discovery and configuration. Mated with the host card, this creates a powerful and processing-dense product that is capable of natively processing HD, 3G and 4K IP streams with no quality compromises. No other solution currently in the market can achieve the density provided by the combination of functionality offered by the Indigo 2110-DC-01 and the 9904-UDX-4K/9905-MPx combination.

KEY FEATURES

- Highly integrated ST 2110 companion for the Cobalt 9904-UDX-4K and 9905-MPx audio/video processors
- Offers dual 25G Ethernet interfaces to support 4K signals without the need for any type of compression and to support ST 2022-7 seamless redundancy switching for improved network reliability
- Built-in NMOS support offers straightforward interface to an existing network, with auto-discovery by the network management
- High-density, compact openGear card-based solution, with multiple devices able to be combined into a single frame for multi-channel operation, as well as offering the standard features of redundant hot-swappable power supplies and hot-swappable cards
- Five year warranty

INDIGO
ST 2110



openGear

9904-UDX-4K

UHD & HDR UP/DOWN/CROSS CONVERTER WITH FRAME SYNC & AUDIO SUPPORT

The award-winning Cobalt® 9904-UDX-4K 12G/6G/3G/HD/SD UHD Up/Down/Cross Converter/Frame Sync/Embed/De-Embed Audio Processor is Cobalt's next generation of advanced scaler/frame synchronizers for the openGear® platform.

The 9904-UDX-4K upconverts 12G/6G/3G/HD/SD to either UHD 3840x2160 Square Division Multiplex (SDM) or Two-Sample Interleave (2SI) quad 3G-SDI based formats, or can output ST 2082 12G-SDI for single-wire 4K transport. With both 12G-SDI and quad 3G-SDI inputs, the 9904-UDX-4K can downconvert 12G and quad UHD. The 9904-UDX-4K provides an HDMI 2.0 output for economical 4K video monitoring. The 9904-UDX-4K offers numerous options, including SDR-to-HDR conversion and color correction.

Next-generation scaler/frame sync featuring an industry-first, 12G-SDI bridge to DANTE™ Audio

+UDX-DANTE-16x16

**THE INDUSTRY'S FIRST LICENSE-BASED 12G-SDI BRIDGE TO DANTE AUDIO.
HIGH-DENSITY, CONVENIENT AND COST-EFFECTIVE.**



ALSO AVAILABLE

9904-UDX-4K-DSP 12G/6G/3G/HD/SD UHD Up/Down/Cross Converter/Frame Sync
with DSP Advanced Audio Processing

[LEARN MORE AT COBALTDIGITAL.COM](https://cobaltdigital.com)



KEY FEATURES

- Supports Indigo 2110-DC-01 (see page 7)
- High-density openGear comprehensive UDX solution
- Supports all popular formats: 480i, 576i, 720p, 1080i, 1080PsF, 1080p. Can support/accept 3G Level A or Level B-DL input with output as Level A or B-DL (via UI control) and also support RGB 4:4:4 / YCbCr 4:4:4 (see Ordering Info for details).
- Full up/down conversion between HD/3G, ST 2082 12G-SDI single-wire, and SDM/2SI quad 3G-SDI based formats, with ST 2082 12G-SDI single-wire and quad 3G UHD available at both input and output
- Supports Square Division Multiplex (SDM) and Two-Sample Interleave (2SI) quad UHD formats
- 12G-SDI and quad 3G frame sync and user delay
- Supports Cobalt's Reflex (JSON) Protocols
- Full embedded audio processing with user delay offset and AES I/O
- Noise Reduction and Detail Enhancement provide image quality optimization
- Remote control/monitoring via Dashboard™ software, OGCP-9000 remote control panels, or Cobalt's RESTful-based Reflex protocol
- Supports options for 3D LUTs and BBC 3D LUTs and includes NBCU LUTs as standard
- Five year warranty

9905-MPX

3G/HD/SD QUAD-PATH UP/DOWN/CROSS CONVERTER/FRAME SYNC/ EMBED/DE-EMBED AUDIO PROCESSOR

The Multi-Path 9905-MPx 3G/HD/SD Quad-Path Up/Down/Cross Converter/Frame Sync/Embed/De-Embed Audio Processor is a Cobalt® next-generation advanced scaler/frame synchronizer for the openGear® platform. The 9905-MPx provides four independent signal paths of UDX / frame sync / audio embedding and de-embedding on a single open-Gear® card. Using our HPF-9000 20-slot frame, this provides up to 24 channels (6 cards) of processing in a single frame. The 9905-MPx represents a new level of openGear packaging density!

Multi-Path & Multi-Function. A new level of openGear® Packaging density.

The 9905-MPx provides high-density that offers unprecedented multi-input support and flexibility. Independent up/down/cross convert scalers are specifically designed for broadcast video formats, with full ARC control suitable for conversions to or from 4:3 and 16:9 aspect ratios. Discrete AES and MADI audio embedding/routing/mixing/de-embedding to any of four processing paths is supported. Standard 3D LUTs, NBCU LUTs and color correction provide support for SDR and HDR workflows.

Card control/monitoring is available via Dashboard user interface or Cobalt's RESTful-based Reflex protocol. The 9905-MPx can be software-converted to a 4K Quad-Link Input SDM/2SI 4K UDX/Frame Sync card with an option software license.

+MPx-DANTE-64x64

**THE INDUSTRY'S FIRST LICENSE-BASED 3G-SDI BRIDGE TO DANTE AUDIO
SUPPORTING 64X64 DANTE CHANNELS IN ONE OPENGear® CARD.**



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KEY FEATURES

- Supports Indigo 2110-DC-01 (see page 7)
- Multi-Path design offers four independent UDX / frame sync paths (channels) per card
- Flexible AES and MADI embed/de-embed for each path
- Multi-input RP168 clean switch, with manual selection or GPI controlled input selection
- Up/Down/Cross Conversion with user ARC control. 3D-LUT is standard feature for all paths.
- Supports all popular formats: 480i, 576i, 720p, 1080i, 1080PsF, 1080p
- Independent four-path ANC bridging, including timecode and closed-captioning processing
- Noise Reduction and Detail Enhancement provide image quality optimization
- Remote control/monitoring via Dashboard™ software, OGCP-9000 remote control panels or Cobalt's RESTful-based Reflex protocol
- Five year warranty

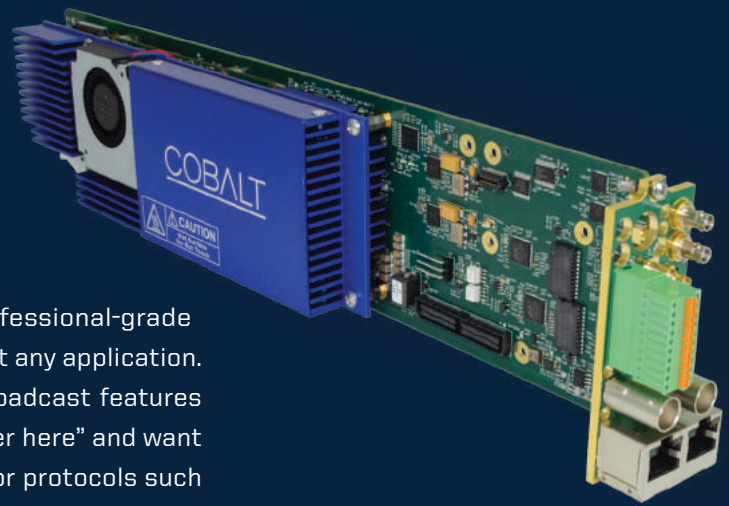


PACIFIC COMPRESSION LINE

TRADITIONAL BROADCAST FEATURES WITH ADVANCED NETWORK OPTIONS

Cobalt Digital has an extensive set of products with professional-grade support for compressed audio and video, suitable for almost any application. Cobalt products are unique in their blend of traditional broadcast features with advanced networking options. If you have a signal “over here” and want to send it “over there”, we have you covered with support for protocols such as RIST, RTP/UDP/FEC, RTMP, RTSP and SRT, as well as sub-frame end-to-end latency with our new Pacific ULL decoder. Our products support MPEG-2 (H.262), AVC (H.264) and HEVC (H.265), with comprehensive audio CODEC options.

All of our products are offered both as openGear® cards for high density, as well as standalone units if you need just a few channels and are space-constrained.



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4K HEVC STREAMING ENCODE

12G-SDI OR QUAD 3G-SDI INPUT UHD STREAMING ENCODE TO IP & DVB-ASI OUT



12G/3G-SDI
(or 3x 3G-SDI)

9992-ENC-4K-HEVC

IP DVB-ASI

TRANSPORT NETWORK

4K HEVC STREAMING DECODE

IP or DVB-ASI input UHD Decode to Quad 3G-SDI or 12G-SDI

IP DVB-ASI

9992-DEC-4K-HEVC

12G/3G-SDI
(or 3x 3G-SDI)



2018 TECHNOLOGY AND ENGINEERING
EMMY
RECIPIENT

IN ADDITION TO ENCODERS AND DECODERS, COBALT OFFERS THE FOLLOWING PRODUCTS:

9220 ASI/IP GATEWAY: Converts between ASI and IP for legacy products

9990-RTR: Unicast/Multicast IP stream conditioner and distribution amplifier

9990-TRX: 4-channel MPEG-2/H.264 transcoder with IP and ASI inputs and outputs

PACIFIC ENCODER LINE OF COMPRESSION PRODUCTS

Cobalt offers a comprehensive broadcast-grade encoder line that can address virtually any application. All of our encoders and decoders are designed for reliable 24x7x365 operation, and have extensive frame-accurate support for ancillary data, which includes EIA-608 and 708 closed captions, AFD, SCTE-104/35 for ad insertion, SMPTE 2038 for generic ANC transport, SMPTE 2108 for HDR transport and now OP-47. Additionally, the 9992-ENC includes a built-in framesync at no additional cost. Cobalt encoders offer unparalleled flexibility, where most advanced features are enabled by field-installed license keys. This creates a pay-as-you-go structure, where there is a relatively low entry cost, and features such as audio support, HEVC, 4:2:2, can be added at a later time in an as-needed basis. On the networking side, the encoders support ASI, UDP, RTP, FEC, HLS and RTMP. The encoders also support SRT and RIST (Reliable Internet Stream Transport), both Simple Profile and Main Profile (which includes encryption and authentication).

ENCODER - VIDEO FEATURES

	MPEG-2	H.264	H.265	4:2:0	4:2:2	8-bit	10-bit	ASI	Max Resolution	Max HD Channels
9223		●		●		●		●	1080p60	2
9990-ENC		●		●		●			1080p60	2
PACIFIC 9992-ENC	●	●	●	●	●	●	●	●	4Kp60	4

ENCODER - AUDIO FEATURES

	MPEG-1 Layer II	AAC-LC Stereo	AAC-LC 5.1	HE-AAC Stereo/5.1	Dolby AC-3 Stereo/5.1	Dolby EAC-3 Stereo/5.1	LPCM	Max Stereo Channels
9223	●	●						4
9990-ENC	●	●						2
PACIFIC 9992-ENC	●	●	●	●	●	●	●	16

All Cobalt Encoders support Dolby Pass-Through.

PACIFIC DECODER LINE COMPRESSION PRODUCTS

Cobalt offers a similar broadcast-grade decoder line to match our encoders. This includes ASI input support, as well as the same set of networking protocols, including UDP, RTP, FEC, HLS, RTMP, SRT and RIST (Simple and Main Profiles). Cobalt decoders also support RTSP, which allows the signal from surveillance cameras to be ingested into your workflow in a professional manner. The decoders include independent full up/down/cross converters per channel, capable of converting any input signal to any resolution/frame rate up to 1920x1080p60 (9992-DEC) or 1920x1080i60 (9990-DEC). Cobalt is introducing the new Pacific ULL Decoder, capable of sub-frame latency.

DECODER - VIDEO FEATURES

	MPEG-2	H.264	H.265	4:2:0	4:2:2	8-bit	10-bit	ASI	Max Resolution	Max HD Channels
9990-DEC	●	●		●		●		●	1080i60	1
PACIFIC 9992-DEC	●	●	●	●	●	●	●	●	4Kp60	2
PACIFIC ULL-DEC	●	●	●	●	●	●	●	●	4Kp60	2

DECODER - AUDIO FEATURES

	MPEG-1 Layer II	AAC-LC Stereo/5.1	HE-AAC Stereo/5.1	Dolby AC-3 Stereo/5.1	Dolby EAC-3 Stereo/5.1	Dolby AC-4 Stereo/5.1	ST 302M LPCM	Dolby E	Max Stereo Channels
9990-DEC	●	●*	●*	●*	●*				2
PACIFIC 9992-DEC	●	●	●	●	●	●	●	●	16
PACIFIC ULL-DEC	●	●	●	●	●	●	●	●	16

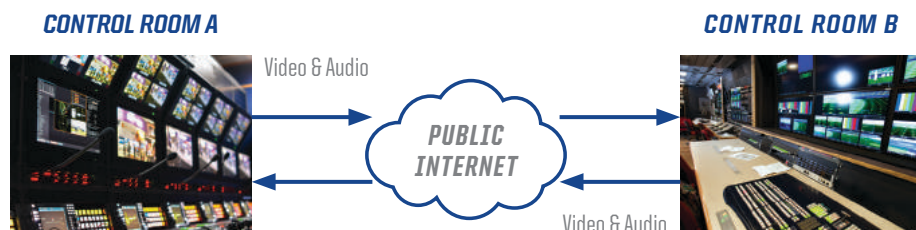
*All Cobalt Decoders support Dolby Pass-Through. *5.1 down-mixed to stereo in this product.*

RELIABLE INTERNET STREAM TRANSPORT (RIST)

LOW COST INTERNET CONTRIBUTION

RIST is an Internet contribution protocol created by the VSF with participation from Cobalt Digital. The multi-vendor support behind RIST makes it an important part of the technology stack for any video workflow. With less required bandwidth than FEC in most cases, RIST uses the Emmy winning ARQ technology that Cobalt Digital has helped pioneer.

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Use the Internet as a Low Cost Contribution Network with RELIABLE INTERNET STREAM TRANSPORT (RIST) – the Interoperable, Multivendor Open Protocol Developed by the VSF for Video Transport Over Unmanaged Networks.

RIST SUPPORT IN COBALT ENCODERS/DECODERS

The compression products now support multi-link operation which includes Bonding (combining multiple links for increased bandwidth) and Seamless Switching (operating links in parallel for increased reliability.) The Pacific 9992-ENC/9992-DEC line supports RIST Source Adaptation (VSF TR-06-4 Part 1) which allows the encoder to adapt its output data rate to match instantaneous network conditions, based on feedback from the decoder.

	RIST Simple Profile	RIST Main Profile		
		Tunneling	Encryption	Authentication
9990-ENC				
9223	●	●		
9990-DEC	●	●	●	●
Pacific ULL-DEC	●	●	●	●
Pacific 9992-ENC	●	●	●	●
Pacific 9992-DEC	●	●	●	●
SafeLink	●	●	●	●

SAFELINK GATEWAY

PROTECTING TRANSPORT STREAMS WITH RIST

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SafeLink Gateway protects live video and audio data over unsecured networks, thereby avoiding video hits or glitches. SafeLink Gateway includes support for UDP, RTP, FEC, and Reliable Internet Stream Transport (RIST) Simple and Main Profile, with encryption and authentication. By using RIST as a low latency protocol, SafeLink provides reliable video transport in live production environments.

SafeLink Control is handled with DashBoard™, a free application that handles control and monitoring for all openGear® broadcast products. Extensive link quality statistics are provided for fine-tuning. The SafeLink Gateway is also available as a cloud instance, in addition to the openGear form factor. This product is ideal for cloud redundancy switching, as well as Ground-to-Cloud and Cloud-to-Ground transmission using RIST.

SafeLink is compression-agnostic and can protect any type of transport stream. With up to 8 streaming sessions each session offering up to 8 discrete transmit and 8 receive redundant (or aggregated) paths for a potential of transporting content to 64 destinations, SafeLink is ideal for providing link protection to existing encoding/decoding infrastructure. SafeLink can also support up to 8 RIST Main Profile tunnels each of which can support any arbitrary number of streams.

Cobalt offers 1+1 redundancy for the SafeLink Gateway for high availability applications. A backup SafeLink can be commissioned to automatically mirror the configuration of the primary and take over if it fails.

KEY FEATURES

- Easily implemented software solution providing RIST with robust status monitoring and configurable setup
- Supports transport streams using any compression standards
- Obtains operating power from frame - no added or external power connections needed
- Ruggedized openGear-compliant design. Plugs directly into frame with user ports exposed on rear of unit
- Hardware control features such as power on/off, reset, and sleep are accessible via DashBoard™ remote control - no need for physical collocation with the frame PC
- Full complement of user ports, including dual GigE and USB
- Low power consumption with minimal effect on overall frame power budget
- Five year warranty



ORDERING INFORMATION

SAFELINK-8TS (SOFTWARE/HARDWARE): Supports 8 transport streams for receive and transmit paths, includes OG-PC openGear card.

SAFELINK 8TS-SW (SOFTWARE ONLY): Software package is available to run on off-the-shelf x86 64-bit Linux PCs.

SAFELINK 8TS-VM (SOFTWARE ONLY): VM images are available to run in the cloud.

WAVE ROUTERS & CONTROL PANELS

MULTI-FORMAT WAVE ROUTER FROM SD TO 4K

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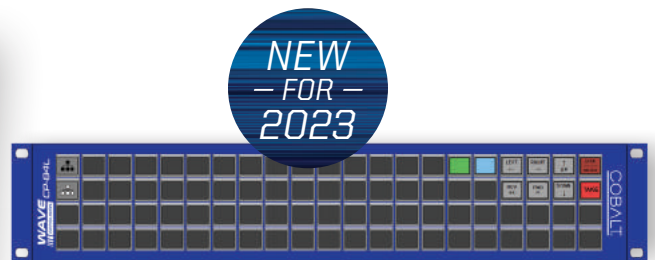


New for 2023, the WAVE RTR-64x64 and WAVE RTR-32x32 12G-SDI routers. WAVE Routers are midsize 64x64 or 32x32 Crosspoint solutions contained within a compact 4U (7 inch) tall frame. They provide a high density solution that offers unprecedented flexibility, ease of use & integration. The frame is a thin 3.75 inch deep chassis.

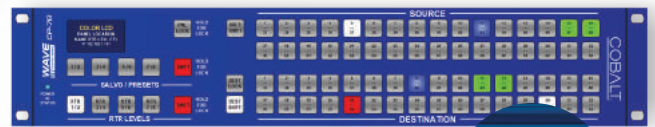
WAVE Routers feature a single 10/100/1000 Ethernet port for IP based controls such as General Remote protocol SW-P-08 and PESA PNET. The units also have RS 422 and RS 232 9pin serial communication ports. The integrated web server supports browser control and system setups which can be saved and recalled quickly. This compact design is specifically optimized for 12G SDI operation but handles lower SDI rates with ease.

KEY FEATURES

- 64x64 or 32x32 Crosspoint Solutions in a Compact 4U
- Single 10/100/1000 Ethernet port for IP based control
- Full size BNC connectors
- RP-168 Switching Support
- Compatible with WAVE Control Panels



WAVE CP-84L - 84 BACK-LIT LCD DISPLAY BUTTONS



WAVE CP-78 - 78 BACK-LIT BUTTONS

WAVE CONTROL PANEL SERIES

CUSTOMIZABLE API AVAILABLE

The WAVE CONTROL PANEL CP-84L features 84 back-lit LCD dot matrix display buttons. The WAVE CONTROL PANEL CP-78 features 78 back-lit buttons. All buttons are illuminated by RGB LED's providing a wide array of background colors to choose from. Factory presets provide a solid starting point from which to customize each button color. Located on the rear of the unit is an optional Ethernet port with PoE++ capability for power and IP based communication. Built in SW-P-08 protocol comes standard as well 2 optically isolated General Purpose Outputs and 2 Inputs and the option to get up to 20 of each.

KEY FEATURES

- Ethernet with PoE++ compatibility (license-based)
- Redundant DC power connections
- Optically Isolated - 20 GPO & 20 GPI (license-based)
- Quiet fan-less design
- Optional 2nd DC power supply

WAVE 9942-RTR SERIES OPENGear CARDS ALSO AVAILABLE

WAVE 9942-RTR-12X12-12G 12G/3G/HD/SD-SDI / ASI / MADI 12x12 Router

WAVE 9942-RTR-24X24-12G 12G/3G/HD/SD-SDI / ASI / MADI 24x24 Router

9915DA-4X16-XPT-12G

12G/6G/3G/HD/SD QUAD-CHANNEL MULTI-RATE RECLOCKING DA WITH X4 OUTPUT CROSSPOINT

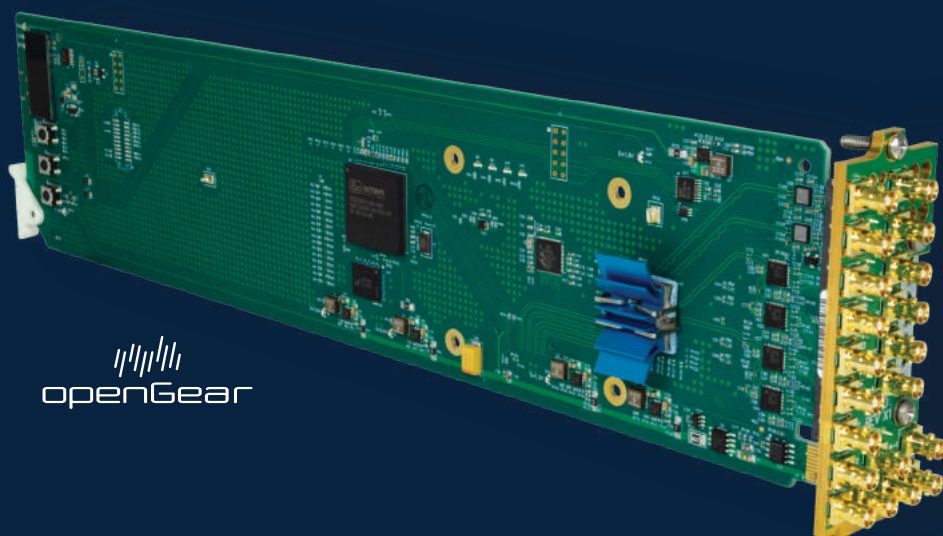
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The 9915DA-4x16-XPT-12G 12G/6G/3G/HD/SD Quad-Channel Multi-Rate Reclocking DA with x4 Output Crosspoint supports four input channels which can be crosspoint-routed to up to 16 DA outputs. As demand for 4K continues to rise, distribution of 12G-SDI signals within a rackspace becomes increasingly important. The 9915DA allows for copper runs of up to 45 meters, reaching most equipment within a rack room or truck. For longer runs, the optional optical inputs and outputs allow the 9915DA to connect distribution from zones of much greater distances.

The extremely flexible crosspoint (which is user-configurable via DashBoard™ GUI remote control) allows quad 1x4, dual 1x8, single 1x16 and other routing possibilities. Any of the four input channels can be distributed or duplicated across four groups of 1x4 DAs. The quad-input capacity provides a one-card solution for distribution of 8K quad-link content over 12G-SDI interfaces. A failover function allows going to secondary backup inputs should the primary input lose lock.

Up to 10 of the 9915DA-4x16-XPT-12G cards can be installed in a frame to provide 40 channels of input, with distribution to up to 160 outputs. Full user DashBoard™ or Remote Control Panel remote control allows full status and control access locally or across a standard Ethernet network.



ALSO AVAILABLE

9915DA-2X16-XPT-12G 12G/6G/3G/HD/SD Dual-Channel Multi-Rate Reclocking Distribution Amplifier with x4 Output Crosspoint

9915DA-1X16-12G 12G/6G/3G/HD/SD-SDI 1x16 Reclocking Distribution Amplifier

KEY FEATURES

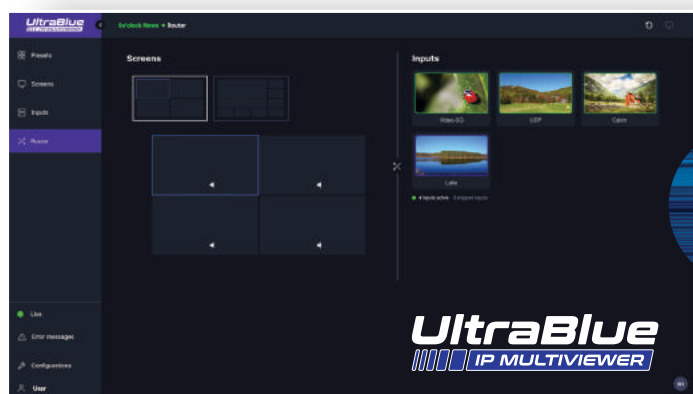
- Supports all popular formats: 480i, 576i, 720p, 1080i, 1080PsF, 1080p and 4K
- Flexible output crosspoint allows card to function as quad-channel 1x4, dual-channel 1x8, single-channel 1x16, or other numerous routings with reclocking DA
- Full support of 12G/6G/3G/HD/SD-SDI and ASI/DVB
- Input data rate auto-detection for all industry-standard data rates
- Fiber inputs/outputs can be added via optional SFPs
- One-card solution for distribution of 4K/8K content over 12G-SDI interfaces
- Failover provides backup to selected secondary inputs if primary input loses lock, available for both coax and (optional) fiber inputs.
- Card display and DashBoard status input lock indicators
- Hot-swappable
- Five year warranty

MULTIVIEWERS

ULTRABLUE IP-MV

SCALABLE SOFTWARE-BASED MULTIVIEWER SOLUTION

Cobalt is expanding its line of multiviewers with the addition of the UltraBlue IP-MV series of IP multiviewers, a series that can grow with the customer's needs. UltraBlue IP-MV is being offered as both a software package and a cloud instance with a WebRTC output. These software-based multiviewers can handle a variety of compressed and uncompressed IP inputs and an arbitrary number of outputs (including individual rotation to portrait), with very flexible audio routing, and an intuitive web interface. UltraBlue also offers support for a comprehensive set of protocols (UDP, RTP, RTSP, RTMP, RIST, SRT).



NEW
— FOR —
2023

LEARN MORE AT [COBALTDIGITAL.COM](https://cobaltdigital.com)



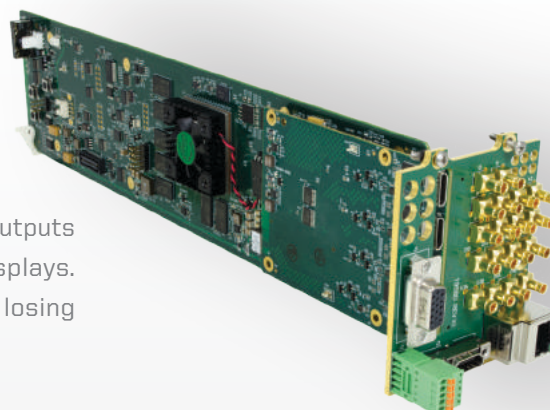
KEY FEATURES

- Control via an intuitive web interface.
- Cloud instance available with WebRTC output
- Turnkey hardware option available
- Compressed and uncompressed IP inputs and multiple outputs
- Receive audio/video over IP over a variety of protocols and formats
- Multiple screens with arbitrary sizes and orientation
- Graphic overlays, ancillary data and tally
- Flexible audio routing
- Configurable alarms

HARDWARE-BASED MULTIVIEWERS

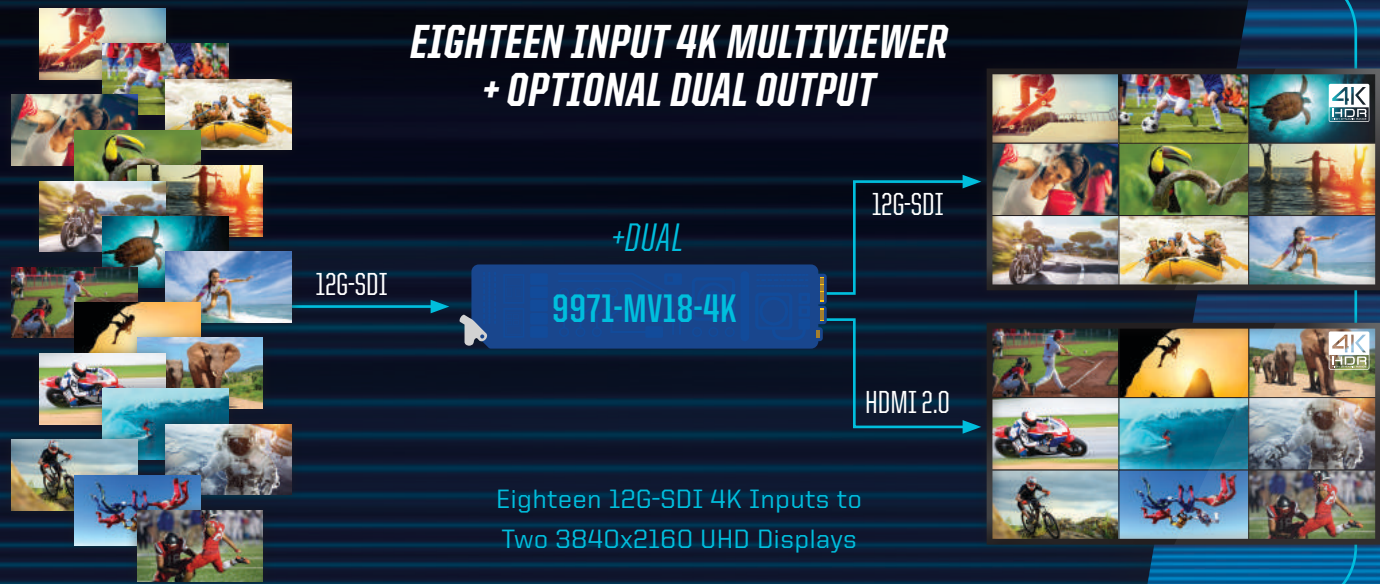
FULL 4K MULTIVIEWERS WITH 12G-SDI, HDMI 2.0

Cobalt's line of 4K openGear® multiviewers support 3840x2160 inputs and outputs via 12G-SDI & HDMI 2.0 so you can use cost-effective consumer 4K displays. Also, for 1080p input applications you can drive a 4K quad split without losing a pixel of resolution. They also feature multi-language capability.

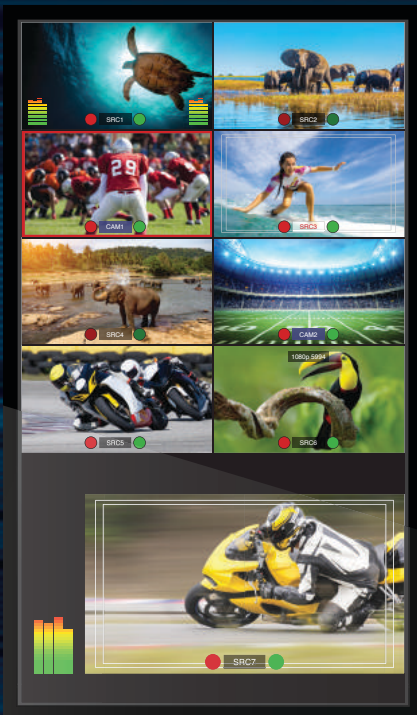


	9970-QS	9970-QS-MC	9971-MV6-4K	9971-MV6-4H-4K	9971-MV18-4K
SDI Inputs	5	5	6	6	18
SDI Outputs	2	2	4	4	4
4K			●	●	●
HDMI 2.0 Inputs				4	
HDMI 2.0 Outputs			●	●	●
DUAL Output Capable			●	●	●
Feed Consumer or Professional Monitors	●	●	●	●	●
External Alarming		●			

EIGHTEEN INPUT 4K MULTVIEWER + OPTIONAL DUAL OUTPUT



MASTER CONTROL MULTVIEWERS SOLUTIONS FOR PRODUCTION AND MASTER CONTROL



9x16 "portrait" layout, perfect
for mobile environments

The popular line of 9970-QS 3G-SDI 1080p multiviewers integrate five discrete 3G/HD/SD-SDI or CVBS inputs onto a single 3G/HD/SD-SDI quint-split output, with each image being flexibly inserted into the output image area.

Based on our award-winning 9970-QS, the 9970-QS-MC is specifically designed for master control applications by providing layout optimization that saves space, and easily implemented QC screening of master control ingest.

The 9970-QS-MC provides the ability to orient and arrange PIPs in columns arranged for a 9x16 "portrait" layout. This allows consumer or professional monitors to be oriented "on-end", thereby saving wall-width in any area (especially in space-conscious mobile environments).

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HDR CONVERSION AND DISTRIBUTION

HLG, S-LOG 3 OR PQ FORMATS

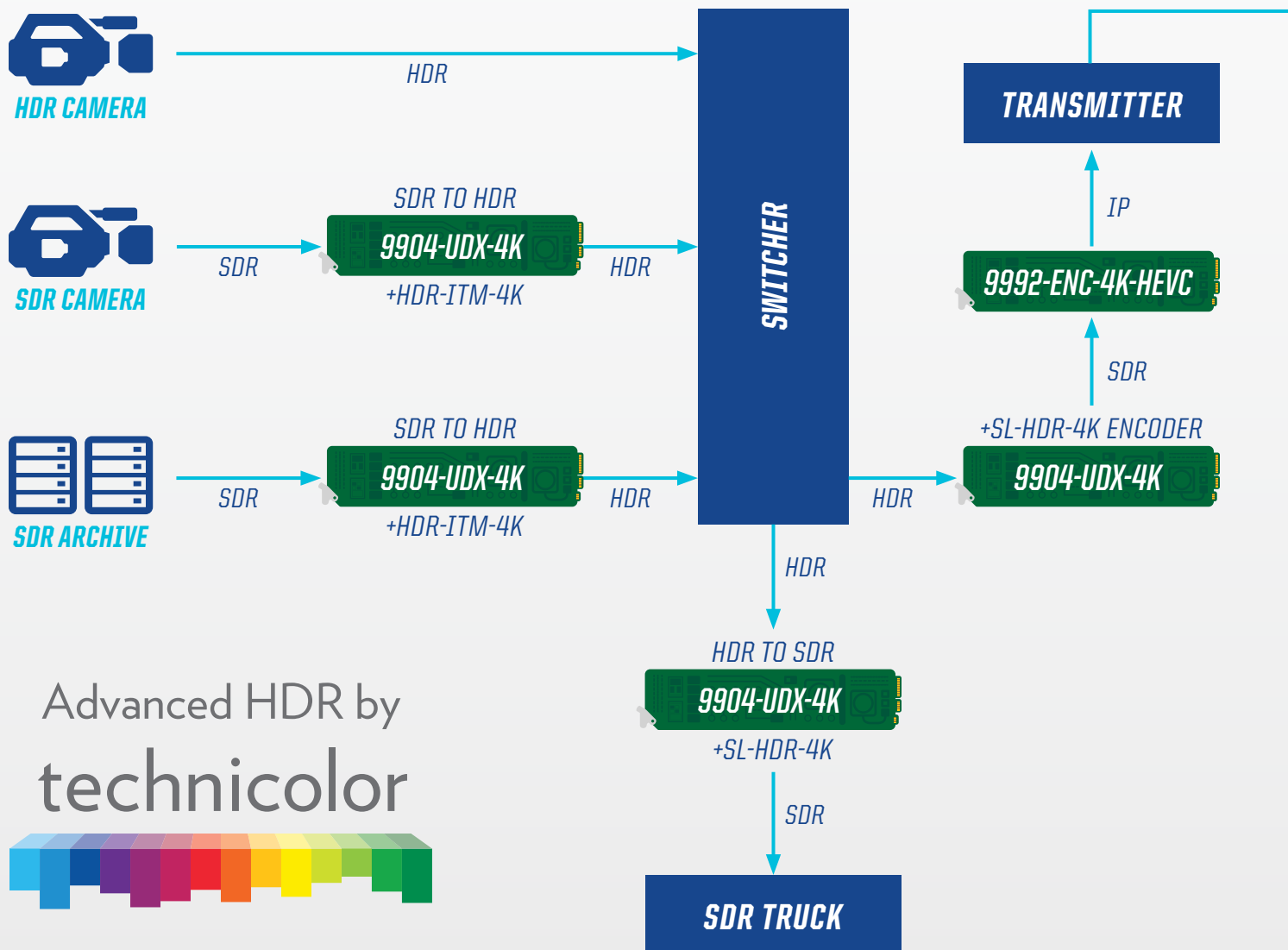
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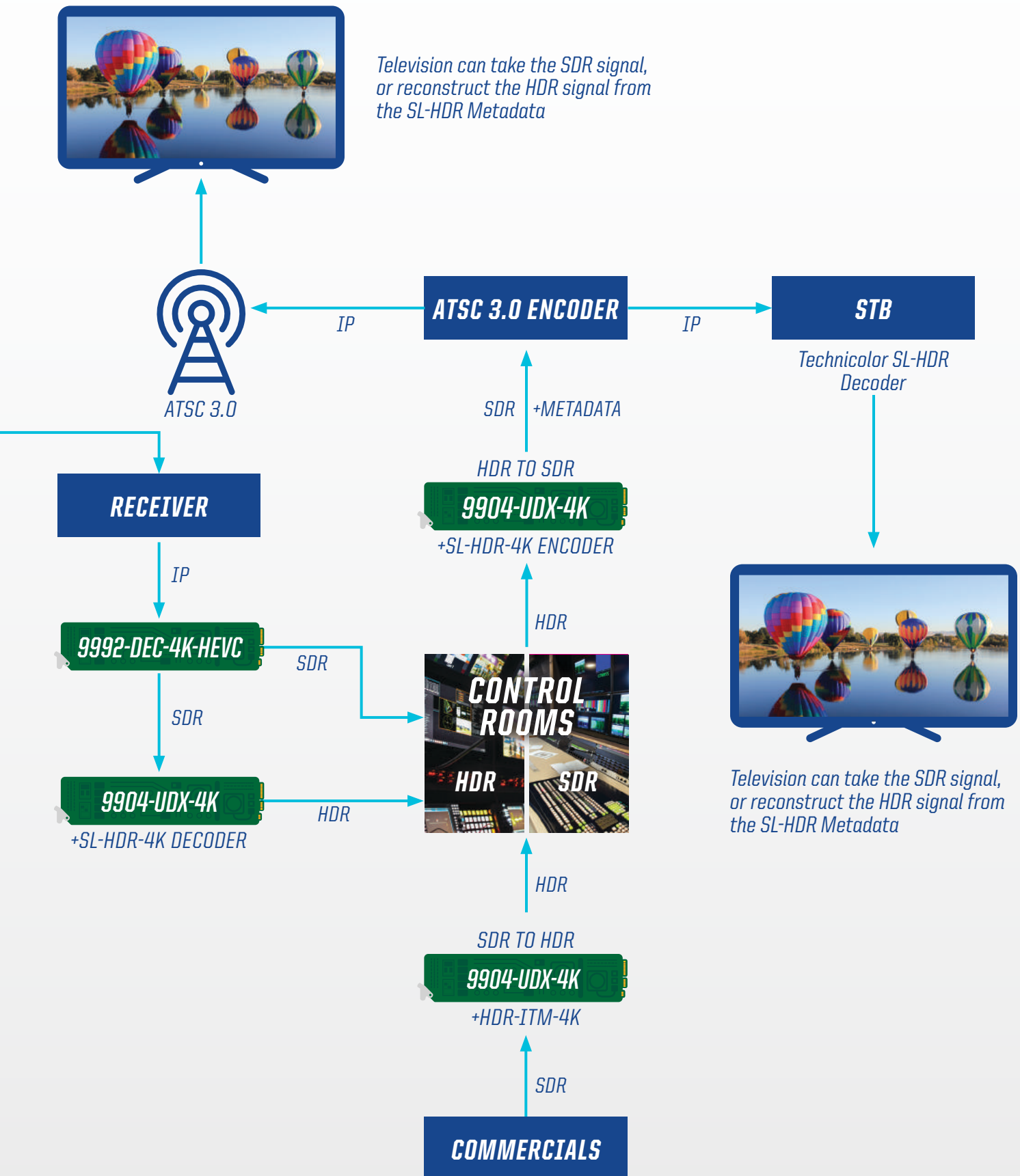


Producing HDR broadcasts with a mix of HDR and SDR sources has never been easier, with Cobalt's implementation of Technicolor's Intelligent Tone Mapping (ITM) and SL-HDR technology. With the 9904-UDX-4K processing card SDR can be turned in to HDR dynamically without operator intervention. Similarly HDR sources can be fed to SDR trucks or facilities, just as if the production was shot in SDR.

For distribution of HDR content, Cobalt leverages Technicolor's SL-HDR encode to create an SDR signal with metadata that can be reconstructed downstream to play the original HDR signal, or SDR depending on the capabilities of the TV or set-top-box. This allows for a single stream of transport to support both HDR and SDR devices.

The 9904-UDX now features Technicolor's Reverse ITM technology, which allows a broadcaster to generate an SL-HDR1 HDR rendition of an SDR signal, without any impact to the original SDR signal.

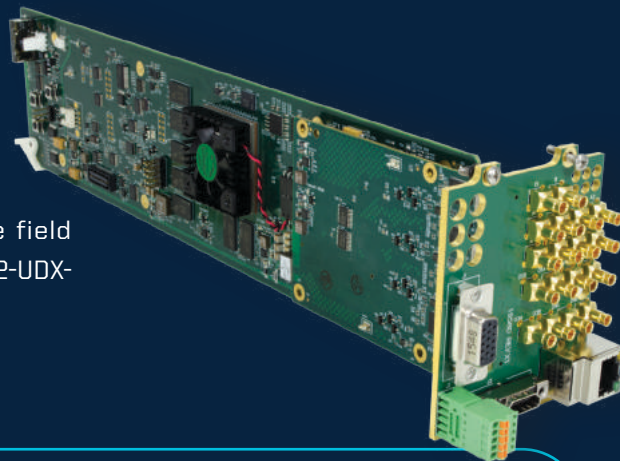




SOFTWARE DEFINED PROCESSING FOR 2K & 4K

Cobalt products support licensable feature upgrades that are field installable – you can add functionality when you need it. The 9902-UDX-DSP-CI and 9904-UDX-4K have an extensive library of options.

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SMPTE-2110 FRAME SYNC & CONVERSION



HD & 4K OPTIONAL REMOTE CONTROL RGB COLOR CORRECTION



	9902-UDX-DSP-CI	9904-UDX-4K	9904-UDX-4K-DSP	9904-UDX-4K-IP
Software Defined Processing	●	●	●	●
4K 3840x2160		●	●	●
HD 1080p/1080i/720p	●	●	●	●
12G I/O		●	●	●
HDMI 2.0 I/O		●	●	●
HDMI 1.4 I/O	●	●	●	●
PAL/NTSC Composite Analog	●			
AES I/O	●	●	●	●
Format/Standards Conversion	●	●	●	●
IP Formats (2110 & 2022-6/7)	●			●
Advanced Audio Processing	●		●	
Native SMPTE ST 2110		●		



BBG-1300-FR *1RU ENCLOSURE FOR OPENGear® CARDS*

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The Cobalt BBG-1300-FR is a 1/3 rack width 1RU openGear® compatible frame capable of housing two cards in a split width or 1 card in a standard width rear IO module. A built in network card allows any openGear® capable card to show up and be controlled or monitored in DashBoard™. Looping reference on the unit provides black burst or tri-level timing to both cards slots within the chassis.



The BBG-1300-FR 1RU Enclosure Holds up to Two openGear® Cards with Standard Size Rear IO Modules, a Built In Network Card and 60 W of Available Power.

Any card within the Cobalt Product lineup (or any third-party openGear card) with a compatible I/O panel can be housed in the BBG-1300-FR, with a total available power of 60 W. Three BBG-1300-FR units can fit onto a single 1 RU tray for maximum density when a 2RU frame is not feasible. The unit can also be employed in remote locations where a full size 2RU 22 slot openGear® frame is not required.

A front control panel makes status monitoring and network connectivity straightforward with an LCD display screen. The front rotary knob makes navigation simple and easy to use. SNMP control available.

ACCESSORIES FOR THE BBG-1300-FR

BBG-1300 TRAY Rack Mounting Surface for Mounting three BBG-1300-FR units

BBG-TRAY-RSB Rear Support Bars and Brackets

KEY FEATURES

- High power for 4K and IP solutions
- Full openGear® compatibility supporting openGear-compatible cards as well as latest and legacy openGear® rear modules
- One looping reference internally routed to all user card slots
- Two power supplies for power redundancy
- Network Controller Card enables DashBoard™ for seamless remote setup, monitoring, and control.
- Front display with rotary knob and buttons for simple and quick control
- Pull-away front door panel allows quick, easy card insertion
- Optional Frame Support Bracket kit provides frame rear support for mobile applications
- Remote control/monitoring via DashBoard™ or SNMP
- Built-in Gigabit Ethernet backplane
- Five year warranty



FOR MORE INFORMATION, PLEASE VISIT COBALTDIGITAL.COM

Cobalt Digital Inc. designs and manufactures award-winning IP and 12G/6G/3G/HD/SD conversion, throwdown, and multiviewer technology for the production and broadcast television environment. As a founding member in the openGear® initiative, Cobalt offers a full range of openGear-compliant solutions as well as video and audio processing products for closed caption compliance, production trucks, master control, HD news, signal transport, audio loudness processing, and color correction. Cobalt's Blue Box Group™ line of interface converter throwdown boxes streamlines and simplifies a wide range of IP and 12G/6G/3G/HD/SD conversion and processing tasks. In addition, the company's multi-image display processors enable multiviewer capabilities in the most demanding studio and remote production/broadcasting environments. Cobalt Digital products are distributed through a worldwide network of dealers, system integrators, and other partnerships.

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