

# KudosPro

## Single, Dual and Quad Channel Format and Frame-rate Conversion



Supporting all broadcast formats, offering a wide range of I/O connectivity and delivering a complete processing toolkit, KudosPro is a dependable solution for even the most unexpected situations.

### Three Ranges for All Applications

KudosPro™ is the audio and video processing platform from Grass Valley®, delivering high-quality audio and video signal processing in an affordable and format-flexible package. KudosPro is the ideal solution for broadcasters, news agencies and content providers needing to consider cost and space issues, while also ensuring high-quality content for domestic and international audiences. Redundant power supplies in all models, plus comprehensive support means all KudosPro ranges work for your business, and keep working for your business.

#### Synchronizer Series

- Audio video processors for standalone up/down/crossconversion and processing applications
- Dual and quad video channel options
- Massive audio processing capabilities all in compact 1 RU chassis with front panel controls

#### Frame Rate Series

- Frame-rate conversion using linear interpolation techniques
- Audio video processors for standalone up/down/crossconversion and processing applications
- Single, dual and quad video channel options
- Massive audio processing capabilities all in compact 1 RU chassis with front panel controls

#### Motion Series

- High-quality motion compensated frame-rate conversion
- Audio video processors for standalone up/down/crossconversion and processing applications
- Single and dual video channel options plus massive audio processing capabilities
- All in compact 1 RU chassis with front panel controls

### Highest Quality/Highest Density

KudosPro offers up to four video processing channels in both Synchronizer and Frame Rate series in 1 RU for a high level of conversion processing density.

### Maximum Interfacing and Audio Processing

KudosPro products offer a full range of input and outputs via physical interfaces, so whatever your interfacing challenges, Grass Valley can help. Audio processing capabilities across the range are comprehensive via embedded, discreet AES or analog inputs and outputs.

## UMC1000

### High-performance UHD Motion Compensated Frame-rate Conversion

Built on the latest advanced motion compensation algorithms and supporting a single channel of HD/3G/6G/12G frame rate conversion.

## MC1000 & MC2000

### Motion Compensated Frame-rate Conversion

Motion compensated single-channel (MC1000) and dual-channel (MC2000) SD/HD/3G frame-rate converter with powerful enhancement and processing tools.

### Worldwide Program Exchange

The superb frame-rate conversion capabilities of the UMC1000, MC1000 and MC2000 enable program makers and content owners to offer high-quality material to worldwide customers, while keeping project costs down.

## ULC2000, UHD1200, LC2000, LC4000 & LC350

### High-quality Linear Frame-rate Conversion

Single-channel (UHD1200 – SD/HD/3G/12G, LC350 – SD/HD/3G) or dual-channel (ULC2000 – HD/3G/

UHD, LC2000 – SD/HD/3G) or quad-channel (LC4000 – SD/HD/3G) linear frame-rate converters with motion adaptive de-interlacing and high-quality up/down/crossconversion.

### High-density Conversion

Immediate and flexible selection of a wide range of digital and analog input and output formats, from SD up to 12 Gb/s.

## SV2000 & SV4000

### Up/Down/Crossconversion

Dual-channel (SV2000) and quad-channel (SV4000) SD/HD/3G video and audio processing including frame synchronizer and motion adaptive de-interlacing and high-quality up/down/crossconversion.

### Saving Production Costs

Smoothly integrate mixed SD/HD/3G produced content or incoming feeds ready for any outgoing transmission standard.

### HD and Beyond

Viewers of SD, HD and UHD services can continue to watch their favorite programs, even with transitional 12 Gb/s, 3 Gb/s, HD and SD production workflows, through the provision of the quality assured up, down and crossconversion capabilities – ensuring valuable content assets remain viable for the long-term future in any format.

### Flexible Workflows

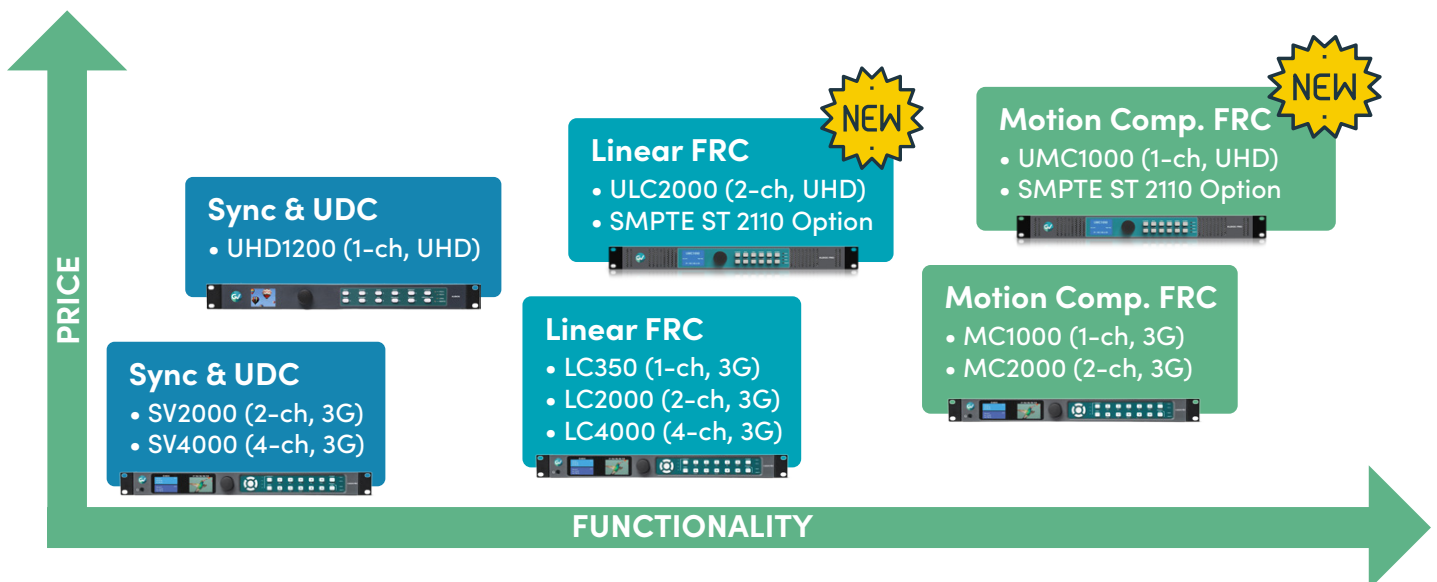
Flexible, automated processing is another important capability within the KudosPro range. Sources can be switched between 12 Gb/s, 3 Gb/s and HD or 3 Gb/s, HD and SD, and with all KudosPro products supporting automatic input detection, the most appropriate conversion mode can be immediately offered.

Full support for important metadata such as closed captions, timecode and AFDs is all provided as standard.

### Simple and Intuitive Control

A simple web interface, as well as control via Grass Valley's award-winning GV Orbit® software, are available on all KudosPro products, enabling KudosPro to fit into any broadcast, playout or post-production workflow.

User control via simple front panel menus and short-cut buttons enables artistic decisions to be easily actioned, and the intuitive front panel display gives instant reassurance of the current system status.



# Whatever your conversion needs, the KudosPro range offers superb quality results.

All broadcast frame rates and formats are supported, ensuring great quality conversion for international content sources resulting in programs that look stunning, and give you an edge over competing converted channels.

## Solves your Format Problems

The KudosPro range produces the consistent, high standard, UHD, 1080p, HD and SD pictures that viewers demand, with reliability and customer service expected from the Grass Valley brand, and its years of experience in conversion and signal processing products.

## Peace of Mind

Rest assured that KudosPro is always ready to fix your signal problems, no matter how expected or unexpected they may be. The comprehensive feature set includes: audio delay/gain/shuffling, RGB legalizer, user selectable aspect ratio conversion, logo insertion, side-bar keying, extensive picture enhancement tools and video noise reduction.

## Ease of Use

Integrating legacy and international programming into your schedules has never been easier. With Grass Valley's KudosPro range of converters, you're guaranteed to find a converter to meet your application and budget needs. Whether you need to frame rate or format convert, Grass Valley offers motion compensated and motion adaptive converters that ensure that the quality of your content is retained at every step in your workflow.

## Ideal for international program exchange, conversion, high-density distribution and content repurposing for broadcast or internet applications.

### Stills

KudosPro achieves maximum resolution preserving the fine detail in graphics and sharpness of text. Softness and lack of detail are typical artifacts which are seen in other products.

### Action

In fast moving sports action, detail and definition around key parts of the images such as the ball or player are critical. KudosPro uses motion compensation to ensure full resolution and well defined motion. It is the only product that provides full resolution moving video images. Other products introduce blur and reduce resolution in moving areas.

### Complex Pictures

A typical program output comprises many components such as station branding, credit rolls and video or animation. KudosPro handles all of these simultaneously without compromise. Other products cannot handle these types simultaneously. Therefore, image quality will be compromised.



Control is offered from the attractive and user-friendly front panel as well as a simple web interface. For large system users, KudosPro is fully compatible with Grass Valley's GV Orbit network orchestration solution.

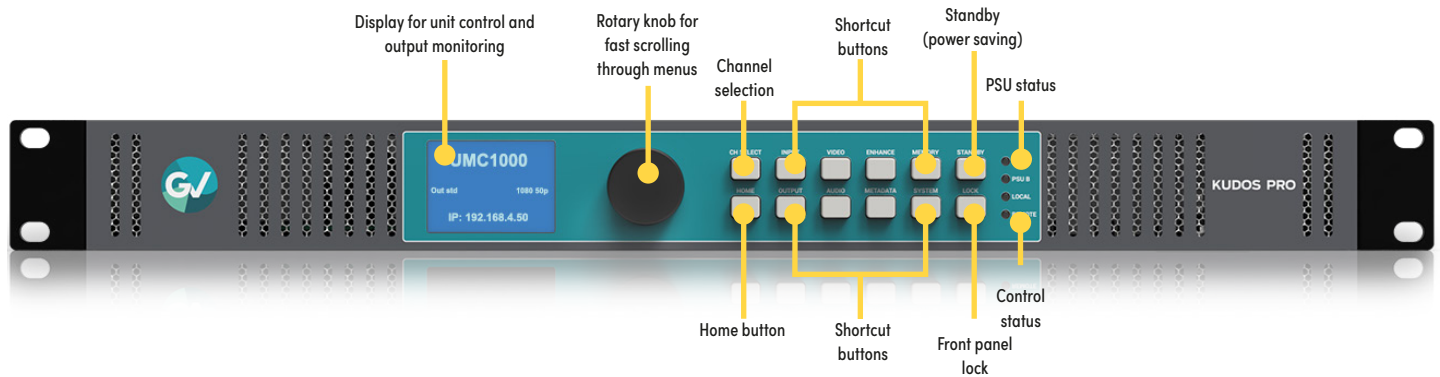
## Front Panel Control

User control via simple front panel menus and short-cut buttons enables artistic decisions to be easily actioned, while the intuitive front panel display gives instant reassurance of the current system status.

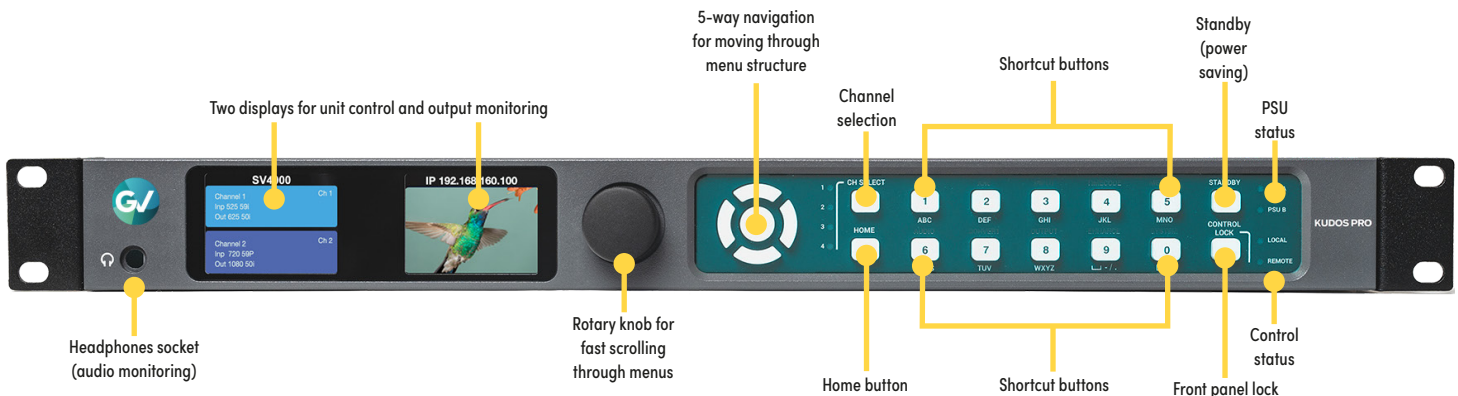
## Remote Control

Control using a web browser or GV Orbit control panel (Grass Valley's proprietary control and monitoring application) is also available. Alternatively, you can integrate into enterprise-wide control & monitoring systems using SNMP.

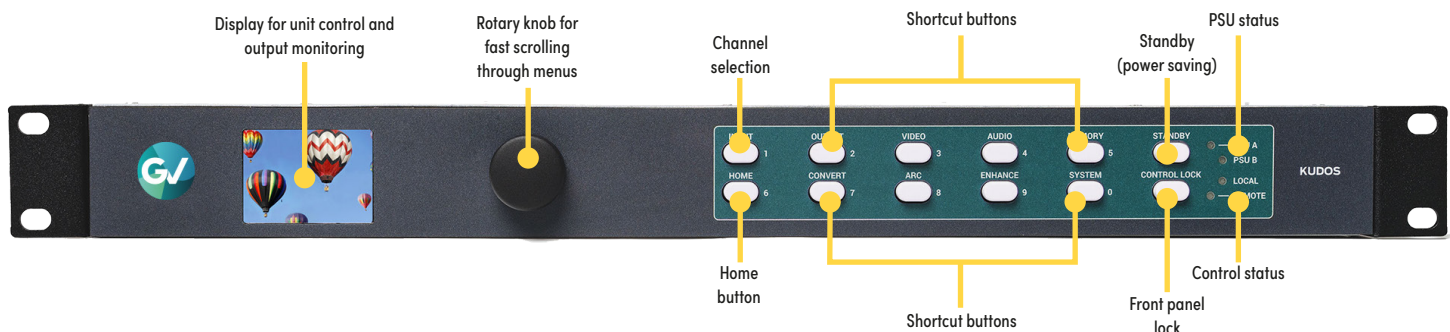
## UMC1000 & ULC2000 Front Panel



## MC1000/2000, LC2000/4000 & SV2000/4000 Front Panel



## LC350 & UHD1200 Front Panel





# KudosPro offers a wide range of I/O connectivity and delivers a complete processing toolkit.

The KudosPro range has an array of digital and analog interfaces encompassing video formats from composite to UHD, copper to fiber and a comprehensive selection of audio handling options and formats, including analog and AES – both balanced and unbalanced.

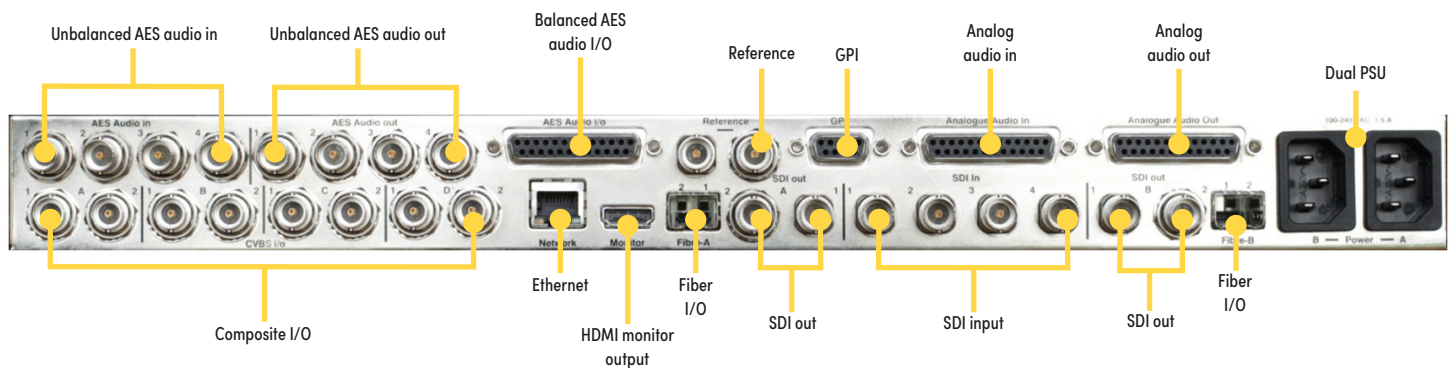
## Audio I/O

AES I/O is available as balanced or unbalanced, providing complete flexibility no matter what environment you're in. Analog audio can be embedded and de-embedded into SD/HD/3G.

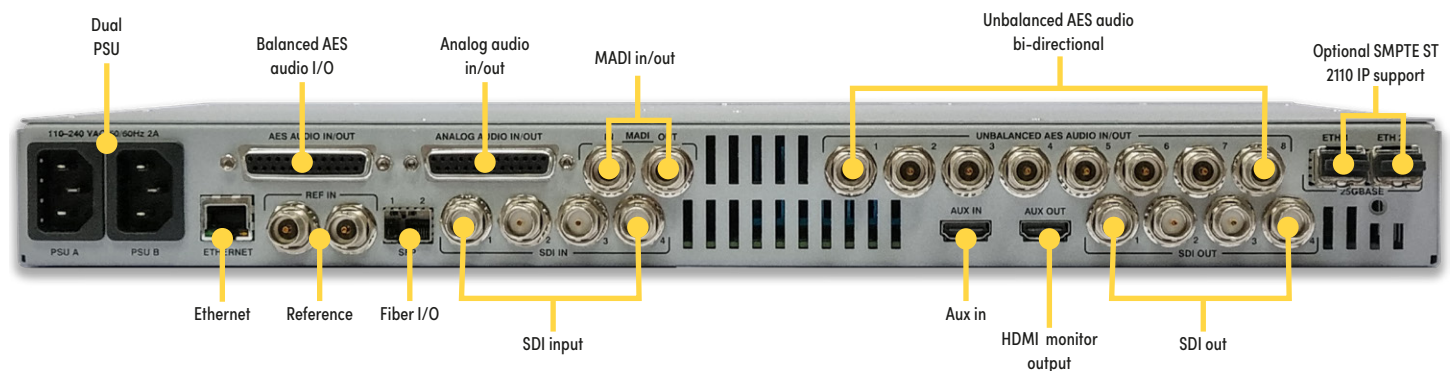
## Video I/O

With IP, SDI and analog composite video interfaces, KudosPro is a completely flexible platform, handling SD, HD, 1080p and 2160p over IP, SDI or fiber.

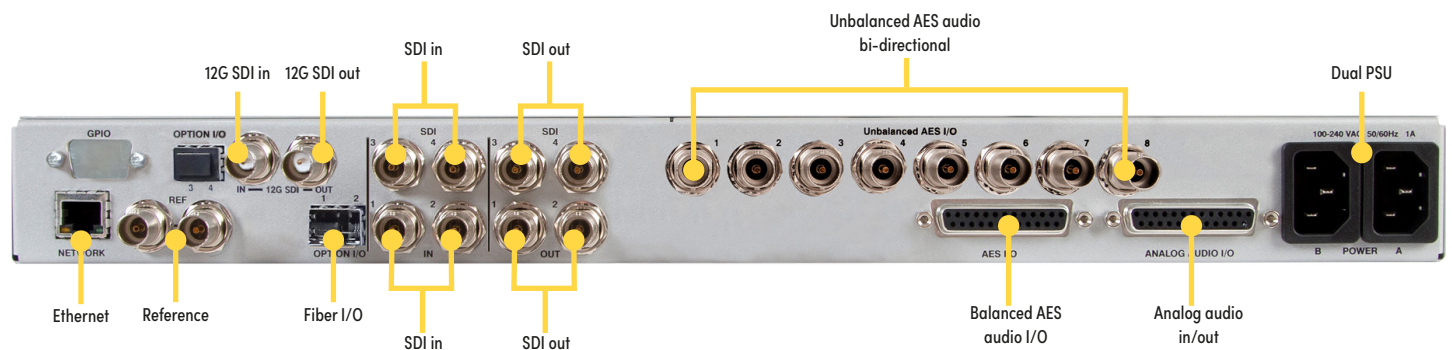
## MC1000/2000, LC2000/4000 & SV2000/4000 Rear Panel



## UMC1000 & ULC2000 Rear Panel



## UHD1200 Rear Panel



Not only do KudosPro products offer high-quality, affordable conversion within a compact enclosure, they also offer single, dual and quad channel frame synchronization with advanced video and audio processing capability, all within 1 RU, making KudosPro ideal for high-density production environments demanding the widest range of conversion possibilities – now and into the future.

Convert from any SD/HD/3G/12G\* standard to any other SD/HD/3G/12G\* standard, including 1080 and 720 23.98/24/25/29p and PsF. Create simultaneous HD and SD outputs from one input source (not applicable to single-channel products). Choose from linear format conversion through to motion compensated frame-rate conversion, or select frame synchronization and relay bypass on primary SDI inputs.

Powerful picture enhancement tools:

- Noise reducer
- Enhancer
- Legalizer
- Proc amp

Additional video processing features, including:

- Logo insertion (one per channel)
- Side-bar keying
- Multiline WST, closed caption and AFD aspect ratio conversion features
- User configurable Ancillary Data bridge

Up to 32-channels of embedded audio processing are available for each video channel. Audio handling includes: audio embedding, audio de-embedding, audio gain, audio delay, audio shuffle and audio swap.

\* UHD1200 converts from/to any SD/HD/3G/12G formats, UMC1000 and ULC2000 convert from/to any HD/3G/6G/12G formats, all other KudosPro products convert from/to SD/HD/3G formats.



## Applications

### OB Truck/Studio

Work with up to two HD and UHD channels or four channels of SD and HD content simultaneously in any form within a single 1 RU enclosure. KudosPro adapts with you, and on demand, because we recognize that no two events are ever the same.

### Post/Facility Production

From 23.98, 24, 25, 29.97 to 50p and 60p KudosPro converts seamlessly between all international standards with the quality you'd expect from Grass Valley, at an incredibly affordable price point.

### Ingest

Handle multiple channels within the 1 RU high-density design for use in front of our ingest servers, bringing content into your house format – no matter what format it is originally received/stored in. And KudosPro quickly “fixes” audio and video problems.

### Hire

Never really know what your clients are going to ask for? Don't worry. The KudosPro range has complete analog and digital flexibility from analog audio with composite to 2160p 12 Gb/s with AES and MAD1 audio. Plus the user interface is simple and intuitive, so you won't have calls asking how to set up and use the unit(s).

### Satellite, Head-end Applications

Remote control and monitoring and dual PSUs give you the reliability and peace of mind critical for remote locations.

This product may be protected by one or more patents. For further information, please visit: [www.grassvalley.com/patents](http://www.grassvalley.com/patents)

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