ImagePRO-II

All-in-one video scaler, scan converter and switcher

Why ImagePRO-II?

- Best-in-class scaling
- Low latency
- Best ROI for your rental inventory
- Fastest source acquisition
- Familiar user interface
- Roadworthy design
- Proven history of performance

Features you'll love

- Resolutions up to 2,560 x 1,600
- Supports DVI, 3G-SDI, HDMI, DisplayPort and analog interfaces
- User-friendly LED setup
- Control via integrated web server
- USB backup and control
- 12-bit processing
- SDI level A to/from level B conversion
- Dual outputs
- Stereoscopic 3D conversions
- Audio embedding and de-embedding

ImagePRO-II is an advanced high performance all-in-one video scaler, scan converter, switcher and transcoder converting any input signal format to any output format. ImagePRO-II supports universal analog, DVI single and dual link, HDMI, DisplayPort and SD/HD/3G SDI signal formats. Loop-through outputs are provided for the analog, DVI, SDI input and genlock signals. With features like HDCP and EDID management, USB backup and restore, multiple video effects and a web page user interface, ImagePRO-II is the most advanced and flexible signal processor in the market.

ImagePRO-II is offered in five models: standard, dual output, audio, dual output and audio and Jr. The standard model offers all of the advanced features you need and expect to find in ImagePRO. In addition to the standard features, the dual output model can convert independently one input signal to two separate outputs at different resolutions. Furthermore, the dual output model offers stereoscopic 3D conversion capability. The audio option allows for a wide range of dis-embedding and embedding options between the HDMI, DisplayPort and SDI signals and the analog and digital AES signals available on the DB-25 connector of the audio board. ImagePRO-II can be fitted with either or both dual and audio options simultaneously.

Available models

- R9004677: ImagePRO-II
- R9004683: ImagePRO-II with dual output
- R9004684: ImagePRO-II dual output upgrade kit
- R9004666: ImagePRO-II with audio
- R9004667: ImagePRO-II audio upgrade kit
- R767423K: ImagePRO-II audio breakout cable
- R9004668: ImagePRO-II with dual output and audio
- R9004695: ImagePRO-II Jr

BARCO

Visibly yours

Professional connections, professional signals

> ImagePRO has been an important part of our business.
>
> *Hubertus Beckmann, LANG AG*

Field replaceable DVI connectors

As the ImagePRO-II is built for the live event industry, it has been designed with the road in mind. With features like field replaceable DVI connectors it supports the demanding environment of any live event. In order to keep you up and running at all times, you can easily replace the DVI connectors on your device.

Input buttons
Select an input, active inputs are backlit

Quick menu access
Open the setup, test pattern or zoom/pan menus

Effects buttons
Transition to logo or black, or freeze an image

> The best just got better.
>
> *Adam Benjamin, Vice President PRG Video*

Dual link DVI-I input with loop-through

HDMI input

DisplayPort input

Dual output mezzanine connectors

3G/HD/SD/SDI output

Dual link DVI-D output

Universal analog output

DisplayPort output

Audio mezzanine

Universal analog input with loop-through
Connect to analog computer and video sources

SD/HD/3G/SDI input with loop-through

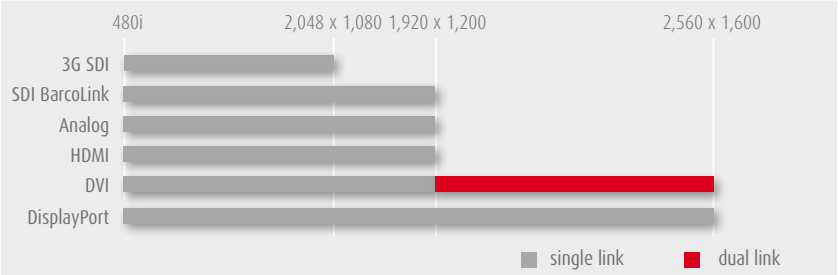
Composite output
Connect to NTSC/ PAL composite video display

HDMI output

Genlock with loop-through
Connect a reference signal such as black burst or composite sync

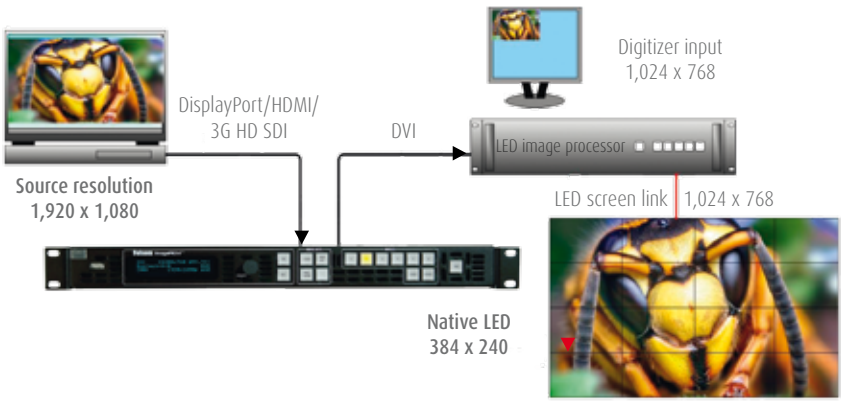
Endless scaling and switching possibilities

Higher resolutions and the latest signal interfaces with EDID and HDCP support



Quick LED setup

The new Area of Interest (AOI) feature makes setting up your LED display easier than ever. Input sizing is quick and easy with instant selections like 1:1 to match the input pixel for pixel. The AOI feature allows you to center cut your source and fill the display horizontally and/or vertically. The zoom settings in the LED setup menu provide custom scaling settings for pixel perfect sizing. ImagePRO-II also outputs a single pixel raster box indicating the size and position of the AOI window.

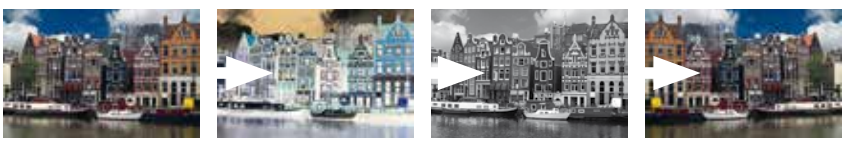


Automatic output configuration

Thanks to the DisplaySense technology, ImagePRO-II automatically sets its output format to match the display's native resolution. When more than one display is connected to ImagePRO-II, users can select which device determines the output format. As display formats are constantly changing, ImagePRO-II guarantees the best resolution for the best image quality.

Built-in video effects

The ImagePRO-II is able to apply video effects on its output, including color correction, invert, monochrome, flip, strobe or mask.



invert *monochrome* *flip*

Custom resolutions

By duplicating and editing an existing video format, you can easily create your own custom video timings for both input and output sources. The ImagePRO-II can store up to 32 custom resolutions. Since these are available in the EDID table, you can request these custom resolutions from your computer connected to ImagePRO-II.

Simple setup and advanced control

Remote control via web browser

An integrated web page server provides remote control to configure and switch the ImagePRO-II. This powerful integrated web interface also enables system diagnostics, import and export of png logo files and firmware upgrades.

USB backup, restore and upgrade

Via a USB flash drive you can back up settings, logos and even upgrade your firmware. When you need to copy settings from one system to another, you can simply copy the configuration to the USB drive and move it to the next unit for a quick and easy duplicate of the first unit's settings. In this way, multiple units can be set up and configured in just a few minutes.

Online software management

When connected to the Internet, ImagePRO-II can check for the latest software release. If necessary, it will download and upgrade its firmware automatically, keeping your unit's functionality up to date.

Multiple unit control

Multiple ImagePRO-II units can be controlled via a web browser, without installing a separate control application. After discovery and setup, one or more units can be enabled to accept source changes or transitions.

Level A to/from level B SDI conversion and minimum delay mode

ImagePRO-II converts level A SDI signals to level B and vice versa allowing cameras and monitors that support only these formats to be connected to other devices. In both applications the latency can be reduced to three lines by enabling the minimum delay mode. In minimum delay mode, internal scaling is disabled and the output resolution matches the input resolution.

"Live events without ImagePRO would be tough. It's the workhorse for the industry, with perfect performance and an attractive ROI.

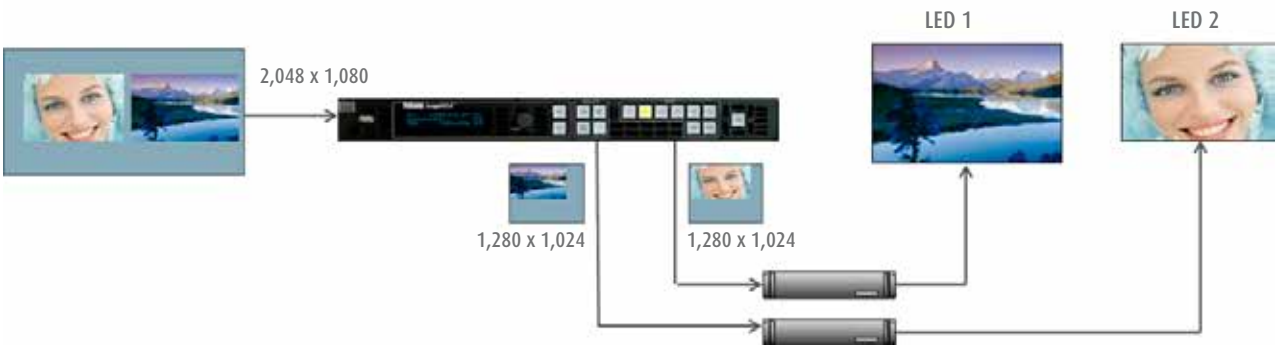
Georg Rössler, CT Germany

Dual output model

The optional dual output card turns your ImagePRO-II into an even more powerful tool. By providing an additional scaled output, the same input can be routed to two separate outputs doubling the output capability of your ImagePRO-II, as illustrated below. The dual output mezzanine includes three additional HD/3G SDI connectors supporting the input, loop and output signals. Each output can be configured independently to its own resolution, frame rate, AOI, effects or pan and zoom.

* Any valid combination of formats and resolutions is allowed to fit the specific application requirements

LED application with ImagePRO-II dual



S3D conversions with ImagePRO-II dual

ImagePRO-II dual supports converting stereoscopic 3D (S3D) sources to alternate S3D signal formats for single or dual stream stereoscopic S3D inputs and outputs. Multiple output connectors can be active at the same time, depending on the selected 3D output format and resolution. S3D sync input and output support is provided by two miniDIN-3 connectors per VESA 3D specification.

INPUT
- Side-by-side horizontal
- Left and right
- Top and bottom

OUTPUT
- Side-by-side horizontal
- Left and right
- Top and bottom

Audio model

The ImagePRO-II audio model includes the audio mezzanine board offering users a wide range of options when dealing with embedded audio. The mezzanine board includes a DB-25 connector providing I/O interface to 4 analog and 8 AES digital channels. Users can select to associate the input video source with its own embedded audio signal or with the analog or AES digital signal from the DB-25 connector. The de-embedded HDMI, DisplayPort and SDI input audio signals can also be selected to appear on the discrete analog or digital AES outputs. A custom audio breakout cable provides access to the analog and digital AES signals on the DB-25 connector through 4 XLR and 8 BNC connectors.

Breakout audio cable signals:

- 2 analog in (a single stereo pair) on two XLRs
- 2 analog out (a single stereo pair) on two XLRs
- 8 AES in (four stereo pairs) on four BNCs
- 8 AES out (four stereo pairs) on four BNCs

Audio specifications

- LPCM only, no compressed audio
- No. of supported channels : SDI, HDMI and DisplayPort: 8 (max) @ 48/96 KHz sampling
- Supported bit depths: HDMI & DisplayPort: 16/20/24 bits, SDI: 20/24 bits
- Analog audio (2 channels of balanced audio inputs, each on 3 pins, frequency Response: +-0.5dB, 20Hz to 20KHz, SNR: 90dB, THD + noise: -70dB @ -1dBFS, CMR: 75dB @ 60Hz, crosstalk: -90dB @ 1KHz, input impedance: 10K)
- Digital audio- AES3 (4 pair of AES/EBU digital audio inputs, each pair on 2 pins, groups of 2 pairs, connector: 75 ohms, unbalanced inputs, bit depth: 20/24 bits)

ImagePRO-II Jr

The ImagePRO-II Jr brings the high-performance scaling of the ImagePRO-II in an affordable package. By providing a simplified input interface structure this cost-effective model is perfect for general applications.

INPUTS

- Single link DVI-I with loop out
- Universal analog with loop out
- 3G SDI (BarcoLink compatible)
- Genlock with loop out

OUTPUTS

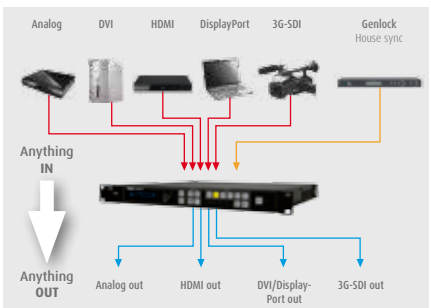
- DVI-D
- Universal analog
- 3G SDI (BarcoLink compatible)

RESOLUTION

- Maximum input 2,048 x 1,200 @60Hz
- Maximum output 2,048 x 1,200 @60Hz

How to connect your ImagePRO-II

4:3	NTSC
PAL	HDSDI
3G SDI	HDTV
UXGA	1,080i
HDMI	DVI
DISPLAY PORT	COMPOSITE
1,080p	720p
DUAL LINK DVI	SINGLE LINK DVI



VGA	RGBHV
S-VIDEO	XGA
16:9	16:10
WQXGA	QXGA
2K	WUXGA
SXGA+	WXGA
SXGA	WSXGA+
DEEP COLOR	COMPONENT

Technical specifications

VIDEO INPUTS	
Input 1: DVI-I	• Digital formats; all single-link DVI digital formats up to 165 Mhz, per DVI 1.0 specification and all dual-link DVI formats up to 330 Mhz; max H active: 4096, max V active: 3072 • Analog formats: NTSC/PAL composite and Y/C video, SD YPbPR with bi-level sync, HD YPbPr with tri-level sync, RGBHV/RGBS/RGsB computer video with bi-level sync • Analog sampling: sources with pixel rates up to 170 Mhz are sampled 1:1; sources with pixel rates above 170 Mhz are filtered and sampled at 170 Mhz, including but not limited to 1,920 x 1,200p, 2,048 x 1,080p • Active loop-through output of all input signals, including HDCP and EDID • EDID version 1.3 compatible - HDCP version 1.4 compatible
Input 2: HD-15 VGA	• Format: NTSC/PAL composite and Y/C video SD YPbPr with bi-level sync, HD YPbPr with tri-level sync per SMPTE 274, RGBHV/RGBS/RGsB computer video with bi-level sync • Sampling: sources with pixel rates up to 170 Mhz are sampled 1:1; sources with pixel rates above 170 Mhz are filtered and sampled at 170 Mhz, including but not limited to: 1,920 x 1,200p, 2,048 x 1,080p • Active loop-through output of all input signals • EDID version 1.3 compatible
Input 3: HDMI (type A)	• Formats: RGB and YCbCr; resolutions up to 2,048 x 1,080p @ 60 Hz per HDMI 1.4 specification and 1,920 x 1,200p @ 60 Hz • EDID version 1.3 compatible - HDCP version 1.4 compatible • Deep color (30/36 bits)
Input 4: DisplayPort	• Formats: resolutions up to 2,560 x 1,600 @ 60Hz (30 bits) per DisplayPort 1.1a specification • HDCP version 1.4 compatible
Input 5 & 6 (dual model): SD/HD/3G SDI on BNC	• Formats: SD-SDI per SMPTE 259M-C (NTSC/PAL resolution); HD-SDI per SMPTE 292M, 296M; 3G-SDI per SMPTE 424 • Re-clocked loop-through output • Dual link HDSDI per SMPTE 372 (dual output option)
VIDEO OUTPUTS	
SD/HD/3G & BarcoLink SDI (two outputs on the dual model)	• Formats: SD-SDI per SMPTE 259M-C (NTSC/PAL resolution); HD-SDI per SMPTE 292M, 296M; 3G-SDI per SMPTE 424 • Dual link HDSDI per SMPTE 372 (dual output option)
NTSC/PAL composite video	CVBS on BNC connector
DVI-D	• Formats all single-link DVI digital formats up to 165 Mhz, per DVI 1.0 specification • All dual-link DVI formats up to 330 Mhz • EDID version 1.3 compatible - HDCP version 1.4 compatible
HD-15 VGA	• Formats: NTSC/PAL composite on green, NTSC/PAL Y/C video with bi-level sync on Y only, (Y: Green, C: Red); SD YPbPr with bi-level sync; HD YPbPR with tri-level sync per SMPTE 274; RGBHV/RGBS/RGsB computer video with bi-level sync • EDID version 1.3 compatible
HDMI (type A)	• Formats: RGB and YCbCr at 4:4:4, YCbCr at 4:2:2, per HDMI 1.4 specification; resolutions up to 2,048 x 1,080p @ 60Hz and 1,920 x 1,200p @ 60 Hz • EDID version 1.3 compatible - HDCP version 1.4 compatible
DisplayPort	• Formats: resolutions up to 2,560 x 1,600 @ 60Hz (30 bits) per DisplayPort 1.1a • HDCP version 1.4 compatible
OTHER	
Genlock	Analog ref input/loop/output on BNC connectors; bi-level and blackburst at SD and tri-level at HD or locked to any input
Remote control	• USB 1.1 • Ethernet RJ-45, 10/100 Mbps autosense • Computer, tablet, smartphone, or external Encore or ScreenPRO-II controller via Ethernet link. • Control functions include: source input configuration, output format selection, test pattern selection, transition effect selection and control
Dimensions	• Height: 4.4 cm (1.75 in) - 1 RU rackmount • Width: 43.2 cm (17 in) without chassis handles, 48.4 cm (19.06 in) with chassis handles attached • Depth: 43.4 cm (17.09 in) from front to rear panel, 47 cm (18.51 in) overall
Weight	7,144 kg (15.75 lb)
Input power	Power 100-240 VAC, 47-63 Hz, auto-selecting 2.0A maximum
Environmental	Temperature: 0-40° C; humidity: 0-95% noncondensing
Warranty	Full three-year parts and labor warranty

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