

# Densité Channel Branding

Densité channel branding solutions, these tools enable broadcasters to enhance their on-screen branding with precision and flexibility.

## **DSK-3901**

3G/HD/SD Downstream Keyer

## **LGK-3901**

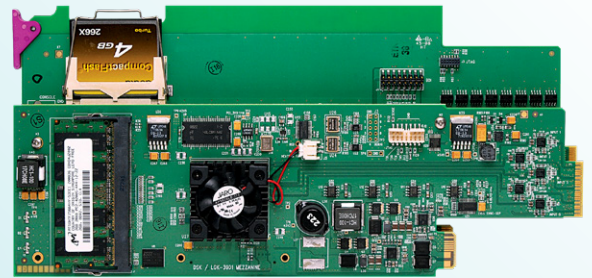
3G/HD/SD Channel Branding Processor

# DSK-3901

## 3G/HD/SD

### Downstream Keyer

Promote your brand and efficiently deliver your channels.



The Densité® DSK-3901 from Grass Valley® is a low-cost, modular downstream keyer, with two independent pairs of fill and key inputs. This 3G/HD/SD keyer is ideal for inserting two external character generator feeds over program video. Up to 10 channels of keying can be housed in a single 3 RU Densité 3 frame.

An integrated audio mixer provides eight-channel voiceovers, as well as audio clip storage and playout. Background audio is automatically ducked during voiceovers. Audio can be accepted as embedded audio or as four external AES inputs. The audio mixer features separate processing for the program and the preview chains.

A dedicated full preview channel offers an operator the option to feed the same signal to the program and preview chains, or use a different signal for the preview chain using the Fill-2 input.

The DSK-3901 can be manually controlled by the Branding Panel, and under automation using the widely adopted Oxtel protocol.



The DSK-3901 channel branding processor provides dual fill and key inputs and eight channel audio voiceovers.

## Key Features

- Downstream keyer with dual, independent fill and key inputs
- Independent preview output
- Module is housed in Densité 3 frame, with up to 10 cards (channels) per frame
- Supports 3G/HD/SD (1080p, 1080i, 720p, 576i, 480i, 59.94 Hz and 50 Hz)
- Uses widely adopted Oxtel automation protocol (Ethernet, RS-232/422)

- Manual control options, including Xpanel GUI, and GV Orbit® and iControl™ PC-based control
- Eight channel voiceover option available

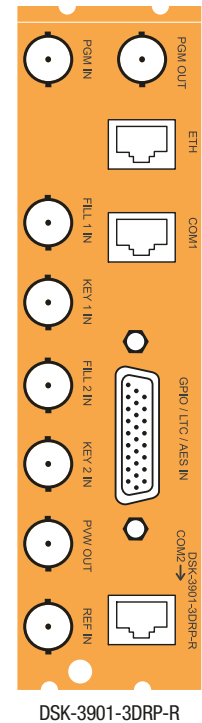
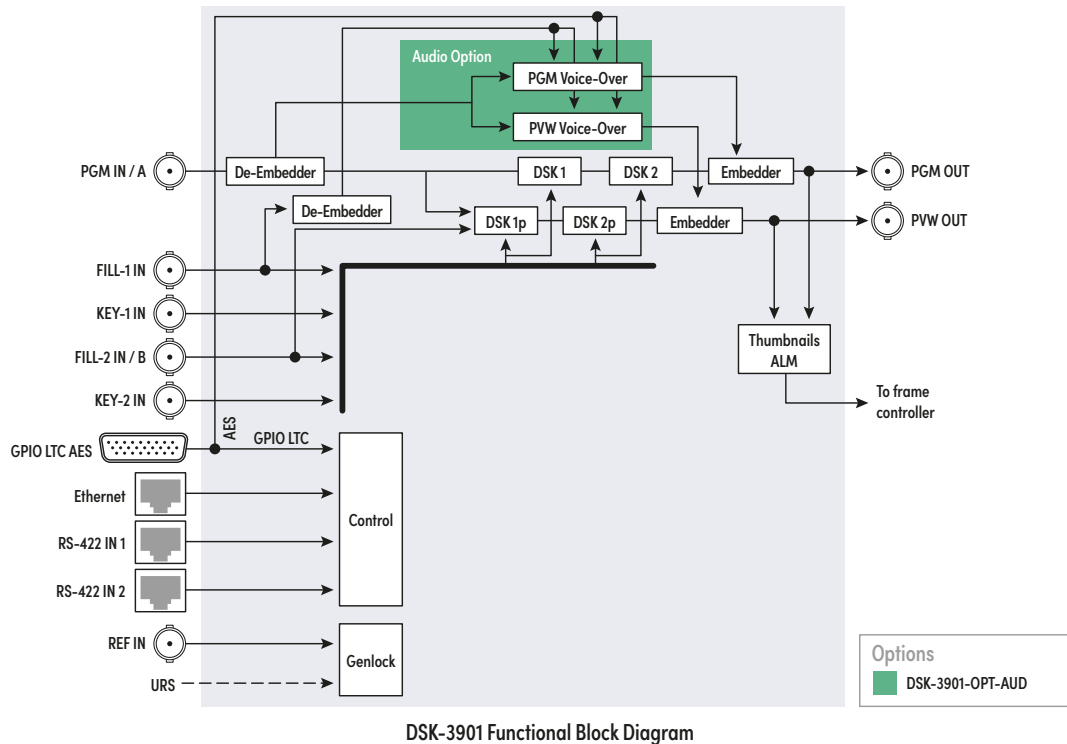
### Robust design

- Compact flash memory for O/S
- Rugged Linux architecture
- Densité 3 frame offers redundant, hot-swappable power supplies

- Mechanical bypass of program input
- Easy diagnostics via Densité 3 front panel and GV Orbit or iControl monitoring and control systems

### Comprehensive Densité range

- DSK-3901 can be easily combined with other Densité modules in the 3 RU frame, including routers, DAs, converters and monitoring modules



## Specifications

### Program and Fill And Key Inputs

**Signal:** 3G/HD/SD-SDI SMPTE ST 424, SMPTE ST 292, and SMPTE ST 259-C compliant

Supports data rates of 270, 1483.5, 1485, 2967, 2970 Mb/s

**Cable length (Belden 1694A):**

- 60m (180 ft.) at 3 Gb/s
- 120m (360 ft.) at 1.5 Gb/s
- 300m (1,000 ft.) at 270 Mb/s

**Return loss\*:**

- >15 dB for up to 1.5 GHz
- >10 dB from 1.5 GHz to 3 GHz

### Program and Preview Outputs

**Signal:** 3G/HD/SD-SDI SMPTE ST 424, SMPTE ST 292, and SMPTE ST 259-C compliant

Supports data rates of 270, 1483.5, 1485, 2967, 2970 Mb/s

**Return loss\*:**

- >15 dB for up to 1.5 GHz
- >10 dB from 1.5 GHz to 3 GHz

**Jitter (wideband):**

- HD/SD: <0.2 UI
- 3 Gb/s: <0.3 UI

### Reference Input

**Signal:**

- SMPTE ST 170/SMPTE ST 318/ITU 624-4/ BUT 470-6 or comp. sync
- SMPTE ST 274/SMPTE ST 296 tri-level sync

**Return loss:** >35 dB up to 5.75 MHz

### Serial Control

**Connector:** RJ45

**Signal:** RS-232/RS-422

**Data rate:** 9600, 19200, 38400, 57600, 76800, 115200

### Video Processing Performance

**Signal path:** 10 bits

### Embedded Audio Processing Performance

**Quantization:** 20-24 bits

**Sampling:** 48 kHz, synchronous

**Number of channels:** 16, 4 groups

### Electrical

**Power:** 25W

\* Return loss figures may differ when signal is routed through the bypass relay.

## Ordering

|                      |                                                                                                         | Options               | Description                                    |
|----------------------|---------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------------|
| DSK-3901             | 3G/HD/SD downstream keyer                                                                               |                       |                                                |
| DSK-3901-SD          | SD downstream keyer                                                                                     | DSK-3901-OPT-AUD      | Audio voiceover option                         |
| DSK-3901-3DRP-R      | Double rear connector panel                                                                             | DSK-3901-HD-UPG       | Upgrade from SD to 3G/HD for DSK-3901-SD       |
| <b>Housing frame</b> | <b>Description</b>                                                                                      | DSK-3901-UPG          | Upgrade to LGK-3901 channel branding processor |
| Densité 3 frame      | Housing frame with (1) PSU (AC IN), (1) Ethernet controller with front control panel, blank rear panels | <b>Remote control</b> | GV Orbit, iControl, iControl Solo              |

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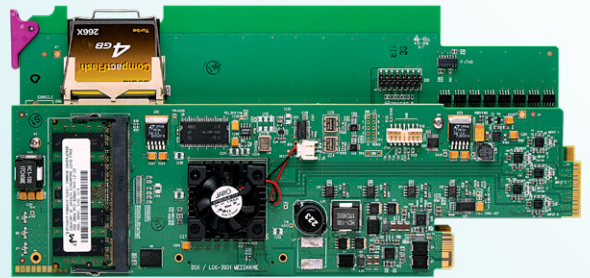
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# LGK-3901

## 3G/HD/SD

# Channel Branding Processor



Promote your brand and efficiently deliver your channels.

The Densité® LGK-3901 from Grass Valley® is a low-cost, modular channel branding processor, capable of inserting up to five layers of graphics into 3G/HD/SD. Three of the keying layers can be fed by internally stored still/animated graphics, and two layers are fed by external graphics devices. It also offers character generation, clock insertion, EAS support and audio clip/voiceover

layout. The LGK-3901 is ideal for pre-rendered graphics.

A template-based character generator can insert a crawl layer or a static (dynamically updated) text layer. High-quality characters are output with 256-level anti-aliasing, with easy drop shadow and transparency control. Unicode characters in Truetype fonts are

available from 6 to 600 pixels, in any RGB color. The EAS option (U.S.) enables emergency text and voiceovers to be inserted (requires an A to D converter to provide AES input).

An optional video mixer that essentially converts the card into an Imagestore-Modular can be added, providing on-card A/B mix effects. The LGK-3901-ISM-UPG option

### Key Features

#### Modular, 3G/HD/SD branding processor

- Modular master control and branding processor
- Module is housed in Densité 3 frame, with up to 10 cards (channels) per frame
- Supports 3G/HD/SD (1080p, 1080i, 720p, 576i, 480i, 59.94 Hz and 50 Hz)
- Uses widely adopted Oxtel automation protocol (Ethernet, RS-232/422)
- Manual control options, including Xpanel GUI, and GV Orbii® and iControl™ PC-based control

#### Multilayer channel branding

- Five independent keying layers: three can be fed by internally stored stills/animations, and two layers are fed by external graphics devices (dual fill and key inputs)
- Integral storage capacity of up to 4000 images/animations

- Independent preview output
- Automated character generation for static or data-driven text rendering and crawls
- In-vision digital/analog clock insertion (with CG option)
- Emergency Alert System (EAS) support (USA only)
- Multichannel voiceovers and audio clip playback\*
- Temperature sensor option

#### Master control switching

- AB video mixing option, with 16 channel audio mixing (requires LGK-3901-ISM-UPG)\*
- X-fade, V-fade and asymmetric V-fade transitions

#### Streamlined workflow

- Fully compatible with Vertigo branding graphics automation and asset management system for highly productive, cost-saving workflows
- Easy integration into a familiar After Effects based workflow, using the Vertigo After Effects plug-in

#### Robust design

- Compact flash memory for O/S and graphics storage
- Rugged Linux architecture
- Densité 3 frame offers redundant, hot swappable power supplies
- Mechanical bypass of program input
- Easy diagnostics via Densité 3 front panel, video thumbnails over IP, and iControl monitoring and control system

#### Comprehensive Densité range

- LGK-3901 can be easily combined with other Densité modules in the 3 RU Densité frame, including signal processors, DAs, and multiviewers

\*Option

allows video from A and B (PGM IN and FILL-2) sources to be mixed together, providing the background video source for the PGM keys. The mixer can be configured to either cut or fade the video.

An optional integrated audio mixer provides eight channel voiceover/audio clip storage/playout. Background audio is automatically ducked during voiceovers. Audio can be accepted as embedded audio or by four external AES inputs.

Specifications

Program and Fill and Key Inputs

**Signal:** 3G/HD/SD-SDI SMPTE ST 424, SMPTE ST 292 and SMPTE ST 259-C compliant

**Supports data rates of 270, 1483.5, 1485, 2967, 2970 Mb/s**

**Cable length (Belden 1694A):**

- 60m (196 ft.) at 3 Gb/s
- 120m (393 ft.) at 1.5 Gb/s
- 300m (984 ft.) at 270 Mb/s

**Return loss\*:**

- >15 dB for up to 1.5 GHz
- >10 dB from 1.5 GHz to 3 GHz

Program and Preview Outputs

**Signal:** 3G/HD/SD-SDI SMPTE ST 424, SMPTE ST 292 and SMPTE ST 259-C compliant

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Reference Input

**Signal:**

- SMPTE ST 170/SMPTE ST 318/ITU 624-4/BUT 470-6 or comp. sync
- SMPTE ST 274/SMPTE ST 296 tri-level sync

**Return loss:** >35 dB up to 5.75 MHz

Serial Control

**Connector:** RJ45

**Signal:** RS-232/422

**Data rate:** 9600, 19200, 38400, 57600, 76800, 115200

Video Processing Performance

**Signal path:** 10 bits

Embedded Audio Processing Performance

**Quantization:** 20-24 bits

**Sampling:** 48 kHz, synchronous

**Number of channels:** 16, 4 groups

Electrical

**Power:** 25W

\* Return loss figures may differ when signal is routed through the bypass relay.

Ordering

|                        |                                               |
|------------------------|-----------------------------------------------|
| <b>LGK-3901-4GB</b>    | 3G/HD/SD logo inserter with 4 GB storage      |
| <b>LGK-3901-8GB</b>    | 3G/HD/SD logo inserter with 8 GB storage      |
| <b>LGK-3901-16GB</b>   | 3G/HD/SD logo inserter with 16 GB storage     |
| <b>LGK-3901-32GB</b>   | 3G/HD/SD logo inserter with 32 GB storage     |
| <b>LGK-3901-4GB-SD</b> | SD logo inserter with 4 GB storage            |
| <b>LGK-3901-8GB-SD</b> | SD logo inserter with 8 GB storage            |
| <b>LGK-3901-3DRP-R</b> | Double rear connector panel with bypass relay |

Housing frame

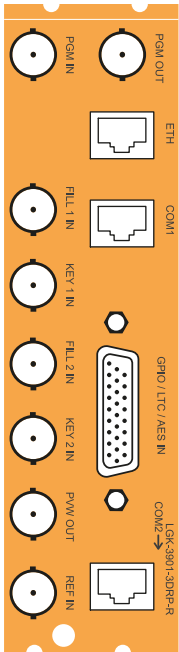
**Densité 3 frame**

Description

Housing frame with (1) PSU (AC IN), (1) Ethernet controller with front control panel, blank rear panels (up to 10 LGK-3901 processors per 3 RU frame)

Options

|                          |                                                               |
|--------------------------|---------------------------------------------------------------|
| <b>LGK-3901-OPT-TXT</b>  | Easytext character generator (includes analog/digital clocks) |
| <b>LGK-3901-OPT-EAS</b>  | EAS support – U.S. only                                       |
| <b>LGK-3901-OPT-AUD</b>  | Audio/voiceover option                                        |
| <b>LGK-3901-OPT-TEMP</b> | Temperature probe option                                      |
| <b>LGK-3901-8GB-UPG</b>  | Upgrade to 8 GB storage                                       |
| <b>LGK-3901-16GB-UPG</b> | Upgrade to 16 GB storage                                      |
| <b>LGK-3901-HD-UPG</b>   | Upgrade from SD to 3G/HD for LGK-3901-SD                      |
| <b>Remote control</b>    | GV Orbit, iControl, iControl Solo                             |



LGK-3901-3DRP-R

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