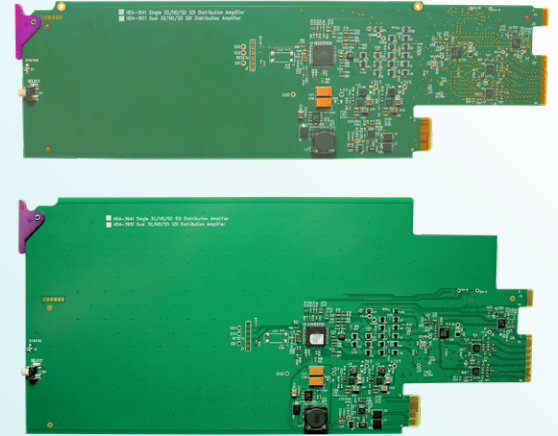


# HDA-1951 HDA-3951

## Dual Channel 3G/HD/SD SDI Video Distribution Amplifiers



Dual Channel DAs for Densité 2 and Densité 3 frames.

The HDA-1951 (for Densité<sup>®</sup> 2 series) and HDA-3951 (for Densité 3, Densité-3+ and GV Node™ series) are dual channel 3G/HD/SD SDI video distribution amplifiers from Grass Valley<sup>®</sup>, designed for broadcast and production facilities. The two cards are functionally identical.

The HDA-1951/3951 DAs support a variety of compressed and uncompressed serial digital video

signals, with up to dual 1x5 outputs. The HDA-1951/3951 provides up to ten reclocked outputs with automatic inputs equalization for up to 185 meters (656 feet) of cable using Belden 1694A at 1.5 Gb/s and up to 100 meters (328 feet) at 3 Gb/s.

Critical application protection is provided by optional bypass relays available on selected rears.

The HDA-1951 and HDA-3951 are dual channel DAs, while the complementary HDA-1941 and HDA-3941 are single channel DAs sharing the same performance quality, but with a lower density and more outputs per DA. See the HDA-1941/3941 datasheet for more information.

### Key Features

- Dual 3G/HD/SD SDI inputs
- Supports bit-rates up to 2.97 Gb/s
- Automatic format detection and cable equalization
- All outputs are DVB-ASI compatible
- Up to 8 3G/HD/SD SDI outputs on the HDA-1951 (2 RU)
- Up to 10 3G/HD/SD SDI outputs on the HDA-3951 (3 RU)
- 2 RU and 3 RU versions have the same functionality and performance
- Optional bypass relay protection on both inputs available

## Specifications

### Electrical Inputs (1 or 2)

#### Signal:

SMPTE ST 259-C (270 Mb/s)  
 SMPTE ST 292 (1.485, 1.485/ 1.001 Gb/s)  
 SMPTE ST 424 (2.970, 2.970/ 1.001 Gb/s)  
 EN50 83-9 DVI-ASI (270 Mb/s)

#### Cable length:

350m (1312 ft.) Belden 1694A at 270 Mb/s  
 185m (656 ft.) Belden 1694A at 1.485 Gb/s  
 100m (328 ft.) Belden 1694A at 2.970 Gb/s

#### Return loss:

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

### Electrical Outputs (Up to 10)

#### Signal:

SMPTE ST 259-C (270 Mb/s)  
 SMPTE ST 292 (1.485, 1.485/ 1.001 Gb/s)  
 SMPTE ST 424 (2.970, 2.970/ 1.001 Gb/s)  
 EN50 83-9 DVI-ASI (270 Mb/s, all outputs)

#### Return loss:

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

#### Jitter (wideband): <0.2 UI p-p

### Rise/fall time:

#### Reclocker on:

<135 ps, 20% to 80%, for HD and 3G  
 400 – 800 ps, 20% to 80%, for SD

#### Reclocker off: <135 ps for all formats (3G, HD, SD)

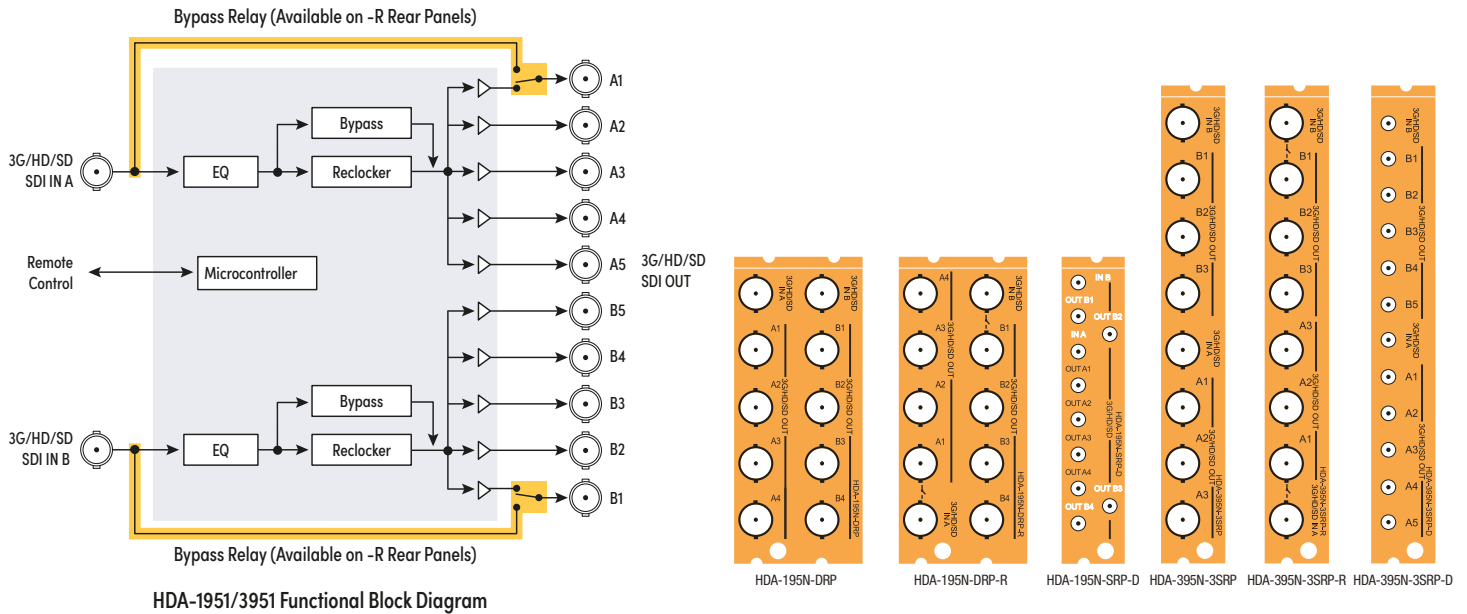
### Processing Performance

#### Signal path: 10 bits

#### Processing delay: 7 ns typical

### Electrical

#### Power: 2.1W max.



## Ordering

### Densité 2 frame

HDA-1951  
 HDA-195N-DRP  
 HDA-195N-DRP-R  
 HDA-195N-SRP-D

### Densité 3 frame

HDA-3951  
 HDA-395N-3SRP  
 HDA-395N-3SRP-R  
 HDA-395N-3SRP-D

### Description

Dual Channel 3G/HD/SD SDI Video Distribution Amplifiers  
 Double rear for dual 1x4 operating mode with BNC connectors  
 Double rear for dual 1x4 operating mode with bypass relays and BNC connectors  
 Single rear for dual 1x4 operating mode with DIN connectors  
 Single rear for dual 1x3 operating mode, with BNC connectors  
 Single rear for dual 1x3 operating mode, with bypass relays and BNC connectors  
 Single rear for dual 1x5 operating mode, with DIN connectors

### Remote control

GV Orbit®, iControl™, iControl Solo

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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