

Hi5 HD-SDI/SDI To HDMI Video and Audio Converter User Manual



HDMI™
HIGH DEFINITION MULTIMEDIA INTERFACE

AJA®
VIDEO SYSTEMS

December 17, 2008 P/N 101663-01
For Hi5 Serial Number 13899 or Later

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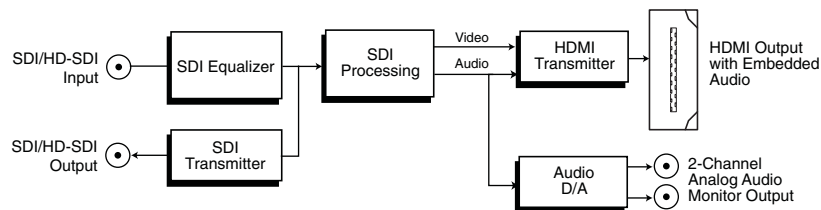
Introduction

The Hi5 converts SDI or HD-SDI to HDMI for driving HDMI monitors. Embedded SDI/HD-SDI audio is supported in the HDMI output allowing a convenient single cable audio/video connection. The Hi5 provides 2 Channel RCA style audio outputs for separate audio monitoring if needed. The Hi5 also provides a looping SDI/HD-SDI output useful for connecting additional equipment, or for “daisy chaining” multiple monitors to the same SDI-HD-SDI source.

Features

- SDI/HD-SDI to HDMI
- Full HDMI support including 10-bit video and 8 channels of embedded audio
- Additional 2 Channel RCA jack audio output (channels 1 and 2)
- Equalized Looping SDI/HD-SDI output
- HDMI cable supplied
- Uses 5V power (supply sold separately)
- No configuration necessary

Block Diagram



Hi5 Converter, Simplified Block Diagram

I/O Connections



Hi5 Converter

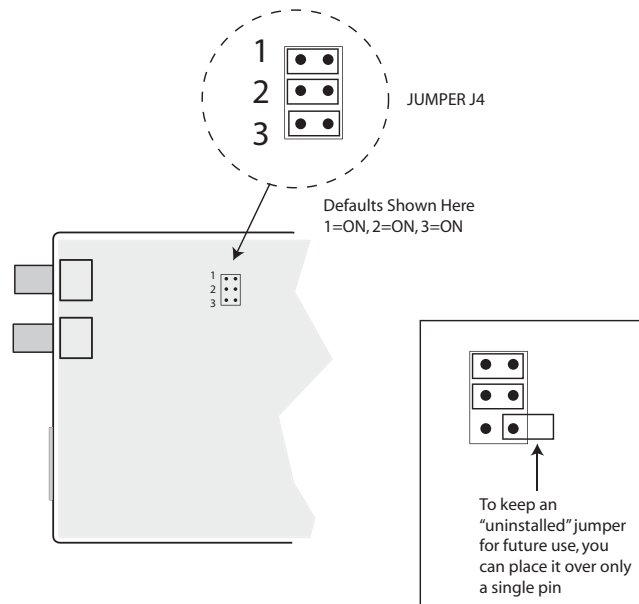
User Controls

An internal Jumper block with 3 jumpers (J4) provides controls for HDMI audio, output mode, and 8- or 10-bit video selection. Each of these settings are described below.

Internal Jumper

| Jumper #1 (default = installed) | Jumper #2 (default = installed) | Jumper #3 (default = installed) |
|--|---|---|
| <p><i>Installed (default)</i> = 8-bit RGB 4:4:4 HDMI Video</p> <p><i>Removed</i> = 10-bit YCbCr 4:2:2 HDMI Video</p> | <p><i>Installed (default)</i> = HDMI output mode</p> <p><i>Removed</i> = DVI output mode</p> <p>DVI mode should be used only with DVI-only monitors. Note that most DVI monitors do not work with video rates. Embedded audio is not supported in DVI mode.</p> | <p><i>Installed (default)</i> = 2-channel HDMI audio</p> <p><i>Removed</i> = 8-channel HDMI audio</p> <p>The jumper selects whether 2 or 8 channels of audio will be embedded onto the HDMI output stream. Channels 1 and 2 will always appear on the RCA connectors, regardless of the jumper setting.</p> <p>When the jumper is set for 2-channel HDMI embedded audio, channels 1 and 2 are disembedded from SDI.</p> <p>When the jumper is set for 8-channel HDMI embedded audio, channels 1 through 8 are disembedded from SDI.</p> |

To access this jumper, remove the four phillips screws securing the back side of the Hi5 case. Once the case cover is removed, locate the jumper block. Jumper positions 1 through 3 are clearly marked on the circuit board next to the jumper J4.



[Note: “Removed” jumpers can be stored inside the unit by installing them on only 1 pin

Installation

Typically, Hi5 installation consists of the following steps:

1. Ensure the Hi5 is disconnected from power.
2. Connect video equipment to the convertor BNCs and HDMI connector.
3. Connect audio equipment to RCA connectors (optional)
4. Apply +5VDC power to the converter (AJA power supply model DWP or DWP-U).

Specifications

| Item | Specification |
|---------------|--|
| Input Formats | 525i, 625i, 720p 50/59.94/60, 1080i 50/59.94/60, 1080p23.98, 1080p24, 1080p25, 1080p29.97, and 1080p30 |
| Video Input | HD-SDI/SDI, SMPTE-259/274/292/296 |
| Outputs | HDMI with embedded audio, 24-bit (selectable by internal jumper: 2 or 8 channels) Analog Audio—2 channel RCA-style outputs at -10dBV (nominal), Channel 1 and 2 1 Looping SDI/HD-SDI output of the SDI input (75 ohm, unterminated) |

| Item | Specification |
|-------|--|
| HDMI | Standard Type A connector Video: 8-bit RGB 4:4:4 or 10-bit YCbCr 4:2:2 (selectable by internal jumper) Audio: 24-bit, with 2 or 8 embedded channels (selectable by internal jumper) |
| HDCP | The Hi5 does not encode the HDMI output with HDCP encryption. By definition, SDI/HD-SDI inputs to the Hi5 are unencrypted. The HDMI specification requires HDMI monitors to support unencrypted inputs. |
| Size | 4.6" x 2.4" x 1" (117mm x 61mm x 25mm.) |
| Power | +5 VDC regulated, 3 watts (AJA power supply required: model DWP or DWP-U) |