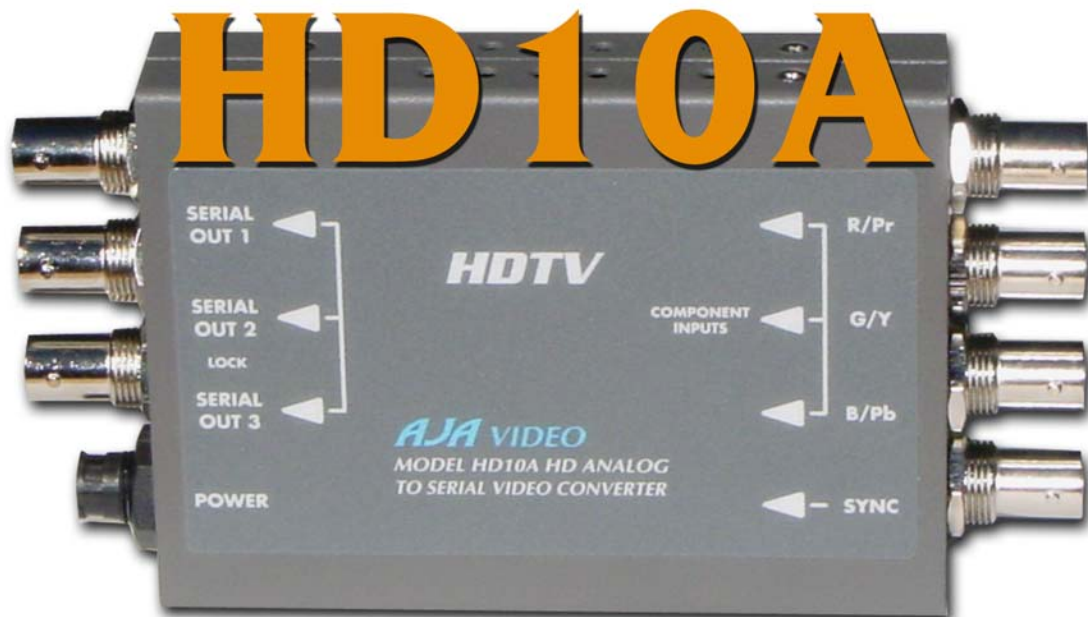


HD10A HDTV Analog to Serial Video Converter

User Manual



AJA
AJA VIDEO SYSTEMS INC

February 22, 2005 P/N 101633-00
For HD10A S/N 00796 and above
Manufactured after 11/2004

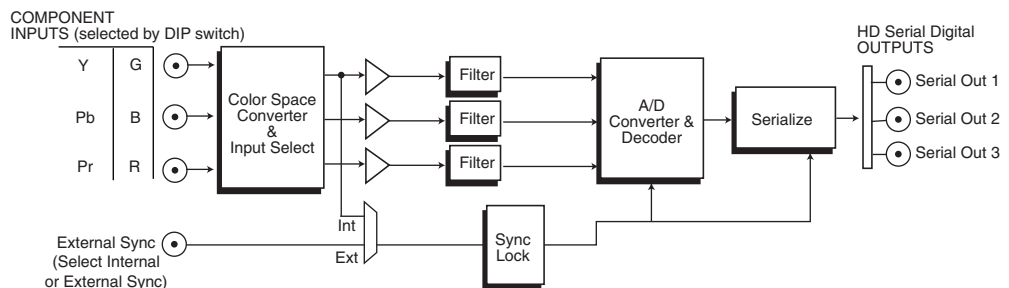
Introduction

The HD10A is a miniature, high-quality, 10-bit analog to digital converter for HDTV. A companion to the popular HD10C2 D/A converter, the HD10A can add an HD-SDI output to cameras, VTRs, or other analog-only high definition equipment. The HD10A accepts RGB or YPbPr analog HD and outputs three duplicate HD-SDI signals. It provides 1080/1035i, 1080p, and 720p with internal or external sync.

Features

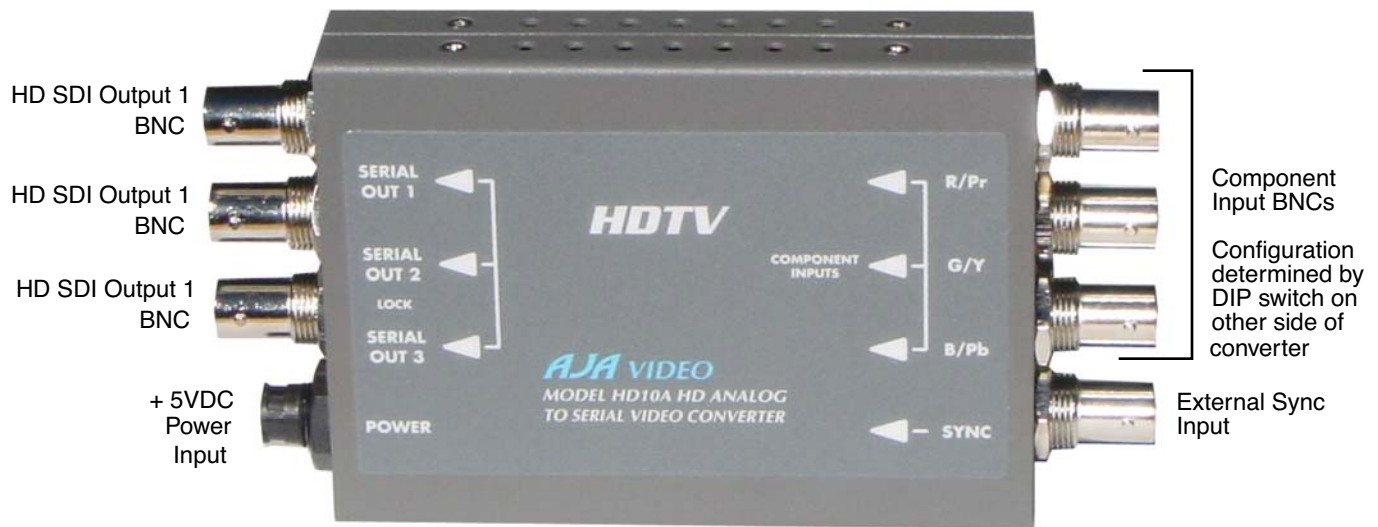
- High-Quality 10-bit HDTV A/D Conversion
- Full Bandwidth Component HD RGB or YPbPr Input
- Three HD-SDI Outputs
- Multi-Standard
- Internal or External Sync
- Optional 12V Power
- External DIP switch user interface for configuration
- Bi-level sync capable (internal jumper)

Block Diagram



HD10A Analog Component to Serial Digital HD Converter, Block Diagram

I/O Connections

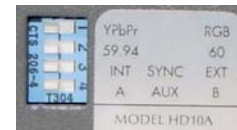


HD10A, Side View

User Controls

The user interface for the HD10A is a 4-switch DIP accessible through a cut-out in the bottom of the unit. Use the DIP switches to configure inputs, vertical frame rate, and select internal or external Sync.

Note: The DIP switch functions have changed during the manufacture of the HD10A. Definitions presented in this manual apply only to units manufactured after November 2004 (serial numbers above 00796).



DIP Switches

LEFT ↔ RIGHT

Switches 1 and 2 configure the input BNCs. Switch 3 selects Sync. The exact function of each DIP switch and what it controls is described on the following pages.

Switch 1—Selects YPbPr or RGB Component Video from the 3 input BNCs

LEFT	RIGHT
YPbPr: Selects YPbPr format component input	RGB: Selects RGB format component input

Switch 2—Select Vertical Framerate for the Component Inputs

LEFT	RIGHT
59.94: Selects 59.94 or 23.98 Hz framerate	60: Selects 60, 25, or 24 Hz framerate

Switch 3—Select Internal/External Sync

LEFT	RIGHT
Selects Internal sync	Selects External sync

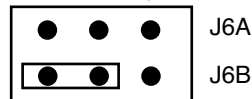
Switch 4—Not Functional

Setting Internal Jumper for Bi-level or Tri-level Sync

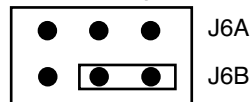
There is an internal jumper used for selecting Bi-level or Tri-level. The jumper is set at the factory to a default setting of Tri-level sync. To change this jumper setting, follow this procedure:

1. Remove the bottom converter cover by removing the screws securing it, and then sliding it off.
2. Locate the jumper on the circuit card inside and change it to one of the settings shown in the diagram below:

For Tri-level Sync (default):



For Bi-level Sync:



Installation

Typically, HD10A installation consists of the following:

1. disconnect +5VDC from the convertor
2. configure the DIP switch for the desired equipment configuration and video formats
3. connect video equipment to the convertor BNCs
4. apply +5VDC power to the converter (AJA power supply model DWP)

Specifications

Item	Specification
Component Inputs	YPbPr, RGB (SMPTE-274), 3 BNCs
External Sync Input (optional)	If used, supplies Sync; if not used Sync is generated internally
HD Serial Outputs	HD-SDI, SMPTE-292/296, 3 BNCs

Item	Specification
Output Formats	SMPTE-292 1080i 50/59.94/60 Hz 1080p sf 23.98/24 1035i 50/59.94/60 Hz 720p 23.98/24/29.97/30/59.94/60 Hz
Frequency Response	+/- .5dB to 30MHz (Y) +/- .25dB to 15MHz (C)
Power (AJA power supply model DWP)	5v DC regulated, 4.5 watt
Size	5.8" x 3.1" x 1"(147 x 79 x 25mm)