
LVDS-to-Analog HD Converter

Model 3101

Hardware Manual

Ver. 1.0.0 | June 2020

SENSORAY | embedded electronics



Designed and manufactured in the U.S.A

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Limited warranty

Sensoray Company, Incorporated (Sensoray) warrants the hardware to be free from defects in material and workmanship and perform to applicable published Sensoray specifications for two years from the date of shipment to purchaser. Sensoray will, at its option, repair or replace equipment that proves to be defective during the warranty period. This warranty includes parts and labor.

The warranty provided herein does not cover equipment subjected to abuse, misuse, accident, alteration, neglect, or unauthorized repair or installation. Sensoray shall have the right of final determination as to the existence and cause of defect.

As for items repaired or replaced under warranty, the warranty shall continue in effect for the remainder of the original warranty period, or for ninety days following date of shipment by Sensoray of the repaired or replaced part, whichever period is longer.

A Return Material Authorization (RMA) number must be obtained from the factory and clearly marked on the outside of the package before any equipment will be accepted for warranty work. Sensoray will pay the shipping costs of returning to the owner parts that are covered by warranty. A restocking charge of 25% of the product purchase price will be charged for returning a product to stock.

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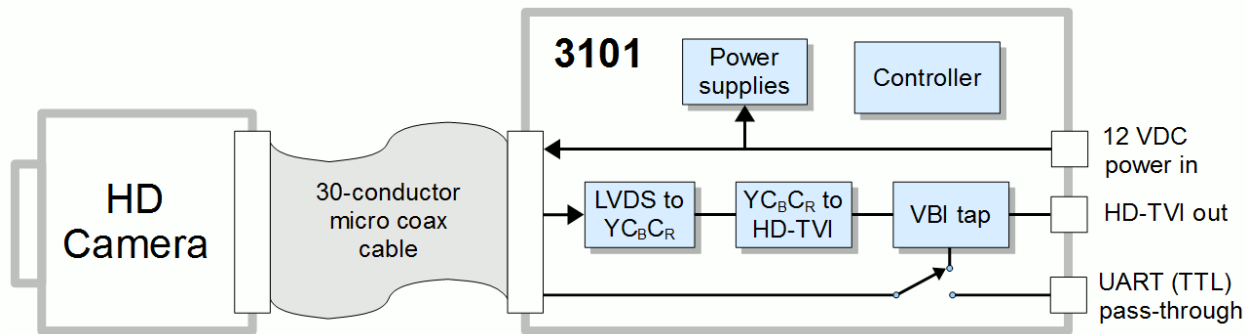
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Introduction

Model 3101 converts LVDS output from HD cameras (Sony FCB-EV7520A, and similar) to analog HD (HD-TVI). It is manufactured in the form of a printed circuit board that can be mounted directly on top of the camera. The 3101 incorporates power and RS-232 connectors and connects to the camera with a 30-wire microcoaxial cable (sold separately). It allows extending the distance between a high quality camera and a video capture device from several inches of LVDS cable to 1,000 feet or more of coaxial.

When used with some of Sensoray's video capture devices or DVRs, model 3101 allows "channeling" bidirectional RS-232 communications with the camera over the same coaxial cable that carries video, facilitating PTZ control and camera setup.

Block diagram



Connectors

J1, power

Molex 5023520210. Mating part: Molex 5023510200. Crimping contacts: Molex 0561618081.

Pin	Signal
1	ground
2	+ 12V DC

J2, HD-TVI output

Molex 0734151631. Recommended adapter cable: Samtec MCX-to-BNC socket assembly RF179-72RP1-74BJ3-0100 (75 Ohm).

J3, UART

Molex 0530470310. Mating part: Molex 0510210300. Crimping contacts: Molex 0500798000.

Pin	Signal
1	Camera's UART RX ¹⁾
2	Camera's UART TX ¹⁾
3	ground

Note 1. TTL levels

Configuration switches

A set of 4 DIP switches allows configuring some operating modes of the 3101.

SW1, LED control

ON (default) - on-board LEDs are on.

OFF - on-board LEDs are off.

SW2, UART control

OFF (default) - camera's UART connected to the on-board microcontroller for RS-232 channeling over coaxial cable.

ON - camera's UART connected to connector J3 (TTL levels).

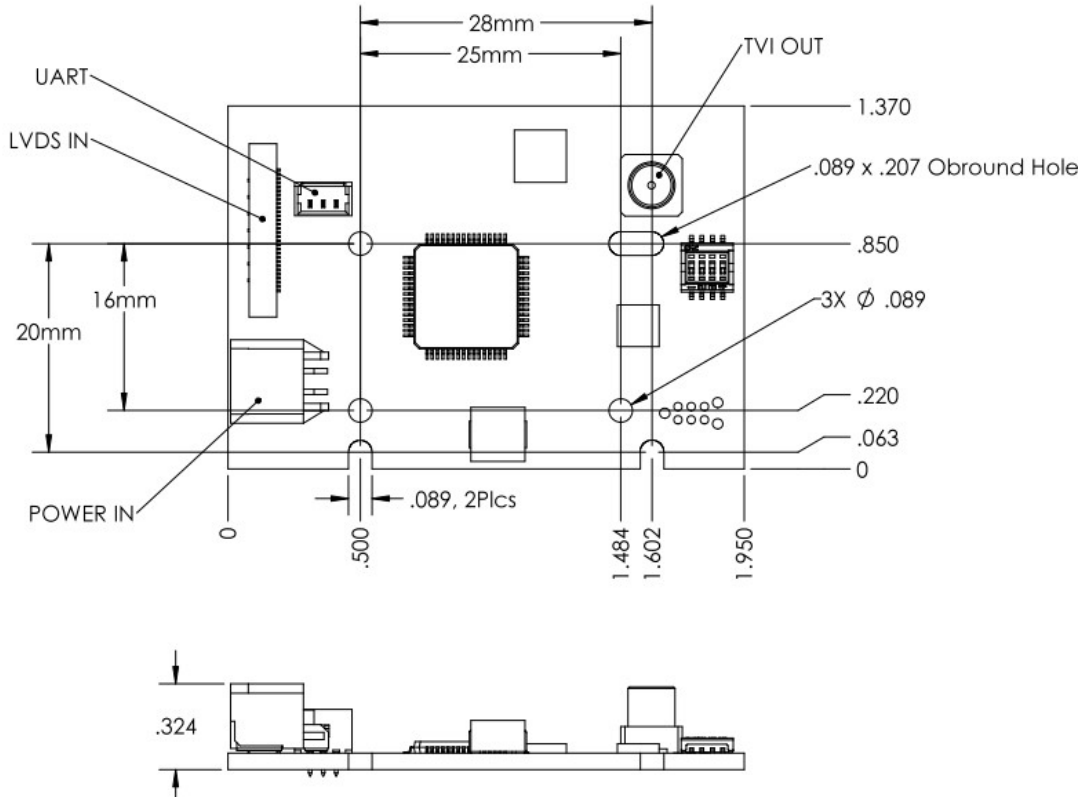
SW3, SW4, video format selection

SW3	SW4	Video format
OFF	OFF	1080p30
OFF	ON	1080p25
ON	OFF	720p60
ON	ON	720p50

Mechanical

Mounting holes are provided for intallation directly on the following cameras:

- Sony FCB-EV7520A,
- KT&C ATC-HZ7810.



Accessories

A 30 conductor microcoaxial cable (KEL connectors) is available from Sensoray (<http://www.sensoray.com/products/3101.htm>).

Specifications

Video Input/Output	
Input video formats	720p60/50, 1080p30/25 (LVDS)
Video output	HD-TVI
Special features	
RS-232 channeling	Requires a Sensoray device on the receiving end (models 2231, 4023, or other with model 3101 serial communications support)
RS-232 configuration	9600-8-1-none-none
Electrical, mechanical and environmental	
Dimensions	approximately 50x35 mm
Mass	10 g
Operating temperature	0° to 70° C
Power consumption	12 V, 0.75 W (excluding camera power).
Camera power	12 V, 0.9 A max
Mounting holes	Sony FCB-EV7520A KT&C ATC-HZ7810

Revision history

Version	Notes
1.0.0, June 2020	Initial release.