

TL7071 is a small form factor module for receiving 3G/HD-SDI video based on optical fiber. Incoming video is deserialized, decoded and converted to DVI (HDMI). In addition jitter is removed from deserialized video before it is serialized again for output over BNC and MCX coax interfaces.

TL7071 can be used as optical receiver unit for optical 3G/HD video transmission systems using TL7070 or any other SMPTE297M-2006 compliant optical transmitter device.

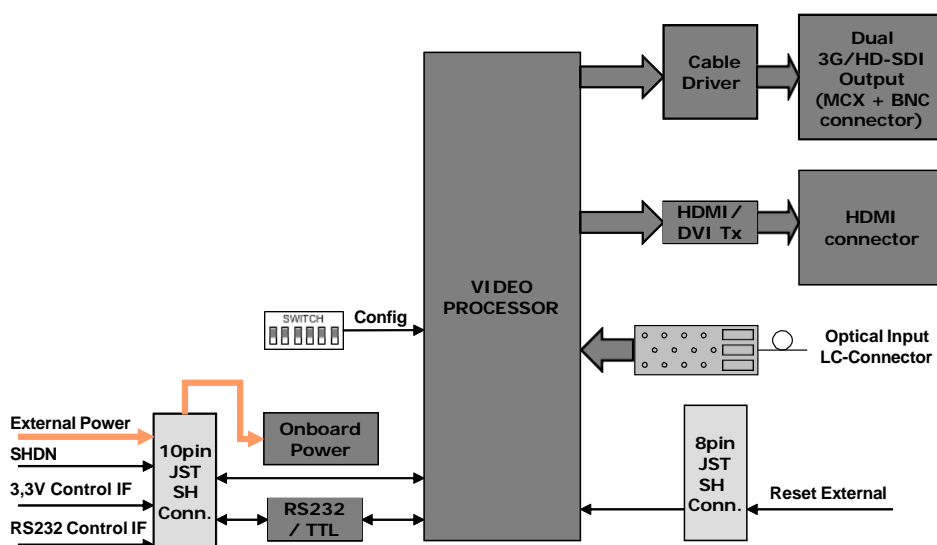
TL7071 - Features

- + Optical 3G/HD-SDI input based on SFP compatible receiver
- + Optical SFP receiver 1260nm-1620nm/10km/LC for SMF included
- + Input compliant to SMPTE297M-2006 serial optical 3G/HD video standards
- + Automatic video standard detection
- + Input signal jitter removal
- + Format conversion for DVI (HDMI) RGB output
- + Reclocked 3G/HD-SDI BNC + MCX coax outputs
- + 3G/HD-SDI outputs compliant to SMPTE425M/424M/292M/274M/296M
- + SMPTE425M level A, mapping structure 1
- + Selectable serial control interface (RS232 or 3.3V TTL)
- + Supply voltage: 5V to 12V DC regulated



**BNC + MCX Coax
3G/HD-SDI,
HDMI Output**

Block Diagram TL7071



WARNING
Class 1 Laser
Product

Order Codes:

TL7071

Optical 3G/HD-SDI receiver with dual coax HD-SDI output plus DVI (HDMI) output

TL7071CK

Cable Kit for TL7071

Power, Environment and optical Input Specification

POWER:

Input operating voltage (DC IN): 5V TO 12V DC regulated

Power dissipation:

- TL7071 in 3G operation mode, video standard 1080p59.94
- BNC and HDMI cables connected
- $P_D = 4W$

Power dissipation value conditions:

- Input operating voltage 12V DC
- Ambient temperature +25°C/77°F
- Humidity 30%

OPERATING CONDITIONS:

Ambient temperature (min/max): -5°C/+60°C = 23°F/140°F
Humidity: 20%-80%

STORAGE CONDITIONS:

Temperature (min/max): -20°C/+60°C = -4°F/140°F
Humidity: 20%-80%

OPTICAL INPUT (SFP module Viita RM3-S1-4103K-R or equivalent):

For single mode fibre (9/125), LC connector, wavelength = 1260nm up to 1620nm
Optical receiver sensitivity @2.97Gb/s: -18dBm minimum

Reset/Power Down

During power up all functions on TL7071 are reset and initialized.

A manual system reset can be applied by pulling pin no. 5 of connector J1 to 0V (GND). This resets all onboard circuits. System reset can be used to switch TL7071 in power down mode.

Cable Kit Contents

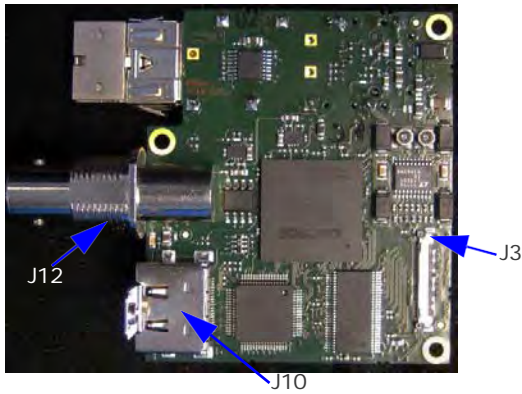
TL7071CK, Cable kit for TL7071:

1 pcs. - 10pin flying leads cable for power and control, lead length = 15cm / 5.9inch

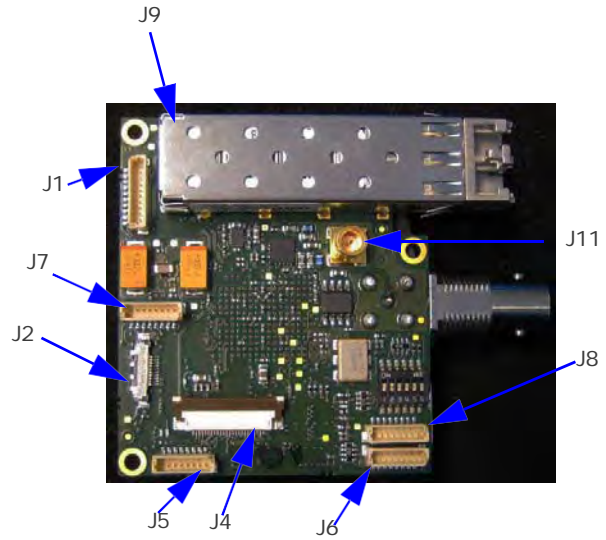
SAFETY NOTE: All digital inputs are specified for maximum voltages of 3.3V (+5%).

Onboard Connectors

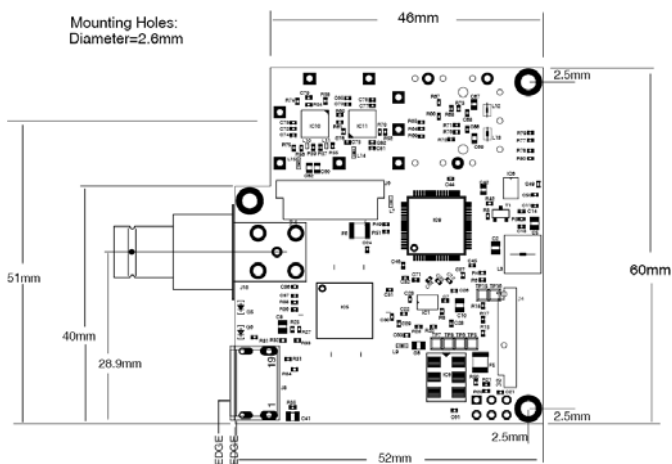
PCB Top Side:



PCB Bottom Side:



Board Mechanical



Maximum bottom component height = 11.0mm (SFP cage)
 Maximum top component height = 11.0mm (BNC connector)
 PCB thickness = 1.5mm

SAFETY NOTE: All digital inputs are specified for maximum voltages of 3.3V (+5%).

Pin Assignment of Onboard Connectors

J10 HDMI output connector type is HDMR Samtec No. 19-02-F-SM

J1 JST BM10B-SSRS-TB

Power and Control IF

- 1 DC IN (5V to 12 V DC)
- 2 DC IN (5V to 12 V DC)
- 3 GND (0V)
- 4 GND (0V)
- 5 Reset / Shut Down, pull to GND to reset/shut down TL7071
- 6 GND (0V)
- 7 TXD_TTL (serial IF transmit, 3.3V)
- 8 RXD_TTL (serial IF receive, 3.3V)
- 9 RXD_232 (serial IF receive, RS232 level)
- 10 TXD_232 (serial IF transmit, RS232 level)

Only one serial IF should be connected, not both simultaneously

J11 75 ohms MCX jack, 3G/HD-SDI output

J12 75 ohms BNC jack (CEI XBV1049-NAAY), 3G/HD-SDI output

J5, J6, J7, J8 reserved, do not connect

J9 SFP Compatible Optical Receiver

Operation Mode Setting

The TL7071 operation mode is selected by dip switch (T1).



Switch	Function
1	RESERVED Keep OFF at all times
2	RESERVED Keep OFF at all times
3	FOR FACTORY USE ONLY Keep ON at all times
4	RESERVED Keep OFF at all times
5	RESERVED Keep OFF at all times
6	RESERVED Keep OFF at all times

*for reset, pull to GND for one second or longer

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