3G/HD-SDI Premium
For LVDS zoom block cameras

Twiga Vision & Innovation

Take advantage of a high quality, low jitter and uncompressed HD video stream.

*Twiga **3G-SDI Premium*** converts the native LVDS video signal from camera blocks to **3G/HD-SDI** and **Analog video** standards.

FEATURES

- **3G/HD-SDI** video output
- Automatic LVDS & format camera recognition
- Video resolution up to 1080p60
- **Analog** video output:
  - Composite video (CVBS)
  - S-Video (Y/C)
  - Component video (YPbPr)
- Multiple format possibilities:
  - Letter box
  - Squeeze
  - Crop
- **UART** Communication – RS232/TTL using VISCA
- **Setup & Update** via UART
- Video mode selection by DIP switches
- Power supply **7V-12VDC**[1]

[1] Refer to camera technical manual to know the input power supply.

o High Quality SDI Interface

Using coaxial cables with very low power loss, enables **video transmission over 100 meters**. This distance can be increased up to 300 meters using equalization at the receiver.

The dual output 3G and Analog will significantly reduce the number of boards, improving the cost and time-to-market.

o 3G-SDI Core

The 3G-SDI Premium module is based on a **FPGA** associated with **DDR3 memory**. Combined with **Twiga's expertise**, complex **image processing** functions can be embedded on real time video flow such as colorimetry tests, measurements, reticules, contrast enhancement, ROI extraction, OSD and even more functions to fit your applications.

o Add-on Connector for Custom Functions

The add-on connector on the bottom side **offers** an infinity of **new functionalities**. The 3G-SDI Premium can be **directly mounted** into your system/end-products (plug-in) or connected to **custom designed add-on board**[1]. Integrated RTC, audio embedded to SDI, second video input are some examples of the new possibilities / range of functionalities.

[1] Twiga offers off-the-shelf solutions and/or designs custom add-on board to meet your needs. Contact us for more details.

TARGET APPLICATIONS

Medical imaging Low vision — Traffic / Rail / Transport — Defence / Security / Aerospace — Sport Entertainment Broadcast

Onboard Connectors

J4	Analogue HD/SD output + COM
1	CVBS OUT
2	GND
3	UART-RX
4	UART-TX
5	GND
6	Pr / SC OUT
7	GND
8	Pb / SC OUT
9	GNC
10	Y / CVBS OUT

J901	GPIOs
1	GND
2	Zoom +
3	Zoom -
4	Focus Auto/Manual
5	Focus Near
6	Focus Far
7	Freeze On/Off

J2	LVDS camera block input

J5	External Power supply
1	GND
2	7 to 12V DC

J6	MCX / BNC / SMB compatibility

DIP switches				Configuration
1	2	3	4	
OFF	/	/	/	RS232
ON	/	/	/	TTL
/	OFF	OFF	OFF	External
/	OFF	OFF	ON	1080p30
/	OFF	ON	OFF	1080p25
/	OFF	ON	ON	1080p60
/	ON	OFF	OFF	1080p50
/	ON	OFF	ON	720p60
/	ON	ON	OFF	720p50
/	ON	ON	ON	720p30

J1000	Board to board connector
	Extended functionalities

Functions	Specifications
Digital video output	3G-SDI SMPTE 424 M, HD-SDI 292 M
Analog video output	CVBS, YPbPr, Y/C – PAL/NTSC compliant
Video output standard configuration	DIP switches*
Camera control	VISCA – RS232 / TTL level (selectable via DIP switch)
Power supply	7 to 12 VDC
Power consumption	6 W (including camera)
Operating temperature range	0°C to 60°C
Storage temperature range	-20°C to 60°C
Regulation	CE EMC compliant, PCB : UL 94 V0
Dimensions (mm)	48 (H) x 45 (W) x 13 (D)
Weight	**15 g**

P/N Electronic Board:	TV10 0090 3G/HD-SDI Premium	
P/N Accessory kit:	**TV50 0020: Mounting kit**	**TV50 0021: Cable kit**
30 way USL20-30SS-012-C Cable assembly	✓	✓
2 way cable - power supply	✓	✓
10 way cable - COM	✓	✓
7 way cable - GPIOs	✓	
Right angle black anodized aluminum bracket	✓	
Screws + spacers	✓	
Digital video output connector options	BNC SMB MCX	without connector

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