SDI/Optical Fiber Mini Converters

20100477 3G-SDI Tally and 20km SM SFP
20102851 3G-SDI Tally no SFP
20102889 3G-SDI Tally and 500m MM SFP
20102890 3G-SDI RS485 and 500m MM SFP
20102891 3G-SDI RS485 and 20km SM SFP

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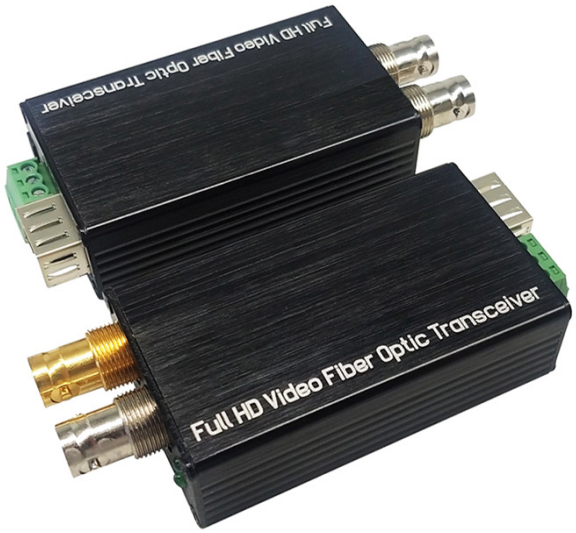
Installation and Operation Guide



Introduction

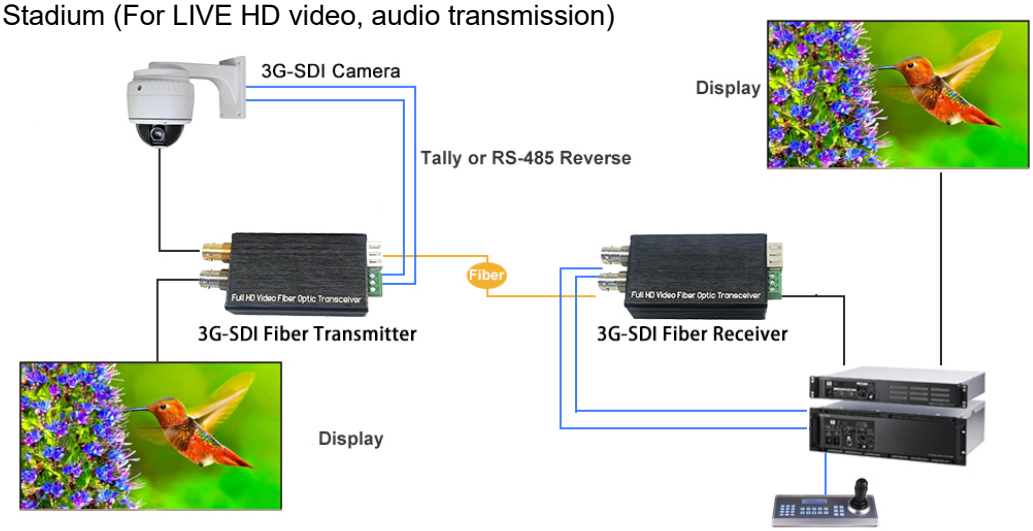
20100477 Series Mini-type 3G/HD-SDI Fiber Converter supports 1-channel 3G/HD-SDI Video & Tally signal transmitted via fiber optical cable, and monitor the signal locally over a 3G/HD-SDI loop output. These Video over Fiber Converters includes one transmitter and one receiver for 1080P 3G/HD-SDI signal. Versions that only handle HD-SDI is possible as an Option

Features

- Each channel includes 8-channel audio embedded;
- Automatic cable equalization, used for all rate below 3.2 Gb/s (Belden 1694A);
- Automatic reclocking 270Mbit/s - 1.48Gbit/s - 3Gbit/s
- Directly compatible with HD-SDI camera systems
- Long transmission capability up to 80 km
- Hot swap and hot plug;
- Handle all Pathological patterns, fully digital non-compression broadcast level transmission;
- LED Status Indication to monitor the working conditions;
- Super optic dynamic range and free of adjustment;
- 1470~1610nm CWDM wavelengths optional;
- Industry level ultra-broad temperature range (-40℃~+70℃), adaptable to various environments.

Application

- Animal films recording
- Live events broadcast over fiber
- High performance(error-free) surveillance networks in Army or security;
- Large video wall system
- Intelligent Traffic Monitoring System
- Security systems
- Industrial monitoring (Electricity, Chemistry, Steel, Oil, Railway & etc)
- Military Monitoring (Warehouse, Border, Guards, etc)
- Stadium (For LIVE HD video, audio transmission)



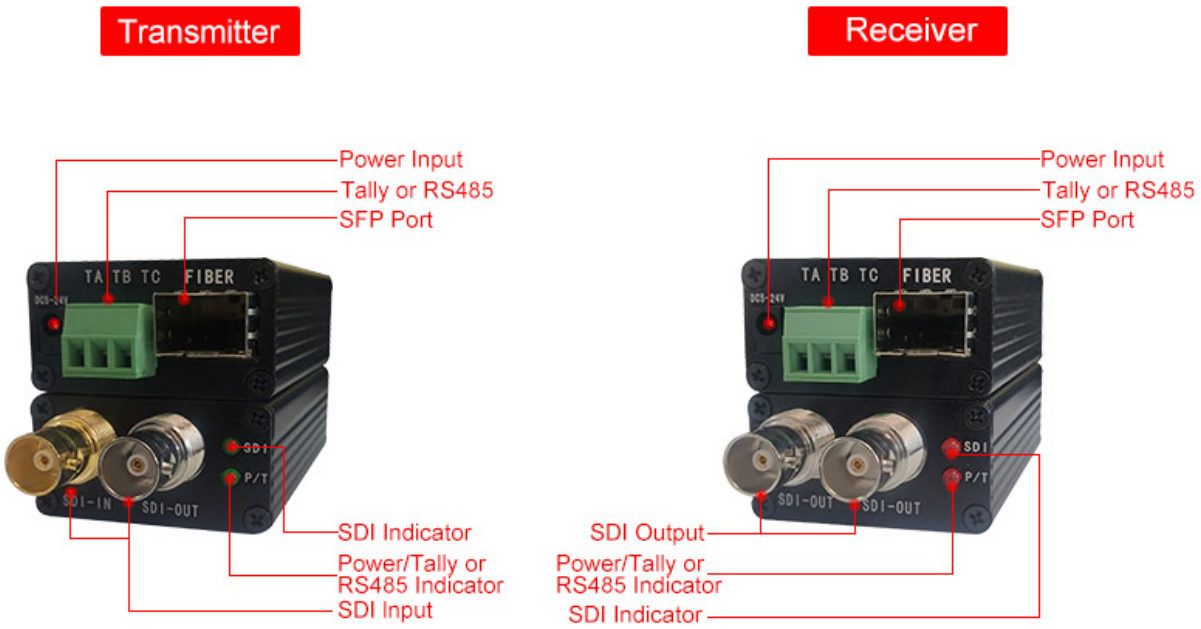
Specifications

Fiber Optical interface	
Fiber interface	Simplex LC for SMF, MMF and CWDM duplex LC
Transmission distance	550m-20Km-60km
Wavelength	850nm/1310nm/1550nm/CWDM
Video	
Video interface	BNC
Video input/output impedance	75Ω
Video input/output voltage	Typical:1Vpp, Min 0.5Vpp, Max 1.5Vpp
Video Bits Rate	Max 3.2Gb/s
Differential gain (10% ～ 90% APL)	<1%
SDI format support	625/25 PAL
	525/29.97 NTSC, 525/23.98 NTSC
	720p50, 720p59.94
	1080i 23/24/30/50/59.94
	1080P 23.98/24/30/50/60
Video SDI standard	270Mbps (SD-SDI), 1.485Gbps/M(HD-SDI)
	SMPTE425M3Gb/s Mapping(3G-SDI)
	SMPTE424M 3Gb/s serial interface(3G-SDI)
Data	
Physical interface	Industrial standard screw terminal
Data type	Tally or Reverse RS485
Frequency/Rate support	Max. 115200bps for RS422 Max. 57600bps for RS485
BER	$<10^{-9}$
Electrical	
Power adaptor	DC 5~25V
Power consumption	<5W
LED Indicator	
SDI	SDI video
P/T	Power Supply
Mechanical	
Dimensions (L x W x H)	80 x 40 x 20 mm
Weight	1KG/pair
Casing	Aluminum Case
Mounting Options	Desktop
Environmental	
Working Temperature	-20℃～+70℃
Storage Temperature	-40℃～+80℃
Working Humidity	0~95%
MTBF	≥100000 hours

POWER REQUIREMENT

1. DC 5~12V/1A
2. Power supply ripple less than 100mV
3. The selected power supply unit should fit for the environment.

Interface & LED overview



Instruction of installation

1. **Before you install**

   Check the product upon receipt for any visible damage which may have been caused during shipment.

   （1） **Package Content:**

   SDI Fiber Transmitter x 1

   SDI Fiber Receiver x 1

   Power Adapter x 2

   User Manual x 1

   （2） Please read the user's manual carefully before you install the product.

   （3） Please read safety instruction carefully

   （4） Do not open the device;

   （5） Please note the sticker on the devices, T is transmitter, R is receiver.

2. **Procedure of installation**

（1） Connect optical Transmitter and camera or other output device. And connect with fiber. Then power device on.

（2） Connect optical Receiver and monitor. And connect with fiber. Then power device on.

3. **TALLY or Reverse RS485 Connection:**

Transmitter TALLY or RS485 Signal Output Connection: (Can drive the LED indicator directly)

	TA	TB	TC
LED ON	LED -	LED +	N/A
LED OFF	N/A	LED+	LED-
Reverse RS485	Data+	Data-	N/A

Receiver TALLY or RS485 Signal Input Connection: (LED load type is only suitable for OC drive LED - driver)

	TA	TB	TC
Tally	Signal Input	Com	Com
Reverse RS485	Data+	Data-	N/A

Responsibility instruction

（1） Customer will take the responsibility for the loss if returns/replacement is damaged during transportation.

（2） Please contact us directly if devices are damaged during transportation from our side.

（3） We'll not be responsible for the damage if devices are damaged with customers' own power supply.

（4） Please use the power supply strictly as per the user's manual.

（5） The user's manual can't be printed personally or spread via internet without our permission.

（6） We'll not be responsible for anyone who amend the manual or add some features our product. This may cause damage for other external devices.

（7） We will repair/replace for the faulty devices which still under the warranty.

（8） Please recycle the packing of device, there we have only one earth.

Safety

BE CAREFUL!
WARNING THIS LABLE REMINDS YOU THIS EQUIPMENNT MAY DO HARM TO YOU.

TAKE CARE OF ELECTRIC SHOCK!
WARNING THIS LABLE REMINDS YOU THIS EQUIPMENNT MAY DO HARM TO YOU OR YOUR PROPERTY.

Instructions

In order to save the loss, please read the following item carefully.

The product has a good reliability on original design. But still need avoid human damage.

1. Please read the instruction carefully, and keep it well;
2. Please keep the device away from water or other damp place;
3. Please don't cover anything on the wire of power supply and arrange it a safe place;
4. Please connect all part tightly, especially the power supply unit with the socket;
5. When power devices on, please make sure the power supply you are using can meet the below request:
   1) AC output: 220V (100～260V), 50～60Hz
   2) DC output: 5~25V/1A
6. Please cut off the power and contact us with below situation.
   1) Water ruin the equipment
   2) Devices break (including the shell break)
   3) Devices work abnormally
   4) Gas, smog or noise from equipment.
7. Do not repair the device on your own.
8. Please arrange thunder protect device when install the product outdoor.

Fault analysis

You can consider to pick the below solutions to settle down the issues you have when you install the devices.

1. **POWER LED can't work normally:**

   Please check whether the power connection is well.

2. No video signals

Please check the video LED of receiver

1) SDI LED on, means here has video signal output in this channel. Please check the connection of end equipment (monitor or DVR).
2) SDI LED off, please check whether the LED of Transmitter lights or not. (Here we suggest to restart the device in order to keep the synchronization)
3) If the fault still can't be solved with above solution, please replace with some part number product and check again to exclude the possibility of device.

3. Interfere with snow screen

This is normally caused by attenuation of fiber or long wire between camera and Fiber Transmitter. (PS: please use high quality wire cable and connector.)

1) Please check whether there is over bending of pigtail;
2) Please check whether there is a flange ceramic core connected between fiber port and terminal box;
3) Please check the cleanliness of fiber port and pigtail (please clear with cotton and alcohol), and then insert the fiber again;
4) Please select 75Ω impedance cable when arrange the project line. And please avoid AC line and other object which can cause Electromagnetic interference.