



**ATLONA**  
**8x1 HD/SD-SDI SWITCH**  
**AT-SDI81**

**USER MANUAL**

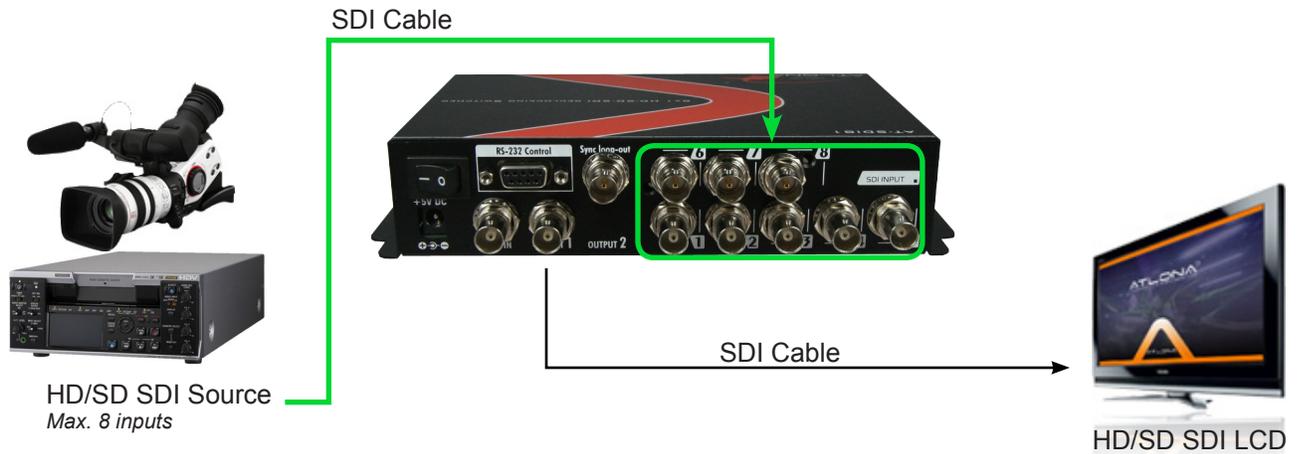


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## INTRODUCTION

This AT-SDI81 receives, equalizes, and reclocks\* up to 8 SDI inputs, perfectly switches the desired input to SDI equipped monitors or receivers. The switch supports both HD/SD-SDI bit rates, and the re-transmitted quality is guaranteed. Through RS-232, IR remote, or front panel push button, the control of the SDI switch becomes versatile and easier. AT-SDI81 offers the most convenient and cost effective means for swift switch and duplication of high quality SDI in the market.



## FEATURES

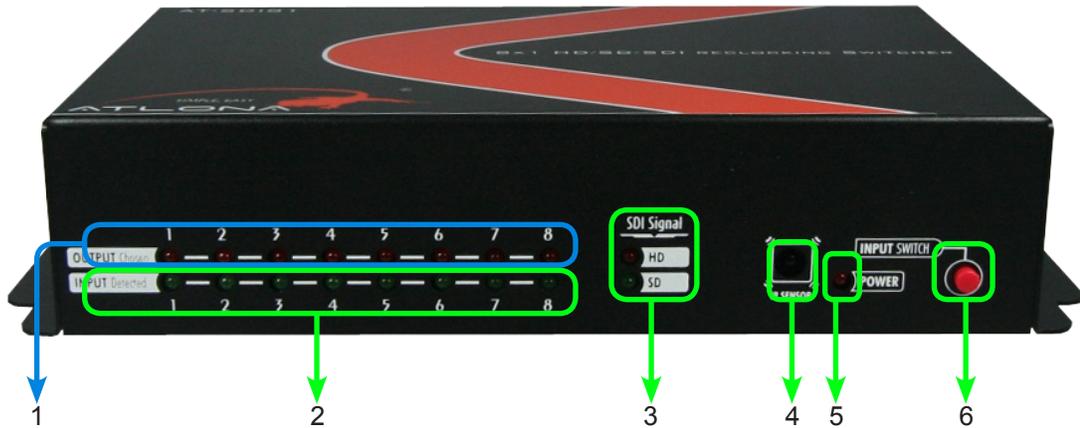
- HD/SD-SDI Switch
- Up to 8 equalized & re-timing SDI inputs\*
- Dual Color indication LED of HD/SD of the output SDI
- Automatic detection of the SDI Input
- Synchronizes input/output (switch after vertical sync)
- Provides the equalized and reclocked\* transmission path up to 300m (1000ft) at SD-SDI or 150m (500ft) at HD-SDI
- Multiple control by RS-232, IR remote, and push button

*\*Optional upon request*

## SPECIFICATIONS & PACKAGE CONTENTS

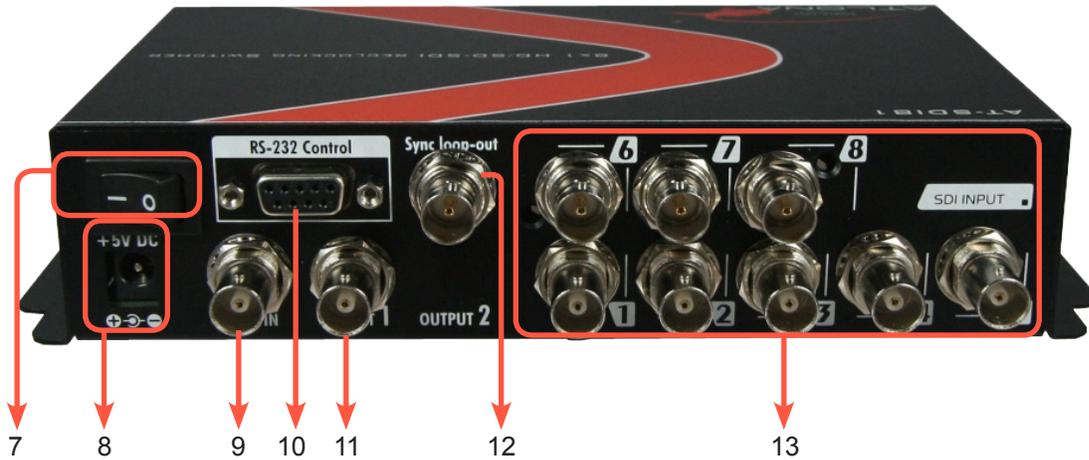
Model Name	AT-SDI81	AT-SDI81	AT-SDI81	AT-SDI82M	
Technical					
Role of usage	5x1 switch	5x2 matrix switch	8x1 switch	8x2 matrix switch	
SDI standards	SD-SDI & HD-SDI				
Auto HD/SD-SDI detection	Yes				
Supported protocols	SMPTE 259M / SMPTE 292M				
Video bandwidth	Single-link [1.485Gbps & 1.485/1.001Gbps]				
Data rates	143 / 270 / 1483 / 1485 Mbps				
Video support	[HD] 720p50/59.94/60, 1035i50/59.94/60, 1080i50/59.94/60, 1080p24/30 [SD] NTSC@59.94Hz, PAL@50Hz				
Output impedance	75Ω				
Reclocking function	Optional upon request				
Cable equalization	[HD-SDI] up to 150m (500ft) / [SD-SDI] up to 300m (1000ft)				
Loop-out	Synchronized BNC loop-out at input and output				
Audio support	Yes				
RP-918 pathological patterns	Immune				
PCB stack-up	4-layer board [impedance control — differential 100Ω; single 50Ω]				
Input	5x BNC [SDI]	5x BNC [SDI]	8x BNC [SDI]	8x BNC [SDI]	
Output	1x BNC [SDI]	2x BNC [SDI]	1x BNC [SDI]	2x BNC [SDI]	
BNC connector	75Ω interlocking socket				
Eye pattern characteristics (HD-SDI)	Amplitude: Within 800mV ±3% (<10%)    Long time jitter: 0.195μ (<1.0μ) Rise overshoot: Less than 2% (<10%)    Timing jitter: 0.195μ (<1.0μ) Fall overshoot: Less than 2% (<10%)    Alignment jitter: 0.127μ (<0.2μ)				
Mechanical					
Housing	Metal case				
Dimensions [L x W x H]	Model	187 x 125 x 43mm [7.4"x4.9"x1.7"]			
	Package	330 x 200 x 95mm [1'1"x7.9"x3.7"]			
	Carton	495 x 440x 380mm [1'7.5"x1'5.3"x1'3"]			
Weight	Model	890g [2.0 lbs]	890g [2.0 lbs]	890g [2.0 lbs]	890g [2.0 lbs]
	Package				
Fixedness	Inter-locked power supply				
Power supply	5V 4A DC				
Power consumption	10 Watts [max]				
Operation temperature	0~40°C [32~104°F]				
Storage temperature	-20~60°C [-4~140°F]				
Relative humidity	20~90% RH [no condensation]				
Package Contents	1x AT-SDI81 / AT-SDI81 / AT-SDI81 / AT-SDI82M 1x IR remote controller 1x 5V power adapter 1x User Manual				

Front Panel



1. Chosen input channel LED
2. Input channel auto detection LED
3. Output HD/SD detection LED
4. IR remote receiver
5. Power indicator LED
6. Push button for input channel switch

Rear Panel



7. Power switch
8. 5V DC power jack
9. Synchronized SDI signal input
10. RS-232 control port for PC control
11. SDI output
12. Synchronized signal loop-out (add 75Ω terminator if not connect)
13. SDI input

**RS-232 transmission format:**

Baud rate : 115200 bps

Data bit : 8 bits

Parity : None

**ASCII Command Mode**

Command	ACK	Description
VR	V2.01a	Read Version V2.01a [Firmware Version]
I1~8		Input Select ( AT-SDI81 & AT-SDI82M [1~8]; AT-SDI51 & AT-SDI52M [1~5])
ST	OUTPUT1	Read Selected Source OUTPUT1 Input one selected ( AT-SDI81 & AT-SDI82M [1~8]; AT-SDI51 & AT-SDI52M [1~5])

**Serial String Mode**

Format:

First byte	Transmission data amount [from first byte to last byte]
0x53	Check code
0x57	Check code
0x30	Check code
0x88	Check code
0xff	*Machine Number
0x01	Command ID
....	Command Parameters
Last byte...	Check sum [Add from first byte to command Parameters]

*Note : If send Machine Number as 0xFF, All switch can receive the command, otherwise the machine number must be the same as the Switcher*

**(a)Set command :**

Command code		Response	Description
DATA	*CHECK SUM	ACK	SET
0x09 0x53 0x57 0x30 0x08 0xff 0x02 0x01~0x08	0xed~0xf4	0xaa 0x03 0x01 0x04	<b>Select input Source</b> 0x09: Command Length 0x53 0x57 0x30 0x08: Check Code 0xff :Machine number 0x02: Command ID 0x01~0x08: Input Source ( AT-SDI81 & AT-SDI82M [0x01~0x08]; AT-SDI51 & AT-SDI52M [0x01~0x05]) 0xed~0xf4: Check sum <b>Ack</b> 0xaa: Header 0x03: Command length 0x01: Selected source 0x04: Check Sum

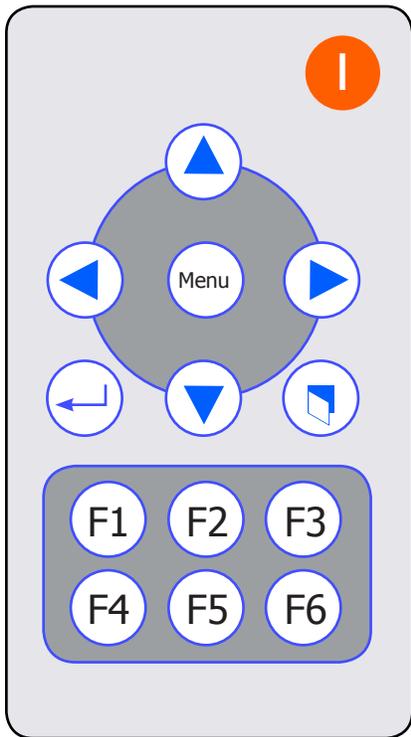
0x08 0x53 0x57 0x30 0x08 0xff 0x05 0x01~0Xff	0xf0~ 0xee	0xaa	<b>Set Machine Number:</b> 0x08: Command Length 0x53 0x57 0x30 0x08: Check Code 0xff :Machine number 0x05: Command ID 0x01~0xff: Machine Number ( 1 to 0xff) 0xf0~0xee: Check sum <b>Ack</b> 0xaa: Header
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**(a)Read command :**

Command code		Response	Description
DATA	*CHECK SUM	ACK	SET
0x08 0x53 0x57 0x30 0x08 0xff 0x01	0xea	0xaa 0x03 0x01 0x04	<b>Read input Source</b> 0x08: Command Length 0x53 0x57 0x30 0x08: Check Code 0xff :Machine number 0xea: Check sum <b>Ack</b> 0xaa: Header 0x03: Command length 0x01: Selected source[source one] ( AT-SDI81 & AT-SDI82M [0x01~0x08]; AT-SDI51 & AT-SDI52M [0x01~0x05]) 0x04: Check Sum
0x8 0x53 0x57 0x30 0x08 0xff 0x03	0xec	0xaa 0x03 0x21 0x24	<b>Read Input Status</b> 0x08: Command Length 0x53 0x57 0x30 0x08: Check Code 0xff :Machine number 0x03: Command ID 0xec: Check sum <b>Ack</b> 0xaa: Header 0x03: Command length 0x21: Input 1 and 6 signal exist [bit0: input one bit1: input two bit2: input three bit3: input four bit4: input five bit5: input six bit6: input seven bit7: input eight] 1: signal exist 0:signal not exist 0x24: Check Sum

0x08 0x53 0x57 0x30 0x08 0xff 0x04	0xed	0xaa 0x03 0xff 0x02	<b>Read Machine Number</b> 0x08: Command Length 0x53 0x57 0x30 0x08: Check Code 0xff :Machine number 0x04: Command ID 0xed: Check sum <b>Ack</b> 0xaa: Header 0x03: Command length 0xff: Machine Number 0x02: Check Sum
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**IR REMOTE CONTROL**



-  Reserved
-  To the right
-  Channel 5
-  Reserved
-  Channel 1
-  Channel 6
-  Reserved
-  Channel 2
-  Channel 7
-  Reserved
-  Channel 3
-  Channel 8
-  To the left
-  Channel 4

## HARDWARE INSTALLATION

1. Connect SDI enable equipments to the output of AT-SDI81.
2. Connect the SDI input sources to the inputs of AT-SDI81.
3. Plug power adapter cable into 5V DC power jack.
4. Use IR remote, RS-232, or front panel push button to switch between input channels.



### Safeguards

To reduce the risk of electric shock, do not expose this product to rain or moisture.

If the wall plug does not fit into your local power socket, hire an electrician to replace your obsolete socket.

Do not modify the wall plug. Doing so will void the warranty and safety features.

This equipment should be installed near the socket outlet and the device should be easily accessible in case it requires disconnection.

### Precautions

FCC Regulations state that any unauthorized changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate this equipment.

Operate this product using only the included external power supply. Use of other power supplies could impair performance, damage the product or cause fires.

In the event of an electrostatic discharge, this device may automatically turn off. If this occurs, unplug the device, and plug it back in.

Protect and route power cords so they will not be stepped on or pinched by anything placed on or against them. Be especially careful of plug-ins, or cord exit points from this product.

Avoid excessive humidity, sudden temperature changes or temperature extremes.

Keep this product away from wet locations such as bathtubs, sinks, laundries, wet basements and swimming pools.

Use only accessories recommended by ATLONA to avoid fire, shock or other hazards.

Unplug the product before cleaning. Use a damp cloth for cleaning. Do not use cleaning fluid or aerosols, which could enter the unit and cause damage, fire or electrical shock. Some substances may also mar the finish of the product.

Never open or remove unit panels or make any adjustments not described in this manual. Attempting to do so could expose you to dangerous electrical shock or other hazards. It may also cause damage to your AT-SDI81. Opening the product will void the warranty.

Do not attempt to service the unit. Instead disconnect it and contact your Authorized ATLONA reseller or contact ATLONA directly.

**1. LIMITED WARRANTY**

Atlona Technologies warrants that (a) its products (the “Product”) will perform substantially in accordance with the accompanying written materials for a period of 3 YEARS from the date of receipt and (b) that the Product will be free from defects in materials and workmanship under normal use and service for a period of 3 years. In the event applicable law imposes any implied warranties, the implied warranty period is limited to 3 years from the date of receipt. Some jurisdictions do not allow such limitations on duration of an implied warranty, so the above limitation may not apply to Customer.

**2. CUSTOMER REMEDIES**

Atlona Technologies and its suppliers’ entire liability and Customer’s exclusive remedy shall be, at Atlona Technologies’ option, either return of the price paid for the Product, or repair or replacement of the Product that does not meet this Limited Warranty and which is returned to Atlona Technologies with a copy of Customer’s receipt. This Limited Warranty is void if failure of the Product has resulted from accident, abuse, or misapplication. Any replacement Product will be warranted for the remainder of the original warranty period or 3 year, whichever is longer.

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