



**ATLONA**  
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## User Manual

# HD/SD-SDI over Optical Fiber Extender AT-SDI10SR-LC

### Receiver



### Sender



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[www.atlona.com](http://www.atlona.com)

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## INTRODUCTION

Atlona Technologies AT-SDI10SR-LC is an ideal and economic solution designed for transmission of multi-rate SDI video, with embedded audio and metadata over a multi-mode optical fiber cable.

The transmitter module receives one HD-SDI electrical input, perfectly converts SMPTE 292M, SMPTE 259M, or DVB-ASI electrical SDI signal to multi-mode optic SDI signals. The receiver module receives optical signal from input LC connector, and then perfectly converts it to electrical SDI signal. Both transmitter and receiver provide equalizing and re-clocking at input unit in order to re-construct the signal for consistent quality.

Atlona AT-SDI10SR-LC is perfect for today's broadcast applications, including video production, video editing, studio to studio and studio to CATV head end. In addition, since transmission of content is inherently secure and immune to outside interference, fiber applications are favored in government, military, and medical environments.

## FEATURES

- Enables transmission of digital video signal over optical fiber up to 10 km (6.25 miles)
- Automatic cable EQ up to 300m (1000ft) at SD-SDI or 150m (500ft) for HD-SDI
- Standard LC-type fiber optic connector
- Supports following protocols:
  - SMPTE 259M (270Mbps)
  - SMPTE 259M (360Mbps)
  - SMPTE 292M / HDTV (1.485Gbps and 1.485/1.001Gbps)
  - DVB ASI (270Mbps)
- Immune to RP-198 pathological patterns
- Automatically reclocked
- One SDI loop-out
- HD-SDI / SDI input signal detection LED

*\*RELOCKING FEATURE: A Reclocking feature first equalizes, then extracts a clock from the signal and cleans up the eye pattern. It is useful to avoid signal loss due to cable length.*

## PACKAGE CONTENTS

- 1x AT-SDI10SR-LC (sender unit & receiver unit)
- 2x 5V DC power supply unit
- 1x User's manual



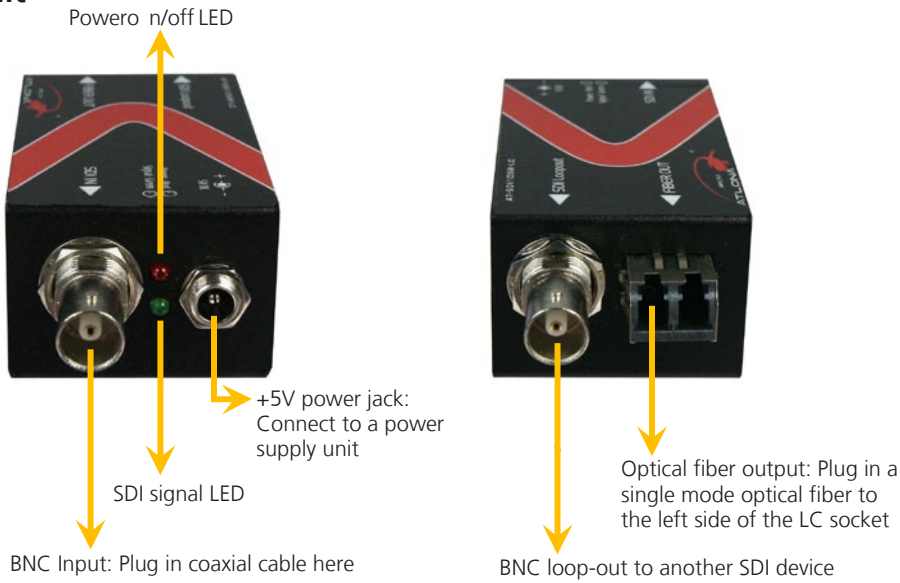
## SPECIFICATIONS

| Model Name  |   | AT-SDI10SR-LC  |               |
|---|---|--|---------------|
| Technical   |   |  |               |
| Role of usage                                       | Sender [TX]   |  | Receiver [RX] |
| SDI standards                                       | SD-SDI & HD-SDI   |  |               |
| Auto HD/S D-SDI detection                           | Yes   |  |               |
| Supported protocols                                 | SMPTE 259M (270Mbps & 360Mbps) / DVB-ASI (270Mbps )<br>SMPTE 292M / HDTV (1.485Gbps & 1.485/1.001Gbps)                |  |               |
| Video bandwidth                                     | Single-link (1.485Gbps & 1.485/1.001Gbps)   |  |               |
| Data rates  | 270 / 1483 / 1485 Mbps  |  |               |
| Video support                                       | [HD] 720p @50/59.94/60Hz, 1035i @50/59.94/60Hz<br>1080i @50/59.94/60Hz, 1080p @24/30Hz<br>[SD] NTSC@59.94Hz, PAL@50Hz |  |               |
| SDI signal type                                     | SMPTE -292M, SMPTE -259M, DVB-ASI   |  |               |
| Output impedance                                    | 75Ω   |  |               |
| Auto-relocking                                      | Automatic detection: 270Mbps / 1.483Gbps / 1.485Gbps<br>Automatic bypass: 177Mbps / 360Mbps / 540Mbps                 |  |               |
| Fiber Transmission                                  | 10km [6.25 miles]   |  |               |
| Cable equalization /<br>transmission [Belden 1294A] | [HD-SDI] up to 150m (500ft)<br>[SD-SDI] up to 300m (1000ft)   | [HD-SDI] greater than 125m<br>[SD-SDI] up to 300m (1000ft)   |               |
| Loop-out  | One relocking BNC loop-out at TX  |  |               |
| Audio support                                       | Yes   |  |               |
| RP-198 pathological patterns                        | Immune  |  |               |
| Input   | 1x BNC [SDI]  | 1x Optical LC [SDI]  |               |
| Output  | 1x Optical LC [SDI]<br>1x BNC [SDI]   | 2x BNC [SDI]   |               |
| BNC connector                                       | 75Ω interlocked socket  |  |               |
| Optical connector                                   | LC-type   |  |               |
| Fiber optics  | Wavelength: 1310 nm<br>Type: Single-mode<br>Jitter < 0.2 UI<br>Overshoot < 10%  | Optical power: 3~-9 dBm<br>Extinction ratio: typical 9.5 (minimum 5)<br>Rise/fall: 135~800 pS<br>Receiver sensitivity: -18 dBm |               |
| Mechanical  |   |  |               |
| Housing   | Metal enclosure   |  |               |
| Dimensions<br>[L x W x H]                           | Model   | 110 x 40 x 30mm [4.3" x 1.6" x 1.2"]   |               |
|   | Package   | 330 x 200 x 95mm [1'1" x 7.9" x 3.7"]  |               |
| Weight  | Model   | (TX/RX) 135g [5oz]   |               |
|   | Package   | 1075g [2.4 lbs]  |               |
| Fixedness   | Interlocked 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]   |  |               |

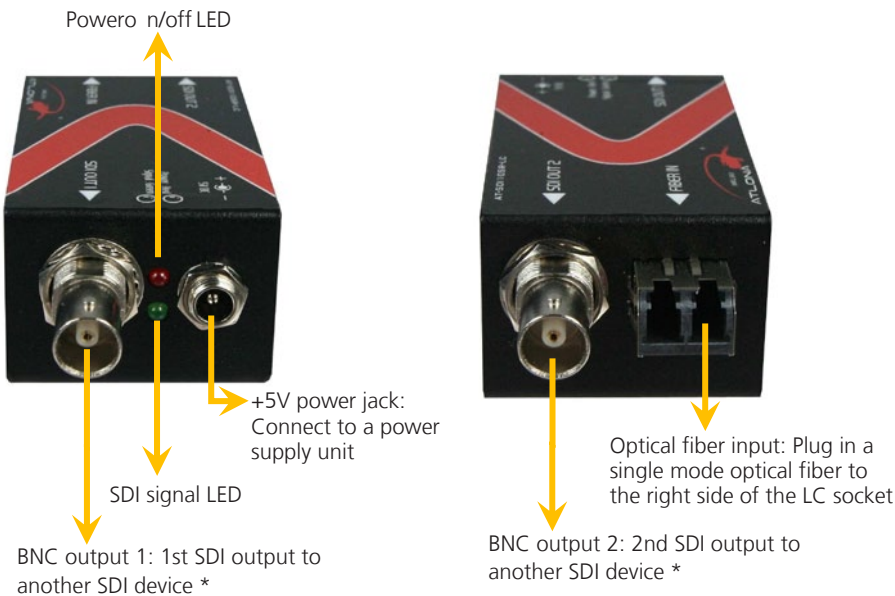


## PANEL DESCRIPTION

### Sender unit



### Receiver unit



\* SDI OUTPUT1 generally has better performance than **SDI OUTPUT2**.

## SAFETY INFORMATION

### Safeguards



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



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



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



This equipment should be installed near the socket outlet and the device should be easily accessible in the 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, fish tanks, 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 and not cleaning fluid or aerosols. Such products could enter the unit and cause damage, fire, or electric shock. Some substances may also mar the finish of the product.

Never open, 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-SDI10SR-LC. Opening the product will void the warranty.

Do not attempt to service the unit. Disconnect the product and contact your authorized Atlona reseller or contact Atlona directly.

## WARRANTY

### Limited Warranty

Atlona Technologies warrants that (a) its products (the AT-SDI10SR-LC) 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 customers that fall within those areas.

### Customer Remedies

Atlona Technologies' and its suppliers' entire liability and Customer's exclusive remedy shall be, at Atlona Technologies' decision, either return of the price paid for the product, repair, or replacement of the product that does not meet this Limited Warranty and which is returned to Atlona Technologies with a copy of the Customer's receipt. This Limited Warranty is void if failure of the product has resulted from accident, abuse, misapplication, or natural occurrence. In example but not limited to: power surges (electrical storms, local power outage), dropping the product (or items on the product), contact with fluids, and physical misconduct (i.e. kicking or punching). Any replacement product will be warranted for the remainder of the original warranty period.

### No other warranties

To the maximum extent permitted by applicable law, Atlona Technologies and its suppliers disclaim all other warranties, either expressed or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose, with regard to the product and any related written materials. This Limited Warranty gives customer specific legal rights. Customers may have other rights depending on the jurisdiction.

### No liability for damages

To the maximum extent permitted by applicable law, in no event shall Atlona Technologies or its suppliers be liable for any damages arising out of the use of or inability to use this product, even if Atlona Technologies has been advised of the possibility of such damages. Such damages include but are not limited to: special, incidental, consequential, or indirect damages for personal injury, loss of business profits, business interruption, loss of business information, or any other pecuniary loss. Atlona Technologies' and its suppliers' entire liability under any provision of this agreement shall be limited to the amount actually paid by you for the product. Some Jurisdictions do not allow the exclusion or limitation of liability for consequential or incidental damage. The above limitations may not apply to you in such jurisdictional cases.

## ATLONA PRODUCT REGISTRATION

Thank you for purchasing this Atlona product. - We hope you enjoy it and will take an extra few moments to register your new purchase.

Registration creates an ownership record if your product is lost or stolen and helps ensure you'll receive notification of performance issues and firmware updates.

At Atlona, we respect and protect your privacy, assuring you that your registration information is completely secure. Atlona product registration is completely voluntary and failure to register will not diminish your limited warranty rights.

**To register go to:** <http://www.atlona.com/registration>



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