



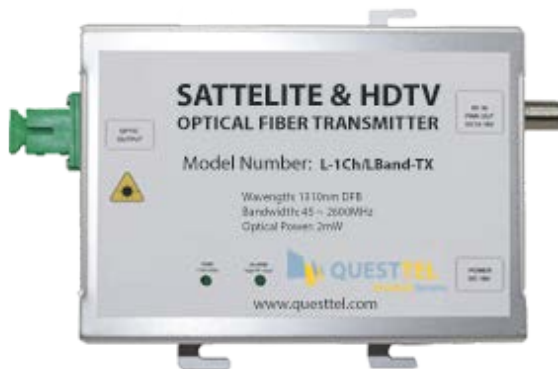
# QUESTTEL

Broadcast Systems

## L-BAND over Fiber Link TX/RX

### User Manual

### L-1Ch-L-Band-TX/RX



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## Chapter 1. Introduction

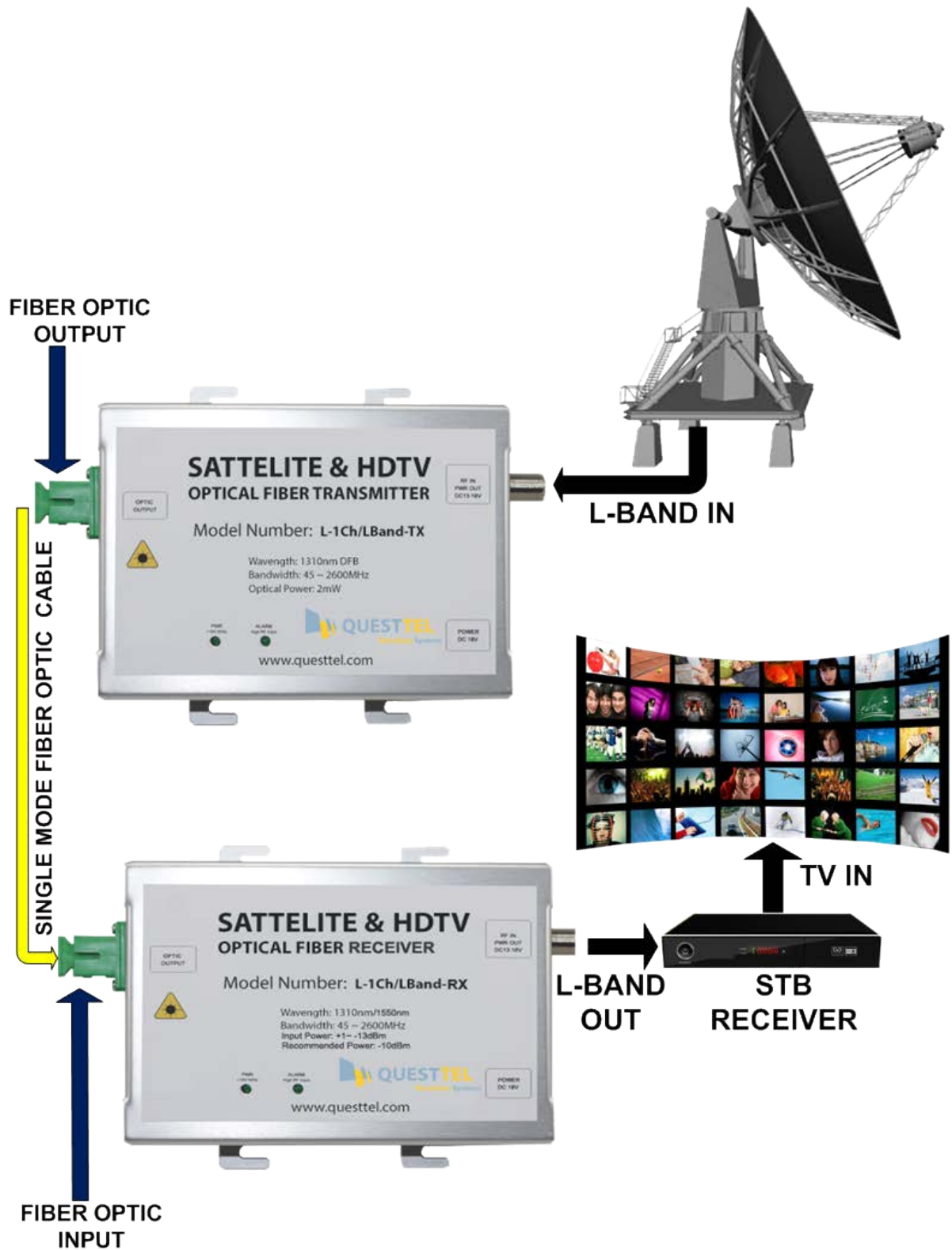
### 1.1 Overview

QuestTel's Satellite L-Band optical fiber Transmitter/Receiver set offers high performance and cost effective alternative to conventional coaxial systems. The L-Band Transmitter and Receiver pair is used for transporting L-Band over fiber from the antenna to the satellite receiver. Additionally transmitter provide's optional 13/18V LNB power as well as Automatic Gain Control (AGC) to manage RF input level. By transporting the L-Band over fiber this range can be extended from several hundred feet to over 80 miles. Since optical signal is not affected by electromagnetic field, the quality of your signal will always stay at the high level. Also this fiber solution is more cost effective than coaxial system, as well as more reliable and flexible.

### 1.2 Feature

- Low Cost high performance L-Band TX/RX set
- Supports LNB feeding optical and 22khz control tone for LNB polarity shifting
- LNB power feed 13/18V
- Different wavelengths and input range selectable on demand
- Switching AGC

### 1.3 Application

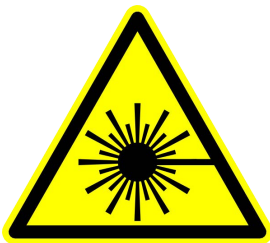


## Chapter 2. Technical Specification

<b>L-Band Transmitter</b>	
Optical wavelength	1310nm DFB
Optical Output power range	2mW
Frequency range	45 - 2600 MHz
RF Input Level	55-78 dB $\mu$ V
LNB Power	13 - 18 VDC350mA Max 22KHz
RF Connector	F-Type
RF Return Loss	13dB
RF Input impedance	75Ohm
CNR	40dB
IMD	40dB
<b>General - TX</b>	
Power consumption	3.5W
Power supply	18V DC
RF connectors	F type (female)
Optical connector(s)	SC/APC
Dimensions (H x W x D)	118 mm x 210 mm x 40 mm
Weight	0.25 kg
<b>L-Band Receiver</b>	
Light wavelength	1290 - 1600 nm
Optical input power range	- 13 ...+1 dBm
Frequency Range	45 - 2600 MHz
Optical Input = 0 dB	RF Output = 88 dBuV
Optical Input = -3 dB	RF Output = 82 dBuV
Optical Input = -6 dB	RF Output = 74 dBuV
Optical Input = -9 dB	RF Output = 68 dBuV
Optical Input = -12 dB	RF Output = 63 dBuV
CNR	45dB
IMD	40dB
<b>General - RX</b>	
Power consumption	3.5W
Power supply	18V DC
RF connectors	F type (female)
Optical connector(s)	SC/APC
Dimensions (H x W x D)	118 mm x 210 mm x 40 mm
Weight	0.25 kg

Read before operating equipment.

1. Cleaning - Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
2. Power Sources - Use supplied or equivalent UL/CSA approved low voltage DC plug-in transformer.
3. Outdoor Antenna Grounding - If you connect an outside antenna or cable system to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
4. Lightning - Avoid installation or reconfiguration of wiring during lightning activity.
5. Power Lines - Do not locate an outside antenna system near overhead power lines or other electric light or power circuits or where it can fall into such power lines or circuits. When installing an outside antenna system, refrain from touching such power lines or circuits, as contact with them might be fatal.
6. Overloading - Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
7. Object and Liquid Entry - Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short out parts, resulting in a fire or electric shock. Never spill liquid of any kind on the product.
8. Servicing - Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
9. Damage Requiring Service - Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
  - When the power supply cord or plug is damaged.
  - If liquid spills or objects fall into the product.
  - If the product is exposed to rain or water.
  - If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions. An improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
  - If the video product is dropped or the cabinet is damaged.
  - When the video product exhibits a distinct change in performance, this indicates a need for service.



**WARNING !**

This unit outputs continuous invisible light, which may be harmful to the eyes; use with caution. For additional safety, plug the attached dust caps into the optical transceivers when the fiber optic cable is unplugged. Direct viewing into optical connectors should be avoided at all times!