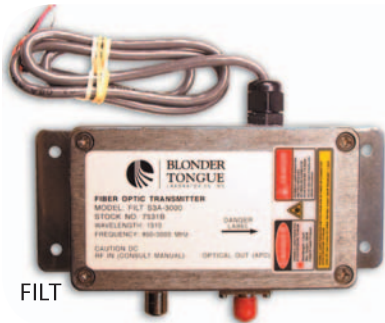


# Single Link L-Band Fiber Transmitter/Receiver

## 850-3000 MHz

Twin Star - FILT/FILR



FILT



FILR

The FILT S3A-3000 L-Band fiber optic transmitters and FILR S4A-3000 receivers provide a cost-effective method of transporting L-Band signals to satellite receivers with the EMI immunity and superior performance inherent in fiber optic links. A typical application would be to transport LNB signals from a remote TVRO site to the headend facility as an alternative to coaxial distribution avoiding its associated high loss and slope. The FILT/FILR, along with Blonder Tongue's L-Band distribution amplifiers, optical couplers and L-Band passive devices can also be used in distributing L-Band signals within MDU's.

### ○ Features & Benefits

- Affordable Alternative to Coaxial LNB Cabling
- Compact and Environmentally Protected Housing
- 850-3000 MHz Bandwidth For Enhanced Frequency Stacking Applications
- 18 dB Optical Loss Budget

### ○ Specifications

#### RF

Frequency: 850-3000 MHz  
 RF Impedance Input: 75 Ohms  
 RF Return Loss: 10 dB  
 Wavelength: 1310 ± 30 nm  
 Fiber: Single Mode  
 Link RF Gain @ 12 dB Optical Loss: -4 dB to ±5 dB  
 Noise Figure (LINK): ≤32 dB  
 FILT RF Input: +19 dBmV (max)  
 Optical Output Power: +3 dBm  
 FILT Optical Input: -15 dBm to +3 dBm

#### Mechanical

Module Dimensions (WxHxD):  
 5.75 x 2.56 x 1.25 in  
 146.4 x 65 x 31.8 mm  
 Weight: 16 oz

#### Alarm

Receiver: Received Optical Power Low (Open Collector Output)  
 Operating Temperature: -40 to +60 °C

#### Connectors

Optical: FC/APC (2.14 mm Key)  
 RF: "F"

#### Power

	TX	RX
8 VDC:	250ma	200ma
12 VDC:	170ma	150ma
15 VDC:	135ma	120ma
18 VDC:	115ma	100ma
24 VDC:	85ma	70ma

Power Supply: ACCS-PS-170 (BT Stock No. 7419)

### ○ Ordering Information

Model	Stock No.	Description
FILT-S3A-3000	7531A	L-Band Fiber Optic Transmitter, Single-mode 850-3000 MHz, 1310 nm, FC/APC Connector, Stand Alone Unit
FILR-43A-3000	7532A	L-Band Fiber Optic Receiver, Single-mode 850-3000 MHz, 1310 nm, FC/APC Connector, Stand Alone Unit



# Multi-Output L-Band Fiber Optic Transmitter 950-2050 MHz

Twin Star Series - FILT



## ○ Features & Benefits

- 950-2050 MHz Bandwidth For Stacked LNB Applications
- FILT Transmitters Available in 12 or 16 Output Configurations
- Alarm Status TTL Output
- Switched LNB Power On RF Input Connector
- Companion to FILN Series Fiber Optic L-Band Receivers
- Supports Fiber Lengths Up To 2.5 Miles (4 KM)

The FILT-S3A-2050- 12 and 16 series of fiber optic transmitters allow the operator to distribute DTH/DBS signals from a single satellite dish to multiple locations via single mode fiber. The transmitter is available in 12 and 16 output versions to accommodate a variety of MDU topologies. The unit features automatic gain control (AGC) on the satellite input to help ensure optimum input levels with changes in weather. The transmitter is equipped with two LED indicators, one for power on (green) and the other for a low RF input alarm (red). For remote monitoring, a TTL based alarm monitor is provided on the rear panel. The alarm will trigger with either a low RF input; optical or DC failure. An alarm condition results in the monitor output going low (0 VDC). Under normal operating conditions the monitor output is 5 VDC. Both versions of the transmitters are in a single height, 1.75" high, 19" rack mount aluminum chassis for easy installation into any headend. Switched LNB power is multiplexed on the RF input connector, eliminating the need for external power inserters.

Fiber

## ○ Specifications

### RF

- Input
  - Frequency Range: 950-2050 MHz
  - Impedance: 75 Ohms
- Input Level Range (L-Band): -6 to + 14 dBm (optimum)
- Temperature Range: 0° to +45° C

### Optical

- Output Level
  - 12 Output: -8.0 dBm
  - 16 Output: -10 dBm
- Wavelength: 1310 nm

### General

- Power Requirements
  - Voltage: 100-265 VAC
  - Frequency: 50/60 Hz
  - Power: 12 W
- LNB Supply
  - Voltage: 18 V
  - Current: 300 (max.) mA
  - Protection: Lightning, Short Circuit

### Mechanical

- Dimensions (WxHxD): 19 x 1.75 x 13.6 in, 482.6 x 44 x 345.4 mm
- Weight: 9 lbs, 4.1 kg

### Connectors (Rear Panel)

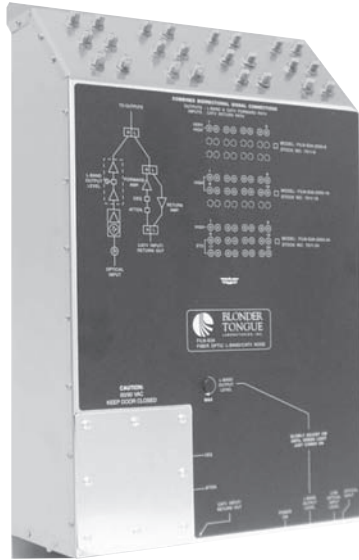
- RF Input: "F" Type, Female
- Optical Outputs: FC/APC
- TTL Monitor: 2 Contact Terminal Strip

## ○ Ordering Information

Model	Stock No.	Description
FILT-S3A-2050-12	7501 12	Multi-Output L-Band Fiber Optic Transmitter, 12 Outputs 950-2050 MHz, Single-mode, 1310 nm, -8 dBm Output, FC/APC Conn
FILT-S3A-2050-16	7501 16	Multi-Output L-Band Fiber Optic Transmitter, 16 Outputs 950-2050 MHz, Single-mode, 1310 nm, -10 dBm Output, FC/APC Conn

# Multi-Output L-Band Fiber Optic Node

Twin Star Series - FILN



## ○ Features & Benefits

- Integrated Fiber L-Band Node and CATV Amplifier for a Complete Single Wire Solution for delivery of both DBS and CATV/PCN within MDU's
- 60/90 VAC Network Powering
- High RF Outputs To Support Additional Subscriber Premise Splitting
- 8, 16 and 24 Output Versions

The FILN multi-output L-band receiver is a breakthrough in hybrid fiber/coax (HFC) optical node technology. The unit combines the superior distribution attributes of several key functions into a single package. These are:

- Satellite signal fiber receiver
- Professional quality L-band amplifier
- Bi-directional CATV network amplifier employing trunk line grade hybrid amplifier modules
- Plug-in equalizers and attenuators for greater CATV input signal management, creating design flexibility
- CATV and satellite signal multiplexing and splitting networks with up to 24 residential outputs
- Return path management and amplification (10-40 MHz)

The unit provides L-band DTH signal for up to 24 residential outputs, from one fiber input. There is an LED indicator on the optical input of the unit to indicate proper input level. There is also an LED on the L-band output to indicate the optimum output level. High L-Band signal levels are provided to each output to overcome the loss of long drop lengths and premise splitters required to serve multiple subscriber viewing locations.

**CATV Network Amplifier Section** The unit accommodates a wide range of CATV input levels, making it more forgiving to existing CATV conditions and allowing for greater design flexibility. This is accomplished by the use of plug-in attenuators and equalizers to condition the input signal prior to amplification and splitting. The network amplifier is designed to handle both analog and digital channels in the bandwidth of 54-750 MHz. Additionally, the CATV amplifier has a return bandwidth of 10-40 MHz for compatibility with PPV, VOD, telephone and high speed data CATV services. The FILN multiplexes the bi-directional CATV signals with the satellite signals at each of the either 8, 16 or 24 outputs depending on the model deployed, thus creating a "True Single Wire" distribution solution.

**Specifications and Ordering Information are located on the following page.**



# Multi-Output L-Band Fiber Optic Node

Twin Star Series - FILN

## ○ Specifications

### RF

Frequency Range CATV:  
 10-40 MHz, 54-806 MHz  
 L-Band (32 Transponder): 950-2050 MHz

### Output Level

8 Port Version CATV 54-806 MHz  
 20/29 (slope adjustable) dBmV  
 L-Band: -29/-22 dBm, 20/27 dBmV

16 Port Version CATV 54-806 MHz  
 16/25 (slope adjustable) dBmV  
 L-Band: -33/-26 dBm, 16/23 dBmV

24 Port Version CATV 54-806 MHz  
 8 Ports:  
 16/25 (slope adjustable) dBmV  
 L-Band: -33/-26 dBm, 16/23 dBmV  
 16 Ports:  
 CATV 54-806 MHz:  
 12/21 (slope adjustable) dBmV  
 L-Band: -37/-30 dBm, 12/19 dBmV

### Return Path Gain

8 Output Version (10-40 MHz): 8/9 ±2 dB  
 16 Output Version (10-40 MHz): 4/5 ±2 dB  
 24 Output Version  
 8 Ports (10-40 MHz): 4/5 ±2 dB  
 16 Ports (10-40 MHz): 0/1 ±2 dB

### CATV Forward Path Gain

8 Output Version (54-806 MHz): 8 ±2 dB  
 16 Output Version (54-806 MHz): 4 ±2 dB  
 24 Output Version  
 8 Ports (54-806 MHz): 4 ±2 dB  
 16 Ports (54-806 MHz): 0 ±2 dB

Input Level Max (CATV):  
 +37 dBmV (60 Ch. Load) (w/20 dB plug-in pad)

Input Level Typical (CATV): +21 dBmV  
 (60 Ch. Load) (w/4 dB plug-in pad)

Output Return Loss: <10 dB  
 CATV: 15 dB  
 L-Band: 18 dB

Output Tilt  
 CATV: -7 to +17 (via plug-in EQ) dB  
 L-Band: 7 dB

CTB Typical: -65 dB  
 CSO Typical: -70 dB  
 CNR: -59 dB  
 Cross Modulation: -60 dB

### Isolation

Adjacent Horizontal Ports  
 CATV: 25 dB  
 L-Band: 20 dB

Non-Adjacent Horizontal Ports  
 CATV: 35 dB  
 L-Band: 35 dB

Adjacent Vertical Ports & All Other  
 Non-Adjacent Ports  
 CATV: 40 dB  
 L-Band: 40 dB

### Optical

Input: 1310 ±30 nm  
 Input Level (Optimum): -12.0 dBm

### Receiver

Photodiode DC Responsivity: ≥ 0.75 A/W  
 Fiber: 9/125 Single Mode  
 (Corning SMF-28 or Equivalent)  
 Connector: FC/APC "tight fit"  
 (Type "R" per IEC 1754-10-1)  
 ≥ 60 dB Optical Return Loss

### General

Power Requirements  
 Voltage: 60-90 VAC  
 Frequency: 50/60 Hz  
 Power: 16 W  
 Current Consumption:  
 360mA @ 60 VAC  
 275mA @ 90 VAC

### Mechanical

Dimensions (WxHxD):  
 11 x 18 x 6 in  
 279.4 x 457.2 x 152.4 mm  
 Weight: 9 lbs, 4.1 kg

### Connectors

CATV/L-band Output: "F" Type, Female  
 CATV Input: "F" Type, Female or 5/8-24 Entry Port  
 Optical Input: FC/APC  
 Power (7512 only): IEC Receptical

### Controls

L-band Output Level Control: Variable

## ○ Ordering Information

Model	Stock No.		Description
FILN-S3A-2050-8	7511 8	Deal Den	Multi-Output L-Band Fiber Optic Node, 8 Outputs Single-mode, 950-2050 MHz, 1310 nm, -12 dBm Input, FC/APC Conn
FILN-S3A-2050-24	7511 24	Deal Den	Multi-Output L-Band Fiber Optic Node, 24 Outputs Single-mode, 950-2050 MHz, 1310 nm, -12 dBm Input, FC/APC Conn
FILN-S3A-2050-16	7511 16	Deal Den	Multi-Output L-Band Fiber Optic Node, 16 Outputs Single-mode, 950-2050 MHz, 1310 nm, -12 dBm Input, FC/APC Conn
Accessories			
VMI-AT	9320		VMI Attenuator, Plug-In 1000 MHz
VMI-IEQ8V	9378A		VMI Inverse Equalizer, Plug-In, Vertical Profile 860 MHz
VMI-CEQ8V	9377A		VMI Equalizer, Plug-In, Vertical Profile 860 MHz