



PL7240T/PL7240R L-Band Fiber Optic Link



Features & Benefits

- ❖ L-Band: 950–3000MHz
- ❖ Up to 10Km distance
- ❖ Wide input power suitable for both Uplink and Downlink applications
- ❖ Powerful management capabilities via a front panel LCD and rack mounted SNMP
- ❖ LNB power control via LCD or SNMP: +13 or 18 VDC
- ❖ 1550nm and CWDM ITU Grid laser options for longer fiber runs and single fiber CWDM multiplexing solutions

Product Description

Global Foxcom's Platinum L-Band products are designed to meet the increasing demand for modularity and high-performance in a small form factor for superior long-distance transmission. The link performs at full capability within a 4dB optical budget. High RF input power and wide dynamic range make the link suitable for both Uplink and Downlink applications.

Utilizing Global Foxcom's **DigiRF** technology, the user has full control of all important functions for setup, operation, and analysis via the front panel LCD or via the associated sub-rack SNMP capability.

In addition **IMizer**, an automated adjustable link calibration embedded system enables the user to align the RF links IMD/CNR to specific linearity performances without a two-tone test. Select the desired IMD for the optical transmitter, either locally or remotely, **IMizer** automatically adjusts the laser drive to meet the IMD requirements.

Each low profile individual transmitter or receiver can be "hot swapped" in the sub-rack chassis maintaining a best subsystem uptime capability. Each module contains an individual processor to maximize specification performance at all times under demanding user applications.

The **Platinum** transmitter and receiver are designed for sub-rack chassis mounting. The associated Platinum chassis has 12 active slots, one main control processor (MCP) slot and two redundant power supplies. No fans are required even under full sub-rack loading and full LNB powering.

PL7240 Specifications

| RF Specifications | Value |
|---|------------------------------------|
| Frequency Range - Bandwidth | 950–3000MHz |
| Amplitude Response @ Unity Gain | |
| 950–3000 MHz | ±2 |
| any 36 MHz | ±0.25dB |
| Gain variation over temperature | ±1.5dB |
| Gain stability dB/25hr | ±0.2dB |
| SFDR ¹ | >100 dB/Hz ^{2/3} |
| Noise Figure (NF) ¹ | 20 dB |
| Output IP3 (OIP3) ³ | 20 dBm |
| CNR [any 36MHz] ¹ | >57dB |
| Group Delay Variation | <1.5ns |
| Third Order Inter-Modulation [IMD] ² | -55 to -40dBc |
| RF Input Signal Range – Total Power ⁴ | -5 to -45dBm |
| RF Output Signal Range – Total Power ⁵ | -40 to -5dBm |
| TX/RX Input/Output Return Loss | |
| 50 Ohm | -15dB |
| 75 Ohm ⁶ | -13dB |
| RF connector options | N/SMA/F/BNC50/BNC75 |
| LNB Voltage ⁸ | On/Off or 13 Volts or 18 Volts |
| Optical Specifications | Value |
| Optical Wavelength | 1310nm |
| Optical Power Output | 2mW / 3dBm |
| Optical Budget / Distance ⁷ | 4dB/10Km |
| Min RX Optical Input Power | -1dBm |
| Optical Connector Types | FC-APC or SC-APC (E2000 option) |

1. -40dBm RF input, link gain=20dB, IMD=-40dBc@3dB optical budget

2. User adjustable

3. -5dBm RF out @ IMD=50dBc

4. Alarm trip point: RED -2dBm, AMBER -50dBm

5. Within optical budget

6. 11dB above 2.2GHz

7. longer when 1550nm laser is installed

8 LNB Maximum current: 300 mA

Advanced Technology

Chassis

Figure 1: Rear view of 12 Slot Chassis with one MCP slot and dual Power Supply slots



Transmitter and Receiver with LCD and LED Indicators

Figure 2: Transmitter with LCD and LED Indicators
(Only Transmitter is shown here; Receivers are available and provide corresponding information)

| LED Name | Color | Description |
|---------------|----------|----------------------------------|
| Power | Green | Power On |
| | No Light | Power Off |
| Status/Alarms | Green | No Alarms |
| | Amber | Minor Alarms |
| | Red | Critical Alarm |
| RF Input | Green | Input within specification |
| | Amber | Input below specifications |
| | Red | No input or above specifications |
| Remote | Yellow | Main processor control in effect |
| | No Light | No Main Processor Control |



SNMP Graphic User Interface (GUI) for Monitoring & Control

Figure 3: SNMP GUI



The SNMP GUI enables the user to perform detailed monitoring & control of the system, including detection, such as:

- General data about the system, including version control
- Card status
- Optical power input and output monitoring
- RF power input and output monitoring
- AGC/MGC selection
- LNB voltage selection (18V/13V/none)
- IMD selection (TX only)
- Power supply monitoring, such as DC Voltage, AC/DC Failures, Temperature, Fan speed
- Alarm history and alarm severity
- System statistics

Typical L-Band Up and Down Link

Figure 4: Typical L-Band System

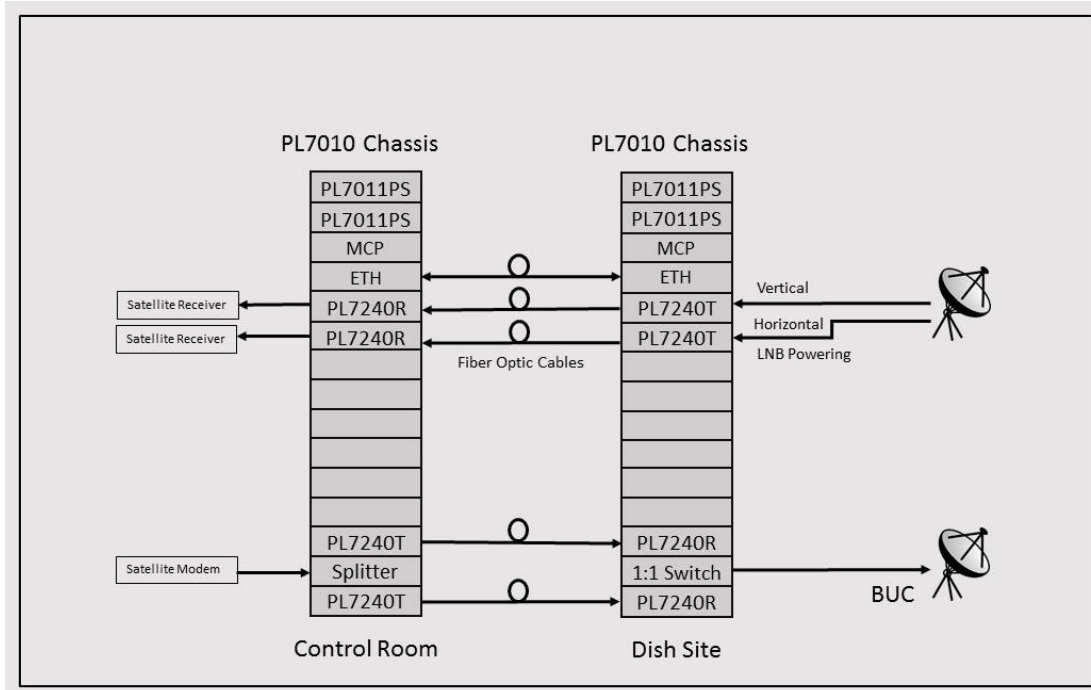


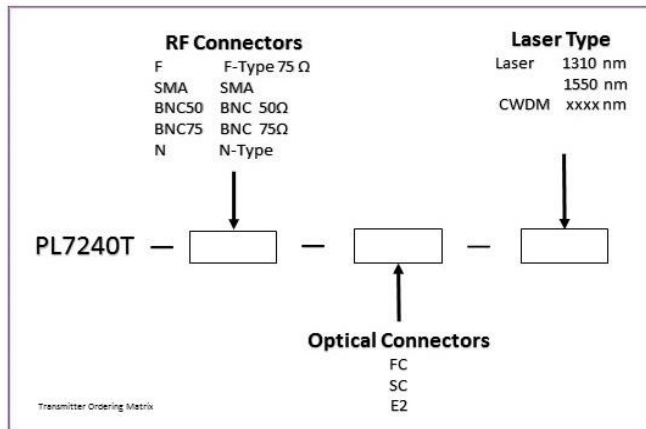
Figure 4 represents a typical L-band up and downlink within a teleport. The system is comprised of 2 sets of 19" 3RU indoor chassis (PL7010) with dual power supplies and an MCP Card.

The downlink consists of a pair of PL7240T transmitters at the antenna site receiving two L-band signals from the LNB, and a pair of PL7240R4 receivers at the indoor site.

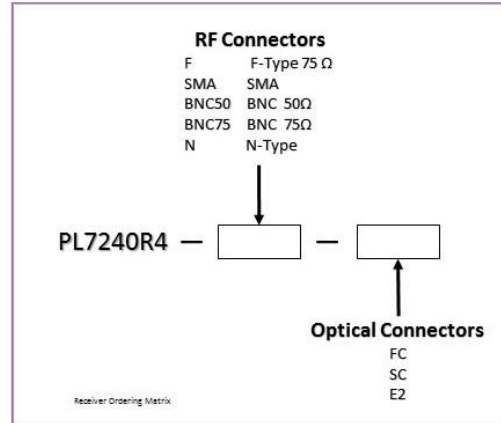
The uplink represents one redundant link. A single L-band signal is split at the output of the modem feeding into a pair of PL7240T optical transmitters at the indoor site. A pair of PL7240R receivers at the antenna site converts the optical signals back into RF and feed into a 1:1 RF switch.

Ordering Matrix

Transmitter Ordering Matrix



Receiver Ordering Matrix



Ordering Info

| Model number | Description |
|-------------------|---|
| PL7240T-50SMA-FC | Sat-Light Platinum L-band (950-3000 MHz) fiber optic Transmitter. Wide RF input (-50 to -5 dBm). 50-Ohm SMA RF connector. FC/APC optical connector. Includes module select LNB power - +13 or +18Vdc. |
| PL7240R4-50SMA-FC | Sat-Light Platinum L-band (950-3000 MHz) fiber optic Receiver. Wide RF output (-40 to -5 dBm). 4dB (8km) optical budget. 50-Ohm SMA RF connector. FC/APC optical connector. |

Recommended Accessories

Active Accessories

- ❖ 28dB Gain RF Amp
- ❖ 55dB Gain RF Amp
- ❖ Redundancy RF Switch
- ❖ Optical Ethernet Link

Passive Accessories

- ❖ Wideband RF Splitter
- ❖ IF RF Splitter
- ❖ 10MHz/L-Band Diplexer
- ❖ L-Band RF Splitter
- ❖ 2way Optical Splitter
- ❖ 1310/1550nm MUX/DeMUX