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completing the picture

Sat-Light Platinum Series

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 any 36 MHz	±2 ±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 75 Ohm[6]	-15dB -13dB
RF connector options	N/SMA/F/BNC50/BNC75
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

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

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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

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Typical L-Band Up and Down Link
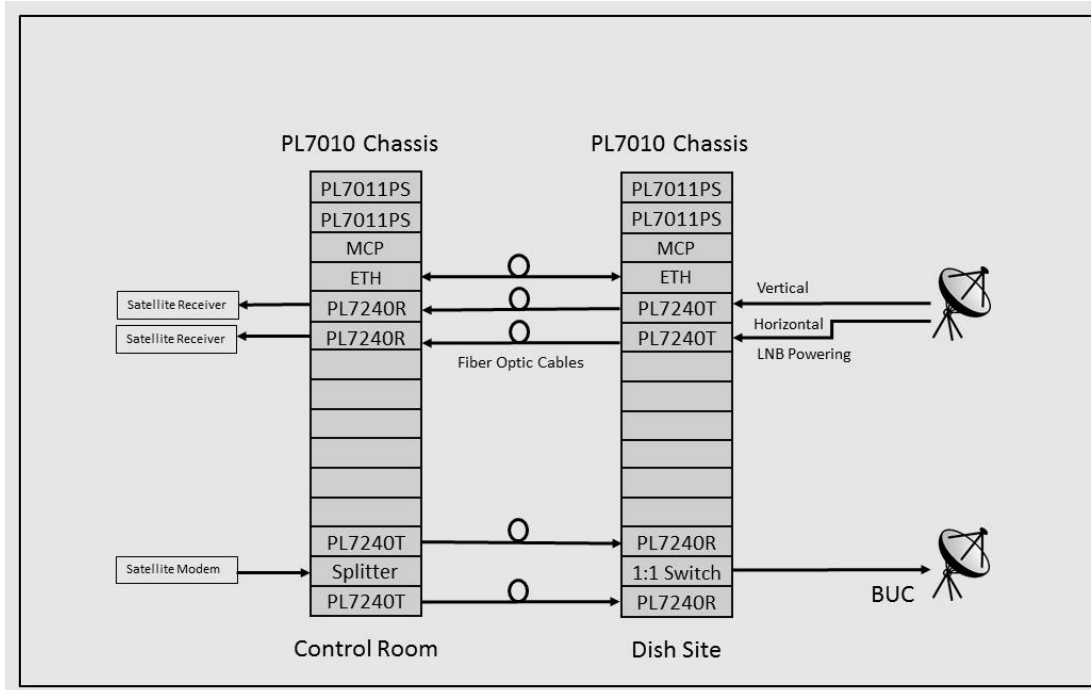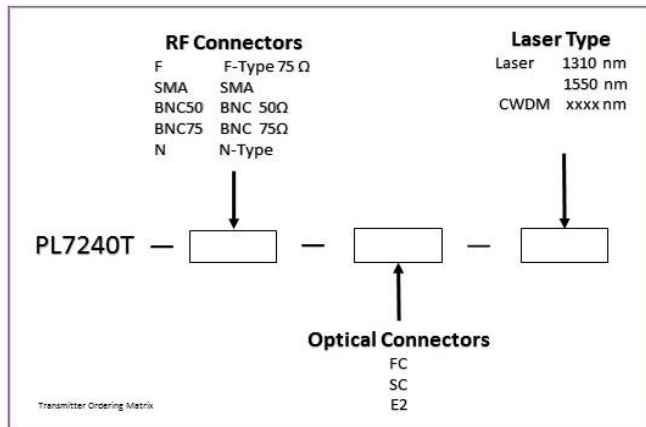
Figure 4: Typical L-Band System

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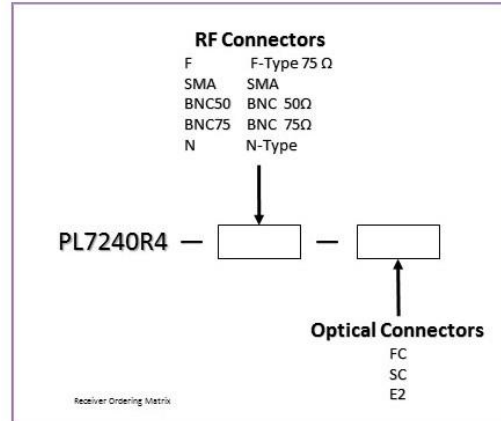
The uplink represents one redundant link. A single L-band signal is split at the output of the modem feeding into a pair of PL7240T optical transmitters at the indoor site. A pair of PL7240R receivers at the antenna site converts the optical signals back into RF and feed into a 1:1 RF switch.

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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

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