Innovating Microwave Backhaul™

POINT-TO-POINT

TrangoLINK Giga® 6 GHz

Split-Architecture Full Duplex Licensed Microwave IP/TDM Wireless Backhaul System

HIGH-CAPACITY POINT-TO-POINT WIRELESS NETWORK LINK

TrangoLINK Giga® is a high-performance 6 GHz licensed microwave wireless point-to-point system designed for carrier Ethernet, WiMAX/ISP broadband backhaul, mobile network backhaul, private enterprise WAN/LAN extensions, and municipal and public wireless networks.

TrangoLINK Giga® provides a full duplex wireless connection over the air that is ideal for mixed traffic that requires both IP and traditional TDM T1/E1 connectivity.

Each TrangoLINK Giga® consists of two indoor units (IDU) and two outdoor units (ODU). The ODU attaches easily to an external antenna for long-range link availability.

Benefits

- Low cost of ownership
- Excellent system gain for longer range and higher availability
- No right-of-way issues, unlike fiber deployment
- Fast ROI relative to fiber and other traditional options

Easy Setup and Deployment

- Minimal maintenance, "set and forget"
- Split-mount architecture with direct-mount slip-fit ODU and 1U rackmount IDU
- Easy alignment via real-time digital LED RSSI indicators directly on both ODU and IDU
- Full capacity out of the box, no Option Key necessary

Highlights

- Up to 330+ Mbps (165+ Mbps full duplex)
- Extremely low latency, 250 µS (typical)
- Supports FCC/IC channel sizes of 10 and 30 MHz
- Standard 2-year manufacturer warranty

Performance

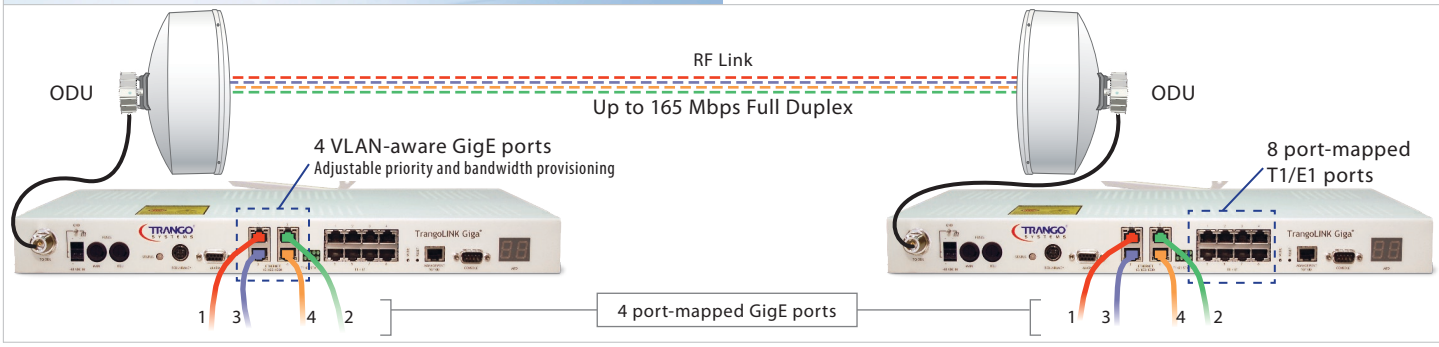
- Highly flexible bandwidth management options
- Selectable filters for improved sensitivity
- Flexible modulation for greater spectral efficiency
- Supports jumbo packets in GigE mode
- Port Priority assignment (VLAN) and QoS features
- Four configurable 10/100/1000 BaseT ports for payload
- Eight T1/E1 ports that are automatically added to or dropped from the data stream when connected or disconnected

Fail Safe Features for High Reliability

- Hot standby configuration for protection against equipment failure
- Supports dual power supplies for power redundancy

Management

- Network management through SSH, SNMP, HTTP, and Serial port
- Built in loop back and far end monitoring



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Split-Architecture Point-to-Point Microwave Backhaul

Specifications

RADIO PARAMETERS					**Band 1**		**Band 2**	
Frequency of Operation (ODU) ‡	**FCC/IC** (252.04 MHz duplex spacing)				***Band 1A:*** 5.935 to 6.044 GHz ***Band 1B:*** 6.187 to 6.296 GHz		***Band 2A:*** 6.054 to 6.162 GHz ***Band 2B:*** 6.306 to 6.414 GHz	
Channel Size ‡	10 MHz / 30/28 MHz							
RF Power Output (max per modulation)	**QPSK**		**16QAM**		**32QAM**	**64QAM**	**128QAM**	**256QAM**
	+22 dbm		+22 dbm		+22 dbm	+21 dbm	+20 dbm	+19 dbm
Modulation Format	Selectable from QPSK, 16QAM, 32QAM, 64QAM, 128QAM, 256QAM							
Receiver Sensitvity	-66 dBm (256 QAM maximum speed); -90 dBm (QPSK minimum speed)							
Features	ATPC (Automatic Transmit Power Control), Modulation Shifting, Forward Error Correction							
Regulatory Compliance ‡	**FCC/ANSI**: Part 101, Part 15 Class A Unintentional Radiator, Part 101.147 (i) **Industry Canada (IC)**: SRSP-305.9 Issue 5							
DATA								
Data Throughput/ RSSI (1E10^{-6} BER) ‡	Speeds are uni-directional. For aggregate full duplex speeds, multiply throughput numbers below by 2.							
	Channel Size	**QPSK / RSSI**	**16QAM / RSSI**	**32QAM / RSSI**	**64QAM / RSSI**	**128QAM / RSSI**	**256QAM / RSSI**	
	10 Mhz	15 Mbps / -90 dBm	32 Mbps / -83 dBm	36 Mbps / -79 dBm	45 Mbps / -77 dBm	52 Mbps / -73 dBm	56 Mbps / -71 dBm	
	30 / 28 Mhz	45 Mbps / -85 dBm	95 Mbps / -78 dBm	108 Mbps / -75 dBm	135 Mbps / -72 dBm	155 Mbps / -69 dBm	165 Mbps / -66 dBm	
Packet Size	64-9600 bytes							
Flow Control	Yes, via Ethernet pause frames (GigE mode only)							
Security	Authentication uses 2 level password							
Configuration & Management	SSH, HTTPS, Console (RS232), Ethernet, SNMPV2							
Remote firmware update	TFTP client in radio unit							
ANTENNA	**Model/Description**				**Gain**		**3 dB Beamwidth**	
Antenna options	AD6G-6 / 6-foot antenna with slip-fit mount				39.0 dBi		1.9°	
POWER								
Input for Indoor Unit (IDU)	-40.5 to –57 VDC							
Power Consumption	IDU: < 70 Watts; ODU: < 20 Watts							

MECHANICAL & ENVIRONMENTAL	**INDOOR UNIT**	**OUTDOOR UNIT** (without antenna)
Enclosure	19-inch rackmount, 1U height	Cast Aluminum with RSSI window
Indicators	2-digit LED RSSI indicator; Ethernet speed and activity for each port; Backup OK indicator; Fault indicator; Power indicator	2-digit LED "in dBm" RSSI indicator for alignment
IF/power/control connection	N-Female	N-Female
Dimensions (height × width × length)	1.75 × 19 × 13 inches	12 × 12 × 6.8 inches
Weight	3.5 lbs	6 lbs
Temperature Range (operational)	14° to 122° F (-10° to +50° C)	-40° to 136° F (-40° to +58° C)
Humidity	95% non condensing	100% condensing
Interfaces	4 GigaEthernet ports RJ45 (10/100/1000BaseT ports) 8 T1/DS1 ports RJ45	N/A
Out of band Management port	1 Ethernet port RJ45	N/A
Alarms	2 inputs – TTL 2 outputs – Dry contact closure isolated 50V 1A	N/A
Power connector	4 Pin Terminal Block to support redundant power supplies	N/A
Redundancy (1+1)	4 pin circular	N/A
Console	DB9	N/A
Antenna Connector	N/A	Slip-fit mount / Optional waveguide adapter: WR137 / UDR70
1+1 Protection Coupler	N/A	< -17 dB Return Loss 3.8 dB Insertion Loss (typical) 20 dB Isolation

‡ Legal regulations for specific frequencies vary from region to region—users are responsible for complying with their local regulations.

CE RoHS Compliant

WWW.TRANGOSYS.COM

Trango Systems, Inc.
14118 Stowe, Suite B, Poway, CA 92064
Tel.: +1 (858) 391-0010 | Fax: +1 (858) 391-0020 | Email: sales@trangosys.com

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