

# LaserBit PRONTO Series

## Laser Based Free Space Optical Communication System



### Features:-

- Free Space, Wireless Communication
- Compact System Design
- Full Duplex Wire Speed Connectivity
- Wide Selection of Industry Standard Interfaces
- Secure Data Transmission
- Transparent Operation
- Quick Installation & RE-DEPLOYMENT
- Built-in Signal Monitoring

### Applications:-

- Replace lower speed leased lines or radio links
- Interconnect LAN's in campus or industrial environment
- PABX to PABX connection
- High bandwidth connection to the Internet
- VOIP Application
- Temporary Installation
- Emergency Back-up

### Product Overview

The PRONTO series of products are the third generation of compact free space laser based systems from LaserBit designed to deliver easy-to-use and cost-effective solutions for high speed wireless connections. The applied technology is based on the highly successful PICO and PINTO series products lightweight compact mechanical design. In addition PRONTO systems are enhanced with new, state of the art features such as **Automatic Inbound Power Control** and **Easy Distance Optimization Technique**. PRONTO systems can be ordered with **IP based SNMP compatible device management** that allows remote control and monitoring of the equipment. These attributes make the PRONTO the best value mid-range FSO product on the market. Because they use infrared light as transmission medium, LaserBit systems do not require frequency licenses and the transmission is not affected by electro-magnetic interference. The concentrated laser beam is extremely hard to tap and even harder to detect. The transparent and wire speed data transfer together with virtually zero latency assures the easy integration of the system in all environments. **The LaserBit link is a virtual fiber in the air.**

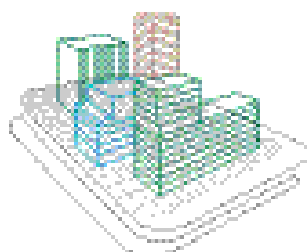
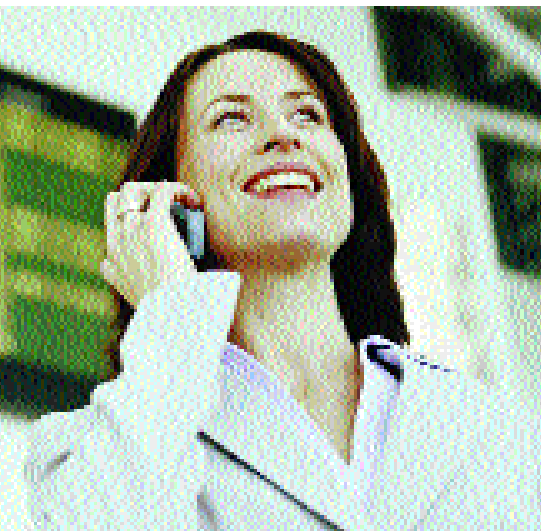
### Product Description

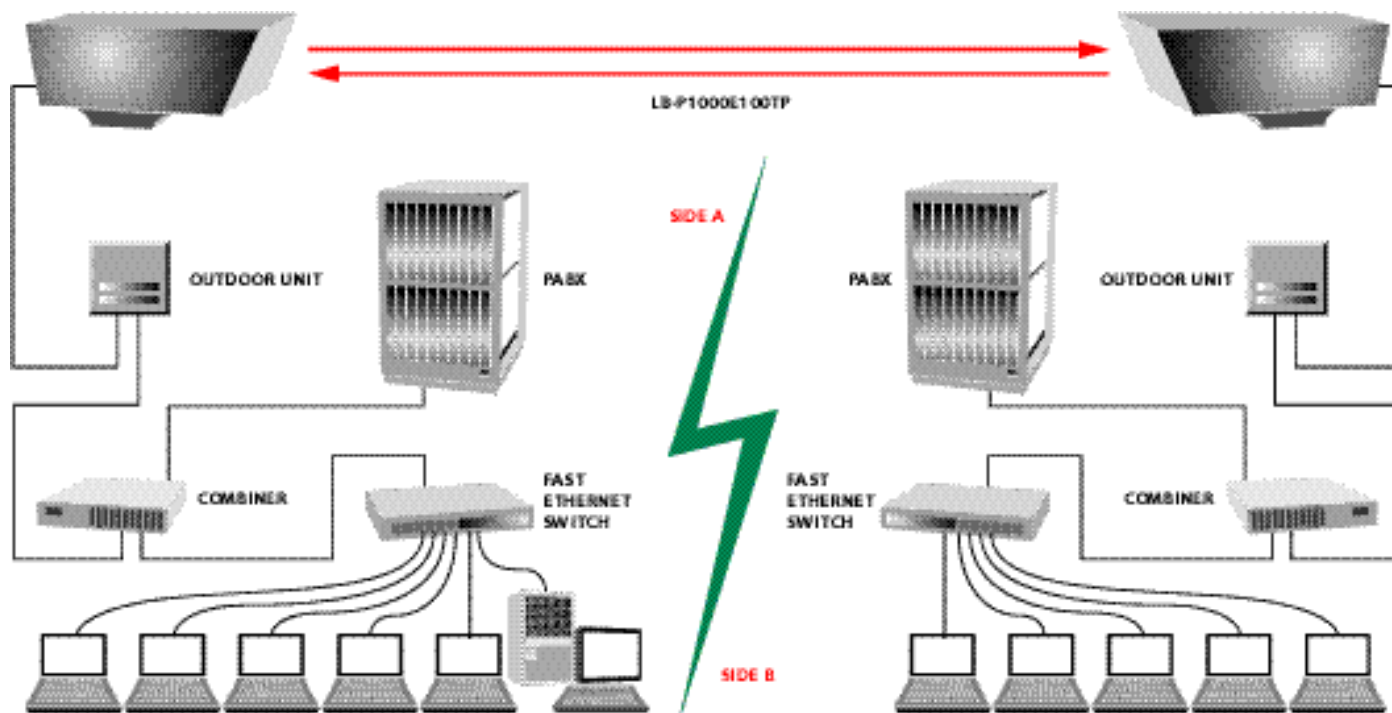
The LaserBit PRONTO system comprises of two Laser Heads, two Outdoor Interconnection Units (OIU) and two sets of interconnection cables — one at each end. The Laser Heads are installed outdoors, where a clear optical path exists between the two sites. Next to the head the Outdoor Interconnection Unit provides fast and easy interconnection between the laser head and the cable coming from the network equipment. The OIU houses the Power Supply Unit (PSU) of the system and the network interface. The PSU provides the low voltage power required to operate the laser head while the data port offers direct connectivity for standard network equipment.

A variety of standard copper and fiber interfaces are available for voice and data applications. The system contains a built-in signal monitoring unit, which features a visual signal strength indicator and LINK status information accessible on the rear of the head assembly. The optional IP Based Management Hardware is placed in an Indoor Interconnection Unit (IDU). The bar graph of the IDU displays the actual signal strength level while the LED indicators show the presence of minor or major alarm condition. With the help of the relay contacts an external alarm monitoring equipment may be connected to the system to further process the alarm signals. Additionally, LaserBit's BitView™ software allows the monitoring of the link's operation through a proprietary graphical interface (GUI) via Ethernet or RS-232 ports or a third party SNMP manager via TCP/IP connection.

### Investment Protection

Industry standard network interfaces and a clear upgrade path for higher bandwidth protect the customer's investment in LaserBit systems. PRONTO systems also offer high levels of network flexibility due to their extremely fast and easy installation method, which makes them ideal to follow network topology changes.





## LaserBit PRONTO Series - Technical Specifications

### ELECTRICAL CHARACTERISTICS

Light source	Laser Diode
Laser diode power	2 x 70 mW
Detector	APD Photodiode
Dynamic range	>40 dB
Bandwidth	1 — 155 Mbps depending on model
BER	< 10 <sup>-9</sup>
System latency	< 50 ns

### DATA IN / OUT

Fast Ethernet E1, 4xE1 and 16xE1 series	RJ-45 socket MM fiber between the head and IDU, 75 Ohm BNC (unbalanced) and 120 Ohm RJ-45 (balanced) for G.703 connection on the IDU
E1/100 series	MM fiber between the head and IDU, 75 Ohm BNC and 120 Ohm RJ-45 for E1 G.703 and RJ-45 (100BaseTX) connection for LAN on the IDU
Transparent Channel, ATM 155 series	62.5/125 MM fiber at 1300 nm with SC connectors (SM optional)

### ENVIRONMENT

Operating temperature	- 25 to + 60 Centigrade
Storage temperature	- 40 to + 80 Centigrade
Humidity	95% non condensed
Protection rating	IP65 for Head Assembly and Outdoor Unit, IP20 for Indoor Unit

### POWER

Power required	230 VAC, 50 W max. (110 VAC and 48 VDC optional)
Power to head	2x12 VDC, 2x1 A max.

### OPTICAL CHARACTERISTICS

Wavelength	785 nm
Beam divergence	0.5 - 15 mrad
Receiver acceptance angle	8.5 mrad

### PHYSICAL CHARACTERISTICS

Head Housing	Aluminium & Stainless Steel
Weight	18 kg
Dimensions (with cover and Alignment Unit, mm)	560 x 289 x 217

### ORDERING INFORMATION

LB-P1000E100TP	LaserBit LINK with Fast Ethernet (100BaseTX) interface. 10 - 1000 m distance between heads.
LB-P1000E100TP	LaserBit LINK up to 100Mbit/sec MM fiber optic I/F with SC connector. 10 - 1000 m distance between heads.
LB-P1000ATM155	LaserBit LINK, 155 Mbit/sec MM fiber optic I/F with SC con. 10 - 1000 m distance between heads.
LB-P1000-E1	LaserBit LINK + LE-E1-1300M/1E1 LINK (2 Mbps G.703 balanced and unbalanced IF. 10 - 1000 m distance between heads).
LB-P1000-4E1	LaserBit LINK + LE-E2-1300M/4E1 LINK (4x2 Mbps G.703 balanced and unbalanced IF. 10 - 1000 m distance between heads)
LB-P1000-16E1	LaserBit LINK + LE-E3-1300M/16E1 LINK (16x2 Mbps G.703 balanced and unbalanced IF. 10 - 1000 m distance between heads)
LB-P1000-E100/E1	LaserBit LINK + LE-COMB-E1/100/1300M LINK (G.703 + 100BaseTX IF. 10 - 1000 m distance between heads)

### ORDERING INFORMATION

LB-MGM*	IP based NM interface incl. Head Agent Module, Indoor Unit with indicators and alarm relay contacts.
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