

# MetaLIGHT® 100E



## Profit from Copper™

The MetaLIGHT 100E is a compact high-performance, symmetrical point-to-point, fiber-quality transport system that allows service providers to use their existing copper infrastructure to deliver a 2 to 67 Mbps Ethernet service throughout the Carrier Serving Area (CSA). The MetaLIGHT 100E delivers the maximum rate and reach available utilizing the existing copper plant. It maximizes carrier service revenues and can be installed within minutes, without the need to trench for fiber.

### Award-Winning Performance

The MetaLIGHT 100E breaks industry performance barriers employing extended G.SHDSL modems, which can achieve up to 4.6 Mbps symmetrical throughput per pair. MetaLIGHT 100E also introduces a revolutionary concept of Cross Talk Cancellation. This provides better performance and increased reach.

By optimizing the existing copper access network, the MetaLIGHT 100E reduces the cost and deployment times required to deliver high-performance broadband services. It also reduces or eliminates service order turn-downs and cuts the time from service order to first revenue. The result of this low-risk approach is a dramatically improved ROI and customer satisfaction.

The MetaLIGHT 100E is comprehensively certified to the strictest safety and emission standards and offers unparalleled ease and flexibility for broadband transport deployment. Upon power-up, the MetaLIGHT 100E self-calibrates within minutes for immediate delivery of network services within the CSA. The MetaLIGHT 100E provides a 10/100 Mbps Ethernet interface as the demarcation point for the service to the customer.

### MetaLOOP™ Technology

The MetaLIGHT 100E is based on Actelis' patented MetaLOOP™ technology that transforms multiple copper pairs into a fiber-quality High Speed Link™(HSL™). The HSL carries scalable, symmetrical bandwidth at unprecedented speeds while complying with established worldwide spectral compatibility standards. The MetaLIGHT 100E HSL delivers a fiber-quality Bit Error Rate (BER) typically  $10^{-12}$  or better, with voice-grade delays less than five milliseconds. The MetaLIGHT 100E can therefore support present or future Ethernet Quality of Service (QoS) requirements, and has the highest available packet throughput efficiency.

### Fiber Quality and Reliability

The MetaLIGHT 100E is an extremely reliable system. It achieves this by intelligently monitoring pair performance and environmental conditions and allocates bandwidth to maximize the throughput on the copper pairs. The MetaLIGHT 100E also uses powerful algorithms, which combine space and time diversity principles with a forward error correction coding scheme. A system approach to pair management decreases the vulnerability of individual lines to severe noise and other network disturbances.

The MetaLIGHT 100E supports customer VLAN transparency in accordance with 802.1q, including four 802.1p priorities. It also supports 802.3x for flow control management and wire-speed non-blocking Layer 2 bridging.

The system is graphically managed via the MetaASSIST™ application, by SNMP V2.0 standard MIBs and by a command line interface (TL1), both locally and remotely via an IP network. Both in-band and out-of-band management are available as well as provisioning back-up and restore capabilities.

## Highlights

- Rapid Service Deployment
- Superior Rate and Reach up to 18,000 ft/5.5 km
- Fiber Quality and Reliability
- Low Delay for Voice and Video Quality Transmission
- Compliant with Worldwide Spectral Standards
- NEBS Level III, FCC, UL and CE Certified
- OSMINE Compliant
- Environmentally Hardened
- Ethernet in the First Mile (EFM) Solution

## Applications

- Transparent LAN Service
- DSLAM Backhaul
- Fast Internet Access
- Metro Ethernet Extension
- Private Campus Networks Intra-Connection
- MDU/MTU Backhaul
- Cellular and WiFi Backhaul

## Markets Served

- RBOC's, Independent Operators, Competitive Operators
- Federal, State and Local Government Agencies
- Education, Health Care, Utilities



# MetaLIGHT® 100E



## System Specifications

- Bandwidth 2 to 67 Mbps
- BER 10<sup>-10</sup> guaranteed, typically 10<sup>-12</sup> or better
- Low delay typically 3-5 ms

## Product Specifications Interfaces

### Ethernet

- No. of Connections 2
- Interface 10/100BaseT, 802.3, Auto-negotiating, Auto MDIX Full or half duplex RJ45 (front)
- Connector Type RJ45 (front)

### HSL (Copper Pairs)

- No. of Lines Up to 16 per shelf
- Connector Type 50-pin Telco (rear)

### LAN Protocols

- Ethernet
- VLAN Tagging 802.1q
- Priorities (4 Queues) 802.1p
- Dynamic Bridging 802.1, up to 4K MAC addresses
- Flow Control 802.3x

### Management

#### Protocols

- SNMP V2c and V1
- Command Line Interface (TL1)
- Via Serial, Telnet, or Modem Connection

#### Configuration

- MetaASSIST
- Command Line Interface (TL1)

#### Monitoring

- MetaASSIST
- SNMP - Traps, Get
- Performance Statistics
- System Logs

### Management Interfaces

#### Ethernet Interface

- Electrical Interface 10/100BaseT
- Connector Type RJ45 (rear)

#### Craft Interface

- Electrical Interface EIA RS-232
- Connector Type DB9 (front)

#### External Modem Interface

- Electrical Interface EIA RS-232
- Connector Type DB9 (rear)

### Front Panel Features

#### System LEDs

- Power
- Critical/Major/Minor and Remote HSL Alarms
- Alarm Cutoff Button (ACO)

### Card LEDs

- Active
- Status

### Ethernet Interface LEDs

- Active (ACT)
- Link (LNK)

### Alarm Contacts

- DB15 and wire-wrap (rear)

### Physical

- Rack Mounting 19", 23" or ETSI racks
- Dimensions
  - Height: 3.50" (2U) (88mm)
  - Depth: 11.0" (280mm) DC
  - 12.0" (305mm) AC
  - Width: 17.4" (442mm)
- Weight 14.8 lb (6.7 kg)
- Power
  - AC: 90-264 V, 47-63 Hz, 85 Watts
  - DC: -48/-60 V nominal, Dual A&B, 70 Watts

### Regulatory Approval

#### Safety

- UL60950, CSA C22.2 60950
- EN 60950, IEC 60950

#### EMC

- FCC Part 15 Class A
- ICES-003 Class A
- FCC Part 68 Class
- ETSI EN 300 386
- ETSI ETS 300 132

#### NEBS

- Level III (GR-1089-CORE, GR-63-CORE)

#### CE

- EMC and Safety Certified

### Environmental

- Operating Temp. -40° to +65°C
- Storage Temp. -40° to +70°C
- Relative Humidity Up to 95%, non-cond.
- GR-63-CORE
- ETSI ETS 300 019

### Ordering Information

Description	Equipment	Model No.
4 Pairs DC	MetaLIGHT 100E/4N/DC	. . .501R20388
8 Pairs DC	MetaLIGHT 100E/8N/DC	. . .501R20333
16 Pairs DC	MetaLIGHT 100E/16N/DC	. . .501R20355
AC Power	AC-PFM	. . . . .506R20377

For information regarding pricing and ordering options, please contact Actelis sales.



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