

## FlexStream AK626LC Multi Mode Service Access Node



AK626LC

Positron's next generation AK626LC point-to-multipoint FlexStream line card enables the transport of high-quality, ultrahigh-bandwidth Ethernet business services and Mobile backhaul services over bonded copper pairs. The FlexStream AK626LC point to multipoint line card is a standard compliant VDSL2/ADSL2+ multimode system with vectoring. The AK626LC line card is capable of delivering up to 1 Gbps of aggregate bandwidth over bonded copper pairs.

### **FlexStream AK626LC Point-to-Multipoint MSAN System with Robust Bonded Pair Protection**

The AK626 line card can be deployed in conjunction with the industry leading Positron Access Solutions AK500 series 8/4 pair Carrier Ethernet bonded copper products. On the opposite end, the AK626LC connects to an eight pair AK624 remote unit or to a four pair AK622 remote unit. Vectoring capability enables the service providers to increase the bit rate at the same reach. The AK626LC is designed to dynamically compensate for individual copper pair failures. If a copper pair fails, the AK626LC automatically adjusts the other copper pair Signal-to-Noise Ratio (SNR) margins to compensate for the loss. This unique resiliency feature allows any pair to protect all the pairs in a bonded group.

### **Business Ethernet and Mobile Backhaul Services**

Traditionally, Ethernet services were only available to customers served by fiber. However, with the AK626LC, service providers can now provide scalable Ethernet bandwidth up to 800 Mbps to small medium enterprises/businesses. Wireless carriers and service providers can now extend and expand the growing Mobile backhaul bandwidth at a fraction of the fiber deployment cost and future proof their backhaul network with bandwidth up to 800 Mbps. The AK626LC offers high density ultrahigh bandwidth capable of supporting a combination of two/four/eight pair bonded group in a single line card (with vectoring and G.INP impulse noise protection). The AK626LC flexible bonded group and point-to-multipoint capability lowers the total cost of ownership (TCO) and enables faster return on investment (ROI) to carriers.

### **Feature Rich and Standards Compliant**

The unique multimode capability allows the carriers to deploy ultrahigh bandwidth at short distances or extend the rate/reach beyond CSA limits. The AK626LC can be configured for all VDSL2 profiles up to 17a and will automatically switch to ADSL2+ on longer loops and then ADSL2 and ADSL. The AK626LC system is a standards-based multimode product that provides superior performance and reliability. The AK626LC capabilities also include features that improve the stability and performance of the copper loop, such as VDSL2 virtual noise, artificial noise generation, seamless rate adaptation and impulse noise monitoring.

Positron's FlexStream products deliver DMT-based Ethernet over Copper (EoC) services that can seamlessly co-exist in the same binder groups with ADSL, ADSL2, ADSL2+, VDSL and VDSL2 and other subscriber loop technologies. AK626LC is compliant with IEEE 802.3ah 10-PASS-TS, IEEE 802.1 and 802.3 LAN standards. Positron's copper bonded products also comply with Metro Ethernet Forum MEF9/MEF14/MEF17 requirements.

### **Built to Combat Cross-talk with no Rate/Reach Compromise**

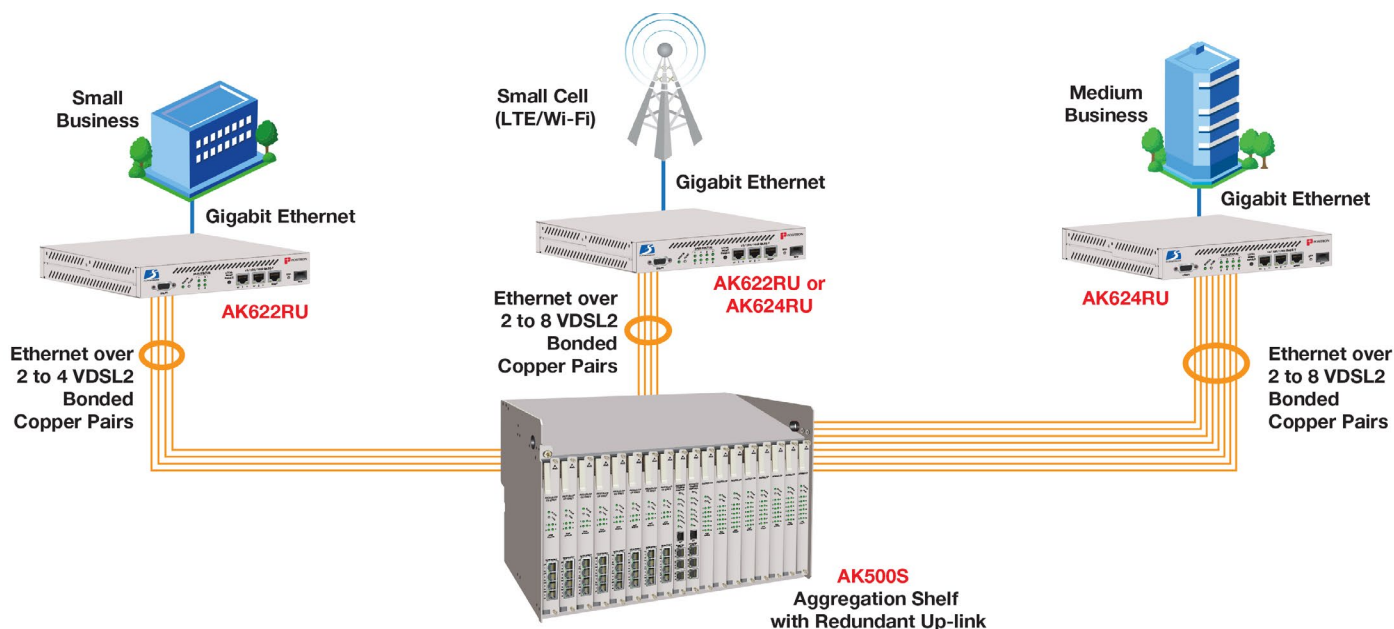
The AK626LC vectoring noise cancellation technique significantly enhances the bandwidth when compared to the standard VDSL2 bonded copper solutions.

### **Ease of Installation and Management**

The AK626LC system can be securely managed by Positron's Element Management Software (AKEMS) and AktinoView (GUI software) or via a Command Line Interface (CLI). The AK626LC interoperates with industry standard Network Management Systems providing comprehensive performance monitoring for both Ethernet and physical layers.



FLEXSTREAM



## TECHNICAL SPECIFICATIONS

### System

- 12 port line card (16 line cards per shelf)
- Up to four bonding groups per line card
- One to eight pairs per bonding group
- Co-existence with the AK500 system in the AK500S shelf
- Bandwidth:
  - 200/300/400Mbps up to 800Mbps Asymmetric < 3Kft
  - 10/20/30/40/50/100Mbps Symmetric < 3Kft
  - 50Mbps Asymmetric at 12Kft
- Resiliency: Carrier grade automatic pair failure protection
- Minimum INP, Upstream/Downstream per bonding group
- Min/Max Latency, upstream/down stream, per bonding group
- BER:  $10^{-7}$

### Physical Layer Compliance

- ANSI T1.413 Issue I and II, ETSI TR328 and TS101-270, ITU-T G.992.1, G.992.2, G.992.3, G.992.5, G.993.2, G.996.1 (G.test), G.997.1 (G.Ploam), IEE 802.3ah 10-PASS-TS

### Standard Interfaces: Ethernet

- Number of Ports: 2 per shelf
- Interfaces: 100 BaseFX and 1000 BaseX SFP
- Compliance: IEEE 802.3

### Outside Plant Pairs

- Technology: G.Vector (ITU-T G.993.5)
- Number of Pairs: Up to 12 pairs
- Sealing Current: 50V/100mA per pair
- Compliance: T1.417 (Spectral)

### Fault Monitoring

- Pair Fault - Open Tip-ring, Tip-ring short, Tip-ground short, Rin-ground short
- Alarm generation
- Bad pair solution
- Automatic re-introductions of fixed pair
- SELT/DELT

### Management Interface

- Inband Management

### Layer 2 Features

- VLAN Tagging: IEEE802.1q Support
- Stacked VLAN Tagging IEEE 802.1ad (IEEE 802.1QinQ)
- Support up to 2036 byte Maximum Transmission Unit (MTUs)
- Priorities: IEEE802.1p, Port, or DiffServ
- Dynamic Bridging: 8K MAC Addresses
- Metro Ethernet Forum Certified (MEF9, MEF14)

### Electrical Specifications

- Local Power Input: Operate between -40 and -56.7 Vdc
- Max Heat Dissipation: 50 Watts
- Sealing Current

### Environmental Specifications

- Operating Temperature: -40 to +45 °C
- Storage Temperature: -40 to +70 °C
- Relative Humidity: Up to 95%, non-condensing

### Mechanical Specifications

- Line Card Dimensions: 8.75" (22.2 cm) High x 0.93" (2.4 cm) Wide x 9.87" (25.1 cm) Deep
- Weight: 3 lbs (1.4 kg)

### Network Management

- Command Line Interface (CLI), SNMP
- Positron Element Management System (AKEMS) or AktinoView EMS, GUI and Web
- Inband VLAN Management

### Regulatory Approval

- NEBS Level 3
- UL60950
- FCC Part 15 Class A
- Tested to GR487



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