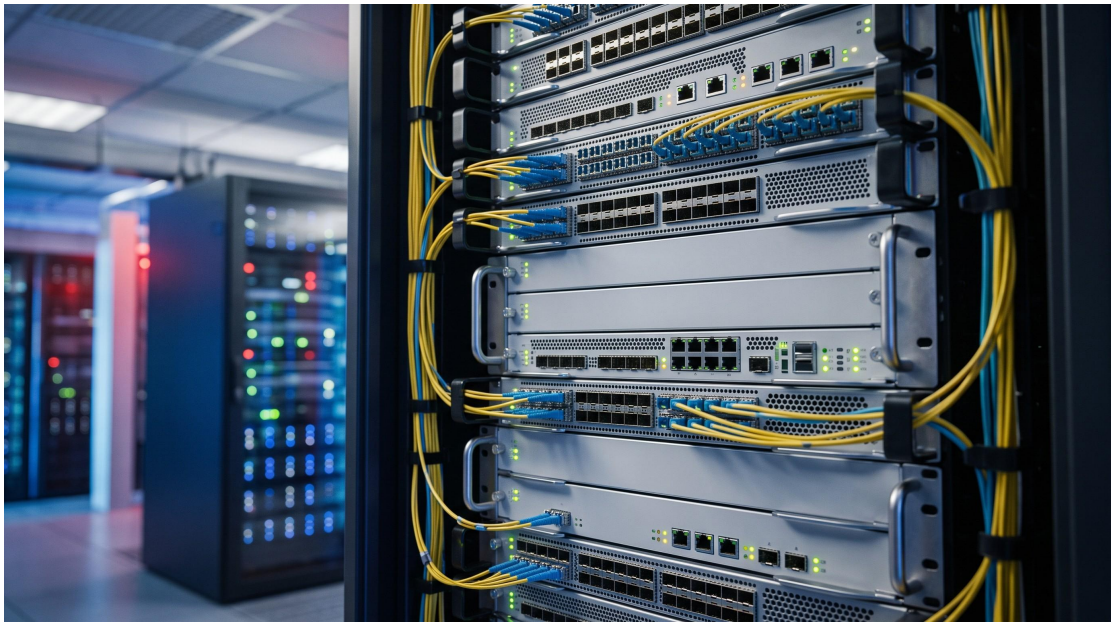
FiberHome AN5516-01 - Official Technical Overview & Hardware Datasheet

EXECUTIVE SUMMARY

The FiberHome AN5516-01 represents a flagship carrier-class Optical Line Terminal (OLT) platform engineered for the rigorous demands of next-generation telecommunications access networks. As a large-capacity, high-density multi-terabit platform, the AN5516-01 delivers unparalleled scalability and service versatility, designed to serve as the cornerstone for FTTx deployments in high-density urban, enterprise, and mobile backhaul environments.

This official technical overview details the hardware architecture, interface specifications, and operational capabilities of the AN5516-01, providing network architects and procurement engineers with the authoritative data required for deployment planning and infrastructure evaluation. The platform's unified architecture supports GPON, EPON, 10G PON (XG-PON/XGS-PON), and P2P access technologies on a common platform, ensuring seamless service evolution and maximum return on network investment.



HARDWARE ARCHITECTURE & SILICON

The AN5516-01 is built upon a 19-inch rack-mountable chassis featuring 16 universal service slots, enabling exceptional port density and configuration flexibility. The platform's backplane delivers a massive switching capacity of 3.2 Tbit/s, with control board switching capacity reaching 1920 Gbit/s, ensuring non-blocking line-rate forwarding across all populated slots.

The system employs high-performance, low-power silicon optimized for carrier-grade packet processing. At full capacity, a single chassis supports up to 256 GPON ports or 128 10G PON ports, translating to connectivity for over 16,000 subscribers at a standard 1:64 split ratio. The packet forwarding engine manages up to 288K MAC addresses and 128K IPv4/IPv6 routing entries, providing the table depth required for complex large-scale network topologies.

KEY FEATURES & ROUTING LOGIC

- Massive Backplane Capacity: 3.2 Tbit/s switching fabric supporting full non-blocking configuration across 16 service slots.
- Unified Multi-PON Architecture: Single platform supporting GPON, EPON, 10G EPON, XG-PON, XGS-PON, and P2P access, eliminating the need for separate chassis during technology migration.
- High-Density Uplink Options: Supports 10GE, GE (optical/electrical), STM-1, and E1 uplink interfaces, with maximum 16 × 16GE downstream interface configurations.
- Advanced L2/L3 Routing: Full wire-speed forwarding with support for static routing, RIP, OSPF, VRRP, and MPLS.
- Carrier-Class Redundancy: Redundant control boards, uplink boards, and power supply modules; PON port TYPE B/C protection; dual-homing/RSTP/LACP uplink protection.
- Precision Timing: IEEE 1588v2 protocol support with 1PPS + ToD clock input and output, enabling synchronization-critical service delivery.
- Energy Efficient Design: High-performance low-power chips with 8-speed temperature-controlled intelligent fans and idle port sleep mode for reduced operational expenditure.

COMPLIANCE & STANDARDS

The FiberHome AN5516-01 is fully compliant with international telecommunications standards governing passive optical networking and carrier Ethernet transport. The platform adheres to ITU-T G.984 (GPON), ITU-T G.987 (XG-PON), IEEE 802.3ah (EPON), and IEEE 1588v2 (Precision Time Protocol) specifications. The system supports Class B+, C+, and C++ optical module classifications, accommodating diverse power budget requirements across varying fiber plant conditions.

TECHNICAL SPECIFICATIONS

The following specification matrix provides the authoritative technical parameters for the AN5516-01 platform. Values represent maximum configurations under optimal operating conditions.

Parameter	**Specification**
Form Factor	19-inch Rack-Mountable Chassis, 10U-11U Height
Service Slots	16 Universal Service Slots
Backplane Switching Capacity	3.2 Tbit/s
Control Board Switching Capacity	Up to 1,920 Gbit/s

Maximum GPON Ports	256 per chassis
Maximum 10G PON Ports	128 per chassis
Maximum Split Ratio	1:256
Maximum Logical Distance	60 km
Uplink Interfaces	10GE Optical; GE Optical/Electrical; STM-1; E1
MAC Address Table	Up to 288K entries
IPv4 Routing Table	Up to 128K entries
Layer 2/3 Forwarding	Wire-speed
Routing Protocols	Static, RIP, OSPF, VRRP, MPLS
Timing Synchronization	IEEE 1588v2; 1PPS + ToD
Power Supply	Dual Hot-Swappable Redundant -48V DC
Operating Voltage Range	-38.4V to -72V DC
Operating Temperature	-25°C to +55°C
Operating Humidity	5% to 95% (non-condensing)
Optical Module Support	Class B+, C+, C++
Optical Connector Type	SC/PC (G.652 single-mode fiber)

ORDERING SKU INFORMATION

The AN5516-01 platform is available in multiple chassis and configuration options. Standard configurations include the base chassis with 16 service slots, dual control boards (HSWA or equivalent), dual power supplies (-48V DC or AC options), and customer-specified line card combinations. Common line card SKUs include the GCOB (16-port GPON with C+ optics), GC8B (8-port GPON), EC8B (8-port EPON), and HU1A/HU2A uplink boards. Contact FiberHome authorized distribution channels for specific SKU availability and configuration guidance.

