

Product Overview

Optimized for mobile backhaul and large-scale wholesale Ethernet applications, the FSP 150CC-GE201 enables cost-effective delivery of Carrier Ethernet 2.0 services and highly accurate synchronization over fiber-based access networks. All interfaces are copper and fiber combo ports with Fast and Gigabit Ethernet multi-rate capability. Network interface protection, redundant power supplies and the temperature-hardened design ensure highest service availability.

Syncjack™ Timing Excellence

Its comprehensive Syncjack™ technology for timing distribution, monitoring and timing service assurance opens new revenue opportunities from the delivery of SLA-based synchronization services. Offering unique flexibility, the FSP 150CC-GE201 simultaneously supports Synchronous Ethernet and IEEE 1588v2 across packet backhaul networks. Traditional T1/E1- or GPS-based synchronization can now be replaced with highly accurate synchronization and controlled timing over packet.

End-to-End Etherjack™ Service Assurance

The FSP 150CC-GE201 is designed for highest service availability. ADVA Optical Networking's Etherjack™ demarcation technology enables service providers to provide an intelligent Carrier Ethernet 2.0 service demarcation point, compliant with the latest OAM standards such as 802.3ah, 802.1ag, Y.1731 and RFC 2544. The FSP 150CC-GE201 also features synthetic frame loss and delay measurement for multi-point service monitoring. The sophisticated and MEF-certified UNI function includes support for a large number of EVCs, as well as hierarchical QoS management. SLA verification can be performed on a per-service basis to ensure strong latency, jitter and packet delivery performance for mission-critical applications.



Scalability for Wholesale Deployment

As Carrier Ethernet networks scale, low-touch provisioning capabilities become essential to ensure cost-efficient service rollout and to significantly reduce the need for truck rolls. With the extensive set of standards-based auto-configuration functions and remote OAM capabilities built into the FSP 150CC-GE201, unskilled craft personnel can install and turn-up services without onsite provisioning. Combined with the FSP 150CM, a modular ENNI demarcation and aggregation solution, the FSP 150CC-201 is ideal for large-scale wholesale and open-access service offerings of intelligent Carrier Ethernet 2.0 services.

Features & Benefits

- Optimized for large-scale access network deployments in intelligent mobile backhaul and wholesale Carrier Ethernet 2.0 applications
- MEF-certified UNI implementation with hierarchical traffic management for advanced service definition and low-latency forwarding
- Comprehensive Syncjack™ technology for timing distribution and delivery of SLA-based synchronization services
- Etherjack™ demarcation technology for support of stringent SLAs and integration with a wide range of back-office support tools
- Low-touch provisioning capability to ensure that unskilled craft personnel can install and turn-up services without any onsite provisioning

Technical Information

Access Capacity

- One port 10/100/1000BaseT or one port 100/1000BaseX (SFP)

Network Interface

- 2 ports 10/100/1000BaseT or 2 ports 100/1000BaseX (SFP)

Network Interface Redundancy

- LAG Active/Standby
- ITU-T G.8031 Linear Protection Switching

Synchronization (optional)

- ITU-T G.8261/G.8262/G.8264 Synchronous Ethernet on all interfaces
- Sync Status Message support
- IEEE 1588v2 Precision Time Protocol for Time of Day
- BITS-in and BITS-out
- BITS Sync Status Messaging

VLAN Support

- 4096 VLANs (IEEE 802.1Q customer-tagged) and stacked VLANs (Q-in-Q service provider tagged)
- 2-tag management (push/pop/swap) for c-tag and s-tag
- IEEE 802.1ad Provider Bridging (c-tag, s-tag)
- Ethertype translation
- 128 Ethernet Virtual Circuits (EVC)
- 9612 Byte per frame MTU transparency

Traffic Management

- Acceptable client frame policy: tagged or untagged
- Service classification based on 802.1p, 802.1Q and IP-TOS/DSCP
- MEF-compliant policing (CIR/CBS/EIR/EBS) with 3-color marking and 8 classes of service
- Hierarchical queuing and shaping
- Port shaping on transmit for both client and network ports

Ethernet OAM

- IEEE 802.3ah EFM-OAM Link Management
- IEEE 802.1ag Connectivity Fault Management (CFM)
- ITU-T Y.1731 Performance Monitoring
- Terminal and facility loopbacks on port- and EVC-level for all interfaces
- Cable diagnostics with benchmarks (electrical interfaces only)
- Embedded RFC 2544 test generator and analyzer (ECPA)
- MEF-compliant Layer 2 Control Protocol Disposition and extensive filter options for Layer 2 packet types
- Link Loss Forwarding to signal local link and network path failures
- Dying gasp message for power failure alarming

Performance Monitoring

- RFC 2819 RMON Etherstats on a per-port and per-service basis
- 15-minute and 1-day performance data bins
- IEEE 802.3ah/ITU-T G.8021 PHY level monitoring
- ITU-T Y.1731 single- and dual-ended Frame Loss Measurement
- Synthetic Frame Loss and Delay Measurement for multi-point service monitoring
- Multi-CoS monitoring on EVCs scaling up to 512 simultaneous flows
- Threshold-setting and threshold-crossing alerts
- Physical parameter monitoring for SFP optics, including TCAs
- Temperature monitoring and thermal alarms

Low-Touch Provisioning

- DHCP/BOOTP auto-configuration
- IEEE 802.1x port authentication
- Text-based configuration files
- TFTP for configuration file copy

Management and Security

Local Management

- Serial connector (RJ45) using CLI
- Local LAN port (RJ45) using CLI, SNMP and Web GUI interfaces

Remote Management

- Maintains in-band VLAN and MAC-based management tunnels
- Full interoperable with FSP 150CM and other FSP 150CC products

Management Protocols

- Telnet, SSH (v1/v2), HTTP/HTTPS, SNMP (v1/v2c/v3)

Secure Administration

- Configuration database backup and restore
- System software download via FTP, HTTPS, SFTP or SCP (dual flash banks)
- Remote authentication via RADIUS/TACACS
- SNMPv3 with authentication and encryption
- Access Control List (ACL)

IP Routing

- DHCP, RIPv2 and static routes, ARP cache access control

System logging

- Alarm log, audit log and security log

Regulatory and Standards Compliance

- IEEE 802.1Q (VLAN), 802.1p (Priority), 802.1ag (CFM), 802.3ah (EFM), 802.1x
- ITU-T Y.1731, G.8010/Y.1306, G.8011.1+2, G.8012, G.8031 (APS)
- MEF-6.1, -9, -10.2, -11, -14, -20, -21, -22.1, -23.1, -25, -26.1, -30, -33, -35
- IETF RFC 2544 (Frame Tests), RFC 2863 (IF-MIB), RFC 2865 (RADIUS), RFC 2819 (RMON)
- ANSI C84.1-1989
- ETSI 300 132-2, BTNR2511, ETS 300-019, ETS 300-019-2-[1,2,3], ETS 300-753
- NEBS Level 3 certified
- Telcordia GR-499, GR-63-CORE, SR-332
- Safety IEC/UL/EN 60950, 21CFR1040.10, EN 60825, EN 50371, EN 300-386, EN 50160, IEC 60320/C14
- EMI EN 300-386, GR-1089-CORE, ETS 300-132, FCC Part 15, Class A, Industry Canada

Environmental

- Dimensions: 1U compact chassis, 439mm x 43mm x 269mm / 17.3" x 1.75" x 10.6" (W x H x D), ETSI-compliant
- Operating temperature: -40 to +65°C (hardened environment)
- Storage temperature: -40 to +70°C (GR-63-CORE)
- Humidity: 5 to 95%, B1 (non-condensing)
- Modular AC-PSU: 90 to 264VAC (47 to 63Hz) with over-voltage and over-current protection
- Modular DC-PSU: -36 to -72VDC or +18 to +30VDC with over-voltage and over-current protection
- Maximum power consumption: 20 Watts



For more information please contact an ADVA Optical Networking consultant or visit us at www.advaoptical.com

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