

Tellabs® 8605 Access Switch

Compact cell site access network element with superior synchronization features

The Tellabs® 8600 Managed Edge System is a scalable and versatile backhaul solution for evolving access networks. It is designed to meet the ever-growing requirements of data hungry mobile users. This LTE-ready platform provides an extensive Ethernet and IP feature set. Simultaneous support of MPLS, TDM, ATM and FR protects previous network investments. The Tellabs 8600 product family is fully supported by the Tellabs® 8000 Intelligent Network Manager, which is an easy to use end-to-end network management solution. The Tellabs 8000 intelligent manager minimizes operational and maintenance costs and scales up to tens of thousands of network elements.

Main Application

The cost-efficient Tellabs® 8605 Access Switch is an optimal solution for service providers' access networks at small traffic aggregation points or cell sites. A diverse set of different access and uplink interfaces offer efficient alternatives for backhaul and provide flexibility for the mobile evolution. The Tellabs 8605 switch is LTE-ready providing bi-directional switching capacity up to 2 Gbps coupled with the latest synchronization features. Versatile service capabilities such as Ethernet connections, IP routing, support for TDM, ATM and HDLC, enable smooth migration of 3G ATM and 2G TDM into an Ethernet or IP-based network infrastructure. The Tellabs 8605 switch has packet-based forwarding with QoS support enabling network optimization for voice and data services.

Features and Benefits

The Tellabs 8605 switch is an environmentally hardened, compact switch (1RU). The bi-directional switching capacity of the Tellabs 8605 switch is up to 2 Gbps (packet size dependent) and is designed for cost-efficient delivery of LTE, 3G and 2G voice and data services over a common network infrastructure.

The Tellabs 8605 access switch variants offer sixteen channelized E1/T1 interfaces, two DS3 interfaces, two Ethernet 10/100BASE-TX and two Ethernet Combo interfaces, which can be used as 2 x 100/1000BASE-X SFP or 2 x 10/100/1000BASE-TX. The Tellabs 8605 switch supports Ethernet, ATM, HDLC, SAToP and CESoP pseudowires and has an external alarm interface and station clock input.

The highly accurate oscillator improves packet synchronization performance in challenging conditions. When combined with a feature set that enables robust functionality in any cell site, the Tellabs 8605 switch is an ideal solution for access sites.



The Tellabs 8605 switch is LTE-ready providing bi-directional switching capacity up to 2 Gbps

Robust Synchronization

Mobile networks are sensitive to synchronization. For TDM networks, the Tellabs 8605 switch supports traditional line signal based synchronization and for packet based networks, it supports IEEE 1588v2, Adaptive timing and Synchronous Ethernet. Furthermore, the Tellabs 8605 switch supports a high quality OCXO, which provides accurate temperature stability for IEEE 1588v2, adaptive timing recovery as well as a highly stable node clock holdover.

Quality of Service Testing in Packet Networks

With a unique Packet Loop Test feature that enables the testing of service parameters, including delay, jitter, throughput and connectivity, the Tellabs 8605 switch helps to verify that the packet network meets the latest QoS requirements of voice, video and data services.

Energy-Efficient Network Element with Multiprotocol Support

The Tellabs 8605 access switch is very energy-efficient thanks to its low power consumption. In addition, it is managed by the Tellabs 8000 intelligent network manager with multiprotocol support and therefore requires only minimal on-site support.

Specifications:

Physical Dimensions

- 446 x 44.35 x 250 mm / 17.56 x 1.75 x 9.84 in (W x H x D)
- Installation into standard 19-inch rack. The 23-inch and ETSI 600 mm racks supported with side adapters.
- Wall-mountable
- 1RU high

Power and Cooling

- Dual feed, wide range (-48 VDC to +24 VDC) power module (one per element)
- 100-240 VAC power module
- Free convection cooling
- Power consumption: typical 22W, maximum 31W

Tellabs 8605 Access Switch Variants

- The Tellabs 8605-A access switch enables basic functionality with support for Abis optimization.
- The Tellabs 8605-B access switch has a highly accurate oscillator that improves packet synchronization performance in challenging conditions.
- The Tellabs 8605-D access switch includes two un-channelized DS3 ports providing the same functionality and performance as the Tellabs 8605-B access switch.

Functionality

- IP VPN (RFC4364)
- Ethernet/VLAN, SAToP, CESoPSN, ATM and HDLC pseudowires
- Single and multi-segment pseudowires
- TDM cross connection
- ATM VP/VC switching
- ATM cell concatenation
- ATM IMA
- MC / MLPPP, PPPmux
- Y.1731 frame loss, frame delay and frame delay variation support
- IEEE802.1ag Ethernet OAM loopback, continuity check, ping and link trace
- BFD (Static, OSPF, ISIS, RSVP-TE)

Forwarding Capacity

- Up to 2 Gbps (packet size dependent)

Chassis Configuration

- 16 x chE1/chT1
- Two un-channelized DS3 interfaces (Tellabs 8605-D switch: DS3 ports replace two chE1/chT1 ports)
- Two 10/100 BASE-TX interfaces
- Two Ethernet Combo (2 x 10/100BASE-TX/1000BASE-T or 2 x 1000BASE-X SFP) interfaces
- Local management port (RS-232 type)
- External alarm interface
- Station Clock Input (SCI)

Resiliency

- 1:1 RSVP-TE LSP protection
- Fast Reroute (FRR)
- IP load balancing (Equal Cost Multipath - ECMP)

Synchronization

- ITU-T G.813 option 1 (Tellabs 8605-B Access Switch and Tellabs 8605-D Access Switch)
- ITU-T G.813 option 2 (Tellabs 8605-A Access Switch)
- ITU-T G.8262 (Tellabs 8605-B Access Switch and Tellabs 8605-D Access Switch)
- Telcordia [GR-1244] Stratum-3 (Tellabs 8605-B Access Switch and Tellabs 8605-D Access Switch)
- Synchronous Ethernet
- SSM over Ethernet [G.8264]
- Adaptive synchronization from SAToP and CESoPSN pseudowires
- IEEE 1588v2 Precision Time Protocol

IPv4 Routing and MPLS Label Distribution Protocols

- OSPF-TE, ISIS-TE, BGP and MP-BGP
- LDP, RSVP-TE

Traffic Management

- DiffServ support for up to 7 traffic classes
 - 7 queues in E1/T1 interfaces
 - 4 queues in Ethernet interfaces
- DiffServ aware MPLS Traffic Engineering (DS-TE)
- IEEE802.1P/Q mapping for IP or MPLS
- Policing and shaping
- VLAN shaping
- Access Control Lists (ACL)
- ATM service categories: CBR, rt-VBR, nrt-VBR, UBR+, UBR
- ATM VC queuing/shaping



Management

- CLI with SSH2, FTP with SSH2
- SNMPv1 and SNMPv2 monitoring
- Tellabs® 8000 Intelligent Network Manager

Standards

- Safety: EN 60950-1:2006 and IEC60950-1:2005
- EMC: EN 300 386:2008
- RTTE Directive 1999/5/EC
- FCC 47 CFR Part 15, Subpart B, Class B
- NEBS level 3

Environmental Conditions

- Storage: ETSI EN 300 019-1-1, Class 1.1, Temperature: -5°C to 45°C / 23°F to 113°F
- Transportation: ETSI EN 300 019-1-2, Class 2.3, Temperature: -40°C to 70°C / -40°F to + 158°F
- Normal operating conditions: ETSI EN 300 019-1-3, Class 3.2 (non-condensing), Temperature: -40°C to 65°C / -40°F to 149°F. With AC power operating temperature: -5°C to 45°C / 23°F to 113°F. Relative humidity: 5% to 95%.
- Minimum cold boot-up temperature: -20°C / -4°F

North America

Tellabs
1415 West Diehl Road
Naperville, IL 60563
U.S.A.
+1 630 798 8800
Fax: +1 630 798 2000

Asia Pacific

Tellabs
3 Anson Road
#14-01 Springleaf Tower
Singapore 079909
Republic of Singapore
+65 6215 6411
Fax: +65 6215 6422

Europe, Middle East & Africa

Tellabs
Abbey Place
24-28 Easton Street
High Wycombe, Bucks
HP11 1NT
United Kingdom
+44 871 574 7000
Fax: +44 871 574 7151

Latin America & Caribbean

Tellabs
Rua James Joule No. 92
EDIFÍCIO PLAZA I
São Paulo – SP
04576-080
Brasil
+55 11 3572 6200
Fax: +55 11 3572 6225

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