

Ribbon T7000® Intelligent Switching System



The Ribbon Communications' T7000® Intelligent Switching System is a wireline and wireless switching platform that provides economical access to an extensive array of IP and circuit-based, business and residential Class 5 features. Based on the patented blade-based switch design, each blade on the Ribbon T7000 performs all of the functions required of a Class 5 end-office switch.

Dedicated resources for call processing, service logic, switch fabric, media processing and signaling are performed on each blade. By minimizing common equipment, the Ribbon T7000 greatly improves service margins and gives carriers pinpoint control over network costs. The Ribbon T7000 is the ideal switch for operators that want to start small, leverage new technology with both packet and TDM interfaces, and grow their lines and services as needed. A fully functional system can be deployed cost-effectively with a single blade. After deployment, operators can easily address market growth by adding expansion blades to any of the remaining revenue-generating slots.

Ribbon T7000 Features

- Broadband passive midplane architecture
- Scalable distributed processing model
- Expandable switching capacity
- Resource-efficient, high-density design
- Non-blocking switch fabric
- Any-to-any interface interworking flexibility
- Fault tolerance and high availability
- Compliance with industry standards and regulations
- RUS listed

The Ribbon T7000 can utilize five types of blades:

- Packet Interface Card (PIC)
- Broadband Interface Card (BIC)
- T1 Interface Card (TIC)
- E1 Interface Card (EIC)
- Mobile Interface Card (MIC)



The Ribbon T7000 supports a wide range of access and trunking protocols, including:

- MGCP
- NCS
- SIP
- SS7
- MF
- ISDN-PRI
- GR303
- H.248

Ribbon T7000 System Interface Card Specifications



Packet Interface Card (PIC)

The Packet Interface Card provides all voice processing, signaling, switching, call control and management needed to provide VoIP service on a Ribbon T7000. A Ribbon T7000 equipped with a PIC can support simultaneous IP and TDM operations while performing interworking between the two, allowing complete interoperability between POTS and VoIP users. The PIC enables an industry-unique ability to allow the Ribbon T7000 to emulate an IAD when sub-tended to an IP applications server in order to deliver enhanced features to legacy TDM (GR-303) subscribers.

Specifications:

- Protocols: SIP, MGCP, Packet Cable NCS, and H.248
- Card Types: PIC3-500 and PIC3-2500
- Network Interfaces: 2 x RJ-45 Copper or 2x Single Mode Fiber or 2 x Multimode Fiber Gigabit Ethernet Interfaces
- Copper 1000Base-TX Gigabit Ethernet Tap Port
- Switch Fabric Interface: 16,384 port double speed mode, and 8,192 port
- Echo Cancellation: G.165/G.168 2000 complaint, 32/64/128ms echo tail per channel

CODEC Support:

- G.711
- G.729
- ILBC
- G.722
- G.723
- G.726
- G.728
- T.38



Broadband Interface Card

The Broadband Interface Card is a cost-effective, high-density solution for local exchange carriers and competing service providers for access and trunking connectivity.

Specifications:

- Capacity: 84 T1s–2,016 digital ports
- 16,384 TDM time slots, and 4 TDM busses
- Network Interfaces: DS3 44.736 Mbps, ANSI T1.404, and GR499-core compliant
- Framing: M13 and C-bit parity
- Signaling: SS7, ISDN-PRI, MFR1, and DTMF

Compliance:

- GR-499
- GR-253
- T1.105
- T1.107
- G.703
- NEBS Level III: GR-63, GR-1089
- FCC Part 15 Class A, Part 68
- EN55022A, UL1950 3rd Ed., CSA 22.2



Mobile Interface Card

The Mobile Interface Card provides a converged fixed and mobile network solution that enables all carriers to cost-effectively and seamlessly deliver advanced applications across any wireline and wireless network infrastructure including GSM/CDMA, 2G, 3G, and 4G.

Specifications:

- Protocols: GSM, CDMA, SIP, MGCP, Packet Cable NCS, and H.248
- Network Interfaces: 2 x RJ-45 Copper or 2x Single Mode Fiber or 2 x Multimode Fiber Gigabit Ethernet Interfaces
- Copper 1000Base-TX Gigabit Ethernet Tap Port
- Switch Fabric Interface: 16,384 port double speed mode, and 8,192 port backward compatible mode
- Echo Cancellation: G.165/G.168 2000 complaint, and 32/64/128ms echo tail per channel

CCODEC Support:

- G.711
- G.729
- ILBC
- G.723
- G.726
- G.728
- G.722



T1 Interface Card (TIC)

The T1 Interface Card provides cost-effective, medium density solutions. The TIC maximizes profitability by allowing operators to only pay for the capacity they need and easily grow into larger configurations.

Specifications:

- Capacity: 20 T1's–480 DS-0's
- 16,384 TDM time slots and 4 TDM busses
- Network Interfaces: DSX-1 (ANSI T1.101/ T1.102), and ANSI T1.403
- Signaling: SS7, ISDN-PRI, and DTMF
- Framing: DS-1, D4/SF, and DS1-ESF

Compliance:

- T1.231
- T1.403
- NEBS Level 3, GR64, and GR-1089
- FCC Part 15 Class A Part 68



E1 Interface Card (EIC)

The E1 Interface Card provides cost-effective medium-density solutions for international applications, such as Media Gateway in ETSI environments, on a field-proven hardware platform. The EIC provides service providers the same capacity granularity of E1's that is available on the all switch Interface Cards, maximizing service provider profitability and scalability.

Specifications:

- Capacity: 20 E1's-640 DS0's
- 16,384 TDM time slots, and 4 TDM busses
- Signaling: ITU-ISUP

Compliance:

- G.826

Framing:

- FF_E1 (default) no CRC4, CCS, turn off E bits, Si bits on
- FF_E1_CRC CRC4, CCS, turn on E bits, Si bits off
- FF_E1_MF no CRC4, CAS mode, turn off E bits, Si bits on
- FF_E1_CRC_MF CRC4, CAS mode, turn on E bits, Si bits off

The line coding is either LC_HDB3 (default) or LC_AMI

About Ribbon

Ribbon Communications (Nasdaq: RBBN) delivers communications software, IP and optical networking solutions to service providers, enterprises and critical infrastructure sectors globally. We engage deeply with our customers, helping them modernize their networks for improved competitive positioning and business outcomes in today's smart, always-on and data-hungry world. Our innovative, end-to-end solutions portfolio delivers unparalleled scale, performance, and agility, including core to edge software-centric solutions, cloud-native offers, leading-edge security and analytics tools, along with IP and optical networking solutions for 5G. We maintain a keen focus on our commitments to Environmental, Social and Governance (ESG) matters, offering an annual Sustainability Report to our stakeholders. To learn more about Ribbon, please visit rbbn.com.

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