

Ribbon Tenor AF Series VoIP MultiPath Switch



The Ribbon Communications Tenor AF Series VoIP MultiPath Switch is the simplest path to smarter, better communications for small offices and branch offices: superior Voice over IP sound quality, reliable security, cost-saving features and full integration with your existing PBXs and analog phones. The AF Series supports any-to-any connectivity between analog, H.323 and SIP devices, enabling branch offices to rapidly migrate analog phones onto SIP-based networks and communicate seamlessly with Ribbon session border controllers (SBCs). Each AF Series switch supports up to 40 unique endpoints and 900 calls per hour, making it the right choice for multi-protocol communications in small but busy locations.

The Tenor AF Series is available in three unique configurations depending on its application and location in the network:

- The **Tenor AFG VoIP Switch** is designed for communications between the PBX and the VoIP network;
- The **Tenor AFT VoIP Switch** is designed as a trunking solution between TDM- and VoIP-based networks;
- The **Tenor AFM MultiPath Switch** is designed for intra network communications over IP, including hop-off routing for PSTN calls.

Technical Specifications

System Capabilities (per Switch)

- Sessions
 - Up to eight simultaneous VoIP calls
 - Maximum call rate: 900 calls per hour
- Business Continuity/Survivability (for AFM and AFT Series only)
 - SIP outbound proxy
 - Supports up to 40 SIP endpoints
- Configurations
 - Choice of 2, 4 or 8 FXS and/or FXO configurations (see table below)



Management Capabilities

Operations, Administration & Management

- Auto-provisionable
- GUI-based Configuration Manager for multiple, remote switches
- GUI-based alarm monitoring, call monitoring and CDR (call detail record) monitoring
- Remote management via external Remote Management Session Server
- SNMPv2 Agent
- Command Line Interface (CLI) configuration via Telnet or RS-232 connection
- Call Detail Record (CDR) generation

Authentication

- IVR/RADIUS server support for AAA with integrated multilingual IVR+
- ANI authentication (Types 1 and 2)

Tenor AF Series	MultiPath AFM Series	Station AFG Series	Trunk AFT Series
2 VoIP calls	2 FXS/2 FXO	2 FXS/0 FXO	0 FXS/2 FXO
4 VoIP calls	4 FXS/4 FXO	4 FXS/0 FXO	0 FXS/4 FXO
8 VoIP calls	n/a	8 FXS/0 FXO	0 FXS/8 FXO

Media Services

- Auto codec negotiation: G.711, G.723.1, G.726, G.729a/b
- Modem support with G.711
- G.168 Echo Cancellation with standard 128 ms tail length
- Adaptive Voice Activity Detection (VAD)
- Comfort Noise Generation (CNG)
- Fax support: Group III at 2.4, 4.8, 7.2, 9.6 and 14.4 Kbps using industry standard T.38 (Super G3 compatible up to 33.6 Kbps)
- Automatic call type detection – voice, fax or modem

Signaling

- Any-to-any connectivity: SIP<->SIP, SIP<->H.323, H.323<->H.323, TDM<->TDM, SIP<->TDM, H.323<->TDM
- Tandem/TDM switching
- Support for multiple SIP User Agents (RFC 3261)
- SIP supplementary services
- DTMF signaling via RFC 2833 or SIP Info
- SIP header manipulation: automatic appending and stripping of digits to dialed numbers
- Loop Start, Reverse Battery and Battery Disconnect
- Coding: A law, I law

Protocol Support

- DHCP
- DNS
- H.323
- SIP
- SNMP
- TCP
- UDP

Routing/Policy

- Transparent MultiPath Call Routing
- Least Cost Routing (via Ribbon PSX™ Centralized Routing and Policy Server)
- Forced IP routing and IP port mapping
- Four types of configurable routing databases: Bypass Directory Numbers, Hunt Local Directory Numbers, Hop-Off Directory Numbers and Static Routes
- Multiple dial plan options: public/private dial plan, user-programmable dial plan
- Answer and disconnect supervision
- Pass-through support for calls to tollfree, local and special service numbers (e.g., emergency services)
- Type 1 Caller ID/Name Support (Telcordia, ETSI, NTT and DTMF)
- SIP REFER method

Security

- NATAccess™ network address translation firewall protection
- IP packet filtering

Quality of Service

- Adaptive jitter buffer
- Packet loss concealment
- IP Type of Service (TOS) and DiffServ support
- PacketSaver™ multiplexing technology: Reduces bandwidth consumption up to 57% by combining voice packets from multiple calls into a single packet

Hardware Specifications

Front Panel

- Status Indicators Front Panel LEDs
 - Operational Status
 - LAN Link
 - LAN Activity
 - Port(s) In Use

Rear Panel

- Standard RJ-45 LAN Interface (IEEE 802.3) for 10 BASE-T or 100 BASE-TX connections
- Two, four, six or eight standard RJ-11 connectors for analog line/trunk interfaces
- RS-232 connector for PC console
- DIAG connector for software diagnostics

Chassis

- 1U, rack mount
- Inches: 8.25 Wide x 2.0 High x 7.0 Deep
- Centimeters: 21.0 Wide x 5.1 High x 18.73 Deep

AC Power Option

- 100-240 VAC, 50-60 Hz
- Max power consumption: 22W

Operating Altitude

- 10,000 ft. (3,000 m.)

Weight Maximum Fully Populated

- 1.3 lbs. (0.6 kg)

Environmental

- 5° to 40° C operating
- -10° to 60° storage
- 20 to 80% non-condensing operating humidity

Industry Standards Support

- Telco: FCC Part 68, AS/ACIF S003, CS03, JATE AS/ACIF S002:2001
- EMC: FCC Part 15 Class B, EN55022, EN55024, EN61000-2-3, EN61000-3-3, AS/NZS3260
- Safety: UL60950, EN60950, AS/NZS60950

About Ribbon Communications

Ribbon is a company with two decades of leadership in real-time communications. Built on world class technology and intellectual property, Ribbon delivers intelligent, secure, embedded real-time communications for today's world. The company transforms fixed, mobile and enterprise networks from legacy environments to secure IP and cloud-based architectures, enabling highly productive communications for consumers and businesses. With locations in 28 countries around the globe, Ribbon's innovative, market-leading portfolio empowers service providers and enterprises with rapid service creation in a fully virtualized environment. The company's Kandy Communications Platform as a Service (CPaaS) delivers a comprehensive set of advanced embedded communications capabilities that enables this transformation.

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