

The Ribbon Communications SBC 5400



Designed for communications service providers and large enterprises, the SBC 5400 is a powerful, compact and purpose-built SBC for the multimedia communications of today and tomorrow. With the ability to scale from 2GB to 10GB of multimedia traffic, the Ribbon SBC 5400 provides all of the features you need in an SBC today—robust network security, sophisticated routing and policy management, overload controls, SIP normalization—plus the features you’ll need tomorrow, such as IPv4-IPv6 interworking, multi-modal communication, built-in media transcoding, and assured performance and scale under heavy traffic. As a key component of Ribbon Communications’ award-winning SBC Core platform family, the SBC 5400 meets all of the security, scalability, availability, and management requirements of service providers and large enterprises.

System Capabilities

Sessions

- 75,000 simultaneous G.729 sessions
- 50,000 simultaneous G.711 sessions
- Up to 40,000 transcoded sessions based on codec
- Up to 32,000 H.323 sessions
- RTCP sessions scale 1:1 with RTP sessions

Call Set-Up

- Maximum call setup rate: 700 cps
- Call latency= 30ms (@ 450 cps, 90% fall into this category)

Registrations

- Maximum new registrations/sec: 1,250
- Maximum refreshes/sec: 5,000
- Total registered end point support: 600,000; up to 600,000 NAT'd end points

Encryption

- Maximum number of TLS sessions: 375,000
- TLS setup rate: 500/sec
- IPsec (IKE) setup rate: 150/sec
- Maximum # SRTP call legs: 150,000

Media Services

- Transcoding G.711, G.726, G.729A/B, G.723, iLBC, G.722, G.722.1, AMR-NB, AMR-WB, EVRC/EVRC0, EVRCB/EVRCB0, Opus
- Wireline, wireless, wideband and clearchannel codec pass through
- G.711 fallback for fax and modem calls
- T.38 version 0 to G.711 interworking (transcoding)



- T.38 version 3 to G.711 interworking (transcoding)
- VAD, Silence Suppression, Dynamic Jitter Buffer, Fax/ Modem Detection, DTMF/Tone Relay/RFC2833/RFC4733 interworking
- NAT/NAPT on media
- Message Session Relay Protocol (MSRP)
- DTMF Trigger Detection and Notification
- Generic audio codec relay
- Tones & Announcements
- Local Ring Back Tone (LRBT) support with centralized PSX Policy Server
- RTP inactivity monitoring
- Supported video codecs: H.264 AVC, H.264 SVC, H.263+, H.263, H.261, VP8
- SIPREC

Redundancy

- 1:1 Redundant Systems for Service Availability
- 1:1 Redundant Management/ Control Ports

Management Capabilities

- Graphical based wizards for ease of configuration
- Secure embedded web-based management GUI
- Ribbon CLI
- Centralized support by Ribbon Insight EMS
- REST API
- SNMP V2/V3 status and statistics
- Local logging of events, alarms, and traps; Call trace
- Ribbon DSI Level 0 support for storing CDRs; RADIUS accounting records
- Live Software Update (LSWU)

Signaling

- Back to Back User Agent (B2BUA)
- SIP, SIP-I/SIP-T, SIP/H.323; Ribbon Gateway to Gateway protocol
- SIP protocol normalization/ protocol repair; SIP message manipulation
- NAT/NAPT on signaling
- Binary floor control protocol (BFCP), Far-end camera control (FECC)

Security

- Session aware firewall; Topology Hiding
- Line rate DoS/ DDoS, and Rogue RTP protection
- Line rate malformed packet protection
- TLS, IPsec (IKEV1) for signaling encryption
- Secure RTP/RTCP for media encryption

Protocol Support

- IPv4, IPv6, IPv4/IPv6 interworking
- SSH; sFTP
- SNMP; NETCONF; NTP
- HTTP/HTTPS
- RTP/RTCP
- UDP, TCP
- DNS, ENUM
- WebRTC

Routing/Policy

- Embedded policy/routing engine
- Centralized support with Ribbon; PSX using DIAMETER+
- Screening, blocking, routing, presentation, call type filters
- Route prioritization
- Leading digit routing; International routing; URI-based routing
- Digit/parameter manipulation
- E911 support; Priority Call handling

Quality of Service (QoS)

- Bandwidth management
- Call admission control (CAC) per trunk group, per zone
- Per call statistics
- TOS/ COS packet marking

Packet Network Time Source

- Network Time Protocol (NTP) per RFC-1708

Hardware Specifications

Front Panel

- Status Indicators Front Panel LEDs:
 - Power
 - Status
 - Active/Standby
 - Major/Minor Alarm
 - Locator

Rear Panel

- Management Ports:
- Four 100 Mbps Ethernet RJ-45 ports
- Media Ports:
 - Four 1 Gbps Ethernet fiber or copper via SFP with one of the ports being 10GB capable
- High Availability Ports:
 - Two 1 Gbps Ethernet multimode fiber via SFP
- Single Field Service port with RJ45 connector
- Locator LED
- Single serial craft DB9 port

Configuration	AC Low Line (W)		AC High Line (W)		DC (W)	
	Amps	Watts	Amps	Watts	Amps	Watts
SBC 5400 - No DSP Cards	5.7	512	2.9	516	12.6	502
SBC 5400 +1 DSP20	5.9	533	3.0	537	13.0	520
SBC 5400 +1 DSP25	6.4	576	3.2	582	14.0	559
SBC 5400 +2 DSP25	7.2	644	3.6	647	14.9	594
SBC 5400 +3 DSP25	7.8	702	3.9	702	17.0	678
SBC 5400 +4 DSP25	8.5	761	4.2	763	17.3	692

Table 1. Estimated Power Consumption (all power measurements taken with fans running high)

Memory

- 32 Gbytes

DSP Expansion

- Four modular DSP slots for DSP25 cards

Chassis

- 2U, rack mount
- Inches: 17.5" Wide x 3.5" High x 21" Deep
- Centimeters: 44.5 Wide x 8.8 High x 53.3 Deep
- Optional mounting brackets for 19" or 23" rack

Chassis Mounting Options:

- 19" or 23" Adjustable Brackets

Storage

- 512 Gbytes of Solid State Drive (SSD) storage

AC Power Option

- RMS Input Voltage
- Minimum 90 VAC
- Nominal 100-240 VAC
- Maximum 264 VAC
- RMS Current
- 5.6A
- Input Frequency
- Minimum 47 Hz
- Nominal 50/60 Hz
- Maximum 63 Hz

DC Power Option

- Peak Consumption: 17.3 A

Operating Altitude

- 6,000 Feet
- 1,800 Meters

Heat Dissipation

- Fully-Populated Maximum:
- 1000 Watts
- 3410 BTU per Hour
- Replaceable Filter

Weight Maximum Fully Populated

- 50 lbs. (22.68 kg)

Environmental

- 5 to 40° C Operating -5 to 55° C Short Term
- 5 to 90% Non-Condensing Operating Humidity

Regulatory Compliance

Central Office Standards

- DC Systems – SR-3580 NEBS Level 3
 - GR-1089-CORE
 - GR-63-CORE
- AC Systems – SR-3580 NEBS Level 3
 - GR-1089-CORE
 - GR-63-CORE

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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