



Ribbon SBC 5110™ Session Border Controller



For years, the world's largest service providers and enterprises have relied on Ribbon Communications' session border controllers (SBCs) for secure SIP-based communications. The SBC 5110 delivers all of the industry-leading capabilities of the Ribbon SBC 5210 and SBC 7000—robust security, flexible SIP session routing & policy management, system interworking and media transcoding—at a cost-effective price/performance point for Tier 2/3 service providers and medium-to-large enterprises. With the ability to easily scale from 250 to 10,000 concurrent sessions without any additional hardware, the SBC 5110 provides all the high-end features you won't find in other “mid-large sized” SBCs. By including the SBC 5110 into network designs, regional service providers and medium-to-large enterprises can deliver a rich world-class communications experience designed for their world.

System Capabilities

Sessions

- 10,000 sessions (SIP and/or H.323)
- 10,000 transcoded sessions (based upon codec type)
- RTPC sessions scale 1:1 with RTP sessions

Call Set-Up

- Maximum call setup rate: 150 cps

Registrations

- Maximum new registrations/sec: 400
- Maximum refreshes/sec: 1,700 per second
- Total registered end point support: 100,000; up to 100,000 NAT'd end points

Encryption

- Maximum number of TLS sessions: 100,000
- TLS set-up rate: 50 cps w/o mutual authentication
- IPsec (IKE) setup rate: 50 cps
- Maximum # SRTCP call legs: 20,000

Media Services

- Transcoding up to 10,000 concurrent calls: G.711, G.726, G.728, G.729A/B, G.723, iLBC, G.722, G.722.1, AMR-NB, AMR-WB, EVRCB0, EVRC0, Opus
- Wireline, wireless, wideband and clear channel codec pass through
- T.38 compliant fax relay or fall back to G.711
- 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



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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, SSH
- 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 Signaling
- SIP protocol normalization/protocol repair; SIP message manipulation
- NAT/NAPT on signaling
- Binary floor control protocol (BFCP) Far-end camera control (FECC)

Protocol Support

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

Routing/Policy

- Embedded policy/routing engine
- Optional centralized policy/routing via Sonus Centralized Policy Server (PSX Server) 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

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 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
 - Status
- Critical
 - Major
 - Minor
 - User
 - Location
- Single USB V2.0 interface

Rear Panel

- Management Ports
 - Two (single active, single passive) 10/100 Ethernet RJ-45 ports
- Media Ports
 - Two 1 Gbps Ethernet fiber or copper via SFP
- High Availability Ports
 - Two 1 Gbps Ethernet multimode fiber via SFP
- Single Field Service port with RJ45 connector
- Locator LED
- Alarm port with DB15 connector
- Single serial craft DB9 port

Memory

- 12 GB of RAM

DSP Expansion

- Model 5110: Modular DSP slots

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

- 128 GB of SSD storage

AC Power Option

- RMS Input Voltage
 - Minimum 90 VAC
 - Nominal 100-240 VAC
 - Maximum 264 VAC
- RMS Current
 - Low Line: 7.1A
 - High Line: 3.4A
- Input Frequency
 - Minimum: 47 Hz
 - Nominal: 50/60 Hz
 - Maximum: 63 Hz

DC Power Option

- Peak Consumption: 16.8A
- Number of power supplies, standard: 1 (Redundant dual power supply optional)

Operating Altitude

- 6,000 ft. (1,800 m.)

Heat Dissipation

- Fully-Populated Maximum:
 - 633 Watts
 - 2159 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

Configuration	AC Low Line (W)		AC High Line (W)		DC (W)	
	Amps	Watts	Amps	Watts	Amps	Watts
SBC 5110	4.5	408	2.3	407	9.8	390
SBC 5110 + 1 DSP25	5.2	472	2.6	465	11.4	454
SBC 5110 +2 DSP25	5.9	530	2.9	525	12.8	512
SBC 5110 +3 DSP25	6.6	597	3.3	591	15.1	604
SBC 5110 +4 DSP25	7.4	667	3.6	654	16.8	673

Table 1. Estimated Power Consumption (power estimates with fans running at high speed)

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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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