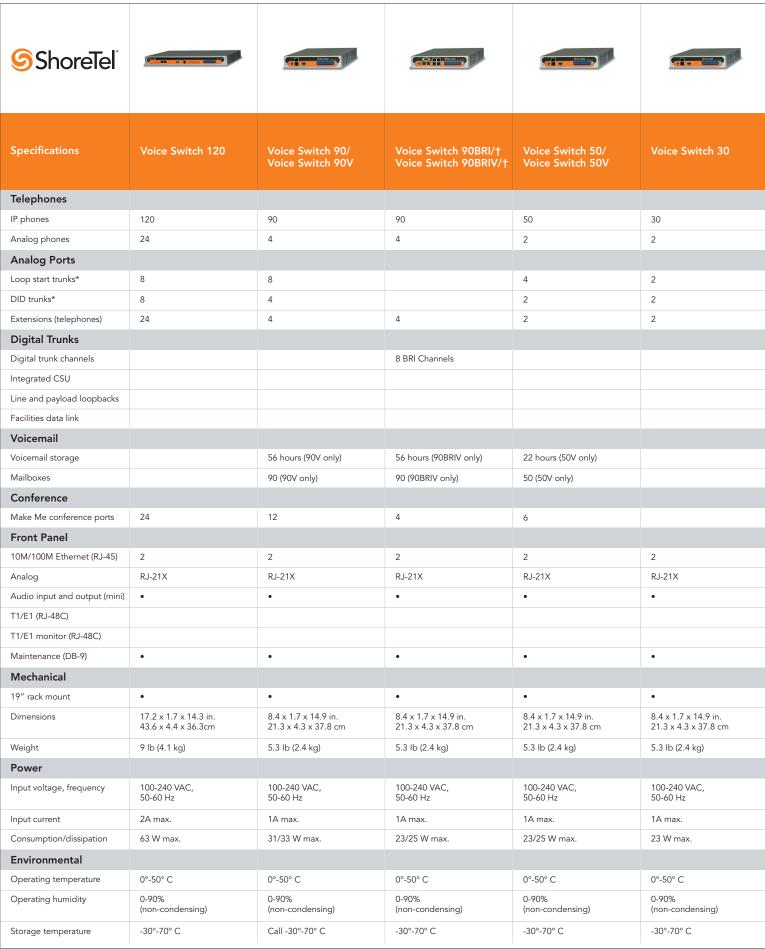# ShoreTel Voice Switches

ShoreTel Voice Switches are key building blocks of the ShoreTel Unified Communications (UC) system and deliver UC to organizations of every size —from large enterprises to small and medium businesses. Highly reliable and intelligent, these switches unify communications across multiple enterprise locations, supporting IP phones, analog devices, and a variety of trunk interfaces. ShoreTel Voice Switches manage ShoreTel IP Phones and analog lines, as well as PSTN and ITSP trunks.

Specifications	Voice Switch 120	Voice Switch 90/ Voice Switch 90V	Voice Switch 90BRI/† Voice Switch 90BRIV/†	Voice Switch 50/ Voice Switch 50V	Voice Switch 30
Telephones					
IP phones	120	90	90	50	30
Analog phones	24	4	4	2	2
Analog Ports					
Loop start trunks*	8	8		4	2
DID trunks*	8	4		2	2
Extensions (telephones)	24	4	4	2	2
Digital Trunks					
Digital trunk channels			8 BRI Channels		
Integrated CSU					
Line and payload loopbacks					
Facilities data link					
Voicemail					
Voicemail storage		56 hours (90V only)	56 hours (90BRIV only)	22 hours (50V only)	
Mailboxes		90 (90V only)	90 (90BRIV only)	50 (50V only)	
Conference					
Make Me conference ports	24	12	4	6	
Front Panel					
10M/100M Ethernet (RJ-45)	2	2	2	2	2
Analog	RJ-21X	RJ-21X	RJ-21X	RJ-21X	RJ-21X
Audio input and output (mini)	•	•	•	•	•
T1/E1 (RJ-48C)					
T1/E1 monitor (RJ-48C)					
Maintenance (DB-9)	•	•	•	•	•
Mechanical					
19" rack mount	•	•	•	•	•
Dimensions	17.2 x 1.7 x 14.3 in. 43.6 x 4.4 x 36.3cm	8.4 x 1.7 x 14.9 in. 21.3 x 4.3 x 37.8 cm	8.4 x 1.7 x 14.9 in. 21.3 x 4.3 x 37.8 cm	8.4 x 1.7 x 14.9 in. 21.3 x 4.3 x 37.8 cm	8.4 x 1.7 x 14.9 in. 21.3 x 4.3 x 37.8 cm
Weight	9 lb (4.1 kg)	5.3 lb (2.4 kg)	5.3 lb (2.4 kg)	5.3 lb (2.4 kg)	5.3 lb (2.4 kg)
Power					
Input voltage, frequency	100-240 VAC, 50-60 Hz	100-240 VAC, 50-60 Hz	100-240 VAC, 50-60 Hz	100-240 VAC, 50-60 Hz	100-240 VAC, 50-60 Hz
Input current	2A max.	1A max.	1A max.	1A max.	1A max.
Consumption/dissipation	63 W max.	31/33 W max.	23/25 W max.	23/25 W max.	23 W max.
Environmental					
Operating temperature	0°-50° C	0°-50° C	0°-50° C	0°-50° C	0°-50° C
Operating humidity	0-90% (non-condensing)	0-90% (non-condensing)	0-90% (non-condensing)	0-90% (non-condensing)	0-90% (non-condensing)
Storage temperature	-30°-70° C	Call -30°-70° C	-30°-70° C	-30°-70° C	-30°-70° C

*Loop start trunks on the ShoreTel Voice Switch 120 and DID trunks on all switches are supported in the US and Canada only.
† Product availability varies according to geography. Please contact your local ShoreTel Representative for availability in your area.

	Voice Switch 30BRI/†	Voice Switch 24A	Voice Switch T1k	Voice Switch 220T1/ Voice Switch 220T1A	Voice Switch E1k	Voice Switch 220E1
	30			220		220
	2	24		4 (220T1A only)		
				2 (220T1A only)		
				4 (220T1A only)		
	2	24		4 (220T1A only)		
	2 BRI Channels		24/23B+D	24/23B+D	30B+D	30B+D
			•	•	•	•
			•	•	•	•
			•	•	•	•
		24		6 (220T1A only)		
	2	2	2	2	2	2
	RJ-21X	RJ-21X		RJ-21X (220T1A only)		
	•	•	•	•	•	•
		•	•	•	•	•
			•	•	•	•
	•	•	•	•	•	•
	•	•	•	•	•	•
	8.4 x 1.7 x 14.9 in. 21.3 x 4.3 x 37.8 cm	17.2 x 1.7 x 14.3 in. 43.6 x 4.4 x 36.3cm	8.4 x 1.7 x 14.9 in. 21.3 x 4.3 x 37.8 cm	8.4 x 1.7 x 14.9 in. 21.3 x 4.3 x 37.8 cm	8.4 x 1.7 x 14.9 in. 21.3 x 4.3 x 37.8 cm	8.4 x 1.7 x 14.9 in. 21.3 x 4.3 x 37.8 cm
	5.3 lb (2.4 kg)	9 lb (4.1 kg)	5.3 lb (2.4 kg)	5.3 lb (2.4 kg)	5.3 lb (2.4 kg)	5.3 lb (2.4 kg)
	100-240 VAC, 50-60 Hz	100-240 VAC, 50-60 Hz	100-240 VAC, 50-60 Hz	100-240 VAC, 50-60 Hz	100-240 VAC, 50-60 Hz	100-240 VAC, 50-60 Hz
	1A max.	2A max.	1A max.	1A max.	1A max.	1A max.
	22 W max.	63 W max.	18 W max.	18/29 W max.	18 W max.	18 W max.
	0°-50° C	0°-50° C	0°-50° C	0°-50° C	0°-50° C	0°-50° C
	0-90% (non-condensing)	0-90% (non-condensing)	0-90% (non-condensing)	0-90% (non-condensing)	0-90% (non-condensing)	0-90% (non-condensing)
	-30°-70° C	-30°-70° C	-30°-70° C	-30°-70° C	-30°-70° C	-30°-70° C

Features*

Telephone features
- 500 switches per system
- Answer
- Bridged call appearance
- Call barge in
- Call forward, busy
- Call forward, external
- Call forward, no answer
- Call hold
- Call join
- Call park/unpark
- Call pickup extension
- Call pickup group
- Call recording
- Call stack (1-16 calls)
- Call redirect
- Call transfer, blind
- Call transfer, consultative
- Call transfer, intercom
- Call transfer, mailbox
- Call transfer whisper
- Call waiting
- Caller ID name
- Caller ID number
- Caller ID blocking
- Conference (6-party)
- Conference blind
- Conference consultative
- Conference intercom
- Dial number (speed dial)
- Directory dialing
- Distinctive dial tone
- Distinctive ringing
- E911
- Group paging
- Handsfree
- Hang up
- Hold
- Hot key pad
- Huntgroups
- InstaDial
- Intercom
- Night bell
- Message waiting
- Missed call
- Multiple emergency numbers
- Multiple line appearance
- Music-on-hold
- Operator ("0")
- On hold reminder ring
- Office Anywhere
- Outbound caller ID
- Paging
- Park and page
- Paging extension in paging group
- Pick up night bell
- Redial
- Ringdown
- Ring tone selection
- Ring tone personalization
- Send digits over call
- Shared call appearance
- Silent monitor
- SIP
- Voicemail ("#")
- Whisper page
- Whisper page mute

Trunk types
- Analog loop start
- Analog wink start
- TBR 21 support
- T1 loop start
- T1 wink start
- T1 PRI
  - NI2
  - 4ESS
  - 5ESS
  - DMS 100
  - QSIG master
  - QSIG slave
  - CAS
- E1 PRI
- EURO-ISDN
  - QSIG
  - Hong Kong Variant
  - QSIG Basic Call
- E1 PRI
  - EURO-ISDN
  - New Zealand Telecom
  - QSIG Basic Call
- SIP
  - RFC 3261 - SIP
  - RFC 2976 - SIP INFO
  - RFC 3891- SIP Replace
  - RFC 3515 - SIP Refer
  - RFC 2396 - URI
  - RFC 2388 - DTMF

Trunk features
- ANI
- Automatic trunk maintenance
- Caller ID name
- Caller ID number
- Caller ID blocking
- Centrex flash
- Dial-in prefix
- Dial-out prefix
- DID
- Digit translation
- DNIS
- Network call routing
- Network/User side PRI
- Off-system extensions
- SIP
- Tandem trunking
- Trunk groups

IP phone support
- MGCP
- SIP (RFC 2833)

DSP features
- Dynamic echo cancellation
- Dynamic jitter buffer
- Lost packet handling
- T.38 Fax
- Voice compression
  - BV-16 codec
  - BV-32 codec
  - Linear
  - G.711
  - ADPCM
  - G.722
  - G.729a

System features
- Account codes
- ACD (workgroups)
- Admission control
- AMIS
- Auto attendant
- Backup auto-attendant
- Bridge call appearance
- Call permissions
- Extension length (3-5 digits)
- Fax redirection
- Feature permissions
- Integrated voicemail
- IP phone failover
- Media encryption
- Office Anywhere (on-net)
- Office Anywhere (external assignment)
- On-net dialing (1-7 digits)
- Power fail transfer
- PSTN failover
- SMDI
- SNMP

Hunt groups
- Simultaneous hunt
- Top down hunt
- Single or multiple calls per extension
- Busy out group
- Busy out extension
- 16 extensions max. per switch
- 5 groups max. per switch
- Call forward busy
- Call forward no answer
- Scheduled modes

* Not all features in this list are supported by every switch. Please contact your ShoreTel representative for more details.

About ShoreTel

ShoreTel is the provider of brilliantly simple Unified Communication (UC) solutions based on its award-winning IP business phone system. We offer organizations of all sizes integrated, voice, video, data, and mobile communications on an open, distributed IP architecture that helps significantly reduce the complexity and costs typically associated with other solutions. The feature-rich ShoreTel UC system offers the lowest total cost of ownership (TCO) and the highest customer satisfaction in the industry, in part because it is easy to deploy, manage, scale and use. Increasingly, companies around the world are finding a competitive edge by replacing business-as-usual with new thinking, and choosing ShoreTel to handle their integrated business communication. ShoreTel is based in Sunnyvale, California, and has regional offices and partners worldwide. For more information, visit shoretel.com.

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