







SPECIFICATIONS

# 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 90/ Voice Switch 90V	Voice Switch 90BRI/† Voice Switch 90BRIV/†	Voice Switch 50/ Voice Switch 50V	Voice Switch 30	Voice Switch 30BRI/†
<b>Telephones</b>					
IP phones	90	90	50	30	30
Analog phones	4	4	2	2	2
<b>Analog Ports</b>					
Loop start trunks*	8		4	2	
DID trunks*	4		2	2	
Extensions (telephones)	4	4	2	2	2
<b>Digital Trunks</b>					
Digital trunk channels		8 BRI Channels			2 BRI Channels
Integrated CSU					
Line and payload loopbacks					
Facilities data link					
<b>Voicemail</b>					
Voicemail storage	56 hours (90V only)	56 hours (90BRIV only)	22 hours (50V only)		
Mailboxes	90 (90V only)	90 (90BRIV only)	50 (50V only)		
<b>Conference</b>					
Make Me conference ports	12	4	6		
<b>Front Panel</b>					
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)	•	•	•	•	•
<b>Mechanical</b>					
19" rack mount	•	•	•	•	•
Dimensions	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	8.4 x 1.7 x 14.9 in. 21.3 x 4.3 x 37.8 cm
Weight	5.3 lb (2.4 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)
<b>Power</b>					
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	1A max.	1A max.	1A max.	1A max.	1A max.
Consumption/dissipation	31/33 W max.	23/25 W max.	23/25 W max.	23 W max.	22 W max.
<b>Environmental</b>					
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	Call -30°-70° C	-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 24A	Voice Switch T1k	Voice Switch 220T1/ Voice Switch 220T1A	Voice Switch E1k	Voice Switch 220E1
		220		220
24		4 (220T1A only)		
		2 (220T1A only)		
		4 (220T1A only)		
24		4 (220T1A only)		
	24/23B+D	24/23B+D	30B+D	30B+D
	•	•	•	•
	•	•	•	•
	•	•	•	•
24		6 (220T1A only)		
2	2	2	2	2
RJ-21X		RJ-21X (220T1A only)		
•	•	•	•	•
	•	•	•	•
	•	•	•	•
•	•	•	•	•
•	•	•	•	•
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
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
2A max.	1A max.	1A max.	1A max.	1A 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
0-90% (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

## 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 a provider of business communication solutions whose brilliantly simple unified communications platforms, applications and mobile UC solutions promise a new rhythm of workforce engagement and collaboration. With costly complexity eliminated by design from its award winning, all-in-one IP phone system, UC and contact center solution, and its industry leading hosted business phone system, workers enjoy a freedom and self-reliance that other providers can't match. Users have full control to engage and collaborate, no matter the time, place or device, for the lowest cost and demand on IT resources in the industry. ShoreTel is headquartered in Sunnyvale, California, and has regional offices and partners worldwide. For more information, visit [shoretel.com](http://shoretel.com) or [shoretelsky.com](http://shoretelsky.com)



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