

# ShoreTel ST Voice Switches



## THE KEY BUILDING BLOCKS OF THE SHORETEL CONNECT PLATFORM

Available as solid-state appliances or virtualized for deployment in your datacenter

ShoreTel ST Voice Switches enable IP PBX and unified communications for 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 ST Voice Switches manage ShoreTel IP phones and analog lines, as well as PSTN and ITSP trunks.





Voice Switch ST50A  
Voice Switch ST100A



Voice Switch ST100DA



Voice Switch ST1D  
Voice Switch ST2D



Voice Switch ST200  
Voice Switch ST500

Telephones				
IP phones	50 (ST50A) 100 (ST100A)	100		200 (ST200) 500 (ST500)
Analog phones, maximum	4 (ST50A) 6 (ST100A)	6		
Analog Ports				
FXO Loop start trunks	4 (ST50A) 8 (ST100A)	2		
FXS telephone extensions/DID trunks <sup>1,2</sup>	4 (ST50A) 6 (ST100A)	6		
Loop length max. (24 AWG cable)	FXS: 3,000 ft (1 km) DID: 15,000 ft (4.5 km)	FXS: 3,000 ft (1 km) DID: 15,000 ft (4.5 km)		
FXS REN support	5 REN/port	5 REN/port		
Power Fail Transfer <sup>3</sup>	•	•		
Voltage message waiting lamp support				
Digital Trunks				
T1/E1 trunks: ports		1: 24/30	1: 24/30 (ST1D) 2: 48/60 (ST2D)	
Integrated CSU		•	•	
Line and payload loopbacks		•	•	
Facilities data link		•	•	
SIP Trunks				
SIP trunks	8 (ST50A) 14 (ST100A)	38	30 (ST1D) 60 (ST2D)	
Conference				
Make me conference 6-party call legs, built-in	6 (ST50A) 12 (ST100A)	12		12 (ST200) 24 (ST500)
Make me conference 6-party call legs, maximum <sup>4</sup>	14 (ST50A) 26 (ST100A)	50		12 (ST200) 24 (ST500)
Front Panel				
10/100/1000 Ethernet (RJ-45)	2	2	2	2
Analog (RJ-21X)	1	1		
Audio MOH input and Paging <sup>5</sup> output (3.5mm mini stereo)	•	•	•	•
T1/E1 (RJ-48C)		1	1 (ST1D) 2 (ST2D)	
USB 2.0 A-Type	•	•	•	•
Maintenance (DB-9)	•	•	•	•

<sup>1</sup> FXS & DID ports are shared resources. Ports can be independently configured as FXS extension or DID trunk. DID trunks are supported in the US and Canada only.

<sup>2</sup> ST24A and ST48A support FXS extensions only; No DID support on ST24A and ST48A.

<sup>3</sup> Power Fail Transfer support—FXO (Loop-start Trunk) Port 1 to FXS (Extension) Port 12.

<sup>4</sup> Maximum number of 6-party conference call legs, with TDM port tradeoff.

<sup>5</sup> Paging output contact closure support for ShoreTel Paging Adapter Model PA-1.



Voice Switch ST50A  
Voice Switch ST100A



Voice Switch ST100DA



Voice Switch ST1D  
Voice Switch ST2D



Voice Switch ST200  
Voice Switch ST500

Mechanical				
19" rack mount	• <sup>6</sup>	• <sup>6</sup>	• <sup>6</sup>	• <sup>6</sup>
Dimensions	14.65 x 8.35 x 1.65 in. (372 x 212 x 42 mm)	14.65 x 8.35 x 1.65 in. (372 x 212 x 42 mm)	14.65 x 8.35 x 1.65 in. (372 x 212 x 42 mm)	14.65 x 8.35 x 1.65 in. (372 x 212 x 42 mm)
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)
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
Input current, maximum	1A	1A	1A	1A
Consumption/Dissipation, maximum	60W (ST50A) 65W (ST100A)	65W	50W	50W
Environmental				
Real time clock with internal battery	•	•	•	•
Operating temperature	0 – 50°C	0 – 50°C	0 – 50°C	0 – 50°C
Operating humidity	5 – 90% (non-condensing)	5 – 90% (non-condensing)	5 – 90% (non-condensing)	5 – 90% (non-condensing)
Storage temperature	-30 – 70°C	-30 – 70°C	-30 – 70°C	-30 – 70°C

<sup>6</sup> Use Rack Mount Dual Switch Tray to mount one or two half-width switches in an available full-width, 1U rack position.



Voice Switch ST24A  
Voice Switch ST48A



Virtual Phone  
Switch



Virtual Trunk  
Switch

Telephones		
IP phones		1000 <sup>6</sup>
Analog phones, maximum	24 (ST24A) 48 (ST48A)	
Analog Ports		
FXO Loop start trunks		
FXS telephone extensions/DID trunks <sup>1,2</sup>	24 (ST24A) 48 (ST48A)	
Loop length max. (24 AWG cable)	11,000 ft (3.3 km)	
FXS REN support	3 REN/port	
Power Fail Transfer <sup>3</sup>		
Voltage message waiting lamp support	•	
Digital Trunks		
T1/E1 trunks: ports		
Integrated CSU		
Line and payload loopbacks		
Facilities data link		
SIP Trunks		
SIP trunks with media proxy		500 <sup>1,6</sup>
Conference		
Make me conference 6-party call legs, built-in		
Make me conference 6-party call legs, maximum <sup>4</sup>	24 (ST24A) 48 (ST48A)	60 <sup>1,6</sup>
Front Panel		
10/100/1000 Ethernet (RJ-45)	2	
Analog (RJ-21X)	1 (ST24A) 2 (ST48A)	
Audio MOH input and Paging <sup>5</sup> output (3.5mm mini stereo)	•	
T1/E1 (RJ-48C)		
USB 2.0 A-Type	•	
Maintenance (DB-9)	•	

<sup>1</sup> FXS & DID ports are shared resources. Ports can be independently configured as FXS extension or DID trunk. DID trunks are supported in the US and Canada only.

<sup>2</sup> ST24A and ST48A support FXS extensions only; No DID support on ST24A and ST48A.

<sup>3</sup> Power Fail Transfer support—FXO (Loop-start Trunk) Port 1 to FXS (Extension) Port 12.

<sup>4</sup> Maximum number of 6-party conference call legs, with TDM port tradeoff.

<sup>5</sup> Paging output contact closure support for ShoreTel Paging Adapter Model PA-1.

<sup>6</sup> ShoreTel will detect allocated hardware or VM resources. Insufficient allocation may result in a reduced capacity per virtual switch.



Voice Switch ST24A  
Voice Switch ST48A



Virtual Phone  
Switch



Virtual Trunk  
Switch

### Mechanical

19" rack mount

•

Dimensions

14.80 x 17.36 x 1.73 in.  
(376 x 441 x 44 mm)

Weight

12.0 lb (5.4 kg)

### Power

Input voltage,  
frequency

100 – 240 VAC,  
50 – 60 Hz

Input current, maximum

3A

Consumption/Dissipation,  
maximum

125W (ST24A)  
200W (ST48A)

### Environmental

Real time clock with internal  
battery

•

Operating temperature

0 – 50°C

Operating humidity

5 – 90%  
(non-condensing)

Storage temperature

-30 – 70°C



Voice Switch 30BRI/†

Voice Switch 90BRI/†  
Voice Switch 90BRIV/†

Voice Switch 50V



Voice Switch 90V

Telephones				
IP phones	30	90	50	90
Analog phones	2	4	2	4
Analog Ports				
Loop start trunks			4	8
DID trunks*			2	4
Extensions (telephones)	2	4	2	4
Digital Trunks				
Digital trunk channels	2 BRI channels	8 BRI channels		
Integrated CSU				
Line and payload loopbacks				
Facilities data link				
SIP Trunks				
SIP trunks without media proxy	30	90	50	90
SIP trunks with media proxy	4	12	6	12
Voicemail				
Voicemail storage		56 hours (90BRIV only)	22 hours (50V only)	56 hours (90V only)
Mailboxes		90 (90BRIV only)	50 (50V only)	90 (90V only)
Conference				
Make me conference ports		4	6	12
Front Panel				
10M/100M ethernet (RJ-45)	2	2	2	2
Analog	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	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)

\*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 90BRI/†  
Voice Switch 90BRIV/†

Voice Switch 50V



Voice Switch 90V

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
Input current	1A max.	1A max.	1A max.	1A max.
Consumption/dissipation	22 W max.	23/25 W max.	23/25 W max.	31/33 W max.
Environmental				
Operating temperature	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)
Storage temperature	-30–70° C	-30–70° C	-30–70° C	-30–70° C

\*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.

**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.

Want to know more?  
Talk to an expert.

Visit [www.shoretel.com/findareseller](http://www.shoretel.com/findareseller)

**ShoreTel. Brilliantly simple business communications.**

ShoreTel, Inc. (NASDAQ: SHOR) is a leading provider of brilliantly simple IP phone systems and unified communications solutions powering today's always-on workforce. Its flexible communications solutions for on-premises, cloud and hybrid environments eliminate complexity, reduce costs and improve productivity.

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