

# DSP-1282 & DSP-1283 Crestron Avia™ DSP with ShoreTel® Connect Client Software 21.80.7840.0

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# DSP-1282 & DSP-1283: SIP Endpoint with ShoreTel® Connect Client Software 21.80.7840.0

## Introduction

This configuration guide describes the procedures required to configure Crestron Avia™ Digital Signal Processor (DSP) devices. The devices operate on the ShoreTel® Director webbased interface as basic Session Initiation Protocol (SIP) users.

#### Audience

The intended audience includes those attempting to configure and use Crestron Avia DSP devices as SIP endpoints registered to the ShoreTel Connect client.

#### Topology

The diagram below shows the network topology for integration of a Crestron Avia DSP endpoint with the ShoreTel Director. ShoreTel Director runs within the ShoreTel Connect client.



SIP Endpoint Integration with ShoreTel Connect - Reference Network

The lab network consists of the following components:

- ShoreTel Server/Director
- ShoreTel virtual phone switch
- ShoreTel virtual trunk switch
- ShoreTel phones
- Crestron Avia DSP as the SIP users

#### Software Requirements

- ShoreTel Connect: 21.80.7840.0
- Crestron Avia DSP: v1.00.121

#### Hardware Requirements

- ShoreTel Connect either in a virtual environment or with a separate server
  - ShoreTel Director
  - ShoreTel virtual phone switch
  - ShoreTel virtual trunk switch
- Public Switched Telephone Network (PSTN) gateway
- ShoreTel phones
- Crestron Avia DSP devices (2)

#### Product Description

The Crestron Avia DSP products (DSP-1282 and DSP-1283, specifically) consist of a family of programmable digital audio signal processors intended for the commercial sound market. Each version provides 12 analog mic/line inputs and eight analog line outputs. The devices include a Local Area Network (LAN) connection and a Universal Serial Bus (USB) connection for programming and control. The programmable signal flow is a fixed topology with user-configurable input and output processing chains using a library of preset signal-specific DSP blocks.

Use the Crestron Avia tool to control and configure the Crestron Avia DSP devices on the network.

Use the Crestron Toolbox<sup>™</sup> software to discover and control all Crestron devices on the network.

#### Summary

This document describes how to configure the Crestron Avia DSP devices as SIP users. It also depicts how to register devices to the ShoreTel Director with digest authentication.

Supported features include:

- Registration with digest authentication
- Basic calls with G711u and G711a codecs
- Dual-Tone Multi-Frequency (DTMF) support
- Early media support
- Retrieval of a parked call
- Transferee in a call transfer
- Conference participant
- Member of hunt group
- DND (Do Not Disturb)

Unsupported features include:

- Caller ID presentation
- Call hold and resume
- Call forwarding on the device (forwarding can be configured on the Private Branch Exchange (PBX) for the Domain Name (DN) assigned to the endpoint)
- Call waiting
- Initiating conference
- Initiating an attended call transfer
- Initiating an early attended call transfer
- Initiating a blind call transfer
- Shared line (configuration of shared line on device)
- Initiating call park
- Message Waiting Indicator (MWI)

Known issues and limitations include:

- No support for caller ID on the Crestron Avia DSP. (This issue was tracked via Bugzilla™ software defect: 115708.
- The DSP does not support Music on Hold when integrated with the Avaya Aura PBX. This issue was tracked via Bugzilla defect: 116049.
- No support for MWI on the Crestron Avia DSP. (this issue was tracked via Bugzilla defect: 118991.
- The DSP fails to play a reorder tone when a call from the DSP to a PBX extension eventually times out after the called party does not answer. this issue was tracked via Bugzilla defect: 120378.

# **Crestron Avia DSP Configuration**

This section provides the following details:

- How to set up connections to the amplifier and speaker
- How to access the DSP on the network (once powered)
- How to configure the DSP for registration and integration with the ShoreTel Director

#### Connections

Make the following connections:

- Connect microphone to DSP MIC/LINE INPUTS port 1
- Connect DSP LINE OUTPUTS port 1 to "Audio In" on amplifier
- Connect "Audio Out" of amplifier to speaker
- Connect LAN port to network
- Connect VOIP port to network

#### Device Discovery/Access

Use the Crestron Toolbox and the Crestron Avia tool to discover and access the connected LAN and/or VOIP ports) DSP devices.

Use the Help menu to assist when performing the discovery and configuration procedure.

#### **Device Configuration**

The basic setup for a phone call requires:

- An analog input (such as from a microphone) routed out through the phone line
- Audio coming in from the phone line routed to an analog output (such as to an amplifier or speaker)

#### Configure the DSP Device

Use the Crestron Avia tool to select and configure the DSP device.

#### Input Configuration

To configure the analog input:

- 1. Click Signal.
  - Crestron Avia tool: Audio Input Configuration (1/4)



- 2. Under Analog In 1 (first row), double click Gain. In the new window set the following:
  - a. Click **Mute** to **Off**.
  - b. Select **33** for the **Analog Gain**.
  - c. If a condenser microphone is being used, click +48V (phantom power) to On. Crestron Avia Tool: Audio Input Configuration (2/4)



3. Under **Analog In 1** (first row), click **Ref/Phone Out** (right-most column) and enter **0** as the decibel value.

Crestron Avia Tool: Audio Input Configuration (3/4)



- 4. Under Phone\Sig Gen In, click PHN. In the new window set the following:
  - a. Move the **Send Level** slider to **0 db**.
  - b. Click **Mute** to **Off**.

Crestron Avia Tool: Audio Input Configuration (4/4)

🔍 PHN - In 1 -	Phone Receive	,									×
SIP	O P	ots									
								Receive Level		Send Level	
Phone Book		- +				Redial	Call	-20	20	-20	20
			1	2	3	Push	Push	-10	•	-10	•
			4		6	Answer Push	No Disturb	-0	-20	-0	-20
			7	8	9	Hang		: 40	-40	: 40	-40
				0	*	Push		: - 40	-60	: 	-60
Connected							Ring Back	<b>O</b> dB	-80	<b>O</b> dB	-60
•									1	Mute Off •	ק
	PHN - In 1 - SIP Phone Book Connected	PHN - In 1 - Phone Receive	PHN - In 1 - Phone Receive	PHN - In 1 - Phone Receive      SIP     POTS  Phone Book      T      Connected Dialing Busy Active	PHN- In 1 - Phone Receive      SIP     POTS  Phone Book      Phone Book      Phone Book      Connected Dialing Busy Active Ringing	PHN - In 1 - Phone Receive      Orne Book      Phone Book      Phone Book      Phone Book      Phone Book      Phone Book      Connected Dialing Busy Active Ringing Incoming      O	PHN- In 1 - Phone Receive      SIP POTS  Phone Book      Phone Book	PHN- In 1 - Phone Receive            • SIP         • POTS          Phone Book             • I         • I         • I	PHN - In 1 - Phone Receive  Phone Book Phone Book Phone Book Recial Connected Dialing Busy Active Ringing Incoming Terminated Ring Back	PHN- In 1 - Phone Receive         Image: SIP       POTS         Phone Book       Image: SIP         Image: SIP       Number         Image: SIP       Push         Image: SIP       Push         Image: SIP       Push         Image: SIP       Push         Image: SIP       Image: SIP         I	PHN - In 1 - Phone Receive         Image: SIP       POTS         Phone Book       Redial       Call         Image: Plush       Push         Image: Plush       Push         Image: Plush       Off         Image: Plush       Push         Image: Plush       Image: Plush         Image: Plush

#### **Output Configuration**

To configure the analog output:

1. Under **Phone In 1** (first row), click **Analog Out** (left-most column) and enter **0** as the decibel value.



- 2. Under Analog Out 1, double click LVL. In the new window set the following:
  - a. Move the **Level** slider to **O db**.
  - b. Click Mute to Off.
     Crestron Avia Tool: Audio Output Configuration (2/3)

	— Analog Out
1 0 dB	
	▶ LEVEL - Analog Out 1 - Anal ×
2 0 dB	Level VU Mute
3 0 dB	
(4) 0 dB	
	-45
5 0 dB	
6 0 dB	

- 3. Under Phone\Sig Gen In, click PHN. In the new window set the following:
  - a. Move the **Receive Level** slider to **0 db**.
  - b. Click **Mute** to **Off**.

Crestron Avia Tool: Audio Output Configuration (3/3)

	PHN - In 1	Phone Receive				×
	SIP	O POTS				. ►
	e				Receive	Send
L DLA 🕄 QLE	Phone Book	- +	Number	Redial Call	-20 20	-20 20
	6			3 Push Push		-10 °
						÷
T per [ Y ere	9			9 Push Off ●		
T DIA. 🕄 QLE	G			Hang		40 
	•				- so _ **	• • • • • • • • • • • • • • • • • •
	Connected	Dialing Busy		Incoming Terminated Ring Back	Mute	Mute
T DO J OIE					Off •	Off
— Phone\Sig Gen In	Phone In	- Analog Out		- Auxiliary Send		— Ref
V PHN						

#### Configure the SIP Parameters

From the open **PHN - In 1 - Phone Receive** window, select and configure the SIP parameters.

1. With SIP selected, click the chevron at the right top corner to expand the window. Crestron Avia Tool: Phone Dialer, SIP Parameters Configuration

C PHN - In 1					×
SIP O POTS				٩	
Phone Book			Receive Send Level Level	Local Extension	Member Groups CRESTRON
PSTN		Redial Call	_20 _20 	Display Name	Port (default 5060)
<u>SHoretel</u>	1 2 3	Push Push	-10 -10	Proxy IP Address (optional)	5000
<u> </u>	4 5 6	Answer No Disturb Push Off		NONE	
	7 8 9	Hang	4040 40 	SIP Server IP Address	Port (default 5060) 5060
	• 0 #	Push		SIP Server User Name	SIP Server Password
Connected Dialing Busy	Active Ringing Incoming	Terminated Ring Back	Mute Mute Off  Off	Avia1	123456

- 2. Enter the extension configured on ShoreTel for the **Local Extension** for this device. This example uses **160**.
- 3. Enter the ShoreTel Director for the **SIP Server IP Address**. This example uses **10.89.9.4**.
- 4. Enter the SIP server port (5060) for the Port.
- 5. Enter the same end user name configured for the ShoreTel Director with the digest authentication credentials for the **SIP Server User Name**..
- 6. Enter the same password as configured for the ShoreTel Director end user digest credentials for the **SIP Server Password**.

# ShoreTel Director Configuration

This section describes the ShoreTel Director configuration necessary to support registration of the Crestron device and connectivity to the PSTN.

**NOTE:** Confirm that the general installation and basic ShoreTel configuration have been administered.

#### Configure Custom Codec List

To configure a custom codec list:

- 1. Click Features > Call Control > Codec Lists.
- 2. Click NEW.
  - ShoreTel Connect Director: Configure Codec List

ShoreTel Connect Dire	ctor 😑 Connections	;   🥼 Trunk Groups   🔵 Bandwidth   🔵 Voice Quality   🦺 Appliances   🛕	Servers	Administrator   Help   Logout
Search	Codec Lists		NEW COPY DE	BULK DELETE
🗡 🗘 🗽 🏢 🖾 🖻	PSTN		SAVE	
ADMINISTRATION +'T	GENERAL			
> Users				
▶ Trunks	Description:	PSTN		
Telephones	Available:		Select	led:
Appliances/Servers	NAME		NAM	E
Features	AAC_LC/32000		PCMI	U/8000
System Directory	BV16/8000			A/8000
Auto-Attendant	BV32/16000			
Call Control	DV14/8000			
Account Codes	G722/8000			
Bridged Call Appearance	G729/8000			
Hunt Groups	1 16/16000		•	
Paging Groups	Q	I d <d 1="" 10="" 2="" h="" of="" p="" page="" page:="" rows="" →="" ▼<=""></d>	View 1 - 10 of 12	
Pickup Groups				
Route Points				
Supported Codecs				
Codec Lists				
Options				

- 3. Enter **PSTN** for the **Description** (for this example).
- 4. Transfer codecs between the two lists:
  - a. In the **Available** list, select the **PCMU/8000** and **PCMA/8000** codecs (for this example).
  - b. Click > (between the two lists) to move the codecs to the Selected list.
- 5. Click SAVE.

### Configure Custom Sites

To configure a custom site:

1. Click **System** > **Sites**.

ShoreTel Connec	ct Director: Confi	igure Site		
ShoreTel Connect Direct	Ctor 🧧 Connections   🔥 Trunk (	Groups   🧧 Bandwidth   🧧 Voice Quality	💧 Appliances   🔥 Servers	Administrator   Help   Logout
Search	Sites			NEW COPY DELETE
<u> </u>	Headquarters			SAVE RESET CANCEL
ADMINISTRATION +'E	GENERAL NIGHT BEL	L CALL HANDLING SERVERS		
Users	Name:	Headquarters	1	
Programmable Buttons	Service Appliance Conference	<none></none>	5	
Escalation Profiles	backup site:			
User Groups	Language:	English(US)		
Class of Service	Country / area:	United States of America		
Availability States Defaults	Time zone:	(UTC-06:00) Central Time (US & Canad	a). Central Standard Time	
b Trunks	Perent		-//	
Telephones	I lise earest site for emergency (	and other cells when an local trucks are a	oilabla	
Appliances/servers Features	Ose parent site for emergency t	214	must be 2 diaits	
A System	Local area code:	214	musi be 5 digits	
Sites	Additional local area codes:			
Local Prefixes	972			Remove
Digit Translation Tables	-			
b Dialing Plan	Emergency number list: Add			
Port Configuration 4	911	]	Trunk access code required	Remove
Trusted IP Ranges	Caller's emergency service		(e.g. +1 (408) 331-3300)	
SNMP Additional Reconstant	identification (CESID):			
Languages	Operator extension:		]	
> Hybrid	Fax redirect extension:		]	
System Information	Admission control bandwidth:	1500	kbps	
	Intra-site calls:	PSTN	~	
	Inter-site calls:	PSTN	~	
	Fax and modem calls:	Fax Codecs - Low Bandwidth Passthrou	gh 🔽	
	Virtual IP address:		]	
	Proxy switch 1:	Lab109-vPS1		
	Proxy switch 2:	<none></none>		
	SMTP relay server:		]	
	Network time protocol server:		)	

- 2. Enter Headquarters for the Name (for this example).
- 3. Enter **214** for the **Local area code** (for this example).
- 4. Select **PSTN** for **Intra-site calls**. This newly-created coded drop-down menu contains only G711 codecs.
- 5. Select **PSTN** for **Inter-site calls**.
- 6. Leave all other fields at the default values.
- 7. Click SAVE.

### Configure SIP Trunk Profile

A SIP trunk toward the PSTN routes calls to PSTN numbers.

To configure a SIP trunk profile:

1. Click **Trunks** > **SIP Profiles**.

ShoreTel Connect Director: Custom SIP Trunk Profile (1/2)

ShoreTel Connect Dire	ctor 🔍   🗛   🔍   🔍   🗛   🗸	<b>L</b>	Administrator   Help   Logout	
Search	SIP Trunk Profiles	NEW COPY	DELETE BULK DELETE	
🔑 🗘 🗽 🏢 🔤 🖨			\$	_
ADMINISTRATION +'=		$\checkmark$		~
Users Trunks Trunks Trunk Groups Trunk Groups DNIS	Default ITSP      Default Sky ITSP      Default Tie Trunk      Mobility Router      ShoreTel SIP	N N N N N N N N N N N N N N N N N N N		
DID Digit Map		× ×		~
DID Ranges	Ω		page: 50 View 1 - 16 of 1	16
Off-System Extensions SIP Profiles ISDN Profiles T-tentenen	Default ITSP GENERAL		SAVE RESET CANCEL	
Appliances/Servers	Name:	Default ITSP		~
Features	✓ Enable			
▶ System	System parameters:	OptionsPing=1 OptionsPeriod=60 StripVideoCodec=1 DontFwdRefer=1 SendMacIn911CallSetup=1 HistoryInfo=diversion EnableP-AssertedIdentity=1 AddG729AnnexB_NO=1 Hairpin=1 RegisterToser=BTN RegisterToser=BTN RegisterExpination=3600 CustomRules=0 OverwriteFromUser=0		

- 2. In the NAME column, check Default ITSP.
- 3. Click COPY.

ShoreTel Connect Dire	ctor 😐   🔺   🔍   🌒   🔺	🗚 Administrator   Help   Lo	gout
Search	SIP Trunk Profiles	NEW COPY DELETE BULK DELETE	
<ul> <li>✓ tu, III III III</li> <li>ADMINISTRATION +<sup>™</sup></li> <li>&gt; Users</li> </ul>	Crestron ITSP GENERAL	SAVE RESET CANCEL	8
▲ Trunks	Name:	Crestron ITSP	~
Trunks	Enable		
Irunk Groups     Trunk Groups     DNIS     DID Digit Map     DID Ranges     Off-System Extensions     ISDN Profiles     ISDN Profiles     Telephones     Appliances/Servers     Features	System parameters:	OptionsPing=1 OptionsPeriod=60 StripVideoCodec=1 DontFwdRefer=1 SendMacIn911CallSetup=1 HistoryInfo=diversion EnableP-AssertedIdentity=1 AddG729AnnexB_NO=1 Hairpin=1 Register=0 RegisterExpiration=3600 CustomRules=0 OverwriteFromUser=0	
⊳ System	Custom parameters:	^	

ShoreTel Connect Director: Custom SIP Trunk Profile (2/2)

- 4. Change the Name from Default ITSP to Crestron\_ITSP.
- 5. Include **Custom parameters** if required. This example has none configured.
- 6. Click **SAVE**.

#### Add Trunk Group

To add a trunk group:

1. Click Trunks > Trunk Groups > Trunk Groups. ShoreTel Connect Director: Add Trunk Group

ShoreTel Connect Direc	ctor •   🗛   •   •   🗛   🗛	Administrator   Help   Logout
Search	Trunk Groups	NEW COPY DELETE
🔑 🌣 🗽 🏢 🖾 🖻	PSTN Trunk for Crestron	SAVE RESET CANCEL
Users	GENERAL INBOUND OUTBOUND	
⊿ Trunks	Name: PSTN Trunk for Crestron	
Trunks	Site: Headquarters	
▲ Trunk Groups	Trunk type:	
Trunk Groups		
DNIS		
DID Digit Map	Enable SIP info for G.711 DTMF signaling	
DID Ranges	Profile: Crestron ITSP	
Off-System Extensions	Digest authentication: -None-	
SIP Profiles	Lisemame:	
ISDN Profiles	Deserver to	(6 - 26 characters)
Telephones	rassword.	
Appliances/Servers	•••••	

- 2. Click the **GENERAL** tab.
- 3. Enter PSTN Trunk for Crestron for the Name (for this example).
- 4. Select **SIP** for the **Trunk type**.
- 5. Select Crestron\_ITSP for the Profile (created in a previous section).
- 6. Click SAVE.
- 7. Click the INBOUND tab.

ShoreTel Connect Director: Add Trunk Group - INBOUND

ShoreTel Connect Dire	ctor 🔹   🗛   🔍   🌢   🗛	Administrator   Help   Logout
Search	Trunk Groups	NEW COPY DELETE
🥕 🗘 🗽 🏢 🔤 🖻	PSTN Trunk for Crestron	SAVE RESET CANCEL
ADMINISTRATION +'₩		
Users		
⊿ Trunks	Number of digits from CO: 10	
Trunks	✓ DNIS Edit DNIS	
▲ Trunk Groups		
Trunk Groups		
DNIS		
DID Digit Map	Translation table: <pre></pre>	
DID Ranges	O Prepend dial in prefix:	
Off-System Extensions	Use site extension prefix	
SIP Profiles		
ISDN Profiles	Tandem trunking	
Telephones	User group: <pre></pre> <pre>&lt;</pre>	
Appliances/Servers	Prepend dial in prefix:	)
▷ Features	Destination: 700 : Default	er
⊳ System		

- 8. Enter 10 for the Number of digits from CO (for this example).
- 9. Check DNS.
- 10. Check **DID**.
- 11. Click the **OUTBOUND** tab.

ShoraTal Connect Dira		Administrator I Heln I Lonou
Search		
	Tunk Groups	
<u>&gt; ощ ш м в</u>	PSTN Trunk for Crestron	SAVE RESET CANCEL
ADMINISTRATION +'T	GENERAL INBOUND OUTBOUND	
b Users		
	✓ Outgoing: Network call routing:	
	Access code: 9	
Trunk Groups		must be 3 digits
DNIS	Additional local area codes:	must be 5 digits
DID Digit Map	Add	
DID Ranges	Nearby area codes:	
Off-System Extensions	Add	
SIP Profiles	Billing telephone number: +1 (972) 265-7277	(e.g. +1 (408) 331-3300)
ISDN Profiles		
Telephones		
Appliances/Servers	✓ Long distance	
Features	✓ International	
System	Enable original caller information	
	✓ n11 (e.g. 411, 611, except 911 which is specified below)	
	Emergency (e.g. 911)	
	Easily recognizable codes (ERC) (e.g. 800, 888, 900)	
	✓ Explicit carrier selection (e.g. 1010xxx)	
	✓ Operator assisted (e.g. 0+)	
	Caller ID not blocked by default	
	Enable caller ID name (Please confirm with the carrier(s) or the service provider(s delivered)	s) on how the end-to-end caller name is
	When Site Name is used for the Caller ID, overwrite it with:	
	Trunk digit manipulation:	
	Remove leading 1 from 1+10D Required for some long distance service	providers.
	Remove leading 1 for local area codes (for all prefixes unless a specific local	prefix list is provided below)
	Required for some local service providers with overlay area codes.	
	Dial 7 digits for local area code (for all prefixes unless a specific local prefix lis	st is provided below)
	Local prefixes required for some local service providers with mixed 7D and 1+1	0D in the same home area.
	Dial in E.164 format	
	Local prefixes: <pre></pre>	
	Prepend dial out prefix:	

#### ShoreTel Connect Director: Add Trunk Group - OUTBOUND

- 12. Check Outgoing.
- 13. Enter **9** for the **Access code** (for this example).
- 14. Enter 972 for the Local area code (for this example).
- 15. Enter any DID (Direct Inward Dialing) for the **Billing telephone number**. This is typically a billing number from the service provider. This example uses **(972)265-7277** even though it is not required.
- 16. Check Caller ID not blocked by default.
- 17. Uncheck Dial 7 digits for local area code.
- 18. Leave all other fields at the default values.
- 19. Click SAVE.

## Configure DID Ranges

To configure the DID ranges:

- 1. Click Trunks > Trunk Groups > DID Ranges.
- 2. Click NEW.

ShoreTel Connect Director: Configure DID Ranges

ShoreTel Connect Di	irec	tor 😐   🗛   😐   😐   🗛	Adr	ninistrator   Help   Logout
Search		DID Ranges	NEW COPY DELETE	BULK DELETE
×¢1		9722657277 - 3	(SAVE) RESE	
ADMINISTRATION +	τΞ.	GENERAL		
Users Trunks Trunks Trunk Groups Trunk Groups	^	Trunk group: Base phone number: Number of phone numbers:	PSTN Trunk for Crestron           9722657277           3	8
DNIS DID Digit Map DID Ranges Off-System Extensions				

- 3. Select **PSTN Trunk for Crestron** for the **Trunk group** (for this example).
- 4. Enter 9722657277 for the Base phone number (for this example).
- 5. Enter **3** for the **Number of phone numbers** (for this example).
- 6. Click SAVE.

## Configure Trunks

To configure trunks:

- 1. Click **Trunks** > **Trunks**.
- 2. Click NEW.

ShoreTel Connect Director: Configure Trunks

ShoreTel Connect Dire	ctor 😐   🗛   😐   😐   🛔	Administrator   Help   Logout
Search	Trunks	NEW COPY DELETE BULK DELETE
ADMINISTRATION	ToPSTN	SAVE RESET CANCEL
Users	GENERAL	
Trunks	Site:	Headquarters 🗸
Trunks	Trunk group:	PSTN Trunk for Crestron (SIP)
▲ Trunk Groups	Name:	ToPSTN
Trunk Groups	Switch:	Lab109-vTS1
DNIS DID Disit Man	IP address or FQDN:	10.64.1.72
DID Digit Map	Number of trunks:	10 @
Off-System Extensions	(Max SIP trunk capacity 500/	1000 with/without advanced features. Remaining switch SIP trunk capacity 990 without
SIP Profiles	advanced features)	······································
ISDN Profiles		

- 3. Select Headquarters for the Site.
- 4. Select PSTN Trunk for Crestron (SIP) for the Trunk group.
- 5. Enter **ToPSTN** for the **Name** (for this example).
- 6. Select Lab109-vTS1 for the Switch.
- 7. Enter **10.64.1.72** (the LAN IP address of the PSTN gateway for this example) for the **IP address or FQDN**.
- 8. Enter 10 for the Number of trunks.
- 9. Click SAVE.

### Configure a SIP Profile for Phones/Devices

To configure a SIP profile for phones/devices:

- 1. Click **Telephones** > **SIP Profiles**.
- 2. Click NEW.

ShoreTel Connect Director: Configure SIP Profile for Phones/Devices

ShoreTel Connect Dire	ctor 😐   🔺   🔍   🔍   🖺   .	Administrator   Help   Logout
Search	SIP Phone Profiles	NEW COPY DELETE BULK DELETE
Administration	GENERAL	SAVE RESET CANCEL
Users Trunks Telephones	Name:	Crestron
Telephones IP Phone Address Map	User agent: Priority:	100
Anonymous Phones Vacated Phones SIP Profiles Phone Applications Options	System parameters:	OptionsFing=0 SendEarlyMedia=0 MWI=none 1CodecAnswer=1 StripVideoCodec=0
<ul> <li>Appliances/Servers</li> <li>Features</li> <li>System</li> </ul>		
Þ		Ý
	Custom parameters:	1CodecAnswer=0

- 3. Enter Crestron for the Name (for this example).
- 4. Enter **.\*** for the **User agent**.
- 5. Check Enable.
- 6. Select **1CodecAnswer=0** for the **Custom parameters** to enable mid-call codec negotiations to occur by offering multiple codecs (for this example).
- 7. Click SAVE.

## Configure User for Each Device/Phone

For this example, configure a user for each phone and Crestron device. After basic network configuration on the DSP (such as the IP, mask, and default router), devices appear on the **Telephones** listing of the ShoreTel Director.

**NOTE:** This example configures two Crestron Avia devices: one with a static IP (10.89.9.100) and the other with an IP acquired via DHCP (10.80.25.23).

#### ShoreTel Connect Director: Telephones

ShoreTel Connect Direc	tor 😑 Connections   🔺 Tru	nk Groups   😑 Bandwidth	🔵 Voice Quality   🦺 Ap	pliances   🔥 Server	;	Administrator	Help   Logout
Search	Telephones		Move to s	ite: Headquarters 🗸	and switch: Lab109-vPS1	MOVE DE	LETE 🗧
🗡 🗘 🗽 📶 🖾 🖻	NAME \$	SITE \$	SWITCH \$	MAC ADDRESS \$	IP ADDRESS \$	CURRENT USER \$	HOME USER
ADMINISTRATION +'E	00-09-6E-0D-6C-1E	Headquarters	Lab109-vPS1	00-09-6E-0D-6C-1E	10.89.9.60	Test2 Phone2	Test2 Phone2
Users	00-10-49-40-3F-15	Headquarters	Lab109-vPS1	00-10-49-40-3F-15	10.89.9.55	Test Phone2	Test Phone2
⊳ Trunks	00-10-49-40-73-05	Headquarters	Lab109-vPS1	00-10-49-40-73-05			
Telephones	00-10-49-44-C4-33	Headquarters	Lab109-vPS1	00-10-49-44-C4-33	10.89.9.101		
Telephones	SIP-160-0131346740169	Headquarters	Lab109-vPS1	34-67-40-16-94-67	10.89.9.100	DSP160 Avia1	DSP160 Avia1
IP Phone Address Map	SIP-162-0131346750382	Headquarters	Lab109-vPS1	34-67-50-38-22-45	10.80.25.23	DSP162 Avia2	DSP162 Avia2

To configure a user for each device/phone:

- 1. Click **Users** > **Users**.
- 2. Click NEW.

ShoreTel	Connect	Director:	Configure	User
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ShoreTel Connect Direct	ctor 😐   🔺   🔍   🔍   📥	Administrator   Help   Logout
Search	Users NEW	COPY DELETE EXPORT BULK DELETE BULK EDIT
Administration	Extension 160: DSP160 Avia	a1 (SAVE) RESET CANCEL =
	GENERAL TELEPHO	NY VOICE MAIL ROUTING MEMBERSHIP APPLICATIONS
lleore	DNIS	
Programmable Buttons		[DOD4C0]
Escalation Profiles	First name:	
User Groups	Last name:	Avia1
Class of Service	Extension:	160
Availability States Defaults	Email address:	Edit System Directory record
Trunks	Client username:	Avia1
Telephones	Include in System Dial by Nam	
Telephones		
IP Phone Address Map	Make extension private	
Anonymous Phones	DID Settings:	+19722657278 hide details
Vacated Phones	Fnable DID	
SIP Profiles		+19722657277 (0 of 3 available) BSTN Trunk for Creation V
Phone Applications	DID Range.	
Options	View System Directory for DID u	
Appliances/Servers	DID number:	+19722657278
Features		
System	PSTN failover:	None
	Caller ID (overwrite DID):	(e.g. +1 (408) 331-3300)
	License type:	Extension and Mailbox V
	Access license:	Phone Only
	User group:	Executives Go to this user group
	Site:	Headquarters V Go to this site
	Language:	English(US)
	Primary phone port:	IP phone: SIP-160-0131346740169467678 hide details
		● IP phone SIP-160-0131346740169467678 ▼
		○ Port SG90 - 9 🔽
	Current port:	SIP-160-0131346740169467678 GO PRIMARY PHONE
	lack #	
	Jack #.	
	Mailbox server:	[Headquarters]
	Client password:	(6 - 26 characters)
		•••••
		must change on next login
	SIP phone password:	(6 - 26 characters)

- 3. Enter DSP160 for the First name (for this example).
- 4. Enter Avia1 for the Last name (for this example).
- 5. Enter **160** for the **Extension** (for this example).
- 6. Enter **Avia1** (for this example, configured against the SIP server user name in the Avia DSP SIP configuration) for the **Client username**.

- 7. In the **DID Settings** section, do the following:
  - a. Check **Enable DID**.
  - b. Select the DID range corresponding to the PSTN trunk configured earlier for the **DID Range**.
  - c. Enter the next available number in the DID range list for the **DID number**.
- 8. Select **Phone Only** for the **Access license** (for this example).
- 9. Check **IP phone** and select the desired device listed under **Telephones** for the **Primary phone port**.
- 10. Enter **123456** for the **Client password** (for this example).
- 11. Click SAVE.

### Configure the Hunt Group

To configure the hunt group:

- 1. Click Features > Call Control > Hunt Groups.
- 2. Click NEW.

ShoreTel Connect Director: Configure Hunt Group

ShoreTel Connect Director 🔹   🗛   🔍   🐁   🗛 🛛 🗛 Administrator   Help   Logo				
Search	Hunt Groups	NEW COPY DELETE BULK DELETE		
✔     ✿     ↓↓     Ⅲ     I       ADMINISTRATION     ↓	164 : CrestronHG GENERAL MEMBERS	SAVE RESET CANCEL		
> Users	Name:	CrestronHG		
Telephones	Extension	164		
> Appliances/Servers	Radius extension:	161 · Test Phone?		
Features	DID Settings:	10722657277 hide details		
System Directory		19/2205/2//		
Auto-Attendant				
▲ Call Control	DID Range:	+19722657277 (0 of 3 available) PSTN Trunk for Crestron		
Account Codes	View System Directory for DID usage	<u>e</u>		
Bridged Call Appearances	DID number:	+1 9722657277		
Hunt Groups	-			
Paging Groups	Include in System Dial by Name di	irectory		
Pickup Groups Route Points	Make extension private			
Supported Codecs	Switch:	Lab109-vPS1		
Codec Lists	Call stack denth:	8 (1-16)		
Options	Distribution pattern:			
Music On Hold	Cistibution pattern.	Top-down		
Extension Lists				
▷ Voice Mail				
Workgroups	Rings per member:	3 (1-255)		
Schedules	No answer number of rings:	4 (1-255)		
▷ Client	Call member when forwarding all o	calls		
> System	Skip member if already on a call Call forward destinations:			
	Call stack full			
		If no destination is specified, busy tone is played		
	No answer			
		If no destination is specified, calls will disconnect after 2 minutes		

- 3. Enter CrestronHG for the Name (for this example).
- 4. Enter **164** (the default extension provided from list of available numbers for this example) for the **Extension**.
- 5. Enter **161:Test Phone2** for the **Backup extension**. (This can be any ShoreTel phone or Crestron device extension.)

- 6. In the **DID Settings** section, do the following:
  - a. Click Change Settings.
  - b. Check Enable DID.
  - c. Select the DID range corresponding to the PSTN trunk configured earlier for the **DID Range**.
  - d. Enter the next available number in the DID range list for the **DID number**.
- 7. Select Lab109-vPS1 for the Switch (virtual phone switch, for this example).
- 8. Click **Simultaneous** for the **Distribution pattern**.
- 9. Leave all other fields at the default values.
- 10. Click the **MEMBERS** tab.

#### ShoreTel Connect Director: Configure Hunt Group Members

Hunt Groups		NEW C	сору	DELETE BU
164 : CrestronHG			_	SAVE RESET
GENERAL MEMBERS DNIS				
Available:				Selected:
EXTENSION	NAME			EXTENSION
100	Auto-Attendant			160
134		^		161
135				
136				
144				
145	IVR	~	Ľ	
150	loain			
<		>		
	► FI Rows / page: 10	View 1 - 10 of 14		

- 11. Transfer extensions that need to be part of the hunt group.
  - a. In the Available list, select extensions 160 and 161 (for this example).
  - b. Click > (between the two lists) to move the extensions to the **Selected** list.

### Configure Voice Mail Extensions

ShoreTel Connect has embedded voice mail.

To configure the voice mail extensions:

1. Click System > Dialing Plan > System Extensions > Voice mail. ShoreTel Connect Director: Configure Voice Mail Extensions

ShoreTel Connect Director 🔹   🗛   🔍   🌲   🗚 Administrator   Help   Logout				
Search	System Extensions	SAVE RESET CANCEL		
🔑 🗢 🗽 🏢 🔤 🛱	Voice mail:			
	Extension:	101		
	Login extension:	102		
> Trunks	Broadcast mailbox:	600		
Telephones	Account codes:			
Appliances/Servers	Extension:	107		
▷ Features	Music on Hold:			
⊿ System	Extension:	114		
Sites	Auto-attendant:	100		
Local Prefixes	Extension:			
Digit Translation Tables	Backup extension:	103		
✓ Dialing Plan	make me conterence:	109		
Dial Plan	ShoreTel conference	100		
Port Configuration	Extension:	113		
Trusted IP Ranges	External number:			
SNMP				
Additional Parameters	Audiuonal calling information.	^		

- 2. Enter 101 for the Extension (for this example).
- 3. Enter **102** for the **Login extension** (for this example).
- 4. Click SAVE.

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Configuration Guide – 8337B 2052157 10.18 Specifications subject to change without notice.