

ClearOne®

COLLABORATE® PRO 300 USER GUIDE



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COLLABORATE Pro 300

USER GUIDE

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NOTICE: This Class A device complies with Part 15 of the FCC rules and Canadian ICES-003. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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Chapter 1: Introduction

IN THIS CHAPTER

This chapter introduces the COLLABORATE Pro 300 video collaboration system and includes the following sections:

- COLLABORATE Pro 300 Overview
- Main Features
- Comparison Table
- Feature Highlights

COLLABORATE PRO 300 OVERVIEW

The COLLABORATE Pro 300 is a high-definition executive videoconferencing system, featuring laptop sharing, dual display and more.

COLLABORATE Pro 300 provides an interface to videoconferencing via its plug-and-play application-in-a-box, providing on-screen operation controls and advanced call control options during conferencing. Utilizing the newest H.264 video standard and clear, crisp audio, the COLLABORATE Pro 300 brings users face-to-face with other people and organizations.

COLLABORATE Pro 300 incorporates advanced data sharing capabilities, allowing you to connect to a laptop or PC (cabled or wireless) for data sharing.

COLLABORATE Pro 300 is ideal for users who need a powerful videoconference solution, powered by ClearOne's COLLABORATE Pro software.

Various accessories, such as a PTZ camera, ClearOne CHAT 150C and DataPoint HD – can be installed and integrated as part of the COLLABORATE Pro 300 system.



NOTES:

- For more information about the COLLABORATE Pro 300 physical installation, including the connection of cables and devices to COLLABORATE Pro 300, refer to the COLLABORATE Pro 300 Quick Setup Guide.
- For the complete technical specifications, refer to the COLLABORATE Pro 300 datasheet.

MAIN FEATURES

COLLABORATE Pro 300 allows you to call a destination via LAN, and to interact via video and data-sharing during calls. Some of the primary capabilities of the system include:

- Point-to-point connections
- Data sharing
- Sharing cable-connected laptop or wireless via network.
- COLLABORATE share.
- Side-by-side Picture-In-Picture (PIP) view
- Calling via Contacts or Recent calls
- Calling via online directories
- Calling Via URI
- Configurable audio, video and displays, and automatic answering
- Display on-screen running text to all participants via Web management during a call
- Supports ClearOne CHAT 150C Speakerphone
- Supports ClearOne Unite 150 camera
- Far End mute indicator
- Telnet interface
- Communicating in standalone mode, COLLABORATE Central mode and gatekeeper mode
- Turn unit into sleep mode and wake it up using the remote control
- Web-based management
- Regulatory Compliance: UL, CSA (cUL), TUV, TUV-CB, CE-LVD, CE, FCC Class B, BSMi, VCCI, C-Tick, RoHS.
- Skype For Business native integration.

COMPARISON TABLE

The following table specifies the differences between the various models of COLLABORATE Pro.

	COLLABORATE Pro 300 Series	COLLABORATE Pro 600 Series	COLLABORATE Pro 900 Series
Max Tx	1080/30	1080/60	1080/60
Max Rx	1080/60	1080/60	1080/60
MCU	-	Up to 1+8	Up to 1+8
Recording	-	√	√
Streaming	-	√	√
Data via USB	√ (Only on idle mode)	√	√
DataPoint (Optional)	√	√	√
Multiple Cameras	-	√	√
Bandwidth	Up to 4 Mbps	Up to 6 Mbps	Up to 6 Mbps
H.239 Dual Video support	√	√	√
PTZ camera	√	√	√
Balanced Audio	-	√	√
Audio Device	CHAT 150C Speakerphone	CHATAttach 150 Speakerphone	CONVERGE Pro

Notes:

- **The display resolution must be set to 1920x1080 when the received resolution is 1080. Otherwise you may encounter video issues.**

FEATURE HIGHLIGHTS

- Small and compact unit
- Single or dual monitor display
- RF Remote control – install the unit in a closet
- SSD Storage for faster operation and added resiliency

Chapter 2: Getting Started

IN THIS CHAPTER

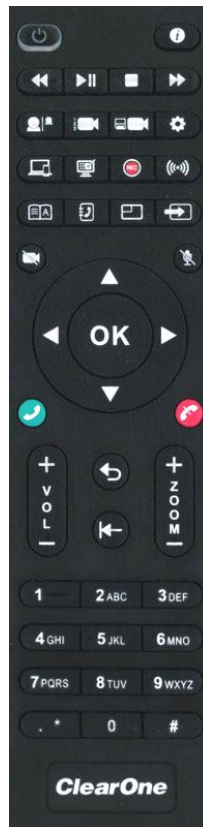
Once the COLLABORATE Pro 300 unit is installed, connected and turned on, it is ready for use. This chapter describes the following basic operations:

- Using the Remote Control
- Using the On-Screen Menu
- System Icons
- Displaying System Information

USING THE REMOTE CONTROL

You can navigate the COLLABORATE Pro on-screen graphic user interface (GUI) using the RF remote control, bundled with the unit.

Pressing any button on the remote control activates the on-screen GUI, which appears on top of the camera/videoconference picture.



The remote control includes the following button types:

- Alphanumeric Keypad

- Command Buttons
- Navigation arrows and Additional Buttons

ALPHANUMERIC KEYPAD













The remote control includes an alphanumeric keypad with buttons from 0 to 9. In the Dot button you can find the following signs: '.', ',', '*', '#', '^', '@', '\$', ':', '=', '-', '_'. In addition, Clear button to erase entered characters.







In different windows, you can toggle between **numbers** and **letters**, depending on the field. Some fields accept numbers only.

- Switch between letters and numbers by pressing a few times on the corresponding key
- When DTMF dialing is requested, use the numeric keypad.

COMMAND BUTTONS

The following command buttons are available on the remote control:

Button Image	Button Name	Command
	Power	Turn system into sleep mode Wake up system
	Status	Display the system information Display the current call status Show the on-screen online help
	Data	Open presentation menu
	Phone Book	Open the phone book
	Input	Change wireless main sender
	Far End	Control the position (PTZ) of the camera at the near/far end
	Player Controller	N/A
	Preset: Recall	Recall a camera PTZ preset position
	Preset: Set	Set a camera PTZ preset position
	Picture-In-Picture (PIP)	Toggle the PIP position (5 positions + Side-by-Side) Change wireless layout
	Recent Calls	Display the current Recent Calls
	Mute Mic	Mute the local microphone

Button Image	Button Name	Command
	Recording	N/A
	Streaming	N/A
	Settings	Open the settings menu
	Mute Video	Temporarily disable the local video camera and its transmission
	Delete	Delete characters
	White Board	Open Spontania white board

NAVIGATION ARROWS AND ADDITIONAL BUTTONS

Using the navigation arrows and the **OK** button, you can navigate the GUI menus/options in four directional movements: **Up**, **Down**, **Left** and **Right**.



In addition to the navigation arrows, the following buttons are available around it:

- Back** – Returns to the previous step/window without saving changes
- Menu/OK** – Selects/activates a highlighted GUI item/function (highlighted in orange on the screen)
- Zoom In/Out** – Zooms in or out with the camera
- Make Call** – Start a new call
- End Call** – End the current call or close the GUI.

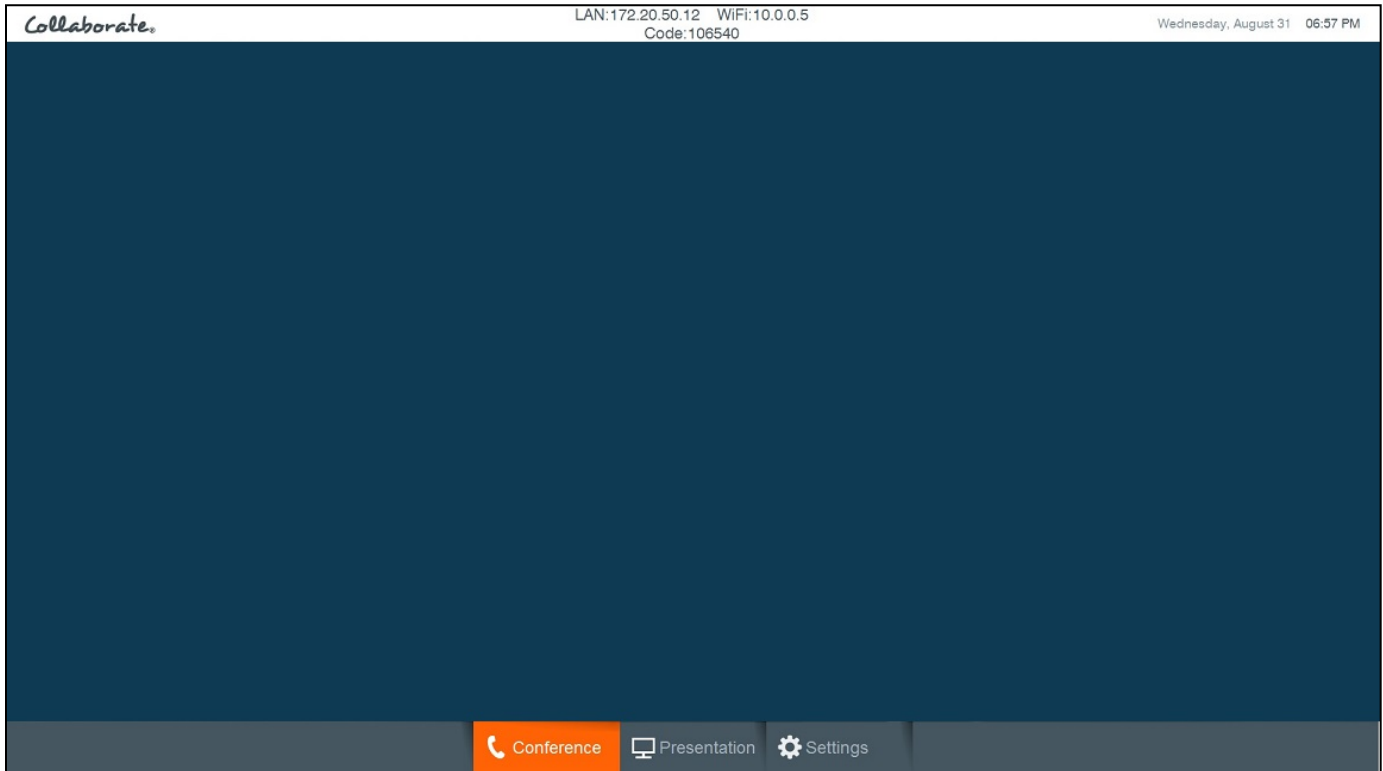
NOTE: The red End Call button can also be used for turning off or restarting the unit. Press and hold the button until the power confirmation prompt appears.

USING THE ON-SCREEN MENU

The on-screen menu enables you to navigate COLLABORATE Pro options prior to and during a videoconference call. The main menu is accessed using the remote control (see Using the Remote Control).

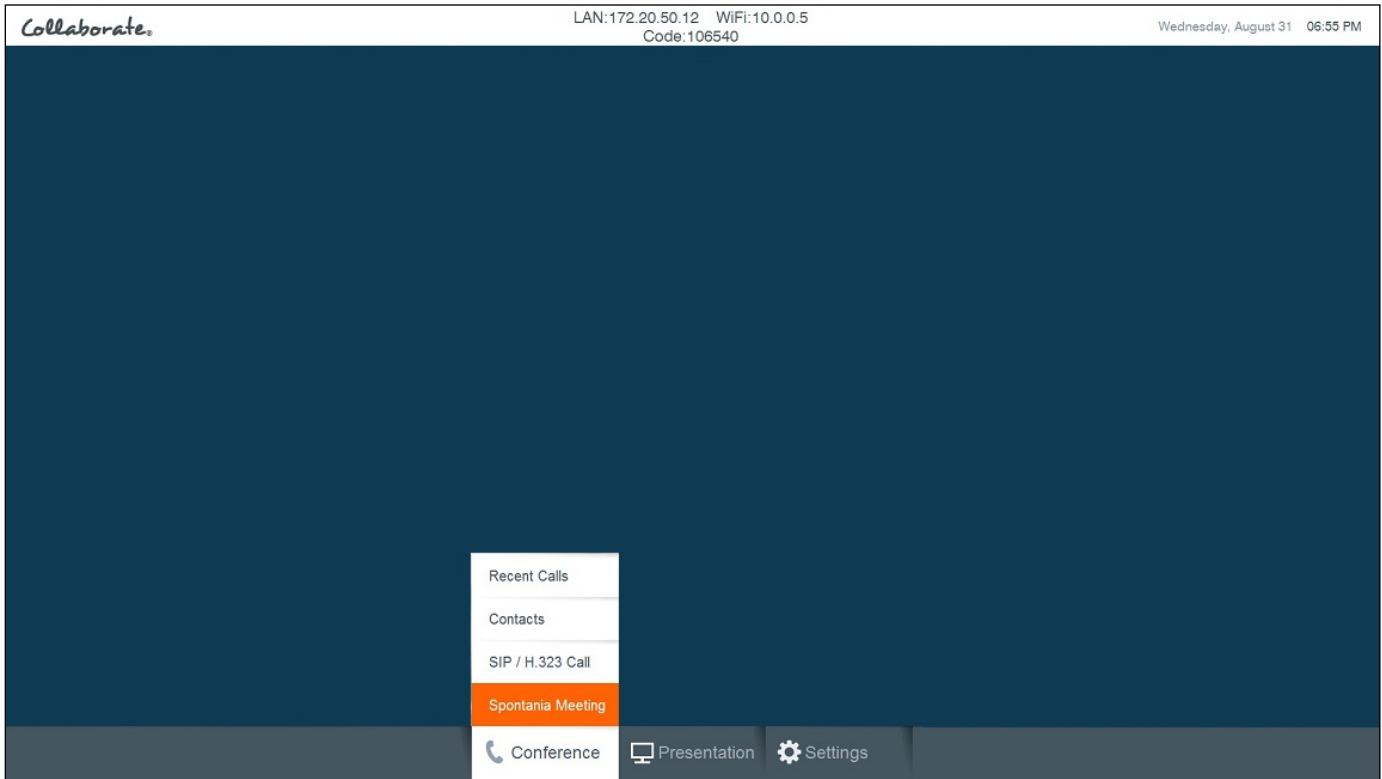
To display the COLLABORATE Pro main menu:

- Press **OK** on the remote control.



Navigate the COLLABORATE Pro menu using the remote control. To expand menu options:

- Press the up arrow (↑) on the navigation arrows when the expandable option is selected.







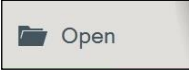
To access a category/option:

- Press **OK** when the category/option is selected (highlighted in orange).

To collapse the menu options:


- Press **Back** on the remote control.

The following menu buttons may appear occasionally in the GUI (appear in the context of use):

GUI Button	Label	Function
	OK	Save changes
	Back	Return to the previous window without saving changes
	Apply	Apply changes
	Restore Defaults	Cancels all user-defined settings and returns the unit to its factory default settings
	Open	Open the selected folder/file

SYSTEM ICONS

The following icons indicate the different behaviors of the system.

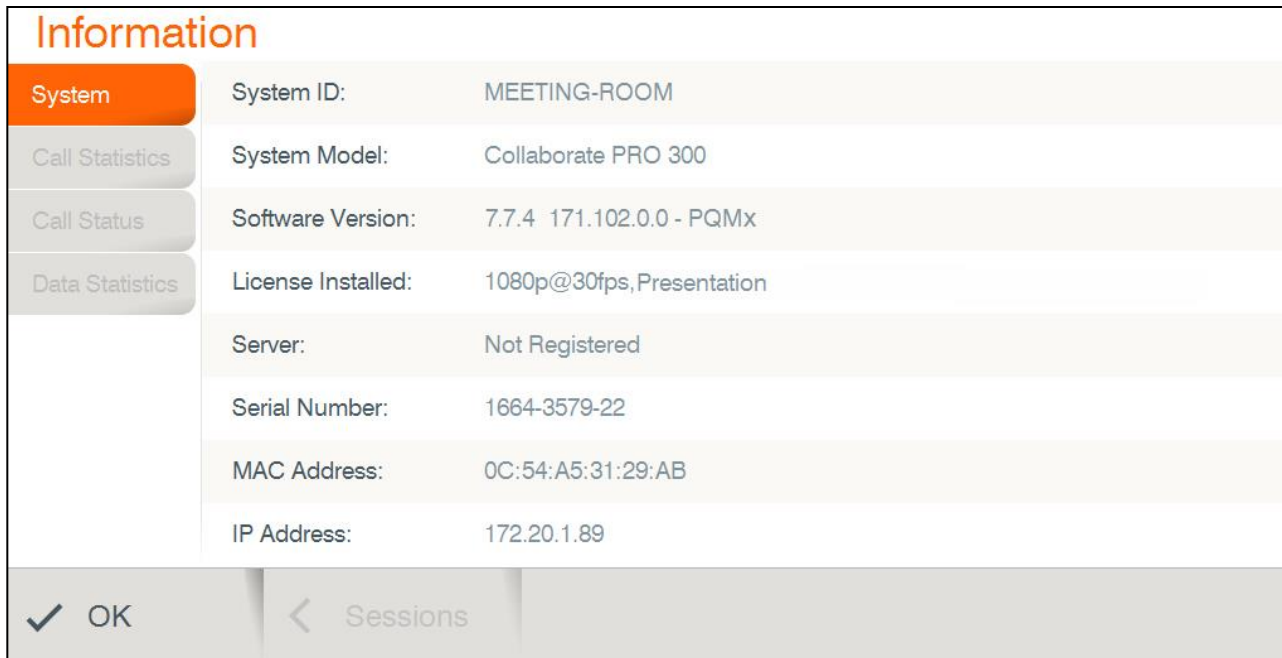
Icon Image	Meaning
	Mute Speaker
	Mute Microphone
	Far End Microphone Mute
	No Network
 Far	Far End Camera Control (FECC)
	Do Not Disturb
 Central	Central Registration
 Central	Central Registration Failed
	Gatekeeper Registration
	Gatekeeper Registration Failed
	Far End Recording
	Encrypted Call
	Audio Only Call
 SIP	SIP Registration
 SIP	SIP Registration Failed

DISPLAYING SYSTEM INFORMATION

Whenever the COLLABORATE Pro unit is turned on, you can view the system status details. Different details are displayed when the unit is in idle state or in an ongoing videoconference session.

To display the current system status details:

- Press **Status** () on the remote control. The **Information** window appears.



The screenshot shows a mobile application window titled "Information". On the left is a vertical sidebar with menu items: "System" (highlighted in orange), "Call Statistics", "Call Status", and "Data Statistics". The main area displays system information in a table format:

System ID:	MEETING-ROOM
System Model:	Collaborate PRO 300
Software Version:	7.7.4 171.102.0.0 - PQMx
License Installed:	1080p@30fps, Presentation
Server:	Not Registered
Serial Number:	1664-3579-22
MAC Address:	0C:54:A5:31:29:AB
IP Address:	172.20.1.89

At the bottom of the window is a navigation bar with a checkmark icon and the text "OK", a left-pointing arrow icon and the text "Sessions", and a right-pointing arrow icon.

When COLLABORATE Pro is in the idle state, the Information window displays the following information:

- **System ID** – System ID as defined in the system settings (see Preference Settings)
- **System Model** – COLLABORATE Pro model
- **Software Version** – Software version of the COLLABORATE Pro application.
- **License Installed** – COLLABORATE features that available with the installed license.
- **Server** – The current operation mode:
 - **Not registered** – The unit is not connected to a COLLABORATE Central server or a gatekeeper.
 - **COLLABORATE Central** – The unit is connected to a COLLABORATE Central server
 - **Gatekeeper** – The unit is connected to a gatekeeper server.
 - **SIP Proxy** – The unit is connected to a SIP proxy server.

- **Serial Number** – The unit unique serial number.
- **MAC Address** – MAC address of the COLLABORATE Pro unit
- **IP Address** – IP Address of the COLLABORATE Pro unit, as automatically assigned by the DHCP server or as manually configured via **Settings>Admin>IP**. You can use this IP Address to access and manage the unit via a browser (see Accessing COLLABORATE Pro via Browser)

NOTE: During a videoconference call, you can display additional/different relevant information by selecting Call Status / Call Statistics in the Status window.

COLLABORATE SETUP

When system is loaded for the first time (after restore defaults), the setup wizard is displayed on screen in order to configure the basic settings:

1. General:

Collaborate Setup 1 of 4

General	Name	<input type="text"/>
Network	Language	English (English) ▾
Proxy	Time Zone	(UTC+02:00) E. Europe ▾
License	Time	13 ▾ : 52 ▾
	Date	13 ▾ / 07 ▾ / 2016 ▾

➔ Next

- **Name** – System name used to identify the system when using DNS dialing.
- **Language** – Select the desired language for the user interface. Click **Apply**. (A system restart is required after changing the system language.)
- **Time Zone** – Select your country time zone.
- **Time** – If not already set, enter the current time.
- **Date** – If not already set, enter the current date.

Select **Next**.

2. Network:

Collaborate Setup 2 of 4

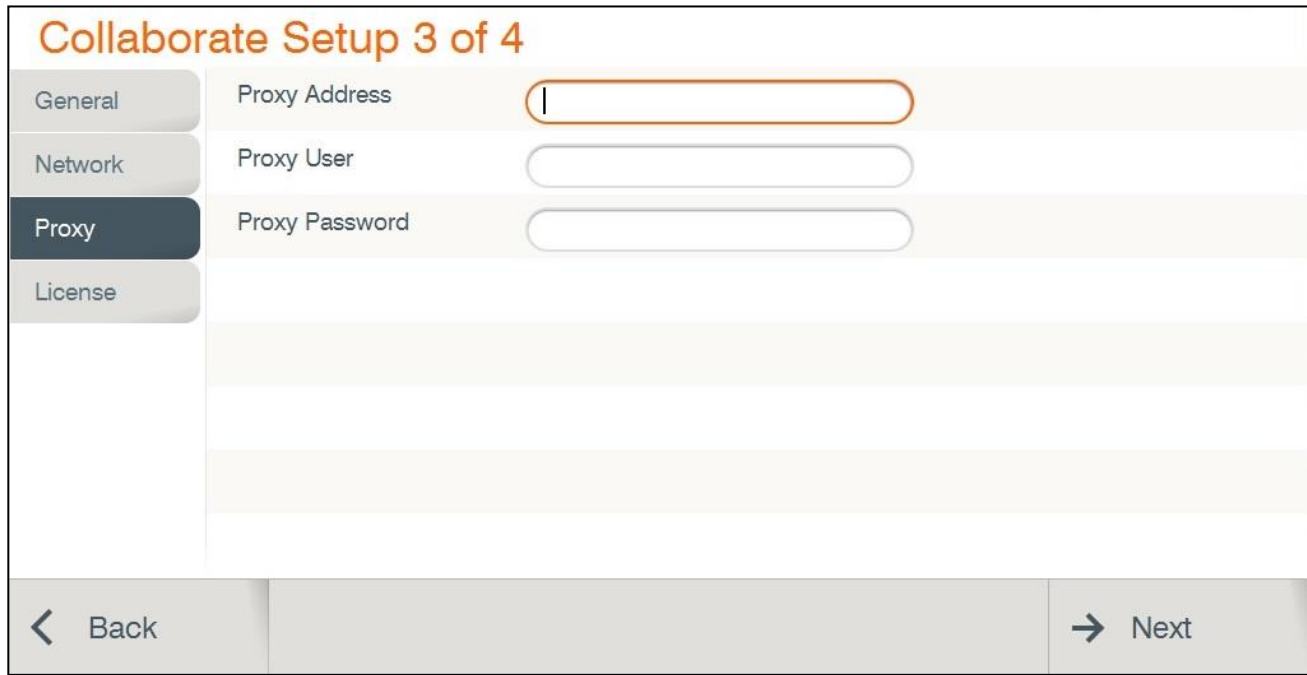
General	Obtain Address From DHCP <input checked="" type="checkbox"/>	Ethernet Speed	1000.0 Mbps
Network	IP Address	<input type="text" value="172.20.1.30"/>	
Proxy	Subnet Mask	<input type="text" value="255.255.0.0"/>	
License	Default Gateway	<input type="text" value="172.20.0.253"/>	
	Obtain DNS automatically <input checked="" type="checkbox"/>		
	DNS Server	<input type="text" value="172.20.0.100"/>	
	Additional DNS Server	<input type="text" value="172.20.0.105"/>	
	DNS Suffix	<input type="text" value="vconltd.co.il"/>	

[← Back](#) [Next →](#)

- ❑ **Obtain Address from DHCP Server** – Select the checkbox to obtain an IP Address from a DHCP server.
- ❑ **IP Address** – Set the IP Address for this system. If using a DHCP server, the address obtained from the DHCP server is displayed.
- ❑ **Subnet Mask** – Set the subnet mask number for your network. If using a DHCP server, the address obtained from the DHCP server is displayed.
- ❑ **Default Gateway** – Set the IP Address of the default gateway router. If using a DHCP server, the address obtained from the DHCP server is displayed.
- ❑ **Obtain DNS Automatically** – Use the DHCP server to decide your DNS server address. If you do not select Obtain address from DHCP server, fill in the following fields:
 - **DNS Server** – Set the IP Address of the DNS server. If using a DHCP server, the address obtained from the DHCP server is displayed.
 - **Additional DNS Server** – Alternative DNS server, to be used in case the first DNS server defined can't supply the needed services.
 - **DNS Suffix** – Set the DNS domain suffix to be used by this system.
- ❑ **Ethernet Speed** – Displays the network interface speed.

Select **Next**.

3. Proxy:



Collaborate Setup 3 of 4

General Proxy Address

Network Proxy User

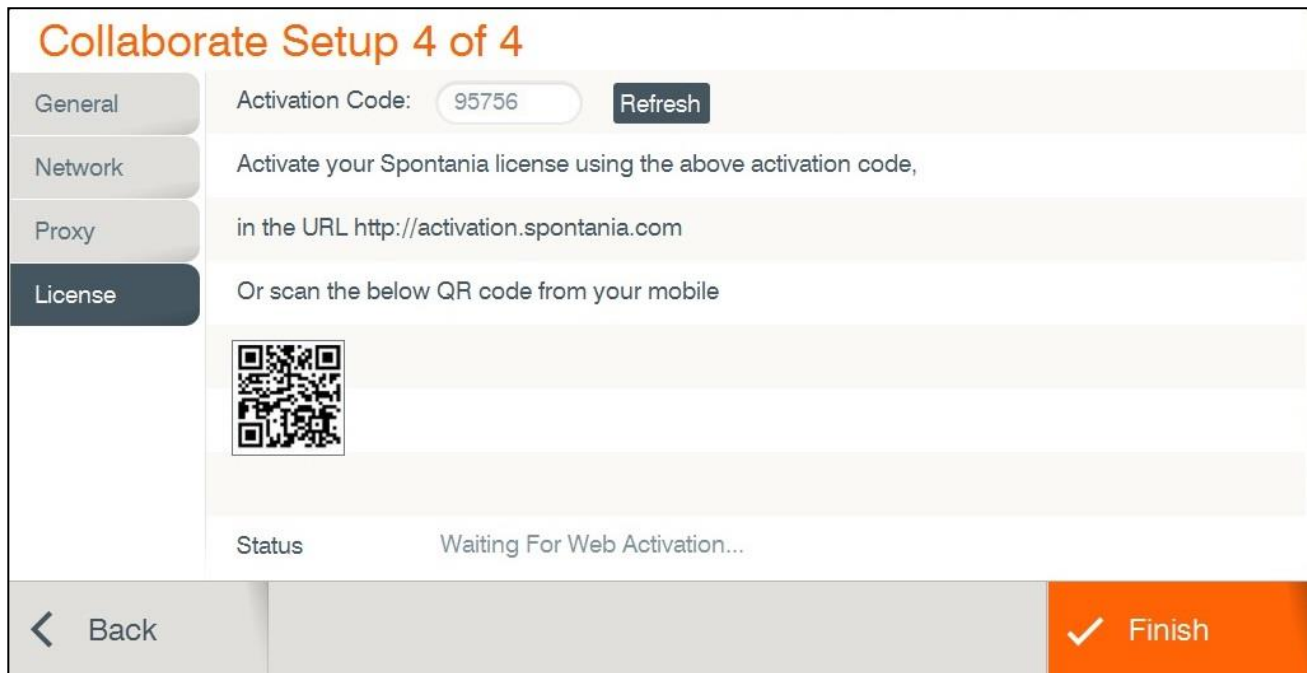
Proxy Proxy Password

License

< Back Next >

Enter your organization proxy server address. For any assistance use your organization’s network manager.

4. License:




Collaborate Setup 4 of 4

General Activation Code:

Network Activate your Spontania license using the above activation code,

Proxy in the URL <http://activation.spontania.com>

License Or scan the below QR code from your mobile



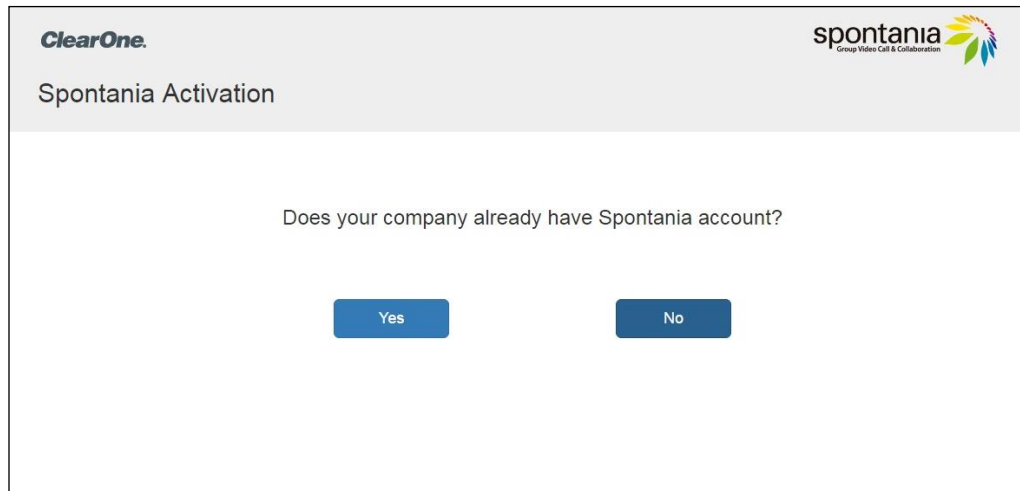
Status Waiting For Web Activation...

< Back ✔ Finish

Activate Spontania license by following the instructions:

1. Open web browser and navigate to <http://activation.spontania.com>.

2. If your company doesn't have a Spontania account, choose 'No' option.



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Group Video Call & Collaboration

Spontania Activation

Does your company already have Spontania account?

Yes No

3. Fill the required fields in order to create a new administrator account to activate Spontania license, and press 'Activate'.
4. 'Spontania license is activated' message will appear and you can use your Spontania application.

Chapter 3: Configuration Basics

IN THIS CHAPTER

This chapter explains the basic configuration options and includes the following sections:

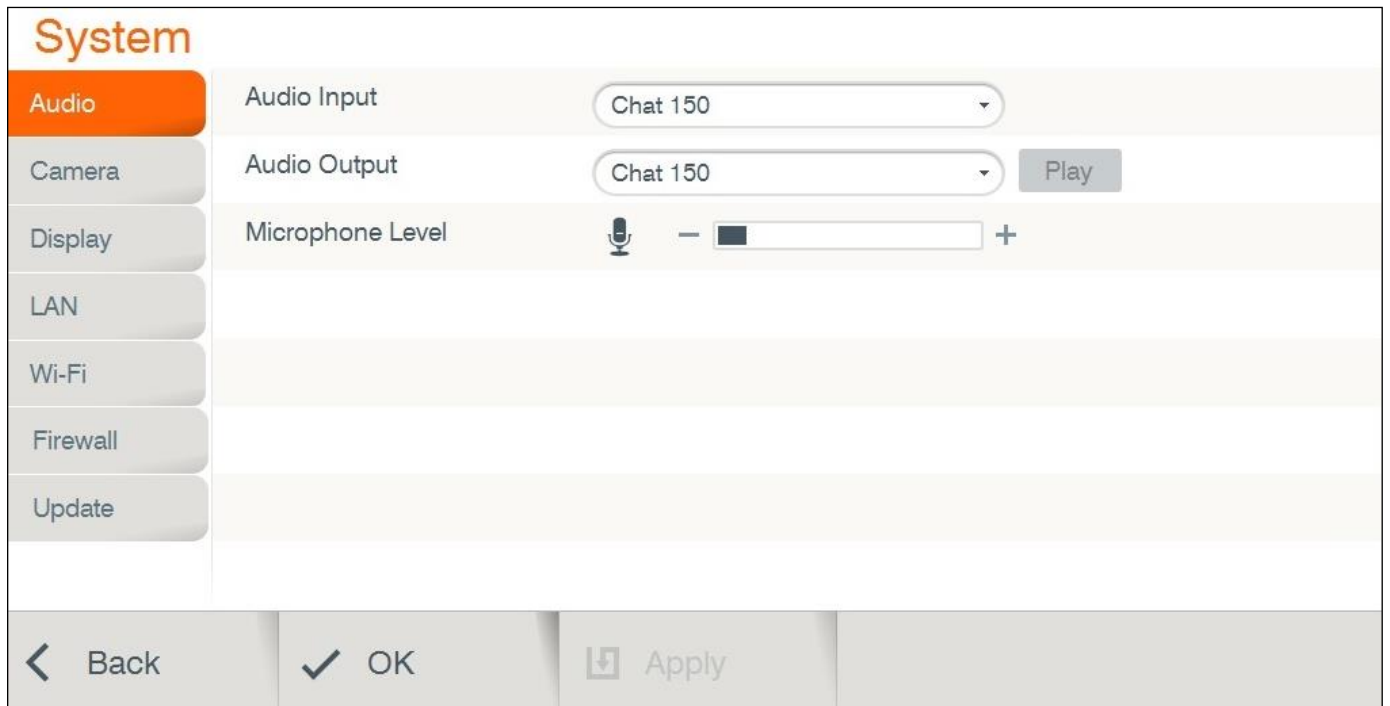
- Configuring the Audio
- Configuring the Camera
- Controlling the Camera
- Configuring the Display
- Configuring the LAN
- Configuring the Wi-Fi
- Configuring the Firewall
- Updates

CONFIGURING THE AUDIO

The audio input/output must be configured so that you will be able to hear and be heard properly in videoconferences.

To access the audio settings:

1. Press **OK** on the remote control. The main menu appears.
2. Using the remote control's navigation arrows, select **Settings> System>Audio**. The Audio Settings window appears.



To configure the audio settings:

3. In the Audio Settings window, set the following properties of the selected audio input. USB devices can be used if the system supports external USB hardware.
 - **Audio Input** – Verify CHAT 150C is your audio input device.
 - **Audio Output** – Verify CHAT 150C is your audio output device.
 - **Play** – This button plays a recorded audio for use in setting output levels. Adjust the desired volume level (using the volume keys) for your audio output device.
 - **Microphone Level** – Adjust the microphone sensitivity level in percentage (%)
4. Select **Apply**.

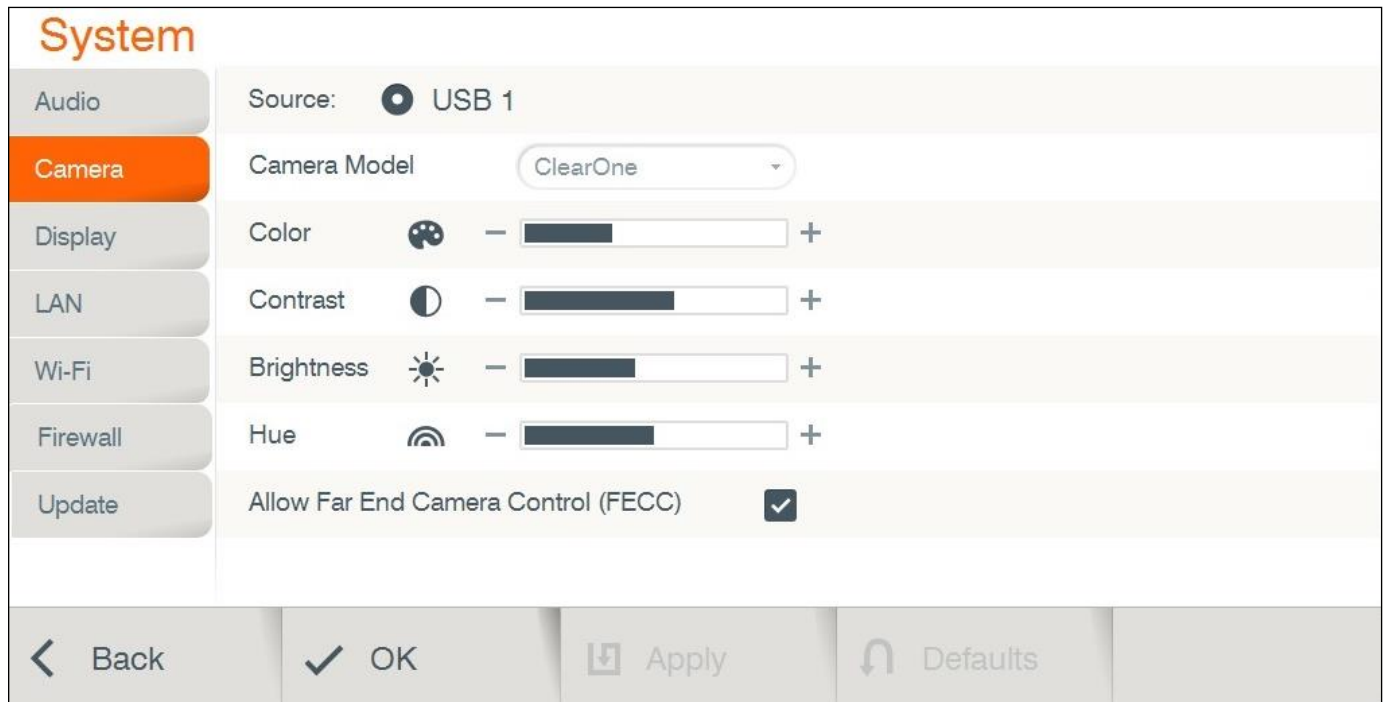
CONFIGURING THE CAMERA

Before you begin videoconferencing, you need to make sure that the camera connected to the COLLABORATE Pro is properly configured. Camera is configured via the Camera Settings window.

To access the camera settings:

1. Press **OK** on the remote control. The main menu appears.
2. Using the remote control's navigation arrows, select **Settings > System > Camera**.

The Camera Settings window appears.



To configure the camera settings:

3. In the Camera Settings window, select the correct options from the **Source**.

NOTE: COLLABORATE Pro supports PTZ cameras only.

2. Optional: Set the percentage (%) of **Color**, **Contrast**, **Brightness**, and **Hue**. You can leave the default settings of these parameters unchanged.
3. Select the correct option from the **Camera Model**.
4. Select the **Allow Far End Camera Control (FECC)** check box to enable the remote side to control your camera (unavailable when working with SIP).
5. Select **Apply** to apply the changes without leaving this window, or select **OK** (in the GUI) to save the changes and close the Camera Settings window.

CONTROLLING THE CAMERA

You can control the camera position using the remote control's arrows on idle mode or during a videoconference. To control the camera's zoom use the zoom-in / zoom-out button. During a videoconference, you can control the remote side's camera by pressing on Far-End button on remote control and then using the arrows.

CONFIGURING THE DISPLAY

The display settings determine the method by which video is displayed on the screen. Adjust the display settings depending on the room you are using for videoconferencing and on your distance from the screen.

NOTE: The term "screen" refers to any type of monitor you are using (LED, LCD, and so on).

To access the display settings:

1. Press **OK** on the remote control. The main menu appears.
4. Using the remote control's navigation arrows, select **Settings>System > Display**. The Display Settings window appears.

System		
Audio	Display Mode	Single Mode
Camera	Display	Single/Main
Display	Device	HDMI
LAN	Resolution	1920x1080
Wi-Fi	Display Remote On Main	<input checked="" type="checkbox"/>
Firewall	Keep Aspect Ratio	<input checked="" type="checkbox"/>
Update	Secondary Display Used For Data Only	<input type="checkbox"/>
<div style="display: flex; justify-content: space-between; align-items: center;"> < Back ✓ OK </div>		

To configure the basic display settings:

1. **Display Mode (Configured automatically)** –

- **Single Mode** – Both videoconference parties are displayed on a single screen.
- **Dual Mode** – Conferences are displayed on two screens.

NOTE: Incoming resolution in dual mode is limited to 1080@30.

- Display Remote on Main** – When using multiple monitors, display the remote side on the main display. Uncheck to display the remote on the secondary monitor.
- Device and Resolution** – Select an option from the lists.
- Keep Aspect Ratio** – Select this option to keep the original aspect ratio on screens that have different aspect ratio.
- Secondary Display Used For Data Only** – Select to use secondary monitor only when data is sent / received.

2. Click **OK**.

LAN SETTINGS

In the LAN Settings window you can configure TCP/IP networking parameters for COLLABORATE.

To edit system settings:

1. Select **Settings>System>LAN**. The LAN Settings window appears.

System			
Audio	Obtain Address From DHCP	<input checked="" type="checkbox"/>	Ethernet Speed 1000.0 Mbps
Camera	IP Address	<input type="text" value="172.20.1.44"/>	
Display	Subnet Mask	<input type="text" value="255.255.0.0"/>	
LAN	Default Gateway	<input type="text" value="172.20.0.253"/>	
Wi-Fi	Obtain DNS automatically	<input checked="" type="checkbox"/>	
Firewall	DNS Server	<input type="text" value="172.20.0.100"/>	
Update	Additional DNS Server	<input type="text" value="172.20.0.105"/>	
	DNS Suffix	<input type="text" value="vconltd.co.il"/>	
<div style="display: flex; justify-content: space-between; align-items: center;"> < Back ✓ OK Apply </div>			

2. In the System Settings window, set the following options and parameters
 - Obtain Address from DHCP Server** – Select the checkbox to obtain an IP Address from a DHCP server.
 - IP Address** – Set the IP Address for this system. If using a DHCP server, the address obtained from the DHCP server is displayed.
 - Subnet Mask** – Set the subnet mask number for your network. If using a DHCP server, the address obtained from the DHCP server is displayed.
 - Default Gateway** – Set the IP Address of the default gateway router. If using a DHCP server, the address obtained from the DHCP server is displayed.
 - Obtain DNS Automatically** – Use the DHCP server to decide your DNS server address. If you do not select Obtain address from DHCP server, fill in the following fields:
 - DNS Server** – Set the IP Address of the DNS server. If using a DHCP server, the address obtained from the DHCP server is displayed.
 - Additional DNS Server** – Alternative DNS server, to be used in case the first DNS server defined can't supply the needed services.
 - DNS Suffix** – Set the DNS domain suffix to be used by this system.
 - Ethernet Speed** – Displays the network interface speed.

NOTE: Modify these settings only if they are required in your network.

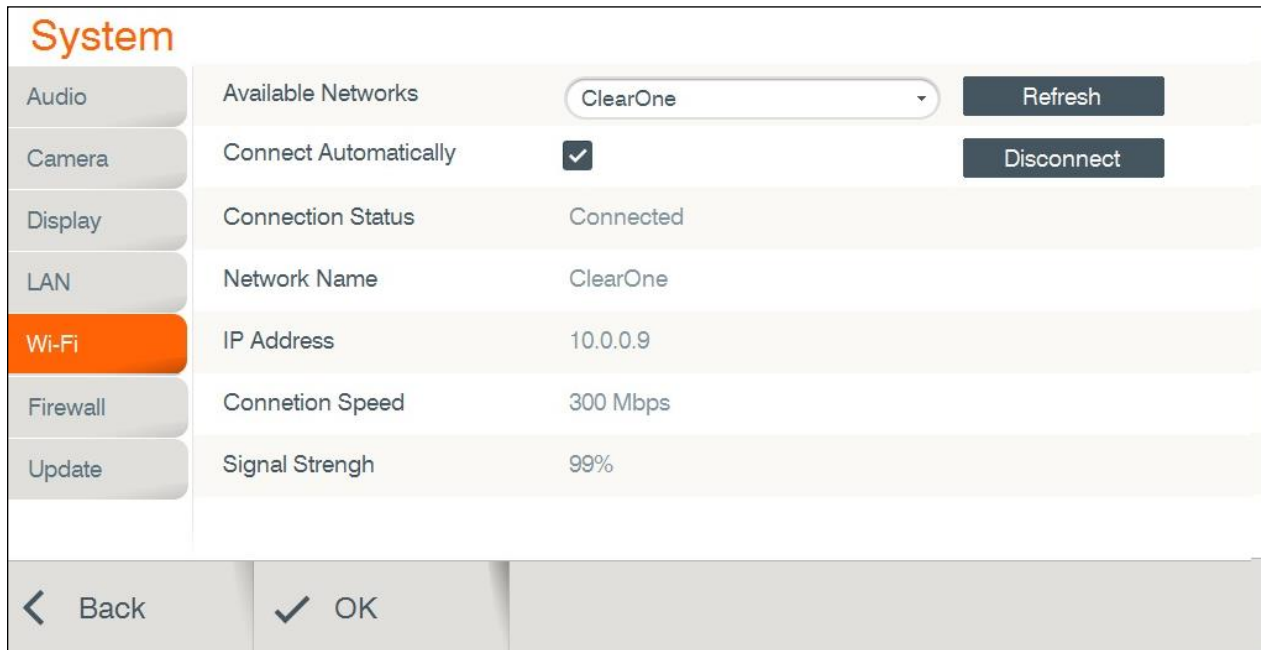
2. Select **Apply**.

Wi-Fi SETTINGS

You can use “COLLABORATE Share” feature via external **Wi-Fi** network while your system is located in the corporation LAN network.

To access the Wi-Fi settings:

1. Press **OK** on the remote control. The main menu appears.
2. Using the remote control’s Navigation arrows, select **Settings>System > Wi-Fi**. The **Wi-Fi** Settings window appears.



To configure the Wi-Fi settings:

1. **Available Network** – List of all available Wi-Fi networks in your range. Select the desired network you want to connect.
2. **Connect Automatically** – Check this option to allow auto connection to the selected Network while the network is available.
3. **Connection Status** – Displays the status of the Wi-Fi connection.
4. **Network Name** – Displays the network SSID.
5. **IP Address** – Displays the Wi-Fi network IP address.
6. **Connection Speed** – Displays the connection rate.
7. **Signal Strength** – Displays the Wi-Fi signal strength. For better strength, put your COLLABORATE close to the router.

Once Wi-Fi was set and connected, verify that the “COLLABORATE Share” sender is located with the same COLLABORATE Pro 300 Wi-Fi network.

Load “COLLABORATE Share” sender application and select the COLLABORATE Pro 300 receiver from the list.

NOTE: While connection speed or Signal Strength is low you may encounter low video quality.

FIREWALL SETTINGS

The Firewall Network Settings contain your system's identification configuration on the local network.

NAT helps protect a LAN from exposure to unwanted traffic by providing one single external address to remote users. NAT uses a system of local and external addresses to hide a LAN's users from other networks. A NAT server translates local parties' addresses to an external address, which is then used to identify the local party to remote parties. Therefore, remote parties use this external address to call the local party, without knowing its actual local address.

To access Firewall/NAT Settings:

1. Select **Settings>System>Firewall**. The Firewall window appears.

System	
Audio	Enable DNS Address <input type="checkbox"/>
Camera	NAT Mode <input type="text" value="Disabled"/>
Display	NAT Address <input type="text"/>
LAN	Use HTTP Proxy <input type="checkbox"/>
Wi-Fi	Proxy Address <input type="text"/>
Firewall	Proxy Port <input type="text" value="8080"/>
Update	Send Media As HTTP <input type="checkbox"/>

Back OK Apply

2. In the Firewall window, set the following options and parameters:

- Enable DNS Address** – Allows the use of DNS for outgoing calls to other parties by a defined computer name.
- NAT Mode:**
 - Disabled** – Callers to the organization LAN are not identified.
 - Manual** – Enter your external IP Address. The NAT device maps this to your internal extension number.
 - Automatic** – The NAT device recognizes your IP Address and maps it to your internal extension number when you dial out through your organization LAN.
- NAT Address** – If your organization uses NAT when communicating with parties in another LAN or WAN, type the external address for your videoconferencing device.

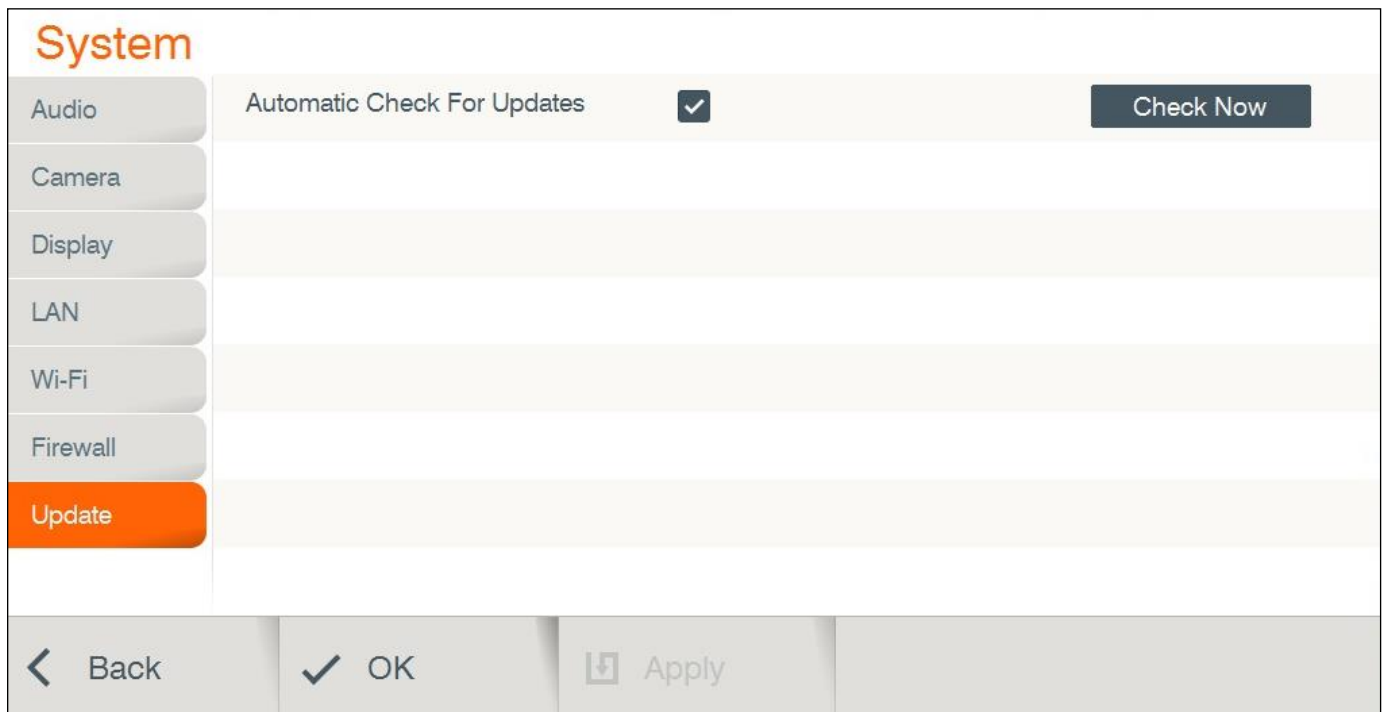
- ❑ **Tunneling Port** – The default tunneling port is 443. Tunneling is available only when working with COLLABORATE Central.
- ❑ **Use HTTP Proxy** – If your organization uses Proxy server, configure in the Proxy Address and Proxy Port.
- ❑ **Send Media as HTTP** – Disguising tunneling traffic as HTTP.

SOFTWARE UPDATES

Configure automatic software updates or check for updates.

To access the update settings:

1. Press **OK** on the remote control. The main menu appears.
2. Using the remote control’s Navigation arrows, select **Settings>System > Update**. The Update Settings window appears.



To configure the updates settings:

1. **Automatic Check For Updates** – Choose this option for often update check. If an update is available, you will get a proper message on screen and you can choose to update or not.
2. **Check Now** – Check for updates at this moment. If an update is available, you will get a proper message

Chapter 4: Video Collaboration

IN THIS CHAPTER

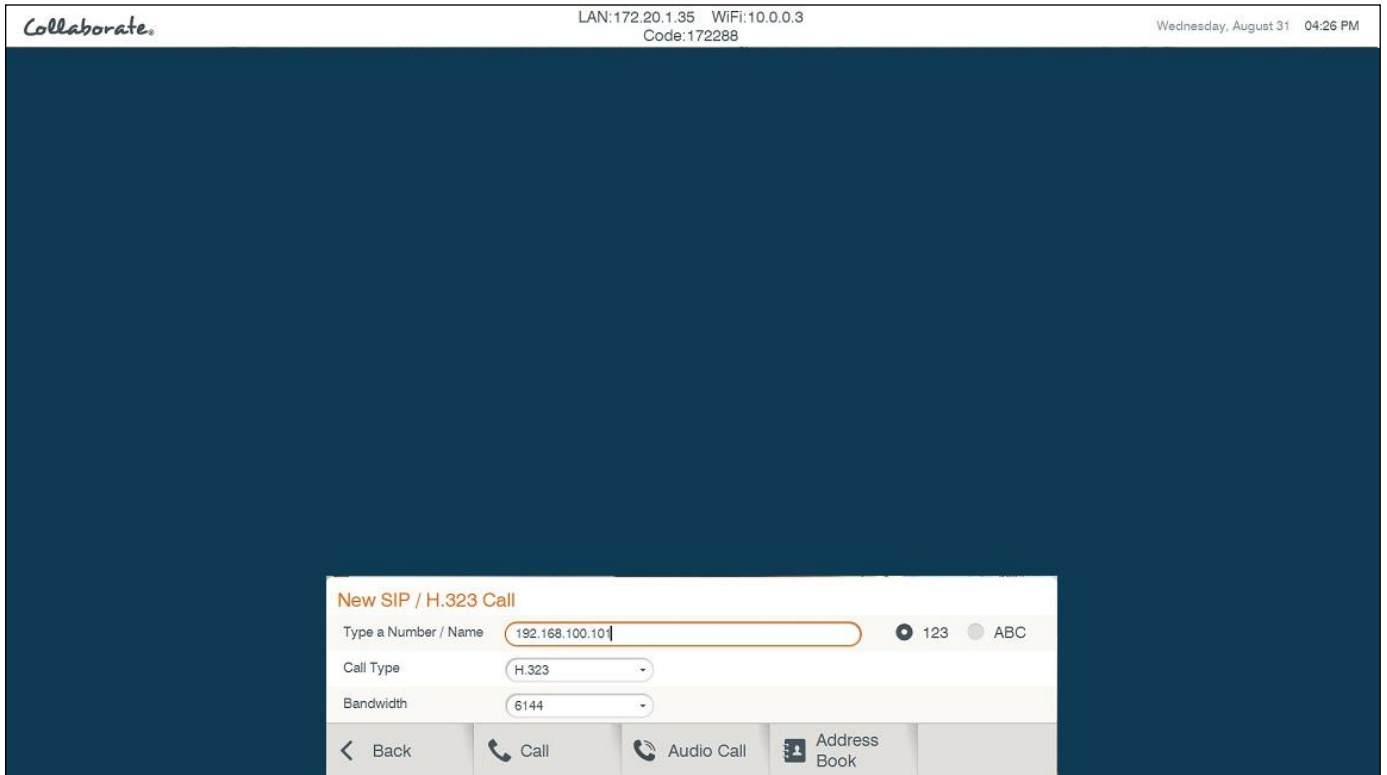
This chapter explains the video collaboration basics and options using COLLABORATE Pro, and includes the following sections:

- Starting Calls
- Auto-Answering Calls
- Ending Calls
- Muting the Video
- Switching Image Modes
- Switching Call View Modes
- Using Picture-In-Picture (PIP) Modes
- Call State Indications
- Using Call Tones
- Data Sharing

STARTING LAN CALLS

You can start a manual call to a network IP Address that you type in the New Call bar. To start a call using the manual dialer:

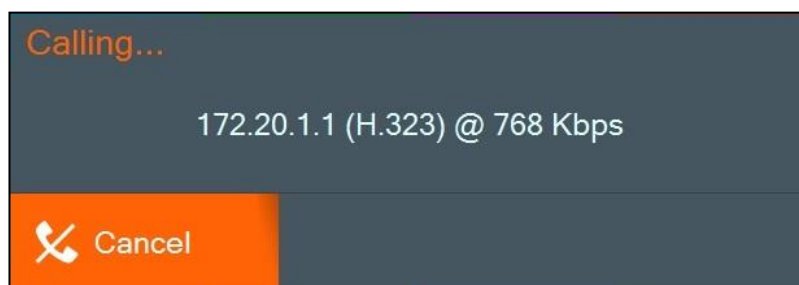
1. Select **Conference > SIP / H.323 Call**. The New Call bar appears.



2. Select the type of call you want to make:
 - H.323** or **SIP** – an IP-based call via the connected local network (LAN).
3. In the **Type a Number/Name** field, type the **IP Address** to which you want to call. Alternatively, instead of an IP Address, you can also use an Alias, E.164 number, or a DNS Address (if such are defined on your network).
 - To type numbers, make sure that the **123** option is selected.
 - To type letters and numbers, make sure that the **ABC** option is selected.
4. Select the maximum bandwidth for the video call and press **Call**. For audio only call press **Audio Call**.

NOTE: Audio only call bandwidth is 64 Kbps.

For video call, you can also press the **Make Call** (green button) on the remote control. The Calling screen appears.



When the call is answered on the far end, the system switches to the Call mode.

AUTO-ANSWERING CALLS

The auto-answer option is found in the Call Settings window (see Call Settings). When the auto-answer option is not selected and an incoming call is received, a message is displayed on the screen. You can accept or reject the call using the buttons on the remote control or via the screen message.

ENDING CALLS

You can disconnect the current videoconference call at any time. To end the current call:

- On the remote control, press the red **End Call** button,
– or –
- Select **Conference>Hang Up** in the GUI and then press **OK** on the remote control.

MUTING THE VIDEO

Muting during a videoconference is a preference which is selected via the remote control.

When you press **Mute Video** during a call, the remote side sees the Mute Video BMP image, which indicates that your video source has been mute.

SWITCHING CALL VIEW MODES

Depending on the type of screen and video interface you are using (HDMI / Mini Display port); a call may be displayed in single, dual or presentation mode.

SINGLE MODE

Single mode presents a single screen showing the output of the local video camera in the Picture-In-Picture (PIP) screen area (see Using Picture-In-Picture (PIP) Modes) and the output of the remote video camera on the main screen area.

DUAL MODE

Two screens: one showing the output of the local video camera, and a second screen showing the output of the remote video camera.

When Secondary Display Used For Data Only is checked, the conference will be in a single mode. Once data is shared, the second monitor will display the data.

NOTE: Session bandwidth is limited to 1536 Kb on dual mode and Resolution is limited to 1080@30.

PRESENTATION MODE

When laptop is displayed in data sharing mode, the remote video is shown in a PIP area, while the laptop is presented on the main screen area.

USING PICTURE-IN-PICTURE (PIP) MODES

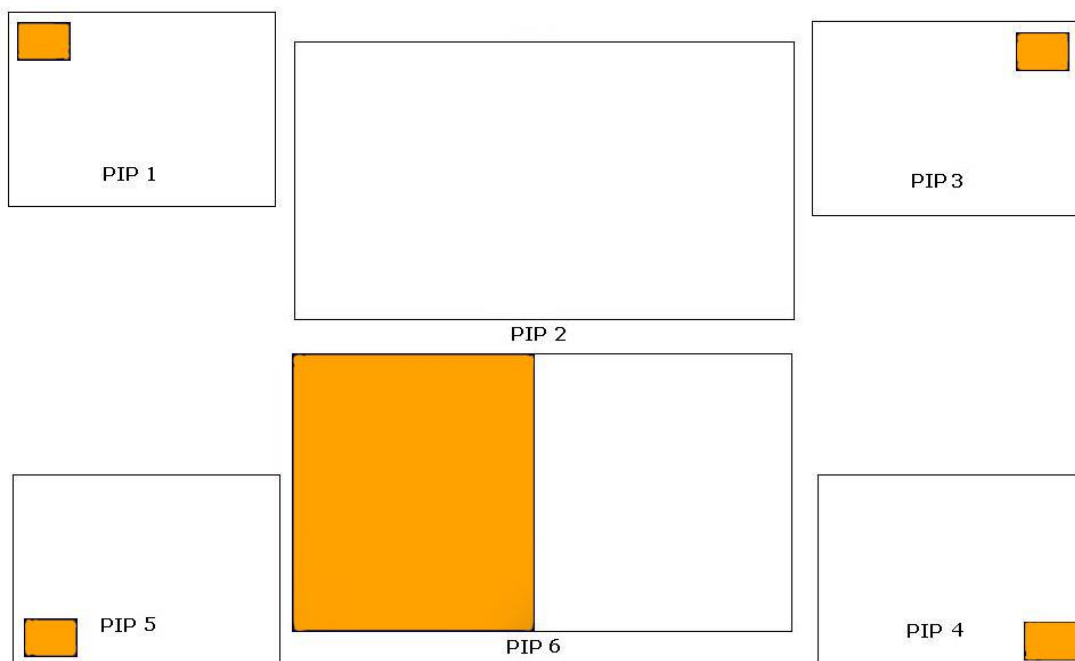
When a conference begins, the local video appears on the monitor in a small rectangular inset located in the upper left corner of the larger remote video display. This display mode is called Picture-In-Picture (PIP).

Each time you press the PIP button on the remote control, the PIP image rotates counter-clockwise to the next corner of the screen. Pressing the PIP button after the PIP completes a rotation to all corners then hides the PIP image, and starts again on a subsequent button press.

The default video mode is **PIP 1**, in which the local caller's video is displayed in the small **upper-left** corner, while the remote person is viewed in the large area of the screen. The other modes are:













- **PIP 2** – The local caller sees only the remote person.
- **PIP 3** – The local caller is viewed in the small **upper-right** corner, while the remote person is viewed in the main area of the screen.
- **PIP 4** – The local caller is viewed in the small **lower-right** corner, while remote person is viewed in the large area of the screen.
- **PIP 5** – The local caller is viewed in the small **lower-left** corner, while remote person is viewed in the large area of the screen.
- **PIP 6** – The local caller is viewed on half the screen and the remote person is viewed on the other half, also known as side-by-side view.

NOTE: When data is shared, the remote video and the data are displayed side by side on the screen (This option is unavailable while sharing via COLLABORATE Share option).



CALL STATE INDICATIONS

Various call states are represented by icons on the screen when videoconferencing is taking place.

GUI Icon	Indication
	The current call is encrypted
	The local microphone is muted
	The local speaker is muted
 Far	Far End mode is on (You can control the remote side camera)
	Local network disconnection
 Central	Unsuccessful COLLABORATE Central registration
 Central	Successful COLLABORATE Central registration
	Unsuccessful gatekeeper registration
	Successful gatekeeper registration
	Currently on Audio session.
 SIP	SIP registration.
 SIP	SIP Registration failed.

USING CALL TONES

When making calls the call operator can request a Password or DTMF tone to connect.

OPERATOR REQUEST FOR PASSWORD

The Operator can request you to access a conference password to proceed with the call. To

enter a conference password:

- Use the remote control, and press the numeric pad.

The screen shows DTMF message: "DTMF signal **** sent" representing the numbers pressed on the keypad.

OPERATOR REQUEST FOR TELEPHONE TONE

The Operator can request you to connect using a dial-tone to proceed with the call. To

enter DTMF tone:

- Use the remote control, dial using the numeric pad.

The screen shows DTMF message: "DTMF signal **** sent" representing the numbers pressed on the keypad.

DATA SHARING

Data Sharing can be accessed via the menu or via **Data** on the remote control. Data Sources are selected inside the Presentation menu. Press **Data** a second time to stop the data sharing.

CONNECTING THE DATAPoint

In order for the system to recognize data sources, you need to be connected to the DataPoint.

To choose a data source:

1. Select **Presentation** on the main menu. The Data Sharing menu opens.
2. Select **DataPoint**.
3. Select **Wireless** option to share data using COLLABORATE Share

CONNECTING A USB FLASH DRIVE

You can view on idle mode files that are stored on a portable USB flash drive. To view and share files from a USB flash drive:


1. Insert a USB flash drive to one of the COLLABORATE Pro USB ports. The message "**USB device inserted**" is displayed.
2. Select **Presentation>USB**. The File Selection window appears.
4. Select the file you want and then press **OK** on the remote control. The following files are supported: *.jpg, *.jpeg, *.gif, *.png, *.tiff, *.tif, *.bmp, *.wmf, *.mpg, *.mpeg, *.wmv, *.mp4, *.avi, *.pdf, *.pps, *.ppt, *.doc, *.rtf, *.xls, *.xlsx, *.pptx, *.ppsx and *.docx.

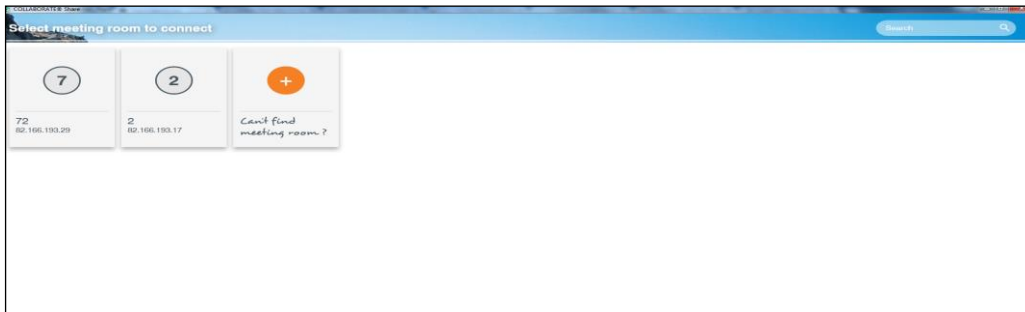
5. Select **Open**. The file is displayed.

SHARING WIRELESS

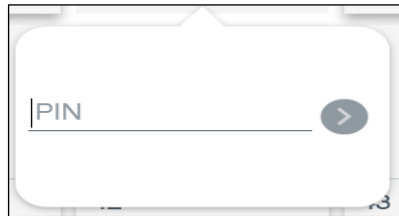
You can view and share your PC desktop or any open application via network using COLLABORATE Share feature. To define wireless settings, please follow the Presentation settings.

To view and share wireless:

1. Download COLLABORATE Share application from the web interface (More information in web section).
2. Ensure that the computer you are going to be using is connected to the network. Your computer can be connected to corporation's network or to external Wi-Fi network.
3. Start "COLLABORATE Share" Software by double-clicking on the desktop Icon .



5. Select a meeting from the meeting list and enter code number if required.



6. Choose content to be shared between desktop and all available applications.
7. Select Presentation>Wireless. Wireless data sharing is starting.

COLLABORATE Share CONTROLLERS

While wireless is shared, you can manage your sharing from “COLLABORATE Share” controllers.



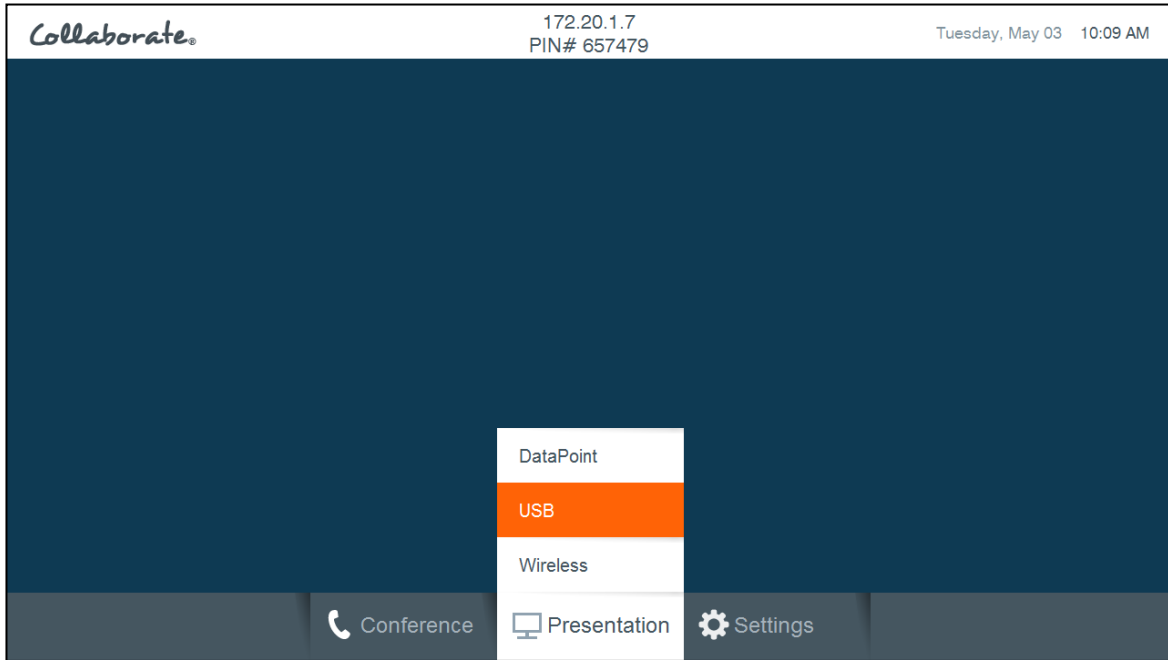
Button Image	Button Name	Command
	Signal Strength	Displays the signal strength of your COLLABORATE Share connection
	Pause	Pause the current share
	Play	Resume the paused shared
	Full view	Switch the COLLABORATE share to full view
	Compact view	Switch the COLLABORATE share to normal view
	Spotlight	When several “COLLABORATE Share” are connected to the system, use this icon to move the chosen stream into the main area
	Display	When several “COLLABORATE Share” are connected, use this icon to change the displayed layout
	Layout	“COLLABORATE Share” layout option: Mosaic / Full Screen / Preview
	Dual display	When two monitors are connected to the unit, You can also choose which monitor will display the data.

You can also use “COLLABORATE Share” application while it is connected to Wi-Fi network and the COLLABORATE Pro is connected to the corporation network.

(Please refer to Wi-Fi settings)

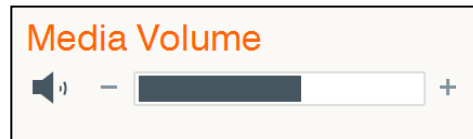
DATA SHARING ON IDLE MODE

It is possible to share data on idle. Connect USB drive, DataPoint or COLLABORATE Share, and share the desired data. You can press 'PIP' button on the remote control in order to see your data and your main camera side-by-side.



Sharing Data with Audio

When sharing a PC, COLLABORATE Pro is mixing the audio channels into one channel so the data audio as well as unit microphone could be heard. During the sharing, the volume buttons control the **media volume** (PC or movie) on the local side and on the remote side.



Chapter 5: Quick Dialing Methods

IN THIS CHAPTER

This chapter describes the different quick dialing methods that are available in COLLABORATE Pro, and includes the following sections:



- Using the Contacts
- Using the Recent Calls
- Using Online Directories
- Using Spontania Contacts

USING THE CONTACTS

The Contacts enables you to make calls to addresses stored on the local system. You can add frequently used addresses to the Contacts.

USING THE CONTACTS VIA THE REMOTE CONTROL


You can select the Contacts using the remote control. To select the Contacts via the remote control:

1. On the remote control, press **Phone Book** (). The Contacts window appears.
2. In the Contacts tab, select the number to dial, and then press **Make Call** button () on the remote control.

USING CONTACTS VIA THE COLLABORATE Pro GUI


You can display the Contacts using the COLLABORATE Pro GUI menus. To select the

Contacts via the COLLABORATE Pro GUI:

1. Select **Conference>Contacts**. The Contacts window appears (use the left arrow button to skip to the left tabs).
2. In the Contacts tab, select the number to dial, and then press **Make Call** button () on the remote control.

USING THE CONTACTS VIA THE NEW CALL BAR

You can select the Contacts from the New Call bar. To select the **Contacts** via the **New Call** bar:

1. Select **SIP / H.323 Call** or **Spontania Meeting** on the main menu. The **New Call** bar, appears.
2. In the **New Call** bar, select **Address Book**. The Contacts window appears. (Use the navigation arrows left button to skip to the left tabs)
3. In the Contacts tab, select the Contact to dial, and then press **Make Call** button () on the remote control.

ADDING ENTRIES TO THE CONTACTS

You can add frequently used addresses to the Contacts list from where calls can be made directly.

To add a new contact to the Contacts list:

1. In the Contacts, select **Add** and press **OK**. The Name/Address bar opens.
2. Type in the new contact's name and IP Address, and then select **Save**. The new contact is added to the Contacts list.

NOTE: You can also set the dialing method (H.323 or SIP) and the bandwidth that you want to use specifically for the contact that you add.

EDITING ENTRIES IN THE CONTACTS

You can edit frequently used numbers already in the Contacts list and save them for repeated use.

To edit a contact's details in the Contacts list:

1. In the Contacts list, select the entry you want to edit and then press **OK** on the remote control.
2. Select **Edit** in the GUI. The Name/Address bar opens.
3. Edit the contact name and IP Address, and then select **Save**.

NOTE: If necessary, you can change the dialing method (H.323 or SIP) and bandwidth that are used specifically for the contact that you edit.

DELETING ENTRIES FROM THE CONTACTS

You can delete and thus manage Contacts entries when they are no longer in use.

To delete a contact from the Contacts:

1. In the Contacts, select the contact you want to delete, select **Delete** and then press **OK**. The following message is displayed: "Are you sure?"
2. Select **Yes** to delete, or **No** to cancel.


USING THE RECENT CALLS

Log entries are automatically logged to the Recent Calls when an outgoing call is made or when an incoming call is received. You can add log entries to the Contacts, or delete them from the Recent Calls log.

NOTE: Log entries cannot be edited.

USING THE RECENT CALLS VIA THE REMOTE CONTROL

To select the Recent Calls via the remote control:

1. On the remote control, press **Recent Calls** () – or – on the Main Menu, select **Conference>Recent Calls**. The Recent Calls window appears.
2. Select the entry and press **Dial**.

DISPLAYING THE RECENT CALLS FROM THE CONTACTS

To display the Recent Calls via the Contacts:

- In the Contacts, select **Recent Calls** by pressing up with the navigation arrows and scrolling up.

ADDING A RECENT CALLS ENTRY TO THE CONTACTS

You can add entries for Recent Calls to the Contacts for reuse later. To add Recent Calls entry to the Contacts:

1. In the Recent Calls, select the entry you want to add to the Contacts and then press **OK** on the remote control.
2. Select **Add**. The Name/Address bar appears.
3. Edit in the contact Name or Address if needed, and then select **Save**. The log entry is added to the Contacts.

CLEARING THE RECENT CALLS

You can delete and thus manage Recent Calls when you do not require them any longer. To delete a Recent Calls or clear the entire log:

1. In the Recent Calls window, select which log entry to delete.
2. Select **Delete** to delete just the selected entry, or **Clear All** to delete all entries, and then press **OK**. The following message is displayed when clearing all: "**Are you sure?**"
3. Select **Yes** to delete, or **No** to cancel.

USING Directory

The Directory is an external directory which can be used for calling. If you are registered in the Directory, you can view the Directory in the Contacts under the Directory tab.

ACCESSING A DIRECTORY VIA THE REMOTE CONTROL

To access the Contacts via the remote control:

1. On the remote control, press the Contacts button. The Contacts opens.
2. Select the Directory tab, and on the number to dial press **Dial**.

ACCESSING THE DIRECTORY VIA THE CONTACTS

To access the Directory via the Contacts:

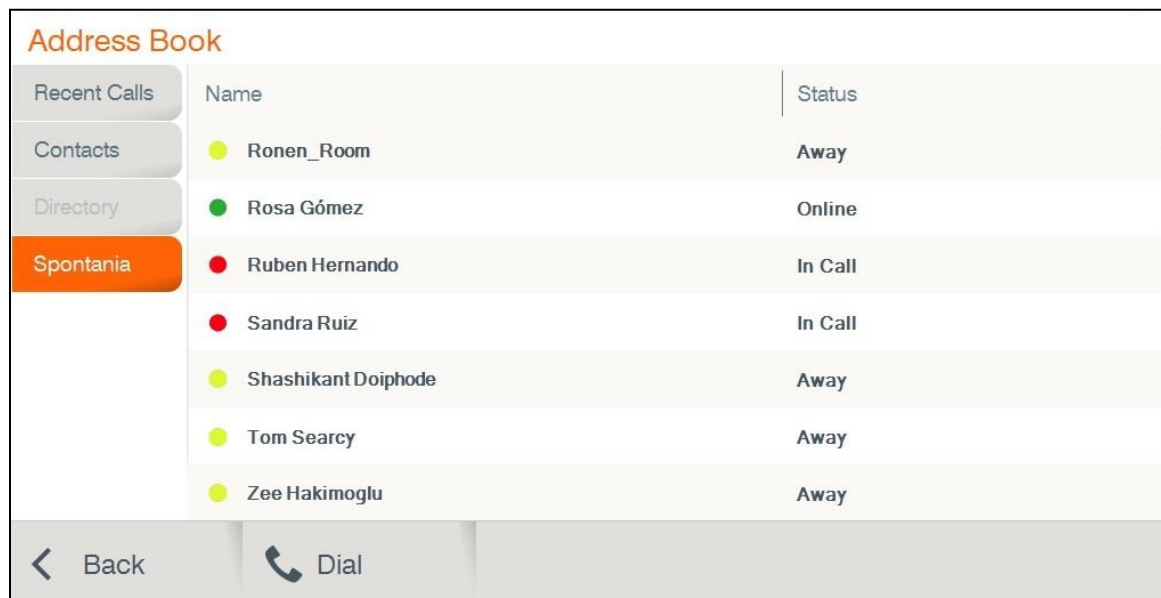
1. In the Contacts, select **Directory** by pressing down with the navigation arrows.
2. Select the Directory tab, select the number to dial and press **Dial**.

USING SPONTANIA CONTACTS

When your system is registered to Spontania server (See Spontania settings), all users that are registered to this server will appear in Spontania contacts list.

To access the Contacts via the remote control:

1. On the remote control, press the Contacts button. The Contacts opens.
2. Select the Spontania tab.



3. Select Online / Away contact and press Dial.

Chapter 6: Skype for Business Call


IN THIS CHAPTER

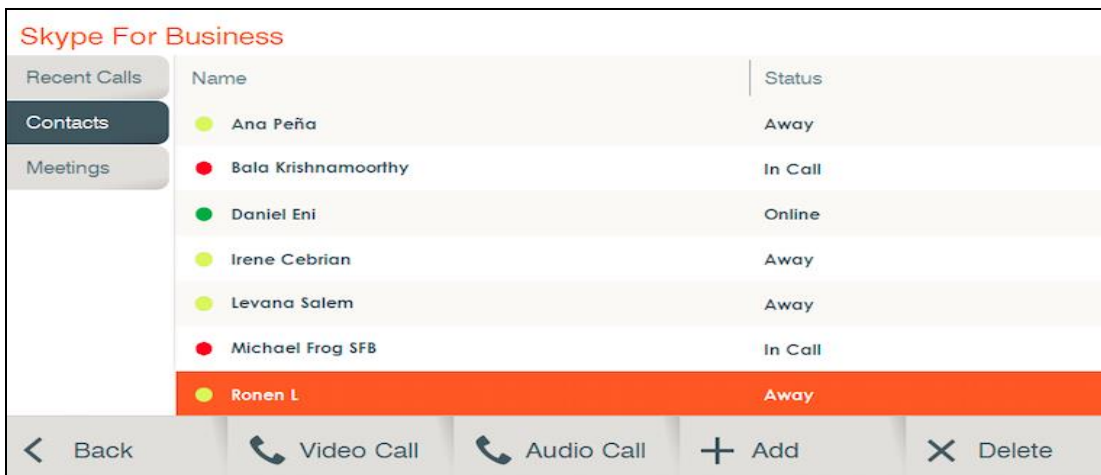
This chapter describes the methods that are available in Skype for Business calling and includes the following sections:

- Starting Skype for Business calls
- Starting Skype for Business Multi Conference Calls
- Presentation sharing
- Display Layouts
- Join scheduled Skype for Business Meetings

STARTING SKYPE FOR BUSINESS CALLS

In order to start a Skype for Business call follow these step-by-step instructions:

1. Make sure you're logged in to a Skype for Business server (to register your system to a Skype for Business server, refer to Skype for Business settings). To verify registration, Press the info button () on remote control and check if you are registered to a Skype for Business server.
2. Select **Conference > Skype for Business > Contacts**, and select the name of the contact you want to call.



Guide to status icons:

-  Available - Online and Available

- Away - Logged on but have been away from system for a period a time
- Busy – In a conference call
- Off Line – Not signed in

STARTING SKYPE FOR BUSINESS MULTI CONFERENCE CALLS

If you need to add more people to your conference call, you can select their names from your Contacts list:

1. Make sure your contacts are available by checking their present status first.
2. Select contact from the list, and then click Dial.



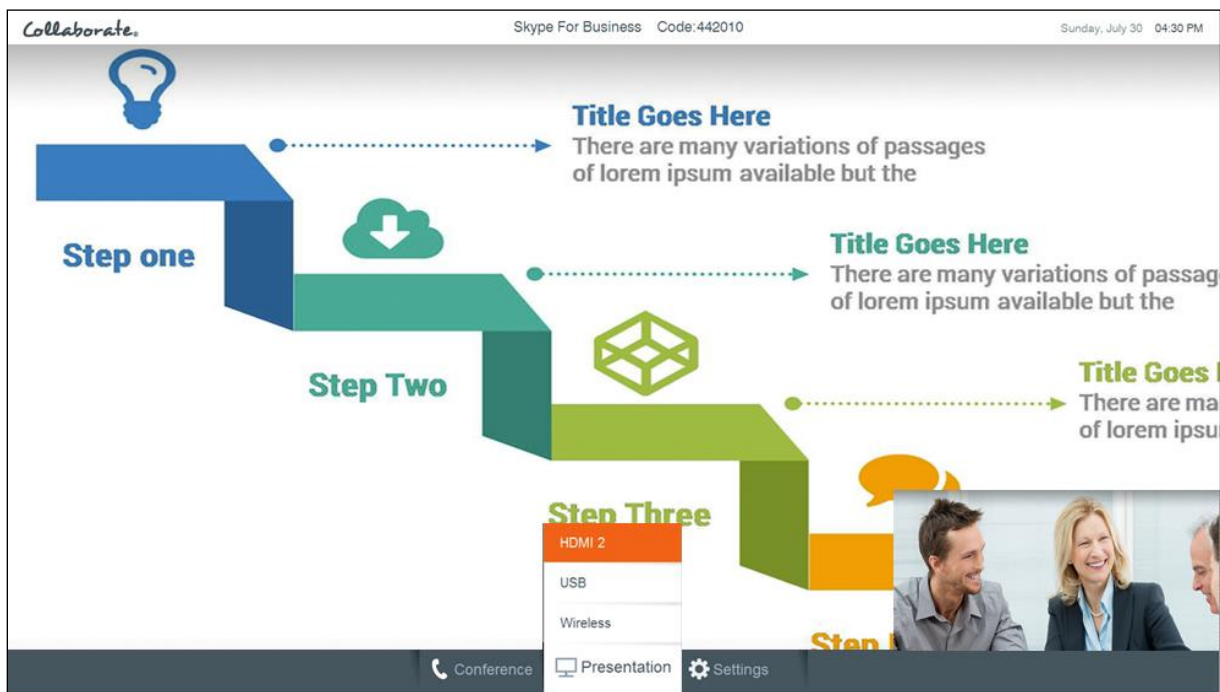
Participants - During a Skype for Business call, click on the Participants menu to see all of the Participants in the call

Participants

Name
Daniel Eni
Amit Malca

✓ Back

PRESENTATION SHARING



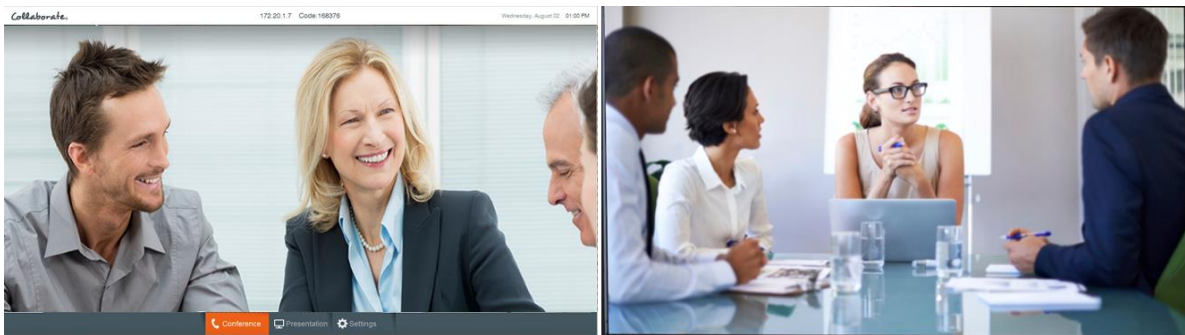
- HDMI Input
- Wireless Presentation
- USB

DISPLAY LAYOUTS

Dual Displays: one display showing the presentation, the second display showing the far-end video:



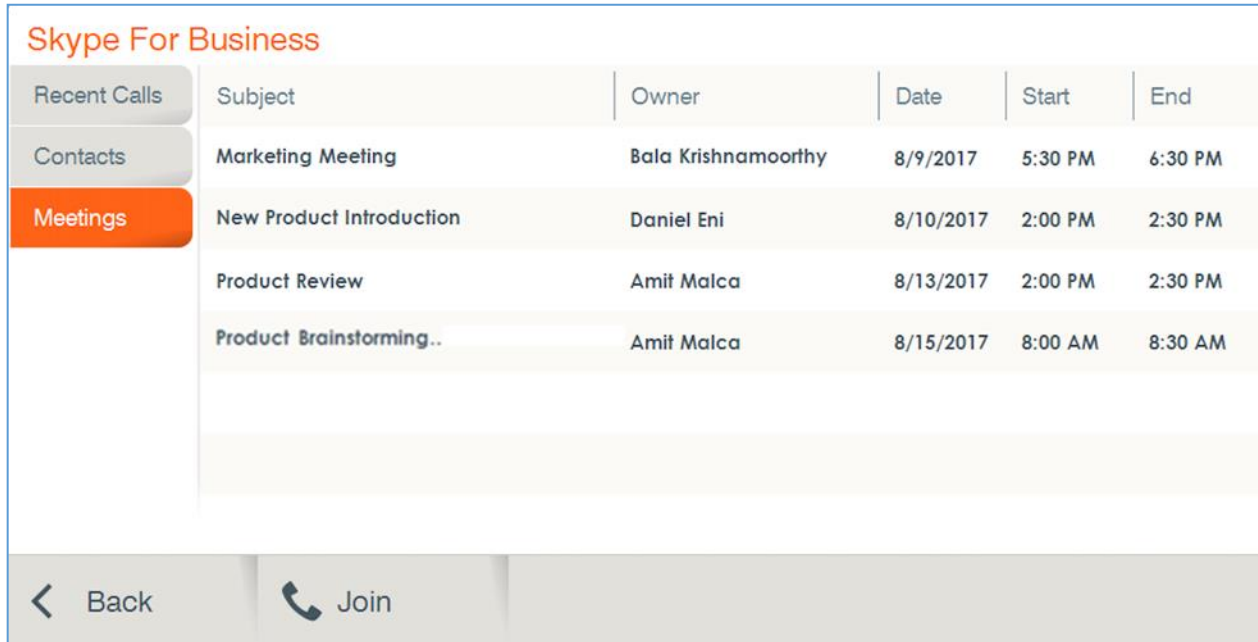
Dual Displays: one display showing the near-end video, the second display showing the far-end video



Voice Switched Mode: displays the party that is talking in a point-to-point, or multi-party calls.



JOIN SCHEDULED SKYPE FOR BUSINESS MEETINGS



The screenshot shows the 'Skype For Business' interface with a list of scheduled meetings. The 'Meetings' tab is selected in the left sidebar. The main area displays a table with columns for Subject, Owner, Date, Start, and End. The bottom navigation bar includes a 'Back' button and a 'Join' button with a phone icon.

Subject	Owner	Date	Start	End
Marketing Meeting	Bala Krishnamoorthy	8/9/2017	5:30 PM	6:30 PM
New Product Introduction	Daniel Eni	8/10/2017	2:00 PM	2:30 PM
Product Review	Amit Malca	8/13/2017	2:00 PM	2:30 PM
Product Brainstorming..	Amit Malca	8/15/2017	8:00 AM	8:30 AM

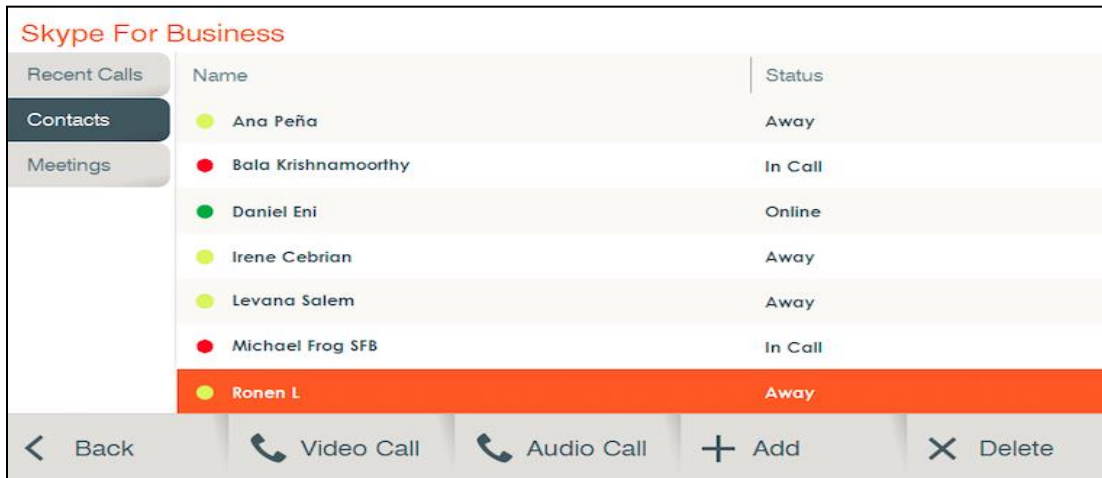
A meeting Reminder will pop-up for scheduled Skype for Business meetings.

USING SKYPE FOR BUSINESS CONTACTS





When your system is registered to a Skype for Business server (see Skype for Business settings), all users that are registered to this server will appear in the Skype for Business contacts list.

To access the Contacts via the remote control:

1. Select **Conference > Skype for Business > Contacts**, and select the name of the contact you want to call.
2. Select Online / Away contact and press **Dial** for video call or **Audio Call** for Audio only call.



Guide to status icons:

-  Available - Online and Available
-  Away - Logged on but have been away from system for a period a time
-  Busy – In a conference call
-  Off Line – Not signed in

Chapter 7: Advanced Settings

IN THIS CHAPTER

This chapter covers the advanced settings for COLLABORATE Pro, and includes the following sections:

- Preference Settings
- Security Settings
- Call Settings
- Admin Settings
- Directory Properties
- H.323 Protocol Settings
- SIP Protocol Settings
- Spontania Settings
- Exchange Settings
- Skype for Business Settings

PREFERENCE SETTINGS

The preference settings define general system properties.

To configure preference settings:

1. Select **Settings>General> Preference**. The preference Settings window appears.

General	
Calls	System ID: CR-2ED5
Presentation	Name:
Preference	Language: English (English)
Security	Time Zone: (UTC+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna
	Time: 10 : 04
	Date: 03 / 05 / 2016
	Sleep Timeout: 20 Minutes (0 = Unlimited)

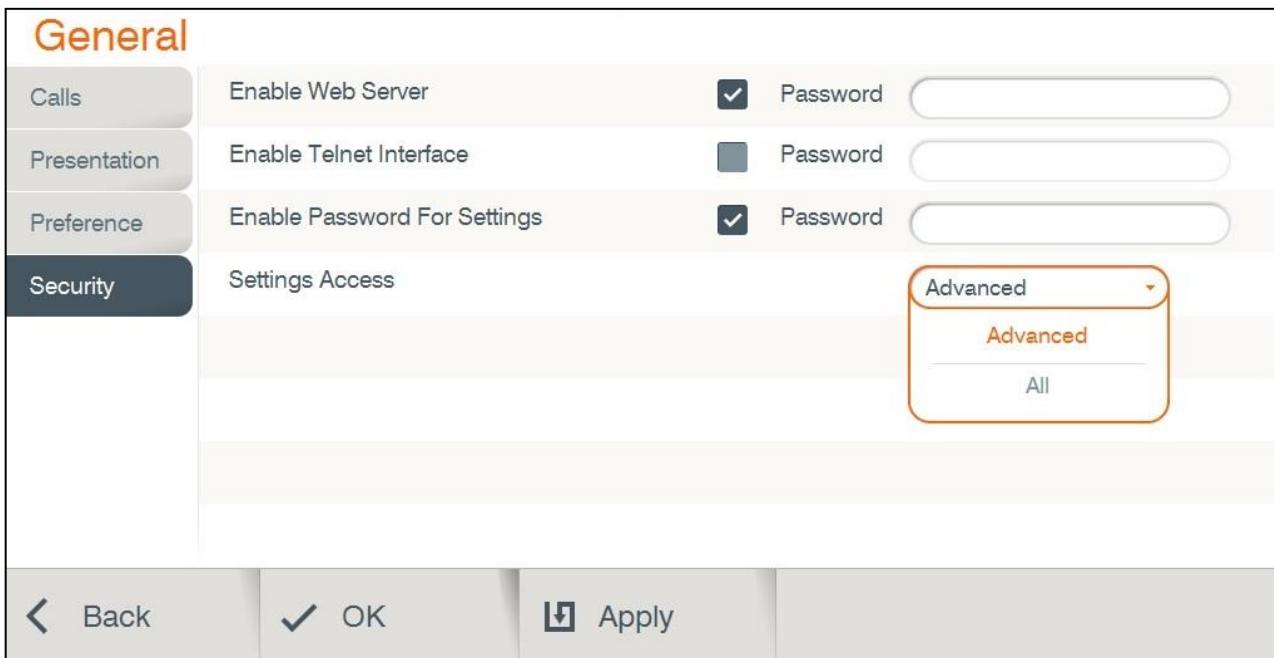
Navigation: Back, OK, Apply

- In the Preference Settings window, set the following options and parameters.
 - System ID** – System ID used to identify the system when using DNS dialing.
 - Name** – Set the system title that will represent the unit during a session.
 - Language** – Select the desired language for the user interface. Click **Apply**. (A system restart is required after changing the system language.)
 - Time Zone** – Select your country time zone.
 - Time** – If not already set, enter the current time.
 - Date** – If not already set, enter the current date.
 - Sleep Timeout** – Duration of idle time (in minutes) before the system goes into sleep mode.
- Select **Apply**.

SECURITY SETTINGS

To configure security settings:

- Select **Settings>General>Security**. The Security Settings window appears.



- In the Security Settings window, set the following options and parameters
 - **Enable Web Server** – Select this option to allow Web access to the COLLABORATE Pro unit via a browser. If you enter a password, Web users will be required to enter the same password when they access the unit. (For more information, see Web Access and Management).
 - **Enable Telnet Interface** – Select this option to allow access to the COLLABORATE Pro

unit via a Telnet-based terminal. If you enter a password, Telnet users will be required to enter the same password when they access the unit.

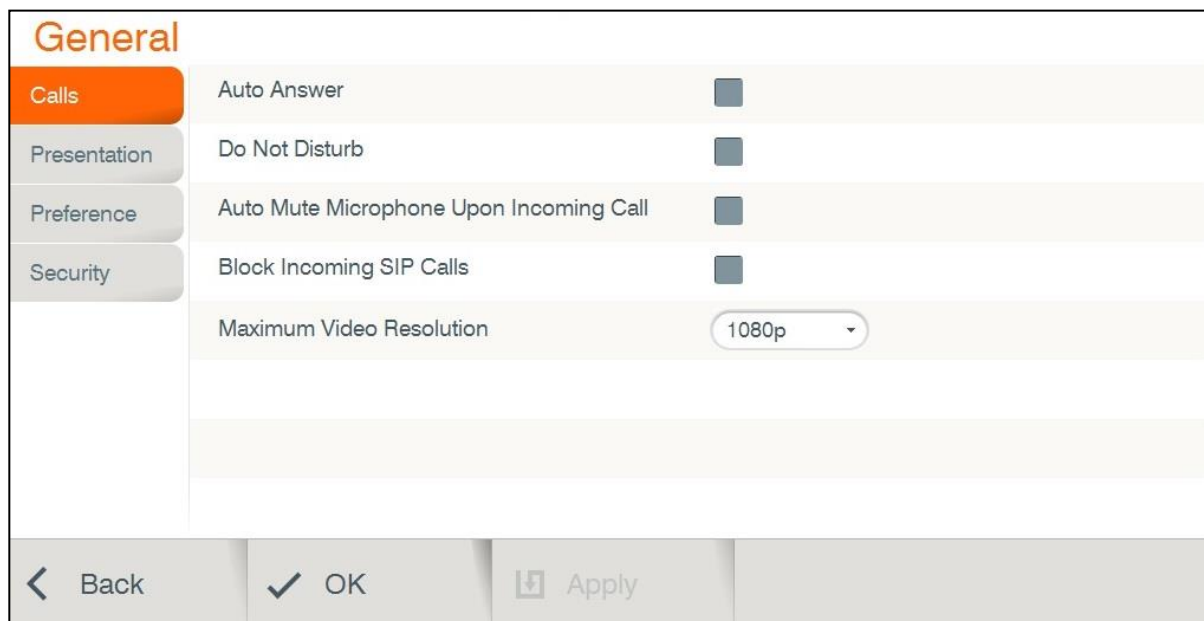
- **Enable Password for Settings –**
 - **Advanced** - Selecting this option restricts the access to the advanced settings of the unit, which are: Admin, IP, Directory, H.323, SIP, Firewall and Spontania.
 - **All** - Selecting this option restricts the access to all settings of the unit.

CALL SETTINGS

In the Call Settings window you can define miscellaneous technical settings that affect how video collaboration calls are performed by default.

To configure call settings

1. Select **Settings>General>Calls**. The Call Settings window appears.



The screenshot shows the 'General' settings window for calls. The 'Calls' tab is selected in the left sidebar. The main area contains the following settings:

Category	Setting	Value
Calls	Auto Answer	<input type="checkbox"/>
Presentation	Do Not Disturb	<input type="checkbox"/>
Preference	Auto Mute Microphone Upon Incoming Call	<input type="checkbox"/>
Security	Block Incoming SIP Calls	<input type="checkbox"/>
	Maximum Video Resolution	1080p

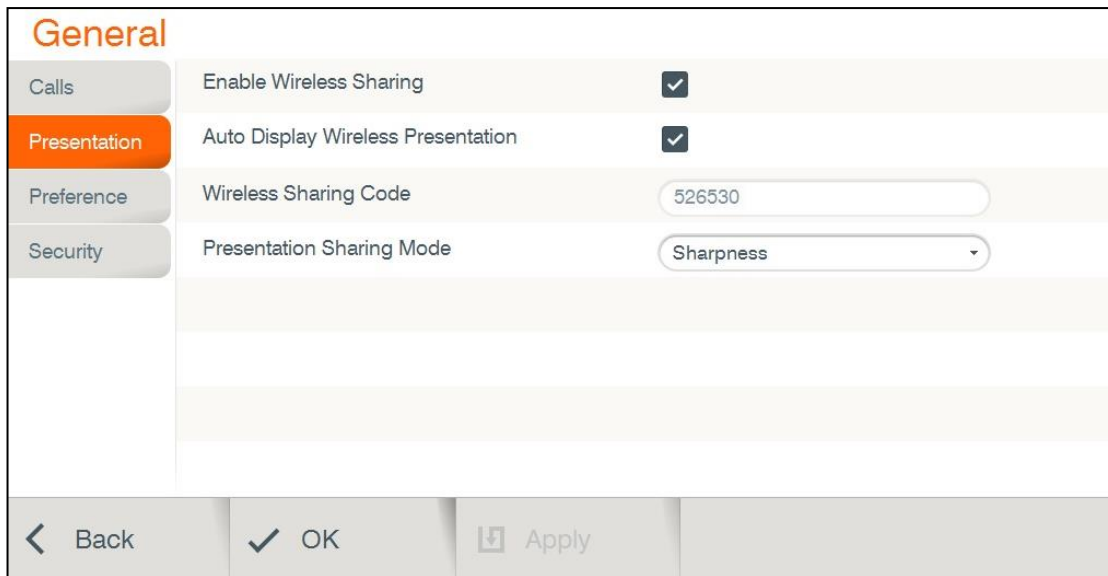
At the bottom of the window, there are three buttons: 'Back' (with a left arrow), 'OK' (with a checkmark), and 'Apply' (with a save icon).

2. In the Call Settings window, set the following options and parameters
 - Auto Answer** – Enables auto answering of incoming calls.
 - Do Not Disturb** – Select to turn on auto reject of all incoming calls.
 - Auto Mute Microphone Upon Incoming Call** – Enables auto muting the microphone for incoming calls.
 - Block Incoming SIP Calls** – Select to auto reject only incoming SIP calls.
 - Maximum Video resolution** – Set the maximum video resolution.

PRESENTATION SETTINGS

To configure the presentation settings:

1. Select **Settings>General> Presentation**. The Presentation Settings window appears.

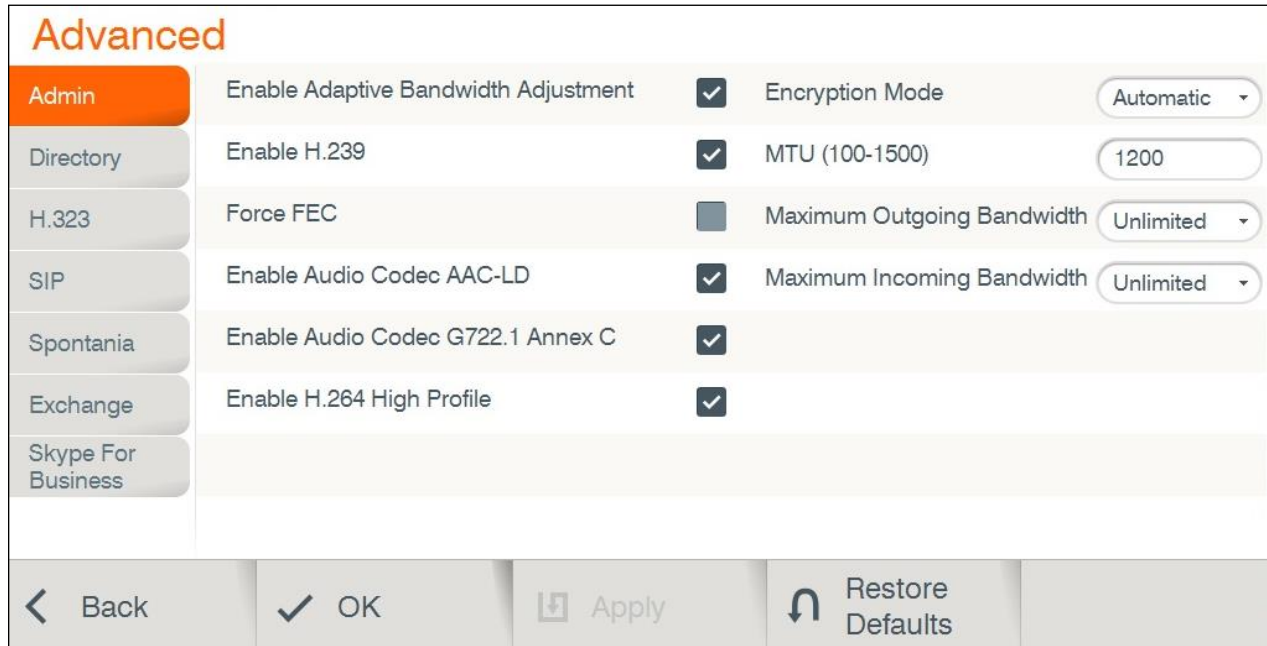


2. In the Presentation Settings window the following properties can be configured:
 - Enable Wireless Sharing** – Allow wireless data sharing from any PC with COLLABORATE share.
 - Auto Display Wireless Presentation** – Wireless auto-sharing once sender is connected.
 - Wireless Sharing Code** – Wireless security code need to be entered by sender.
 - Presentation Sharing Mode** – Depending on the type of presentation material being transmitted you can choose the data transmit mode priorities either motion or sharpness:
 - o **Motion** - provides the highest possible frame rate. Used when there is a need for higher frame rates, when there is a lot of motion in the data.
 - o **Sharpness** - provides the highest possible resolution. Used when you want the highest quality of detailed images and graphics.
3. Select **Apply**.

ADMIN SETTINGS

To configure Admin settings:

1. Select **Settings>Advanced>Admin**. The Admin Settings window appears.



2. In the Admin Settings window, set the following options and parameters.

- Enable adaptive bandwidth Adjustment** – Enables videoconferences to proceed at reduced bandwidth if the network is congested. Deselecting this option maintains a constant quality to the session, but it may cause network problems.
- Enable H.239** – Enables data sharing protocols.
- Force FEC** – Force Forward Error Correction (FEC) – Forwards an error-correction code instead of automatically adjusting the bandwidth.
- Enable Audio Codec AAC-LD:** – Audio Codec: audio compression format designed to combine the advantages of perceptual audio coding with the low delay necessary for two-way communication.
- Enable Audio Codec G722.1 Annex C** – Audio Codec: wide-band compression algorithm provides higher-than-toll quality speech. The codec operates between a wide-band, 50Hz to 7kHz signal range, at the G.722.1 standard bit rate of 24kbps and 32kbps. GAO's G.722.1 algorithm is in the form of fixed-point arithmetic and is based on the Modulated Lapped Transform (MLT).
- Enable H.264 Profile** – When selected, enables the system to operate in high profile mode.

- **Encryption mode** – Encryption Mode - Calling securely requires setting the encryption protocol or using defaults which include automatic encryption. Alternatively, you can disable the encryption if it is not needed. Calls that are made using encryption will have a lock icon on the right-bottom corner of the screen.
 - **Automatic** –The default option; enables encryption automatically.
 - **AES** –An encryption algorithm included in the H.235 security protocol.
 - **No Encryption** –No encryption will be used.
- **MTU (100–1500)**– Set the designated MTU (Maximum Transfer Unit) value. The default value is 1200. Applies only to RTP streams.
- **Maximum Outgoing Bandwidth** – Maximum upload bandwidth (0 for unlimited).
- **Maximum Incoming Bandwidth** – Maximum download bandwidth (0 for unlimited).

3. Press **Restore Defaults** to reset system into factory settings.

DIRECTORY PROPERTIES

Online directories are lists of contacts (such as Internet Location Server, or ILS) whose videoconferencing systems are online and registered with that directory. If your system is not registered with a COLLABORATE Central[®], the Directory Settings provide a way to register with a Directory.

NOTE: Directory settings are available only in COLLABORATE Pro systems that are not managed by a ClearOne COLLABORATE Central.

To configure the Directory settings:

1. Select **Settings>Advanced>Directory**. The Directory Settings window appears.

Advanced	
Admin	Enable Online Directory Registration <input type="checkbox"/>
Directory	Server Type <input type="text" value="Exchange Server"/>
H.323	Server Address <input type="text"/>
SIP	Port <input type="text" value="389"/>
Spontania	Path <input type="text"/>
Exchange	Server Domain <input type="text"/>
Skype For Business	User Name <input type="text"/>
	Password <input type="text"/>
<input type="button" value="Back"/> <input type="button" value="OK"/> <input type="button" value="Apply"/>	

2. In the Directory Settings window, set the following options and parameters
 - Enable Directory Registration** – When selected, this checkbox activates the rest of the fields in this window and enables the Directory connection registration.
 - Server Type** – Select the Directory server type. If you are not sure which type to select, consult with your system administrator. An LDAP (Lightweight Directory Access Protocol) server is usually used.
 - Server Address** – The server’s IP Address. If an IP is not entered, the following message appears: "You must enter server address in order to continue."
 - Port** – Number of the port through which the connection to the server is established.
 - Path** – Folder in which your user information is stored, as created on the Online Directory.
 - Server Domain** – Server’s domain name for the Directory.
 - User Name** – Your user name as defined on the Directory server.
 - Password** – Your access password as defined on the Directory server.
3. Select **Apply**.

NOTE: In the Standalone/Gatekeeper mode, either the ILS or iPlanet servers should be installed for the directory. Consult with your system administrator regarding the installation/configuration of these servers.

Server Type	Description	Prerequisites
ILS server	Site Server ILS is a service used for publishing H.323 videoconferencing and telephony users conferences on the network.	System administrator configuration
iPlanet server	Contains lists of people and resources. Administrators can manage a single user- repository for their organization that can be used by multiple applications to both authenticate and retrieve stored information for users such as access levels and user profiles.	System administrator configuration

H.323 PROTOCOL SETTINGS

For point-to-point and multipoint videoconferences, the H.323 protocol standard is used for call signaling and control, video/audio transport and control, and bandwidth control. COLLABORATE Pro utilizes H.323 to transport video/audio via DNS and NAT addressing, and to communicate/interact with either a COLLABORATE Central server or a standard gatekeeper server, one of which you can choose to work with in order to gain better performance and flexibility in point-to-point and multipoint videoconferences.

NOTE: For more information about ClearOne’s COLLABORATE Central server, its installation and configuration, refer to the COLLABORATE Central User Guide.

To configure a connection to a COLLABORATE Central server or to a gatekeeper server:

1. Select **Settings>Advanced>H.323**. The H.323 Settings window appears.
2. In the H.323 Settings window, set the following options and parameters:
 - None** – Keep this option selected (selected by default) if you do not want to use a **COLLABORATE Central server or a gatekeeper**.
 - COLLABORATE Central** – Select this option if you want COLLABORATE Pro to communicate/interact with a COLLABORATE Central server and utilize its advanced features. If selected, enter the required details in the following fields:
 - **Server Address** – Enter the IP Address of the COLLABORATE Central server.
 - **User Name** – Enter the user name used to log into the COLLABORATE Central server.
 - **User Number** – Enter your user number used for identification on the COLLABORATE Central server. If not entered, the COLLABORATE Central server will automatically generate a number.
 - **Password** – Enter the password used to log into the COLLABORATE Central server.
 - Gatekeeper** – Select this option if you want COLLABORATE Pro to communicate/interact with a gatekeeper server. If selected, enter the required details in the following fields:
 - **Server Address** – Enter the IP Address of the gatekeeper server.
 - **User Name** – Enter the user name used to log into the gatekeeper server.
 - **User Number** – Enter the user number used for identification on the gatekeeper server.

- **Password** – Disabled when working with a gatekeeper because gatekeeper authentication is currently not supported.
- **Connection Mode** – Select the protocol you want to use to connect your call.
 - **H.323** - This selection should be selected manually for LAN network connections only when the connection type is known.
 - **H.460** - This selection should be selected manually for network connections over Firewall/NAT only when the connection type is known.
 - **Tunneling (not available when working with a gatekeeper)** - This selection should be selected manually for ClearOne Proprietary Tunneling. The default tunneling port is configured by the System Administrator (see NetPoint/ COLLABORATE Central Administration Configuration Manager).

NOTE: Changing this setting causes COLLABORATE Pro to reload.

- **RTP Ports** – In the two boxes, set the RTP range:
 - **From** – Enter the minimum RTP value.
 - **To** – Enter the maximum RTP value.

3. Select **Apply**.

NOTE: In COLLABORATE Central mode, the system administrator should configure the LDAP settings for COLLABORATE Central on the server side.

To verify that COLLABORATE Central mode is active:

1. Press **Status** on the remote control and check in the displayed information that a COLLABORATE Central icon appears.
2. Select **Settings>Advanced>H.323** and check the displayed information.

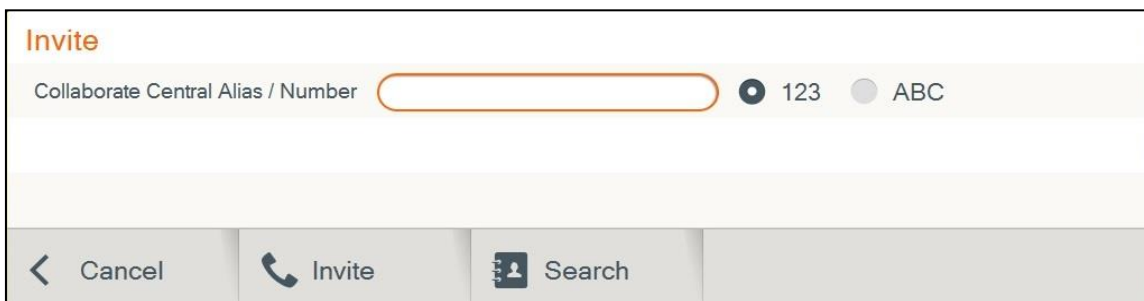
The New Call IP number shows the extension number that the system received when initiating COLLABORATE Central mode, which is the ID number.

WORKING IN COLLABORATE CENTRAL MODE

In a point-to-point call and when COLLABORATE Central mode is active, you can add another participant to the call without hanging up, i.e. – the call continues while the additional participant is being invited.

To add participants to the call in COLLABORATE Central mode:

1. Select **Conference>Invite**. The Invite call window is displayed.



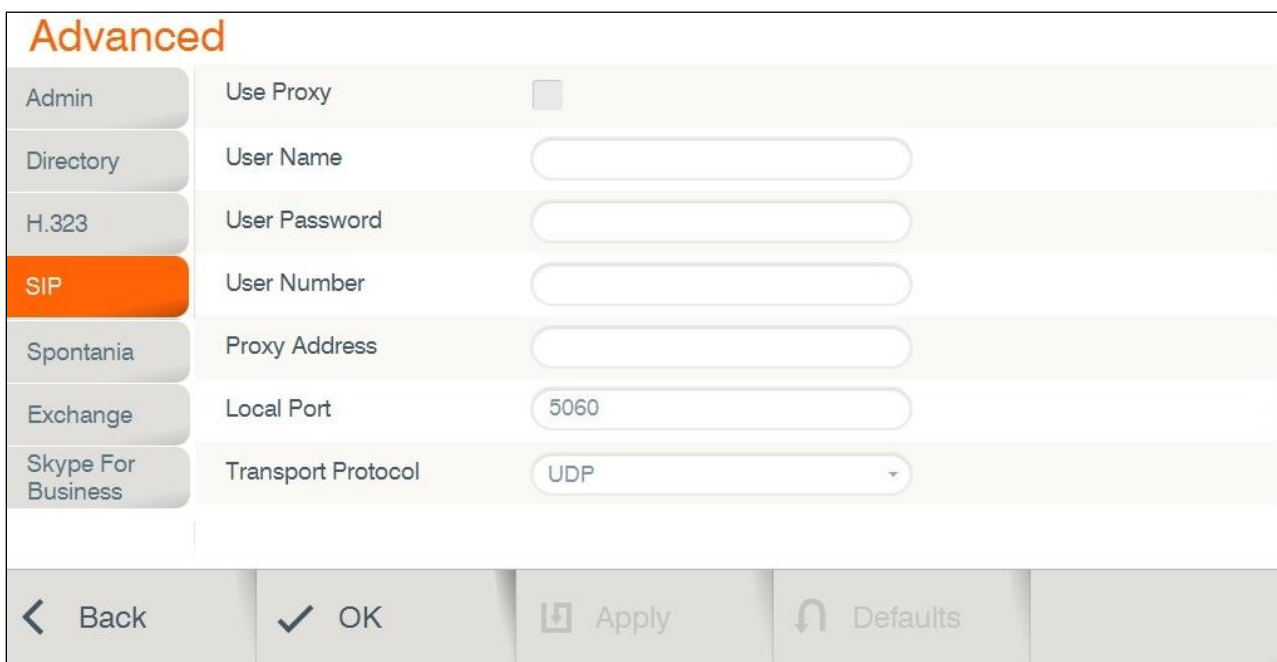
NOTE: The COLLABORATE Central >Invite option is available on the menu only when COLLABORATE Central mode is active.

2. Type in the participant COLLABORATE Central alias/IP number, and select **Invite**. The call is connected.

SIP PROTOCOL SETTINGS

SIP is a common communication signaling protocol for VoIP. To configure SIP settings:

1. Select **Settings>Advanced>SIP**. The SIP Settings window appears.



The screenshot shows the 'Advanced' settings window with the 'SIP' tab selected. The settings are as follows:

Category	Setting	Value
Admin	Use Proxy	<input type="checkbox"/>
Directory	User Name	<input type="text"/>
H.323	User Password	<input type="text"/>
SIP	User Number	<input type="text"/>
Spontania	Proxy Address	<input type="text"/>
Exchange	Local Port	5060
Skype For Business	Transport Protocol	UDP

At the bottom of the window, there are five buttons: Back, OK, Apply, Defaults, and a fifth button that is partially obscured.

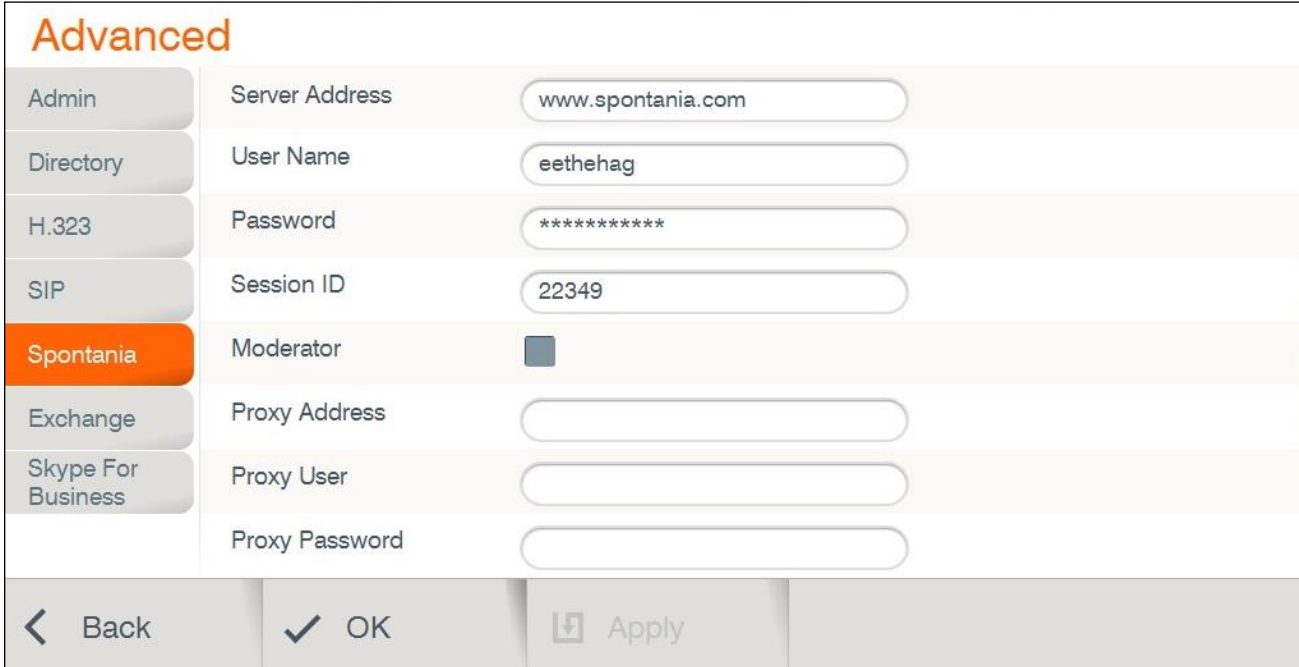
2. In the SIP Settings window, set the following options and parameters:
 - Use Proxy** – Use a proxy server or as stand alone.
 - User Name** – The user name as configured in the proxy server (proxy mode).
 - User Password** – The user password as configured in the proxy server (proxy mode).
 - Proxy Address** – Proxy server IP
 - Local Port** – The SIP port on your computer (the standard is 5060).
 - Transport Protocol** – Select the desired protocol (TCP or UDP).
3. Select **Apply**.

SPONTANIA SETTINGS

Registering to Spontania server will allow you to join and create Spontania cloud-based video conference according to your permissions.

To access Spontania Settings:

1. Select **Settings>Advanced>Spontania**. The Spontania window appears.



The screenshot shows the 'Advanced' settings page with the 'Spontania' tab selected. The settings are as follows:

Category	Field	Value
Admin	Server Address	www.spontania.com
Directory	User Name	eethehag
H.323	Password	*****
SIP	Session ID	22349
Spontania	Moderator	<input type="checkbox"/>
Exchange	Proxy Address	
Skype For Business	Proxy User	
	Proxy Password	

At the bottom, there are three buttons: 'Back' (with a left arrow), 'OK' (with a checkmark), and 'Apply' (with a download icon).

2. In the Spontania window, set the following options and parameters:
 - Server Address** - Enter the IP Address of the Spontania server.
 - User Name** – Enter the user name used to log into the Spontania server.
 - Password** – Enter the password used to log into the Spontania server (if required).
 - Session ID** – Enter the default session ID in order to perform quick dialing.
 - Moderator** – Check this option to identify as Spontania moderator.
 - Proxy Address:** Enter your organization proxy server address. For any assistance Use your organization’s network manager.
 - Proxy User:** Enter the proxy server user name.
 - Proxy Password:** Enter the proxy server password.

EXCHANGE SETTINGS

This configuration allows you to integrate Exchange server with your Skype for Business

To access Exchange Settings:

1. Select **Settings>Advanced>Exchange**. The Exchange window appears.

Advanced	
Admin	Use Skype For Business Credentials <input checked="" type="checkbox"/>
Directory	Email <input type="text"/>
H.323	User Name <input type="text"/>
SIP	Password <input type="text"/>
Spontania	
Exchange	
Skype For Business	

Navigation: < Back ✓ OK Apply

2. In the Exchange window, set the following options and parameters:
 - Use Skype for Business Credentials** - This option allows you to integrate Exchange server with your Skype for Business
 - Email** - Enter the email address you use to sign in to your organization's network.
 - User Name** – Enter the user name used to log into the organization's network.
 - Password** – Enter the password used to log into the organization's network.

SKYPE FOR BUSINESS SETTINGS

Registering to a Skype for Business server lets you to join and create Skype for Business cloud-based video conferences according to your permissions.

Note: Customer must purchase and install a COLLABORATE Pro Skype for Business activation license to enable the Skype for Business feature. A Skype for Business License is also required.

To access Skype for Business Settings:

1. Select **Settings > Advanced > Skype for Business**. The Skype for Business window appears.

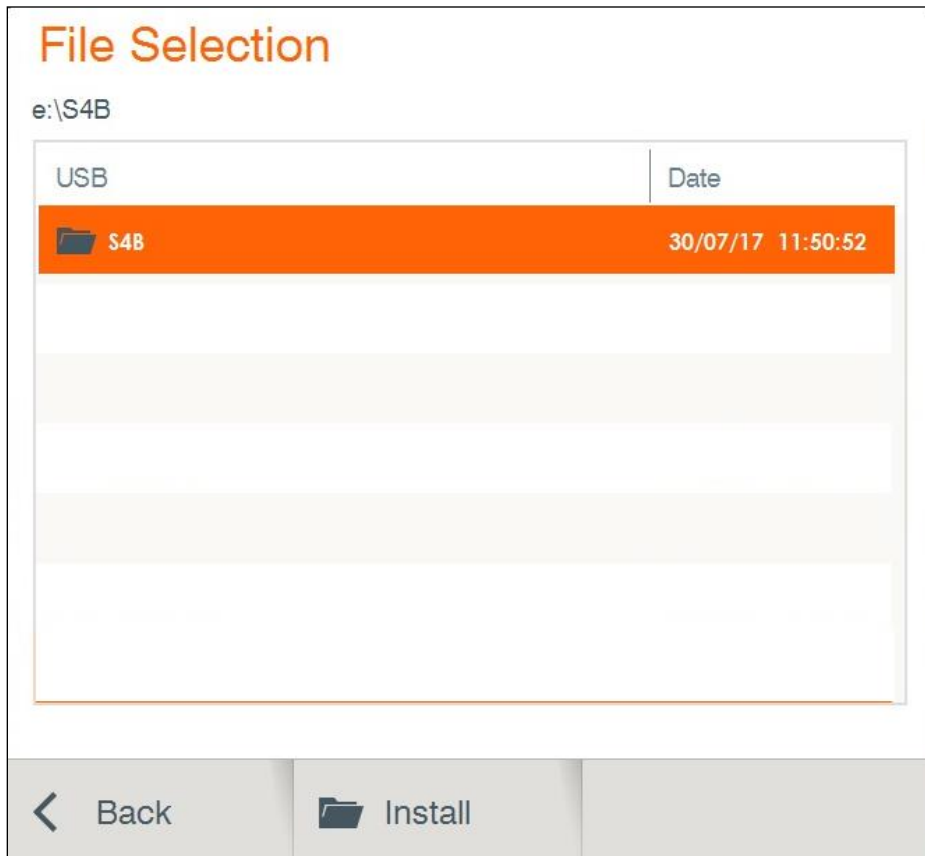
Advanced		
Admin	Sign In Address <input type="text"/>	
Directory	User Name <input type="text"/>	
H.323	Password <input type="password"/>	
SIP	Automatic Server Configuration <input checked="" type="checkbox"/>	
Multicast	Internal Server <input type="text"/>	
Spontania	External Server <input type="text"/>	
Exchange	Certificate <input type="button" value="Install"/>	
Skype For Business		
<input type="button" value="Back"/>	<input type="button" value="OK"/>	<input type="button" value="Apply"/>

2. In the Skype for Business window, set the following options and parameters:

- Sign In Address** - Enter the sign in address for your Skype for Business server.
- User Name** – Enter the user name used to log in to the Skype for Business server.
- Password** – Enter the password used to log in to the Skype for Business server.
- Automatic Server Configuration** – Choose this option to let the Skype for Business server automatically configure your connection settings.
- Internal Server** – Type the FQDN (fully qualified domain name) of your Skype for Business Server.
- External Server** – Type the FQDN (fully qualified domain name) of your Skype for Business Server.
- Certificate** – To connect securely to your Skype for Business Online Service when you're using an on-premises configuration, install the intermediary certificates on your Skype for Business Edge servers. Otherwise, client cannot perform secure connections.

To install the intermediary certificates on your Skype for Business:

1. Press on install button, file selection windows will be opened.



2. Browse to the folder that lists the certificate file.
3. Choose the certificate file
4. Select Install option.

Chapter 8: Spontania

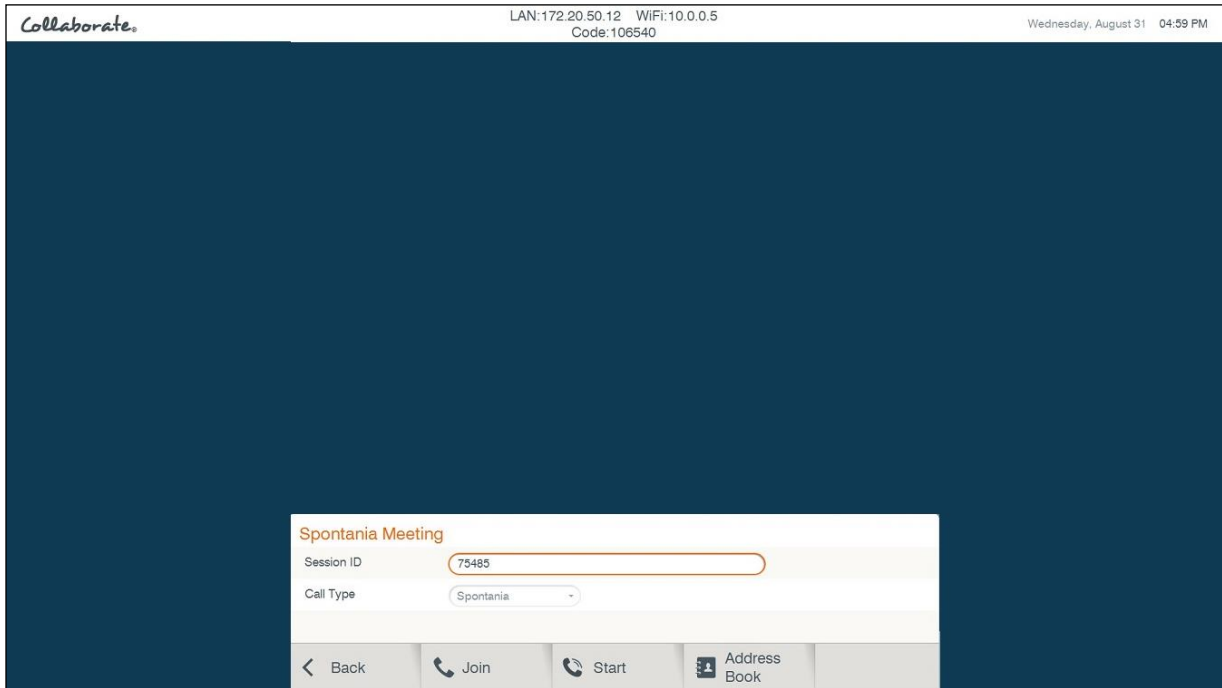
IN THIS CHAPTER

Spontania is a unified group video conference and collaboration software. It provides a full range of real-time communication and collaboration.

STARTING / JOINING A SPONTANIA MEETING

You can start or join a Spontania meeting:

1. Select **Conference > Spontania Meeting**. The Spontania meeting bar appears.



2. To join a Spontania meeting enter Meeting ID and press Join. If you are a session moderator and you entered session ID in Spontania settings, press Start.

NOTE: Before joining / starting a Spontania meeting, you must enter a valid server and user details under Settings > Advanced Spontania.

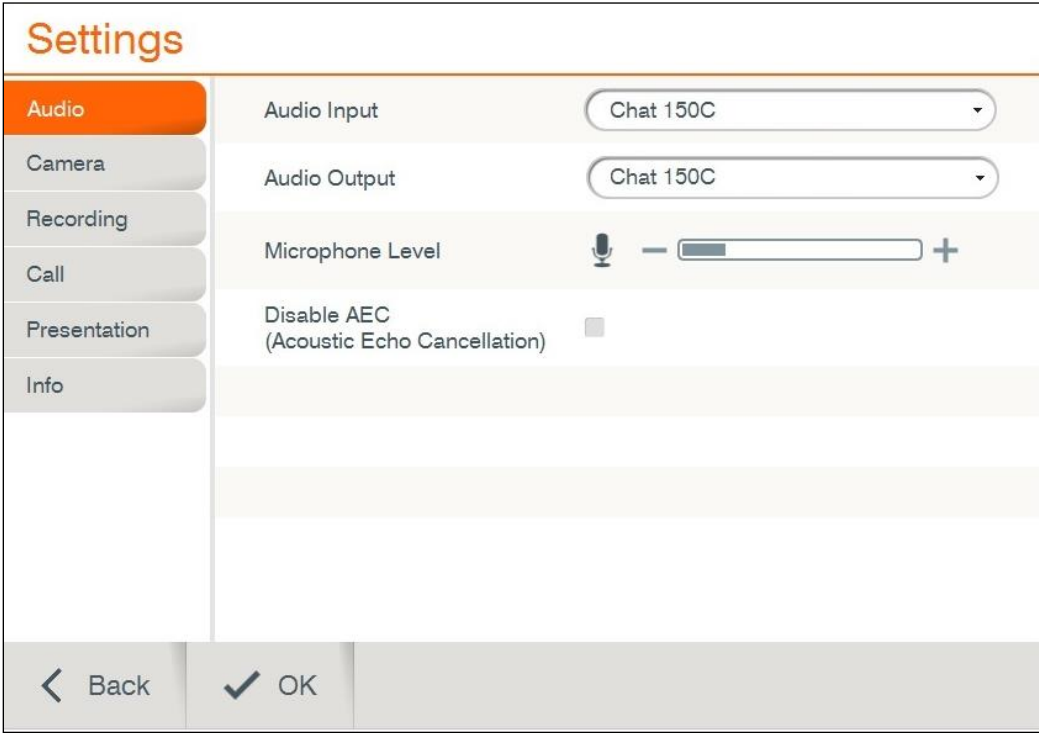
3. Spontania meeting starts.



SPONTANIA SETTINGS

During a Spontania meeting you can change the settings according to your permissions.

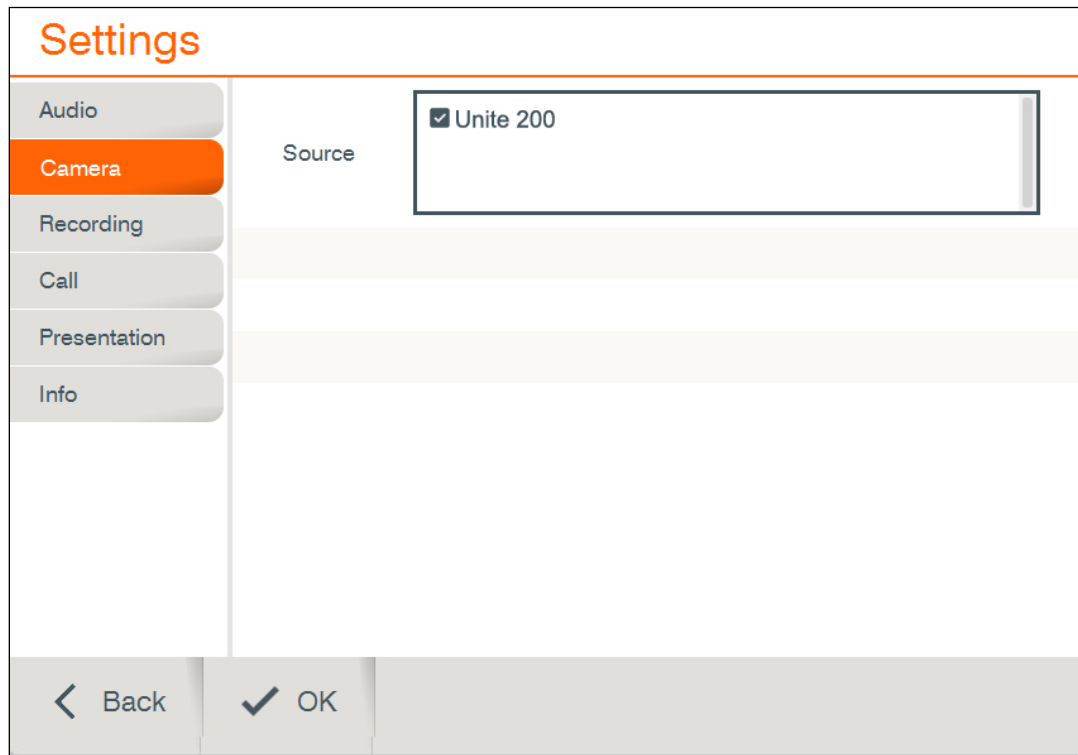
1. Audio Settings:



- **Audio Input** – Select CHAT 150C Mic Array to be your audio input device.

- **Audio Output** – Select a playback device from the list
- **Microphone Level** – Adjust the microphone sensitivity level in percentage (%)
- **Disable AEC** – Disable the check box to prevent echo.

2. Camera Settings:



- **Source:** Choose one or more cameras to share in the meeting.

3. Recording Settings (Available only for moderator):

The screenshot shows the 'Settings' application with the 'Recording' tab selected. The settings are as follows:

Setting	Value
Recording Path	Internal
Format	WCONF (selected), MP4
MP4 Options	
Quality	High Definition
Background Image	

- ❑ **Recording Path** – The path where the recordings will be saved.
- ❑ **Format** – Choose between MP4 and WCONF.
- ❑ **Quality** – Choose recording quality (MP4 format only).
- ❑ **Background Image** – Choose image to be in the background when the recording layout is not covering the all screen (MP4 format only).

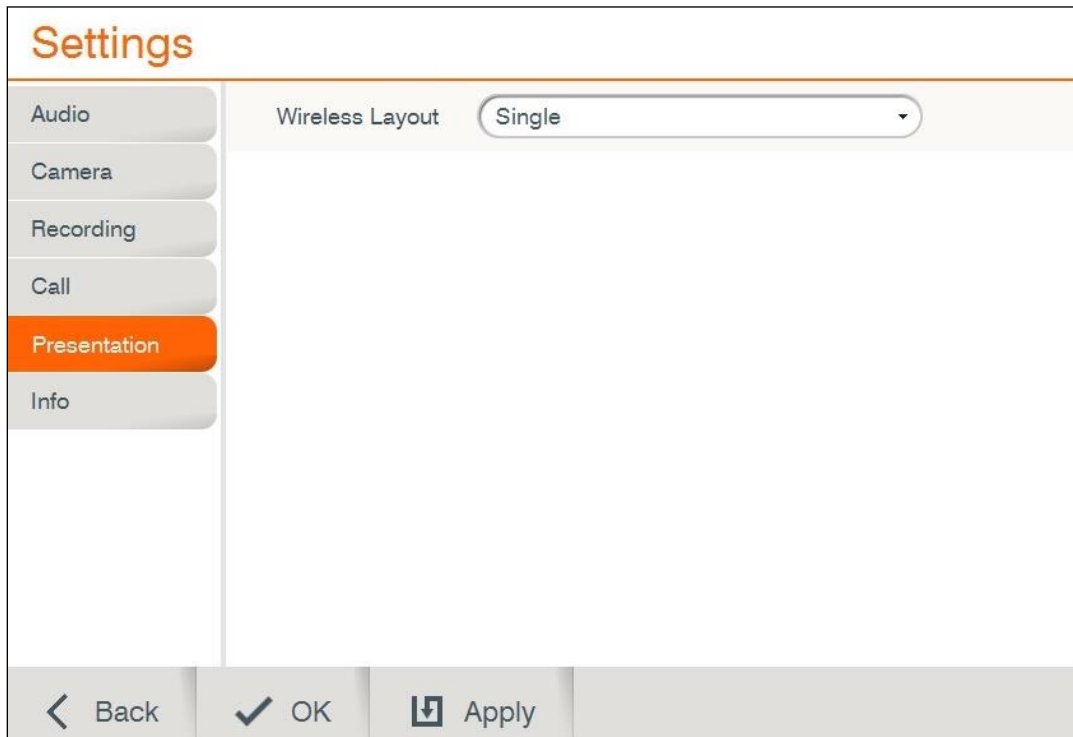
4. Call Settings (Available only for moderator):

Settings	
Audio	Services <input checked="" type="checkbox"/>
Camera	Video
Recording	Predefined AVQ4
Call	Bandwidth 180 Kbps
Presentation	FPS 15 FPS
Info	Application
	Predefined High
	Bandwidth 1500 Kbps
	Depth 65535C
◀ Back ✓ OK ↻ Apply	

Application: shows the general configuration of quality for the signal transmission in the participants' application sharing service. It is divided into 3 fields:

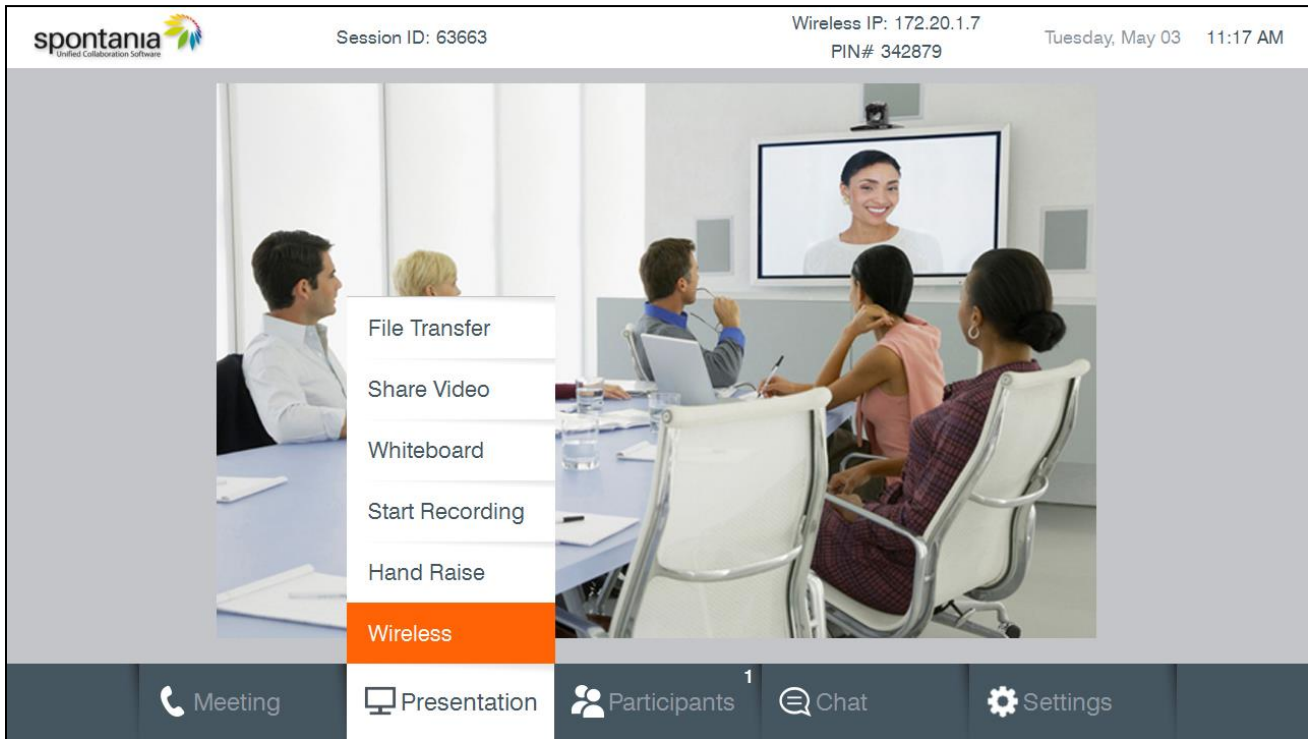
- **Predefined** - shows a list of pre-established configurations regarding the quality of the application sharing service, which sets up specific values for the fields "Bandwidth" and "Depth".
- **Bandwidth** - offers a list of values of network speed (in kilobits per second) associated with the signal transmission of the application sharing service, if this service is activated during the session.
- **Depth** - provides a list of values (in number of colors) associated with the sharpness of the application sharing service, if this service is activated during the session.

5. Presentation Settings:



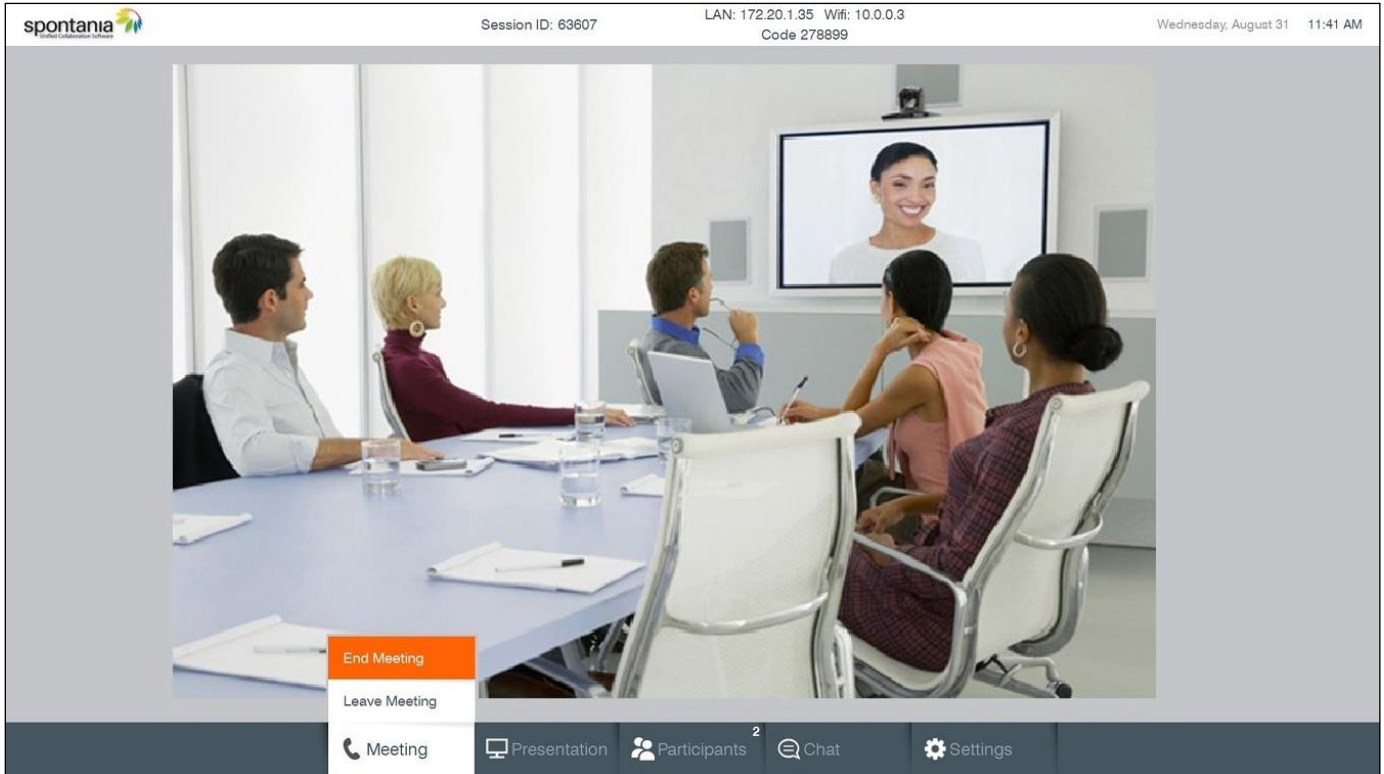
- **Wireless Layout:** Choose wireless sharing layout:
 - **Automatic:** All senders will be displayed and arranged in the same size.
 - **Single:** Only one sender will be displayed. You can switch between senders with input button in your remote control.
 - **Preview:** All senders will be displayed. The chosen main sender will be displayed in big size and other senders will be displayed in small size. You can switch between main sender with input button in your remote control.

PRESENTATION



- **File Transfer** – Transfer a file to the other participants.
- **Share Video** – Share video file from USB storage device or share a recording.
- **Whiteboard** – Graphic space to draw or take notes on a new “canvas”.
- **Start Recording (Moderator only)** – Start recording the current meeting.
- **Hand Raise** - Request permission to speak during the session.
- **Wireless** – Start wireless sharing, when sender is connected to the unit.

END MEETING



- End Meeting** – Terminate the meeting and discard all participants. This option is available only for moderator.
- Leave Meeting** – Hang up and leave the meeting.

Chapter 9: Web Access and Management

IN THIS CHAPTER

This chapter explains how to access COLLABORATE Pro via a browser and use the Web-based GUI for viewing sessions/files, and configuring the unit from a remote location or via the LAN.

The Web interface includes all the options that are available via the regular on-screen GUI, as well as some additional configuration options that are not available via the regular GUI.

Since the user options shared by both GUIs are generally the same, this chapter focuses mainly on the exclusive web options, and includes the following sections:

- Accessing COLLABORATE Pro via Browser
- Download COLLABORATE Share for wireless sharing
- Importing/Exporting the License
- Sending Running Text in a Call
- Viewing Call Status
- Performing System Upgrade
- Performing System Backup
- Performing System Restore from Backup File
- Performing System Restore from FTP

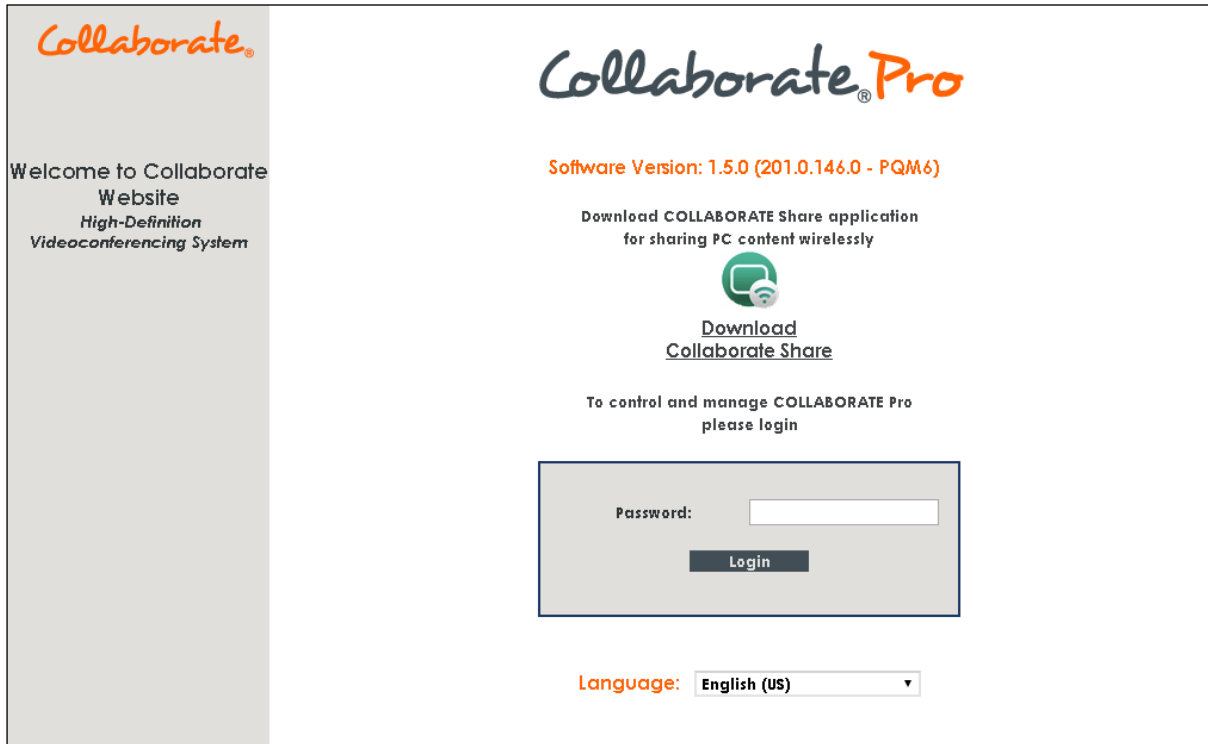
ACCESSING COLLABORATE PRO VIA BROWSER

You can access COLLABORATE Pro via a standard Web browser from any remote location or from your LAN.

To access COLLABORATE Pro via a browser:

1. Open your browser.
2. In the browser's address bar, type the direct IP Address of the COLLABORATE Pro unit. The COLLABORATE Pro Web login page appears. For example:
`http://172.100.100.25`

NOTE: If you do not know the IP Address of the COLLABORATE Pro unit, request help from a user close to the unit, who can check the unit's IP Address as explained in Displaying System Information.



3. If a password was set for Web access (see Administration Settings): in the **Password** field, enter your password for accessing the management options, and then click **Login**.
If the password is authenticated, the management options page appears.

DOWNLOADING COLLABORATE SHARE

You can share your PC desktop or an application via the network. To use this feature you need to download COLLABORATE Share application.

To download COLLABORATE Share:

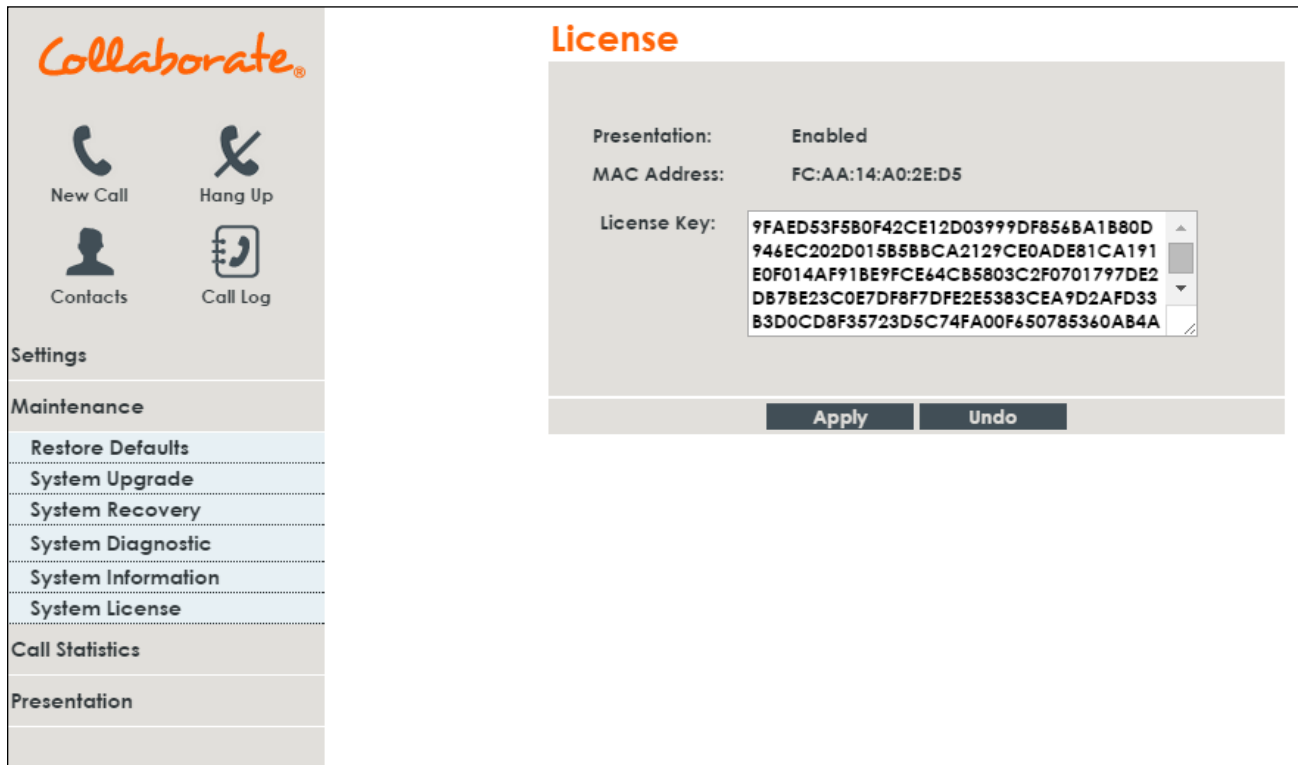
1. Open your browser.
2. In the browser's address bar, type the direct IP Address of the COLLABORATE Pro unit. The COLLABORATE Pro Web login page appears.
3. Click COLLABORATE Share. The application download will be start automatically.

IMPORTING/EXPORTING THE LICENSE

Some features and functionalities in COLLABORATE Pro require licensing, and are activated with a license key that you must enter and save to your COLLABORATE Pro unit.

To enter and save a license to your COLLABORATE Pro unit:

1. After logging in, click **Maintenance>System License**. The License page appears.



2. Copy and paste the license key (a long text-based string) that you received from ClearOne into the **License Key** text box, and then click **Apply**.

Once the license key is applied, you can view which features/functionality are available:

- Presentation** – Indicates whether the laptop sharing functionality is enabled or disabled.
- MAC address** - The unit's MAC address is also displayed.
- License Key** – The generated license code supplied by ClearOne.

SENDING RUNNING TEXT IN A CALL

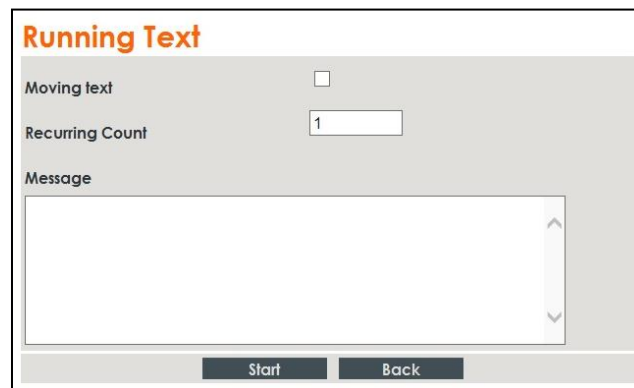
During a video collaboration call, you can type and send a text message to the person(s) with whom you are communicating. The message is displayed as running text on top of the video image on the far-end screen.

To type and send a running text message:

1. Start the call. The **Running Text** button appears in the Call View box (available only in the Web interface).



2. Click the **Running Text** button. The Running Text box appears.
3. In the text box, type the message you want to send and display on the far-end screen, and then click **Start**.



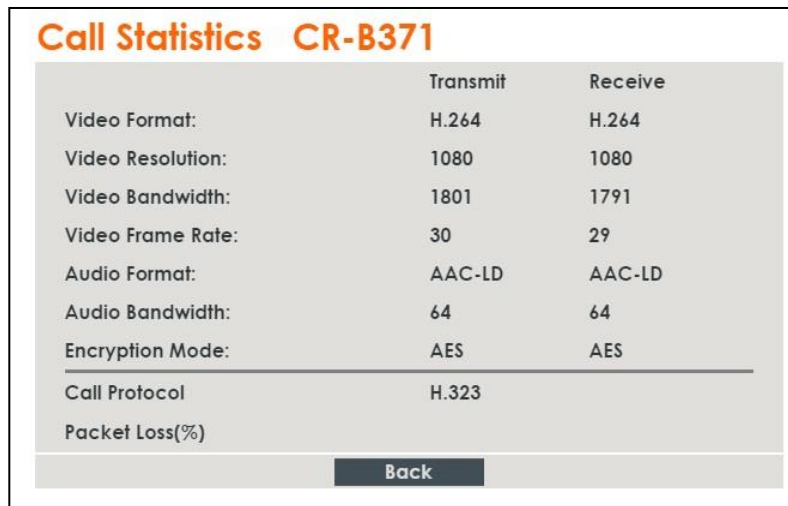
NOTE: To stop the display of the running text message on the far end, click **Stop**.

VIEWING CALL STATUS

During a videoconference call, you can view and check the technical details of the call. To

view the call status details:

- During the video collaboration call, click the **Info** link in the Call View box (see Call View box).



	Transmit	Receive
Video Format:	H.264	H.264
Video Resolution:	1080	1080
Video Bandwidth:	1801	1791
Video Frame Rate:	30	29
Audio Format:	AAC-LD	AAC-LD
Audio Bandwidth:	64	64
Encryption Mode:	AES	AES
Call Protocol	H.323	
Packet Loss(%)		

Back

The following information is displayed in the Call Status box for both **incoming** and **outgoing** communication:

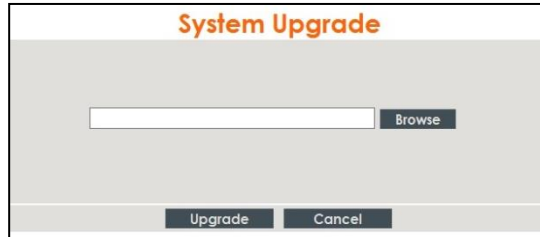
- **Video Format** – Video codec used to display video in this call
- **Video Resolution** – Video resolution used in this call
- **Video Bandwidth** – Bandwidth used by the video in this call
- **Video Frame Rate** – Video frame rate used in this call
- **Audio Format** – Audio codec used to sound audio in this call
- **Audio Bandwidth** – Bandwidth used by the audio in this call
- **Encryption Mode** – Type of encryption used in this call (if encryption is used).
- **Call Protocol** – Protocol of the current call.
- **Packet Loss** – Percentage of packets that did not arrive their destination.

PERFORMING SYSTEM UPGRADE

You can upgrade the COLLABORATE software to a newer version when such becomes available.

To upgrade the COLLABORATE Pro software:

1. After logging in, click **Maintenance>System Upgrade**. The System Upgrade box appears.

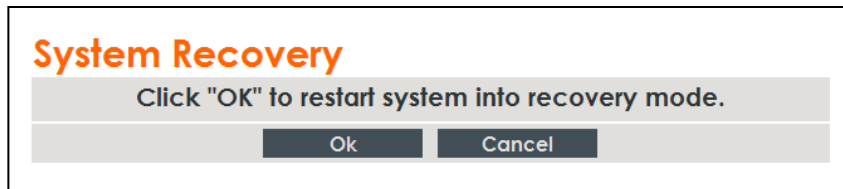


2. Click **Browse** and then select the ClearOne-provided file that contains the newer software version.
3. Click **Upgrade**. The system upgrade is performed and then the system reboots.

PERFORMING SYSTEM BACKUP

The Backup option, using the remote controller, takes a snapshot of the current COLLABORATE Pro configuration. It is recommended to take backup snapshots every time a configuration change is made.

1. After logging in, click **Maintenance>System Recovery**



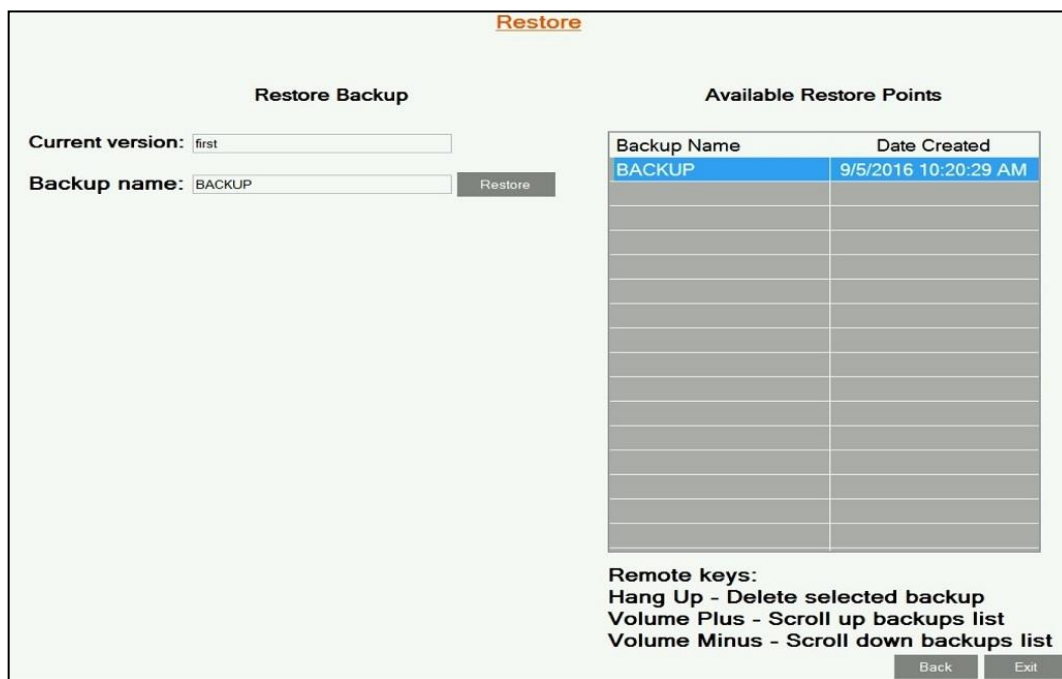
2. The system will reboot and a **Recovery** screen will appear



- The system will reboot and **Recovery** menu will appear.



- Select the **Restore** button. The **Restore** screen will appear



- Select the backup configuration file you want to restore, and press the **Restore** button.
- Once the restore process is completed, press **OK** and shutdown the system by pressing for a few seconds on the **power** button; then press the **power** button again in order to turn on the system.
- Copy the stored License Key to the system (Configuration>Option>License)

PERFORMING SYSTEM RESTORE FROM FTP

Whenever necessary, you can discard all manually entered configuration settings and restore using settings delivered via FTP.

NOTE: before restoring the system to its factory defaults, you must save system License Key. This is accessed by using the menu:

Maintenance>System License

To set the COLLABORATE Pro unit to settings delivered via FTP:

1. After logging in, click **Maintenance>System Recovery**

NOTE: All information on the system including user information, Contacts entries, IP and all other user defined information will be deleted.

NOTE: After restoring the system to its factory defaults, it may be necessary to perform a system upgrade.

2. The system will reboot and **Recovery** menu will appear.



3. Select the FTP Updates button. The FTP Updates screen will appear.
4. Enter the FTP server details including FTP Address, User Name and Password, and click the Connect button.
5. Select the file from the listing, and then click on the Download button.

Chapter 10: Telnet Commands

The Telnet commands allow you to communicate with a remote computer that is using the Telnet protocol.

You can run **telnet** without parameters in order to enter the telnet context, indicated by the Telnet prompt (**telnet>**). From the Telnet prompt, use the following commands to manage a computer running Telnet Client.

ENABLING THE TELNET API

To enable the Telnet API:

1. Click **Settings > General > Security**
2. Check the **Enable Telnet Interface** checkbox.

DESCRIPTIONS OF THE TELNET API (COLLABORATE PRO)

Key	Description	Arguments	Example
accept	Accept incoming call	—	accept
hangup	Hanging up session		hangup
reject	Rejecting incoming call		reject
callinfo	Request call info values	SessionID: Valid session ID number	callinfo 1
camerahome	Return PTZ camera to default position	—	camerahome
camerapos	Save or restore camera position from preset	Action: save, restore Position: 1-18	camerapos save 2
camerastart	Start camera movement pan, tilt, zoom in different direction	Direction: <input type="checkbox"/> u – up <input type="checkbox"/> d – down <input type="checkbox"/> l – left <input type="checkbox"/> r – right <input type="checkbox"/> ul – up+left <input type="checkbox"/> ur – up+right <input type="checkbox"/> dl – down+left <input type="checkbox"/> dr – down+right <input type="checkbox"/> zi – zoom in <input type="checkbox"/> zo – zoom out	camerastart u camerastart up camerastart u remote

Key	Description	Arguments	Example
camerastop	Stop camera movement	Direction: <input type="checkbox"/> spt – stop pan tilt <input type="checkbox"/> sz – stop zoom	camerastop sz camerastop sz remote
dial	Dial specific address via LAN network	<input type="checkbox"/> Address: <input type="checkbox"/> Calltype: lan,sip,audio <input type="checkbox"/> Bandwidth (optional): 64, 128, 256, 384, 512, 1024 (Bandwidth list is configurable in Commands.xml file on both sides, server and client)	dial 125.0.1.2 lan 128
dtmf	Send DTMF tone to remote endpoint identified by Participant ID (Note: Use sessions to retrieve Participant ID)	ParticipantID: any valid participant number DTMF: DTMF tone sequence	dtmf 23 035667344 dtmf 111 123433#5*
dtmf2all	Send DTMF tone to all active calls	DTMF: DTMF tone sequence	dtmf2all 035667344 dtmf2all 123433#5*
get	Get parameter value	Parameter: <input type="checkbox"/> mic <input type="checkbox"/> volume <input type="checkbox"/> speaker <input type="checkbox"/> license <input type="checkbox"/> autoanswer	get mic get volume get autoanswer
set	Set parameter value	Parameter: <input type="checkbox"/> mic <input type="checkbox"/> volume <input type="checkbox"/> speaker <input type="checkbox"/> autoanswer	set mic on set volume 5 set autoanswer on
donotdisturb	Start or stop do not disturb mode.	Parameter: <input type="checkbox"/> enable <input type="checkbox"/> disable	donotdisturb enable
help	Display all telnet commands and notifications.		help

shutdown / restart	Shutdown or restart the unit.		restart
sharelaptop	Share DataPoint when it is connected to the unit.	Parameter: <input type="checkbox"/> start <input type="checkbox"/> stop	sharelaptop start
sharewireless	Start wireless sharing when there is at least 1 sender connected to the unit.	Parameter: <input type="checkbox"/> start <input type="checkbox"/> stop	sharewireless start
changewirelesslayout	Change wireless layout while wireless is being shared.	Parameter: <input type="checkbox"/> auto <input type="checkbox"/> single <input type="checkbox"/> preview	changewirelesslayout single
nextsender	When more than one sender is shared in preview or single layout, change between main senders.		nextsender
startsession	Start Spontania meeting as a moderator.		start session
joinsession	Join Spontania meeting as a participant.	Session ID.	joinsession 12345
listcontacts	Retrieve the local user contact list.		listcontacts
Sessions	Display all active sessions and their sessions ID.		sessions

remotecontrol	Commit a remote control command	1 Status 2 Data 3 Phone Book 4 Help 5 Near Far 6 Camera Control 7 Preset Recall 8 Preset Set 9 PIP 10 Speed Dial 11 Call Log 12 Mute Mic 13 Display 14 Settings 15 Mute Video 16 Mute Speaker 17 Enter 18 Go Right 19 Go Left 20 Go Up 21 Go Down 22 Cancel 23 Dial 24 Hang Up 25 Zoom In 26 Zoom Out 27 Volume Up 28 Volume Down 29 Num 1 30 Num 2 31 Num 3 32 Num 4 33 Num 5 34 Num 6 35 Num 7 36 Num 8 37 Num 9 38 Num 0 39 Dot (. ^ , @ #) 40 Clear / # DTMF	remotecontrol 1
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DESCRIPTIONS OF THE TELNET API (SPONTANIA)

NOTE: You must enable TELNET option before entering Spontania

To enable the Telnet API:

1. Click **Settings > General > Security**
2. Check the **Enable Telnet Interface** checkbox.

TELNET API (SPONTANIA)

Key	Description	Arguments	Example
hangup	Hanging up session		hangup
camerahome	Return PTZ camera to default position	—	camerahome
camerapos	Save or restore camera position from preset	Action: save, restore Position: 1-9	camerapos save 2
camerastart	Start camera movement pan, tilt, zoom in different direction	Direction: <input type="checkbox"/> u – up <input type="checkbox"/> d – down <input type="checkbox"/> l – left <input type="checkbox"/> r – right <input type="checkbox"/> zi – zoom in <input type="checkbox"/> zo – zoom out	camerastart u camerastart up
camerastop	Stop camera movement	Direction: <input type="checkbox"/> spt – stop pan tilt <input type="checkbox"/> sz – stop zoom	camerastop sz
change_camera	Set current camera by index.		change_camera 1
call info	Request call info values	SessionID: Valid session ID number	callinfo 1
get	Get parameter value	Parameter: <input type="checkbox"/> mic <input type="checkbox"/> volume <input type="checkbox"/> speaker <input type="checkbox"/> license <input type="checkbox"/> autoanswer	get mic get volume get autoanswer

dtmf	Send DTMF tone to remote endpoint identified by Participant ID (Note: Use sessions to retrieve Participant ID)	ParticipantID: any valid participant number DTMF: DTMF tone sequence	dtmf 23 035667344 dtmf 111 123433#5*
dtmf2all	Send DTMF tone to all active calls	DTMF: DTMF tone sequence	dtmf2all 035667344 dtmf2all 123433#5*
help	Display all telnet commands and notifications.		help
recording	Start or stop recording.	Parameter: <input type="checkbox"/> start <input type="checkbox"/> stop	recording start
changelayout	Toggles the layout in Spontania.		changelayout
rotatevideos	Rotates the video users list in Spontania		rotatevideos
listcontacts	Retrieve the local user contact list.		listcontacts
invite	Invites a contact to join the current session	User ID	invite 12345
set	Set parameter value	Parameter: <input type="checkbox"/> camera <input type="checkbox"/> mic_all <input type="checkbox"/> camera_all	set mic_all on set camera_all off
sharelaptop	Share DataPoint when it is connected to the unit.	Parameter: <input type="checkbox"/> start <input type="checkbox"/> stop	sharelaptop start
sharewireless	Start wireless sharing when there is at least 1 sender connected to the unit.	Parameter: <input type="checkbox"/> start <input type="checkbox"/> stop	sharewireless start
changewirelesslayout	Change wireless layout while wireless is being shared.	Parameter: <input type="checkbox"/> auto <input type="checkbox"/> single <input type="checkbox"/> preview	changewirelesslayout single
nextsender	When more than one sender is shared in preview or single layout, change between main senders.		nextsender

sharehdm1 / sharehdm2	Start sharing HDMI content depending on connected devices.	Parameter: <input type="checkbox"/> start <input type="checkbox"/> stop	sharehdm2 start
remotecontrol	Commit a remote control command	1 Status 2 Data 3 Phone Book 4 Help 5 Near Far 6 Camera Control 7 Preset Recall 8 Preset Set 9 PIP 10 Speed Dial 11 Call Log 12 Mute Mic 13 Display 14 Settings 15 Mute Video 16 Mute Speaker 17 Enter 18 Go Right 19 Go Left 20 Go Up 21 Go Down 22 Cancel 23 Dial 24 Hang Up 25 Zoom In 26 Zoom Out 27 Volume Up 28 Volume Down 29 Num 1 30 Num 2 31 Num 3 32 Num 4 33 Num 5 34 Num 6 35 Num 7 36 Num 8 37 Num 9 38 Num 0 39 Dot (. ^ , @ #)	remotecontrol 1

DESCRIPTIONS OF THE TELNET API (Skype for Business)

To enable the Telnet API:

1. Click **Settings > General > Security**
2. Check the Enable Telnet Interface checkbox

TELNET API (Skype for Business)

Key	Description	Arguments	Example
accept	Accept incoming call	—	accept
hangup	Hanging up session		hangup
reject	Rejecting incoming call		reject
camerahome	Return PTZ camera to default position	—	camerahome
camerastart	Start camera movement pan, tilt, zoom in different direction	Direction: <ul style="list-style-type: none"> <input type="checkbox"/> u – up <input type="checkbox"/> d – down <input type="checkbox"/> l – left <input type="checkbox"/> r – right <input type="checkbox"/> ul – up+left <input type="checkbox"/> ur – up+right <input type="checkbox"/> dl – down+left <input type="checkbox"/> dr – down+right <input type="checkbox"/> zi – zoom in <input type="checkbox"/> zo – zoom out 	camerastart u camerastart up camerastart u remote
camerastop	Stop camera movement	Direction: <ul style="list-style-type: none"> <input type="checkbox"/> spt – stop pan tilt <input type="checkbox"/> sz – stop zoom 	camerastop sz camerastop sz remote
get	Get parameter value	Parameter: <ul style="list-style-type: none"> <input type="checkbox"/> mic <input type="checkbox"/> volume <input type="checkbox"/> speaker <input type="checkbox"/> license <input type="checkbox"/> autoanswer 	get mic get volume get autoanswer
set	Set parameter value	Parameter: <ul style="list-style-type: none"> <input type="checkbox"/> mic <input type="checkbox"/> volume <input type="checkbox"/> speaker <input type="checkbox"/> autoanswer 	set mic on set volume 5 set autoanswer on

help	Display all telnet commands and notifications.		help
sharelaptop	Share DataPoint when it is connected to the unit.	Parameter: <input type="checkbox"/> start <input type="checkbox"/> stop	sharelaptop start
sharewireless	Start wireless sharing when there is at least 1 sender connected to the unit.	Parameter: <input type="checkbox"/> start <input type="checkbox"/> stop	sharewireless start
changewirelesslayout	Change wireless layout while wireless is being shared.	Parameter: <input type="checkbox"/> auto <input type="checkbox"/> single <input type="checkbox"/> preview	changewirelesslayout single
nextsender	When more than one sender is shared in preview or single layout, change between main senders.		nextsender
cameralist	Display all available cameras and their indexes.		cameralist
change_camera	Set current camera by index.		change_camera 1
dialsfbcontact	Dial Skype For Business contact by index.	Parameter: <input type="checkbox"/> video <input type="checkbox"/> audio	dialsfbcontact 1 video dialsfbcontact 1 audio
listsfbcontacts	Display all Skype For Business contacts and their indexes.		listsfbcontacts
sfbparticipants	Display all Skype For Business participants in the session.		sfbparticipants
sharehdmi1	Start or stop sharing input of HDMI 1 connection (when available).	Parameter: <input type="checkbox"/> start <input type="checkbox"/> stop	sharehdmi1 start sharehdmi1 stop

sharehdm2	Start or stop sharing input of HDMI 2 connection (when available).	Parameter: <input type="checkbox"/> start <input type="checkbox"/> stop	sharehdm2 start sharehdm2 stop
remotecontrol	Commit a remote control command	1 Status 2 Data 3 Phone Book 4 Help 5 Near Far 6 Camera Control 7 Preset Recall 8 Preset Set 9 PIP 10 Speed Dial 11 Call Log 12 Mute Mic 13 Display 14 Settings 15 Mute Video 16 Mute Speaker 17 Enter 18 Go Right 19 Go Left 20 Go Up 21 Go Down 22 Cancel 23 Dial 24 Hang Up 25 Zoom In 26 Zoom Out 27 Volume Up 28 Volume Down 29 Num 1 30 Num 2 31 Num 3 32 Num 4 33 Num 5 34 Num 6 35 Num 7 36 Num 8 37 Num 9 38 Num 0 39 Dot (. ^ , @ #) 40 Clear / # DTMF	remotecontrol 1

Chapter 11: Specifications

The following are the COLLABORATE Pro specifications.

Video Specifications	
Transmission Speed	<input type="checkbox"/> SIP / H.323: 64 Kbps - 4Mbps
Video Standards	<input type="checkbox"/> H.261, H.263, H.263+/++, H.264
Live Video Resolution	<input type="checkbox"/> QCIF (176 x 144 pixels) <input type="checkbox"/> QVGA (320 x 240 pixels) <input type="checkbox"/> CIF (352 x 288 pixels) <input type="checkbox"/> SIF (352 x 240 pixels) <input type="checkbox"/> VGA (640 x 480 pixels) <input type="checkbox"/> 4CIF (704 x 576) <input type="checkbox"/> 4SIF (704 x 480) <input type="checkbox"/> 720p (1280 x 720 pixels) <input type="checkbox"/> 1080p (1920 x 1080 pixels)
Video Frame Rate	<input type="checkbox"/> Up to 10 fps: 96 Kbps <input type="checkbox"/> Up to 20 fps: 128 to 192 Kbps <input type="checkbox"/> Up to 30 fps: 320 Kbps and above
Video Outputs	<input type="checkbox"/> HDMI <input type="checkbox"/> Mini Display port
Audio Specifications	
Audio Features	<input type="checkbox"/> Full-duplex echo cancellation <input type="checkbox"/> Automatic noise suppression (ANS) <input type="checkbox"/> Automatic gain control (AGC)
Audio Standards	<input type="checkbox"/> 20 KHz: AAC-LD <input type="checkbox"/> 7 KHz: G.722, G.722.1 <input type="checkbox"/> 3.4 KHz: G.711, G.723.1, G.728, G.729 <input type="checkbox"/> AMR (3G)

Data Specifications	<input type="checkbox"/> DataPoint
HD Dual Stream	<input type="checkbox"/> Sharing of DataPoint input <input type="checkbox"/> H.239 support <input type="checkbox"/> Sending and receiving capability <input type="checkbox"/> Video source + 1 data source <input type="checkbox"/> Resolutions supported: 1080p, 720p, XGA, 4CIF SVGA, VGA, CIF, QVGA, QCIF
Display	<input type="checkbox"/> Single – Mini Display port or HDMI <input type="checkbox"/> Dual – Mini Display port + HDMI
Networking Specifications	
Standards Supported	<input type="checkbox"/> SIP Protocol: RFC 3261 <input type="checkbox"/> ITU-T: H.323 v4.2 Annex Q (FECC)
Peripheral Specifications	
Pan-Tilt-Zoom Camera Unit	<input type="checkbox"/> PTZ Camera: 18x Zoom
Features Specifications	
Dialing Modes	<input type="checkbox"/> Manual <input type="checkbox"/> Contacts <input type="checkbox"/> Directory <input type="checkbox"/> Recent calls
Security	<input type="checkbox"/> Encryption using H.235 (AES) <input type="checkbox"/> Search and filter packet ordering <input type="checkbox"/> Packet duplication <input type="checkbox"/> AES is NIST validation <input type="checkbox"/> Firewall traversal using NetPoint H.460 protocol and ClearOne Tunneling proprietary protocol <input type="checkbox"/> NAT – Network Address Translation <input type="checkbox"/> Supports restricted access to users via admin
Directory Services	<input type="checkbox"/> 1000+ local number directory <input type="checkbox"/> 10,000+ global number directory <input type="checkbox"/> H.350 support (COLLABORATE Central mode) <input type="checkbox"/> LDAP Directory support <ul style="list-style-type: none"> ○ Open LDAP ○ Microsoft ILS, SiteServer, Active Directory and Exchange <input type="checkbox"/> Search and filter queries

Environmental	<ul style="list-style-type: none"> <input type="checkbox"/> 0 - 40°C temperature <input type="checkbox"/> 15 - 80% humidity <input type="checkbox"/> Universal Power Supply: <ul style="list-style-type: none"> <input type="checkbox"/> Input 100~240VAC@1.8A <input type="checkbox"/> Frequency 50/60 Hz <input type="checkbox"/> PS Output / Appliance Input: <ul style="list-style-type: none"> <input type="checkbox"/> 19VDC@6.32A Max
Language Support	English, French, German, Spanish Italian, Russian, Chinese (traditional and simplified), Japanese and Korean

Chapter 12: Network Requirements

IN THIS CHAPTER

In order to operate a videoconferencing via the network, some network settings must be set by your network manager.

SYSTEM PLACED IN DMZ:

1. A reserved static IP address
2. Subnet Mask
3. Default Gateway address
4. DNS address

SYSTEM PLACED IN LAN:

If DHCP is available and the COLLABORATE Pro is connected behind firewall, select one of the following 3 options to operate the system:

1. Forward the following ports to the video conferencing system in your Firewall :
 - 389 TCP
 - 1718-1719 UDP
 - 1720 TCP
 - 1731 TCP
 - 5004-6004 TCP and UDP
 - 80 TCP
 - 23 TCP

Ports to open when using SIP:

- 5060-5061 TCP and UDP
- 5004 UDP
- 10000 UDP (SIP gate service - usually 3478/9)
- 16348-32768 UDP (RTP, RTCP multimedia streaming)

Ports to open when using Spontania:

- 443 TCP
- 6000-6100 UDP
- 5222 TCP (Presence)

Ports to open when using COLLABORATE share:

- 9050 TCP
- 9051 TCP
- 56789 TCP
- 56987 TCP
- 2203
- 9052 – 9058 UDP

2. Network Address Translation (NAT):

The NAT address can be configured from COLLABORATE Pro Network settings form (Settings → Advanced → Firewall. The NAT mode can be configured to Automatic / Manual. Configure the system IP in the Broadband Router DMZ host.

3. Firewall Traversal server:

The COLLABORATE Pro can be registered to NetPoint firewall traversal server. The NetPoint server allows end points behind firewalls to communicate with other end points, both in WAN and behind other firewalls (NetPoint server address can be provided by ClearOne representative).

In network Settings→Advanced→H.323, To configure a connection to a NetPoint server enter the required details in the following fields: Server address (NetPoint IP address) and user name. Select the protocol you want to use to connect your call, H.460 or Tunneling.