

# TANDBERG

## TANDBERG EX90 User Guide



Thank you for choosing  
TANDBERG!

Your TANDBERG EX90  
has been designed to  
give you many years of  
safe, reliable operation.

Our main objective  
with this User Guide is  
to address your goals  
and needs. Please let  
us know how well we  
succeeded!

The web interface of  
the EX90 is treated  
in detail in the  
Administrator Guide,  
which is available for  
download separately.

May we recommend  
that you visit the  
TANDBERG web site  
regularly for updated  
versions of this  
Administrator Guide.

The guide can be  
found on [http://www.  
tandberg.com/docs](http://www.tandberg.com/docs).

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## CHAPTER 1 INTRODUCTION



## Intellectual Property Rights

This User Guide and the Products to which it pertains contain information that is proprietary to TANDBERG and its licensors.

Information regarding the Products is found in the Administrator guide for this product, which is available for download separately. Further information can be found in the Administrator Guide for this product.

This User Guide may be reproduced in its entirety, including all copyright and intellectual property notices, in limited quantities in connection with the use of the Products. Except for the limited exception set forth in the previous sentence, no part of this User Guide may be reproduced, stored in a retrieval system, or transmitted, in any form, or by any means, electronically, mechanically, by photocopying, or otherwise, without the prior written permission of TANDBERG. Requests for such permission should be addressed to [tandberg@tandberg.com](mailto:tandberg@tandberg.com).

## Trademark

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## Disclaimer

The specifications for the Products and the information in this document are subject to change at any time, without notice, by TANDBERG.

Every effort has been made to supply complete and accurate information in this User Guide, however, TANDBERG assumes no responsibility or liability for any errors or inaccuracies that may appear in this document.

## Copyright Notice

The product covered by this User Guide is protected under copyright, patent, and other intellectual property rights of various jurisdictions. This product is Copyright © 2010, TANDBERG. All rights reserved. This product includes copyrighted software licensed from others.

A document describing the copyright notices and the terms and conditions of use can be found at: <http://www.tandberg.com/docs>.

IMPORTANT: USE OF THIS PRODUCT IS SUBJECT IN ALL CASES TO THE COPYRIGHT RIGHTS AND THE TERMS AND CONDITIONS OF USE REFERRED TO ABOVE. USE OF THIS PRODUCT CONSTITUTES AGREEMENT TO SUCH TERMS AND CONDITIONS.

This unit makes use of photos provided by Fotolia. These photos are copyright © Fotolia. The following photographers have contributed:

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Stephen Coburn  
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ordus  
Sven Taubert  
Bas Meelker  
Paylessimages  
Vilnis



## Safety Instructions

For your protection please read these safety instructions completely before you connect the equipment to the power source. Carefully observe all warnings, precautions and instructions both on the apparatus and in these operating instructions. Keep this manual for future reference.

## Water and Moisture

Do not operate the apparatus under or near water—for example near a bathtub, kitchen sink, or laundry tub, in a wet basement, near a swimming pool or in other areas with high humidity.

Never install jacks for communication cables in wet locations unless the jack is specifically designed for wet locations.

Do not touch the product with wet hands.

## Cleaning

Unplug the apparatus from communication lines, line power-outlet or any power source before cleaning or polishing. Do not use liquid cleaners or aerosol cleaners. Use a lint-free cloth lightly moistened with water for cleaning the exterior of the apparatus.

## Ventilation

Do not block any of the ventilation openings of the apparatus. Never cover the slots and openings with a cloth or other material. Never install the apparatus near heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Do not place the product in direct sunlight or close to a surface directly heated by the sun.

## Lightning

Never use this apparatus, or connect/disconnect communication cables or power cables during lightning storms.

## Dust

Do not operate the apparatus in areas with high concentration of dust.

## Vibration

Do not operate the apparatus in areas with vibration or place it on an unstable surface.

## Power Connection and Hazardous Voltage

- The product may have hazardous voltage inside.
- Never attempt to open this product, or any peripherals connected to the product, where this action requires a tool.
- This product should always be powered from an earthed power outlet.
- Never connect attached power supply cord to other products.
- In case any parts of the product has visual damage never attempt to connect main power, or any other power source, before consulting service personnel
- The plug connecting the power cord to the product/power supply serves as the main disconnect device for this equipment. The power cord must always be easily accessible.
- Route the power cord so as to avoid it being walked on or pinched by items placed upon or against it. Pay particular attention to the plugs, receptacles and the point where the cord exits from the apparatus.
- Do not tug the power cord.
- If the provided plug does not fit into your outlet, consult an electrician.
- Never install cables, or any peripherals, without first unplugging the device from its power source.

## Servicing

Do not attempt to service the apparatus yourself as opening or removing covers may expose you to dangerous voltages or other hazards, and will void the warranty. Refer all servicing to qualified service personnel.

Unplug the apparatus from its power source and refer servicing to qualified personnel under the following conditions:

- If the power cord or plug is damaged or frayed.
- If liquid has been spilled into the apparatus.
- If objects have fallen into the apparatus.
- If the apparatus has been exposed to rain or moisture
- If the apparatus has been subjected to excessive shock by being dropped.
- If the cabinet has been damaged.
- If the apparatus seems to be overheated.
- If the apparatus emits smoke or abnormal odor.
- If the apparatus fails to operate in accordance with the operating instructions.

## Accessories

Use only accessories specified by the manufacturer, or sold with the apparatus.

## Communication Lines

Do not use communication equipment to report a gas leak in the vicinity of the leak.

## Environmental Issues

Thank you for buying a product which contributes to a reduction in pollution, and thereby helps save the environment. Our products reduce the need for travel and transport and thereby reduce pollution.

Our products have either none or few consumable parts (chemicals, toner, gas, paper).

TANDBERG Environmental Policy Environmental stewardship is important to our culture. As a global company with strong corporate values, TANDBERG is committed to following international environmental legislation and designing technologies that help companies, individuals and communities creatively address environmental challenges.

Our environmental objectives are to:

- Develop products that reduce energy consumption, CO<sub>2</sub> emissions, and traffic congestion.
- Provide products and services that improve quality of life for our customers.
- Produce products that can be recycled or disposed of safely at the end of product life.
- Comply with all relevant environmental legislation.

## Digital User Guides

TANDBERG is pleased to announce that we have replaced the printed versions of our video systems user guides with digital versions available on the TANDBERG/TANDBERG web site: <http://www.tandberg.com/docs>. The environmental benefits of this are significant. The user guides can still be printed locally, whenever needed.

## European Environmental Directives

As a manufacturer of electrical and electronic equipment TANDBERG is responsible for compliance with the requirements in the European Directives 2002/96/EC

(WEEE—Waste Electrical and Electronic Equipment) and 2002/95/EC (RoHS).

The primary aim of the WEEE Directive and RoHS Directive is to reduce the impact of disposal of electrical and electronic equipment at end-of-life. The WEEE Directive aims to reduce the amount of waste electrical and electronic equipment sent for disposal to landfill or incineration by requiring producers to arrange for collection and recycling.

The RoHS Directive bans the use of certain heavy metals and brominated flame retardants to reduce the environmental impact of WEEE which is in landfill or incinerated. TANDBERG has implemented necessary process changes to comply with the European WEEE Directive (2002/96/EC) and the European RoHS Directive (2002/95/EC).

## Waste Handling

In order to avoid the dissemination of hazardous substances in our environment and to diminish the pressure on natural resources, we encourage you to use the appropriate recycling systems in your area. Those systems will reuse or recycle most of the materials of your end of life equipment in a sound way.



TANDBERG/TANDBERG video products put on the market after August 2005 are marked with a crossed-out wheeled bin symbol that invites you to use those take-back systems.

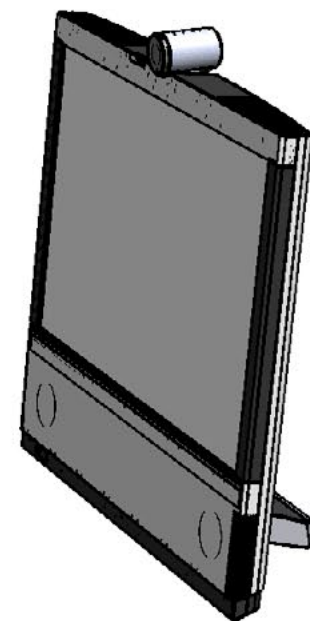
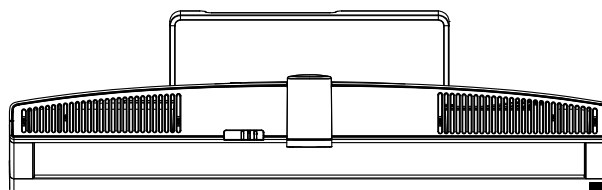
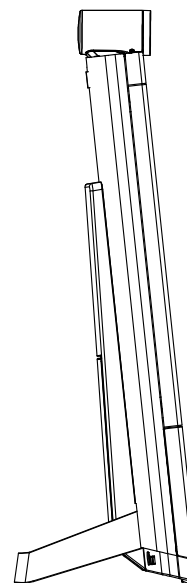
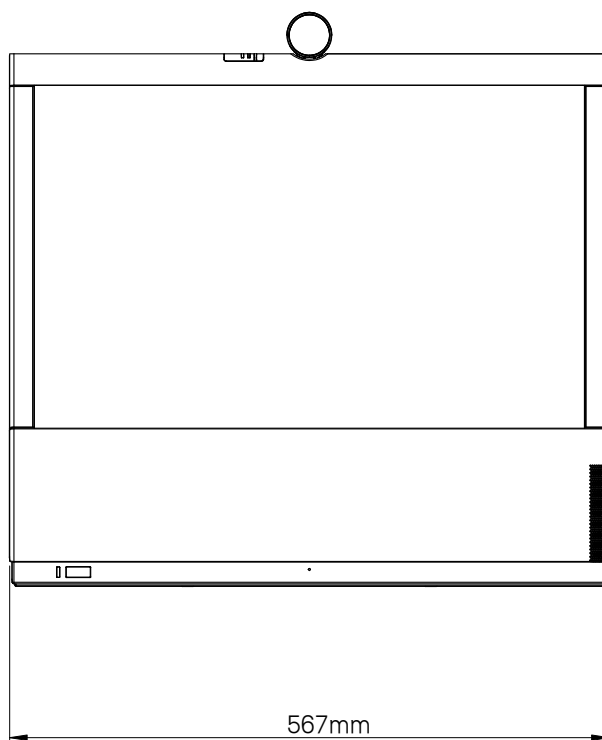
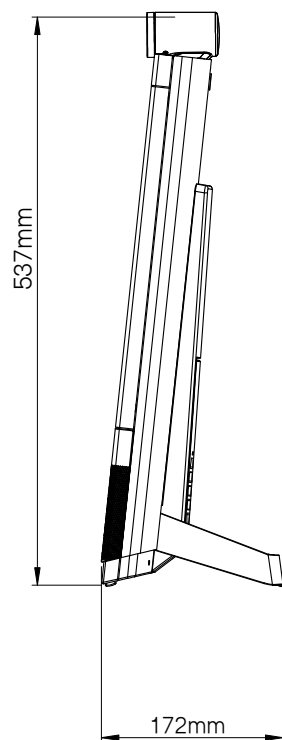
Please contact your local supplier, the regional waste administration or visit our web page <http://www.tandberg.com/recycling> if you need more information on the collection and recycling system in your area.

## Information for Recyclers

As part of compliance with the European WEEE Directive, TANDBERG provides recycling information on request for all types of new equipment put on the market in Europe after 13 August 2005.

Please contact TANDBERG/TANDBERG and provide the following details for the product for which you would like to receive recycling information:

- Model number of TANDBERG product
- Your company's name
- Contact name
- Address
- Telephone number
- E-mail



## CHAPTER 2 CONNECTING THE EX90





# Connecting the TANDBERG EX90

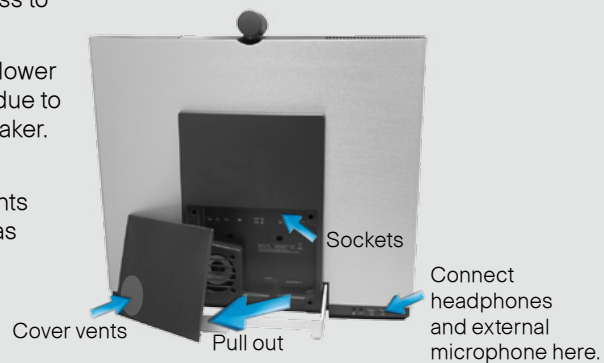
Connect the cables as shown. Sockets are located behind the rear cover. If you have one LAN connection only—and need that for your PC—the TANDBERG EX90 has a built in Gigabit ethernet switch that enables you to connect your PC to the TANDBERG EX90 to access the LAN through the TANDBERG EX90.

## Rear sockets access

Remove cover to get access to the connector sockets.

The cover is vented in the lower left corner (external view) due to the rear mounted loudspeaker.

When mounting the cover back on, make sure the vents are where the speaker is (as shown).



## The EX90 parts

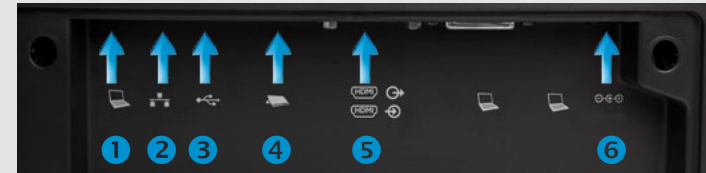
Camera with built-in privacy shutter.



The inTouch controller



## Connecting



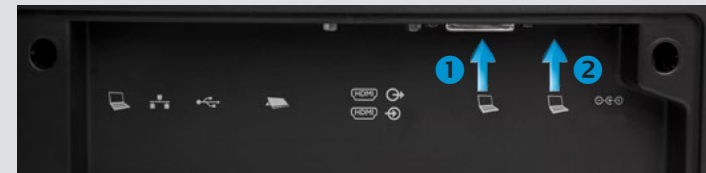
- 1 Connect your PC here if you need to share a single LAN connection with the EX90.
- 2 Connect your TANDBERG EX90 to the LAN.
- 3 USB socket (for future use).
- 4 Connect the inTouch controller.
- 5 HDMI In (inner socket) and HDMI Out\* (outer socket).
- 6 Connect power here.

\* HDMI out is used when connecting an extra monitor (typically for presentations)—see the next page for more.

## Connecting for use as PC screen

Your TANDBERG EX90 has an HD display, which also may serve as your PC screen.

Connect your PC to the sockets on the rear panel as shown below.

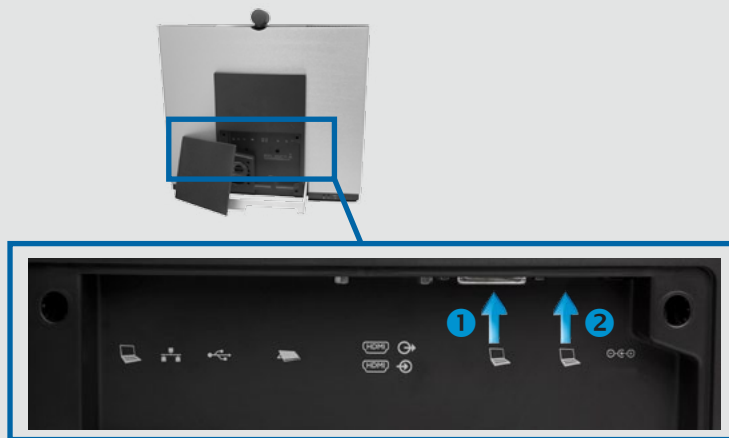


Connect your PC video to 1 and PC audio to 2

A resolution of 1920 × 1200 is recommended. For a list of other screen resolutions supported, see “Setting the screen resolution” on page 10.

## Connecting a PC to the unit

Your TANDBERG EX90 has an HD display, which also may serve as your PC screen. Connect your PC to the sockets on the rear panel as shown below. For optimal PC image quality, digital output (DVI) from the PC is recommended. If both DVI and HDMI are connected, a **Source** button appears in the setup menu on the inTouch to let you select which source to use as PC screen.



Connect your PC video to **1** and PC audio to **2**

## Use as PC screen

Your TANDBERG EX90 has an HD display, which also may serve as your PC screen. Connect your PC to the sockets on the rear panel as shown above.

Your TANDBERG EX90 will serve as your PC screen outside calls. In a call tap **View desktop** to see the desktop.

Your desktop is **not** exposed to the other side.

## Setting the screen resolution

A resolution of 1920 × 1200 is recommended. However, other resolutions may also be used as shown in the below tables.

### Digital input via DVI

1920 × 1200 (recommended)  
1920 × 1080  
1776 × 1000 (not full screen)  
1680 × 1050  
1600 × 1200 (not full screen)  
1440 × 900  
1400 × 1050 (not full screen)  
1280 × 1024 (not full screen)  
1280 × 960 (not full screen)  
1280 × 800  
1280 × 768 (not full screen)  
1280 × 720 (not full screen)  
1152 × 648 (not full screen)  
1024 × 768 (not full screen)  
960 × 600 (not full screen)  
800 × 600 (not full screen)

### Analog input via DVI

1920 × 1200 (recommended)  
  
1680 × 1050  
1600 × 1200 (not full screen)  
1440 × 900  
  
1280 × 1024 (not full screen)  
  
1024 × 768 (not full screen)  
  
800 × 600 (not full screen)

Screen resolution must be set via the web interface, using the **Video Output HDMI [1] Resolution** setting. For details on this, see the TANDBERG EX90 Administrator Guide, which is available separately for download.

## Using an external monitor to show presentations

You may connect an external monitor to your TANDBERG EX90 to have it work with two monitors at the same time. The second monitor can be configured to show presentations instead of having everything on a single screen.

To enable the use of a second monitor the system must be configured for it. This is done via the web interface using the **Video DefaultPresentationSource** setting. Doing so is described in the TANDBERG EX90 Administrator Guide which is available separately for download.



## CHAPTER 3 USING THE EX90

## Camera adjustments

The camera can be tilted mechanically in vertical direction.



Turn the circumference to activate the privacy shutter.



## Use as document camera

Tilt the camera as shown to use it as a document camera. Image is automatically turned upside down, so that both parties will see the document correctly.



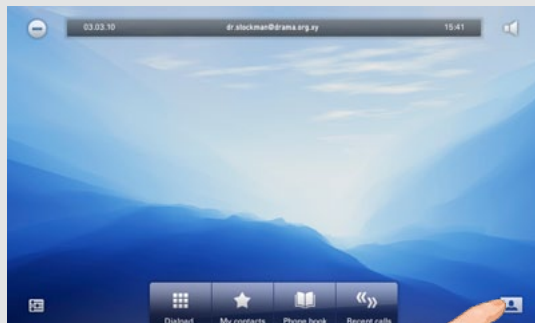
## inTouch controller—initial view





## Initial settings—before you begin

1



Tap **Selfview** to see what others will see of you.

2



Tilt the camera to obtain the best view. The best view will be the view that positions your face as high up on the screen as possible without cutting off the top of your head.

3



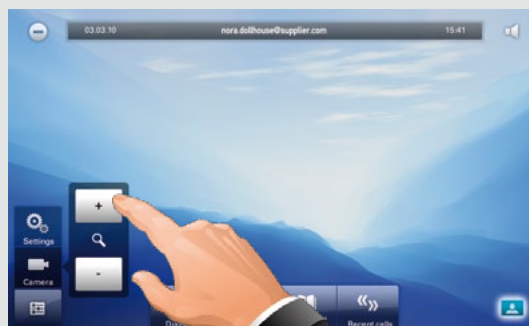
If you need to adjust zoom, tap **Setup**.

4



Tap **Camera**.

5



Use **+** and **-** to adjust the zoom.

6



Collapse menu after use.

## Calling someone by dialing

1



Tap **Dial pad**.

2



Use the numeric keypad for numbers, or use the keyboard mode.

Tap **abc** to change to keyboard and **123** to change back.



If you need to key in digits or special characters, press and hold the key until the character appears.

3



Tap the green **Call** button to place the call.

4



Terminate the call by tapping the red **Terminate call**.

## Calling someone using Recent calls



Tap **Recent calls** to display the list of recent calls.




Recent calls is a list of placed, missed and received calls since the last time you cleared the list.

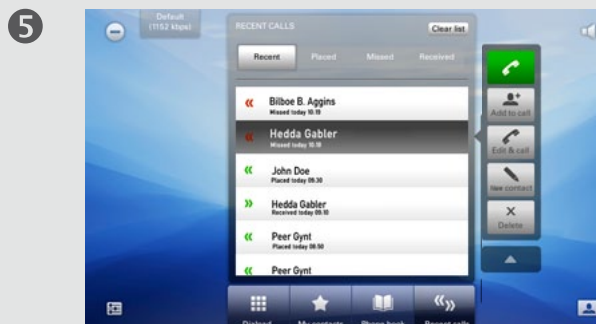
- » Calls placed
- » Calls received
- « Calls missed



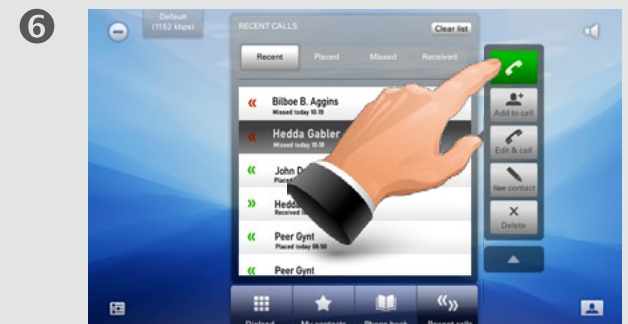
Scroll by dragging up or down anywhere in these lists.



Tap the entry to be called. This will cause the **Call** button to appear. Tap  to display the context sensitive options list, if needed.



You may now either call the entry; add the entry to call more than one; edit the entry before calling; add the entry to *My contacts* or simply remove the entry. Or you may do nothing—just tap **Recent calls** again to hide the entire *Recent calls* list.



Place the call.

Terminate the call as described in "Calling someone by dialing" on page 15.

## Calling someone using My contacts

1



Tap **My contacts** to display your personal phone book.


2



Scroll by dragging up or down anywhere in the list.

3



Tap the entry to be called. This will cause the **Call** button to appear. Tap  to display the context sensitive options list, if needed.

4



Call the entry now.  
Add to call<sup>1)</sup>.  
Edit before calling.  
Edit the entry itself.  
Remove the entry.  
Contract list.

<sup>1)</sup> Systems with the optional *Add to call* let you specify which two to call before you call them. When both have been added to the call list, they can be called in one go.

## Calling someone using the Phone book

1



Tap **Phone book** to display the corporate phone book.

2



Phone books may have subfolders.  
Tap a subfolder to display its contents.

3



Scroll by dragging up or down anywhere in these lists.

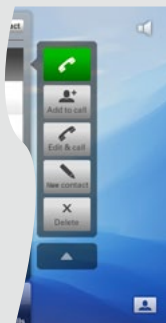
Tap the entry you want to call.

4



Tap **Call** to place the call.

5



You may expand the list to get the same options as on the previous pages.



## Search the Phone book, then call

1



Tap **Phone book** to display the corporate phone book.

2



Tap in the search field to start searching for an entry.

The keyboard will now appear.

3



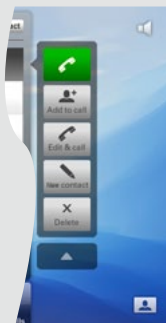
Start keying in the entry. Matches will appear as you write.

4



Tap **Call** to place the call.

5



You may expand the list to get the same options as outlined on the previous pages.

## Phone book matters

The contents of the phone book cannot be altered by the user. However, any entries in the phone book may be copied to *My contacts* and altered there, if needed.

In addition the “number” of any call received or dialed (including entries in the list of recent calls) can be entered into *My contacts*.

## Entering a new contact manually

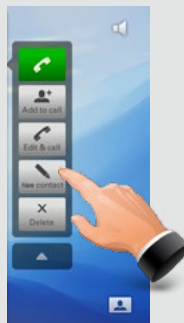


Once within *My contacts*, tap **New contact** to produce the *New contact* dialog. Fill in as required and tap **Save** contact to exit dialog, putting changes into effect.

## Adding someone to My contacts from call lists or the Phone book

There is a multitude of ways to enter someone into *My contacts*. You may add entries from the *Phone book*; entries from the *Recent calls* list, as well as the “number” of anyone you call or receive calls from.

To add someone, expand the call menu as shown and tap **New contact**. This will produce the *Edit contact* dialog box. Edit if required and tap **Save** to add the new contact to the *My contacts* list.



## Editing in My contacts

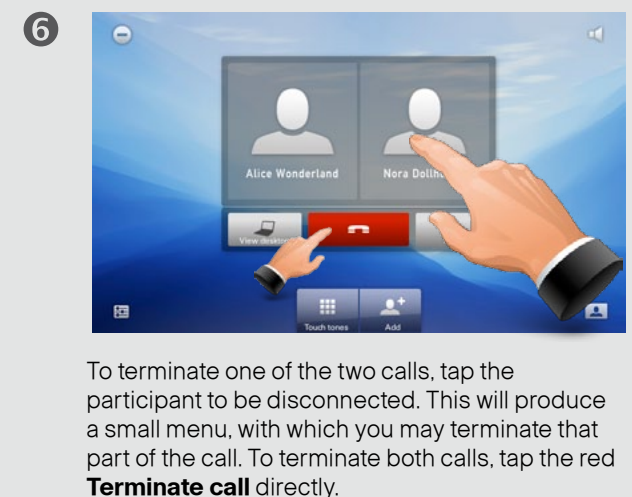
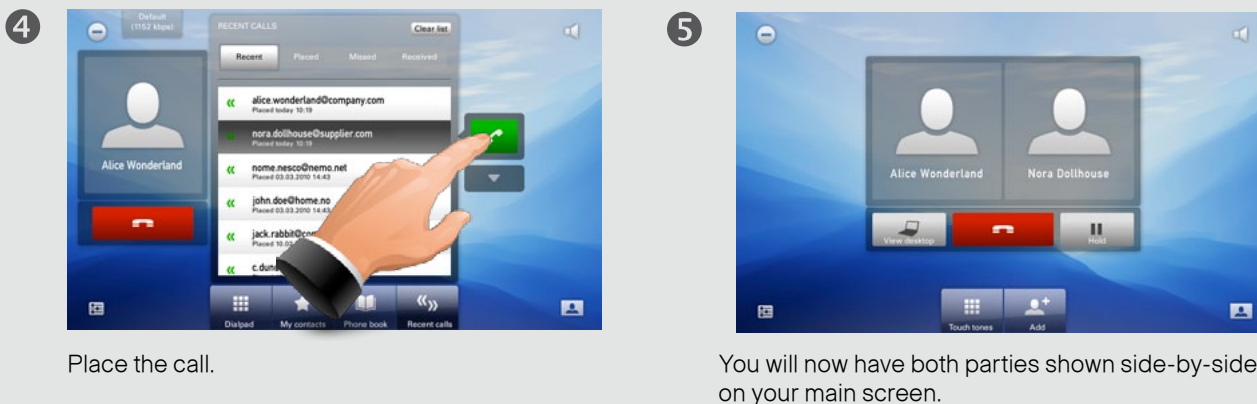
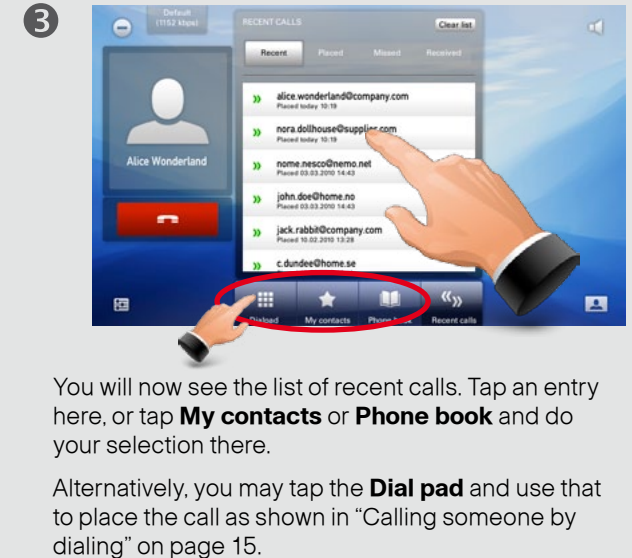
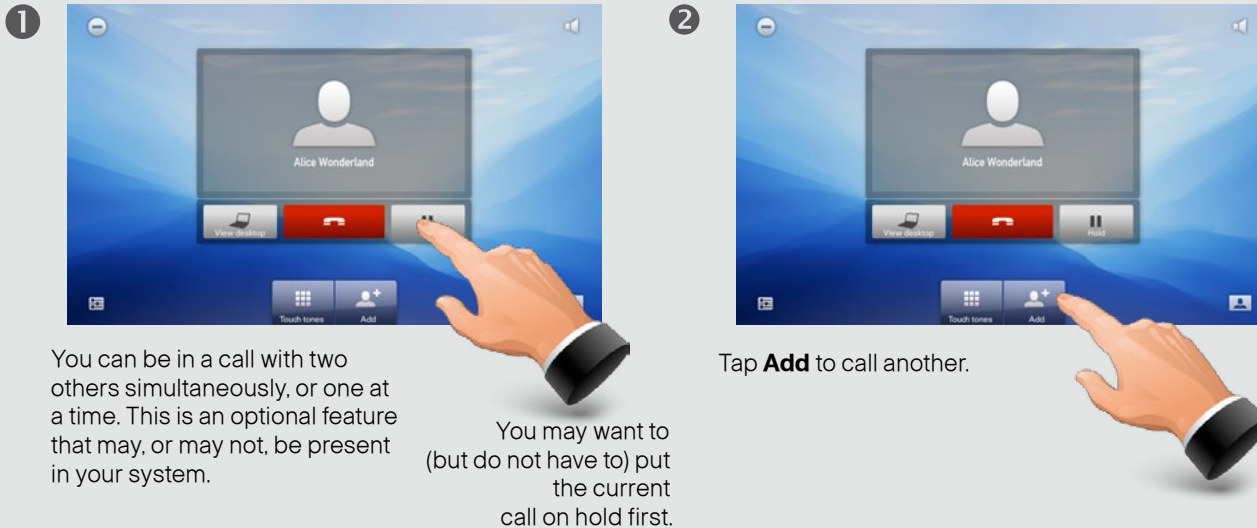
To edit, including delete, any of the entries in *My contacts*, tap **My contacts** and tap the entry to be edited or deleted.

Expand the menu, if required.

Tap **Edit** to produce the *Edit* dialog box and **Delete** to delete the entry. You will be alerted to confirm.

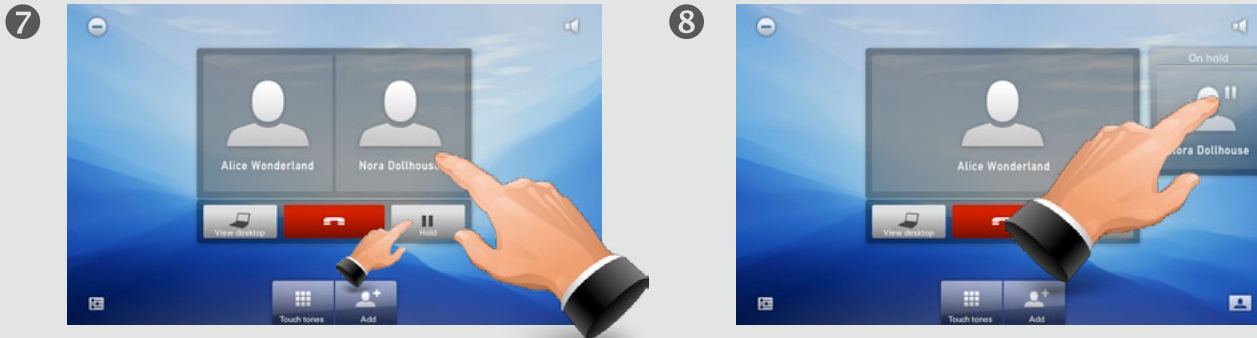


## Calling more than one (I)



(Optional feature)

## Calling more than one (II)



To put one of the participants on hold, tap that participant. A menu will appear next to that person allowing you to put him or her on hold. To put both on hold, tap **Hold** (next to the red **Terminate call** button), as outlined.

(Optional feature)



Tap **Swap** to swap the two participants (switch between the two). If you expand the list you will be able to also choose between joining the two (bring the one on hold back in) or disconnecting the one on hold.

## Call transfer



With one on hold, tap the one in call to display the menu. The menu will allow you to transfer this call to someone else. A ▼ indicates that you should use the *Dialpad*, the *Phone book*, or the *Recent calls* list to locate whom to transfer the call to.

(Optional feature)

## Sharing presentations

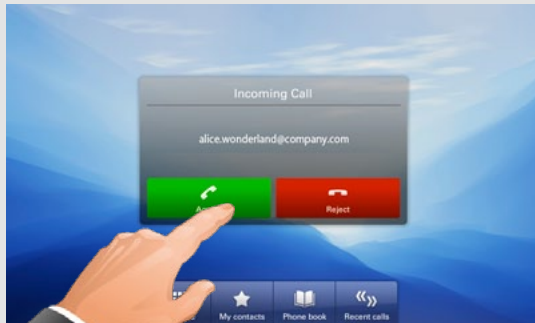
In a call, you may share your PC screen with the other side. Tap **View** desktop (as above) and then tap **Start** to activate. To deactivate, tap **Stop**.

For other aspects of this feature, including how to use the EX90 as your PC screen—see the section “Use as PC screen” on page 10



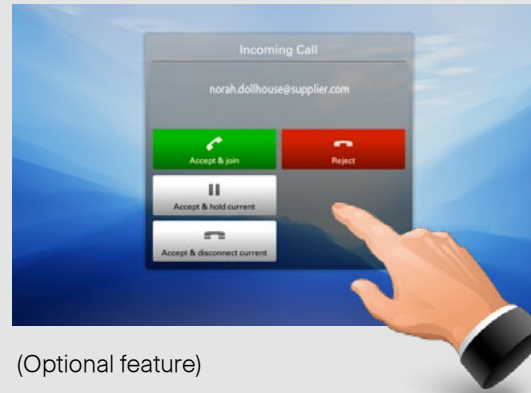


## Receiving calls



Tap **Accept** to accept the incoming call or **Reject** to reject it.

## Receiving another call while already in a call



(Optional feature)

If you already are in a call and someone else calls you will get the following options:

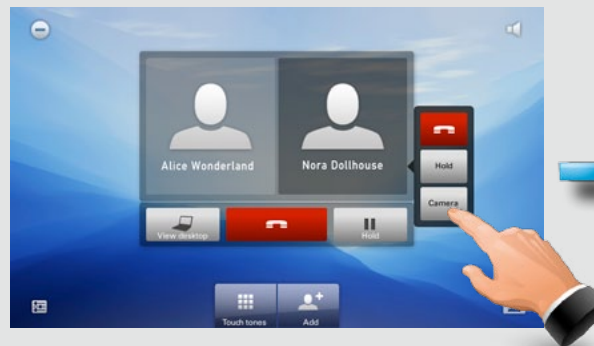
- Accept the incoming call and join it with the current call.
- Accept the incoming call and put the current call on hold.
- Accept the incoming call and disconnect the current call.
- Reject the incoming call and continue with the current call.

## Do not disturb



The *Do not disturb* feature can be activated to disable the incoming call alert signal. You may still receive and place calls. Tap to activate—the icon will then turn red and white. Tap again to deactivate.

## Far end camera control



If the other end point permits it, you may even control that camera. This is known as *Far end camera control*. Tap **Camera**.



Pan and zoom the far end camera as needed. If the other camera cannot be controlled, nothing happens. Press **Exit** when finished.





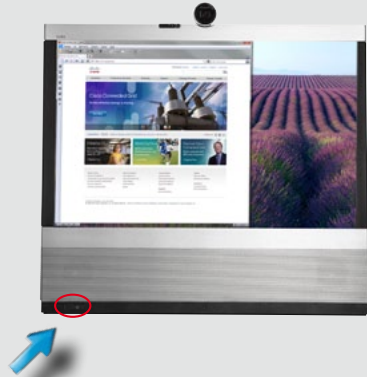
The TANDBERG EX90 can be configured via the inTouch controller or via its web interface. For full access to all configurable parameters the web interface must be used—the inTouch controller provides access to a limited set of parameters only.

## CHAPTER 4

# THE SETTINGS—USING INTOUCH

## Setting the TANDBERG EX90 in standby

Outside a call, you may have the unit enter standby mode by touching the **Power** button on the main unit (the screen). The *Standby* dialog is displayed and the unit enters standby immediately. This does not work when you are in a call.

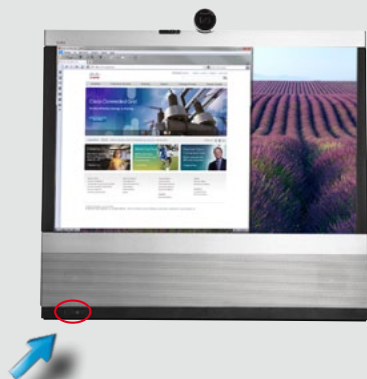


Tap the touch pad to wake up the system from standby.

## Shutting down the TANDBERG EX90

Outside a call, press the **Power** button until the *Shutdown progress bar* is filled completely.

Release the button and the unit will go in shutdown in just a few seconds.



To start the system again, press the **Power** button until the LED illuminates (green light).

## Reverting to factory default settings

**To revert to the factory default settings, do as follows:**

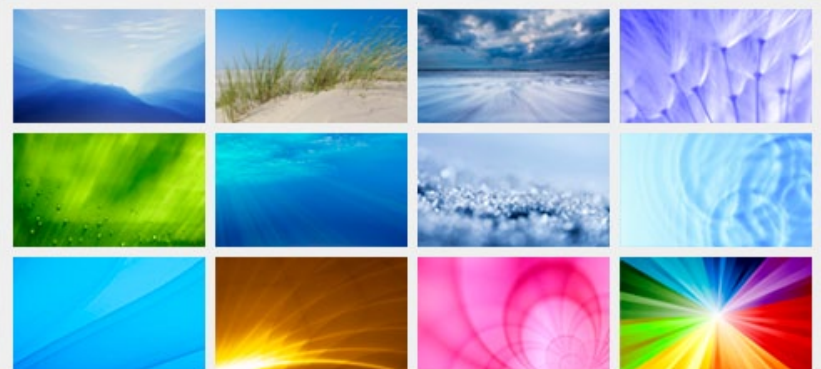
1. Disconnect the power cord.
2. Reconnect the power cord—a green light will illuminate shortly after.
3. Press the **Power** button as soon as the green light appears. Keep it depressed for 15 seconds or so, until the green light starts flashing.
4. Release the button and press twice within 2 seconds. All settings will now revert to factory default settings.

## Changing background image on inTouch

The background image on the inTouch controller can be changed.

**Do as follows:**

1. Draw a circle with your finger anywhere on the screen where there are no icons.
2. The below image will then appear on the inTouch screen. Tap one of the small images to use it as background image.



## Entering the Settings menus

1



Tap **Setup**.

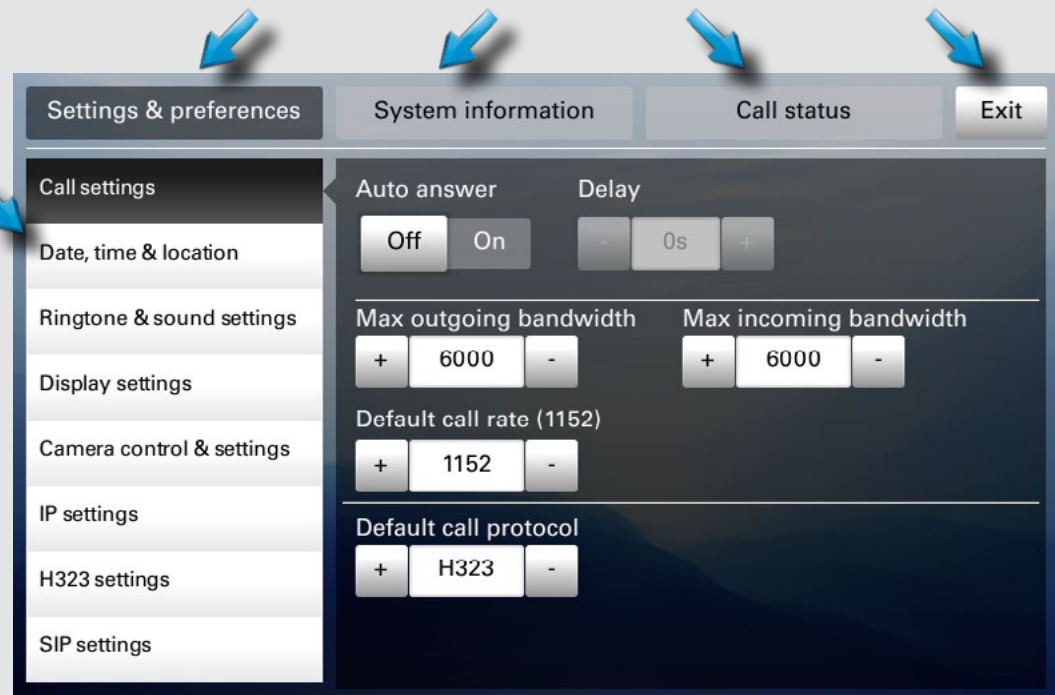
Tap a field to enter the corresponding settings.

2



Tap **Settings** to gain access to the *Settings*.

Select the tab required by tapping on it.



If both DVI and HDMI are connected to external sources, a **Source** button will appear in addition, letting you select which source to display.

## Call settings

The *Call settings* let you define whether your EX90 shall respond automatically to incoming calls or not.

If you set it to *Auto answer On*, you may specify a delay from the moment an incoming call appears until the unit responds. The delay can be set to 0–50 seconds in one-second steps.

You may also specify:

- Maximum outgoing and incoming bandwidth. The two may have different settings.
- A preferred default call rate different from the one the unit comes with, if needed.
- The default call protocol, choose between SIP and H.323.

Bandwidth and call rates can be set to 128, 384, 512, 768, 1152, 1920, 2560, 3072, 4000 or 6000 kbps.

The screenshot displays the 'Settings & preferences' tab of the EX90 web interface. The left sidebar contains a list of settings categories: 'Call settings' (highlighted), 'Date, time & location', 'Ringtone & sound settings', 'Display settings', 'Camera control & settings', 'IP settings', 'H323 settings', and 'SIP settings'. The main content area shows the 'Call settings' configuration. It includes an 'Auto answer' section with 'Off' and 'On' buttons, and a 'Delay' section with a numeric input set to '0s'. Below these are 'Max outgoing bandwidth' and 'Max incoming bandwidth' sections, each with a numeric input set to '6000'. The 'Default call rate (1152)' section has a numeric input set to '1152'. The 'Default call protocol' section has a dropdown menu set to 'H323'. An 'Exit' button is located in the top right corner of the settings area.

Settings & preferences	System information	Call status	Exit
Call settings	Auto answer: Off On Delay: 0s		
Date, time & location	Max outgoing bandwidth: + 6000 - Max incoming bandwidth: + 6000 -		
Ringtone & sound settings	Default call rate (1152): + 1152 -		
Display settings	Default call protocol: + H323 -		
Camera control & settings			
IP settings			
H323 settings			
SIP settings			

## Date, time & location

The *Date, time & location* settings let you specify:

- 24h or 12h time format.
- Your preferred date format.
- Your preferred time zone.
- Whether date and time shall be set automatically or manually.

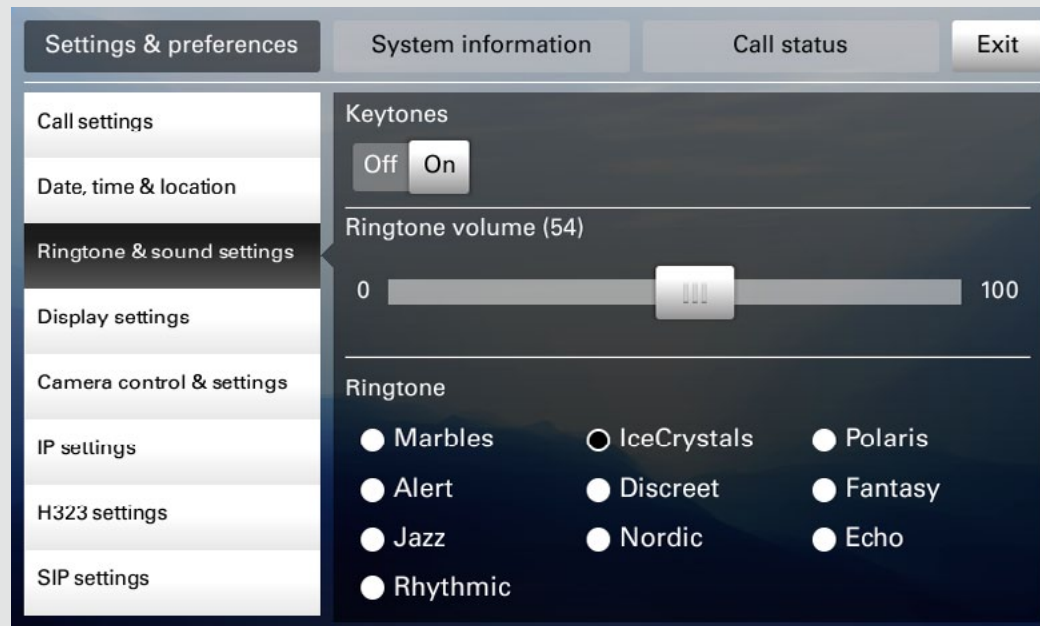
Settings & preferences		System information		Call status		Exit					
Call settings		Time format									
Date, time & location		24h 12h									
Ringtone & sound settings		Date format									
Display settings		dd.mm.yy mm.dd.yy yy.mm.dd									
Camera control & settings		Time zone									
IP settings		- GMT+01:00 (Amsterdam, Berlin, Bern, Rome, Stock) +									
H323 settings		Date and time									
SIP settings		Manual Auto									
		Hour		Minute		Year		Month		Day	
		+		+		+		+		+	
		15		23		2010		Apr		17	
		-		-		-		-		-	



## Ringtone & sound settings

The *Ringtone & sound settings* let you specify:

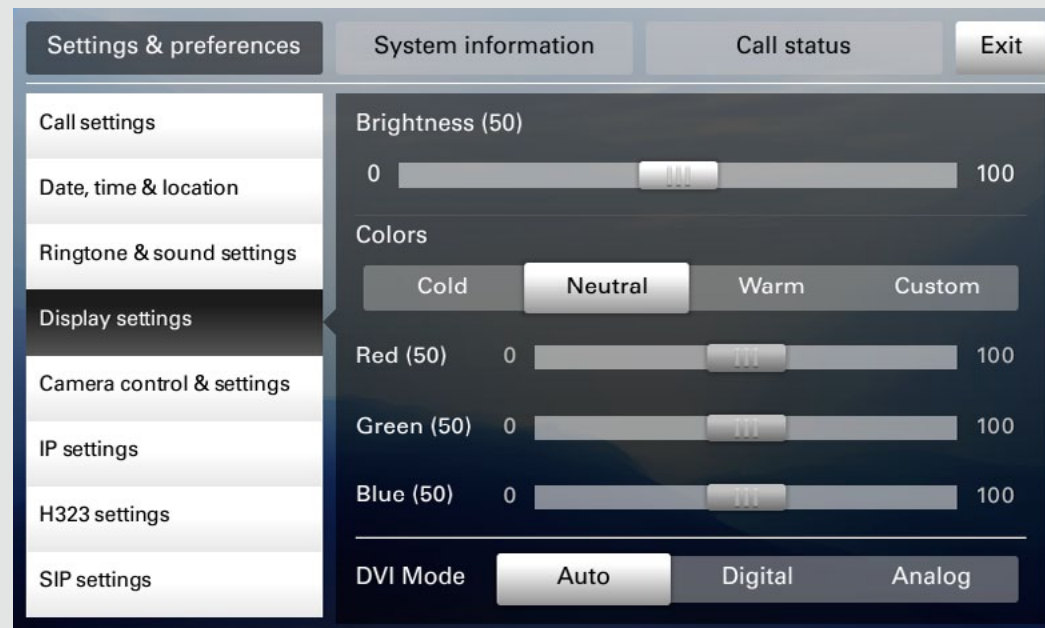
- Audible tones when tapping keys on or off.
- The ringtone volume.
- The type of ringtone. Tap a ringtone to hear what it sounds like.



## Display settings

The *Display settings* let you adjust:

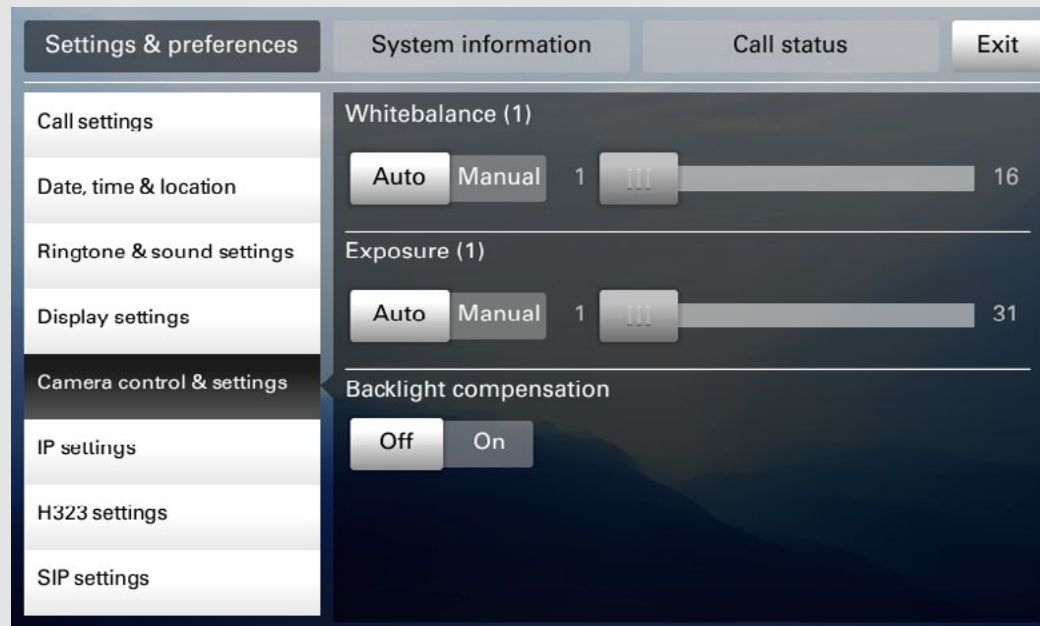
- Preferred brightness by moving the *Brightness* slider.
- The color balance. There are four preset color settings (**Cold**, **Neutral**, **Warm** and your own (**Custom**)) available. When you select **Custom**, you may use the **Red**, **Green** and **Blue** sliders to specify your own setting.
- The DVI mode can be set to automatically detect the type of video signal received, or forced to analog or digital. The DVI mode is used when the unit is connected to a PC to serve as a PC monitor.



## Camera control & settings

The *Camera control & settings* let you specify:

- The *Whitebalance* setting.
- The *Exposure* setting.
- Whether *Backlight compensation* shall be activated or not. Backlight compensation is used to avoid that you appear darker than needed whenever there is much light behind you.



## IP settings

The *IP settings* let you specify:

- The use of *DHCP* or *Static* IP addresses. If you decide to use *Static*, make sure you tap **Save** before leaving the menu.

The screenshot displays the 'IP settings' screen. At the top, there are four tabs: 'Settings & preferences' (selected), 'System information', 'Call status', and 'Exit'. On the left side, a vertical list of settings categories is shown: 'Call settings', 'Date, time & location', 'Ringtone & sound settings', 'Display settings', 'Camera control & settings', 'IP settings' (highlighted), 'H323 settings', and 'SIP settings'. The main area on the right is titled 'IP assignment' and features two toggle buttons: 'DHCP' (selected) and 'Static'. Below these are three input fields: 'IP address' with the value '10.47.19.216', 'Subnet mask' with '255.255.255.0', and 'Gateway' with '10.47.19.1'. A 'Save' button is located at the bottom right of the main area.

Settings & preferences	System information	Call status	Exit
Call settings	IP assignment <b>DHCP</b> Static		
Date, time & location	IP address 10.47.19.216		
Ringtone & sound settings	Subnet mask 255.255.255.0		
Display settings	Gateway 10.47.19.1		
Camera control & settings			
<b>IP settings</b>			
H323 settings			
SIP settings	Save		

## H.323 settings

The *H.323 settings* let you specify:

- An H.323 alias.
- Your H.323 id.
- *Gatekeeper discovery* (*Manual* or *Automatic*).
- The *Gatekeeper address* must be specified by you if discovery has been set to manual.
- *Authentication mode* *On* or *Off*. If set to *On*, the EX90 will send Login name and password to the Gatekeeper for authentication.

In addition there are:

- Two fields to enter *Login name* and *password*. The alphanumeric keyboard will appear whenever needed.

Be sure to:

- Tap **Save** to put changes into effect.

Settings & preferences	System information	Call status	Exit
Call settings	H323 number	559216	
Date, time & location	H323 id	nora.dollhouse@supplier.com	
Ringtone & sound settings	Gatekeeper discovery	Manual Automatic	
Display settings	Gatekeeper address	10.47.1.58	
Camera control & settings	Authentication mode	On Off	
IP settings	Login name		
H323 settings	Password		
SIP settings	Save		



## SIP settings

The *SIP settings* let you specify:

- Your *URI*.
- The *Default transport* layer, this can be set to *TCP*, *UDP*, *TLS* or *Auto*.
- The proxy type can be set to *Standard*, *Alcatel*, *Avaya*, *TANDBERG*, *Microsoft*, *Nortel*, *Experimental*, *Siemens*. The experimental setting is for testing purposes.
- *Outbound* is not used in this version.
- *Proxy discovery* can automatic or manual. In the case of manual the proxy address must be specified by you.
- *Login name* and *password* is required by the VCS.

Be sure to:

- Tap **Save** to put settings into effect.

The screenshot displays the 'SIP settings' screen within a mobile application. The interface features a dark blue header with four tabs: 'Settings & preferences' (selected), 'System information', 'Call status', and 'Exit'. On the left side, there is a vertical list of settings categories: 'Call settings', 'Date, time & location', 'Ringtone & sound settings', 'Display settings', 'Camera control & settings', 'IP settings', 'H323 settings', and 'SIP settings' (highlighted). The main area on the right contains the following settings:

- URI:** A text field containing 'nora.dollhouse@supplier.com'.
- Default transport:** A row of four buttons: 'TCP', 'UDP', 'TLS', and 'Auto' (selected).
- Proxy type:** A row with a minus button, a text field containing 'Standard', and a plus button.
- Proxy discovery:** A row of two buttons: 'Manual' (selected) and 'Auto'.
- Proxy address:** A text field containing '10.47.1.58'.
- Login name:** An empty text field.
- Password:** An empty text field.

A 'Save' button is located at the bottom right of the settings area.

## System information

The **System information** provides all the system information at a glance.

Scroll down to also see status on video inputs (DVI and HDMI).

The screenshot displays a web interface with four tabs: 'Settings & preferences', 'System information' (which is active), 'Call status', and 'Exit'. The 'System information' tab contains the following data:

System name:	nora.dollhouse@supplier.com
Uptime:	26 days, 18 hours, 30 minutes
<b>NETWORK</b>	
IP address:	10.47.6.212
<b>H323</b>	
Number:	n/a
ID:	nora.dollhouse@supplier.com
Gatekeeper:	10.47.1.58
Status:	Registered
<b>SIP</b>	
Address:	nora.dollhouse@supplier.com
Proxy:	10.47.1.58
Status:	Registered. Secured. Not verified.
<b>SOFTWARE</b>	
Version:	TC3.1.0.-Beta1 (TEST SW)
Options installed:	MultiSite, PremiumResolution
<b>HARDWARE</b>	
Module serial	A1AR00000006
MAC address:	

## Call status

The **Call status** provides all the call status information at a glance.

The screenshot shows the 'Call status' window of the Tandberg EX90 interface. At the top, there are four tabs: 'Settings & preferences', 'System information', 'Call status' (which is selected), and 'Exit'. Below the tabs is a header bar with the email address 'nora.dollhouse@supplier.com'. The main content area displays call parameters for both VIDEO and AUDIO sections. The VIDEO section includes fields for Call rate, Protocol, Encryption type, Encryption status, and a table for Transmit and Receive parameters (Protocol, Resolution, Frame rate, Channel rate, Packet loss, Packet loss (%), and Jitter). The AUDIO section includes fields for Protocol, Channel rate, Packet loss, Packet loss (%), and Jitter.

Call rate:	1152	Encryption type:	Aes-128	
Protocol:	h323	Encryption status:		
<b>VIDEO</b>				
	Transmit	Presentation	Receive	Presentation
Protocol:	H264	Off	H264	Off
Resolution:	768x448	n/a	768x448	n/a
Frame rate:	30	n/a	26	n/a
Channel rate:	245 kbps	n/a	373 kbps	n/a
Packet loss:	0 packets		0 packets	
Packet loss (%):	0.00%		0.00%	
Jitter:	4 ms		7 ms	
<b>AUDIO</b>				
	Transmit		Receive	
Protocol:	AACLD		AACLD	
Channel rate:	63 kbps		63 kbps	
Packet loss:	0 packets		0 packets	
Packet loss (%):	0.00%		0.00%	
Jitter:	1 ms		0 ms	



## CHAPTER 5 THE WEB INTERFACE

## Entering the web interface

Key in the IP address of your TANDBERG EX90 in your browser to access its web interface.

The screenshot shows the 'System info' page of the TANDBERG EX90 web interface. On the left is a sidebar menu with links: System info, Upgrade software, Advanced configuration, Wallpaper, Call, Upload certificates, XML files, and Logs. The main content area has a header 'System Info' and a title 'Nora Dollhouse'. It displays system details in two columns. The left column includes System name, Product, IP address, Valid release key, H323 Number, ID, Gatekeeper, and Status. The right column includes Software version, Module serial number, MAC address, Installed options, and SIP Address, Proxy, and Status.

System Info	
<b>Nora Dollhouse</b>	
System name: Nora Dollhouse	Software version: TC3.1.0.215436
Product: Cisco EX90	Module serial number: A1AR00000006
IP address: 10.47.19.216	MAC address: [REDACTED]
Valid release key: Yes	Installed options: MultiSite, PremiumResolution, DualDisplay
<b>H323</b>	<b>SIP</b>
Number: 559216	Address: sip:nora.dollhouse@supplier.com
ID: nora.dollhouse@supplier.com	Proxy: 10.47.1.58
Gatekeeper: 10.47.1.58	Status: Registered
Status: Registered	

System information page is accessed here. This is the "Home page" of your video system.

The advanced configuration is accessed from here.

Calls can be made from this interface as well.

The settings of the video system are stored as XML. Click here to view the XML files.

A vertical menu titled 'System info' with the following items: Upgrade software, Advanced configuration, Wallpaper, Call, Upload certificates, XML files, and Logs. Four blue arrows point from the text blocks on the left to the first four items in this menu.

- System info
- Upgrade software
- Advanced configuration
- Wallpaper
- Call
- Upload certificates
- XML files
- Logs

Software upgrades of the system are done from here.

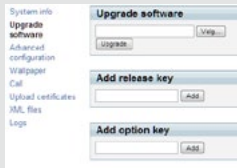
Wallpaper for the system's main screen (not the inTouch) is uploaded from here.

Certificates are uploaded from here.

Log files are available from here.



## Upgrade software



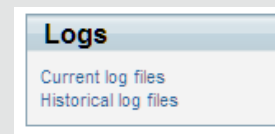
When upgrading your software you will need a release key and an option key. Contact your local TANDBERG representative for details on software upgrades.

## Call



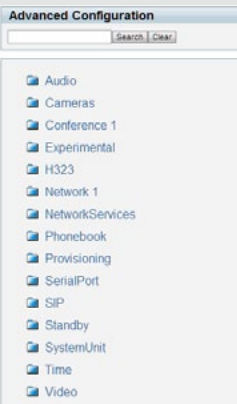
You may also call someone from the web interface.

## Log files



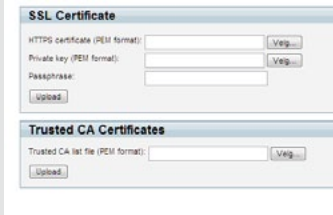
Log files may be requested by the Support Dept. when support is needed.

## Advanced configuration



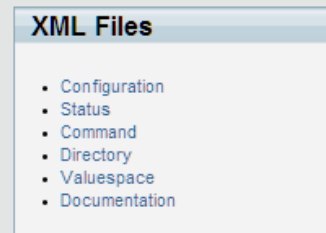
The Advanced configuration settings gives you a multitude of ways to set up and fine-tune your TANDBERG EX90.

## Upload certificates



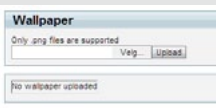
Upload SSL and Trusted CA certificates to the system.

## XML files



The settings of the video system are stored as XML. View the different types of XML files from here.

## Upgrade software



You may upload a wallpaper to your system's main screen. Browse for an image with this dialog. Note that only png files are supported.



A detailed explanation of all aspects of the web interface is given in the TANDBERG EX90 Administrator guide, which is available for download separately.

< End of document >