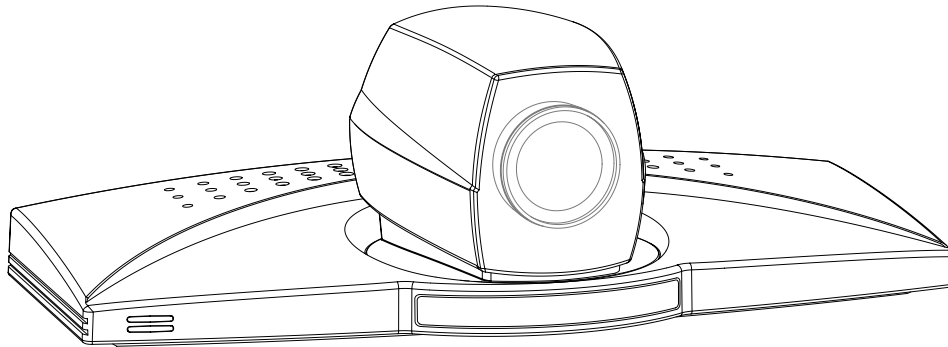


TANDBERG 880

User Manual



Software version B4

D12788-01

This document is not to be reproduced in whole or in part
without permission in writing from:

TANDBERG

Introduction

This User Manual is provided to help you make the best use of your TANDBERG system. The TANDBERG system offers superior quality audio and video in a fully-featured unit.

Main Features:

- Supports videoconferencing via both IP and ISDN networks.
- Selection of up to 768 kbps call quality.
- Built-in MultiSite^{TF}* - a maximum of 5 sites including a minimum of 1 telephone call can participate in joint meetings, each benefiting from the same superb audio and video quality. Both Continuous Presence and Voice Switched mode is supported. A combination of ISDN and IP participants is possible. The TANDBERG videoconferencing system can also be used purely as an audio-bridge (with an ISDN connection).
- Embedded encryption for call privacy and security.
- Natural Presenter Package* consisting of:
 - Duo Video^{TF} - allows participants at the far end to simultaneously watch a presenter on one screen and a live presentation on the adjoining screen.
 - Digital Clarity^{TF} - participants enjoy presentations of exceptionally high quality resolution video.
 - PC Presenter^{TF} - an easily accessible PC connection plug.
 - PC SoftPresenter^{TF} - show PC images via your LAN connection.
- Natural Video^{TF} - 60 fields per second true interlaced picture.
- Downspeeding^{TF} - if channels are dropped during a videoconferencing session, the connection is automatically maintained without interruption.
- Streaming – allows broadcasting of audio/video via an IP network.
- Web-interface for streaming, text chat/closed captioning, system management, diagnostics and software uploads.
- Worldwide compatibility with other standards-based videoconferencing systems.

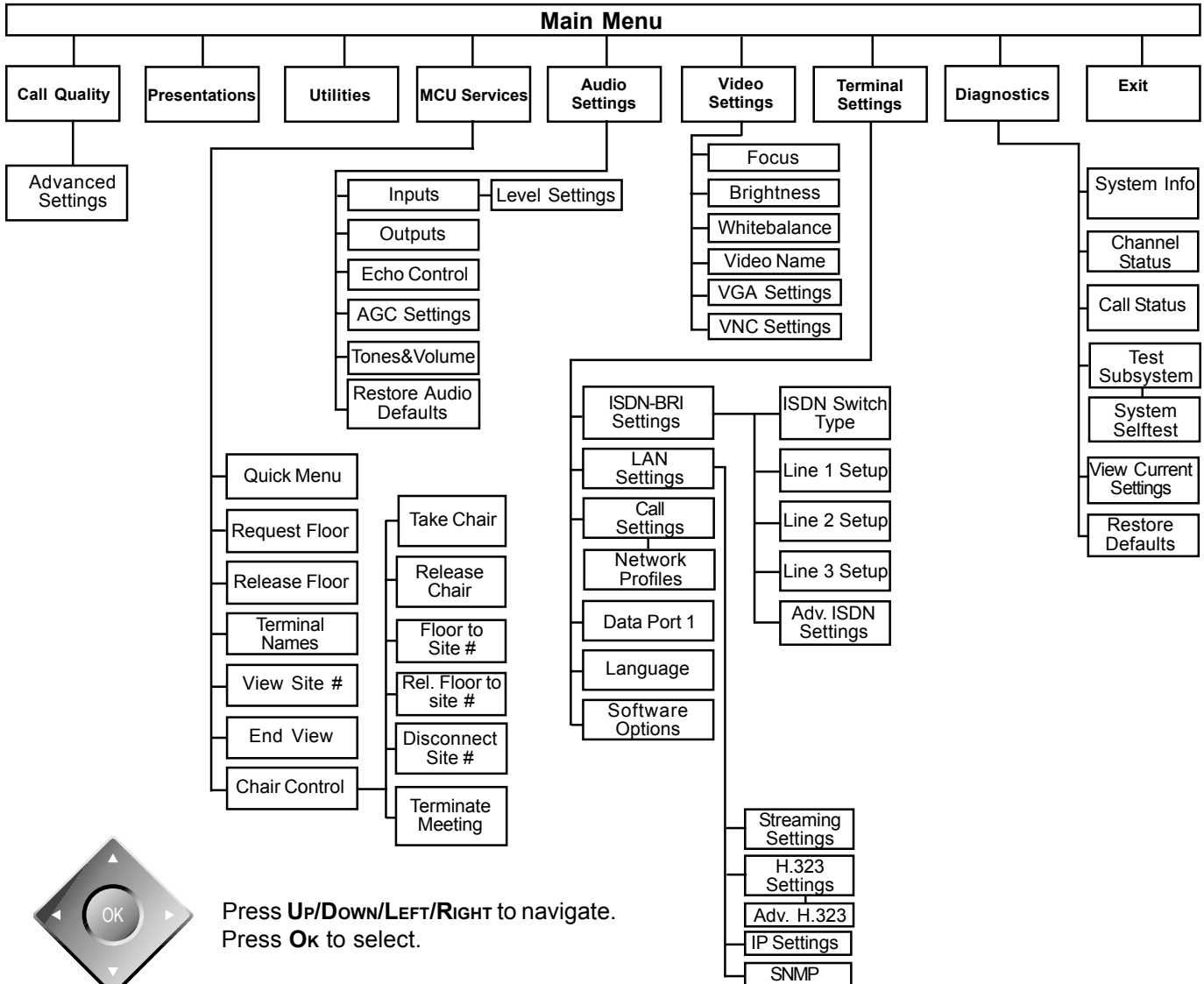
TIP IN THIS GUIDE, WE'VE INCLUDED HELPFUL TIPS AND NOTES. THEY APPEAR LIKE THIS ONE.

* - option. To check which options are installed, press MENU and the Quick key 'System Info'.
TF- TANDBERG first.

Menu structure

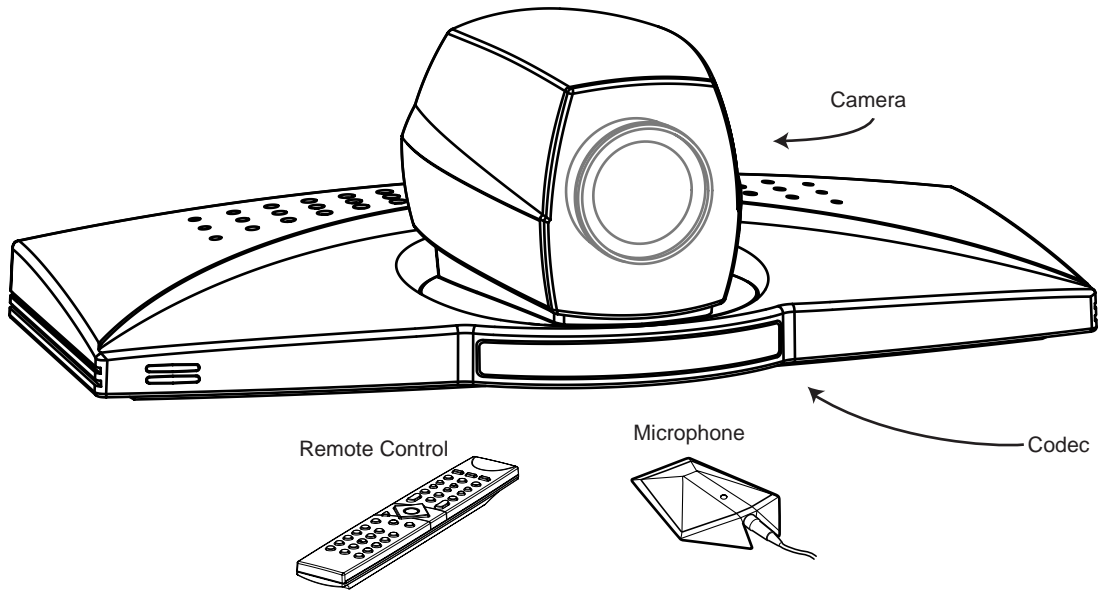
The on-screen menu structure is shown below.

Press the **MENU** key on the remote control to enter/leave the Main Menu.



The TANDBERG 880 Videoconferencing System

At a glance — the TANDBERG 880 system



Camera

The built-in camera includes a high quality colour camera with a fast pan/tilt/zoom action. The camera is controlled by the system's infra-red remote control and operates pan/tilt, focus and zoom.

Codec

The Codec is the heart of the system. The main task for the Codec is the compression of outgoing video, audio and data, the transmission of this information to a remote site and the decompression of the incoming information. Hence the name Codec. Intelligent Call Management (ICM) and the SoftMux are features built into the Codec.

Remote control

The remote control is used to control all functions of the system. There is a separate remote control for operating the monitor.

Table microphone

The high quality table microphone is specially designed to be used on a table during a video conference.

The ideal location for the microphone is on a flat surface at least 2m (6.5 ft) from the front of the system. The microphone cable should always point towards the system.

The system will automatically equalize sound levels. Loud and soft voices are picked up and transmitted to the far end at approximately the same level.

Getting started

System start-up

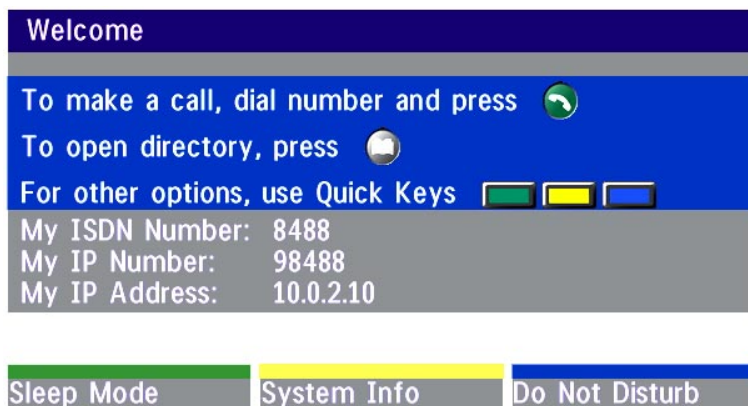
Your system should be in standby mode. When in standby mode, pressing any key or picking up the remote control will wake up the system. An incoming call will also wake up the system.

If the system does not respond, make sure the system is switched on by using the On/Off switch located at the rear of the Codec. After a few seconds you should see a 'Welcome' menu on the monitor.

If this does not help, verify that your monitor is switched on. To switch the monitor on you normally push the power button on the front of the monitor (depending on monitor type).

Welcome menu

After a user-definable boot-up logo is shown, the following menu is shown. This menu should provide you with the most important system information. For further system information, select the Quick key '**System Info**'.



Basics

The system's most commonly used functions are accessible directly from the remote control by single key presses. In addition, the user interface is represented by on-screen menus. Individual items within the menus and lists can be selected by moving a white highlighter bar to the desired option.



Quick Keys

The three buttons on top of the remote control refer to the blocks at the bottom of the screen. The text inside the blocks will change depending on which menu is selected. The three Quick Keys have different colors.

Preset keys

Activate pre-stored camera positions.

Video source keys

Activate connected video sources.

Camera control and menu navigation keys


Frequently used keys allowing you to control your own camera and the far end camera, control your volume, select and move self-view, switch your microphone off and navigate in the menu system.

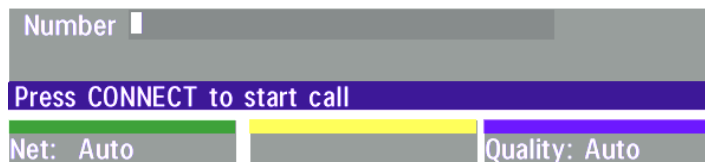
Dialing keys / Preset keys

Used to make a call. The twelve number keys, (0-9), #, * operate in the same way as on a modern push-button telephone. These buttons are also used when entering a name into a text field.

Making and ending calls

Making a call

 To make a call, enter the number or the IP-address of the unit you wish to call using the Dialing keys and press **CONNECT**.



ISDN call

The system will, by default, try to connect using Quality: Auto (see table overleaf). If the requested quality (bandwidth) cannot be established, the system will establish a connection on as high quality as possible.

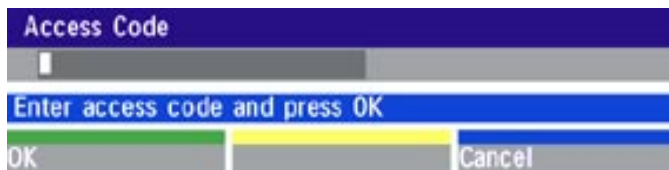
The SoftMux ensures high reliability and includes the unique Downspeeding feature. If channels are dropped during a meeting, Downspeeding automatically maintains the connection without interrupting the call in progress. The SoftMux also enables you to dial to other videoconferencing equipment, phones and mobile phones in the same way and provides you with on-screen, real-time feedback on the progress of a call.

LAN call

To make a call via a LAN, enter an IP-address by using a * as the 'dot' in the IP-address, e.g. 123*3*0*12 will be interpreted as 123.3.0.12. If a gatekeeper is present, you may place IP-calls using "telephone-style" numbers (an E.164 alias), according to the numbering plan implemented in the gatekeeper. The dialed number will then be translated into an IP-address by the gatekeeper.

Access Code

If the system requires an Access Code, enter the code and press OK to proceed making a call:

**Using sub-address / extension address / MCU password**

To specify an ISDN sub-address or its LAN equivalent extension address (TCS-4), add a star (*) after the number and then enter the sub-address/extension address.

Example: 12345678*10 (<number>*<Sub-address/extension address/MCU password>)

When calling to external MCU's requiring a password (TSC-1), this password can be added after the star (*). If no password is specified, a menu will prompt you to enter the password (after connected to the MCU).

TIP

SUB-ADDRESS IS USED TO ADDRESS DIFFERENT SYSTEMS ON THE SAME ISDN LINE.

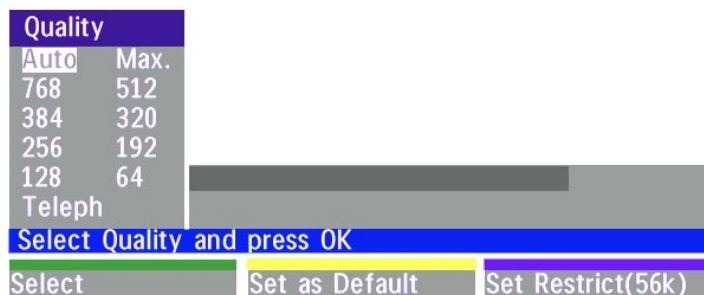
TCS-4 IS USED TO ADDRESS DIFFERENT SYSTEMS ON A LAN, WHEN DIALING IN VIA A GATEWAY.

Selecting / setting default quality (bandwidth)

The default call quality setting '**Auto**' will be used if no specific quality is selected.

To select quality (bandwidth):

- Press the '**Quality**' Quick Key when you are in the dial menu. The Quality menu will then be displayed:



- Move the indicator to the desired bandwidth, then press the '**Select**' Quick Key.
- You may also press the '**Set as Default**' Quick Key in order to make the selected bandwidth the default bandwidth for subsequent calls.
- Press '**Set Restrict (56k)**' to make a restrict call. An indicator '**(56k)**' will be shown behind the number.

TIP **RESTRICTED CALL** A RESTRICTED CALL IS A CALL TO A 56 KBPS NETWORK. BY DEFAULT THE SYSTEM WILL DIAL AN UNRESTRICTED CALL (A CALL TO A 64 KBPS NETWORK) AND DOWNSPEED TO 56KBPS IF NECESSARY. TO FORCE A RESTRICTED CALL, SELECT 'SET RESTRICT (56K)'

TIP **DIALING TWO NUMBERS**

SOMETIMES (ESPECIALLY WHEN CALLING TO AND WITHIN NORTH AMERICA) IT IS NECESSARY TO DIAL BOTH ISDN NUMBERS WHEN MAKING A VIDEO CALL USING 2x64 KBPS OR 2x56 KBPS. SELECT '**128**' IN THE QUALITY MENU. WHEN YOU RETURN TO THE DIAL MENU, BOTH '**NUMBER:**' AND '**2ND:**' ARE DISPLAYED. ENTER THE SECOND NUMBER.

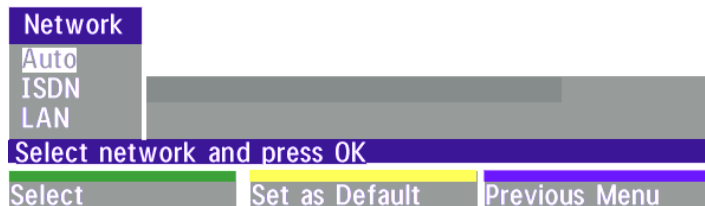
TYPE OF CALLS

Auto	384kbps on ISDN/768kbps on LAN
Max	384kbps on ISDN/768kbps on LAN
768	768 kbps (12B)
512	512 kbps (8B)
384	384 kbps (6B)
320	320 kbps (5B)
256	256 kbps (4B)
192	192 kbps (3B)
128	128 kbps (2B)(Bonding/H.221)
64	64 kbps (1B)(H.221)
Teleph	Telephone Call

NOTE SOME SOFTWARE VERSIONS AND NETWORKS DO NOT SUPPORT ALL CHANNEL SELECTIONS.

Selecting / setting default network

To select a specific network, press '**Net**' when you are in the dial menu.:



- Highlight the network to be used in your call.
- Press '**Select**' to select network or press '**Set as Default**' to set the selected network as your preferred choice for this and all subsequent calls.

If '**Auto**' is selected, the system will select a network based upon the following criteria:

- If an IP-address (e.g. 123*3*0*12) is entered, '**LAN**' (H.323) is selected.
- If the first digits in the number match those set in '**H.323 Prefix**' under '**H.323 Settings**', '**LAN**' is selected.
- In other cases, '**ISDN**' (H.320) is selected.

If you want to assign a specific prefix to the network selection or if you want to define your own network configuration, see '**Network Profiles**' in '**Call Settings**', '**Terminal Settings**'.

Answer a call

connect



To answer a call, press the **CONNECT** key.

Manual answer of a call is needed if the autoanswer facility is switched off. See 'Utilities' in 'Advanced use'.

End a call

disconnect



To end a call, press the **DISCONNECT** key.

TIP **ENDING A CALL:** SWITCHING OFF THE MONITOR(S) WILL NOT DISCONNECT A CALL. TO DISCONNECT A CALL YOU SHOULD PRESS THE DISCONNECT KEY.

Correcting keying mistakes

delete



To delete the last digit (or character) entered, press the **DELETE** key.

Directory

The directory is a local phone book that stores up to 100 directory entries including the last number dialed. The entries are sorted alphabetically. The entries can be point-to-point entries or MultiSite entries (see menu below). The MultiSite entries will not be displayed when you are in a call.

By using the dataport file system or external management systems like the TANDBERG Management Suite, it is possible to store 200 additional entries. These entries can only be changed from the dataport or the management system.

When the system receives an incoming call and the calling party's number is found in the directory, the calling party's name will be displayed instead of the number on the status line.

directory Press **DIRECTORY** to bring up the following menu:



Directory	Net	Quality
Last Number Dialed		
Board Meeting (MultiSite 3)		Auto
Oslo	ISDN	384
Rome	LAN	128

Number: 55

Press **CONNECT** to start call

Add New Entry Edit Entry Add MultiSite

TIP WHEN LAST NUMBER DIALED IS HIGHLIGHTED, THE SECOND QUICK KEY STATES 'STORE ENTRY'. THIS MAKES IT POSSIBLE TO STORE LAST DIALED NUMBER.

To find an entry, key in the first letter, for example T, and scroll with the up/down arrows.

TIP THE LEFT/RIGHT ARROWS WILL MOVE ONE PAGE UP/DOWN.

connect To dial the selected entry press **CONNECT**. To edit the selected number before dialing, press **OK** (only point-to-point entries).



Add New Entry

When selecting '**Add New Entry**', an empty directory entry is displayed:

```
Add New Entry
Name
Number
Previous Menu
Press # to switch a/A, OK to save changes
Net: Auto   Delete Entry   Quality: Auto
```

- 1 Move to '**Name**' and enter characters using the number keys on your remote control (as on mobile phones). Use '0' to enter 'space', use '#' to switch between upper- and lower case.
- 2 Move to '**Number**', key in the number and press **OK**. Specify only one number. If two numbers are required, both numbers should be specified (2x64 or 2x56 calls).
- 3 Select '**Quality**' to specify call rate to be used.
- 4 Select '**Net**' to specify the network profile to be used. See 'Selecting / setting default network'.
- 5 Select '**Previous Menu**' to return to the Directory menu.

Delete Entry

When '**Delete Entry**' is pressed, the selected entry is deleted.

Edit Entry

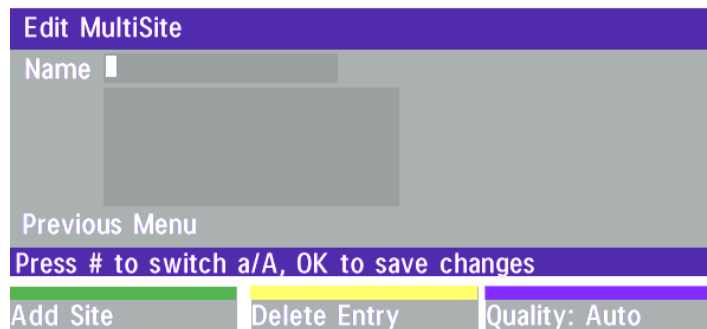
To edit an entry, highlight the entry you want to edit and press '**Edit Entry**'. Edit the entry and select '**Previous Menu**' to return to the Directory menu.

Delete Entry

To delete an entry, highlight the entry and press **DELETE**.

Add MultiSite Entry

When selecting '**MultiSite Entry**', an empty MultiSite directory entry is displayed:



- 1 Move to '**Name**' and enter the MultiSite meeting name.
- 2 Select '**Add Site**' to add a site to the meeting by searching for point-to-point entries in the directory list. See below for details.
- 3 Select '**Quality**' to override the suggested bandwidth per site.

TIP QUALITY PER SITE: AUTO, FUNCTIONALITY

EXAMPLE: THE SYSTEM HAS MAXIMUM CAPACITY 512KBPS. TWO ENTRIES ARE ADDED, ONE WITH 384KBPS AND ONE WITH 128KBPS.

1) SINCE ALL SITES MUST USE THE SAME BANDWIDTH, QUALITY PER SITE WILL BE 128KBPS.

2) IN ADDITION, MAXIMUM BANDWIDTH PER SITE CANNOT EXCEED THE TOTAL BANDWIDTH AVAILABLE DIVIDED BY THE NUMBER OF SITES. IN THIS CASE, THE MAXIMUM BANDWIDTH PER SITE CANNOT EXCEED $512/2=256$ KBPS. IF THE BANDWIDTH IN 1) IS HIGHER THAN THIS BANDWIDTH, THE 'QUALITY PER SITE' SETTING MUST BE REDUCED TO CORRESPOND WITH THE TOTAL CAPACITY OF THE SYSTEM.

- 4 When finished, select '**Previous Menu**'.

Add Site

Highlight the entry you want to add to the meeting and press **Ok**. If you do not find the entry you need, select '**Add New Entry**' to add an new point-to-point directory entry.

NOTE GLOBAL ENTRIES WILL NOT BE AVAILABLE FOR FOR MULTI-SITE ENTRIES.

General use

Adjusting volume



Press the **VOLUME** keys to adjust the volume level. An on-screen indicator will show the current level.

View outgoing video (selfview)

selfview Press the **SELFVIEW** key to view your outgoing video.



To change the image being viewed on the monitor during a call press **SELFVIEW** until the desired image is shown (far end/selfview/still image or Duo Video).

move pip Press **MOVE PIP** to move your selfview as a Picture-in-Picture to different corners of the screen or to switch it off.



Microphone on/off

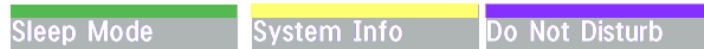
mic off To mute your microphone during a call, press **Mic OFF**. An on screen indicator will appear when the microphone is off. Pressing **Mic OFF** one more time will activate the microphone again.



NOTE PRESSING **Mic OFF** WILL MUTE AUDIO INPUTS Mic1-2. IT WILL NOT MUTE AUDIO FROM AUDIO INPUT 3&4.

Do Not Disturb / Sleep Mode

Press any Quick key when not in a call to activate the Quick Menu.



When Do Not Disturb is activated, the system will not accept any incoming calls. The caller will hear a busy tone when calling this unit. A status line will indicate when Do Not Disturb is active.

When Sleep Mode is selected, the following quick-keys are displayed:



Pressing '**Sleep Now**' puts the monitors in sleep mode. The system will still accept incoming calls.

Pressing '**60 Minutes**' or '**3 Hours**' will delay entering sleep mode accordingly.

Pressing any key or picking up the remote control will deactivate Do Not Disturb/Sleep Mode.

To see numbers, line status etc., select '**System Info**'. For further information see 'Diagnostics' in 'Advanced use'.

Controlling the Main Camera

Moving / zooming camera

To control the Main Camera use the keys below:



for pan/tilt and



for zooming.






IF THE MENU SYSTEM IS ACTIVE, THE ARROW KEYS WILL NAVIGATE IN THE MENUS.

Focusing camera

The Main Camera is set for autofocus by default. If the Main Camera is moved (pan/tilt/zoom), autofocus will be switched On automatically for 5 seconds.

To manually focus the Main Camera, see 'Video Settings' in 'Advanced use'.

Selecting video sources

Press:      to select the video source to be transmitted to the far end.

Voice Activated Camera Positioning

Through Voice Activated Camera Positioning and the use of two microphones, the camera will automatically view the speaker.

Setup

Before using camera tracking, the camera positions used must be stored at presets P7 (Mic1) and P8 (Mic2).

EXAMPLE: THE CAMERA POSITION STORED AT P7 MUST BE RELATED TO Mic1, THEREFORE ALL PARTICIPANTS WHO ARE LOCATED CLOSEST TO Mic1 SHOULD BE INCLUDED IN THE P7 CAMERA POSITION ETC. WHEN CAMERA TRACKING IS ACTIVATED AND A PERSON CLOSE TO Mic1 SPEAKS, P7 WILL BE AUTOMATICALLY SELECTED.

Activating

presets



Enable Camera Tracking by pressing '**CamTrack On**' in the '**Preset 0-9**' menu, which is activated by pressing the **P** button on the remote control. An on-screen indicator '**CamTrackOn**' will appear.

When activating another video source (e.g., document camera), camera tracking will be temporarily disabled until you re-select MainCam or a MainCam preset.

mic off



Pressing **Mic Off** will temporarily disable camera tracking.

A Voice Detector makes the system more tolerant of noise and ensures the camera will not be moved by noise such as paper shuffling, etc.

Deactivating

Disable Camera Tracking by:

- moving the camera manually.
- activating a MainCam preset when MainCam is already activated.
- disconnecting the call.

An on-screen indicator '**CamTrackOff**' will appear.

TIP

THE CAMERA TRACKING SPEEDS MAY BE ALTERED IN THE 'VIDEO SETTINGS' MENU. SEE 'ADVANCED USE' FOR FURTHER DETAILS.

Presets

The preset buttons enable you to pre-store up to ten different settings. Each preset is able to store:

- Video source
- Camera position, pan/tilt/zoom/focus/brightness (if Main Camera)
- Audio source selection (see 'Audio Settings' in 'Advanced use')

Selecting presets

To select a pre-stored camera position, audio and video source, use the keys **P1 P2 P3** or press **P** until the on-screen indicator '**Preset 0-9**' appears and use 0-9 to activate P0-P9 presets. To exit 'Preset' mode, press **Ok**.



P1-P3 are the same presets as when pressing **P** and then a number key **1-3**.

Storing presets

To store the current camera position, audio and video source:



- Press **STORE** once and wait for the on-screen indicator to appear.
- Then press one of the keys **P1 P2 P3** or a number key **0-9**.

Far end camera control (FECC)

far end



Press the **FAR END** key until the '**FarEndCamera**' on-screen indicator is displayed.

For this feature to operate the far end must support 'Far end camera control' (H.281).

Whilst activated you will be able to control the far end's camera (pan/tilt/zoom/focus) and presets.

To control the far end camera use the keys below:



for pan/tilt and



for zooming.

Far end presets can be activated by pressing the keys **P1 P2 P3** or the number keys **0-9** to activate presets P0-P9.

Selection of far end videosources is achieved by pressing the buttons below when in FarEndCamera mode:

main cam



aux



doc cam



vcr



pc



TIP

IF YOU PRESS **Doc CAM**, IT IS NOT CERTAIN THAT THE FAR END DOCUMENT CAMERA WILL BE DISPLAYED. THIS DEPENDS ON SYSTEM CONFIGURATION AT THE FAR END.

To prevent others controlling your camera, select '**Far End Camera Control:Off**' in '**Utilities**'.

Sending/receiving still images

When a still image is sent, received or requested, it will be stored in the graphics memory. When a new image is sent or received, the old image will be erased. When disconnecting the call, the image will be erased.

Sending a still image

snapshot • Press **SNAPSHOT**.



- To send a still image from another video source (e.g. the document camera), select source:



TIP SEE '**PRESENTATIONS**' MENU FOR AUTOMATIC SETUP OF THIS OPERATION.

- Press **SNAPSHOT**.

Viewing a still image

The last sent or received still image will automatically be displayed on your screen.

- Press **SELFVIEW** to return to normal view.

NOTE REQUIRES '**AUTO-DISPLAY STILL IMAGE: ON**' IN '**PRESENTATIONS**'

Receiving a still image

A received still image will automatically be displayed on your screen.

- Press **SELFVIEW** to return to normal view.

NOTE REQUIRES '**AUTO-DISPLAY STILL IMAGE: ON**' IN '**PRESENTATIONS**'

Requesting a still image

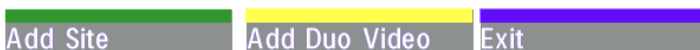
- Press **FAR END** until the '**FarEndCamera**' on screen indicator is displayed.
- Press **SNAPSHOT**. A still image from the far end is automatically displayed.

Duo Video *

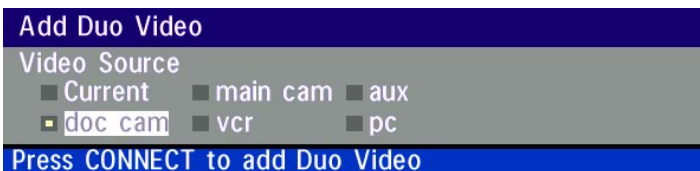
Duo Video is useful if you want to display live video from your document camera or another camera in addition to live video of yourself.

Add Duo Video

- Alt.1: Press any other video source than MainCam during a call. This will open Duo Video directly if the far end supports the automatic Duo Video functionality (requires also '**Duo Video Mode: Auto**' in '**Presentations**').
- Alt.2: To open Duo Video (also older versions of Duo Video), press **CONNECT** during a call. This will bring up the following menu:



- Select '**Add Duo Video**'. The following menu will be displayed:



- Select video source to transmit on Duo Video.
- Press **CONNECT** to add Duo Video.

NOTE **AUTOMATIC DUO VIDEO** HANDLES DUO VIDEO WITHIN THE SAME CALL. IT IS NOT NECESSARY TO MAKE A NEW CALL AND THE CONNECT TIME DECREASES A LOT. DUO VIDEO BORROWS BANDWIDTH FROM THE MAIN CONNECTION. WHEN DUO VIDEO IS CLOSED, THE BANDWIDTH IS RETURNED TO THE MAIN CONNECTION. THIS DUO VIDEO IS ALSO UNI-DIRECTIONAL AND HENCE, EASIER TO USE. WHEN IN AN MULTISITE CALL, THE MULTISITE CAN TRANSMIT THIS DUO VIDEO TO THE OTHER PARTICIPANTS SUPPORTING THIS DUO VIDEO VERSION.

NOTE IF THE FAR END SUPPORTS DUO VIDEO, BUT NOT THE AUTOMATIC DUO VIDEO, PRESS 'QUALITY' TO SELECT EXTRA BANDWIDTH TO BE USED BY DUO VIDEO. AN EXTRA CALL WILL BE MADE AND DUO VIDEO WILL NOT BORROW BANDWIDTH FROM THE MAIN CONNECTION.

* - Optional feature.

End a Duo Video call

disconnect



To end a Duo Video call, press **DISCONNECT**. Select if you want to disconnect only the Duo Video connection or the whole connection.

Controlling camera, changing video source, presets in a Duo Video call

The main monitor will always display incoming video. The 2nd monitor will display outgoing video (Duo Video in full screen / Main connection in PIP).

Pressing **SELFVIEW** will toggle Duo Video full screen / Main source in PIP and vice versa. Pressing **SELFVIEW** will not change anything on the main monitor.

Pressing **MOVE PIP** will move PIP only on the 2nd monitor.

Controlling the camera, changing video source, using presets will affect the video source currently displayed in full screen mode.

EXAMPLE IF DUO VIDEO IS SHOWN IN FULL SCREEN ON THE 2ND MONITOR, PRESSING ANY OF THE VIDEO SOURCE BUTTONS WILL CHANGE DUO VIDEO SOURCE. IF THE MAIN CONNECTION IS SHOWN IN FULL SCREEN, PRESSING ANY OF THE VIDEO SOURCE BUTTONS WILL CHANGE THE MAIN CONNECTION SOURCE.

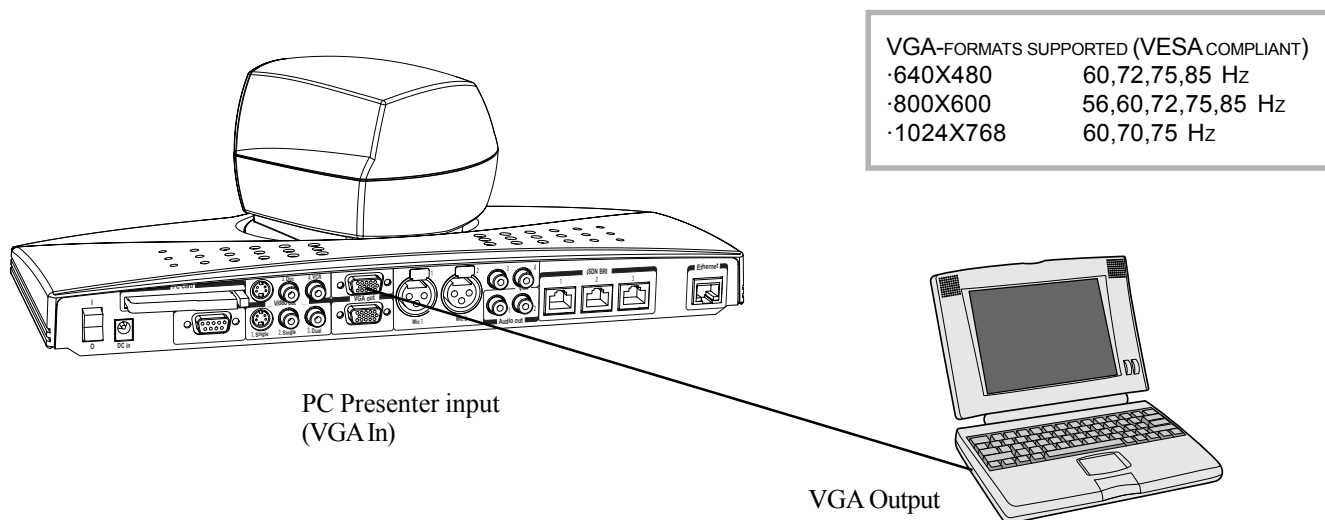
If both connections are selected to display the same video source, Duo Video will be closed.

PC Presenter

Plugging a PC into the system is made extremely simple through the PC Presenter, avoiding the need for any additional hardware such as a projector, PC/Video converter or extra cables.

- Connect a VGA-VGA cable from your PC (VGA Output) to 'VGA In' on your system.
- Start your PC.
- Press **Pc** on your remote control.
- Press **SELFVIEW** until the indicator 'Selfview' is displayed on your main monitor (single monitor system) or until you see the PC image on the second monitor.

If no PC image is displayed on your monitor, make sure that your PC transmits the image to the VGA Output, and that the PC transmits a supported VGA-format (see tip below). Consult your PC-operating manual to see how to transmit a VGA image from your PC (typically: Fn+F5).



PC SoftPresenter *

PC SoftPresenter is used to display PC images on your system. The system and your PC must be connected to a LAN. In addition, VNC (Virtual Network Computing) server software must be installed on the PC.

To show the PC image:

- Start the VNC software on your PC.
- Press **Pc** on your remote control. Use UP/DOWN to activate PAGE UP/PAGE DOWN on the PC.

For setup information and details, see 'VNC Settings' in 'Advanced use'.

NOTE 'PC: VNC' MUST BE SET IN 'VIDEO SETTINGS'.

* - Optional feature.