

HD Automatic Camera Control software

DCN Next Generation



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1 Introduction

Bosch HD Automatic Camera Control in conference applications.

HD Automatic Camera Control provides an extra dimension to conference proceedings. When a chairman's or delegate's DCN conference microphone is activated, the camera assigned to that position is activated too. The image can be displayed on hall displays or other screens, including i.e. the name of the current speaker.

1.1 Manual purpose

The purpose of this manual is to provide information required for installing, configuring and operating the Bosch HD Automatic Camera Control in conference applications. For instructions on the latest documentation and software, please see the product related information on the www.boschsecurity.com website.

1.2 Documents

There are a lot of settings that can be set in the HD camera and in the video switching equipment which could be helpful for you, please refer to the product related documentation for these settings:

- HD cameras: See the camera manufacturer's website.
- Bosch DCN-SW: See the Bosch online product catalogue at: www.boschsecurity.com.
- TV One C2-6204 Video switch: TV One website (search on C2-6204).
- Kramer MV-6 Video switch: Kramer website (search on MV-6).
- TV One C2-2355A scaler: TV One website (search on C2-2355A).
- TV One S108-HD switch: TV One website (search on S108-HD).

This manual is available as a digital document in the Adobe Portable Document Format (PDF). Refer to the product related information at: www.boschsecurity.com.

1.3 Copyright and disclaimer

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1.4 Document history

Release date	Documentation version	Reason
2014.02.06	V1.0	1 st edition
2018.08.13	V1.1	Added information on support cameras

2 System overview

The HD Automatic Camera Control software runs on a computer. On this computer, or another computer, DCN-SW should be installed. The computer running DCN-SW is taking care of the communication towards the DCN-CCU2. The HD Automatic Camera Control software will get the required information from the DCN-NG system, via the DCN-SWSMD. This data will only be available if a meeting is started with the DCN-SW software.

Based on the information from DCN-SWSMD, the HD Automatic Camera Control application will send instructions to the camera(s), and to the video switching equipment (if that is part of the system). These instructions will move the camera(s) to the correct proposition, and will select the correct input of the HD-SDI switch.

Required hardware and software

- HD camera(s): Onvif Profile-S compatible cameras, Sony IP cameras, Panasonic HD Integrated IP
- DCN-CCU(B) or DCN-CCU(B)2
- DVI scaler/converter: TvOne C2-2355A
- HD-SDI switch: TvOne S2-108HD or Kramer MV-6 (if more than 1 camera is used)
- HD Automatic Camera Control software
- DCN-SW software
- DCN-SWSMD software module
- DCN-SWDB software module (optional if delegate names need to be displayed)

HD Automatic Camera Control setup

There are three situations on how the HD Automatic Camera Control system can be setup:

1. One camera that is connected to the display via an Ethernet switch connection.
2. One camera that is connected to the display via an Ethernet switch and DVI scaler/converter.
3. Multiple cameras connected to the display via an Ethernet switch, HD-SDI switch and DVI scaler/converter.

The following illustrations will visualize the three situations.

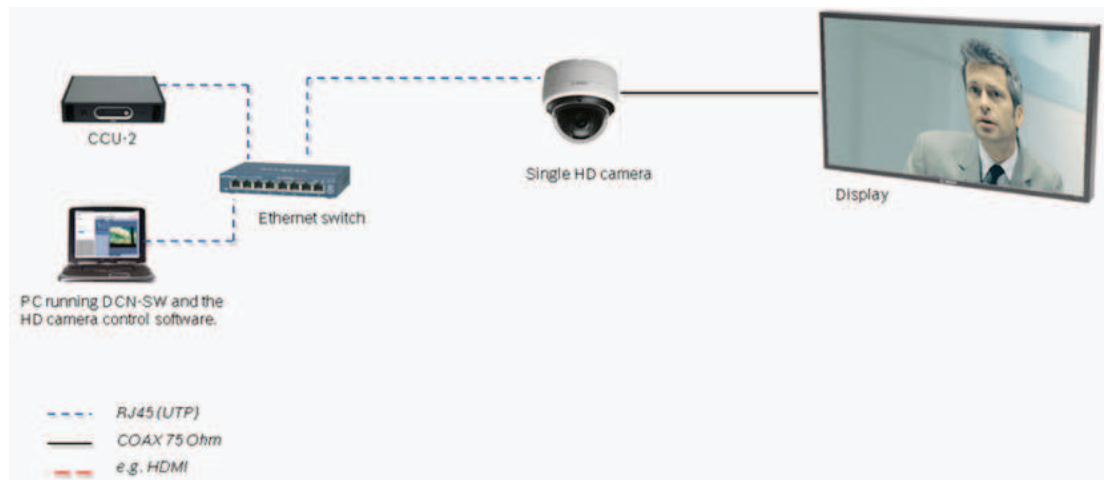


Figure 2.1: Situation 1: System overview with single camera, Ethernet switch and a display.

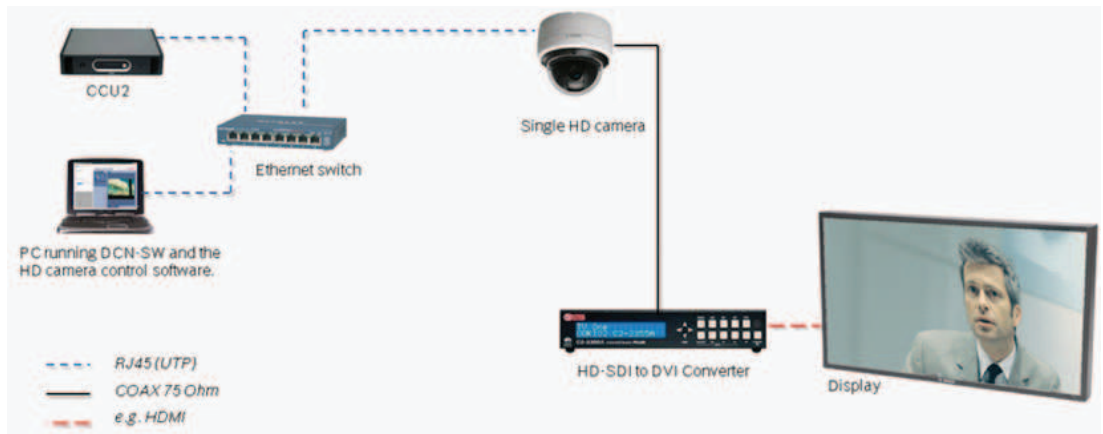


Figure 2.2: Situation 2: System overview with single camera, Ethernet switch, HD-DVI scaler/converter and a display.

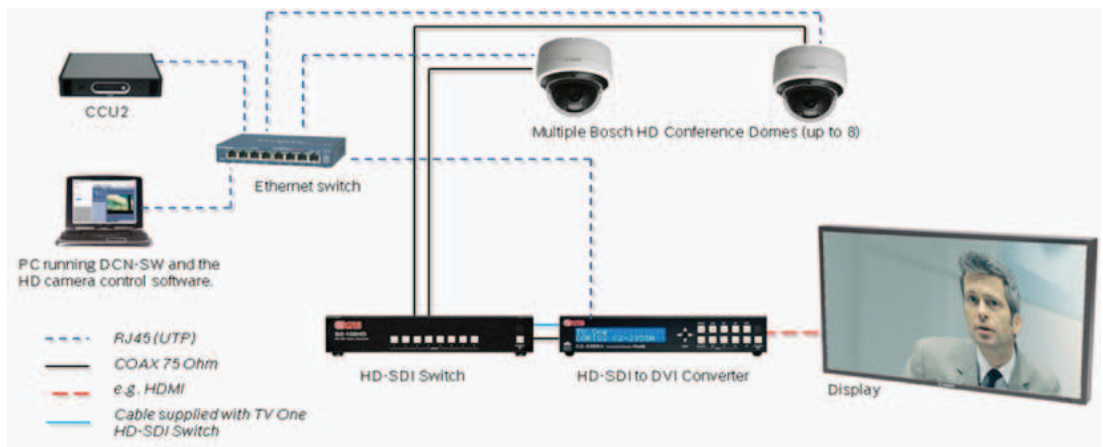


Figure 2.3: Situation 3: System overview with multiple cameras, Ethernet switch, HD-SDI switch, HD-DVI scaler/converter and a display.

3 Installation

1. Run *Setup.exe* of the HD Automatic Camera Control software on the PC that will act as the control PC for the HD cameras.
2. Follow the on-screen instructions.
3. Reboot after installation.
4. After installation, the HD Automatic Camera Control (Bosch) icon will be active in your taskbar.



Figure 3.1: Taskbar icon

4 Configuration

- **Double click** the Bosch logo in the taskbar shows:
 - The *SpeakerListner* window. The *SpeakerListner* is a monitor tool. Here the activated microphones of the DCN-NG system are shown. It is convenient for testing the communication with the DCN-SW server and to check which microphone is on.

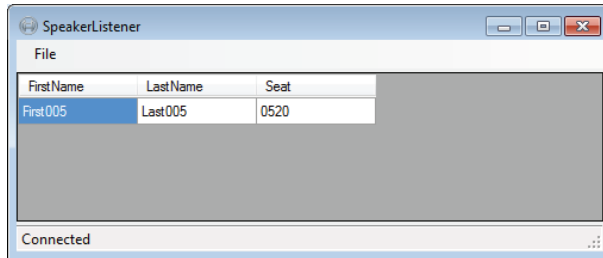


Figure 4.1: SpeakerListner window

- **Right click** the Bosch logo in the taskbar, shows two items:
 - **Exit:** When selected, the program is stopped.
 - **Options:** When selected, the configuration editor is started. The default login name is admin (case insensitive) without a password. A password can be added later.

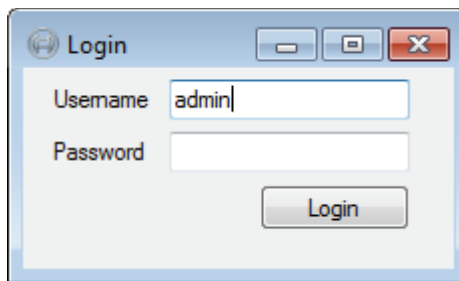


Figure 4.2: Login window

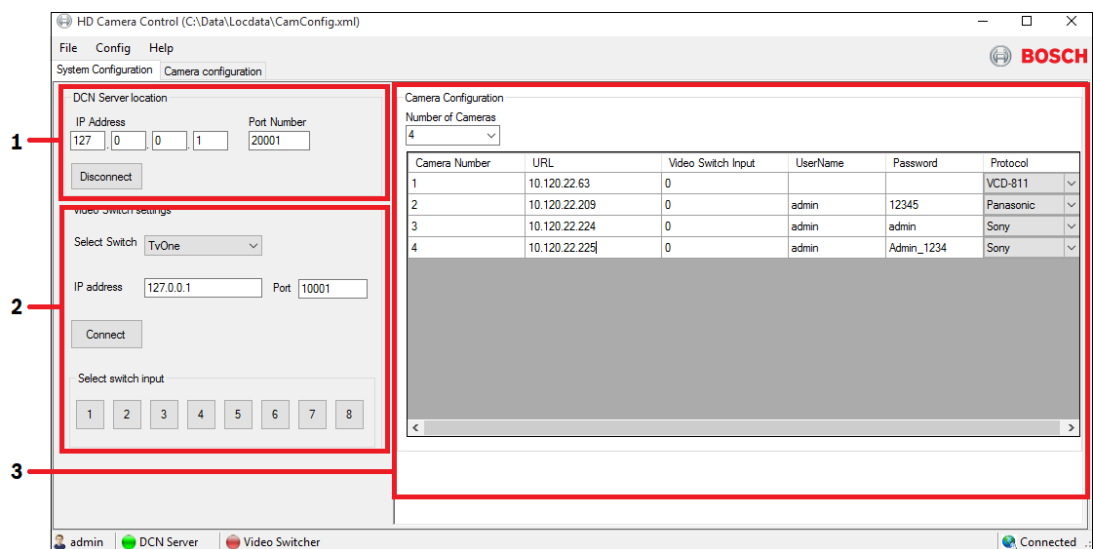


Figure 4.3: System configuration

1. **IP settings for the DCN-SW server:** 127.0.0.1 is the local host IP Address. Port Number 20000 is default in DCN-SW.
 - If the DCN-SW server is located on another computer, use the IP address of that computer. Click connect to establish a connection with the DCN-SW server. Once connected, the button text changes to *Disconnect*.



Notice!

From DCN-SW version 4.10 onwards, a new port number 20001 is available for automatic camera control. It is advised to use port 20001 for a better performance.

2. **Video switch settings:** This field is enabled when two, or more, cameras are selected in the camera configuration section (3):
 - The IP address and port number of the TV-One or Kramer switch is defined here. These will be activated after apply.
 - The switch inputs can be selected manually with button 1-8.



Notice!

If the IP address of the TV one scaler/converter is changed inside the unit, the setting need to be saved. This can be done by pressing the navigation button, and hold it for 3 seconds. Correct saving of the setting will be confirmed with a display text, and an audible beep. If the setting is not saved, the previous IP address will be reset after a power cycle.

3. The **number of cameras** is selected here.
 - The IP addresses of the HD cameras are entered in this field, and the HD-SDI switch input is defined for the available cameras.
 - The control Protocol must also be selected here, and the UserName and Password fields must be filled out for Sony and Panasonic cameras.

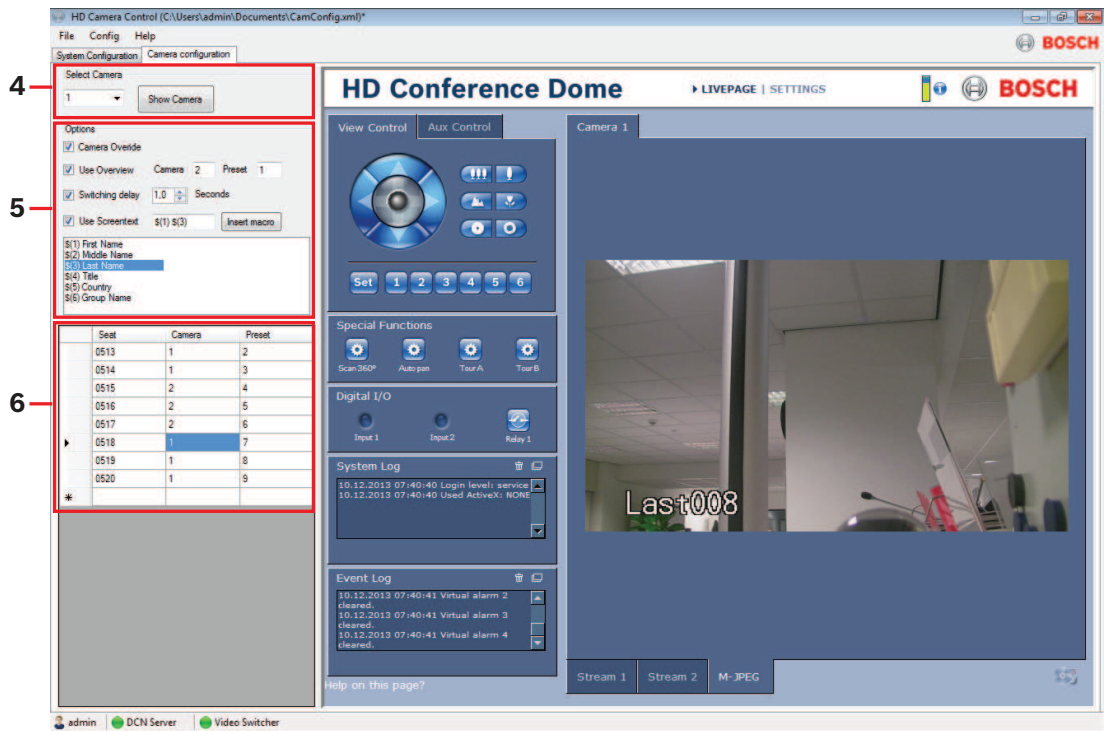


Figure 4.4: Camera configuration

4. **Select Camera:** Select the camera number of which you want to display the web interface.
 - When Show Camera is clicked, the web interface of the selected camera is shown on the right-hand side. For operation of the camera, we refer to the HD camera documentation.
5. **Options:**

- **Camera override:** If *camera override* is enabled, the last speaker will be displayed. If disabled, the first speaker will be displayed. The camera will only move if the current speaker deactivates the microphone.
 - **Use overview:** The overview image will be shown during the conference if none of the microphones is active. This can be any pre-position of any camera in the system. It can be enabled (check-box selected) or disabled (check-box deselected). Enter *Camera* number and camera *Preset* position number. In the past the *Overview* was also shown during camera movement. With the HD camera, the image freezes before the start of the movement to the new preposition and released once the repositioning is done.
 - **Switching delay** (in seconds): If selected, it allows you to configure the switching delay between the video inputs between 0.1 and 10 seconds (Switching delay is between cameras and not between prepositions of the same camera). The checkbox is deselected at default (function is disabled).
 - **Use Screentext** (only available with the Bosch HD Conference Dome): If enabled a screenline is displayed in the camera image. When nothing is configured the seatname is displayed. The screenline can be configured by selecting the items from the listbox (First name, last name, middle name etc.) and using the *Insert macro* button. The screentext supports standard ASCII character set only and is limited to 16 characters. Longer texts will be cut-off above 16 characters.
6. **Seat / Camera / Preset:** The *seats* have to be assigned to a *camera* and a *preposition*. The table can be filled manually. If a microphone from a seat is activated, the corresponding seat name will appear in the list. Only the camera number and preset number have to be entered behind the seat name.

**Notice!**

A meeting has to be started in DCN-SW to get the microphone data from the system.

4.1 Additional configuration settings

HD Conference Dome

- If the *IP address* or the *DHCP* settings need to be changed:
 - In the main menu, go to: *Basic Mode > Network*.
- The camera can be mounted at a ceiling or as a table top. In both cases, the *image orientation* has to be set:
 - In the main menu, go to: *Advanced Mode > Camera > Installer Menu*.
- Make sure that the camera has *firmware version 5.52* or higher:
 - *Advanced Mode > Service > System Overview*. The Major version number should be *5.52* or higher.
- The *main frequency* should be set to the correct value to prevent flicker in the image from fluorescent lighting:
 - *Advanced Mode > Camera > Installer Menu*.
- The HD-SDI output has two selectable resolutions/frame rates. To select these, the correct *encoder stream* needs to be selected.
 - *Advanced Mode > Camera > Encoder Streams*.
 - In the main window the property for *Stream 1* can be selected, this also affects the signal on the HD-SDI output. Select one of these two settings: *H.264 MP 720p50/60 fixed* or *H.264 MP 1080p25/30 fixed*.
- By default the cameras are switching to monochrome in low light conditions; this can be changed in the camera settings.
 - *Advanced Mode > Camera > Camera Settings*.
 - The *Night Mode* can be set to *Color*.

TV One C2-2355 scaler/converter

- Storing *IP settings*: if the IP address of the TV one scaler/converter is changed inside the unit, the setting need to be saved. Proceed as follows:
 - Press and hold the *navigation* button for 3 seconds. Correct saving will be confirmed with a display text, and a audible beep. If the setting is not correctly saved, the previous IP address will be reset after a power cycle.
- Default the outputs of the scaler/converter are set to *lock* and *mix*. This should be set to *off*.:
 - *Adjust Outputs > Lock mode [Lock+Mix] [DVI1] > Lock mode [Off] [DVI1]*.
- Default the image is faded in and out between camera switching:
 - *Transitions > Transition [Fade] > Transition [Cut]*.

5 Operation

The HD conference Dome web interface has 4 areas of importance:

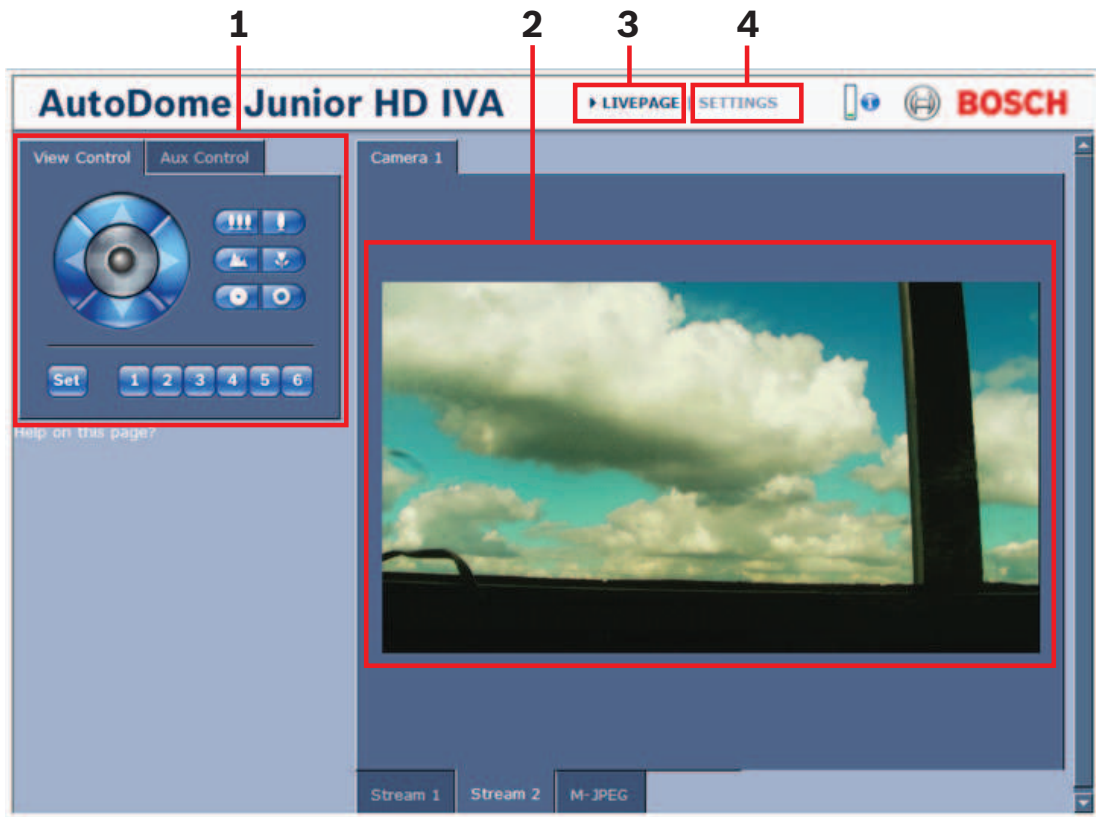


Figure 5.1: HD conference Dome web interface

1. **Control field:** To control the camera's PTZ position. Once the camera is set to the correct position it can be stored as a preset:
 - Select the *Aux Control* tab, enter a *number* in the text field and click *set shot*. Up to 64 presets can be defined in the conference dome.
2. **Live image** of the dome camera.
3. **Live page** button: Brings you back to the live page, if you are in the *setting* menu.
4. **Settings:** Enter the *setting page* of the camera. (see the HD Dome documentation, for more information of the *setting* menu).



Figure 5.2: Aux control

6 Troubleshooting

If the cameras will not react on the actions in the DCN-NG system (microphone on/off), please follow the below flowchart to solve the problem:

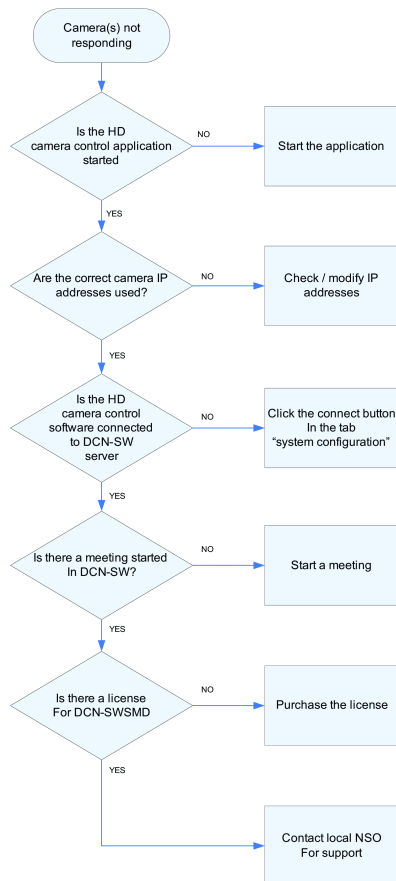


Figure 6.1: Troubleshooting flow

7 System requirements

PC	
- Processor	Dual-core
- RAM	2GB
- Video system	128MB video memory, 1024x768 display with a minimum of 16-bit color
- Network interface	Minimal 100Mb
- Microsoft Internet Explorer	From version 7.0 onwards
- DirectX	9.0c
- MPEG ActiveX utility	Will be installed by the camera
- Sun Java Virtual Machine	Download from www.java.com
Conference system	
- DCN Next Generation	Based on DCN-CCU2
- DCN Wireless Discussion System	Based on DCN-CCU2
- DCN-SW	From software version 4.3 onwards
Camera	
- HD camera(s)	<ul style="list-style-type: none"> - Bosch Conference Dome VCD-811-IWT (white) - Bosch Conference Dome VCD-811-ICT (charcoal) - Sony IP cameras via CGI commands: SRG-300SE and SRG 360SHE - Panasonic HD Integrated IP: AW-HE40, AW-HE50, AW-HE60, AW-HE120, AW-HE130, AW-UE70
- 24Vac power supply	Different types are available depending on net voltage. E.g. TC220PSX-24 for a mains voltage of 230V
HD-SDI switch (when using two or more cameras)	<ul style="list-style-type: none"> - TV-One C2-6204 - Kramer MV-6 - TV-One S2-108HD.
HD-SDI scaler/converter	TV-One C2-2355A
Software requirements	<ul style="list-style-type: none"> - Bosch HD Automatic Camera Control - DCN-SW-E - DCN-SWSMD-E
LAN	100Mbit minimum



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