Digital Discussion System

CCS 1000 D

en Operation manual

Table of contents

1   Safety

Prior to installing or operating products, always read the Important Safety Instructions which are available as a separate multilingual document: Important Safety Instructions (Safety_ML). These instructions are supplied together with all equipment that can be connected to the mains supply.

Old electrical and electronic appliances

Electrical or electronic devices that are no longer serviceable must be collected separately and sent for environmentally compatible recycling (in accordance with the European Waste Electrical and Electronic Equipment Directive).

To dispose of old electrical or electronic devices, you should use the return and collection systems put in place in the country concerned.

2   About this manual

–   Please read this manual carefully before installing and operating any of the products of the CCS 1000 Digital Discussion System.
–   Retain all documentation supplied with the products for future reference.

2.1   Manual purpose

This manual provides information required for installing, configuring, operating and maintaining the products of the CCS 1000 Digital Discussion System. For documentation updates, refer to the product related information at: www.boschsecurity.com

2.2   Digital document

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.

2.3   Intended audience

This manual is intended for installers, technicians and users of a CCS 1000 Digital Discussion System.

2.4   Alerts and notice signs

Four types of signs can be used in this manual. The type is closely related to the effect that may be caused if it is not observed. These signs - from least severe effect to most severe effect - are:

i	**Notice!** Containing additional information. Usually, not observing a 'notice' does not result in damage to the equipment or personal injuries.

⚠	**Caution!** The equipment or the property can be damaged, or persons can be lightly injured if the alert is not observed.

⚠	**Warning!** The equipment or the property can be seriously damaged, or persons can be severely injured if the alert is not observed.

⚡	**Danger!** Not observing the alert can lead to severe injuries or death.

2.5   Copyright and disclaimer

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The content and illustrations are subject to change without prior notice.

2.6   Document history

Release date	Documentation version	Reason
2014.09	V1.0	1st Edition.

3 System overview
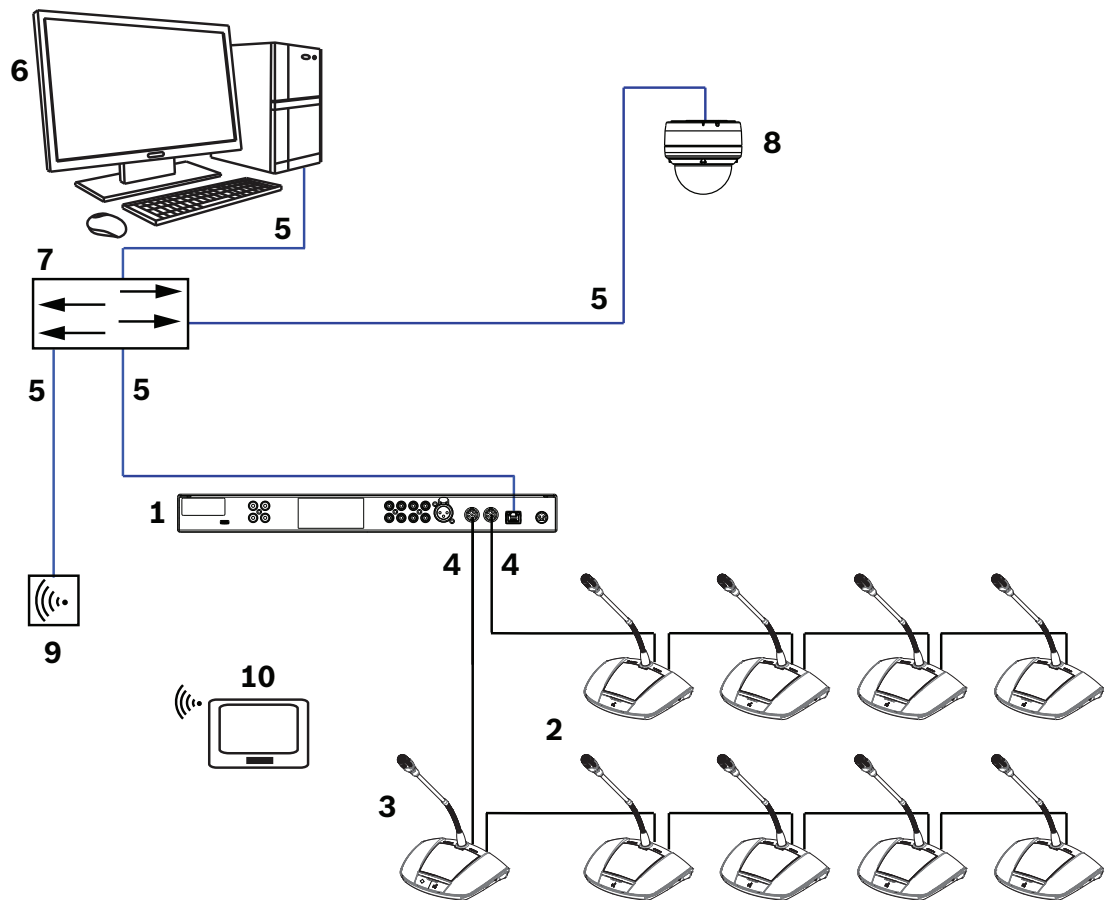
The CCS 1000 Digital Discussion System is a hot plug-and-play conferencing system that is ideally suited for small to medium-sized meeting areas, such as town halls, local business centers, and courtrooms. The main components of the discussion system are:

1. The Control Unit CCSD-CU, or the CCSD-CURD with MP3 recording and Digital Acoustic Feedback Suppression (DAFS).
2. Discussion Devices, which can be configured as participant devices (**2**) or a chairperson's device (**3**).
3. Chairperson's device.
4. Discussion Device cable, and extension cables, if required: Connects the Discussion Devices with each other and to the Control Unit in a daisy-chain configuration.
5. Ethernet cable.
6. PC (optional): Can be used to: Manage discussions, prepare discussions and configure the system.
7. Optional Ethernet switch: Routes the system data via Ethernet.
8. Optional HD Conference Dome: Captures the image of a participant speaking.
9. Optional wireless access point or router: Used when using a wireless tablet device.
10. Optional tablet device: Can be used to manage discussions, prepare discussions and configure the system.
– Optional peripheral equipment, such as audio equipment can also be connected to the system.

3.1   CCSD-CU(RD) Control Unit
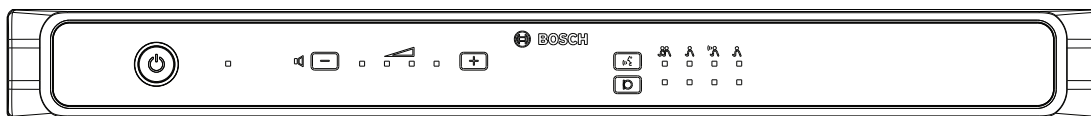
Figure 3.1: CCSD-CU
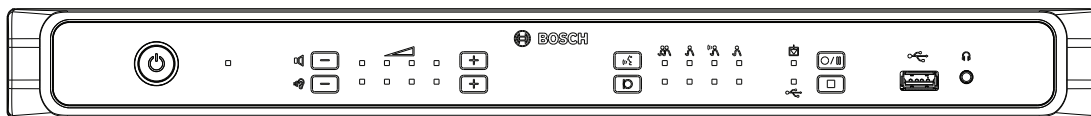
Figure 3.2: CCSD-CURD

The Control Unit is the central component of the CCS 1000 Digital Discussion System. Its main purpose is to:
–   Provide an interface for connecting Discussion Devices and peripheral equipment.
–   Supply DC power to all Discussion Devices connected to the system.
–   Monitor and control the CCS 1000 Digital Discussion System.
Touch-buttons and LED indicators on the front panel are used for configuring and operating the Control Unit.
The Control Unit can communicate with a web browser running on a tablet, laptop, or PC. The web browser can be used to view and manage basic and advanced system configuration, such as microphone management and digital recording options. Configuration changes made at the Control Unit are automatically updated in the web browser and vice-versa.

3.2   Control Unit with MP3 recording and DAFS

Figure 3.3: CCSD-CURD

The CCSD-CURD Control Unit has the following additional features:
–   Built-in MP3 recorder with internal memory and USB recording.
–   Built-in Digital Acoustic Feedback Suppression (DAFS).
–   Built-in loudspeaker and headphone socket with volume control for listening to the "floor language" or recordings.
–   Additional RCA outputs for individual microphone recording, e.g. for recording individual speakers in a courtroom.

3.3   CCSD-Dx Discussion Device
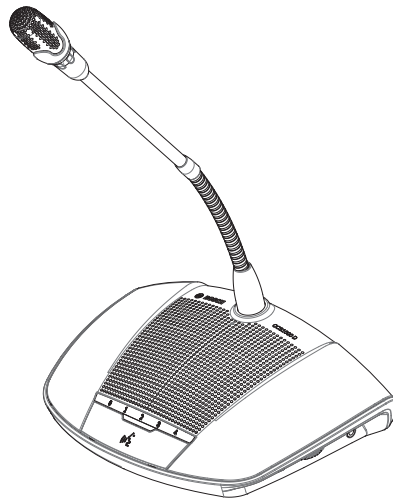
Figure 3.4: CCSD-Dx

The CCSD-Dx Discussion Device allows a participant to take part in a discussion by speaking into the microphone and listening to proceedings through the built-in loudspeaker or (optional) headphones. The Discussion Device has the following main features:
–   Microphone button for activating and deactivating the microphone.
–   LED indicator above the microphone button and a light-ring indicator in head of the microphone.
–   Rotary thumbwheel on the side of the device for adjusting the volume of the headphones.
A Discussion Device can be easily configured as either a 'participant device' or a 'chairperson device', which enables a user to function as the chairperson at a meeting. See *Discussion Device, page 27*.

4 Planning

Before using the CCS 1000 Digital Discussion System, read this section to make sure you have all components for connecting and operating the system. This section also includes important information on the number of Discussion Devices that can be connected to the system if extension cables are required. See *Number of Discussion Devices allowed in system, page 16*.

4.1 Unpacking

This equipment should be unpacked and handled with care. If an item appears to be damaged, notify the shipper immediately. If any items are missing, notify your Bosch representative. The original packaging is the safest container in which to transport products and can be used to return products for service if necessary.

4.2 Delivered with products

Make sure the following items are delivered with your products:

Quantity	Component
1	**CCSD-CU Control Unit** or **CCSD-CURD Control Unit**
1	Mains power cord
1	24 VDC power supply
2	Sets of chairperson's buttons for the Discussion Device
1	Exchange tool for buttons
1	Set of feet for table top use
1	Set of 19" 1U mounting brackets
1	Safety instructions
1	DVD with operation manual and supporting tools
	CCSD-Dx Discussion Device
	No additional items delivered with this product

4.3 Additional components

The following additional components can be used with the CCS 1000 Digital Discussion System, as required:

LBB 4116 Series Extension Cables – These approved extension cables can be connected between the Control Unit and the first Discussion Device in the daisy-chain or between any two Discussion Devices. If you want to add one or more extension cables to the system cabling, make sure you follow the guidelines in *Number of Discussion Devices allowed in system, page 16*.

The standard extension cables listed in the following table can be used with the CCS 1000 Digital Discussion System:

Type number	Cable length
LBB 4116/02	2 m (6.6 ft)
LBB 4116/05	5 m (16.0 ft)
LBB 4116/10	10 m (33.0 ft)
LBB 4116/15	15 m (49.2 ft)
LBB 4116/20	20 m (66.0 ft)
LBB 4116/25	25 m (82.0 ft)

LBB 4116/00 Installation Cable 100m – This roll of cable and LBB 4119 connectors can be used to make custom length extension cables. See *Making custom extension cables, page 15*.

LBB 4119 Connectors (25 pairs) – Pairs of connectors for terminating extension cables made from the LBB 4116/00 roll of cable.
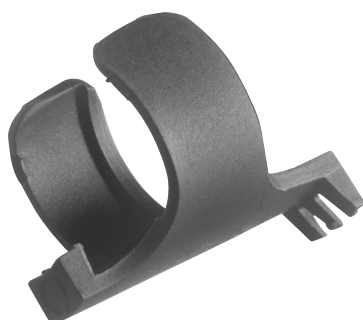
DCN-DISCLM Cable Clamps (25 pcs) – This cable clamp can be used to secure the connector of a Discussion Device to the next Discussion Device in the daisy chain.

LBB 4117/00 Cable Locking Clamps (25 pcs) – This cable locking clamp can be used to lock the connectors of extension cables. One cabling locking clamp is required for each male/female connector.

USB memory stick (CCSD-CURD only) - A USB memory stick is required if you want to record discussions directly to an external device. The USB memory stick should have the following specifications:
–   Preferred type: Sandisk
–   Maximum size: 128 GB
–   Formatting: FAT32 file system
If the USB memory stick is not formatted with the FAT32 file system, recordings will be saved to the internal memory instead. The internal memory can save up to 8 hours of discussion at the lowest bit rate. For an overview of the possible recording times compared to the bit rate, see *Technical data, page 46*.

i	**Notice!** USB memory sticks larger than 32 GB cannot be formatted with the standard windows format tool. This must be done with the special tool that can found on the DVD.

USB cable with micro USB connector - A USB cable with a micro USB connector is required if you want to transfer the internal memory (recordings) to a PC.

RJ45 Ethernet cable - An RJ45 Ethernet cable is required if you want to connect a laptop or PC to the Control Unit for running the web browser and connecting system cameras.

RCA cables - RCA cables are required if you want to connect optional audio equipment to the Control Unit, such as a sound reinforcement system.

XLR cable - An XLR cable is required if you want to connect an external microphone to the Control Unit.

Wireless Access Point (AP) - A standard Wireless Access Point (AP) or router is required if you want to connect equipment with a WiFi connection to the system.

4.4   Making custom extension cables

Custom extension cables can be made from the LBB 4116/00 DCN Installation Cable 100 m and LBB 4119/00 DCN Connectors (25 pairs), as shown in this section:

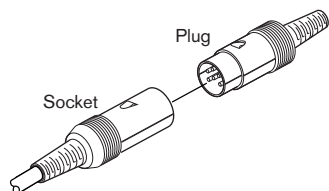**Figure 4.1: Extension cable plug and socket**
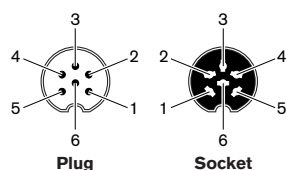
Figure 4.2: Plug and socket pin numbers
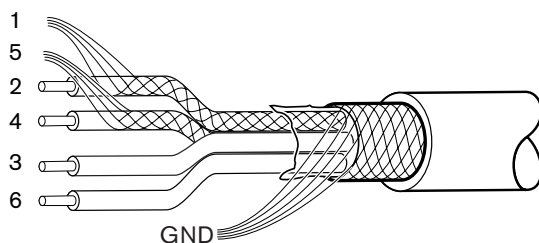
Figure 4.3: Extension cable connections

Pin	Signal	Color
1	Downlink GND	---
2	Downlink data	Green
3	+40 V(DC)	Brown
4	Uplink data	White
5	Uplink GND	---
6	+40 V(DC)	Blue

Table 4.1: Extension cable connections

4.5   Number of Discussion Devices allowed in system

This section is only applicable if you want to connect one or more extension cables to the system cabling. Connecting an extension cable to the system cabling has a direct effect on the available power for the Discussion Devices. The longer the extension cable(s), the fewer Discussion Devices can be connected to the system.

– If no extension cables are connected to the system cabling, a maximum of 40 Discussion Devices can be daisy-chained to each trunk output of the Control Unit.
– If you want to connect extension cables to the system cabling, you should use the following table to determine the total number of Discussion Devices that can be connected to each trunk output of the Control Unit.
– It is recommended to connect equal numbers of Discussion Devices to each trunk output.

Total length of extension cable(s) per trunk	Discussion Devices per trunk
0 m to 20 m	40
20 m to 22 m	39
22 m to 24 m	38
24 m to 26 m	37
26 m to 28 m	36
28 m to 30 m	35
30 m to 32 m	34
32 m to 34 m	33
34 m to 36 m	32
36 m to 38 m	31
38 m to 40 m	30
40 m to 42 m	29
42 m to 44 m	28
44 m to 46 m	27
46 m to 48 m	26
48 m to 50 m	25
50 m to 52 m	24
52 m to 54 m	23
54 m to 56 m	22
56 m to 58 m	21
58 m to 60 m	20
60 m to 62 m	19
62 m to 64 m	18
64 m to 66 m	17

Total length of extension cable(s) per trunk	Discussion Devices per trunk
66 m to 68 m	16
68 m to 70 m	15
70 m to 72 m	14
72 m to 74 m	13
74 m to 76 m	12
76 m to 78 m	11
78 m to 80 m	10
80 m to 82 m	9
82 m to 84 m	8
84 m to 86 m	7
86 m to 88 m	6
88 m to 90 m	5

5 Installation

5.1 Install Control Unit in 19" rack

The Control Unit can be placed on a table top or installed in a 19" rack:
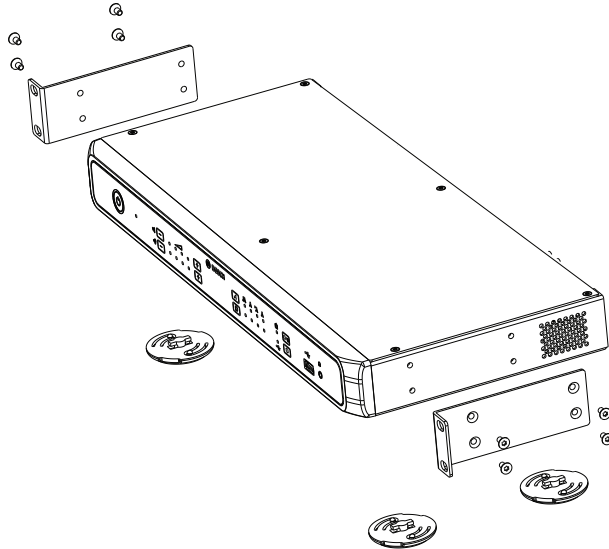
Figure 5.1: Control Unit 19" rack installation

Use the supplied 19" rack mounting brackets and screws to install the Control Unit in a 19" rack:
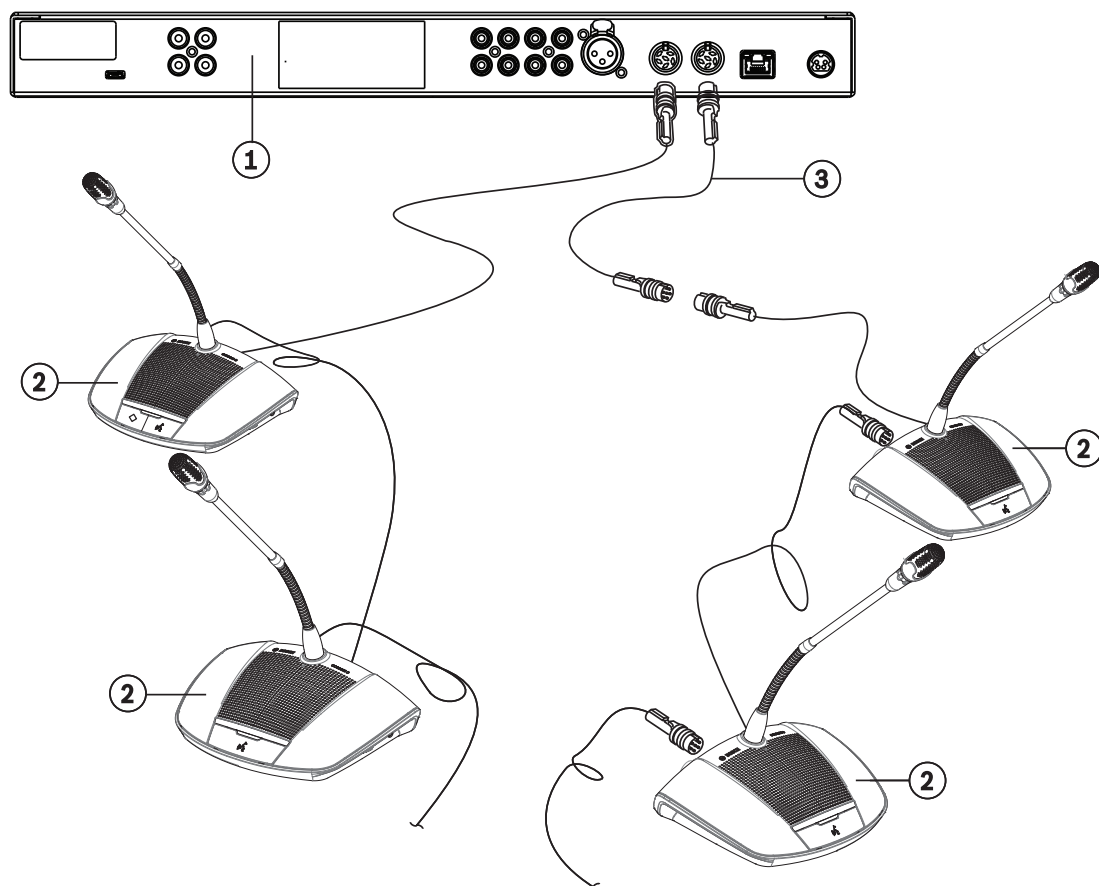
Make sure:
– You take sufficient precautions when lifting the Control Unit.
– The rack is of suitable quality to sufficiently support the weight of the Control Unit.
– The ventilation holes on the side of the unit are not obstructed.
– The ambient temperature inside the 19" rack cannot exceed +45 °C.

6   Connections

6.1   Connect system components

Figure 6.1: Connecting Discussion Devices

For detailed information on the CCS 1000 Digital Discussion System connections, refer to
Control Unit connections, page 20 and *Discussion Device connections, page 22*.

1.   Connect the Discussion Devices (**2**) in a daisy-chain configuration to the 'Trunk'
      connectors at the rear of the Control Unit (**1**). A maximum of 40 Discussion Devices can
      be daisy-chained to each trunk connector. It is recommended to connect equal numbers
      of Discussion Devices to each trunk output. If you want to connect extension cables (**3**)
      to the system cabling, follow the instructions in *Number of Discussion Devices allowed in
      system, page 16*.
2.   Secure the system cables with Cable Clamps and Cable Locking Clamps, as required.
3.   If you want to use the web browser or system cameras with the CCS 1000 Digital
      Discussion System, connect an RJ45 Ethernet cable to the 'Network' connector at the
      rear of the Control Unit.
4.   Connect the other end of the Ethernet cable to a switch, laptop, or PC.
5.   Use RCA cables to connect audio equipment to the 'Audio In' and 'Audio Out' connectors
      at the rear of the Control Unit, as required. Inputs and outputs are not galvanic
      separated. If galvanic separation is required (e.g. to avoid hum), it must be provided
      externally.

6. Connect the supplied 24 VDC power supply connector to the 'Power' connector at the rear of the Control Unit.
7. Connect the mains plug of the 24 VDC power supply to a mains supply.
    – The system will automatically switch on at the moment the mains supply is connected. This allows use of remote control for system on/off. See also *Discussion Device, page 27*.
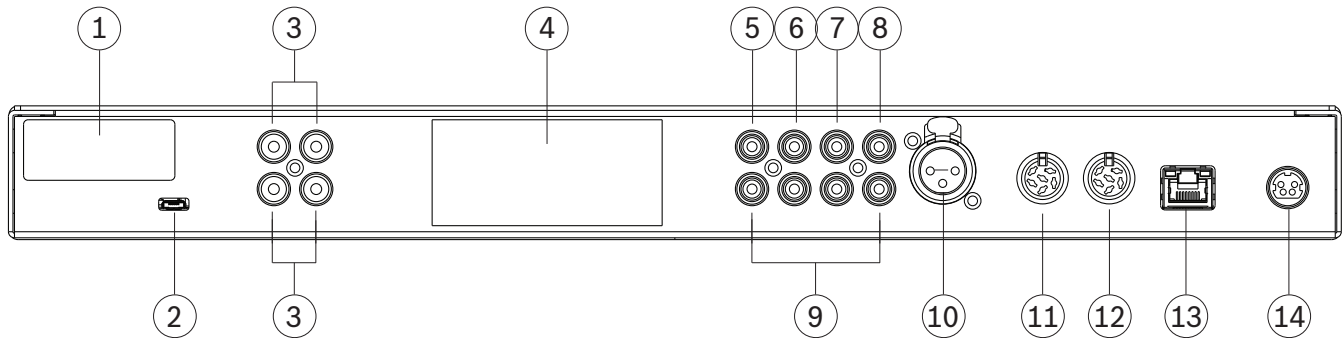
6.2 Control Unit connections

Figure 6.2: Rear view of CCSD-CURD Control Unit

The CCSD-CURD Control Unit has additional connections as indicated in the following table:

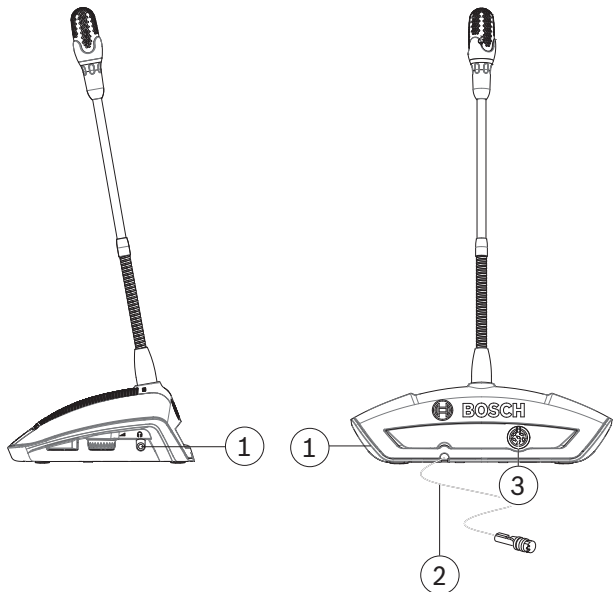| Number	Item	Description
1	FCC label	Label showing FCC Declaration of Conformity.
2	USB (CCSD-CURD only)	Micro USB connector for transferring the internal memory (recordings) to a PC. **Note**: The micro USB connector cannot be used to directly record discussions to a USB device. The larger USB connector on the front panel of the unit should be used for this purpose. **Note:** Recordings cannot be saved to the internal memory during the transfer of files. **Note**: Internal memory files will be saved as -IM.mp3 and USB recordings as -USB.mp3. You can see these names in the web browser.
3	RCA 'Audio Out' (CCSD-CURD only)	4 x audio output connectors for individual microphone recording, e.g. for recording individual speakers in a courtroom.
4	Product label	Label showing information on the product, such as: product type, serial number, technical data, and CE mark.
5	RCA 'Audio Out (1)'	Audio output connector for connecting a 'sound reinforcement system' to the discussion system. Enables proceedings to be transmitted to an audience in the same room or an adjacent room.

Number	Item	Description
6	RCA 'Audio Out (2)'	Used with RCA 'Audio In (2)'. Audio output connector for either: – 'Recorder' for connecting an external recorder. – 'Insertion' for connecting an external audio processor. – 'Telephone/mix minus' for allowing a remote participant to join a discussion via a telephone/video connection. – 'Participant loudspeaker' for distributing the participant loudspeaker signal to a sound reinforcement system. **Note:** Only one piece of audio equipment can be connected to 'Audio Out (2)' at a time. The output can be configured by selecting the required option in the web browser. See *System settings, page 34 >* Audio..
7	RCA 'Audio In (1)'	Audio input connector for 'Floor', i.e. for connecting an external audio source, such as a CD or DVD player.
8	RCA 'Audio In (2)'	Used with RCA 'Audio Out (2)'. Audio input can be used to route an external audio signal into the system which is routed to the devices loudspeaker. In the web interface the mode setting of I/O 2 depends if this input is configured insertion or mixed minus. Audio input connector for either: – 'Insertion' for connecting an external audio processor. – 'Telephone/mix minus' for allowing a remote participant to join a discussion via a telephone/video connection. – **Note:** Only one piece of audio equipment can be connected to 'Audio Out (2)' at a time. The output can be configured by selecting the required option in the web browser. See *System settings, page 34 >* Audio.
9	RCA Audio	Additional audio input/output connectors that have the same function as items 5 through 8. These additional audio connectors can be used with their corresponding audio connector to increase the strength of the audio signal.
10	Microphone	3-pole XLR female (ambient) microphone connector with phantom supply for connecting an external microphone. This input is shared with audio in 1 and has to be enabled in the web browser.(Once enabled input 1 is not usable).
11	Trunk (1)	6-pole circular female connector for connecting Discussion Devices.
12	Trunk (2)	6-pole circular female connector for connecting Discussion Devices.
13	Network	RJ45 Ethernet socket for connecting a network cable.
14	Power 24V 6A	4-pole circular female connector for connecting the 24 VDC power supply.

> **Notice!**
> Audio inputs/outputs are mono but do allow for connecting stereo RCA cables.

6.3   Discussion Device connections

Figure 6.3: Discussion Device rear and side view

Number	Item	Description
1	Headphone	3.5 mm (0.14 in) stereo headphone socket (on side of unit).
2	Trunk connection	2 m (78.7 in) cable with 6-pole circular male connector and cable lock for connecting Discussion Device to: – Control Unit, or – previous Discussion Device in daisy-chain.
3	Trunk connection	6-pole circular female socket with cable locking recess for connecting next Discussion Device in the daisy-chain.

7   Configuration

To configure the CCS 1000 Digital Discussion System you can use:

–   The touch buttons on the front of the Control Unit, or
–   the web browser.
  –   For more information, see *Web browser, page 29*.

The Control Unit can be used to quickly view and change basic settings. The advantages of using the web browser to configure the system are:

–   Additional options and settings are available.
–   Settings can be easily managed.

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i

Notice!

Changes made on the Control Unit are automatically updated in the web browser and vice-versa.

7.1   Control Unit

1.   After pressing the Power on/off button (**1**) on the Control Unit, the power on/off LED turns green, and the other LEDs are alternatively lit to indicate that the system is starting up. The system is ready for use when all LEDs are constantly lit.
2.   Press the touch buttons on the front panel of the Control Unit to set basic system settings. The LED indicators will change to indicate the setting. Refer to the following figure and table for more information on the Control Unit settings:
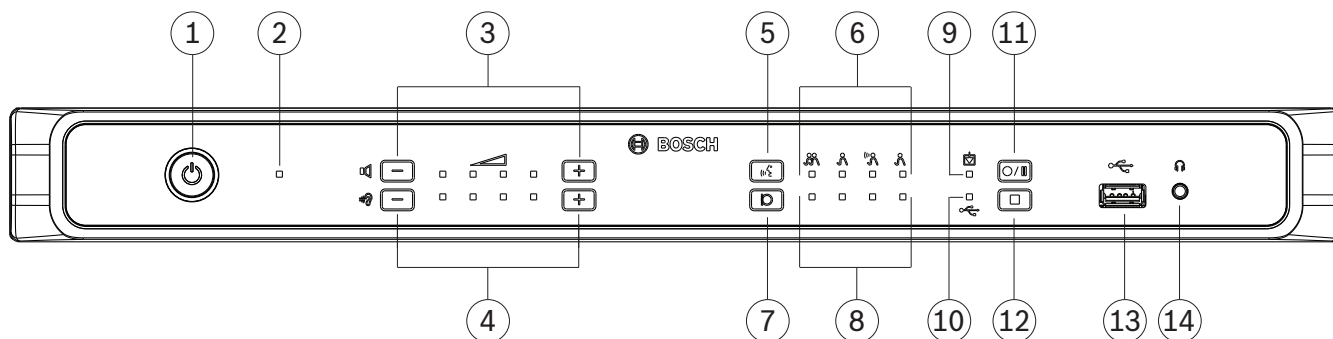

Figure 7.1: Front view of CCSD-CURD Control Unit

The CCSD-CURD Control Unit has additional features as indicated in the following table:

Number	Item	Description
1	Power on/off button	On/off touch button for 24 VDC. Short pressing is power on, long pressing is power off.
2	Power on/off LED	LED indicator for showing the on/off status of the Control Unit: – Red: Power off. – Green:Power on.
3	Buttons and LED indicators for volume control of Discussion Devices	Plus/minus buttons for setting the volume of all Discussion Devices and output 1. Used in combination with four LED indicators for showing the selected volume.

Number	Item	Description
4	Buttons and LED indicators for volume control of loudspeaker in the CCSD-CURD / headphones connected to the CCSD-CURD.	Plus/minus buttons for setting the volume of the built-in loudspeaker or headphones, if connected. Used in combination with four LED indicators for showing the selected volume.
5	Discussion-mode button	Button for selecting one of the four discussion operating modes. Used in combination with (**6**) Discussion-mode LED indicators.
6	Discussion mode LED indicators	LED indicators for showing the selected microphone mode. The following modes can be selected from left to right: – Open. – Override. – Voice activation. – Push to talk (PTT). For detailed information on the microphone modes, see *Discussion modes, page 26*.
7	Speaker list size	Button for selecting the number of microphones that can be activated at the same time. Used in combination with (**8**) speaker list size LED indicators. A maximum of four microphones can be selected from the Control Unit. If the web browser is used, a maximum of ten microphones can be selected.
8	Speaker list size LED indicators	LED indicators for showing the number of activated (open) microphones. **1 to 4** open microphones: the LEDs are individually lit to show the number of open microphones. **5 to 10** open microphones: a combination of LEDs are lit to show the number of open microphones; for example, if there are six open microphones, LED numbers 2 and 4 are lit.
9	Internal recording LED indicator (CCSD-CURD only)	LED indicator for showing the status of internal recordings: – Green continuous: Internal memory selected; ready for recording. – Red continuous: Recording is taking place. – Red flashing once a second: Recording paused. – Red flashing twice a second: 5 minutes of recording left. Three short beeps, from the monitor loudspeaker, will also be sounded to alert the user. – Red/green flashing: Discussions cannot be recorded to the internal memory (i.e. internal memory is full). A single long beep will also be sounded to alert the user.

| **Number**	**Item**	**Description**
10	USB recording LED indicator (CCSD-CURD only)	LED indicator for showing the status of USB memory stick recordings: – Green continuous: USB memory stick selected; ready for recording. – Red continuous: Recording is taking place. – Red flashing once a second: Recording paused. – Red flashing twice a second: 5 minutes of recording left. Three short beeps will also be sounded to alert the user. – Red/green flashing: Discussions cannot be saved to the USB stick (i.e. USB memory stick full, incorrectly formatted, or damaged). A single long beep will also be sounded to alert the user. **Note**: The USB recording LED will be automatically selected and deselected when the USB memory stick is inserted and removed from the USB connector at the front of the unit.
11	Start/pause recording button (CCSD-CURD only)	Button for starting and pausing a recording session. See *Recording a discussion, page 38*.
12	Stop recording button (CCSD-CURD only)	Button for stopping a recording session.
13	USB connector (CCSD-CURD only)	USB connector for connecting a USB memory stick to the Control Unit. For information on the USB memory stick requirements, see *Additional components, page 12*.
14	Headphone socket (CCSD-CURD only)	3.5 mm (0.14 inch) stereo headphone socket for connecting headphones (for listening to recorded discussions). When headphones are connected to the Control Unit the built-in loudspeaker is muted.

7.1.1   Discussion modes

The following microphone modes can be selected with the 'Discussion Mode' button on the front panel of the Control Unit or with the web browser:

Icon	Mode	Description
	Open	Participants can speak by pressing their microphone button. When the maximum number of open microphones is reached, the next participant that presses the microphone button is added to a waiting list. The first participant in the 'waiting list' is allowed to speak when an activated microphone is disabled. **Note:** The maximum number of open microphones is set with the speaker list size button on the Control Unit. This option can also be set in the web browser.
	Override	Participants can override each other by pressing their microphone buttons. When the maximum number of open microphones is reached, the next participant that presses their microphone button will deactivate the microphone that has been activated for the longest time. **Note:** The chairperson's microphone is not included in the number of open microphones and, therefore, cannot be overridden by a participant.
	Voice activation	Participants can activate their microphones by speaking into them. A microphone can be temporarily muted by pressing and holding down the microphone button.
	Push to talk (PTT)	Participants can speak by pushing and holding in their microphone buttons. The microphone is deactivated when the microphone button is released. The maximum number of participants that can speak is determined by the number of open microphones.

7.2   Discussion Device
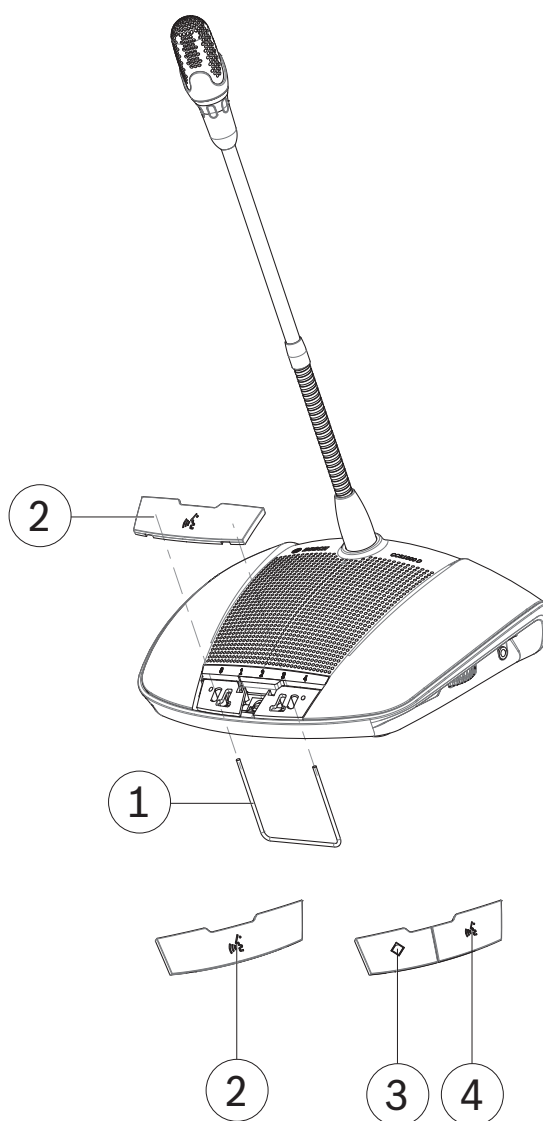
Figure 7.2: Exchanging the buttons on the Discussion Device

The Discussion Device is delivered as a participant's Discussion Device. To configure the Discussion Device as a 'chairperson's Discussion Device':
1.   Unplug the Discussion Device from the system cabling.
2.   Use the exchange tool (**1**) to push the single microphone button (**2**) from the Discussion Device as shown (put the single button in a safe place).
3.   Preposition and then gently press the chairperson's priority button (**3**) and microphone button (**4**) into place. Do not use excessive force!
4.   Set the slide-switch (**2**) at the base of the Discussion Device from the 'participant's setting (**0**)' to the 'chairperson's setting (**1**)'. See following figure.
5.   Reconnect the Discussion Device to the system cabling. A restart of the system is not necessary.

6.   When the Discussion Device is powered on the first time, it has no address and association with the Control Unit. To initialize/address the Discussion Devices:

–   Push the concealed initialization button (**1**) at the base of the Discussion Device. The LED indicators of the Discussion Device are lit. The initialization button (**1**) is used for reassigning/removing the address of Discussion Device.

–   Push the microphone button (**2** or **4**) once. When initialized/addressed correctly, all Discussion Device LEDs are off. When not initialized/addressed, try again or see *System settings, page 34 >* **Seats** of the web browser.

–   **Note**: Do not initialize/address more than one Discussion Device at the same time.
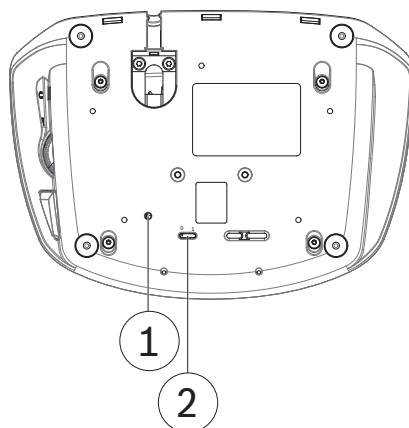
Figure 7.3: Discussion Device base view

7.3   Web browser

The CCS 1000 Digital Discussion System web browser is used to prepare and manage discussions and to configure the CCS 1000 Digital Discussion System.

Preconditions
–   Connect the Control Unit, via the Ethernet network port to your (wireless) network.
–   The Control Unit is powered on.
–   A configuration tablet device and/or PC, including compatible web browser is on.

Notice!
To access the web browser using the name (CCS1000D) instead of the IP address (CCS1000D.local), the following software must be installed so that the Control Unit can be detected during initialization of the system (DVD with the software comes with the Control Unit):
- Laptop and PC: Bosch DNS-SD or Apple Bonjour (Download via Apple website).
- Android tablet: zero conf. browser.

Notice!
Settings are automatically saved when entered.

Notice!
It might that not all web browser controls are available for the CCSD-CU version, as it does not have DAFS and recording functionality.

Configuration
See *System settings, page 34* > **Network**.

7.3.1   Login

Login to the discussion application:

1. Open your web browser and enter the link-local default web address (URL) of the central device (CCSD-CU(RD)): CCS1000D.local. **Note**: Remove the .local, when on a business network (i.e. within Bosch).
    –   A **Login** dialog is shown. This dialog is used to login to the discussion application by using a **User name** (Select Operator or Technician) and **Password**. The user can also select the preferred application **Language**.
    –   Only one user can login at the time. A second user is notified that login is occupied.
2. The web browser shows you the following **homepage**, if login is successfull:
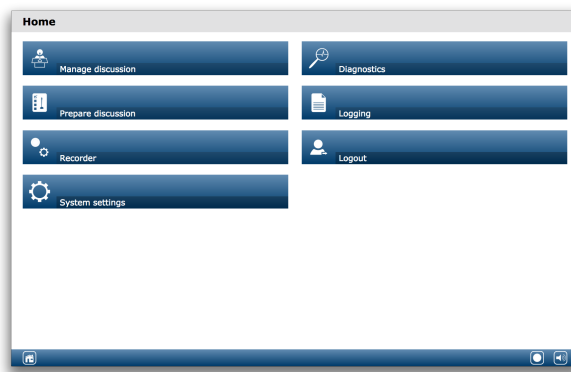
Figure 7.4: Homepage (CCSD-CURD)

> **i**   **Notice!**
>
> The default User name is "Operator" and the password is empty. The default language is the language of the operating system; if the default language is not available, English is automatically selected.

Access rights

To logon the CCS 1000 Digital Discussion System discussion application, two access types are defined:

1. **Technician** (full access rights).
2. **Operator** (limited access rights).

Button	Description	Technician access	Operator access
Manage discussion	To manage a discussion.	Yes	Yes
Prepare discussion	To prepare a discussion.	Yes	Yes

Button	Description	Technician access	Operator access
Manage recorder (CCSD-CURD only)	To manage the recorder.	Yes	**No**
System settings	To configure the system.	Yes	**No**
Diagnostics	To diagnose Control Unit and Discussion Device.	Yes	**No**
Logging	Overview and saving of system events.	Yes	**No**
Logout	Exits the discussion application and returns you to the login page.	Yes	**No**
Home	Returns you to the web browser homepage.	Yes	Yes
Back	Returns you to the previous page.	Yes	Yes
Record start/ pause/ stop(CCSD-CURD only)	Start recording button. As soon recording is starting, the pause and stop recording buttons become visible.	Yes	Yes
Master volume	Opens the master volume control slider. Controls the Discussion Devices loudspeaker and Control Unit audio output level.	Yes	Yes

See also

– *Manage discussion, page 32*

7.3.2 Manage discussion

Click the **Manage discussion** button on the homepage, to open the **Manage discussion** page.

Manage discussion means:
– View discussion list: Speakers and waiting participants.
– Shift waiting participant.
– Start, stop and pause recording (CCSD-CURD only).
– Master volume control.

Manage discussion

The overview on the left-hand and right-hand side, shows the **discussion list**. This list contains **waiting** and **speaking** participants.

Use the **Shift** button, to shift participants from **Waiting** to **Speaker**. If the speaker list is full, the longest speaking participant is removed from the speaker list.

By clicking the **Stop and remove all speakers** button, all **Waiting** speakers and **Speakers** can be removed from the lists.

– Click the **+** button to select and add participants to the **Waiting** or **Speakers** list.
– Click the **recycle bin** to remove a seat from the **Waiting** list or **Speakers** list.

Recording button (CCSD-CURD only)

Recordings are saved to a connected USB memory stick or onto the internal memory. See also *Recording a discussion, page 38*, if required.

Click the **Recorder** button which starts recording immediately. The following buttons are then available:

– **Stop** button. Stops recording.
– **Pause** button. Pauses recording.

Master volume control button

Click the master volume control button for adjusting the Discussion Devicess loudspeaker and Control Unit audio output level.

See also
– *Discussion modes, page 26*

7.3.3 Prepare discussion

To prepare a discussion, click **Prepare discussion**. This opens the **Prepare discussion** page.

Prepare discussion means:
– Define the **discussion settings**.

Prepare discussion
– **Mode:**
  – Select the appropriated **microphone mode** (**Open**, **Override**, **Voice** or **Push To Talk** (PTT)). For detailed microphone mode description, refer to *Discussion modes, page 26*.
  – **Auto Shift**: When selected, queues in the waiting list are automatically shifted to the speaker list, if it is not full yet.
– **Microphone options:**
  – **Speaker list size**: Select the maximum quantity of speakers in the speakers list.
  – **Auto microphone off after inactivity of 30 seconds**: This function can be used when participants forget to switch off the microphone manually.

- – **Allow participants to switch off the microphone**: When selected, participants are allowed to switch off their microphone.
        - – **Show possibility-to-speak**: When selected, the white light in the Discussion Device microphone request button is on. Pressing the microphone request button will enable the microphone without being queued in the waiting list.
    - – **Waiting list options:**
        - – **Waiting list size:** The maximum number of requests in the waiting list can be selected here.
        - – **Allowed participants to remove themselves from the waiting list:** When selected, participants can remove themselves from the waiting list.
        - – **Show the first in the waiting list on the seat**: When selected, the LED on top of the device microphone that is the first in the waiting list will blink green instead of being steady green. Can only be used when **Show listed in the waiting list on the seat** is also selected. **Note**: This does not influence the behavior of the button bar LEDs.
    - – **Priority:**
        - – **Priority tone audible**: When selected, a priority tone is audible when the device priority button is used.
        - – **Mute all speakers**: When selected, it mutes all speakers temporarily when the device priority button is used.
        - – **Stop all speakers and remove all waiting participants**: When selected, it cancels all speakers, and requests when the device priority button is used.

7.3.4 Manage recorder

Preconditions:
- – The logged on user must have access right: **Technician**.

Click the **Recorder** button (CCSD-CURD only), which opens the **Recorder control** page.
The recorder is used to manage recordings and play (discussion) recordings. External audio files / recordings can also be uploaded and played.
Recordings can be saved to a connected USB memory stick or onto the internal memory. See also *Recording a discussion, page 38*, if required.
The following functions become available:
- – **Playback**:
    - – **Pre-listen**: Listen to the selected audio file on the CCSD-CURD only.
    - – **Playback to floor**: The selected audio file will be played and listened on the system audio floor channel.
- – **Recordings overview list:**
    - – If an USB stick is connected, only the USB memory (recording) files are listed.
    - – If no USB stick is connected, only recorded files of the internal memory are listed.
    - – More than 4000 files can be listed in the overview.
- – **Progress indicator** (only shown during playback). Shows the time length of the recording.
- – **Fast backward** and **fast forward** buttons while playing of the audio file.
- – **Stop** button. Stops playback or recording.
- – **Record** button. Starts recording.
- – **Playback** and **pause** buttons. Plays or pauses the audio file.
- – **Delete recording** button. Deletes the recorded file from the used memory and overview.

7.3.5   System settings

Preconditions:
–   The logged on user must have access right: **Technician**.
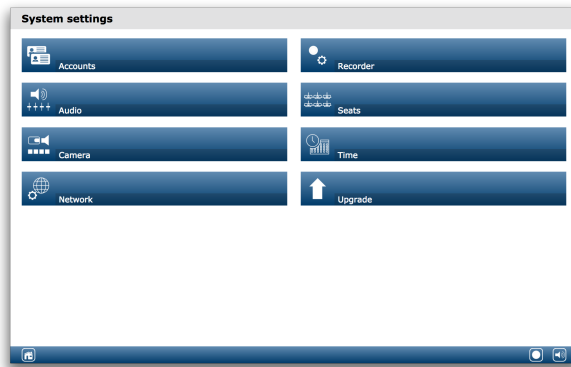

Figure 7.5: CCSD-CURD System settings

Click the **System settings** button which opens the **System settings** homepage.

Accounts

Click the **Accounts** button which opens the **Accounts** settings page.
–   To logon, two types of accounts can be selected: **Technician** or **Operator**.
    –   Refer to *Login, page 30* about the access rights.
–   Click the **Change password** button to change the **Technician** or **Operator** password. To change the password, select and remove the current characters and enter new characters (Min. 3 and max. 20 characters).

Audio

Click the **Audio** button which opens the **Audio** settings page:
–   **System**:
    –   **Master**: Master volume to control the Discussion Devices loudspeakers and the sound reinforcement output.
–   **Line Input / Output**: Sets the sensitivity of the analogue audio input and audio output levels 1 and 2 of the Control Unit.
–   **Microphone level:** Defines the mode of audio input 1 of the Control Unit:
    –   When selected, it enables input 1 (XLR) for microphone signal level.
    –   When not selected, it enables input 1 (RCA socket) for audio line input level.
–   **Routing options**: Defines the audio routing mode of input 2 and output 2 of the Control Unit:
    –   **Recorder**: Use the recorder mode to connect an external recorder via audio input 2 and output 2**.**
    –   **Delegate LS**: In Delegate LS mode, audio input 2 and output 2 are used and level controlled independently.
    –   **Mix-minus**: Use the Mix-minus mode to connect two systems via audio input 2 and audio output 2.
    –   **Insertion**: In the Insertion mode, audio output 2 and audio input 2 are both used to add signals from external audio devices. For example, connection of an external audio mixer between audio output 2 and audio input 2.

– **Line output for microphones** (CCSD-CURD only): Sets the level of the analogue audio outputs 3-6 of the Control Unit:
  – Select 3, 4, 5 or 6 to enable selectable microphones for individual recording.
– **Acoustic Feedback Suppression**:
  – **Attenuate headphone when speaking**: Attenuates the headphone volume of the Discussion Devices 18 dB, when selected and the microphone is on.
– **AFS:** Here the AFS function can be switched on or off.

Camera

Click the **Camera** button which opens the **Camera** settings page.
– **Overview Camera**: Defines the camera used as the overview camera.
– **Preposition**: Defines the preposition used for the overview.
– **Switcher**: Enter the IP address of the HD-SDI video switcher used.
– **Remove:** Click the recycle bin icon to remove the selected camera.
  – **Note**: Only a disconnected camera can be removed.
– **Camera**: Here all connected cameras are listed, including: **Serial Number**, **Software version**, camera **Type** and to which video switcher **Input** it is connected.
  – The camera **Serial Number** is used as a link to the camera configuration web pages. **Note**: Only possible if your PC configuration device is wired connected to the Control Unit.

Notice!

Ensure that the Bosch Onvif Camera has firmware 5.80 or higher.

Network

Click the **Network** button which opens the **Network** settings page.
Here the network settings can be edited and set:
– **Hostname**: Enter the Link-local web address of the Control Unit:
  – Name (CCS1000D) or
  – URL (CCS1000D.local) in case the Control Unit is not connected to a cooperate network).

Recorder (CCSD-CURD only)

Click the **Recorder** button which opens the **Recorder** settings page.
The following recorder settings are available:
– **Bit rate:** Select the recording audio quality (from 64 kbps (lowest) up to 256 kbps (highest)).
– **Recording source:** Select which audio source must be recorded:
  – **Floor only**: The audio of the floor discussion language is recorded.
  – **Floor and output 3, 4, 5, 6**: The audio of the floor discussion language and audio outputs 3-6 signals are both/mixed recorded.

Seats

Click the **Seats** button which opens the **Seats** overview page.

Here the devices can be assigned to seats:

–   **Configure mode** (select on device): When selected, a device can be located by selecting the seat in the list or by pushing the device microphone request button. All device LEDs are illuminated.

  –   When the configure mode is active, devices cannot be used.

–   **De-init button**: When clicked; it erases the address/subscription of the selected device. All LEDs on the device are on when the device does not have an address/subscription.

–   **Remove all disconnected seat** button**:** Removes the subscribed seats from the seats overview.

–   **Seats** overview**:**

  –   **Select:** Click the icon to select the seat.

  –   **Seat:** The seat name.

  –   **Camera:** The camera name/number connected to the seat.

  –   **Preposition**: Camera preposition setting (number) assigned to the seat.

Time (CCSD-CURD only)

Click the **Time** button which opens the **Time** and **Date** settings page:

–   **Time:** Select the local time.

–   **Date:** Select the current date.

Upgrade

> **Notice!**
>
> Upgrade is not available on tablets.

Click the **Upgrade** button which opens the software **Upgrade** page.

The **Upgrade** page is used to upgrade/maintain the software of the Control Unit:

1.   From the product related information page on www.boschsecurity.com, download the upgrade **software** file.

2.   From the **Upgrade** page, click the **browse** button to select your saved **software** file.

3.   Select the Control Unit or devices in the **Select** column, to which you want to download the software.

4.   Click the **Upgrade** button to start the uploading process.

  –   **Progress** bars indicating the uploading process.

  –   The uploading status is shown in the **State** column (Idle, Programming, Rebooting, Done or Failed after reboot). If the upgraded file is corrupt or not recognized, an error message becomes visible.

  –   Software versions (numbers) are shown in the **Version** column. The uploaded software version number is only shown when the upgrade process is succeeded.

5.   Exit the **Upgrade** page after completion of the uploading process (Done state).

7.3.6   Diagnostics

Preconditions:
–   The logged on user must have access right: **Technician**.

The Control Unit and Discussion Devices have their own built-in diagnostics, which is used for maintenance and faultfinding. The diagnostics starts as soon the Control Unit and Discussion Devices are powered on, connected and initialized within the system.
When the **Diagnostics** button is clicked, the system diagnostics results are shown on the **Diagnostics** page. Diagnostics is used by a technician.

7.3.7   Logging

Preconditions:
–   The logged on user must have access right: **Technician**.

Click the **Logging** button, which opens the **Logging** page.
Logging is used for automatically saving system events, such as:
–   Date, time and (error) type of the event.
–   Using the **Clear** button to clear the complete event overview.
–   Using the **Export** button to export and save the current event logging overview file **(*.txt format)** on your tablet's / PC's hard-drive**.**

7.3.8   Logout

Preconditions:
–   The logged on user must have access right: **Technician**.

Click the **Logout** button to log off from the discussion application, which returns you to the **Login** page.
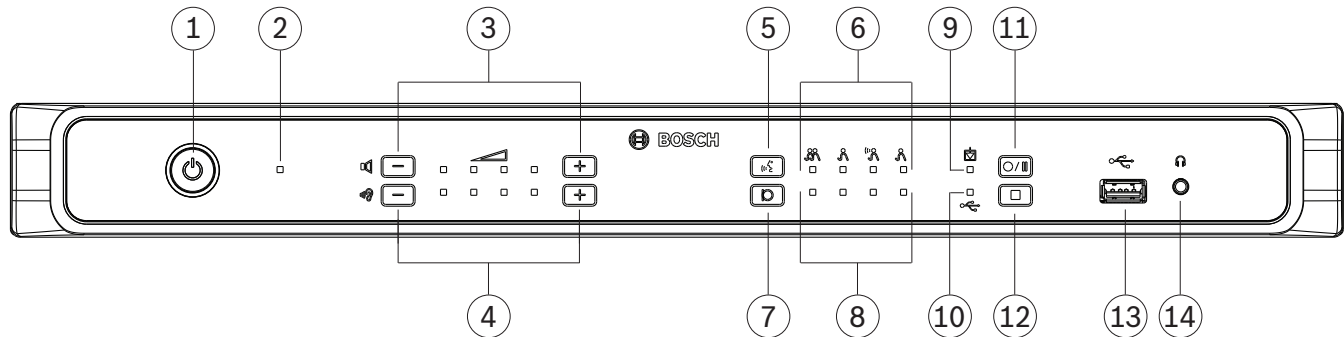
8 Operation

8.1 Recording a discussion

Figure 8.1: Front view of CCSD-CURD Control Unit

The built-in recorder in the CCSD-CURD Control Unit can be used to record discussions in the MP3 format. Recordings can be saved to the internal memory or an USB memory stick (The USB memory stick needs to be formatted in FAT32. Other file systems do not work.). The appropriate memory and LED indicator are selected and deselected when the USB memory stick is inserted and removed from the USB connector at the front of the Control Unit. When recording is started, the MP3 recorder automatically creates an MP3 file, using the current date and time as the file name. Recorded files have a maximum duration of 60 minutes. After 60 minutes, the file will be automatically closed, and a new file will be created. This process is repeated as long as recording is active or until the internal memory or USB stick is full.

Notice!

An USB memory stick > 32GB cannot be formatted to FAT32 using the standard windows format-tool. An additional tool is needed. This tool is part of the DVD which comes with the Control Unit.

Making a recording
1. Using a USB memory stick is preferred, if external recording is required.
2. Connect a USB memory stick to the USB connector (**13**) at the front of the Control Unit. The USB recording LED indicator (**10**) will light up green to indicate that the stick has been detected and that recording can begin.
3. Press the 'start/pause' recording button (**11**) to start a recording session. The LED indicator will turn red to indicate that recording is active.
   - To pause recording, press the 'start/pause' recording button again. The LED indicator will flash red to indicate that recording is temporarily stopped.
   - To resume recording, press the 'start/pause' recording button again. The LED indicator will turn red to indicate that recording is active.
   - To stop recording press the 'stop recording' button (**12**). The LED indicator will turn green to indicate that the recording session is complete.

Recording will automatically stop when:
- Internal recording is taking place and a USB memory stick is inserted into the USB connector (**13**) at the front of the Control Unit.

–   External recording is taking place and the USB memory stick is removed from the Control Unit. **Caution**: Only remove the USB memory stick when the green recording LED is on.
–   The internal memory is full when recording internally.
–   The USB memory stick is full when recording on USB memory stick.

Playing back a recording
To playback a recording either:
–   Connect a tablet, laptop, or PC to the Control Unit, and playback the recording by using the web browser to select which recording has to be played back. See *Web browser, page 29*.
–   Remove the USB memory stick from the Control Unit, and transfer the MP3 file(s) to a PC.
–   Download the MP3 flie(s) from the internal memory of the CCSD-CURD to a PC, by using the micro USB connector at the rear of the Control Unit.

Notice!
Recordings cannot be saved to the internal memory during the transfer of MP3 files.

8.2   Using the microphone button
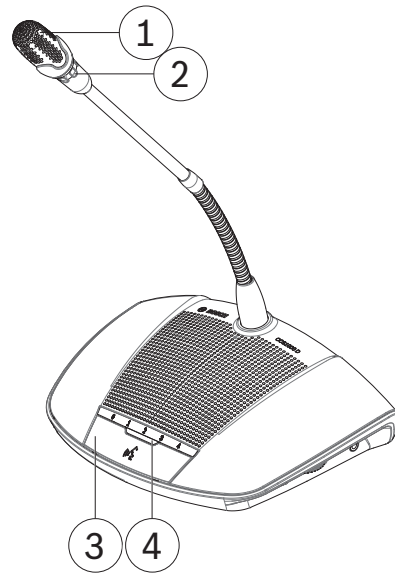
Figure 8.2: Discussion Device with participant's button fitted

Use the microphone button (**3**) on your Discussion Device to activate and deactivate your microphone (**1**) as required. The LED indicator (**4**) above the microphone button and light-ring (**2**) in the head of the microphone will indicate the status of your Discussion Device. The following color codes are used:

White (possible-to-speak indication)
This indicator is only above the microphone button and not in the light-ring. **Note**: In voice activated mode this LED is off.
– You can activate your microphone immediately by pressing the microphone button.
– Your request to speak will not be added to the waiting list.

Green
– Your request to speak has been added to the waiting list.
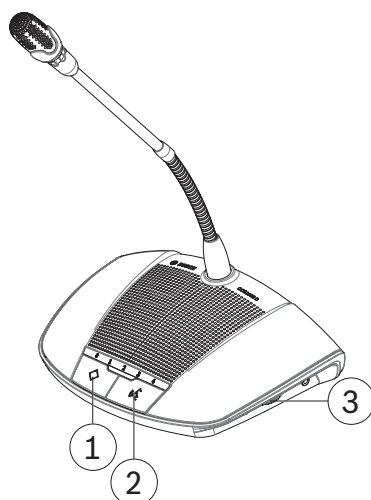– The waiting list can be viewed and managed in the web browser.

Green flashing
– Your request to speak is first in the waiting list.
– As soon as the active speaker disables their microphone button you will be allowed to speak.

Red
– Your microphone is active; you are allowed to speak.

8.3   Using the priority button

Figure 8.3: Discussion Device with chairperson's button fitted

When the Discussion Device is configured as a chairperson's Discussion Device, the priority button (**1**) can be pressed and held in to override all participant microphones. A chime (when selected in the web browser, see *Web browser, page 29*) is sounded at the same time. The chairperson's microphone button (**2**) has the same function as a participant's microphone button.

8.4   Adjusting headphones volume
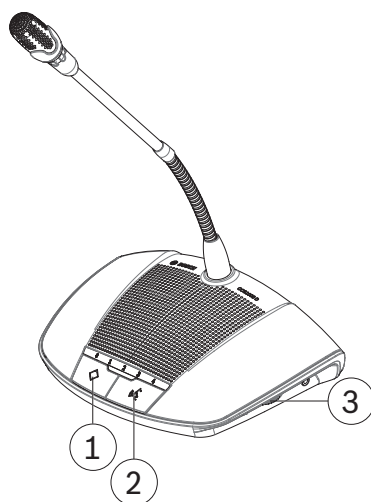
Figure 8.4: Discussion Device with chairperson's button fitted

Use the rotary thumbwheel (**3**) on the side of the Discussion Device to adjust the volume of the headphones, when connected.

9 Troubleshooting

9.1 Troubleshooting table

Problem	Possible cause	Possible solution
No sound from Discussion Devices.	Microphone active or headphones connected.	Note: The loudspeaker is automatically switched off when: – The microphone is activated. – Headphones are connected.
	Loudspeaker volume too low.	Use the volume control button on the Control Unit to centrally increase the volume of all Discussion Devices.
Faint or distorted sound from Discussion Devices.	One or both trunk lines are overloaded.	Reduce the load on the trunk-lines: – Reduce the number of Discussion Devices, or – Reduce the length of the extension cable(s).
Microphone does not respond.	One or both trunk lines are overloaded.	Reduce the load on the trunk-lines: – Reduce the number of Discussion Devices, or – Reduce the length of the extension cable(s).
Acoustic feedback from Discussion Devices.	Loudspeaker volume is too high.	Use the volume control on the Control Unit to centrally decrease the volume of all Discussion Devices.
	Distance between Discussion Devices is too small (the microphone of one device is too close to the loudspeaker of another device).	Increase the distance between the Discussion Devices.
	When using open headphones, the distance between the headphones and the Discussion Device's microphone is too small.	– Increase the distance between the headphones and the microphone. – Disconnect the headphones when not in use.

Problem	Possible cause	Possible solution
Part of system not working correctly.	Interrupted system cabling.	– Check all trunk connections between the Discussion Devices and the Control Unit. – Check the connections of the auxiliary equipment.
Recording to the internal memory not possible.	Internal memory full.	– Check internal recording LED indicator: Red/green flashing indicates that the internal memory is full. – Connect a USB cable to the micro USB connector at the rear of the Control Unit and transfer files to a PC if necessary.
Recording to USB memory stick not possible.	USB memory stick not fully inserted in Control Unit.	– Make sure the USB memory stick is fully inserted. – Check that the USB recording LED indicator is green: Indicates that the USB memory stick is selected and the Control Unit is ready for recording.
	Incorrect type of USB memory stick.	Use a SanDisk memory stick.
	USB memory stick incorrectly formatted.	Make sure the USB memory stick is formatted with the FAT32 file system.
	USB memory stick too large.	Do not use a USB memory stick larger than 128 GB.
	USB memory stick full or damaged.	– Check internal recording LED indicator: Red/green flashing indicates that the internal memory is full. – Connect the USB memory stick to a PC, and transfer the files to a hard disk if necessary. – Check the read/write possibilities of USB stick.

Problem	Possible cause	Possible solution
	If the Control Unit does not detect the connected USB memory stick, it will automatically record on the internal memory.	– Replace the (bad) USB memory stick.
Incorrect response from LED indicator above microphone button.	Incorrect microphone mode selected.	Check microphone mode and change mode if required.
	Configuration switch at base of Discussion Device incorrectly set.	Set the configuration switch to either Participant's device or Chairperson's device. See *Discussion Device, page 27*. The configuration mode can still be switch on in the **Seat** page of the web browser.

10   Maintenance

The CCS 1000 Digital Discussion System requires minimum maintenance. To ensure for trouble-free operation, clean and inspect the system components on a regular basis:

10.1   Cleaning

⚠️

Caution!

Do not use alcohol, ammonia, petroleum solvents or abrasive cleaners to clean the system components.

1.   Disconnect the Discussion Devices from the system cabling.
2.   Clean the Discussion Devices with a soft cloth slightly moistened with a weak soap and water solution.
3.   Wait until the Discussion Devices are fully dry before reconnecting them to the system cabling.
4.   Clean the Control Unit with a soft cloth, as required.

10.2   Inspect components

1.   Check all CCS 1000 Digital Discussion System components for signs of wear and tear. Replacement Discussion Devices can be ordered from your Bosch representative, if required.
2.   Check the Discussion Device microphone buttons for correct operation. Is should not be loose or stick when operated.
3.   Check all connectors and system cabling for damage.

10.3   Storage

If you do not intend to use the CCS 1000 Digital Discussion System for a while:

1.   Disconnect the 24 VDC power supply from the mains and from the rear of the Control Unit.
2.   Disconnect the Discussion Devices from the system cabling.
3.   Store the Discussion Devices, Control Unit and system cabling in a clean, dry area with sufficient ventilation.

     For the maximum and minimum storage temperatures, refer to *Technical data, page 46*.

11   Technical data

11.1   Control Units

Electrical

Mains voltage	100 to 240 VAC ± 10%
Current consumption	Maximum 0.2 A (100 VAC) to 0.6 A (240 VAC)
DC supply to Discussion Devices	24 V ± 1 V (current limited)
Number of Discussion Devices per Control Unit	Max. 40 devices per trunk connector
Loudspeaker volume control	15 steps of 1.5 dB (starting from -10.5 dB)
Limit threshold level to unit	12 dB above nominal level
Gain reduction due to number of open microphones (NOM)	1/SQRT (NOM)

Total harmonics

Nominal input (85 dB SPL)	< 0.5%
Max. input (110 dB SPL)	< 0.5%

Audio inputs

XLR nominal microphone input	-56 dBV
XLR maximum microphone input	-26 dBV
RCA nominal input	-24 dBV (+/- 6 dB)
RCA maximum input	+6 dBV
S/N	> 94 dBA

Audio outputs

RCA nominal output	-24 dBV (+6/- 24 dB)
RCA maximum output	+6 dBV
S/N	> 102 dBA

Sample frequency (CCSD-CURD)

Recording	44.1 kHz
Playback	44.1 kHz

Bit rate (CCSD-CURD)

Recording	64, 96, 128, 256 Kbit/sec
Playback	64, 96, 128, 256 Kbit/sec

Compatibility conform ID3V2 MP3-tags (CCSD-CURD)

SanDisk USB memory stick	Formatted with FAT32 file system Maximum size: 128 GB

Recording capacity in hours (CCSD-CURD)

Bite rate	Internal memory hours	USB memory stick hours			
		16 GB	32 GB	64 GB	128 GB
64	8 hrs	500	1000	2000	4000
96	5 hrs	350	700	1400	2800
128	4 hrs	250	500	1000	2000
256 *	2 hrs	125	250	500	1000

* Possible when recording the "floor" audio.

Mechanical

Dimensions including feet (H x W x D)	45 x 440 x 200 mm (1.8 x 17.3 x 7.9 in) 19" wide, 1 RU high
Height of feet	5.5 mm (0.2 in)
Mounting	Tabletop 19-inch rack
Weight (CCSD-CU)	Approx. 3.2 kg (7.1 lb)
Weight (CCSD-CURD)	Approx. 3.4 kg (7.5 lb)
Material (top)	Painted metal
Material (base)	Painted metal
Color (top)	Traffic black (RAL 9017) matt-gloss
Color (base)	Traffic black (RAL 9017) matt-gloss
Rim	Pearl light grey (RAL 9022) matt-gloss

Environmental

Operating temperature	5 ºC to +45 ºC (+41 ºF to +113 ºF)
Storage temperature	-40 ºC to +70 ºC (-40 ºF to +158 ºF)
Relative humidity	5% to 98% non-condensing

11.2   Discussion Device

Electrical

Frequency response	30 Hz to 20 kHz
Headphones load impedance	> 32 ohms < 1k ohm

Mechanical

Dimensions device without microphone (H x W x D)	64 x 203 x 146 mm (2.5 x 8.0 x 5.7 in)
Height with microphone in horizontal position	130 mm (5.1 in)
Length of microphone from mounting surface	CCSD-DS: 310 mm (12.2 in) CCSD-DL: 480 mm (18.9 in)
Weight	Approx. 1 kg (2.2 lb)
Mounting	Tabletop (portable or fixed)
Material (top)	Plastic ABS+PC
Material (base)	Metal ZnAl4
Color (top)	Traffic black (RAL 9017) matt-gloss
Color (base)	Pearl light grey (RAL 9022) matt-gloss

Environmental

Operating temperature	0 ºC to +35 ºC (+32 ºF to +95 ºF)
Storage temperature	-40 ºC to +70 ºC (-40 ºF to +158 ºF)
Relative humidity	15% to 90%
Air pressure	600 to 1100 hPa

11.3 Safety compliance

The following data relates to the following products:

–   CCSD-CU Control Unit
–   CCSD-CURD Control Unit
–   CCSD-DS Discussion Device
–   CCSD-DL Discussion Device

11.3.1 Control Units

Safety	IEC/EN 60065
EMC	EN 55103-1 EN 55103-2
Environment	EN 50581
US	UL 60065 FCC Part 15B
KR	KCC
CA	CSA C22.2. No. 60065
AU/NZ	RCM
RU	EAC
JP	PSE Circle

11.3.2 Discussion Devices

EMC	EN 55103-1 EN 55103-2
Environment	EN 50581
US	FCC Part 15B
KR	KCC
AU/NZ	RCM
RU	EAC