CCS 1000 D Control Units

The Control Unit is the main component of the CCS 1000 D Digital Discussion System. It supplies DC power to all connected Discussion Devices (CCSD-DS/CCSD-DL) and monitors and controls the discussion system.

• Up to 80 Discussion Devices can be connected to a single Control Unit; the system can be expanded to a maximum of 245 Discussion Devices by using Extension Units (CCSD-EXU).
• Touch-button control allows for easy configuration and operation of the unit, while intuitive LED indicators give a clear indication of the system settings.
• Conveniently positioned connections at the rear of the unit enable peripheral equipment to be connected to the discussion system, such as audio equipment, Ethernet switches, video switches, Bosch HD Conference Domes, and a PC or laptop.
• An intuitive web browser interface control allows basic and advanced system settings to be easily viewed and changed, as required.

There are two types of Control Unit: the CCSD-CU and the CCSD-CURD.

• The CCSD-CURD Control Unit has MP3 recording and Digital Acoustic Feedback Suppression (DAFS).
• Four RCA outputs at the rear of the CCSD-CURD ensure that it is optimized for use in courtrooms, i.e. for recording individual speakers.

Functions

Plug-and-play functionality
The plug-and-play functionality of the Control Unit allows Discussion Devices and system cameras to be conveniently connected to and removed from the system as required. A power down or restart of the system is not necessary, which ensures fast installation and reconfiguration times.

Web browser control
Basic and advanced system settings, including microphone management, can be easily viewed and configured using a web browser interface in combination with a tablet, laptop or PC.

• Changes made in the web browser interface are automatically updated in the Control Unit and vice-versa.
• An energy saving mode in the web browser interface allows the Control Unit and connected devices to automatically shut down if they are not used for two hours.
• The standby mode can be used during a meeting break. When this mode is selected, the Control Unit is set to standby and all Discussion Devices are switched off.
• The standby mode can be used during a meeting break. When this mode is selected, the Control Unit is set to standby and all Discussion Devices are switched off.
• Changes made in the web browser interface are automatically updated in the Control Unit and vice-versa.

A RESTful API (Application Program Interface) can be used to:

• control the speaker’s microphone.
• control the discussion modes and waiting lists.
• set the system to, and recover the system from, standby.
• retrieve and set the microphone sensitivity of an individual Discussion Device.
• facilitate web-casting and recorder solutions requiring microphone information, third-party Pan Tilt Zoom (PTZ) camera systems, and synoptic layouts for enabling and disabling microphones.

Microphone management
The maximum number of microphones that can be activated at the same time by pressing the microphone buttons on the Discussion Devices can be selected with the ‘Number of Open Microphones’ (NOM) button on the Control Unit.
• A maximum of four microphones can be selected on the Control Unit.
• This can be further extended to 25 microphones in the web browser interface.

Interruption microphone option
A Discussion Device can be configured as an interruption microphone that can always get the floor regardless of the number of open microphones. Typically an interruption microphone is positioned at a podium for use by guest speakers. The web browser interface allows a total of 25 Discussion Devices to be configured as interruption microphones or chairperson’s devices.

Discussion modes
One of the following microphone modes can be selected by pressing the ‘Microphone-mode’ button on the front of the Control Unit:
• Open mode - Participants can speak by pressing their microphone buttons. When the maximum number of open microphones is reached, the next participant that presses their 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.
• Override mode - 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 (the chairperson’s microphone is not included in the number of open microphones and, therefore, cannot be overridden by a participant).
• Voice activation mode - 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) mode - 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.

Camera control
Onif Profile-S compliant cameras are automatically discovered.
The Camera Control offers:
• Control of Onif Profile-S compatible cameras with username and password.
• Panasonic camera support via its IP protocol:
• Sony camera support via its IP protocol:
  – SRG-300SE and SRG-360SHE.
• Control of the TvOne CORIOmatrix and the Kramer MV-6 video switches.
• The enabling of HD-SDI video switching, so that HD SDI video signals can be automatically switched and displayed with low-latency on one or more hall displays.

Interface for connecting peripheral equipment
The Control Unit enables the following equipment to be connected to the Digital Discussion System:
• System cameras - for giving a clear visual overview of the proceedings. A maximum of six cameras and a video switcher can be connected to the system with native support (the camera presets can be configured in the web browser interface). The CCS 1000 D Digital Discussion System supports the TvOne CORIOmatrix and the Kramer MV-6 video switcher.
• External wired or wireless microphone - to allow a guest speaker or an audience to participate in a discussion.
• Sound reinforcement system - for transmitting the proceedings to an audience in the same room or an adjacent room.
• Audio equipment - for broadcasting music through the loudspeakers of the discussion system.
• External audio processor - for modifying the floor signal distributed to the participant loudspeakers and headphones (i.e. equalizing).
• Telephone coupler - allows a remote participant to join a discussion through a telephone/video connection.
• External recorder - for recording and playing back discussions.
• PC or laptop (connected via micro USB connector at rear of Control Unit) - for updating the software or for transferring recordings (discussions) from the internal memory of the Control Unit.

Built-in MP3 recorder (CCSD-CURD only)
The built-in recorder can record discussions in the MP3 format to the internal memory or a USB memory stick with a maximum capacity of 128 GB, which can store up to 4,000 hours discussion. By default, recordings are divided into files of one hour’s duration containing the date and time of recording. Continuous recording (i.e. for courtrooms) can be configured in the Control Unit, if required.
• **Internal memory** - recordings are automatically saved to the internal memory unless a USB memory stick is connected to the USB connector at the front of the Control Unit. The internal memory can record up to 8 hours discussion.

• **USB memory stick** - recordings are automatically saved to a USB memory stick when it is connected to the Control Unit. A USB memory stick of 128 GB can record up to 4,000 hours discussion.

LED indicators inform users when data is being recorded to the internal memory or USB memory stick. Three short beeps and a red flashing LED indicate when 5 minutes of recording are left. A long beep and a red/green flashing LED indicate when it is not possible to record a discussion (i.e. internal memory full and USB memory stick not connected to the Control Unit, USB memory stick full or damaged).

**Built-in monitor loudspeaker (CCSD-CURD only)**
The built-in loudspeaker and headphone socket allows for:
- live monitoring of a meeting from the Control Unit.
- prelistening of audio files before replaying them to the Floor.

**Built-in Digital Acoustic Feedback Suppression (DAFS) (CCSD-CURD only)**
The built-in Digital Acoustic Feedback Suppression (DAFS) feature suppresses acoustic feedback (also known as ‘howling’ or ‘Larsen effect’). This improves speech intelligibility by allowing the speaker volume to be set as loud as required without any risk of acoustic feedback.

**Controls and Indicators**
- Mains power on/off button with red/green LED indicator. Red indicates that the system is off (no power available from the external power supply). Green indicates that the system is active (Control Unit and all connected devices powered up).
- Plus/minus buttons for setting the volume range of all connected Discussion Devices - used in combination with LED indicators for showing the selected volume.
- Microphone-mode button for selecting one of the microphone operating modes - used in combination with LED indicators for showing the selected mode.
- Open microphone button for selecting the number of microphones that can be activated at the same time - used in combination with LED indicators for showing the number of activated microphones.

**CCSD-CURD only:**
- Plus/minus buttons for setting the volume of the built-in loudspeaker or headphones, if connected - used in combination with LED indicators for showing the selected volume.
- Combined record/pause button for starting and pausing a recording session.
- Stop recording button for ending a recording session.

**Connections**
**Front of unit (CCSD-CURD only):**
- 1 x 3.5 mm (0.14 in) stereo headphone socket.
- 1 x USB connector.

**Rear of unit:**
- 1 x 4-pole circular female 24 VDC power input connector.
- 2 x 6-pole circular female connectors for loop-through connection of 40 Discussion Devices per trunk.
- 1 x RJ45 Ethernet connector for communication with web browser interface application.
- 1 x 3-pole XLR female microphone input connector with phantom supply.
- 1 x RCA input for ‘Floor’ (i.e. external audio source, such as a CD or DVD player).
- 1 x RCA output for a ‘sound reinforcement system’.
- 1 x RCA input/output 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.

Only one piece of audio equipment can be connected to this RCA input/output at any one time. The RCA input/output has to be configured by selecting the required option in the web browser interface.

**CCSD-CURD only:**
- 4 x RCA outputs for individual microphone recording, e.g. for recording individual speakers in a courtroom.
- 1 x micro USB connector.
### Regulatory information

<table>
<thead>
<tr>
<th>Country</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU</td>
<td>CE, WEEE¹</td>
</tr>
<tr>
<td>US</td>
<td>UL, FCC</td>
</tr>
<tr>
<td>CA</td>
<td>CSA, ICES-003, EPS¹</td>
</tr>
<tr>
<td>KR</td>
<td>KCC, KC¹, K-MEPS¹</td>
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<tr>
<td>AU/NZ</td>
<td>RCM, MEPS¹</td>
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<td>JP</td>
<td>PSE¹</td>
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<tr>
<td>CN</td>
<td>China RoHS, CCC¹</td>
</tr>
<tr>
<td>TW</td>
<td>BSMI¹</td>
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<tr>
<td>SA</td>
<td>SASO</td>
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¹ Only applicable for the power adaptor.

### Technical specifications

#### Electrical

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage Adaptor</td>
<td>100 to 240 VAC, 50/60 Hz</td>
</tr>
<tr>
<td>Current Consumption voltage Adaptor</td>
<td>1.9 A (100 VAC) to 1 A 240 (VAC)</td>
</tr>
<tr>
<td>DC voltage Control Unit</td>
<td>24 V, 6.0 A</td>
</tr>
<tr>
<td>Maximum number of Discussion Devices for Control Unit (without Extension Unit)</td>
<td>40 Discussion Devices per trunk 80 Discussion Device in total 24 V, Max 5.2 A (short-circuited protected)</td>
</tr>
<tr>
<td>Discussion Device loudspeakers volume control</td>
<td>15 steps of 1.5 dB (starting from -10.5 dB)</td>
</tr>
<tr>
<td>Limit threshold level to unit</td>
<td>12 dB above nominal level</td>
</tr>
<tr>
<td>Gain reduction due to number of open microphones (NOM)</td>
<td>1/SQRT (NOM)</td>
</tr>
<tr>
<td>Sample rate</td>
<td>44.1 kHz</td>
</tr>
<tr>
<td>Frequency response</td>
<td>30 Hz to 20 kHz</td>
</tr>
<tr>
<td>Ethernet speed</td>
<td>1 Gb/s</td>
</tr>
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</table>

#### Audio inputs

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>XLR nominal microphone input</td>
<td>-56 dBV</td>
</tr>
<tr>
<td>XLR maximum microphone input</td>
<td>-26 dBV</td>
</tr>
<tr>
<td>RCA nominal input</td>
<td>-24 dBV (+/- 6 dB)</td>
</tr>
<tr>
<td>RCA maximum input</td>
<td>+6 dBV</td>
</tr>
<tr>
<td>S/N</td>
<td>&gt; 93 dB</td>
</tr>
<tr>
<td>Frequency response</td>
<td>30 Hz to 20 kHz</td>
</tr>
<tr>
<td>THD</td>
<td>&lt;0.1%</td>
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</table>

#### Audio outputs

<table>
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<tr>
<th>Feature</th>
<th>Specification</th>
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<tbody>
<tr>
<td>RCA nominal output</td>
<td>-24 dBV (+6/- 24 dB)</td>
</tr>
<tr>
<td>RCA maximum output</td>
<td>+6 dBV</td>
</tr>
<tr>
<td>S/N</td>
<td>&gt; 93 dB</td>
</tr>
<tr>
<td>Frequency response</td>
<td>30 Hz to 20 kHz</td>
</tr>
<tr>
<td>THD</td>
<td>&lt;0.1%</td>
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</table>

#### Recorder (CCSD-CURD)

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recording/ Playback (bit rate)</td>
<td>64, 96, 128, 256 Kbit/sec</td>
</tr>
<tr>
<td>Recording/ Playback (sample frequency)</td>
<td>44.1 kHz</td>
</tr>
</tbody>
</table>

#### Monitoring loudspeaker (CCSD-CURD)

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal output</td>
<td>72 dB SPL</td>
</tr>
<tr>
<td>Frequency response</td>
<td>200 Hz to 16 kHz (acoustical)</td>
</tr>
<tr>
<td>Gain range</td>
<td>Mute -10.5 to +12 dB</td>
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</tbody>
</table>

#### USB memory stick compatibility (CCSD-CURD)

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
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<tbody>
<tr>
<td>SanDisk USB memory stick</td>
<td>Formatted with FAT32 file system. Maximum size: 128 GB.</td>
</tr>
</tbody>
</table>

#### Recording capacity in hours (CCSD-CURD)

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bite rate</td>
<td>Internal memory size/hours</td>
</tr>
<tr>
<td>USB memory stick size/hours</td>
<td></td>
</tr>
</tbody>
</table>

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Communications Systems - CCS 1000 D Control Units

<table>
<thead>
<tr>
<th>225 MB</th>
<th>16 GB</th>
<th>32 GB</th>
<th>64 GB</th>
<th>128 GB</th>
</tr>
</thead>
<tbody>
<tr>
<td>64</td>
<td>8 hrs</td>
<td>500 hrs</td>
<td>1000 hrs</td>
<td>2000 hrs</td>
</tr>
<tr>
<td>96</td>
<td>5 hrs</td>
<td>350 hrs</td>
<td>700 hrs</td>
<td>1400 hrs</td>
</tr>
<tr>
<td>128</td>
<td>4 hrs</td>
<td>250 hrs</td>
<td>500 hrs</td>
<td>1000 hrs</td>
</tr>
<tr>
<td>256*</td>
<td>2 hrs</td>
<td>125 hrs</td>
<td>250 hrs</td>
<td>500 hrs</td>
</tr>
</tbody>
</table>

* Supported when recording floor only.

Note: When floor and output x are selected, all times in the above table are reduced by 50%.

### 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 or 19” rack

**Material (top and base)**

Painted metal

**Color (top and base)**

Traffic black (RAL 9017) matt-gloss

**Rim front panel**

Pearl light grey (RAL 9022) matt-gloss

**Weight (CCSD-CU)**

Approx. 3.2 kg (7.1 lb)

**Weight (CCSD-CURD)**

Approx. 3.4 kg (7.5 lb)

### Environmental

**Operating temperature**

5 °C to +45 °C (+41 °F to +113 °F)

**Storage and transport temperature**

-40 °C to +70 °C (-40 °F to +158 °F)

**Relative humidity**

5% to 98% non-condensing

### Ordering information

**CCSD-CU Control unit**

Control Unit for the CCS 1000 D Digital Discussion System, provides DC power for a maximum of 80 Discussion Devices, enables peripheral equipment to be connected to the system.

Order number **CCSD-CU | F.01U.400.590 F.01U.298.806**

**CCSD-CURD Control unit with recorder and DAFS**

Control Unit for the CCS 1000 D Digital Discussion System, has MP3 recording and DAFS, provides DC power for a maximum of 80 Discussion Devices, enables peripheral equipment to be connected to the system.

Order number **CCSD-CURD | F.01U.400.591 F.01U.298.789**

**CCSD-CU-CN Control unit**

Control Unit for the CCS 1000 D Digital Discussion System, provides DC power for a maximum of 80 Discussion Devices, enables peripheral equipment to be connected to the system.

Order number **CCSD-CU-CN | F.01U.309.624**

**CCSD-CURD-CN Control unit with recorder and DAFS**

Control Unit for the CCS 1000 D Digital Discussion System, has MP3 recording and DAFS, provides DC power for a maximum of 80 Discussion Devices, enables peripheral equipment to be connected to the system.

Order number **CCSD-CURD-CN | F.01U.309.625**

### Accessories

**CCSD-EXU System extension unit**

Extension Unit for the CCS 1000 D Digital Discussion System, provides DC power for a maximum of 85 additional Discussion Devices.

Order number **CCSD-EXU | F.01U.307.207**

### Services

**EWE-CCS1DC-IW 12 mths wrty ext CCS 1000D control unit**

12 months warranty extension

Order number **EWE-CCS1DC-IW | F.01U.348.724**

**EWE-CCS1DR-IW 12 mths wrty ext CCS 1000D Cntr Unt DAFS**

12 months warranty extension

Order number **EWE-CCS1DR-IW | F.01U.348.725**

**EWE-CCSCU-IW 12 mths wrty ext CCS control unit**

12 months warranty extension

Order number **EWE-CCSCU-IW | F.01U.348.722**

Data subject to change without notice | 202112161029 | V20 | December 16, 2021

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