CCS 800 Ultro

Security Systems

en | Installation and Operating Manual
Discussion System

fr | Manuel d'installation et d'utilisation
Système de Discussion

de | Installations- und Bedienungshandbuch
Diskussionssystem

es | Manual de instalación y funcionamiento
Sistema de Conferencias

nl | Installatie- en gebruikshandleiding
Discussiesysteem

it | Installazione e Manuale operativo
Sistema audio congressuale

zh-t | 安裝及操作手冊
討論系統

zh-s | 安装及操作手册
讨论系统

th | คู่ มื อการติ ดตั้ งและใช้ งาน
ระบบเ สี ยงชุ ดประชุ

ja | 解説明書
カッションシステム

BOSCH

Page

en ..... **3** Prior to installing or operating this product always read the Safety Instructions which are available as a separate document.

fr ..... **24** Avant d 'installer ou d'utiliser ce produit, lisez toujours les Instructions de sécurité disponibles dans un document distinct.

de ..... **46** Lesen Sie vor Installation oder Inbetriebnahme dieses Produkts in jedem Fall die Sicherheitshinweise, die als gesondertes Dokument vorliegen.

es ..... **68** Antes de la instalación o utilización de este producto lea las Instrucciones de seguridad disponibles en un documento independiente.

nl ..... **90** Lees voor installatie of gebruik van dit product eerst de Veiligheidsvoorschriften die in een apart document staan.

it ..... **112** Prima di installare o mettere in funzione questo prodotto, leggere sempre le Istruzioni di sicurezza, che vengono fornite in un documento separato.

zh-t ..... **134** 在安裝和使用本產品前務必閱讀關於安全的說明，關於安全的說明另有單獨 的資料。

zh-s ..... **155** 在安装和使用本产品前务必阅读关于安全的说明，关于安全的说明另有单独 的资料。

th ..... **176** ก่ อนที จะติ ดตั งหรื อใช้ งาน ควรอ่ านเอกสารแนะนำความปลอดภั ย ที่ มี แยกมาให้ ละเ อี ยดก่ อนทุ กครั ง

ja ..... **198** この製品を設置または使用する前に、安全に關します記載事項をお読み下さい。

1 About this manual

This "Instructions For Use" manual provides all the information required to install and operate the CCS 800 Ultro Discussion System.

Conventions

Warning
Warnings draw attention to instructions that must be followed to prevent personal injury.

Caution
Cautions draw attention to instructions that must be followed to prevent damage to the equipment.

Note
Notes draw attention to special instruction tips or other useful information.

2 Introduction

The CCS 800 Ultro Discussion System is a discussion system for use in meeting and conference venues with a limited number of participants.

A CCS 800 Ultro Discussion System consists of:
- One Control and Power Supply Unit (CPSU).
- Maximum 50 units of which one or more chairman unit(s).
- Extension cables if required (5m or 10m).
- Peripheral audio and/or telecommunication equipment.

The **CPSU** is the heart of the discussion system which controls the microphones of the chairman and delegate units as well as providing facilities for audio inputs and outputs. It also supplies the power for the CPSU itself, chairman unit(s) and delegate unit(s).
With the use of Digital Acoustic Feedback Suppression the loudspeaker volume can be increased significantly before feedback appears. Digital Acoustic Feedback Suppression is only available in LBB 3310/10.

A **delegate unit** enables participants to actively join in a discussion (i.e. speaking and listening) by means of a microphone, controlled by an on/off button and a built-in loudspeaker or external headphone.

A **chairman unit** has the same function as a delegate unit with the addition of a 'Priority' button, that enables its operator to control the debate by temporary or permanently overruling and muting all active microphones, depending on an internal setting in the chairman unit.

3 Control and power supply unit (CPSU)

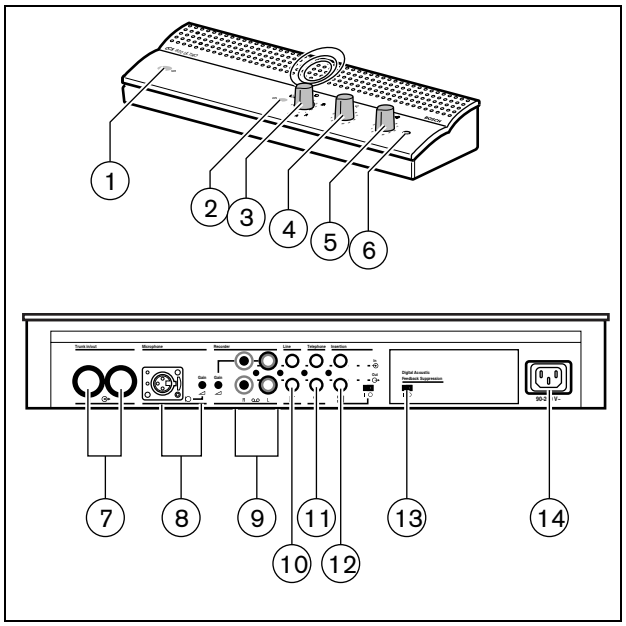

Figure 3.1

1 Mains On/Off switch.

2 Power On LED indicator (green).

3 Microphone-mode switch.

Open mode with auto switch-off. To select the maximum number of delegate microphones to be activated simultaneously (1, 2, 3 or 4). The microphone automatically switches off if the speaker does not speak for 30 seconds. The microphone can manually be switched off by pushing the button on the delegate unit.

Open mode. To select the maximum number of delegate microphones to be activated simultaneously (1, 2, 3 or 4). The microphone must be switched on or off manually by pushing the button on the delegate unit.

Override mode. Only one delegate microphone can be activated. If a new delegate presses his microphone button, the microphone unit of the current speaker will be switched off.

Chairman only mode. Only the chairman units can be activated.

Test mode. For proper installation check. All the light-rings and LED's of the connected units will lit, if properly connected.

4 Speaker volume control of all connected delegate and chairman units.

5 Volume control of the speaker or headphone of the CPSU.

6 Headphone connection with 3.5 mm stereo jackplug socket.

7 Trunk output 1 and 2. For loopthrough connection of the delegate and chairman units. To each output a maximum of 25 units can be connected.
The maximum length of cable between the outputs of the CPSU and the last unit in the system is 100 m (328 ft).

8 Microphone input with gain adjustment for external microphone. The external microphone will be muted when the priority button on the chairman unit is pressed.

9 Recorder input with gain control and recorder output connection.

10 Line input and output for connecting a PA-system or other audio equipment.

11 Telephone coupler input and output for connecting a remote participant.

Note
The telephone input signal to the CPSU is not added to the telephone output signal from the CPSU to prevent line echo due to feedback.

12 Insertion connection. To connect an external audio equalizer for speech quality improvement under difficult acoustic conditions (1 = without equalizer, 0 = insertion connection is internally open, providing means to connect an external equalizer in the path from microphone signals to delegate/ chairman loudspeakers).

Note
Position "1" required for internal loop-through of the microphone signals to the delegate/ chairman unit loudspeakers.

13 Digital Acoustic Feedback Suppression (DAFS) switch to activate or deactivate the DAFS.

14 Mains input connection. Use the included mains cord to connect the CPSU to the mains socket.
In some countries it may be necessary to replace the supplied mains cable by a local one. Brown = live, blue = neutral and green/yellow = earth.
(Replacement and colour indication not applicable to mains cords for North America).

4 Delegate and Chairman unit

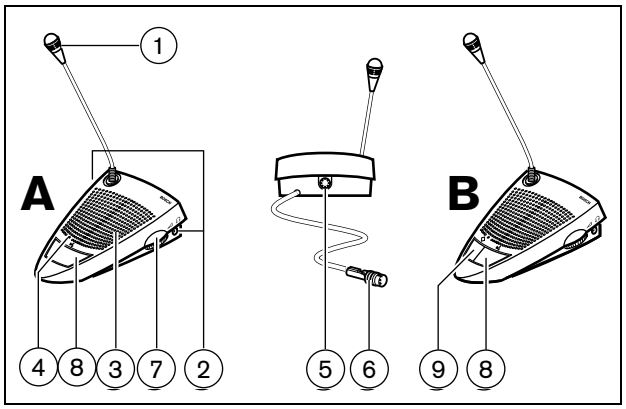

Figure 4.1

The chairman unit (B) has the same function as a Delegate unit (A) with the exception of a 'priority' button.

1 Microphone with red illuminated indicator ring, lights when the microphone is ON.
2 Two 3.5 mm stereo headphone sockets, one at each side, for headphone or recorder connection.
Insertion of a headphone jack in one or both sockets automatically mutes the unit's loudspeaker.
3 Built-in loudspeaker, automatically muted when the microphone is on.
4 Red (LED) indicator above the microphone push button, for microphone ON indication.
5 7-pole circular female socket for loopthrough connection to the next unit.
6 2m flying lead connection cable with sturdy moulded 7-pole circular male connector for connection to the previous unit or CPSU.
7 Rotary volume control for headphones only.
8 Microphone ON/OFF push-button.
9 Chairman Priority button. When pressed emits chime tone, overrules/mutes all active microphones of delegate units in the system and keeps the chairman's microphone on for as long as the button is pressed (setting can be changed in the chairman unit).
In systems with several chairman units these settings are independently selectable for each chairman unit.

5 Installation

Warning
The CPSU must be earthed via the mains supply for safety reasons and to ensure the specified audio performance of the system. Do not open the CPSU and/or delegate/chairman units, no user serviceable parts inside.

5.1 Connecting the delegate and chairman units

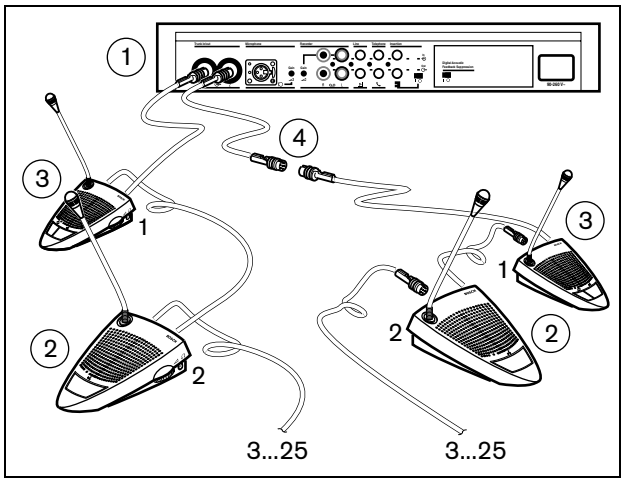

Figure 5.1

Connect the delegate (2) and chairman (3) units to the trunk connectors of the CPSU (1). Use an extension cable (4) if necessary.

5.2 Connecting up to 150 units

CCS 800 Ultro can be used with up to 150 units by adding maximum 2 additional control units acting as power supply units only. The system is controlled by the master LBB 3310. The cables necessary for these connections can be delivered by your local dealer.

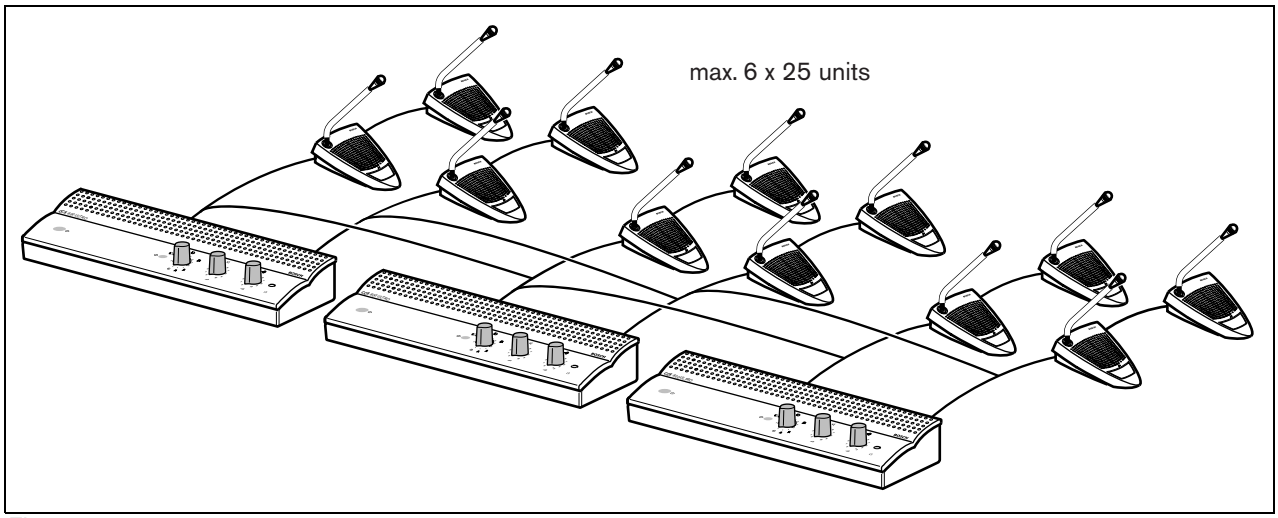

Figure 5.2

5.3 Locking the extension cable

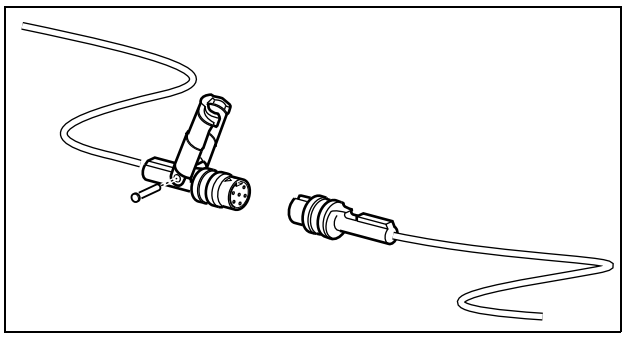

Figure 5.3

Cable locking clamps can be used in combination with the extension cables to prevent accidental disconnection.

5.4 Connecting an external microphone

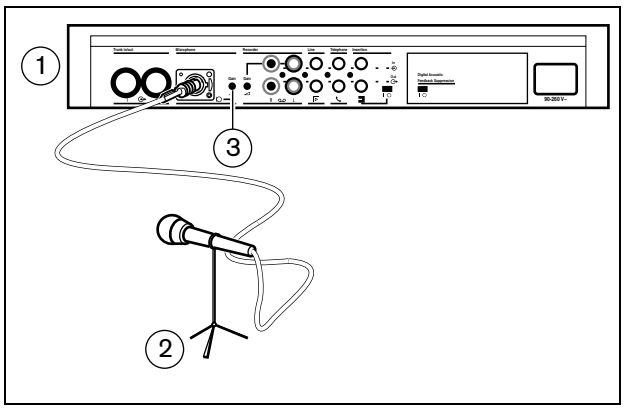

Figure 5.4

Put the external microphone (2) connector in the microphone input of the CPSU (1).
Adjust the sensitivity by use of the gain control (3).
Use only microphones with balanced output.
The microphone input provides a 12V phantom power supply.

5.5 Connecting a wireless microphone

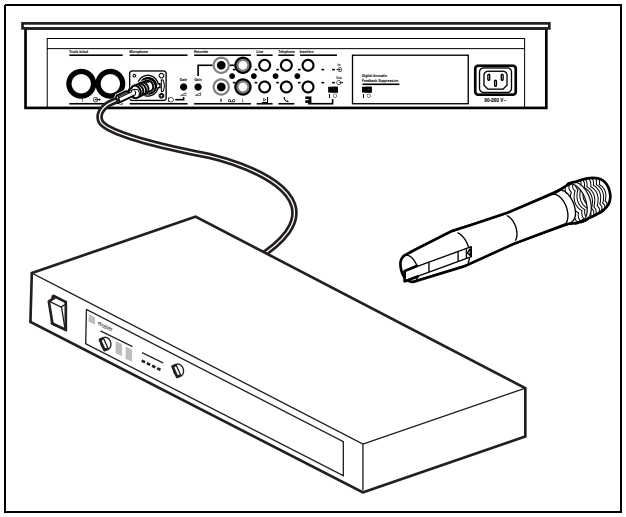

Figure 5.5

Connecting a wireless microphone to the external microphone input is possible with the included 50dB attenuator. This way of connection allows interruption of the wireless microphone by the chairman's priority button.

5.6 Recording/play back the conversation

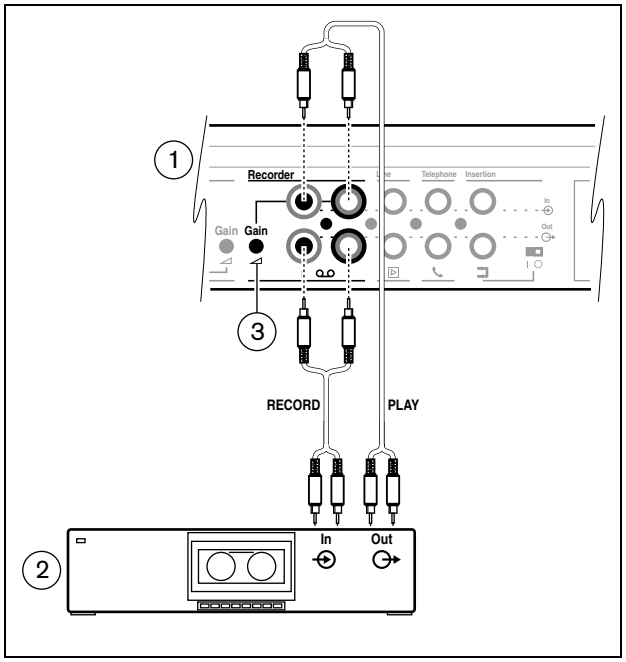

Figure 5.6

Connect the cabling of the tape recorder (2) to the recorder input and output of the CPSU (1). Use the gain control (3) to adjust the sensitivity of the recorder input of the CPSU.

5.7 Connecting a PA-system or other external equipment

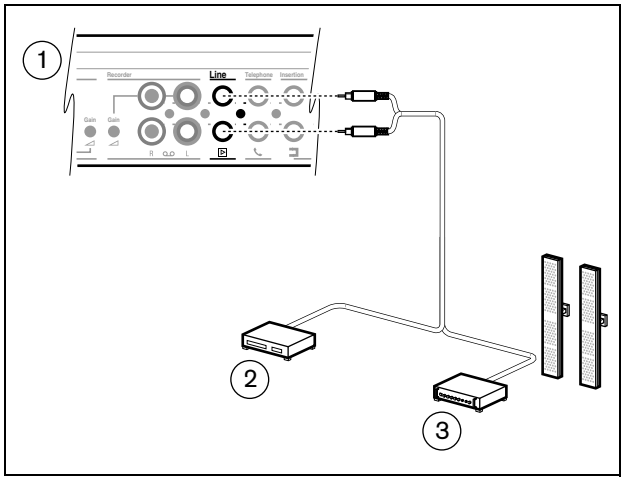

Figure 5.7

Connect a PA-system (3) or other devices (2) to the in- and output of the CPSU (1).
Connect audio sources to the line input, a PA amplifier or other sound-processing devices to the line output.

5.8 Connecting a telephone coupler

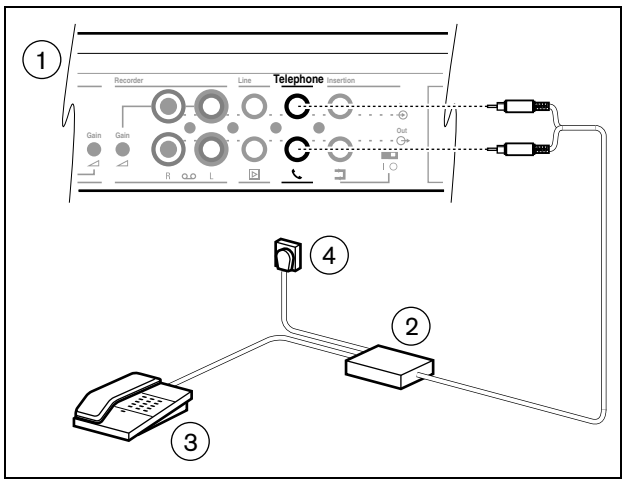

Figure 5.8

Connect the telephone coupler (2) to the telephone input and output of the CPSU (1). The telephone coupler is further connected to the telephone wall socket (4) and a telephone (3) for dialing.

A connection to a telephone network must always be made via a telephone coupler that provides adequate isolation between the telephone network (PBX) and the CCS 800 Ultro system. The telephone coupler shall also meet all relevant requirements for this type of communication equipment as imposed by law and/or responsible telecommunication organisations in the country of use.

Caution
Never try to make a direct connection between the telephone network and the CCS 800 Ultro discussion system.

5.9 Connecting an equalizer

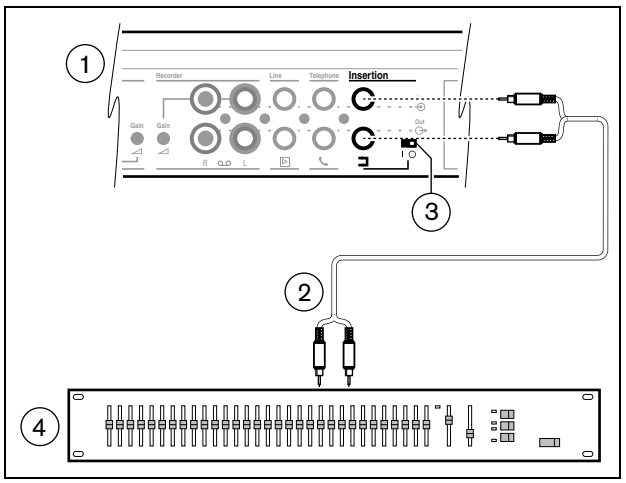

Figure 5.9

Put the insertion switch (3) in position "0" and connect the cabling (2) of the (mono) equalizer (4) to the insertion input and output of the CPSU (1). Switch (3) must be in position "1" (loop through) if the insertion input/output is not used.

5.10 Mains connection

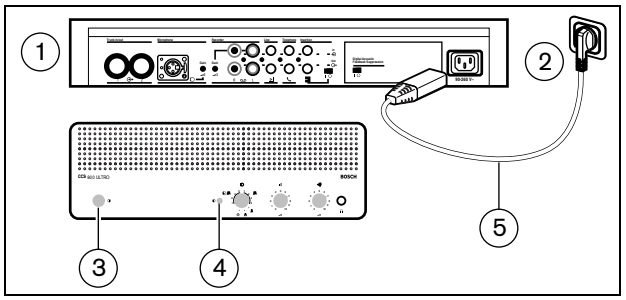

Figure 5.10

Use the supplied mains cord set (5) to connect the CPSU (1) to the mains supply (2). Press the on/off switch (3) to power up the system, the power on LED (4) will lit.

6 Operation

6.1 Testing the connection of the delegate and chairman units ⊗

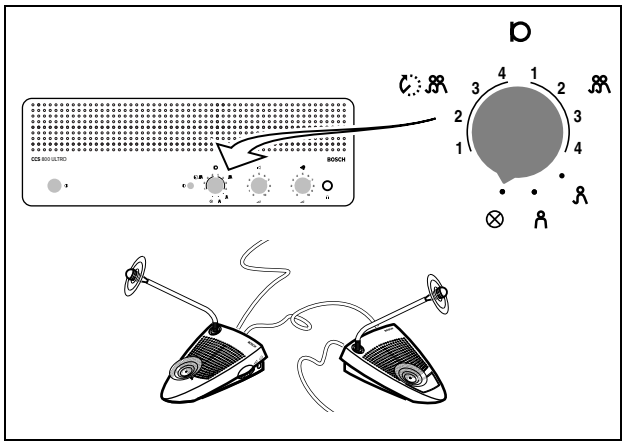

Figure 6.1

Put the mode selector in the test position, all light-ring indicators and LEDs of the delegate and chairman units must lit if properly connected.

6.2 Using the microphone button of the delegate unit

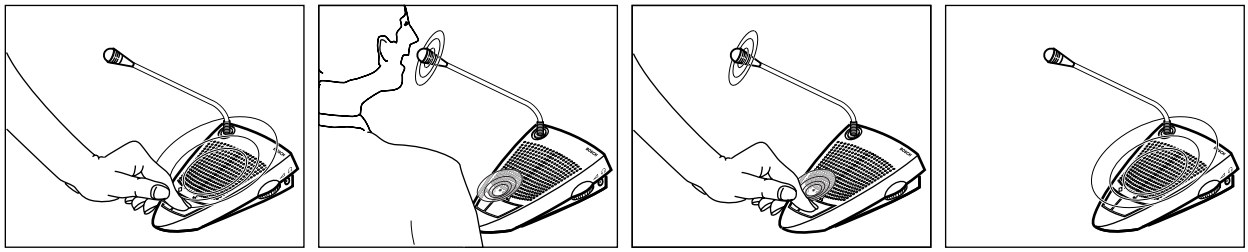

Figure 6.2

Depending on the position of the microphone mode switch on the CPSU, pressing the microphone button on a delegate unit will activate the delegate microphone. Pressing again switches the microphone off.

6.3 Using the microphone button of the chairman unit

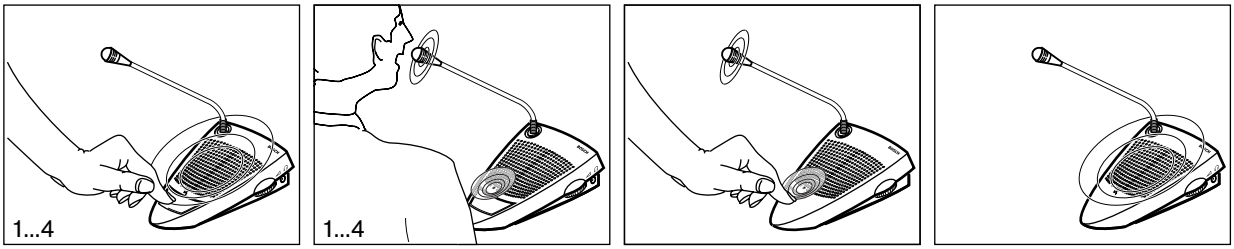

Figure 6.3

Pressing the microphone button on a chairman unit always activates the chairman microphone, independent of the selected microphone mode.
Chairman units don't switch off automatically.

6.4 Using the priority button ◇

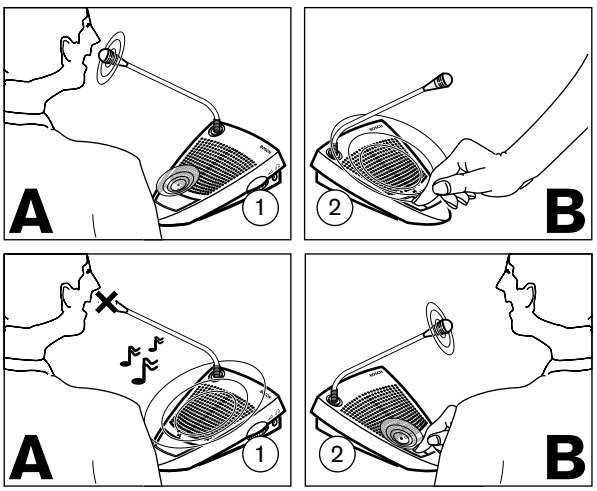

Figure 6.4

Pressing the priority button of the chairman unit "B" may be indicated by a chime tone and will deactivate all active delegate units "A" and activates the chairman microphone. Release of the button will either leave the delegate units deactivated or activates them again (depending on priority mode settings).

6.5 Priority mode settings in chairman unit

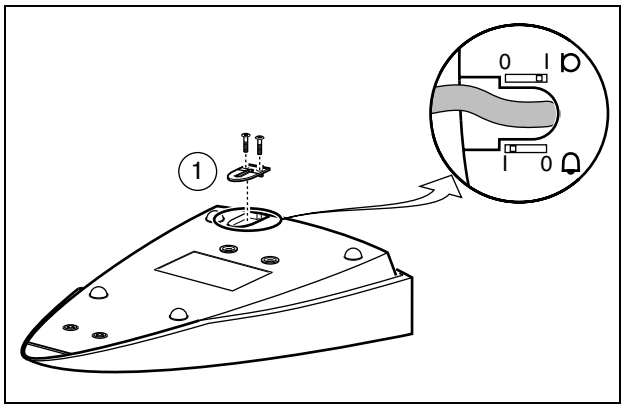

Figure 6.5

Remove the cable relief bracket (1) to set the chime and microphone switches in the required position at priority.

- 0 = : no chime at priority
- 1 = : (default) chime at priority
- 0 = : delegate microphones permanently OFF at priority
- 1 = : (default) microphones temporary OFF at priority

6.6 Open mode

Select the max. number (1, 2, 3 or 4) of delegate microphones which can be active at the same time.

Note
Chairmen can always switch on and off their microphones and are not included in the max. number.

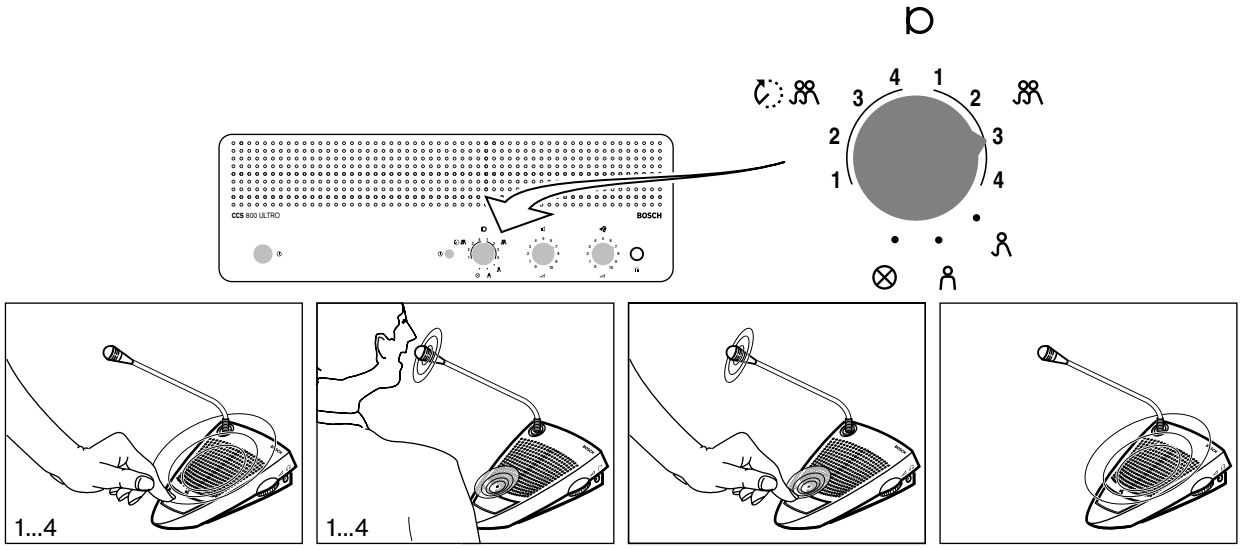

Figure 6.6

6.7 Open mode with auto switch-off

Select the max. number (1, 2, 3 or 4) of delegate microphones which can be activated by the delegates themselves at the same time. If the speaker is silent for approximately 30 sec. the active microphone switches off automatically.

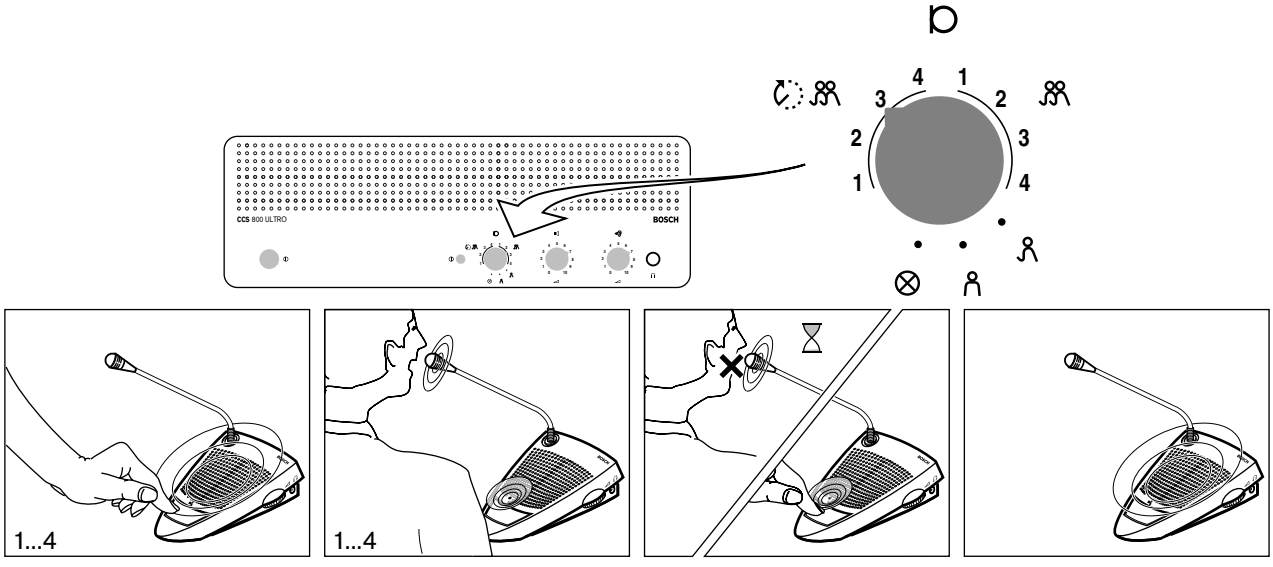

Figure 6.7

6.8 Override mode

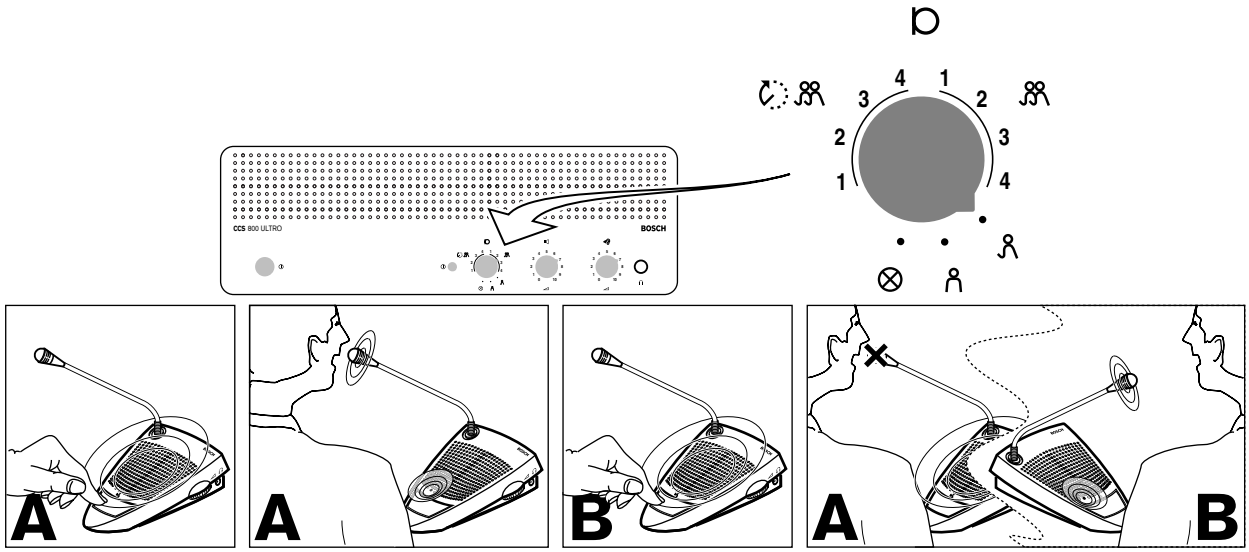

Figure 6.8

Each time a delegate presses the microphone button on a delegate unit, it will override the currently active delegate unit. So only one delegate microphone is active at the same time. Chairman microphones can always be switched on.

6.9 Chairman only mode

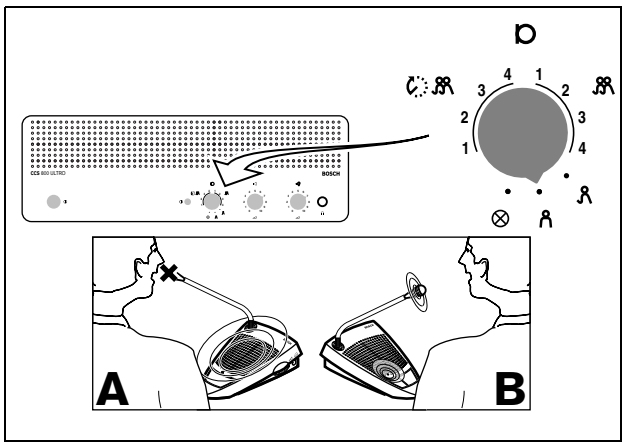

Figure 6.9

Only the chairman units (B) can be activated. Delegates (A) can not switch on their microphone.

6.10 Volume control of the delegate and chairman units

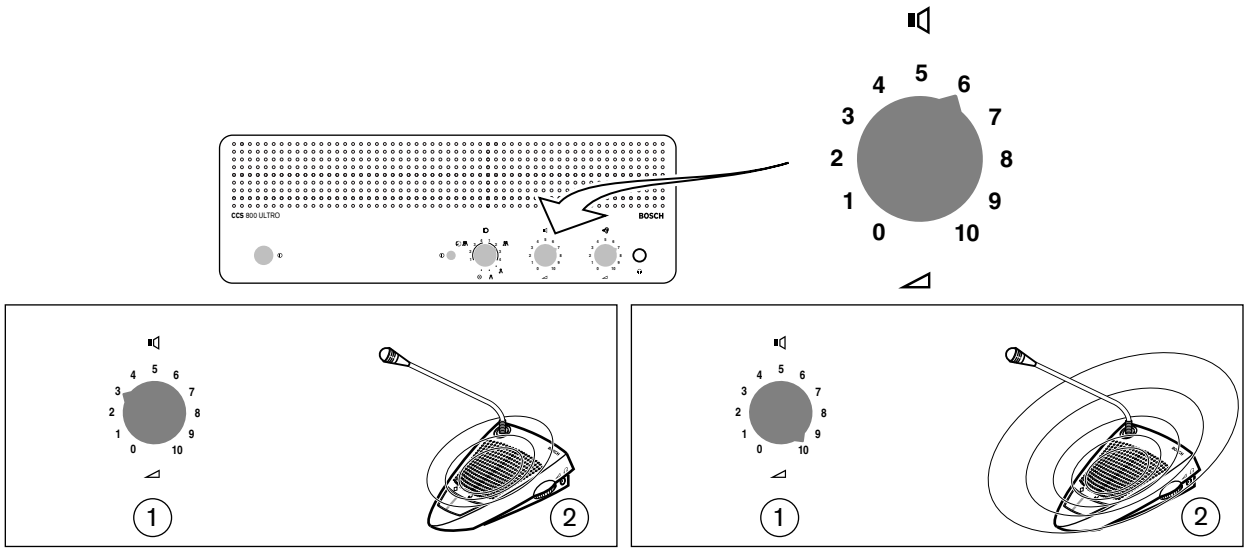

Figure 6.10

Turn the volume control (1) to set the volume of the loudspeakers of the delegate and chairman units (2). Adjust for maximum level without feedback. In the fully counterclockwise position all loudspeakers are muted.

6.11 Using Digital Acoustic Feedback Suppression (DAFS)

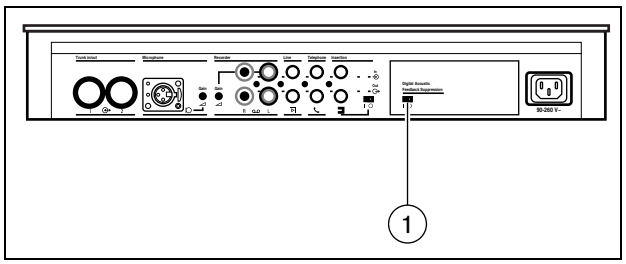

Figure 6.11

Put the Digital Acoustic Feedback Suppression switch (1) in position "0" and adjust the loudspeakers for maximum level without feedback. Switch Digital Acoustic Feedback Suppression on by changing the switch (1) to position "1". Then set the loudspeaker volume to the required level, but increasing the volume level more than 2 or 3 steps is not recommended.

Note
With the use of Digital Acoustic Feedback Suppression the loudspeaker volume can be increased significantly before acoustic feedback appears. The maximum achievable volume gain depends on the acoustical environment and positioning of the units. Artefacts may occur during microphone switching at very high volume levels. In general the achievable increased volume gain is 4 - 6 dB.
The Digital Acoustic Feedback Suppression is optimised for speech.

6.12 Monitoring volume control

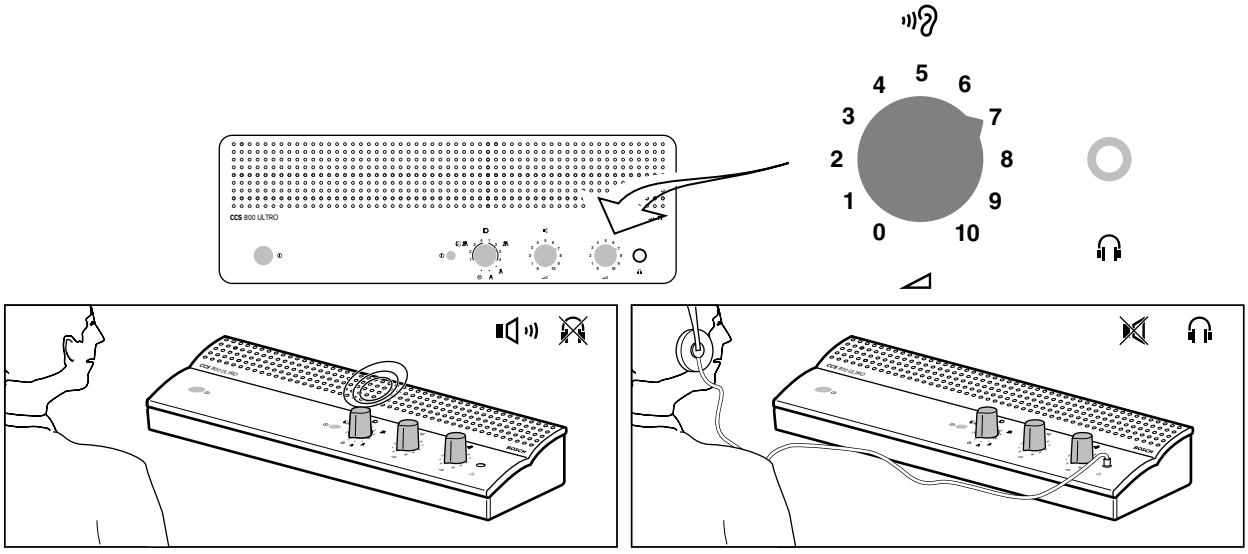

Figure 6.12

Use the built-in loudspeaker or a headphone to monitor the discussion. Adjust the volume using the monitoring volume control. The maximum level is controlled by the setting of the volume control for delegate and chairman units.

6.13 Using a headphone

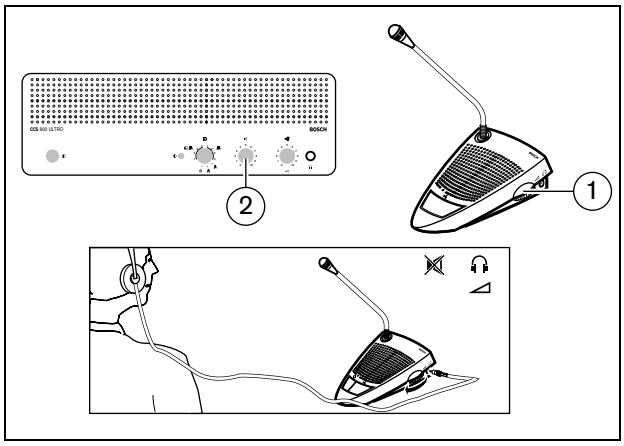

Figure 6.13

Use the rotary volume control (1) to adjust the volume of the headphones connected to the left and/or right side of the units. Inserting a headphone jack mutes the loudspeaker.
The maximum level depends on the setting of the volume control (2) on the CPSU.

7 Troubleshooting

Temporary no microphone reaction, and no sound or distorted sound from unit loudspeakers

- *Possible cause*
  Trunk-line overload.
- *Solution*
  Reduce load on the trunklines by reducing the number of units, and/or the length of the trunk cables.

Acoustic Feedback

- *Possible cause*
  Loudspeaker volume too loud.
- *Solution*
  - Reduce gain using volume control for delegate/ chairman unit loudspeakers on CPSU.
  - If available, switch on Digital Acoustic Feedback Suppression.

- *Possible cause*
  Distance between units too small (microphone to loudspeaker of other units).
- *Solution*
  - Increase distance between units.
  - If available, switch on Digital Acoustic Feedback Suppression.

- *Possible cause*
  Too close to microphone units, when using open headphones.
- *Solution*
  - Increase the distance between headphone and microphone or disconnect headphones when not in use.
  - If available, switch on Digital Acoustic Feedback Suppression.

Part of system not working

- *Possible cause*
  Interrupted trunk-line cabling.
- *Solution*
  Check the trunk-line cabling connections between the units and the CPSU, also use the test function on the CPSU.

No sound via delegate/chairman loudspeakers

- *Possible cause*
  Insertion switch in wrong position.
- *Solution*
  Check if insertion switch at the rear of the CPSU is in position "1".

- *Possible cause*
  Volume control position.
- *Solution*
  Check if the volume control for delegate/chairman loudspeakers on the CPSU is not in the fully counter clockwise position.

- *Possible cause*
  Microphone active or headphone connected.

Note
Units with active microphone or connected headphone(s) have their loudspeakers switched off.

8 Technical data

8.1 System Electrical and Electro-Acoustical Characteristics

8.1.1 The CPSU

Mains voltage: 100 - 240 Vac, ± 10%, 50/60 Hz
Current consumption: max. 0.9 A (100 Vac) - 0.3 A (240 Vac)
DC supply to contribution units: 24V +/- 1V (current limited)

Line, telephone coupler and insertion in/outputs (unbalanced)

Input sensitivity: -14 dBV/ +11dBV (nominal/maximum)
Input impedance: 33 kΩ
Output level: -14 dBV/ +11dBV (nominal/maximum)
Output impedance: 500 Ω

Recorder in/output (unbalanced) - mono

Input sensitivity: - 20 dBV/ + 5 dBV (nominal/maximum)
Input sensitivity adjustment: +0 / -20 dB
Input impedance: 47 kΩ (for L and R channel)
Output level: - 20 dBV/ + 5 dBV (nominal/maximum)
Output impedance: 500 Ω

External microphone input (balanced)

Input sensitivity: - 56 dBV (- 6 dBV via included adapter).
Input sensitivity adjustment: +6 dB / -6 dB
Phantom supply: 12V +/- 1V, 2 x 680 Ω (+/-2%). (Phantom supply is not available when using the included adapter).

Monitor loudspeaker

Output level at 0.5 m: 72 dB SPL/ 82 dB SPL (nominal/maximum)
Frequency response: 320 Hz ... 10 kHz (-10 dB, ref. 1kHz)
Impedance: 25 Ω
Volume control: 50 dB attenuation range

Monitor headphone

Output level: -8 dBV/ +2 dBV (nominal/maximum)
Output impedance: 22 Ω
Output connection: stereo jack socket (mono output)
Allowed impedance: any impedance
Volume control: 50 dB attenuation range

Loudspeaker volume control

For delegate and chairman units: mute (50 dB att.) + 10 steps of 1.9 dB

Limiter threshold level

To unit loudspeaker /headphone: 10 dB above nominal level

Gain reduction due to NOM

(Number of Open Microphones): √NOM +/- 1 dB

Auto microphone switch-off function selectable on the Control and Power Supply Unit

After approximately 30 sec. not speaking (sound level below 64 dB SPL) the microphone is automatically switched off

System limits

Number of delegate/chairman units connected to CPSU
Maximum in total: 50
Maximum per trunk output: 25
Maximum trunk length using CCS 800 Ultro standard cabling: 100 m (328 ft)

8.1.2 Combined Units

Delegate microphones with transmission links to delegate headphones and auxiliary outputs.

General

Frequency response: 125 Hz - 12.5 kHz tolerances acc. to IEC 914 standard

Total harmonic distortion at overload

at nominal input level (85 dB SPL): < 0.5%

at max. input level (110 dB SPL): < 3%

8.2 Mechanical Data

8.2.1 Control and Power Supply Unit

Mounting: free standing on a table top or mounted in a 19" rack (requires 3HU (Height Units) with bracket set LBB 3311/00). Information about how to make the necessary brackets for table flush mounting is included.

Dimensions(HxWxD): 84 x 361 x 143 mm (with 5.5 mm feet)
3.4 x 14.2 x 5.6 in (with 0.22 in feet).

Weight: /00 version 1.5 kg (3.3 lb)
/10 version 1.7 kg (3.7 lb)

8.2.2 Delegate/Chairman Units

Dimensions (w x d x h) without mic.: 124 x 172 x 63 mm (4.9 x 6.8 x 2.5 in)

Length of mic. from mounting surface: /00 version, 313 mm (12.3 in)
/50 version, 488 mm (19.2 in)

Weight: 0.9 kg (2.0 lb)

8.3 General Data

8.3.1 System Environmental Conditions

Temperature range

Storage and transport: -20 to +70°C (-4 to +158°F)

Operational: +5 to +45°C (+41 to 113°F)

Ambient humidity

Operational: 20% - 95% RH

Storage and transport: 0% - 99% RH

Air pressure: 600 mBar - 1100 mBar

Safety: acc. to EN 60065 and acc. to UL6500

Resistance to shock, vibration, bump and transport: acc. to IEC68, 5G acceleration

EMC emission: acc. to EN 55103-1 and FCC rules (part 15), class A

EMC immunity: acc. to EN 55103-2

EMC approvals: affixed with the CE mark EC directive 89/336 EEC

ESD: acc. to IEC 801-2 and 801-4

Mains harmonics: EN 61000-3-2 and EN61000-3-3

Transport: UN-D 1400

8.3.2 Equipment Range

Control and power supply unit:	LBB 3310/00 LBB 3310/10 (with Digital Acoustic Feedback Suppression)
19" rack mounting set:	LBB 3311/00
Bracket for flush mounting:	can be made locally according to the illustration in 9 Appendix
Delegate unit(s):	LBB 3330/00 LBB 3330/50 (with long microphone)
Chairman unit(s) :	LBB 3331/00 LBB 3331/50 (with long microphone)
Installation cable with connectors	LBB 3316/00 (100 m)
Extension cables :	LBB 3316/05 (5m) LBB 3316/10 (10m)
Cable locking clamps :	LBB 4117/00 (set of 25 pieces)
Transport suitcase for 10 delegate/chairman units with standard microphone:	LBB 3312/00
Transport suitcase for one CPSU, 6 delegate/ chairman units with standard and/or long microphone and some extension cables:	LBB 3312/10

9 Appendix

9.1 Pin Configuration

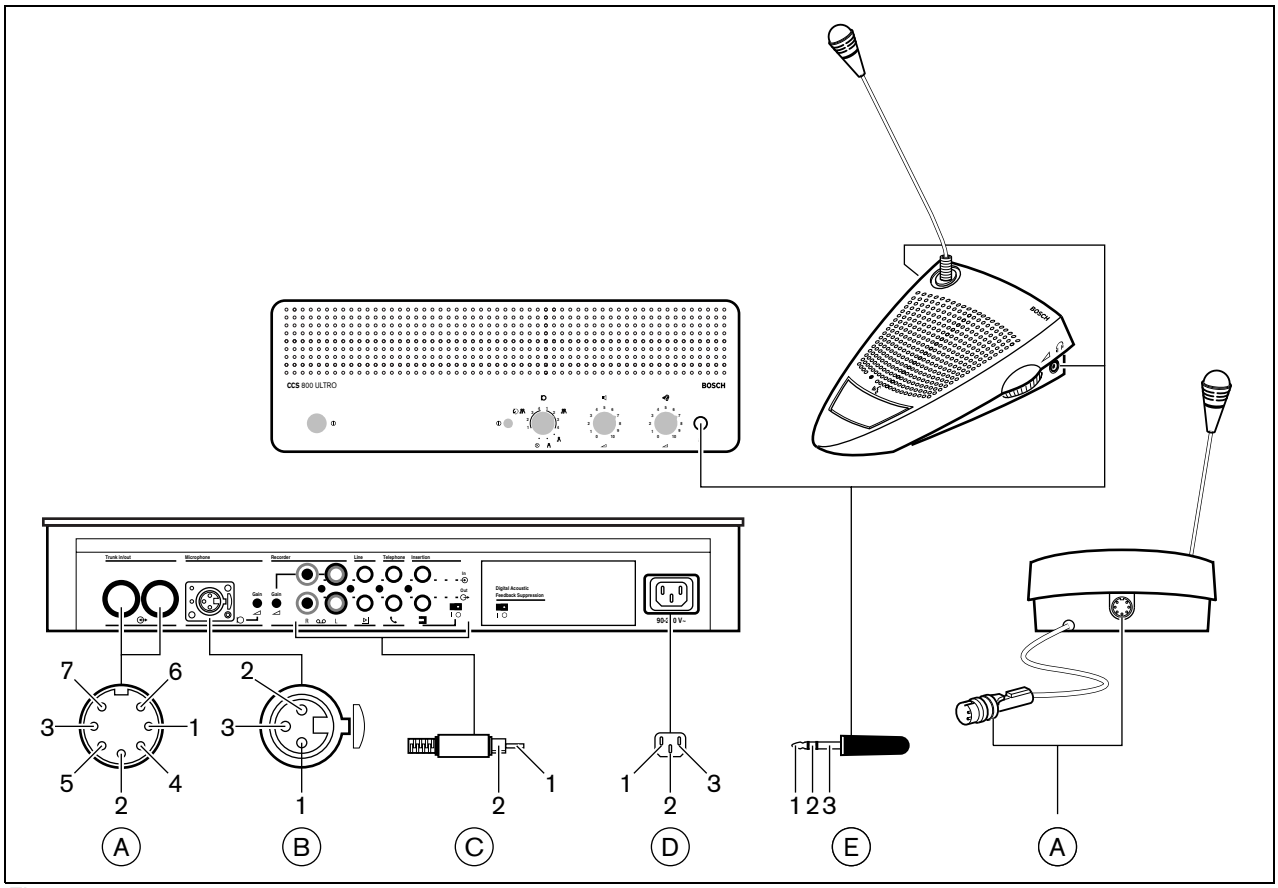

Figure 9.1

9.1.1 Trunk Connections (A)

1 Audio contribution line
2 GND
3 Audio distribution line
4 Control line 1
5 Control line 2
6 V+ supply
7 V- supply

9.1.2 External Microphone (XLR) (B)

1	GND	(0V, phantom supply)
2	Signal +	(+12V, phantom supply)
3	Signal -	(+12V, phantom supply)
		phantom supply acc. to DIN45596

9.1.3 CINCH Connector (C)

1 Signal +
2 Screen

9.1.4 Mains Connector (D)

1 Mains
2 Earth
3 Mains

9.1.5 Headphone Jack-plug (3.5mm) (E)

1	Tip	- Signal +
2	Ring	- Signal -
3	Sleeve	- Electrical earth/screen

9.1.6 Mounting of connectors, LBB 3316/00

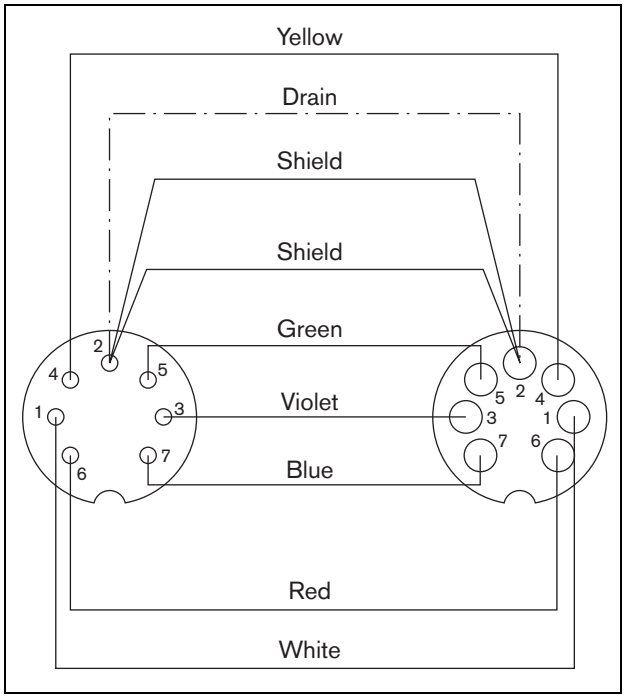

Figure 9.2

9.2 Mounting Instructions

The CPSU can be attached in three different ways:

- In a 19" rack making use of the 19" rack mounting set LBB 3311/00. Place a blank 1HU panel above the CPSU to have sufficient space for cable connections.
- Mounted into a table using the flush mount bracket.
- On a table. Therefore drill four holes in the table and fasten the CPSU with four M3 screws (B).

The delegate and chairman units can only be attached on a table. Therefore drill two holes in the table and fasten the unit with two M3 screws (A).

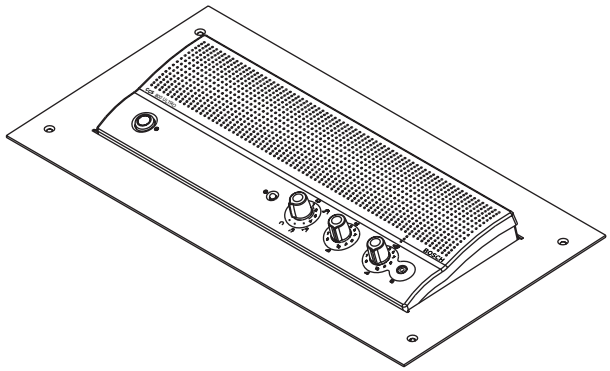

Figure 9.3

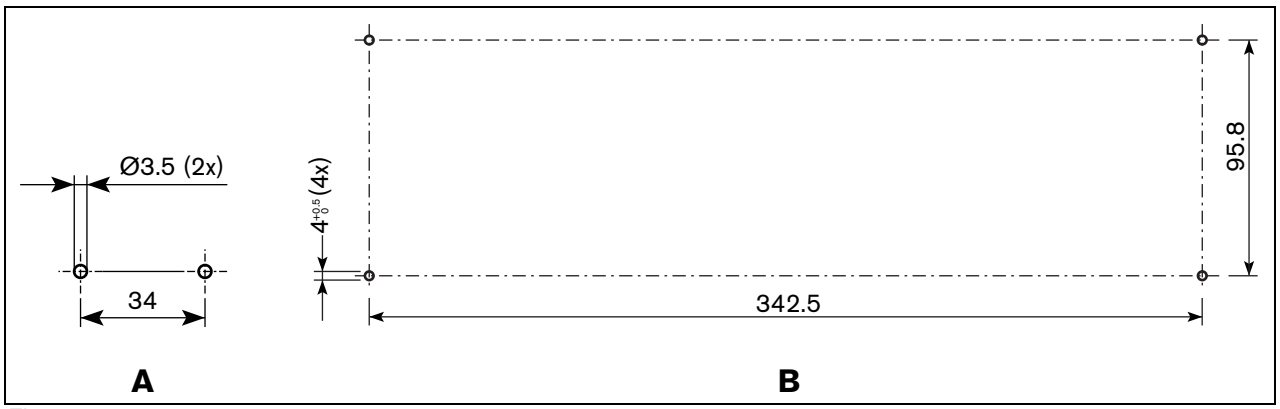

Figure 9.4

9.3 Bracket for Flush Mounting

The drawing below gives the necessary information how to make a bracket for flush mounting the CPSU into a table.

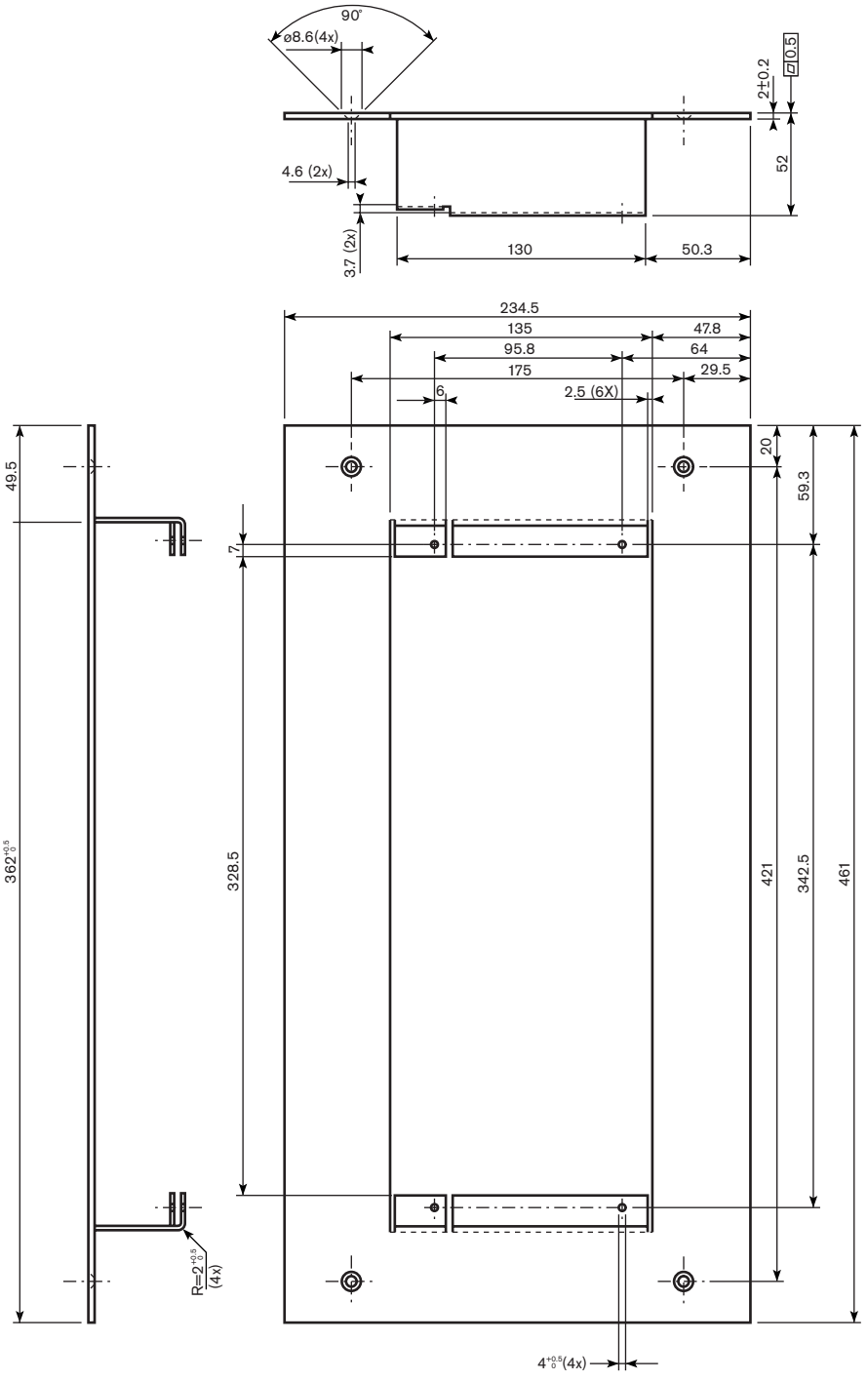

Figure 9.5

For more information please visit www.boschsecuritysystems.com

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