

# Conference Products

## Databook



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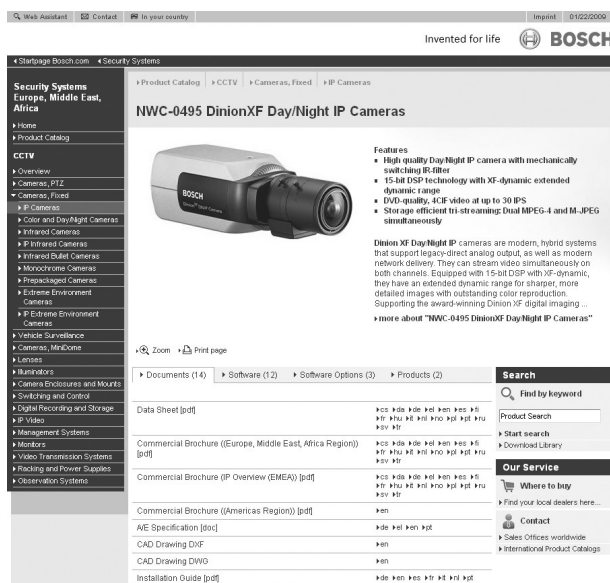
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## Introduction



*Wireless Discussion System*

### **Innovation**

Bosch brings innovation to the conference world, with its new state-of-the-art and user-friendly Wireless Discussion System. Suitable for both small and large venues, the Bosch DCN Wireless Discussion System offers organizations unparalleled functionality and flexibility. Featuring an award-winning Wireless Access Point (WAP) that is easy to position, as well as separate battery packs for simple charging and changing, the DCN Wireless Discussion System is designed with the user in mind, whether that user is a system administrator, chairman or participant.

### **Maximum flexibility**

Conferences and seminars can be set up with a great degree of freedom due to the Bosch DCN Wireless System's flexible design. The WAP can be mounted on a wall, ceiling or tripod, and is easily positioned for best technical or aesthetic effect. Individual wireless discussion units can be added or rearranged by simply picking them up and moving them. With minimal time required for set-up or break-down, multiple events can be

planned in sequence with virtually no delays. The DCN Wireless System gives great support to conferences and seminars anywhere people meet.

### **Range of equipment**

The Bosch DCN Wireless Discussion product line includes:

- Wireless Discussion Units
- Wireless Access Point (WAP)
- a central control unit
- conference control software
- information displays and installation equipment
- simultaneous interpretation and optional language distribution equipment

The system can be further complemented by external equipment such as PCs, monitors, power amplifiers, loudspeakers and printers, all of which are easily integrated into the DCN Wireless Discussion System.



*Wireless Discussion System*

### **Contribution equipment**

Contribution equipment refers to the units that participants use to take part in a conference. Depending on the type of contribution unit used, participants can listen, speak, and take part in electronic voting. The wireless discussion units are designed for all kinds of gatherings and meetings and offer a high level of functionality, digital convenience, and distinctive styling. The basic discussion unit has a microphone with an on/off button and status indicators; more advanced units have dual discussion possibilities (for two participants) and voting functionality. All discussion units can be configured as a chairman unit.

### **Superb Sound and Speech Quality**

The sound quality of the DCN Wireless System is first rate – up to 20 kHz. Each robust unit produces crystal-clear sound due to a very high signal-to-noise ratio. Units are also protected against interference from other mobile equipment using WiFi, Bluetooth or microwave signals. Being a mobile phone-proof system, participants can leave their mobile phones switched on during meetings without disrupting the discussion system signal.

### **Easy maintenance**

Simple battery maintenance is essential for a wireless system. The Bosch DCN Wireless System ensures that battery power is available when needed. Discussion units use lithium-ion batteries with little or no charge degradation during their long life. A fully charged battery lasts approximately 20 hours, which is far longer than

most meetings or conferences. Batteries have a short recharge time – as little as a few hours – and only the battery packs need to be removed; the discussion units can remain in place. Furthermore, each unit has a patent-pending “sleep mode” to conserve power consumption during longer breaks. And, with the remote overview available via the Conference Control Software, an administrator can view the power consumption status of all active discussion units.

### **Secure and stable communication**

All signals within the DCN Wireless System are digitally protected against tapping or eavesdropping. The intelligent system even features automatic subscription blocking.

Further subscriptions are prevented, even if the administrator forgets to close the subscription process.

The WAP is linked to the WCCU using Bosch's proprietary optical network, which provides digital optical communication and power supply over a single cable. The second optical network connector on the WAP allows the system network to be expanded from a single branch to a redundant loop configuration. In this ‘loop-through’ configuration, DCN Wireless can be interfaced with compatible Bosch equipment such as Audio Expanders, CobraNet™ interfaces and the Integrus language distribution system.

Secure wireless communication between the WAP and the discussion units is in the 2.4 GHz band, which is license-free worldwide.

### **Central control equipment**

The Bosch Wireless Central Control Unit (CCU) is the heart of the conference management system. The CCU can operate stand-alone to provide automatic conference control, or be administered by an operator via a PC if more extensive management is required. The CCU can control up to 150 discussion units (such as delegate, dual delegate and chairman units) and up to 95 DCN Next Generation wired units\*. This gives the possibility to install a fixed wired installation, which is easy expandable by adding extra wireless units.

\* DCN Discussion Units, DCN Contentus, DCN Interpreters, Desks or DCN Flush Mounts.

### **Fully automatic conference proceedings**

In basic mode, the CCU automatically manages conference proceedings and does not require operator control. It provides basic microphone management, simultaneous interpretation with up to 32 high-quality audio channels including floor and voting facilities. This effectively allows unsupervised control of even large, international conferences.

### Operator control via a PC

Although the CCU offers basic functionality automatically, there is extended functionality with operator control via a PC. Specially developed Bosch Conference Control Software is easy to install and gives precise control over the Bosch DCN Wireless Discussion System. Highly user-friendly, the discussion unit icons of the synoptic control interface are easily assigned to various operating functions. Operators can view on/off status of each unit, the identity of its user, and many other key properties. The software has a Windows™ look and feel and allows on-the-spot coverage testing of whether all the units are correctly receiving the signal. If voting units are used, results can be shown on a large display screen and logged if desired. The software is optimized for touch screens, and features a multi-lingual graphical user interface (GUI). If the PC fails, the CCU will revert to a default operation enabling conference proceedings to continue.

### Advanced audio coupling

It is possible to extract and insert both digital (AES/EBU or SPDIF) and analog audio. Other advanced audio coupling techniques include CobraNet™, a system which allows distribution of many real-time, high-quality digital audio channels over an Ethernet network using CAT5 cables. Made up of software, hardware and a network protocol, CobraNet™ makes it easy to distribute audio in buildings and connect the Bosch DCN Wireless Discussion System to other audio CobraNet™ compatible devices such as Audio Recorders and Audio Mixers.

### Simultaneous interpretation and language distribution equipment

Simultaneous interpretation is supported via the Bosch Interpreter desks. The DCN Wireless Discussion System supports simultaneous interpretation via 10 language distribution channels. The Bosch Wireless Discussion Units with built-in channel selectors enable the participants to receive the language channel of their choice.

In case more than 10 language distribution channels are in use (maximum 32), the channels above ten, are distributed throughout the rest of the system, so they can be heard via wired units, or via the Integrus infrared receivers.

Integrus, a digital and wireless infrared language distribution system, is connected to the optical network and enables sound to be distributed reliably via the Integrus infrared digital transmitter. Equipped with individual Integrus receivers, participants can receive their language channel while moving around freely, without any loss of contact or quality.

### Interpreter Desk for multi-lingual sessions

The Bosch DCN Next Generation Interpreter Desk accommodates up to 32\* high-quality audio channels, all with an audio-bandwidth of 20 kHz. Up to six desks can be installed per interpreter booth. Each desk can be used stand-alone or as part of a system. When used stand-alone, the desks built-in microprocessor is manually programmed to allocate language channels, channel routing and interlocks.

\* The first 10 channels can be distributed through the DCN Wireless system, the other channels are available throughout the rest of the system



*Delegate with Wireless Discussion Unit*

### Integrus IR digital technology

Integrus incorporates IR digital technology that conforms to IEC 60603 part 7. IR digital technology ensures maximum sound quality with a signal-to-noise ratio of 80 dB. Integrus also incorporates a special operation mode to couple rooms. This means that multiple systems, located in separate rooms, can provide exactly the same language. For more information about Integrus, see the Integrus Data Brochure.

### Information screens

Information screens are ideal for quick and effective information distribution to many conference participants. A display shows the image of the current speaker, who has the floor, and who has a request to speak. Displays also show results when voting is used.

### Automatic camera control

The system can automatically show an image of the current speaker on monitors or projection screens in the main hall, lobby, interpreters' booths, breakout rooms or anywhere else required. Delegate information appears along with the image. For a general overview of all delegates the system can switch to fixed-angle cameras.

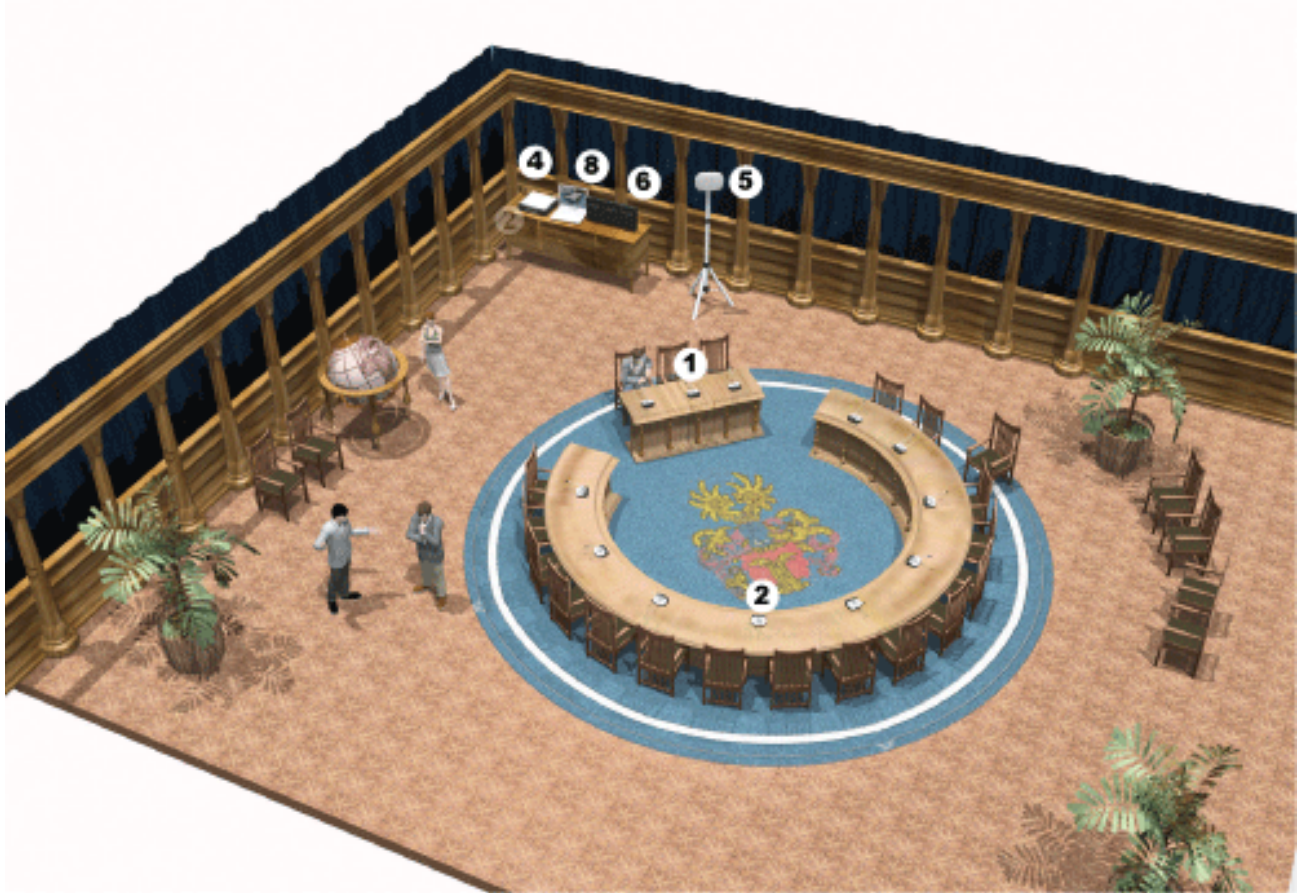
Camera control and configuration is automatic, so the system can be run without an operator. Bosch Auto- Dome cameras are ideal for this application and especially useful when video conferencing between sites.

Camera control ensures that participants always have appropriate details on the current speaker.

#### **Storage and transport**

In many situations easy storage or transport is required for a DCN Wireless system. Flight cases with a robust construction with reinforced corners are designed, the shaped foam interior simplifies packing. Some flight cases are designed to store the system as compact as possible, while others offer the most comfortable way of storage to the user. Have a look through this data book to see the varieties.

## Example 1 - Discussion

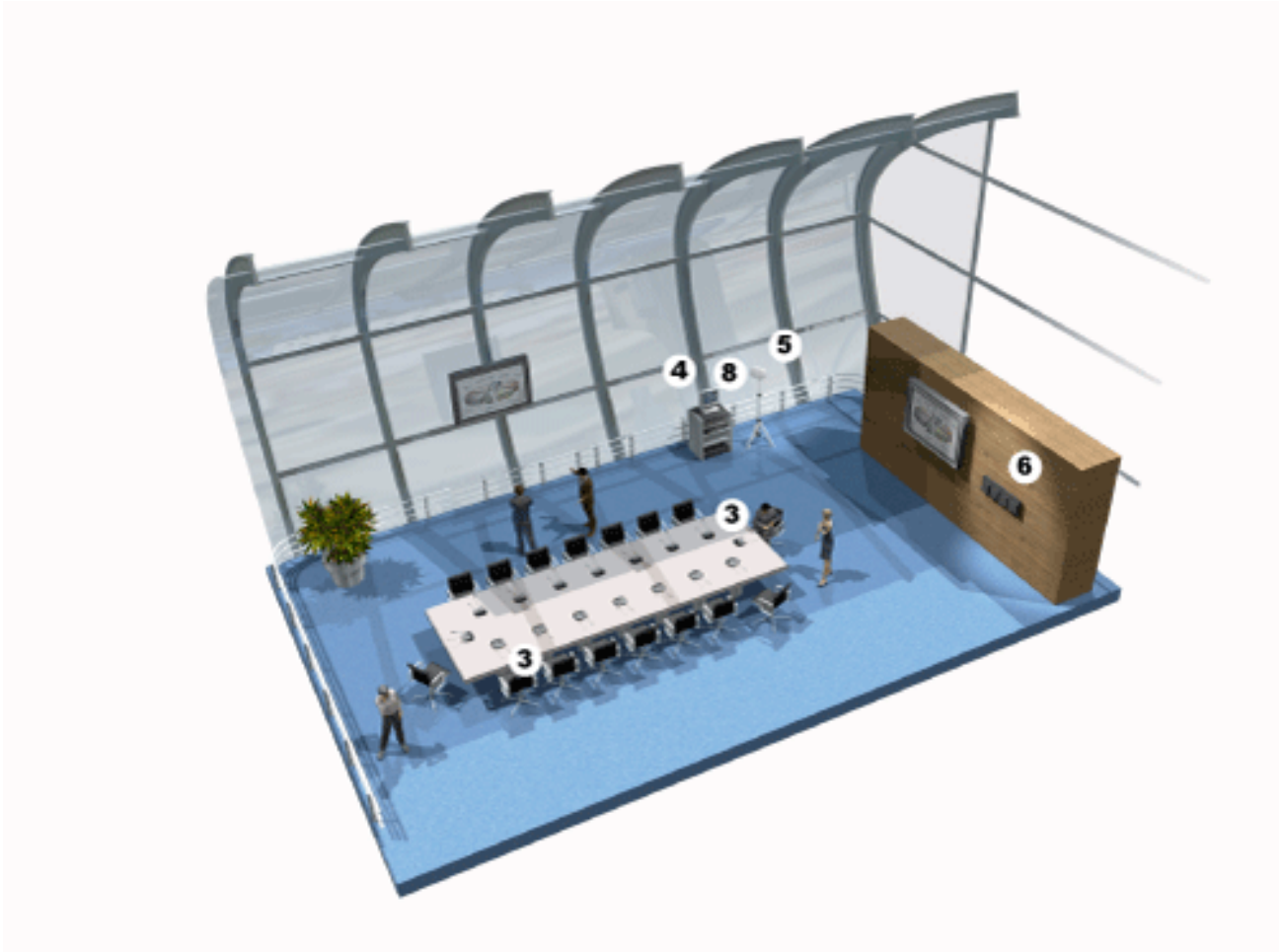


### Shopping List

1. Wireless Discussion Unit
2. Wireless Dual Discussion Unit
4. Wireless Central Control Unit
5. Wireless Access Point
6. Removable Battery Pack / Battery Pack Charger
8. DCN Control Software

The DCN Wireless Discussion System is easy installed, rearranged and operated with virtually no impact on the integrity of the location. A basic discussion unit allows a delegate to talk and listen, while a dual discussion unit is a cost-effective solution to simultaneously serve two delegates. The chairman can overrule other delegates with a single touch of a button.

## Example 2 - Electronic Voting



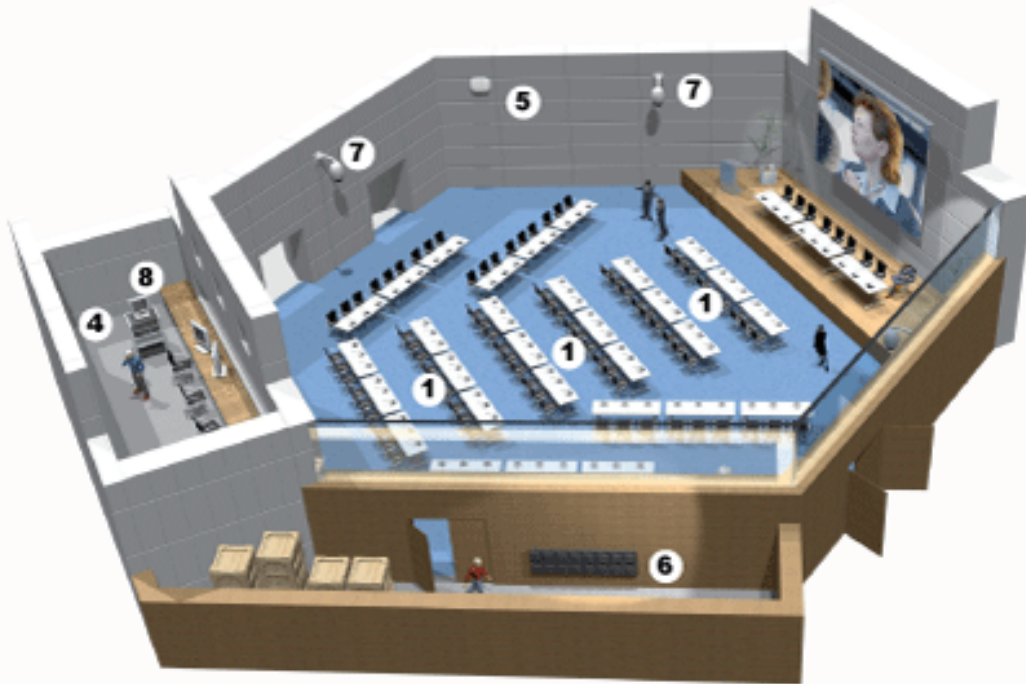
### Shopping List

3. Wireless Discussion Unit with Voting
4. Wireless Central Control Unit
5. Wireless Access Point
6. Removable Battery Pack / Battery Pack Charger
8. DCN Control Software

Discussion units with voting functionality can be used in the DCN Wireless Discussion System for interactive situations such as polling and voting.



## Example 3 - Camera Control



### Shopping List

1. Wireless Discussion Unit
4. Wireless Central Control Unit
5. Wireless Access Point
6. Removable Battery Pack / Battery Pack Charger
7. Modular Autodome Camera
8. DCN Control Software

The system can automatically show an image of the current speaker on monitors or projection screens. Delegate information appears together with the image. For an overview of all delegates, the system can switch to fixed-angle cameras. Camera control and configuration is automatic, so the system can be run without an operator.

## Example 4 - Strong Combinations



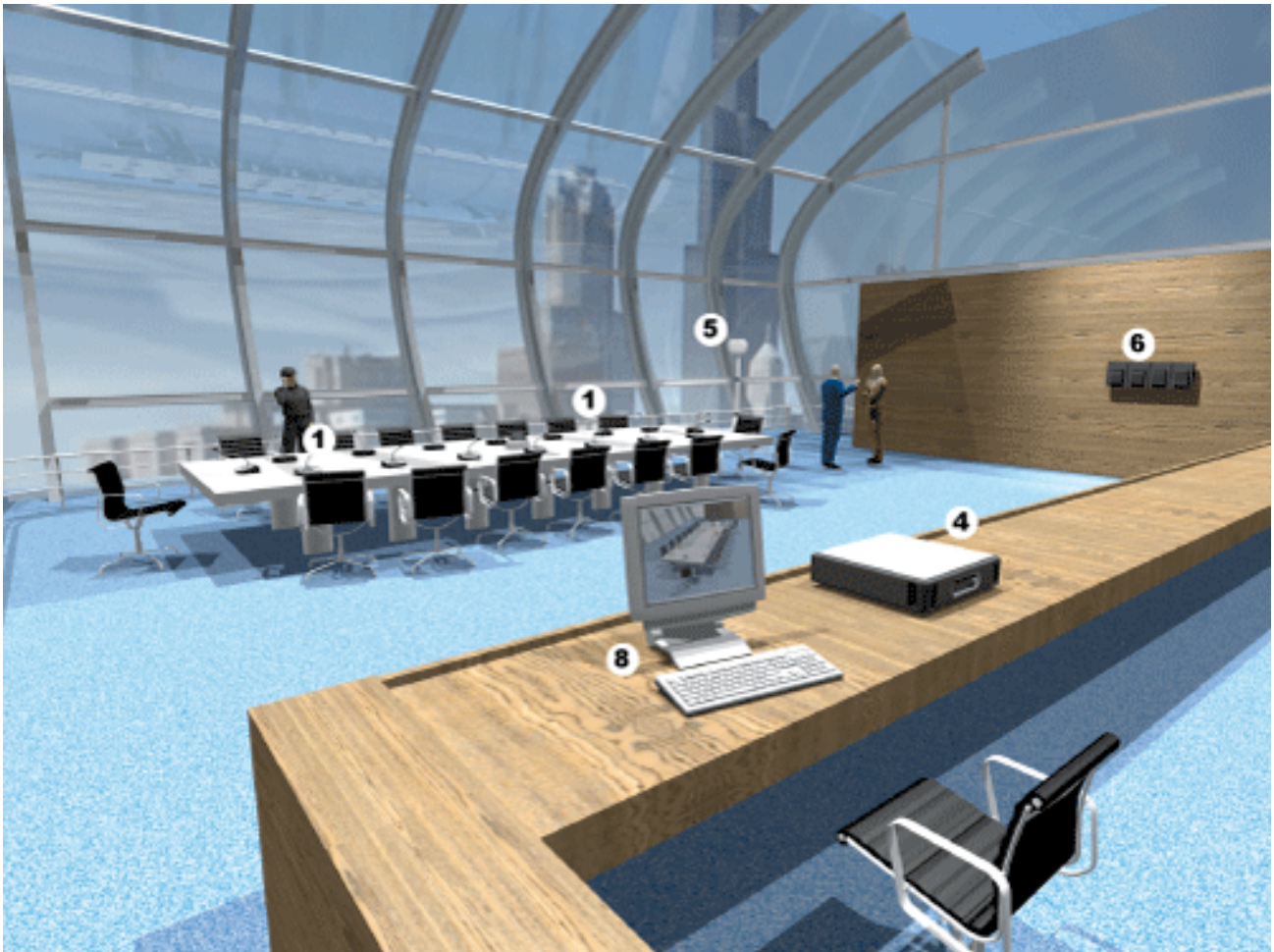
### Shopping List

1. Wireless Discussion Unit
4. Wireless Central Control Unit
5. Wireless Access Point
6. Removable Battery Pack / Battery Pack Charger
7. Modular Autodome Camera
10. DCN Next Generation Wired Discussion System

A highly mobile and versatile solution, the DCN Wireless Discussion System is a fast and efficient way to add extra capacity to practically any wired conference facility.

The DCN Wireless Discussion System can be combined with up to 95 DCN Next Generation wired units, including discussion units, Conventus units, interpreter desks and flush-mounted units.

## Example 5 - Operator Control



### Shopping List

1. Wireless Discussion Unit
4. Wireless Central Control Unit
5. Wireless Access Point
6. Removable Battery Pack / Battery Pack Charger
8. DCN Control Software

Intuitive and user-friendly Conference Control software allows an operator a great degree of system control. The operator can control the microphones during a meeting, and start or stop voting sessions.

The operator can also monitor the battery status of every individual wireless discussion unit, and confirm that a unit correctly receives a signal.

## Example 6 - Interpretation



### Shopping List

1. Wireless Discussion Unit
5. Wireless Access Point
7. Modular Autodome Camera
- 9a. DCN Interpreter Desk
10. DCN Next Generation Wired Discussion System

Interpreters, who do simultaneous interpretation, are located in soundproof booths equipped with Bosch interpreter desks.

The DCN wireless discussion system, which has a 10-language capacity, allows delegates to follow a meeting in their preferred language.

If more than 10-languages are in use, the extra languages are distributed through the wired part of the DCN system and, if applicable, via the Integrus digital infrared language distribution system.

# DCN-WD-D Wireless Discussion Unit



## Features

- ▶ **Used as delegate or chairman unit**
- ▶ **Separate battery pack, easy to change and charge**
- ▶ **Advanced power saving techniques**
- ▶ **Low susceptibility to electromagnetic interference**
- ▶ **Auto microphone-off**
- ▶ **Auto-search for own network**
- ▶ **Auto switch-off when out of range**

To the participant the most important part of a conference system is the discussion unit. Bosch has built on the elegant design of the DCN Next Generation discussion units to create a new series of wireless discussion units with unrivalled looks and features.

Maximum speech intelligibility is guaranteed at all times. Operating in the 2.4 GHz (license free) band, the wireless discussion units produce crystal-clear sound due to a very high signal-to-noise ratio and antenna diversity. This means the signal is transmitted along different propagation paths, ensuring optimal receipt. The system is also protected against interference from other wireless equipment such as mobile phones, Bluetooth devices and WiFi networks.

Wireless communication means extra security considerations. The DCN Wireless system and discussion units therefore feature multiple-layer protection to prevent eavesdropping and unauthorized access. Digital protection ensures the information within the system remains confidential.

The DCN-WD-D Wireless Discussion Unit enables participants to speak, register a request-to-speak, and listen to the speaker.

A socket is provided to connect the pluggable microphones which are available in short and long stem versions (DCN-MICS and DCN-MICL, to be ordered separately).

The unit also accommodates two headphone connections, so the speaker can be heard clearly even with excessive background noise. To prevent acoustic feedback the built-in loudspeaker is muted when the microphone is on. If enabled, the headphones volume is also automatically reduced to prevent acoustic feedback when the microphone is on.

Rims are available in a range of colors to match the interior (DCN-DISR, to be ordered separately).

The unit can be used as a delegate unit or as a chairman unit (DCN-DISBCM chairman buttons to be ordered separately).

Simple battery maintenance is essential in a wireless system. A unique feature of Bosch's wireless discussion units are the separate rechargeable battery packs (DCN-WLIION, to be ordered separately). These Lithium-ion battery packs can be removed and replaced in a matter of seconds, providing maximum flexibility in recharge scheduling.

## Functions

### Controls and Indicators

On front

- Microphone button with a red or green illuminated ring. Red indicates microphone is active, green indicates request-to-speak accepted
- Headphone volume control buttons

On rear

- Out-of-range indicator
- Battery low indicator

Under base

- Recessed 'De-init' switch
- Mode select switches (delegate, chairman, etc.)

### Interconnections

- Socket for pluggable microphone
- Two 3.5 mm (0.14 in) headphone sockets stereo jack type
- DC power input from DCN-WPS (accessible when battery pack is removed)

## Technical Specifications

### Electrical

Frequency response	30 Hz - 20 kHz
Headphone load impedance	>32 ohm <1k ohm
Output power	2 x 15 mW/32 ohm

**Mechanical**

Mounting	Tabletop
Dimensions (H x W x D)	
without microphone	61 x 190 x 160 mm (2.4 x 7.5 x 6.3 in)
Weight	
without battery	485 g (1.07 lb)
with battery	700 g (1.54 lb)
Color top	Silver (RAL 9022)
Color base	Charcoal (PH 10736)

**Ordering Information**

<b>DCN-WD-D Wireless Discussion Unit</b> pluggable microphone, dark base, wireless; microphone, rims and batteries to be ordered separately	<b>DCN-WD-D</b>
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**Accessories**

<b>DCN-MICS Pluggable Short Microphone</b> length 310 mm (12.2 inch), silver	<b>DCN-MICS</b>
<b>DCN-MICL Pluggable Long Microphone</b> length 480 mm (18.9 inch), silver	<b>DCN-MICL</b>
<b>DCN-DISR-SR Rim High Gloss Silver (10 pcs)</b> silver, high gloss, 10 pieces	<b>DCN-DISR-SR</b>
<b>DCN-DISR-SR Rim Silver (10 pcs)</b> silver, 10 pieces	<b>DCN-DISR-SR</b>
<b>DCN-DISR-D Rim Dark (10 pcs)</b> dark, 10 pieces	<b>DCN-DISR-D</b>
<b>DCN-DISRMH Rim Metal High Gloss (10 pcs)</b> metal, high gloss, 10 pieces	<b>DCN-DISRMH</b>
<b>DCN-DISRMS Rim Metal Semi Gloss (10 pcs)</b> metal, semi gloss, 10 pieces	<b>DCN-DISRMS</b>
<b>DCN-DISBCM Buttons Chairman (10 sets)</b> 10 sets	<b>DCN-DISBCM</b>
<b>DCN-WLIION-D Battery Pack for Wireless Discussion Units</b> charcoal color, lithium-ion, 7.2 VDC, 4800 mAh	<b>DCN-WLIION-D</b>
<b>DCN-WPS Power Supply for Wireless Discussion Units</b> not approved for some countries	<b>DCN-WPS</b>
<b>DCN-FCWD10 Flight Case for 10 Wireless Discussion Units</b> light grey, can hold 10 wireless discussion units and 2 charging units	<b>DCN-FCWD10</b>

# DCN-WDCS-D Wireless Discussion Unit with Channel Selector



## Features

- ▶ **Used as delegate or chairman unit**
- ▶ **Channel selector with number and abbreviated channel name**
- ▶ **Separate battery pack, easy to change and charge**
- ▶ **Advanced power saving techniques**
- ▶ **Low susceptibility to electromagnetic interference**
- ▶ **Auto microphone-off**
- ▶ **Auto search for own network**
- ▶ **Auto switch-off when out of range**

To the participant the most important part of a conference system is the discussion unit. Bosch has built on the elegant design of the DCN Next Generation discussion units to create a new series of wireless discussion units with unrivalled looks and features.

The DCN-WDCS-D Wireless Discussion Unit with Channel selector enables participants to speak, register a request-to-speak, listen to the speaker or to an interpreter of their choice.

## Functions

### Speech intelligibility

Maximum speech intelligibility is guaranteed at all times. Operating in the 2.4 GHz (license free) band, the wireless discussion units produce crystal-clear sound due to a very high signal-to-noise ratio and antenna diversity. This means the signal is transmitted along different propagation paths, ensuring optimal receipt. The system

is also protected against interference from other wireless equipment such as mobile phones, Bluetooth devices and WiFi networks.

### Security

Wireless communication means extra security considerations. The DCN Wireless system and discussion units therefore feature multiple-layer protection to prevent eavesdropping and unauthorized access. Digital protection ensures the information within the system remains confidential.

### Channel selector

The unit has a built-in channel selector that makes it suitable for discussions in which more than one language is used, and simultaneous interpretations are available. The channel selector includes two up-and-down channel select keys, and a display showing the number and the abbreviation of the languages. This enables rapid selection of the required language channel.

### Microphones

A socket is provided to connect the pluggable microphones which are available in short and long stem versions (DCN-MICS and DCN-MICL, to be ordered separately).

### Headphones and loudspeakers

The unit also accommodates two headphone connections, so the speaker can be heard clearly even with excessive background noise. To prevent acoustic feedback the built-in loudspeaker is muted when the microphone is on. If enabled, the headphone volume is also automatically reduced to prevent acoustic feedback when the microphone is on.

### Rims and buttons

Rims (DCN-DISR, to be ordered separately) are available in a range of colors to match the interior.

The unit can be used as a delegate unit or as a chairman unit (DCN-DISBCM chairman buttons to be ordered separately).

### Battery maintenance

Simple battery maintenance is essential in a wireless system. A unique feature of Bosch's wireless discussion units is the separate rechargeable battery packs (DCN-WLIION, to be ordered separately). These Lithium-ion battery packs can be removed and replaced in a matter of seconds, providing maximum flexibility in recharge scheduling.

### Controls and Indicators

On front

- Alphanumeric display for language channel selection with number and abbreviated channel name
- Channel up and down selection buttons
- Microphone button with a red or green illuminated ring:
  - Red indicates microphone is active
  - green indicates request-to-speak accepted
- Headphone volume control buttons

On rear

- Out-of-range indicator
- Battery low indicator

Under base

- Recessed 'De-init' switch
- Mode select switches (delegate, chairman, etc.)

#### Interconnections

- Socket for pluggable microphone
- Two 3.5 mm (0.14 in) headphone sockets stereo jack type
- DC power input from DCN-WPS (accessible when battery pack is removed)

## Technical Specifications

### Electrical

Frequency response	30 Hz - 20 kHz
Headphone load impedance	>32 ohm <1k ohm
Output power	2 x 15 mW/32 ohm

### Mechanical

Mounting	Tabletop
Dimensions (H x W x D)	
without microphone	61 x 190 x 160 mm (2.4 x 7.5 x 6.3 in)
Weight	
without battery	495 g (1.10 lb)
with battery	710 g (1.57 lb)
Color top	Silver (RAL 9022)
Color base	Charcoal (PH 10736)

## Ordering Information

### DCN-WDCS-D Wireless Discussion Unit with Channel Selector

pluggable microphone, dark base; microphone, rims and batteries to be ordered separately

#### Accessories

**DCN-MICS Pluggable Short Microphone** DCN-MICS  
length 310 mm (12.2 inch), silver

**DCN-MICL Pluggable Long Microphone** DCN-MICL  
length 480 mm (18.9 inch), silver

**DCN-DISRH-SR Rim High Gloss Silver (10 pcs)** DCN-DISRH-SR  
silver, high gloss, 10 pieces

**DCN-DISR-SR Rim Silver (10 pcs)** DCN-DISR-SR  
silver, 10 pieces

**DCN-DISR-D Rim Dark (10 pcs)** DCN-DISR-D  
dark, 10 pieces

**DCN-DISRMH Rim Metal High Gloss (10 pcs)** DCN-DISRMH  
metal, high gloss, 10 pieces

**DCN-DISRMS Rim Metal Semi Gloss (10 pcs)** DCN-DISRMS  
metal, semi gloss, 10 pieces

## Ordering Information

**DCN-DISBCM Buttons Chairman (10 sets)** DCN-DISBCM  
10 sets

**DCN-WLIION-D Battery Pack for Wireless Discussion Units** DCN-WLIION-D  
charcoal color, lithium-ion, 7.2 VDC, 4800 mAh

**DCN-WPS Power Supply for Wireless Discussion Units** DCN-WPS  
not approved for some countries

**DCN-FCWD10 Flight Case for 10 Wireless Discussion Units** DCN-FCWD10  
light grey, can hold 10 wireless discussion units and 2 charging units



## DCN-WDD-D Wireless Dual Discussion Unit



### Features

- ▶ **Two separate headphone connections with individual volume control**
- ▶ **Useable as single/dual delegate or chairman unit**
- ▶ **Separate battery pack, easy to change and charge**
- ▶ **Advanced power saving techniques**
- ▶ **Low susceptibility to electromagnetic interference**
- ▶ **Auto microphone-off**
- ▶ **Auto-search for own network**
- ▶ **Auto switch-off when out of range**

To the participant the most important part of a conference system is the discussion unit. Bosch has built on the elegant design of the DCN Next Generation discussion units to create a new series of wireless discussion units with unrivalled looks and features.

Maximum speech intelligibility is guaranteed at all times. Operating in the 2.4 GHz (license free) band, the wireless discussion units produce crystal-clear sound due to a very high signal-to-noise ratio and antenna diversity. This means the signal is transmitted along different propagation paths, ensuring optimal receipt. The system is also protected against interference from other wireless equipment such as mobile phones, Bluetooth devices and WiFi networks.

Wireless communication means extra security considerations. The DCN Wireless system and discussion units therefore feature multiple-layer protection to prevent eavesdropping and unauthorized access. Digital protection ensures the information within the system remains confidential.

The DCN-WDD-D Wireless Dual Discussion Unit enables participants to speak, register a request-to-speak, and listen to the speaker.

A socket is provided to connect the pluggable microphones which are available in short and long stem versions (DCN-MICS and DCN-MICL, to be ordered separately).

The unit also accommodates two separate headphone connections with individual volume control on either side of the unit, allowing one unit to serve two delegates. It can be converted to a full dual-use unit by replacing the microphone button with two separate buttons for individual microphone control and individual delegate identification (DCN-DISBDD dual-use buttons, to be ordered separately).

To prevent acoustic feedback the built-in loudspeaker is muted when the microphone is on. If enabled, the headphones volume is also automatically reduced to prevent acoustic feedback when the microphone is on.

Different rims are available to allow matching with the interior (DCN-DISR, to be ordered separately).

The unit can be used as:

- a single delegate unit
- a dual delegate unit
- a chairman unit (DCN-DISBCM chairman buttons, to be ordered separately)
- a single delegate unit with auxiliary button (to be used as an usher call, for example).

Simple battery maintenance is essential in a wireless system. A unique feature of Bosch's wireless discussion units are the separate rechargeable battery packs (DCN-WLIION, to be ordered separately). These Lithium-ion battery packs can be removed and replaced in a matter of seconds, providing maximum flexibility in recharge scheduling.

### Functions

#### Controls and Indicators

On front

- Microphone button with a red or green illuminated ring (red indicates microphone is active, green indicates request-to-speak accepted)\*
- Two individual headphone volume control buttons

On rear

- Out-of-range indicator
- Battery low indicator

Under base

- Recessed 'De-init' switch
- Mode select switches (delegate, chairman, etc.)

#### Interconnections

- Socket for pluggable microphone
- Two 3.5 mm (0.14 in) headphone sockets stereo jack type
- DC power input from DCN-WPS (accessible when battery is removed)

\* When unit is used in Dual Delegate mode, this function is available individually.

## Technical Specifications

### Electrical

Frequency response	30 Hz - 20 kHz
Headphone load impedance	>32 ohm <1k ohm
Output power	2 x 15 mW/32 ohm

### Mechanical

Mounting	Tabletop
Dimensions (H x W x D)	
without microphone	61 x 190 x 160 mm (2.4 x 7.5 x 6.3 in)
Weight	
without battery	500 g (1.10 lb)
with battery	715 g (1.57 lb)
Color top	Silver (RAL 9022)
Color base	Charcoal (PH 10736)

## Ordering Information

### DCN-WDD-D Wireless Dual Discussion Unit      DCN-WDD-D

dual delegate, pluggable microphone, dark base, wireless; microphone, rims and batteries to be ordered separately

### Accessories

### DCN-DISBDD Buttons Dual Use (10 sets)      DCN-DISBDD

10 sets

### DCN-MICS Pluggable Short Microphone      DCN-MICS

length 310 mm (12.2 inch), silver

### DCN-MICL Pluggable Long Microphone      DCN-MICL

length 480 mm (18.9 inch), silver

### DCN-DISRH-SR Rim High Gloss Silver (10 pcs)      DCN-DISRH-SR

silver, high gloss, 10 pieces

### DCN-DISR-SR Rim Silver (10 pcs)      DCN-DISR-SR

silver, 10 pieces

### DCN-DISR-D Rim Dark (10 pcs)      DCN-DISR-D

dark, 10 pieces

### DCN-DISRMH Rim Metal High Gloss (10 pcs)      DCN-DISRMH

metal, high gloss, 10 pieces

### DCN-DISRMS Rim Metal Semi Gloss (10 pcs)      DCN-DISRMS

metal, semi gloss, 10 pieces

### DCN-DISBCM Buttons Chairman (10 sets)      DCN-DISBCM

10 sets

### DCN-WLIION-D Battery Pack for Wireless Discussion Units      DCN-WLIION-D

charcoal color, lithium-ion, 7.2 VDC, 4800 mAh

### DCN-WPS Power Supply for Wireless Discussion Units      DCN-WPS

not approved for some countries

## Ordering Information

### DCN-FCWD10 Flight Case for 10 Wireless Discussion Units      DCN-FCWD10

light grey, can hold 10 wireless discussion units and 2 charging units

# DCN-WDDCS-D Wireless Discussion Unit with Dual Channel Selector




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## Features

- ▶ **Used as (dual) delegate or chairman unit**
- ▶ **Dual channel selector with number and abbreviated channel name**
- ▶ **Separate battery pack, easy to change and charge**
- ▶ **Advanced power saving techniques**
- ▶ **Low susceptibility to electromagnetic interference**
- ▶ **Auto microphone-off**
- ▶ **Auto search for own network**
- ▶ **Auto switch-off when out of range**

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To the participant the most important part of a conference system is the discussion unit. Bosch has built on the elegant design of the DCN Nex Generation discussion units to create a new series of wireless discussion units with unrivalled looks and features.

The DCN-WDDCS-D Wireless Discussion Unit with Dual Channel selector enables participants to speak, register a request-to-speak, listen to the speaker or to an interpreter of their choice.

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## Functions

### Speech intelligibility

Maximum speech intelligibility is guaranteed at all times. Operating in the 2.4 GHz (license free) band, the wireless discussion units produce crystal-clear sound due to a very high signal-to-noise ratio and antenna diversity. This means the signal is transmitted along different propagation paths, ensuring optimal receipt. The system

is also protected against interference from other wireless equipment such as mobile phones, Bluetooth devices and WiFi networks.

### Security

Wireless communication means extra security considerations. The DCN Wireless system and discussion units therefore feature multiple-layer protection to prevent eavesdropping and unauthorized access. Digital protection ensures the information within the system remains confidential.

### Channel selector

The unit has two built-in channel selectors that makes it suitable for discussions in which more than one language is used, and simultaneous interpretations are available. The channel selector includes two up-and-down channel select keys, and a display showing the number and the abbreviation of the languages. This enables rapid selection of the required language channel.

### Microphones

A socket is provided to connect the pluggable microphones which are available in short and long stem versions (DCN-MICS and DCN-MICL, to be ordered separately).

### Headphones and loudspeakers

The unit also accommodates two headphone connections, so the speaker can be heard clearly even with excessive background noise. To prevent acoustic feedback the built-in loudspeaker is muted when the microphone is on. If enabled, the headphone volume is also automatically reduced to prevent acoustic feedback when the microphone is on.

### Rims and buttons

Rims (DCN-DISR, to be ordered separately) are available in a range of colors to match the interior.

The unit can be used as a delegate unit or as a chairman unit (DCN-DISBCM chairman buttons to be ordered separately).

### Battery maintenance

Simple battery maintenance is essential in a wireless system. A unique feature of Bosch's wireless discussion units is the separate rechargeable battery packs (DCNW-LIION, to be ordered separately). These Lithium-ion battery packs can be removed and replaced in a matter of seconds, providing maximum flexibility in recharge scheduling.

### Controls and Indicators

On front

- Two alphanumeric displays for language channel selection with number and abbreviated channel name
- Two individual channel up and down selection buttons
- Two individual microphone buttons with a red or green illuminated ring:
  - Red indicates microphone is active
  - green indicates request-to-speak accepted\*
- Two individual headphone volume control buttons

On rear

- Out-of-range indicator
- Battery low indicator

Under base

- Recessed 'De-init' switch
- Mode select switches (delegate, chairman, etc.)

#### Interconnections

- Socket for pluggable microphone
- Two 3.5 mm (0.14 in) headphone sockets stereo jack type
- DC power input from DCN-WPS (accessible when battery pack is removed)

\* When unit is used in Dual Delegate mode, this function is available individually.

## Technical Specifications

### Electrical

Frequency response	30 Hz - 20 kHz
Headphone load impedance	>32 ohm <1k ohm
Output power	2 x 15 mW/32 ohm

### Mechanical

Mounting	Tabletop
Dimensions (H x W x D)	
without microphone	61 x 190 x 160 mm (2.4 x 7.5 x 6.3 in)
Weight	
without battery	515 g (1.14 lb)
with battery	730 g (1.61 lb)
Color top	Silver (RAL 9022)
Color base	Charcoal (PH 10736)

## Ordering Information

<b>DCN-WDDCS-D Wireless Discussion Unit with Dual Channel Selector</b> pluggable microphone, dark base; microphone, rims and batteries to be ordered separately	<b>DCN-WDDCS-D</b>
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### Accessories

<b>DCN-MICS Pluggable Short Microphone</b> length 310 mm (12.2 inch), silver	<b>DCN-MICS</b>
<b>DCN-MICL Pluggable Long Microphone</b> length 480 mm (18.9 inch), silver	<b>DCN-MICL</b>
<b>DCN-DISRH-SR Rim High Gloss Silver (10 pcs)</b> silver, high gloss, 10 pieces	<b>DCN-DISRH-SR</b>
<b>DCN-DISR-SR Rim Silver (10 pcs)</b> silver, 10 pieces	<b>DCN-DISR-SR</b>
<b>DCN-DISR-D Rim Dark (10 pcs)</b> dark, 10 pieces	<b>DCN-DISR-D</b>
<b>DCN-DISRMH Rim Metal High Gloss (10 pcs)</b> metal, high gloss, 10 pieces	<b>DCN-DISRMH</b>

## Ordering Information

<b>DCN-DISRMS Rim Metal Semi Gloss (10 pcs)</b> metal, semi gloss, 10 pieces	<b>DCN-DISRMS</b>
<b>DCN-DISBCM Buttons Chairman (10 sets)</b> 10 sets	<b>DCN-DISBCM</b>
<b>DCN-WLIION-D Battery Pack for Wireless Discussion Units</b> charcoal color, lithium-ion, 7.2 VDC, 4800 mAh	<b>DCN-WLIION-D</b>
<b>DCN-WPS Power Supply for Wireless Discussion Units</b> not approved for some countries	<b>DCN-WPS</b>
<b>DCN-FCWD10 Flight Case for 10 Wireless Discussion Units</b> light grey, can hold 10 wireless discussion units and 2 charging units	<b>DCN-FCWD10</b>

# DCN-WDV-D Wireless Discussion Unit with Voting



## Features

- ▶ **Five voting buttons**
- ▶ **Usable as delegate or chairman unit**
- ▶ **Separate battery pack, easy to change and charge**
- ▶ **Advanced power saving techniques**
- ▶ **Low susceptibility to electromagnetic interference**
- ▶ **Auto microphone-off**
- ▶ **Auto-search for own network**
- ▶ **Auto switch-off when out of range**

To the participant the most important part of a conference system is the discussion unit. Bosch has built on the elegant design of the DCN Next Generation discussion units to create a new series of wireless discussion units with unrivalled looks and features.

Maximum speech intelligibility is guaranteed at all times. Operating in the 2.4 GHz (license free) band, the wireless discussion units produce crystal-clear sound due to a very high signal-to-noise ratio and antenna diversity. This means the signal is transmitted along different propagation paths, ensuring optimal receipt. The system is also protected against interference from other wireless equipment such as mobile phones, Bluetooth devices and WiFi networks.

Wireless communication means extra security considerations. The DCN Wireless system and discussion units therefore feature multiple-layer protection to prevent eavesdropping and unauthorized access. Digital protection ensures the information within the system remains confidential.

The DCN-WDV-D Wireless Discussion Unit with Voting enables participants to speak, register a request-to-speak, listen to the speaker, and vote.

A socket is provided to connect the pluggable microphones (DCN-MICS and DCN-MICL, to be ordered separately).

The unit has five voting buttons. The yellow indicator rings around the voting buttons confirm vote selections.

The unit also accommodates two headphone connections, so the speaker can be heard clearly even in situations with excessive background noise.

To prevent acoustic feedback the built-in loudspeaker is muted when the microphone is on. If enabled, the headphones volume is also automatically reduced to prevent acoustic feedback when the microphone is on.

A socket is provided to connect the pluggable microphones which are available in short and long stem versions (DCN-MICS and DCN-MICL, to be ordered separately).

The unit can be used as:

- a delegate unit
- a chairman unit (DCN-DISBCM chairman buttons to be ordered separately)
- a delegate unit with auxiliary button (can be used as an usher call for example)

Simple battery maintenance is essential in a wireless system. A unique feature of Bosch's wireless discussion units are the separate rechargeable battery packs (DCN-WLIION, to be ordered separately). These Lithium-ion battery packs can be removed and replaced in a matter of seconds, providing maximum flexibility in recharge scheduling.

## Functions

### Controls and Indicators

On front

- Five voting buttons with indicator rings around the buttons
- Unit activity / delegate presence indicator
- Microphone button with a red or green illuminated ring. Red indicates microphone is active, green indicates request-to-speak accepted
- Headphone volume control buttons

On rear

- Out-of-range indicator
- Battery low indicator

Under base

- Recessed 'De-init' switch
- Mode select switches (delegate, chairman, etc.)

### Interconnections

- Socket for pluggable microphone
- Two 3.5 mm (0.14 in) headphone sockets stereo jack type
- DC power input from DCN-WPS (accessible when battery is removed)

**Technical Specifications****Electrical**

Frequency response	30 Hz - 20 kHz
Headphone load impedance	>32 ohm <1k ohm
Output power	2 x 15 mW/32 ohm

**Mechanical**

Mounting	Tabletop
Dimensions (H x W x D)	
without microphone	61 x 190 x 160 mm (2.4 x 7.5 x 6.3 in)
Weight	
without battery	505 g (1.11 lb)
with battery	720 g (1.58 lb)
Color top	Silver (RAL 9022)
Color base	Charcoal (PH 10736)

**Ordering Information**

<b>DCN-FCWD10 Flight Case for 10 Wireless Discussion Units</b>	<b>DCN-FCWD10</b>
light grey, can hold 10 wireless discussion units and 2 charging units	

**Ordering Information**

<b>DCN-WDV-D Wireless Discussion Unit with Voting</b>	<b>DCN-WDV-D</b>
voting, pluggable microphone, dark base, wireless; microphone, rims and batteries to be ordered separately	

**Accessories**

<b>DCN-DISBDD Buttons Dual Use (10 sets)</b>	<b>DCN-DISBDD</b>
10 sets	
<b>DCN-MICS Pluggable Short Microphone</b>	<b>DCN-MICS</b>
length 310 mm (12.2 inch), silver	
<b>DCN-MICL Pluggable Long Microphone</b>	<b>DCN-MICL</b>
length 480 mm (18.9 inch), silver	
<b>DCN-DISRH-SR Rim High Gloss Silver (10 pcs)</b>	<b>DCN-DISRH-SR</b>
silver, high gloss, 10 pieces	
<b>DCN-DISR-SR Rim Silver (10 pcs)</b>	<b>DCN-DISR-SR</b>
silver, 10 pieces	
<b>DCN-DISR-D Rim Dark (10 pcs)</b>	<b>DCN-DISR-D</b>
dark, 10 pieces	
<b>DCN-DISRMH Rim Metal High Gloss (10 pcs)</b>	<b>DCN-DISRMH</b>
metal, high gloss, 10 pieces	
<b>DCN-DISRMS Rim Metal Semi Gloss (10 pcs)</b>	<b>DCN-DISRMS</b>
metal, semi gloss, 10 pieces	
<b>DCN-DISBCM Buttons Chairman (10 sets)</b>	<b>DCN-DISBCM</b>
10 sets	
<b>DCN-WLIION-D Battery Pack for Wireless Discussion Units</b>	<b>DCN-WLIION-D</b>
charcoal color, lithium-ion, 7.2 VDC, 4800 mAh	
<b>DCN-WPS Power Supply for Wireless Discussion Units</b>	<b>DCN-WPS</b>
not approved for some countries	

# DCN-WDVCS-D Wireless Discussion Unit with Voting and Channel Selector



## Features

- ▶ **Used as delegate or chairman unit**
- ▶ **Channel selector with number and abbreviated channel name**
- ▶ **Five voting buttons**
- ▶ **Separate battery pack, easy to change and charge**
- ▶ **Advanced power saving techniques**
- ▶ **Low susceptibility to electromagnetic interference**
- ▶ **Auto microphone-off**
- ▶ **Auto search for own network**
- ▶ **Auto switch-off when out of range**

To the participant the most important part of a conference system is the discussion unit. Bosch has built on the elegant design of the DCN Next Generation discussion units to create a new series of wireless discussion units with unrivalled looks and features.

The DCN-WDVCS-D Wireless Discussion Unit with Voting and Channel selector enables participants to speak, register a request-to-speak, listen to the speaker or to an interpreter of their choice, and vote.

## Functions

### Speech intelligibility

Maximum speech intelligibility is guaranteed at all times. Operating in the 2.4 GHz (license free) band, the wireless discussion units produce crystal-clear sound due to a very high signal-to-noise ratio and antenna diversity. This means the signal is transmitted along different propagation paths, ensuring optimal receipt. The system is also protected against interference from other wireless equipment such as mobile phones, Bluetooth devices and WiFi networks.

### Security

Wireless communication means extra security considerations. The DCN Wireless system and discussion units therefore feature multiple-layer protection to prevent eavesdropping and unauthorized access. AES Rijndael 128-bits encryption ensures the information within the system remains confidential.

### Channel selector

The unit has a built-in channel selector that makes it suitable for discussions in which more than one language is used, and simultaneous interpretations are available. The channel selector includes two up-and-down channel select keys, and a display showing the number and the abbreviation of the languages. This enables rapid selection of the required language channel.

### Microphones

A socket is provided to connect the pluggable microphones which are available in short and long stem versions (DCN-MICS and DCN-MICL, to be ordered separately).

### Headphones and loudspeakers

The unit also accommodates two headphone connections, so the speaker can be heard clearly even with excessive background noise. To prevent acoustic feedback the built-in loudspeaker is muted when the microphone is on. If enabled, the headphone volume is also automatically reduced to prevent acoustic feedback when the microphone is on.

### Rims and buttons

Rims (DCN-DISR, to be ordered separately) are available in a range of colors to match the interior.

The unit can be used as a delegate unit or as a chairman unit (DCN-DISBCM chairman buttons to be ordered separately).

The unit has five voting buttons. The yellow indicator rings around the voting buttons confirm vote selections.

### Battery maintenance

Simple battery maintenance is essential in a wireless system. A unique feature of Bosch's wireless discussion units is the separate rechargeable battery packs (DCN-WLIION, to be ordered separately). These Lithium-ion battery packs can be removed and replaced in a matter of seconds, providing maximum flexibility in recharge scheduling.

**Controls and Indicators**

## On front

- Alphanumeric displays for language channel selection with number and abbreviated channel name
- Channel up and down selection buttons
- Five voting buttons with indicator rings around the buttons
- Unit activity / delegate presence indicator
- Microphone button with a red or green illuminated ring:
  - Red indicates microphone is active
  - green indicates request-to-speak accepted
- Headphone volume control buttons

## On rear

- Out-of-range indicator
- Battery low indicator

## Under base

- Recessed 'De-init' switch
- Mode select switches (delegate, chairman, etc.)

**Interconnections**

- Socket for pluggable microphone
- Two 3.5 mm (0.14 in) headphone sockets stereo jack type

DC power input from DCN-WPS (accessible when battery pack is removed)

**Technical Specifications****Electrical**

Frequency response	30 Hz - 20 kHz
Headphone load impedance	>32 ohm <1k ohm
Output power	2 x 15 mW/32 ohm

**Mechanical**

Mounting	Tabletop
Dimensions (H x W x D)	
without microphone	61 x 190 x 160 mm (2.4 x 7.5 x 6.3 in)
Weight	
without battery	520 g (1.15 lb)
with battery	735 g (1.62 lb)
Color top	Silver (RAL 9022)
Color base	Charcoal (PH 10736)

**Ordering Information****DCN-WDVCS-D Wireless Discussion Unit with Voting and Channel Selector** **DCN-WDVCS-D**

Voting, pluggable microphone, dark base; microphone, rims and batteries to be ordered separately

**Accessories****DCN-MICS Pluggable Short Microphone** **DCN-MICS**

length 310 mm (12.2 inch), silver

**DCN-MICL Pluggable Long Microphone** **DCN-MICL**

length 480 mm (18.9 inch), silver

**DCN-DISRH-SR Rim High Gloss Silver (10 pcs)** **DCN-DISRH-SR**

silver, high gloss, 10 pieces

**DCN-DISR-SR Rim Silver (10 pcs)** **DCN-DISR-SR**

silver, 10 pieces

**DCN-DISR-D Rim Dark (10 pcs)** **DCN-DISR-D**

dark, 10 pieces

**DCN-DISRMH Rim Metal High Gloss (10 pcs)** **DCN-DISRMH**

metal, high gloss, 10 pieces

**DCN-DISRMS Rim Metal Semi Gloss (10 pcs)** **DCN-DISRMS**

metal, semi gloss, 10 pieces

**DCN-DISBCM Buttons Chairman (10 sets)** **DCN-DISBCM**

10 sets

**DCN-WLIION-D Battery Pack for Wireless Discussion Units** **DCN-WLIION-D**

charcoal color, lithium-ion, 7.2 VDC, 4800 mAh

**DCN-WPS Power Supply for Wireless Discussion Units** **DCN-WPS**

not approved for some countries

**DCN-FCWD10 Flight Case for 10 Wireless Discussion Units** **DCN-FCWD10**

light grey, can hold 10 wireless discussion units and 2 charging units



# DCN-MICS/L Pluggable Microphone Short/Long Stem



## Features

- ▶ **Uni-directional microphone on adjustable stem**
- ▶ **Built-in pop and windshield**

The innovative, stylish and ergonomically designed microphone with an adjustable stem simply plugs directly into a Discussion unit, Concentus, flush-mounted Microphone Connection panels or Interpreter desk. It has a uni-directional response for optimum performance even in noisy conditions, and has low susceptibility to interference from mobile phones.

## Functions

### Controls and Indicators

- Red or green illuminator. Red indicates microphone is active, green indicates request-to-speak accepted

### Interconnections

- Connector to plug and fasten the microphone

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Mechanical

Mounting	Plug and fasten into Discussion units, Concentus, flush mounted Microphone connection panels and Interpreter desks
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### Length

DCN-MICS / DCN-MICS-D	310 mm (12.2 in)
DCN-MICL / DCN-MICL-D	480 mm (18.9 in)

### Weight

DCN-MICS / DCN-MICS-D	100 g (0.22 lb)
DCN-MICL / DCN-MICL-D	115 g (0.25 lb)

### Color top

DCN-MICS / DCN-MICL	Silver (RAL 9022)
DCN-MICS-D / DCN-MICL-D	Dark (graphite gray)

## Ordering Information

<b>DCN-MICS Pluggable Short Microphone</b> length 310 mm (12.2 inch), silver	<b>DCN-MICS</b>
<b>DCN-MICL Pluggable Long Microphone</b> length 480 mm (18.9 inch), silver	<b>DCN-MICL</b>

## DCN-DISR Rims for Discussion Units



A rim completes the discussion units. A variety of rims with different finishes are available to allow matching with any interior.

### Technical Specifications

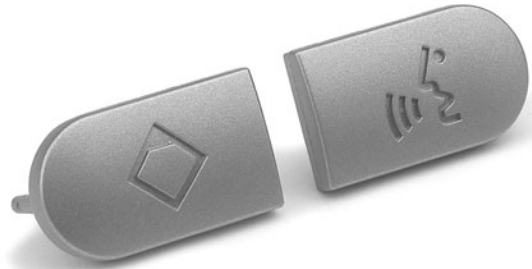
#### Mechanical

Mounting	Click and fit on any discussion unit
Color base	
DCN-DISRH-SR	Silver (RAL 9022) high gloss
DCN-DISR-SR	Silver (RAL 9022)
DCN-DISR-D	Charcoal (PH 10736)
DCN-DISRMH	High gloss metal
DCN-DISRMS	Semi gloss metal

### Ordering Information

<b>DCN-DISRH-SR Rim High Gloss Silver (10 pcs)</b> silver, high gloss, 10 pieces	<b>DCN-DISRH-SR</b>
<b>DCN-DISR-SR Rim Silver (10 pcs)</b> silver, 10 pieces	<b>DCN-DISR-SR</b>
<b>DCN-DISR-D Rim Dark (10 pcs)</b> dark, 10 pieces	<b>DCN-DISR-D</b>
<b>DCN-DISRMH Rim Metal High Gloss (10 pcs)</b> metal, high gloss, 10 pieces	<b>DCN-DISRMH</b>
<b>DCN-DISRMS Rim Metal Semi Gloss (10 pcs)</b> metal, semi gloss, 10 pieces	<b>DCN-DISRMS</b>

## DCN-DISBCM Buttons Chairman (10 sets)



DCN-DISBCM buttons for Chairman Discussion Units replace the single microphone button on a discussion unit when used in chairman mode. These buttons can also be used for the discussion unit in auxiliary control mode.

### Technical Specifications

#### Mechanical

Mounting	Click and fit on any Discussion unit
Color	Silver (RAL 9022)

### Ordering Information

<b>DCN-DISBCM Buttons Chairman (10 sets)</b> 10 sets	<b>DCN-DISBCM</b> 10 sets
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## DCN-DISBDD Buttons Dual Use (10 sets)



DCN-DISBDD buttons for Dual Use Discussion Units replace the single microphone button on a discussion unit when used in dual delegate mode.

### Technical Specifications

#### Mechanical

Mounting	Click and fit on any Discussion unit
Color	Silver (RAL 9022)

### Ordering Information

<b>DCN-DISBDD Buttons Dual Use (10 sets)</b>	<b>DCN-DISBDD</b>
10 sets	

## DCN-WPS Power Supply for Wireless Discussion Units



### Features

- Powers wireless discussion units if no battery pack is present

The DCN-WPS power supply enables wireless discussion units to be used without a battery.

The DCN-WPS does not provide any battery charging capability (a DCN-WCH05 charging unit is required). The unit comes complete with a 1.5 m cable and international mains supply connectors (Euro, UK, Rest of World).

**Note** For countries where the EU- and UK-connector cannot be used, attach the 'Rest of World' connector to your own supplied cable (this cable must have a connector according to IEC 60 320 part 1 version C7 on the DCN-WPS-side; and a commonly used connector for your country on the other side).

### Technical Specifications

#### Electrical

Rated input voltage	100-240 VAC (50 – 60 Hz), 150 mA
Rated output voltage	9 VDC (500 mA)

#### Mechanical

Dimensions (H x W x D)	65 x 57 x 28 mm (25.6 x 22.4 x 11 in)
Weight (per package)	approx. 100 g (0.22 lb)
Color	Black

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**Ordering Information**

**DCN-WPS Power Supply for Wireless  
Discussion Units**

**DCN-WPS**

not approved for some countries

# DCN-WAP Wireless Access Point



## Features

- ▶ **Compact and elegant (iF design award winner 2006)**
- ▶ **Single cable for power and communication**
- ▶ **Mountable on ceiling, wall, or floor stand for best reception**
- ▶ **Secure, digitally protected, wireless communication**
- ▶ **Typical range 30 m (100 ft)**

The DCN Wireless Access Point (WAP) links the central control unit (WCCU) and the wireless discussion units. To ensure security, data exchange between the WAPs and the wireless discussion units is digitally protected.

The WAP is linked to the WCCU using Bosch's proprietary optical network, which provides digital optical communication and power supply over a single cable. The second optical network connector on the WAP allows the system network to be expanded from a single branch to a redundant loop configuration. In this 'loop-through' configuration, DCN Wireless can be interfaced with compatible Bosch equipment such as Audio Expanders, CobraNet™ interfaces and the Integrus language distribution system.

Secure wireless communication between the WAP and the discussion units is in the 2.4 GHz band, which is license-free worldwide. AES Rijndael 128-bits encryption ensures the information within the system remains confidential.

The WAP unit's award winning design enables it to be placed unobtrusively on a wall, ceiling, or floor stand by using the universal mounting bracket.

## Functions

### Controls and Indicators

- LEDs show status of wireless system

## Interconnections

- Two optical network connections (second connection can be used in 'loop-through' network)

## Installation/Configuration Notes



*DCN-WAP mounted on a LBC 1259/00 floor stand*

## Technical Specifications

### Electrical

Power consumption 4 W

### Mechanical

Mounting Ceiling, Wall or Floor Stand (using included bracket)

Dimensions (H x W x D) with bracket 59 x 284.5 x 201 mm (2.3 x 11.2 x 7.9 in)

Weight with bracket 907 g (2 lb)  
without bracket 643 g (1.4 lb)

Color Light grey (RAL 000 7500)

## Ordering Information

<b>DCN-WAP Wireless Access Point</b> light grey color, universal mounting bracket included	<b>DCN-WAP</b>
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### Accessories

<b>DCN-WFCCCU Flight Case for CCU and WAP</b> light grey, can hold two central control units, or one central control unit, wireless access point and optical cable	<b>DCN-WFCCCU</b>
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# DCN-WCCU Wireless Central Control Unit



## Features

- ▶ **Optical network interface for easy connection**
- ▶ **Single branch or redundant loop networks**
- ▶ **Control for up to 150 wireless discussion units**
- ▶ **Additional control for up to 95 DCN Next Generation wired units**
- ▶ **Serial ports for PC and camera control**

The DCN-WCCU is the brain of the DCN Wireless system. It provides control for up to 150 wireless discussion units and 95 DCN Next Generation wired units.

The WCCU uses Bosch's proprietary optical network for easy connection to the wireless access point and other Bosch conference equipment. Networks can be set-up in single branch or redundant loop configurations, depending on the installed equipment.

For connection to DCN-IDESK interpreter desks, the WCCU has two outlet sockets for DCN trunk-cables.

In combination with a PC and the Conference Control Software (DCN-SWSMV), the WCCU brings greater sophistication to conference control.

## Functions

- Optical network to:
  - couple the WCCU to the WAP
  - allow a variety of audio contribution and distribution facilities (can connect to other Bosch conference equipment, such as: Integrus transmitter for infra-red language distribution; Audio Expanders, and CobraNet™ interfaces)
- DCN trunk to connect to DCN Next Generation units, such as; DCN Discussion Units, DCN Concentus, DCN interpreter desks or DCN Flush Mounting Units
- Basic microphone management facilities
- Three operational microphone modes:
  - Open: microphone button control with request-to-speak (Auto)

- Override: microphone button with override of activated microphones (FIFO)
- PTT: Push To Talk (push and hold button to speak)
- Up to 4 open microphones (3 for delegates and 1 for the chairman)
- Simultaneous interpretation function with up to 10 language channels, plus one floor channel via the DCN Wireless Discussion System. In case more than 10 language distribution channels are in use (maximum 32), the channels above ten, are distributed throughout the rest of the system, so they can be heard via wired units, or via Integrus infrared receivers
- Voting control for parliamentary voting procedure when using PC and DCN-SWSMV software
- Each connected wireless discussion unit (DCN-WDCS-D, DCN-WDDCS-D and DCN-WDVCS-D) has an integrated simultaneous interpretation function with up to 10 language selection channels
- Basic intercom function
- Automatic camera control
- Extended conference facilities when using PC and DCN-SWSMV software
- Adjustable sensitivity for audio inputs and outputs
- Audio insertion facility to connect external audio processing devices or telephone couplers
- Configuration of WCCU and system via a display and a single rotary push button
- Each WCCU can be assigned a unique name by the installer for easy identification
- VU meter readings of audio inputs and outputs (monitored using a headphone)
- 19" (2U) housing for table top or rack mounting
- Handgrips for easy transport

## Controls and Indicators

At the front

- Mains on/off switch
- 2 x 16 Character LCD display for status information and CCU configuration
- Rotary control to navigate through the LCD menus

At the rear

- Four red LED overload indicators (2 for the DCN network outputs, 2 for the optical connections)

## Interconnections

- Euro mains socket with built-in fuse
- Two DCN outlet sockets to connect DCN-IDESK interpreter desks, plus extension power supplies. Each socket is protected against short-circuit (2 x six-pole circular sockets)
- Two optical network connectors for a Wireless Access Point, Audio Expanders or Integrus TX
- Two three-pole XLR balanced audio line inputs with optional galvanic separation.
- Two stereo Cinch unbalanced audio line inputs
- Two three-pole XLR balanced audio line output with galvanic separation.
- Two stereo Cinch unbalanced audio line outputs
- One headphone output 3.5 mm (0.14") stereo
- Two RS-232 serial data connectors for controlling PC and diagnostics

## Parts Included

Quantity	Component
1	DCN-WCCU Wireless Central Control Unit
1	System installation and user instruction CD-ROM
1	Mains cable, 1.7 m (5.5 ft)
plus:	19" rack mounting brackets, detachable feet and mounting accessories

## Technical Specifications

### Electrical

Supply voltage	100 - 240 VAC +/- 10 % 50 – 60 Hz
Power consumption	170 W
DCN system supply	40 VDC, max 65 W per DCN socket
Optical network supply	40 VDC, max 65 W
Total supply power	130 W
RS-232 connection	2 x nine-pole Sub-D female socket
Frequency response	30 Hz - 20 kHz (-3 dB at nominal level)
THD at nominal level	< 0.5 %
Cross talk attenuation	> 85 dB at 1 kHz
Dynamic range	> 90 dB
Signal-to-noise ratio	> 87 dBA

### Audio inputs

XLR nominal input	12 dBV (+/- 6 dB)
XLR maximum input	+12 dBV
Cinch nominal input	24 dBV (+/- 6 dB)
Cinch maximum input	+0 dBV

### Audio outputs

XLR nominal output	12 dBV (+6 / -24 dB)
XLR maximum output	+12 dBV
Cinch nominal output	24 dBV (+6 / -24 dB)
Cinch maximum output	+0 dBV

### Mechanical

Mounting	Tabletop or mounted in a 19" rack
Dimensions (H x W x D) for tabletop use, with feet	92 x 440 x 400 mm (3.6 x 17.3 x 15.7 in)
for 19" rack use, with brackets	88 x 483 x 400 mm (3.5 x 19 x 15.7 in)
in front of brackets	40 mm (1.6 in)
behind brackets	360 mm (14.2 in)
Weight	7 kg (15.4 lbs)
Color	Charcoal (PH 10736) with silver

## Ordering Information

<b>DCN-WCCU Wireless Central Control Unit</b> for all regions except North-America	<b>DCN-WCCU</b>
<b>DCN-WFCCCU Flight Case for CCU and WAP</b> light grey, can hold two central control units, or one central control unit, wireless access point and optical cable	<b>DCN-WFCCCU</b>
<b>DCN-WCCU-UL Wireless Central Control Unit UL/CSA</b> for the North-America region	<b>DCN-WCCU-UL</b>





# DCN-WLIION-D Battery Pack for Wireless Discussion Units



## Technical Specifications

### Electrical

Output Voltage	7.2 VDC
Capacity	4800 mAh

### Mechanical

Dimensions (H x W x D)	61.5 x 136 x 22 mm (2.4 x 5.5 x 0.9 in)
Weight	215 g (0.47 lb)
Color	Charcoal (PH 10736)

## Ordering Information

<b>DCN-WLIION-D Battery Pack for Wireless Discussion Units</b>	<b>DCN-WLIION-D</b>
charcoal color, lithium-ion, 7.2 VDC, 4800 mAh	

### Accessories

<b>DCN-WCH05 Charger for 5 Battery Packs</b>	<b>DCN-WCH05</b>
charcoal color, re-charge up to 5 DCN-WLIION battery packs	

## Features

- ▶ Long service life without charge degradation
- ▶ 20 hours typical use from a full charge
- ▶ Fully recharges in 3 hours
- ▶ Built-in microprocessor controls charging cycle
- ▶ Lithium-ion technology

This rechargeable battery is the power source of the wireless discussion units.

The battery is a high capacity Lithium-ion type, capable of providing up to 20 hours typical use from a full charge. Fully charging the DCN-WLIION from empty takes just 3 hours.

Lithium-ion cells avoid the charge degradation issues associated with other rechargeable battery types. This offers maximum flexibility for scheduling recharges (no requirement to fully discharge batteries before recharging).

The 'intelligent' battery has a built-in microprocessor to control charging current and prevent overloading.

## Functions

### Controls and Indicators

- Charge capacity LEDs and push-to-test button

### Interconnections

- Power / charge connector



## DCN-WFCCU Flight Case for CCU and WAP




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### Features

- ▶ **Robust construction with reinforced corners**
- ▶ **Easy to carry and store**
- ▶ **Shaped interior**
- ▶ **Holds WCCU, WAP and network cabling**

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The DCN-WFCCU Flight Case provides a secure transportation and storage solution for:

- a Wireless Central Control Unit, Wireless Access Point and optical network cable
- 2 x Wireless Central Control Units (if dividing foam partition is removed from case)

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### Technical Specifications

#### Mechanical

Dimensions (H x W x D)	480 x 510 x 295 mm (18.9 x 20.1 x 11.46 in)
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Weight	6 kg (13.2 lb)
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Color	Light grey
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### Ordering Information

#### DCN-WFCCU Flight Case for CCU and WAP

light grey, can hold two central control units, or one central control unit, wireless access point and optical cable

#### DCN-WFCCCU

# DCN-RCWD10 Roller Case for 10 Wireless Discussion Units



## Technical Specifications

### Mechanical

Dimensions (H x W x D)	695 x 765 x 500 mm (27.4 x 30.1 x 19.7 in)
Weight (empty)	26.4 kg (58.2 lb)
Color	Light grey

## Ordering Information

<b>DCN-RCWD10 Roller Case for 10 Wireless Discussion Units</b>	<b>DCN-RCWD10</b>
light grey, can hold 10 wireless discussion units and 2 charging units	

## Features

- ▶ Holds 10 wireless discussion units, including microphones
- ▶ Also holds 2 battery chargers and 10 batteries
- ▶ Side panel, which must be removed during charging, can be stored in the top lid
- ▶ Easily transportable on fitted wheels
- ▶ Robust construction with reinforced corners
- ▶ Shaped foam interior simplifies packing

The DCN-RCWD10 Roller Case accommodates up to 10 wireless discussion units with fitted microphone, long or short stem (one extra storage position can be used for a spare unit).

The case can also hold 2 DCN-WCH05 charging units which slot into place and are easily accessed by removing the side panel (always leave this panel off when charging the batteries).

Fitted wheels allow for easy transportation.

## Parts Included

Quant.	Component
1	DCN-RCWD10 Roller Case for 10 Wireless Discussion
6	Screws to fix mounting brackets of chargers

# DCN-FCWD10 Flight Case for 10 Wireless Discussion Units




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## Features

- ▶ Holds 10 wireless discussion units and microphones
- ▶ Also holds 2 battery chargers and 10 batteries
- ▶ Easy to move using the handgrip and wheels
- ▶ Robust construction with reinforced corners
- ▶ Shaped foam interior simplifies packing

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The DCN-FCWD10 Flight Case accommodates up to 10 wireless discussion units complete with battery packs and microphones (long or short stems).

The case can also hold 2 DCN-WCH05 charging units and is provided with an extra handgrip and wheels for easy transportation.

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## Technical Specifications

### Mechanical

Dimensions (H x W x D)	820 x 500 x 300 mm (32.3 x 19.7 x 12 in)
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Weight (empty)	13.8 kg (30.4 lb)
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Color	Light grey
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## Ordering Information

<b>DCN-FCWD10 Flight Case for 10 Wireless Discussion Units</b>	<b>DCN-FCWD10</b>
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light grey, can hold 10 wireless discussion units and 2 charging units

# DCN-UPTK Upgrade Toolkit



## Features

- ▶ **Easy upgrade of the wireless discussion unit**
- ▶ **USB powered and interfaced**
- ▶ **Easy to install and use**
- ▶ **Saves functional compatibility issues between DCN wireless discussion units**

The DCN-UPTK Upgrade Toolkit is used to upgrade software of a single DCN wireless discussion unit (DCN-WDx).

Upgrade software is controlled via the DCN Download & License Tool.

The DCN-UPTK Upgrade Toolkit, is USB powered and is installer / user friendly. It consists of a small box with the required built-in hardware and software interfaces, plus one standard USB-connection cable and one DCN-wireless-discussion-unit-connection-cable.

## Functions

### Controls and Indicators

- Green LED, next to USB connector, indicates USB power for DCN-UPTK available
- Green LED, next to 14-pole connector, indicates the DCN-WDx is powered and switched on

### Interconnections

- USB (2.0 compatible) standard connector and cable to PC
- 14-pole flat-cable connector and cable to the DCN wireless discussion unit

## Certifications and Approvals

Safety according	IEC 60950
EMC according	EN 55022 ITE
	EN 55024 ITE

## Parts Included

Quantity	Components
1	USB connection cable
1	WDU connection cable

## Technical Specifications

### Electrical

Power supply DCN-UPTK	USB powered
Power supply wireless discussion units	DCN-WLIION or DCN-WPS

### Mechanical

Dimensions (H x W x D)	70 x 120 x 35 mm (2.76 x 4.72 x 1.38 in)
Weight	400 g (0.88 lb)
Color	Charcoal 10736

## Ordering Information

**DCN-UPTK Upgrade Toolkit**  
to upgrade software of a single DCN wireless discussion unit

**DCN-UPTK**

## LBB 4416 Series Optical Network Cables



This is a special cable with 2 plastic fibers for data and audio communication and 2 copper cores for the power supply. The cable is supplied with the network connectors fitted. This cable can be used to connect the CCU to audio expanders.

The network cables are supplied in different lengths. The extension (/xx) on the type number indicates the length of the cable. Only the LBB 4416/00 is without connectors. The connectors are available separately (LBB 4417/00).

### Certifications and Approvals

Region	Certification
Europe	CE

### Ordering Information

<b>LBB 4416/00 Network Cable 100m</b> without the network connectors fitted	<b>LBB4416/00</b>
<b>LBB 4417/00 Set Network Connectors (20 pcs)</b> 20 connectors that can be used with the network cable.	<b>LBB4417/00</b>
<b>LBB 4418/00 Cable Connector Tool Kit</b> Optical fiber cable connector tools	<b>LBB4418/00</b>
<b>LBB 4416/01 Network Cable Assembly 0.5m</b> with the network connectors fitted	<b>LBB4416/01</b>
<b>LBB 4416/02 Network Cable Assembly 2m</b> with the network connectors fitted	<b>LBB4416/02</b>
<b>LBB 4416/05 Network Cable Assembly 5m</b> with the network connectors fitted	<b>LBB4416/05</b>

### Ordering Information

<b>LBB 4416/10 Network Cable Assembly 10m</b> with the network connectors fitted	<b>LBB4416/10</b>
<b>LBB 4416/20 Network Cable Assembly 20m</b> with the network connectors fitted	<b>LBB4416/20</b>
<b>LBB 4416/50 Network Cable Assembly 50m</b> with the network connectors fitted	<b>LBB4416/50</b>

# LBB 3441/10 Under the Chin Headphones



## Features

- ▶ Lightweight stereo headphones
- ▶ Ergonomic design for use under the chin
- ▶ Replaceable ear tips
- ▶ Right-angled, gold-plated jack plug

## Functions

### Interconnections

- 1.2 m (4 ft) cable terminated with 3.5 mm (0.14 in) right-angled stereo jack plug

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Impedance	150 ohm per earpiece
Audio frequency response	50 Hz to 5 kHz (-10 dB)
Power handling capacity	60 mW
Sensitivity (1 kHz)	107 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	33 g (0.07 lb)
Color	Black

## Ordering Information

<b>LBB 3441/10 Under the Chin Headphones</b> with 1.2 m (4 ft) cable terminated with 3.5 mm (0.14 in) right-angled stereo jack plug	<b>LBB3441/10</b>
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## Accessories

<b>LBB 3441/50 Ear Tips for LBB 3441</b> <b>(500 pairs)</b> for LBB 3441	<b>LBB3441/50</b>
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# LBB 3442/00 Single Earphone




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## Features

- ▶ **Lightweight single earphone**
- ▶ **Left or right ear use**

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## Functions

### Interconnections

- 1.2 m (3.94 ft) cable terminated with 3.5 mm (0.14 in) jack plug

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## Technical Specifications

### Electrical

Impedance	32 ohm
Audio frequency response	100 Hz to 5 kHz (-10 dB)
Power handling capacity	5 mW
Sensitivity (1 kHz)	114 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	25 g (0.06 lb)
Color	Dark grey

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## Ordering Information

<b>LBB 3442/00 Single Earphone</b>	<b>LBB3442/00</b>
Lightweight single earphone, 1.2 m (3.94 ft) cable terminated with 3.5 mm (0.14 in) jack plug	

# LBB 3443 Lightweight Headphones



## Features

- ▶ **Lightweight with high quality sound reproduction**
- ▶ **Replaceable ear pads**
- ▶ **Available with normal or durable cable**
- ▶ **Separate available solid washable ear pads**

## Functions

These headphones can be fitted with an optional set of washable ear pads.



*Washable ear pads*

## Interconnections

- 1.3 m (4.25 ft) cable terminated with gold-plated 3.5 mm (0.14 in) angled stereo jack plug

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Impedance	32 ohm per earpiece
Audio frequency response	50 Hz to 20 kHz (-10 dB)
Power handling capacity	50 mW
Sensitivity (1 kHz)	98 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	70 g (0.16 lb)
Finish	Charcoal (PH 10736) with silver

## Ordering Information

<b>LBB 3443/00 Lightweight Headphones</b>	<b>LBB3443/00</b>
high quality sound reproduction, lightweight, replaceable ear pads and normal cable	

<b>LBB 3443/10 Lightweight Headphones</b>	<b>LBB3443/10</b>
<b>Durable Cable</b>	
high quality sound reproduction, lightweight, replaceable ear pads and durable cable	

### Accessories

<b>LBB 3443/50 Foam Ear Pads for LBB 3443 (50 pairs)</b>	<b>LBB3443/50</b>
replacement foam ear pads	

<b>HDP-LWSP Solid Ear Pads for LBB 3443 (50 pairs)</b>	<b>HDP-LWSP</b>
washable replacement ear pads	

# HDP-LWN Lightweight Neckband Headphone



## Features

- ▶ Comfortable neckband stereo headphone
- ▶ Lightweight with high quality sound reproduction
- ▶ Replaceable ear pads

## Functions

### Interconnections

- 1.3 m (4.25 ft) cable terminated with gold-plated 3.5 mm (0.14 in) angled stereo jack plug

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Impedance	32 ohm per earpiece
Audio frequency response	20 Hz to 20 kHz ( $\pm 3$ dB)
Power handling capacity	30 mW
Sensitivity (1 kHz)	111 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	56 g (0.12 lb)
Finish	Charcoal (PH 10736) with silver

## Ordering Information

<b>HDP-LWN Lightweight Neckband Headphone</b>	<b>HDP-LWN</b>
High-quality sound reproduction, lightweight, replaceable ear pads.	

## Accessories

<b>HDP-LWNEP Earpads for neckband headphone (50 pairs)</b>	<b>HDP-LWNEP</b>
Replacement foam ear pads.	



# DCN-SWSMV Synoptic Microphone and Voting Software



## Features

- ▶ Synoptic room overview for monitoring and controlling the microphones
- ▶ Voting control with individual results
- ▶ Real-time voting results displayed in Microsoft PowerPoint®
- ▶ On-screen help in many languages

The DCN-SWSMV Synoptic Microphone and Voting Software provides a range of conference facilities when used in combination with a DCN Wireless or DCN Next Generation system. The available functions include automatic seat assignment, synoptic microphone monitoring and control, and voting management.

## Functions

### Ease of use

Although it offers many powerful features, the software is extremely easy to use thanks to its innovative design. The application moves away from traditional control panels and buttons and replaces them with a highly intuitive graphic user interface. All functions are controlled from a single window making the software suitable for touch screen operation. The software features on-screen help in most major languages.

## User interface

The user interface is based on a graphical representation of the conference venue. When a device is connected to the system it is automatically recognized and an icon is created for it on the on-screen room layout. The icons display information about device status and can be used by the operator to select individual devices for remote control functions. If a device becomes disconnected from the system, a red cross is displayed on top of its icon to alert the operator.

## Operating modes

The Synoptic Microphone and Voting Software can operate in the following modes, depending on the required task:

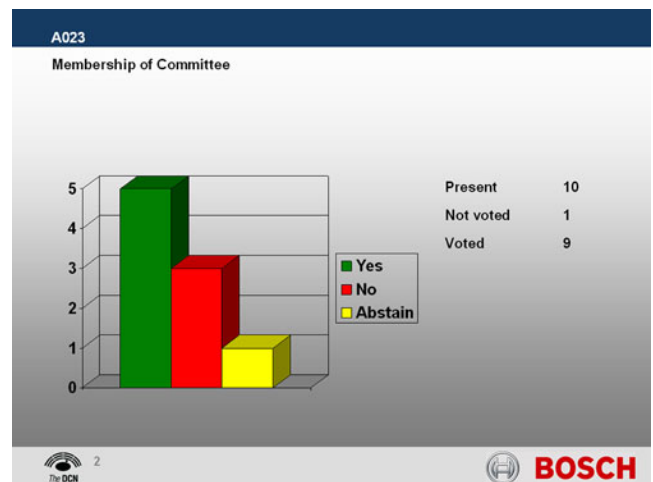
- Assignment mode allows you to assign names to microphone icons. The positions of the icons on the room layout can also be changed using the standard windows 'drag & drop'.
- Microphone control mode allows you to observe and control the state of each individual microphone. Microphones can be switched on and off, or placed in the 'request to speak' queue.
- Battery and signal view mode shows the remaining battery charge time and the signal strength for each wireless discussion unit
- Voting result mode shows individual results in different colors according to votes cast

## Note

The different symbols in the various modes are specially designed so that they are also easily identified by persons with the visual disability of color blindness.

## Parliamentary and real-time voting

The application provides parliamentary voting functionality. The system operator can summon delegates to vote, as well as starting and stopping voting sessions. Final vote results can be automatically printed or exported to a file; the software can also be configured to send real-time voting information to Microsoft PowerPoint® for display.



Real-time voting results in Microsoft PowerPoint®

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### **Installation/Configuration Notes**

Used in combination with a DCN Wireless or DCN Next Generation system.

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### **Technical Specifications**

Supported operating system	Windows 7 Home Premium (32 and 64 bits) or above or Windows Vista Home Premium(32 or 64 bits) or above or Windows XP Professional (32 or 64 bits) and .Net Framework 2.0. All with the latest service packs and updates.
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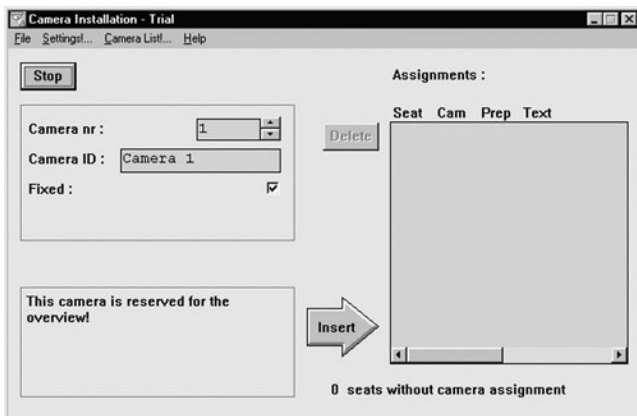
### **Ordering Information**

**DCN-SWSMV Synoptic Microphone and Voting Software**

include automatic seat assignment, synoptic microphone monitoring and control, and voting management

**DCN-SWSMV**

## LBB 4162/00 Automatic Camera Control



The DCN Next Generation Automatic Camera Control software interfaces DCN Next Generation conference systems with the Bosch Allegiant series of video control switchers. It selects fixed or pre-positioned cameras (such as the Bosch AutoDomes) to be activated to display the current active speaker at a conference.

### Functions

When a chairman or delegate microphone is activated on the DCN Next Generation equipment, the camera assigned to that position is activated. When no microphones are active, an overview camera is automatically selected. The image can be displayed on hall displays or other monitors together with information about the current speaker if required (such as delegate identification). The system operator has a monitor, which also displays information about which camera is active. This system provides an extra dimension to conference proceedings.

### Ordering Information

**LBB 4162/00 Stand-Alone Automatic Camera Control**      **LBB4162/00**  
for systems without PC control

## LBB 4187/00 Open Interface

The DCN Next Generation Open Interface software allows remote control of selected DCN Next Generation functions via third party equipment and control software. Control data exchange between DCN Next Generation and the remote control device or system is carried out via an RS232 port on the CCU or via Ethernet on the NCO.

### Ordering Information

**LBB 4187/00 Open Interface**  
allows remote control of selected DCN Next Generation functions via third party equipment and control software

**LBB4187/00**





## Introduction



### **World's first fully digital conference system, upgraded for even higher performance**

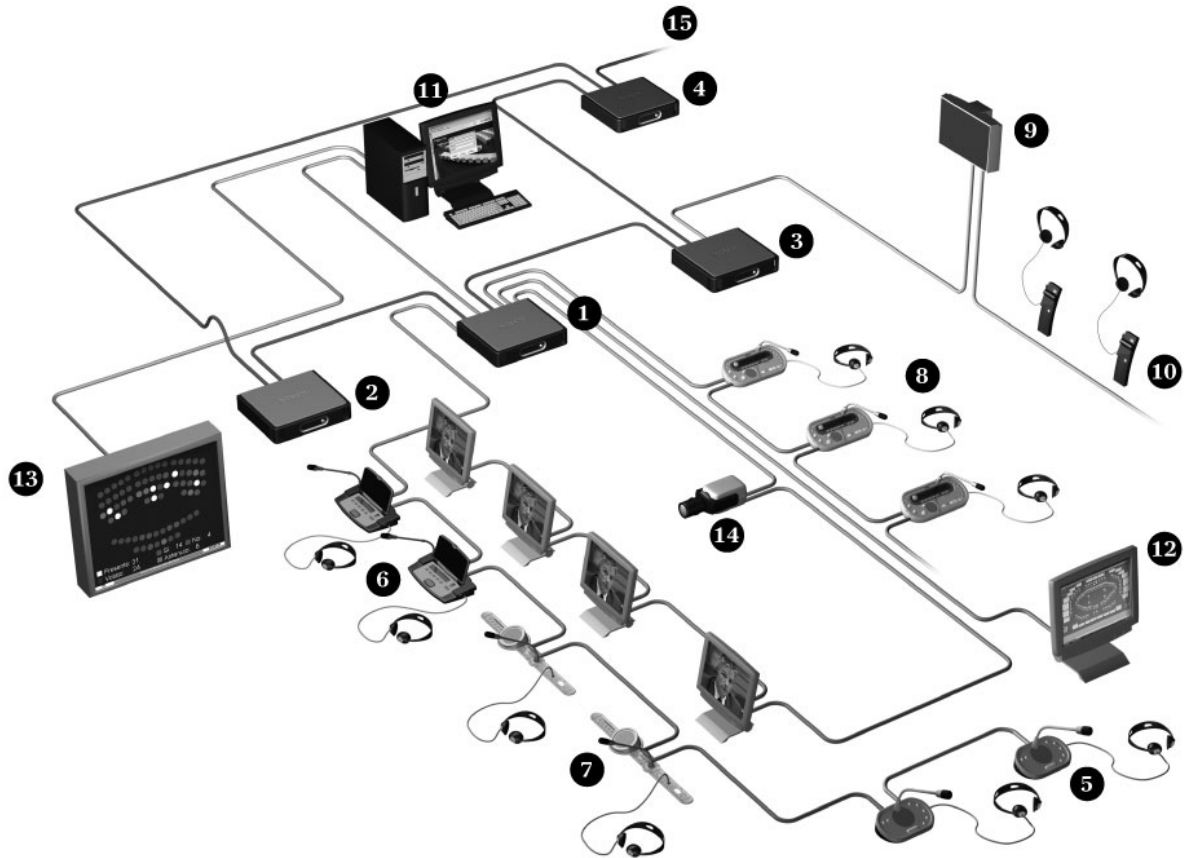
The Bosch Digital Congress Network Next Generation brings the benefits of innovative digital technology to discussion, conference systems. It is the first entirely digital system of its kind, and offers versatility, high audio quality and data transmission while providing complete control over conference proceedings. DCN Next Generation has low susceptibility to interference from mobile phones. Operation and installation is highly simplified. With modern, user-friendly control software and flexible management facilities for all types of conferences, it is suitable for events from small, informal gatherings up to international, multi-lingual conferences.

### **Digital performance with user-friendly software control**

The system meets every requirement of modern conference management. Facilities include basic microphone management, delegate identification and registration, electronic voting, information distribution and display, and extensive simultaneous interpretation. The DCN Next Generation is above all user-friendly. With the appropriate software modules, a single operator can control and monitor even the largest of conferences.

### **Modular system approach**

By simply daisy-chaining DCN Next Generation units, any configuration can be put together. This modular structure means a system can be tailored for conferences at all levels. Systems are easily extended by adding more equipment or software modules.



### System Network

1. Central Control Unit
2. Digital Audio Expander (audio-logging)
3. Integrus Transmitter
4. CobraNet™ Unit
5. Discussion Units
6. Concentus Units
7. Flush-mount Units
8. Interpreter Desks
9. Integrus Radiator
10. Integrus Receivers
11. Control PC
12. Touchscreen
13. Video screen
14. Camera
15. Ethernet

### Range of equipment

The range of DCN Next Generation products includes conference units, central control units, simultaneous interpretation and language distribution equipment, application-specific software modules, information provision and installation equipment. This is complemented by external equipment such as PCs,

monitors, booster amplifiers, loudspeakers and printers, all of which are easily integrated into the DCN Next Generation system.

### Advanced audio coupling

Via the optical network, a variety of audio couplings are possible, including coupling small systems with a few languages into a large system with as many as 31 languages. It is also possible to extract and insert both digital (AES/EBU or SPDIF) and analog audio. Other advanced audio coupling techniques include CobraNet™. CobraNet™ is a combination of software, hardware and network protocol, which allows distribution of many real-time, high-quality digital audio channels over an Ethernet network using CAT5 cables. CobraNet™ makes it easy to distribute audio in buildings and connect DCN Next Generation to other audio CobraNet™-compatible devices such as Audio Recorders and Audio Mixers.

### Excellent audio quality

The advanced digital technology delivers excellent audio performance with no loss in signal quality or level during transmission. Subsequently, each unit receives an audio signal of consistently high quality, which makes a significant contribution to speech intelligibility. DCN Next Generation virtually eliminates problems associated with conventional systems, such as background noise, interference, distortion and cross talk.

### Reduced installation costs

Fast, cost-saving installation is an important benefit of DCN Next Generation digital technology. Thin, flexible, twin coaxial cables and twin optical fibers carry all the system's digital signals, eliminating the need for costly and vulnerable multi-core cables used in conventional analog installations. The cables and fibers are easily run through existing ducting and cable conduits. They can simultaneously carry up to 32 high-quality contribution channels and 32 high-quality distribution channels.

### Simplified wiring

Complex wiring through bulky ducting is a thing of the past. The DCN Next Generation twin-coax cable is a molded with a six-pole connector, while the twin optical fiber is terminated with easy mountable connectors. Both cables transport signals to units throughout the system, and can be tapped into at point to connect extra equipment (a branched-tree topology). In this way, future extensions to the system capacity, such as adding extra units or increasing the number of language channels, do not require alterations to the existing system cabling. The power is also supplied to all units via two wires in the same cable. Installation is further simplified and speeded up by the use of splitters and ready-made cables with sturdy connectors, thus allowing easy insertion of equipment at any point in the system cabling. These easy-to-connect accessories are used for both fixed and portable installations that can be installed quickly and efficiently in any situation.

### Contribution equipment

Contribution equipment covers the units that participants use to take part in a conference. Depending on the type of contribution unit, participants can listen, speak, register a request-to-speak, receive screen messages, hold private conversations with other participants via an intercom, take part in electronic voting and receive simultaneous interpretation of the floor language.



*Discussion units for portable and flexible installations*

Discussion units are designed for smaller gatherings and meetings, and offer a high level of functionality and digital convenience, as well as distinctive styling. The basic discussion unit has a microphone with an on/ off button and status indicators. More advanced units incorporate channel selectors and voting functionality. All discussion units can be configured as a chairman unit.



*Tabletop Concentus units for portable and flexible installations*

The basic Concentus Contribution unit has a microphone with an on/off button, loudspeaker, voting keys and LED status indicators. More advanced units feature things like graphic LCD screens, language channel selectors, software programmable buttons and chip card readers. Chairman units have a microphone priority system that temporarily mutes all active delegate microphones.



*Flush mounted units for permanent conference facilities*

#### **Tabletop or flush mounting**

Contribution units can be used on a tabletop, or flush mounted into desks, seat backs or armrests. Other microphone types such as gooseneck, lavalier and hand-held are also available, allowing contribution from non-seated participants such as guest speakers. While tabletop units are suitable for portable installations or systems where requirements regularly change, the flush mounted units are used for permanent installation into furnishings. Additional equipment such as microphone stands, mounting facilities, suitcases for portable systems and interface boards is also available.

#### **Simultaneous interpretation and language distribution equipment**

The DCN Next Generation system has comprehensive simultaneous interpretation and language distribution facilities that enable it to meet the demands of multilingual conferences.



*Concentus with headphones for interpretations*

All interpretation facilities are integrated into the basic system concept, with interpretations using the same digital trunk line cabling as all other system functions. It is relatively simple to integrate language facilities into existing DCN Next Generation systems. The simultaneous interpretation system enables both direct and auto relay

interpretation modes to cater for less familiar languages. Each interpreter desk has an output for the normal (primary) language and another for alternative languages.

#### **Up to 31 different languages**

The DCN Next Generation interpreter desk accommodates up to 31 language channels, plus the original floor language, all with an audio-bandwidth of 20 kHz. A maximum of six desks can be installed per interpreter booth.



*Interpreter Desk to provide interpretations*

The interpreter desk can be used stand-alone or as part of a system. When used stand-alone, its built-in microprocessor is manually programmed to allocate language channels, channel routing and interlocks. In operator-controlled systems, the desk is used with dedicated software to fully integrate the interpretation network.

#### **Wired or wireless language distribution**

DCN Next Generation offers a choice for language distribution. Language distribution can be carried out using the DCN Next Generation system cabling, and languages are accessed and selected using channel selector units or delegate units with built-in channel selection facilities.



*Channel selector for wired language distribution*

There is also the Integrus infrared (IR) wireless system that distributes languages throughout the conference venue using IR transmitters and radiators. Access is by means of personal infrared receivers with headphones.



product  
design  
award



#### *Integrus System for wireless language distribution*

Integrus is connected via the optical network to the DCN Next Generation system to distribute all 32 languages with IR-digital technology that conforms to IEC 60603 part 7. IR digital technology ensures maximum sound quality with a signal-to-noise ratio of 80 dB. Integrus also incorporates a special operation mode to couple rooms. This means that multiple systems, located in separate rooms, can provide exactly the same language. For more information about Integrus, see the Integrus Data Brochure.

#### **Central control equipment**

The Central Control Unit (CCU) forms the heart of the conference management system. The CCU can operate stand-alone to provide automatic conference control, or be accessed by an operator via a PC when more extensive management is required.

All CCUs can control up to 245 contribution units (such as delegate and chairman units, interpreter desks). If more capacity is required, CCUs can be connected with the optical network to a network controller which can control up to 4000 microphone positions. CCUs can also provide power for a number of contribution units. The maximum number depends on the type of contribution units used in the application.



product  
design  
award



#### *Central Control Unit*

#### **Fully automatic conference Proceedings**

The CCU does not require operator control and automatically manages conference proceedings. It offers basic microphone management, simultaneous interpretation and voting facilities, as well as 2x32 high-quality audio channels. This effectively allows unsupervised control of even large, international conferences.

#### **Operator control via a PC**

The CCU also offers operator control via a PC. The user can use a combination of dedicated software modules, each with a specific controlling or monitoring function. These include advanced simultaneous interpretation and microphone management, message generation and display, six kinds of voting, intercom, creating a delegate database, attendance registration. In the event of PC failure, the CCU will revert to a default operation enabling conference proceedings to continue.

#### **Application software**

A comprehensive range of software modules is available for PC-controlled DCN Next Generation systems. These modules run under Microsoft Windows, and integrate conference preparation, management and control into this operating system. Any combination of modules can be installed to satisfy specific system requirements. The software is generally used in larger scale systems where operator control is required.



*Controlling the Conference System*

The PC running the software is connected to the DCN Next Generation system and therefore has direct links with contribution, interpretation and control equipment via the network cabling. Thus all aspects of conference management can be brought to a single point of control, which leads to ease of use, efficiency and data distribution.

#### **Information distribution equipment**

A major strength of the DCN Next Generation system is its ability to distribute information to conference participants quickly and efficiently for all requirements. A wide range of displays is supported, from personal LCD screens to video equipment for venue broadcasting. The Concentus chairman unit and one of the Concentus delegate units are equipped with a graphic LCD screen which displays delegate information, voting time, public and personal messages, microphone status and multilingual user instructions.

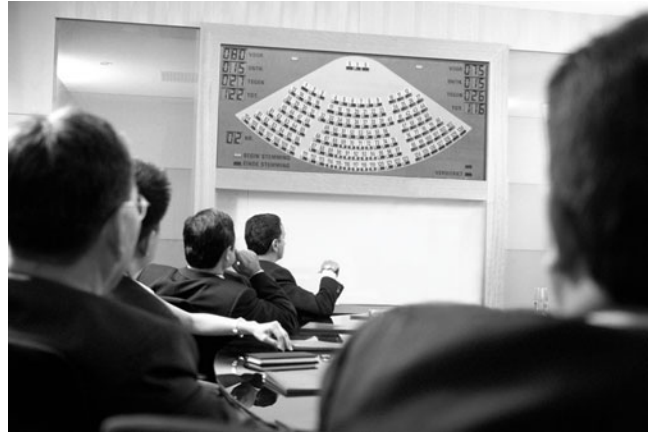
These screens can display languages such as Chinese that use non-European characters. Interpreter desks are equipped with backlit LCD screens.



*Concentus display with Chinese characters*

#### **Information and hall displays**

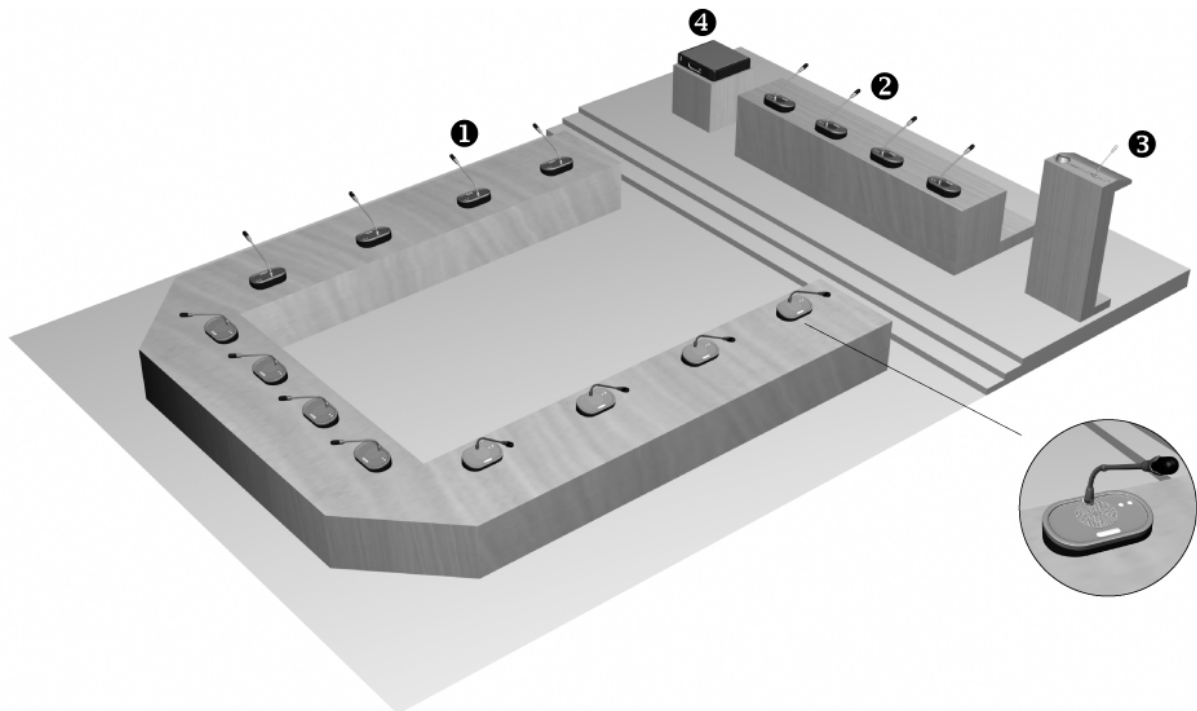
Information and hall displays are ideal for quick and effective information distribution to a large number of conference participants. Numeric, alphanumeric or geographic displays are available, mainly for showing voting results.



*Hall display with real-time voting results*

TV receivers can also be used. LCD and video projectors display high-resolution graphic information. All systems allow high quality display of live or recorded video material, computer-generated graphics and text, and information generated by DCN Next Generation software.

# Applications



## Shopping list

1. Delegate unit
2. Chairman unit
3. Flush mount panel
4. Central control equipment

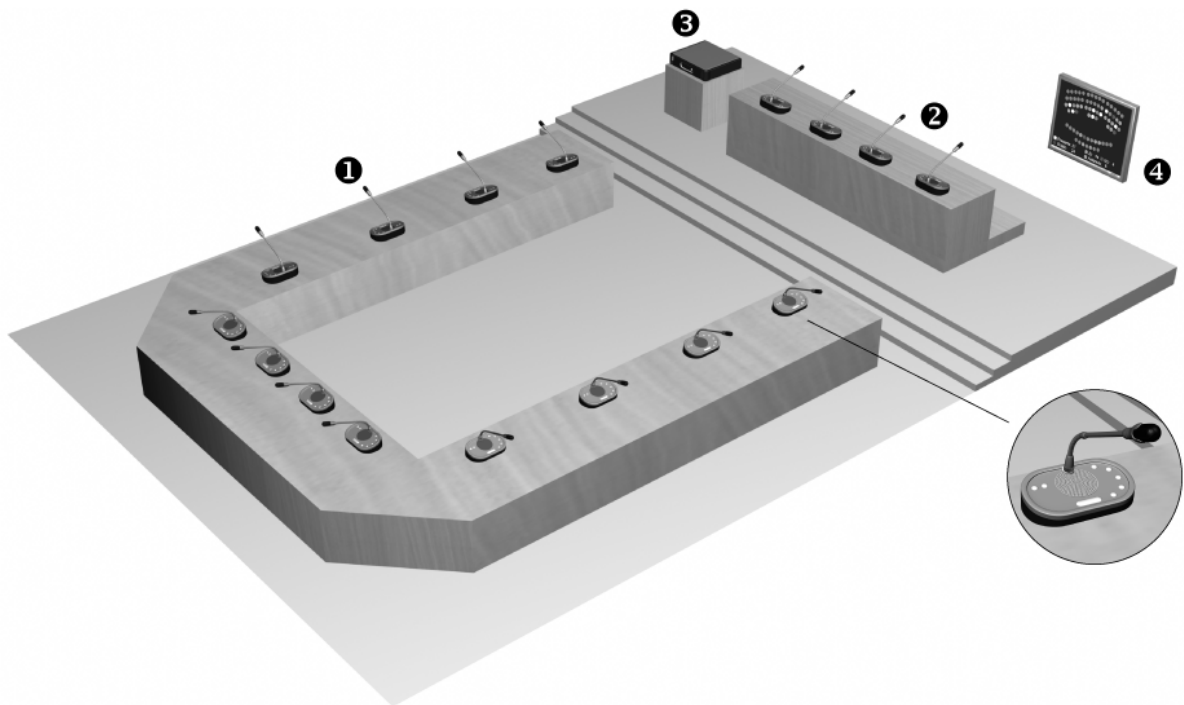
## Example 1 - Discussion

- Good speech intelligibility for everyone
- Chairman is in control
- Better-structured and therefore faster meetings
- Keeps attention centrally focused
- No operator required

### The situation: all delegates have a microphone unit with a built-in loudspeaker for high speech intelligibility.

Delegates request the floor by pressing the microphone button. It is easier to keep attention centrally focused as a limited number of microphones can be open at the same time. This helps keep order and speeds up the meeting

process. Delegates who request the floor after the maximum has been reached are placed on a waiting list. The chairman can listen, register requests to speak, and override other delegates by using a priority key. In this case, all delegate microphones will be muted and an attention tone will be heard. In this way, the chairman can easily guide and control the meeting. A rostrum for guest speakers is equipped with a flush-mounted DCN Microphone and Loudspeaker. Hand-held microphones for audience members can be used with or without floor stands. All DCN equipment is connected directly to the central control unit. This CCU supplies power to all units, provides audio equalization for all delegate loudspeakers, and is used to determine the microphone operating mode. No operator is required.



#### Shopping list

1. Delegate unit
2. Chairman unit
3. Central control equipment
4. Hall display

#### Example 2 - Electronic Voting

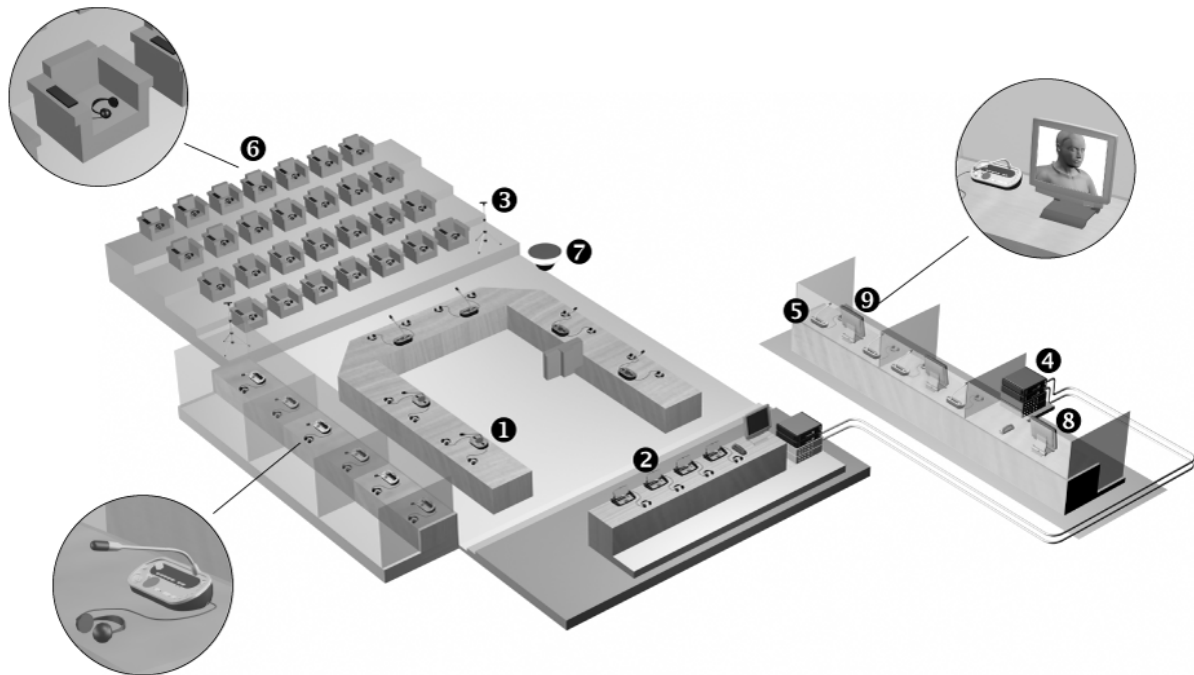
- Fast tally and display of delegates' votes
- Electronic voting can be combined with a discussion system
- Voting results on large-scale audience screens or individual screens
- Basic voting or extended voting control software

**The situation: get the opinion of your audience or take decisions quickly by means of electronic voting. The chairman presides over the meeting and controls the voting proceedings using a Chairman Unit.**

The chairman presides over the meeting and controls the voting proceedings using a chairman unit. In addition, an operator can control the voting via a personal computer or via a touch screen. The chairman unit's graphic LCD provides the chairman with speaker information, a voting script and voting results.

The unit can be used to start, stop and suspend voting. Each delegate has a voting unit. The five voting buttons allow parliamentary, for and against, multiple choice, opinion polling or audience response voting. The voting results are sent via the DCN Central Control Unit to a numeric hall display or via a control PC to audience screens. The DCN Central Control Unit is used to power all DCN units.





### Shopping list

1. Delegate unit
2. Chairman unit
3. Hand microphone
4. Central control equipment
5. Interpreter desk
6. Pocket receiver
7. AutoDome® camera
8. Personal computer with DCN Control Software
9. Individual screen

### Example 3 - Interpretation

- Delegates follow the meeting in their own languages
- Up to 32 channels for interpretation
- Interpreting at a distance

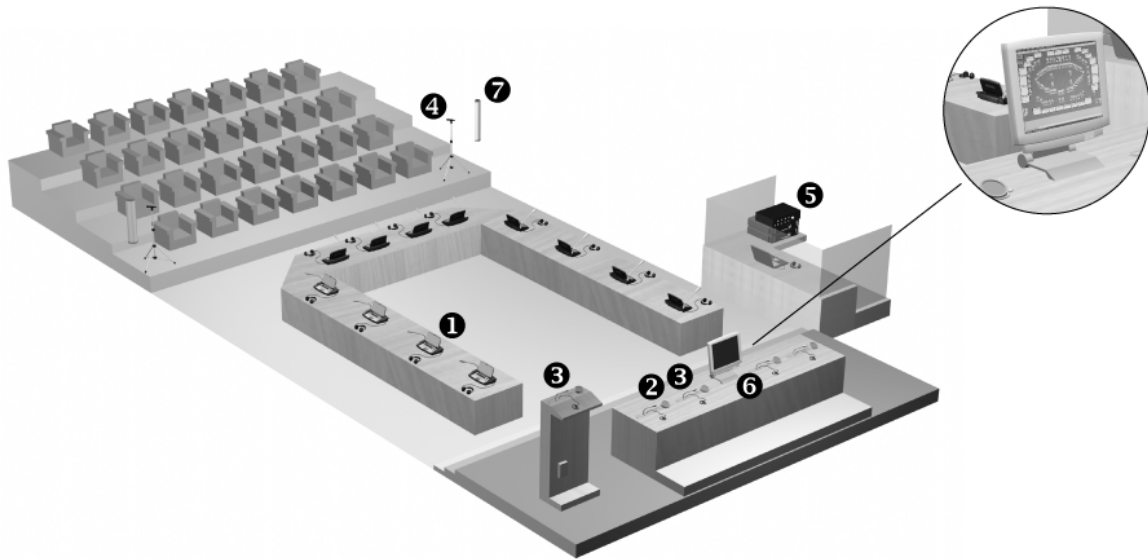
**The situation: a multilingual international conference with delegates from different countries and no common language.**

The interpreters are located in soundproof booths and equipped with DCN interpreter units with graphic, backlit LCD displays and interpreter headphones. Delegates can select the interpretation they wish to hear through their headphones by means of:

- A channel selector on their delegate units
- A separate channel selector
- Wireless via pocket receivers

### Remote interpretation

Real-time language interpretation at a remote location can be provided to save time and reduce costs, since interpreters no longer have to be accommodated at the meeting site itself. The remote location can be anywhere in the world. The image of the delegate speaking will be taken from the dome camera and routed to the interpreters.



#### Shopping list

1. Delegate unit
2. Chairman unit
3. Flush mount panel
4. Hand microphone
5. Central control equipment
6. Touch screen control
7. Loudspeakers

#### Example 4 - Conference with operator control

- Conference control via PC
- Touch screen control
- Synoptic panel control

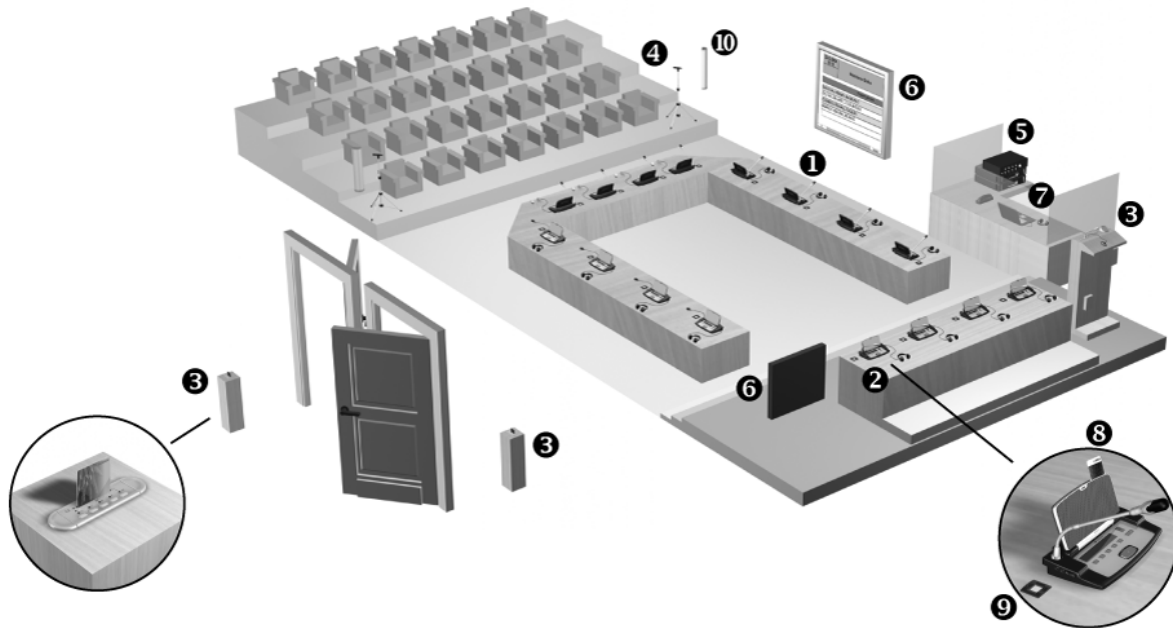
**The addition of a PC with DCN software modules extends operators' ability to control a conference beyond the core functions.**

If one or more operators are required to control and manage the meeting, the required software modules can be installed on a PC. A few examples are:

- Microphone management or synoptic microphone control – to configure and control delegate microphone status and determine microphone operating mode

- Delegate database – to compile a database of conference participants and specify conference-related parameters like authorizations, language of individual microphone unit display, vote weight, groups, etc.
- Electronic voting – to allow parliamentary voting, multiple choice, for and against, rating, opinion poll, etc.
- Simultaneous interpretation – monitoring and configuring the interpreter desks
- Attendance registration – to provide electronic access control and a means of delegate registration
- Message distribution – to create and send messages to individuals or audience screens
- Access control – to authorize each delegate to use certain system functions

Other possibilities to control the DCN System are via a touch screen (using software developed by AMX or Crestron) or via a synoptic panel equipped with buttons.



**Shopping list**

- 1. Delegate unit
- 2. Chairman unit
- 3. Flush mount panel
- 4. Hand microphone
- 5. Central control equipment
- 6. Large screen
- 7. Personal computer with DCN Control Software
- 8. ID cards
- 9. Fingerprint reader
- 10. Loudspeakers

**Example 5 - Attendance registration & access control**

- Register delegates by means of a chip card and/or PIN code
- Use of biometrical readers such as fingerprint readers
- Retrieval of present and/or absent list
- Access control for each delegate

**The situation: registration of conference participants and addition of security by means of access control.**

DCN software modules allow electronic identification and access control to be registered:

- At the microphone unit
- At the entrance or exit unit
- For free seating
- For only one seat

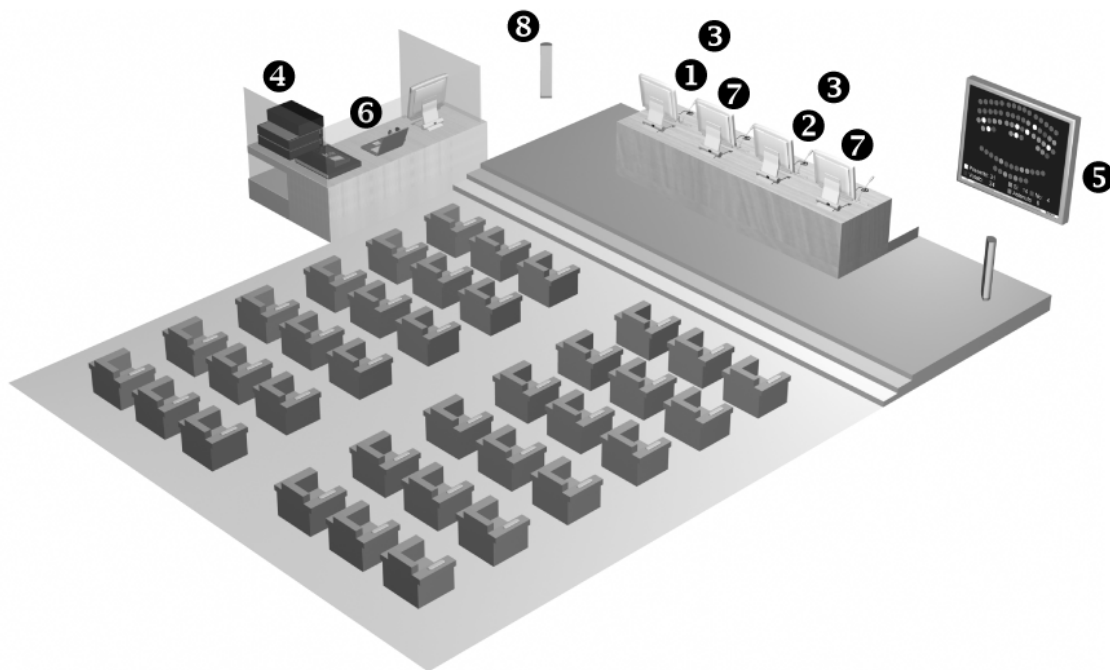
Conference participants can register their presence by:

- A push button on delegate units, which allows simple registration
- By inserting an ID card into a card reader that is integrated into the microphone unit, or located at the conference venue entrance.
- By means of personal identification number, which can be combined with the ID card as well

It is also possible to specify that delegates may only make use of certain microphone or control functions.

**Fingerprint readers for verification**

The DCN Concentus unit can be extended with a fingerprint reader to recognize persons. Fingerprint reading is a biometrical verification technique and is efficient in high security meetings.



#### Shopping list

1. Delegate unit
2. Chairman unit
3. Flush mount panel
4. Central control equipment
5. Large screen
6. Personal computer with DCN Control Software
7. Individual screen
8. Loudspeakers

#### Example 6 - Video Display

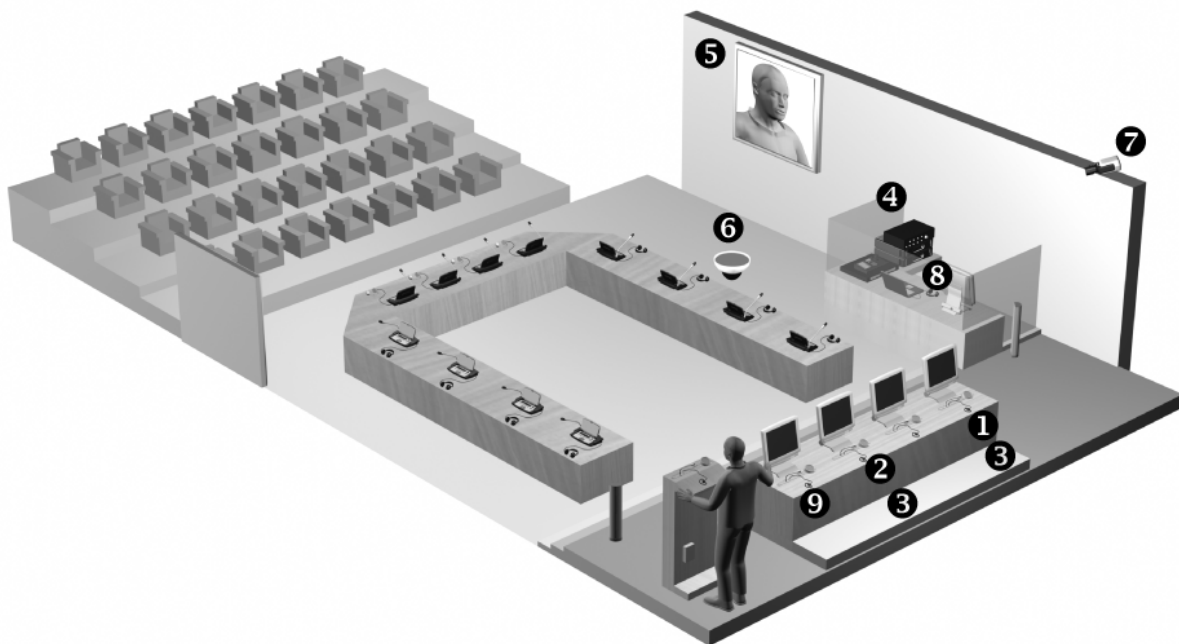
- Show conference data to your audience via projectors or large screen
- Show information on screens for delegates or chairman
- Flexible configuration of the screen by adjusting colors, fonts, texts, lines and images
- The logo or emblem of your business or a city council can be easily added as an image

#### Show conference data on screens by means of video display.

The following information can be shown:

- The names of delegates who are currently speaking, with the remaining speech time
- The listed delegates who are waiting to speak
- Voting scripts and results (listed per delegate, listed in a synoptic layout, total results in a chart or listed)
- The agenda of the day and messages
- Absent or present delegates

The video display information can be shown to each participant on the podium with a personal color liquid crystal screen. The same information can be shown to the audience by means of large-scale screens or projectors.



#### Shopping list

1. Delegate unit
2. Chairman unit
3. Flush mount panel
4. Central control equipment
5. Large screen
6. AutoDome® camera
7. Fixed camera
8. Personal computer with DCN Control Software
9. Individual screen

#### Example 7 - Look who's talking

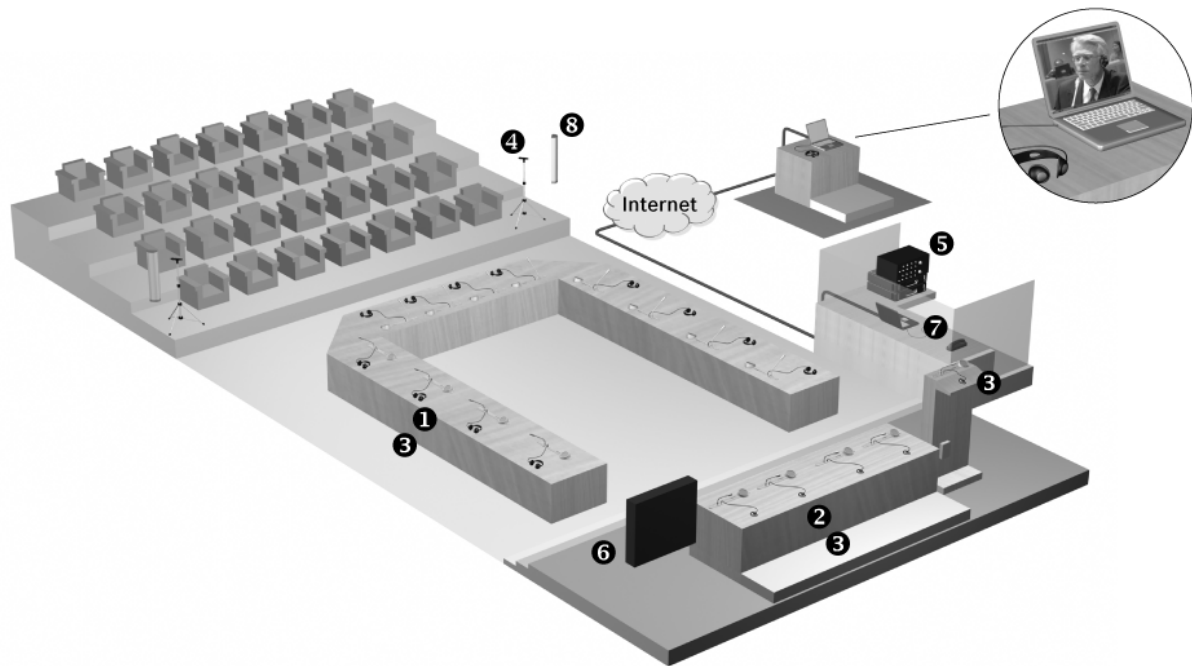
- Camera facility automatically shows current speakers on screen
- Fast-moving dome camera to show current speaker
- Fixed camera to show an overview image of the venue
- No camera operator required
- Delegate information is shown on screen with image of current speaker
- Free seating when ID cards are used as well

**Camera control automatically shows an image of the current speaker on a screen.**

A visual dimension not only generates interest and focuses attention, but also tells participants and observers who is speaking. DCN can automatically show an image of the current speaker on monitors or projection screens in the main hall, lobby, interpreters' booths, breakout rooms or anywhere else required. Delegate information will also appear on the screen.

Camera control is automatic, so no attention is required from operators. Bosch AutoDome® cameras are ideal for this application.

The operator does not have to adjust the configuration, as the system does it automatically. When setting up a video conference between sites, the system is especially useful, as delegates from the various locations will always have the sound, image and name of the current speaker.



#### Shopping list

1. Delegate unit
2. Chairman unit
3. Flush mount panel
4. Hand microphone
5. Central control equipment
6. Large screen
7. Personal computer with DCN Control Software
8. Loudspeakers

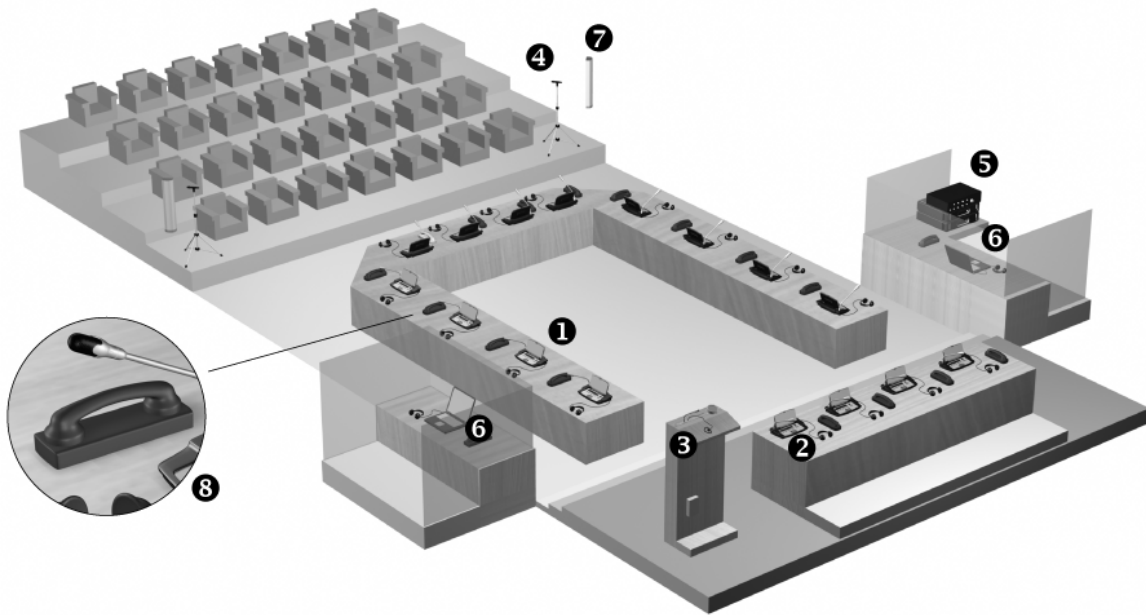
#### Example 8 - Follow proceedings via internet

- Delegates unable to attend a meeting can follow proceedings via internet

- Audience can join a live city council meeting from home via internet

#### Attend your next council meeting via your hotel room when travelling.

It is possible to host a meeting via an internet provider, with full access to audio, video and data. Without being physically present, delegates or others are able to follow speeches, see presentation slides, see live video or nonmoving images of the speakers, get voting results, and retrieve messages.



**Shopping list**

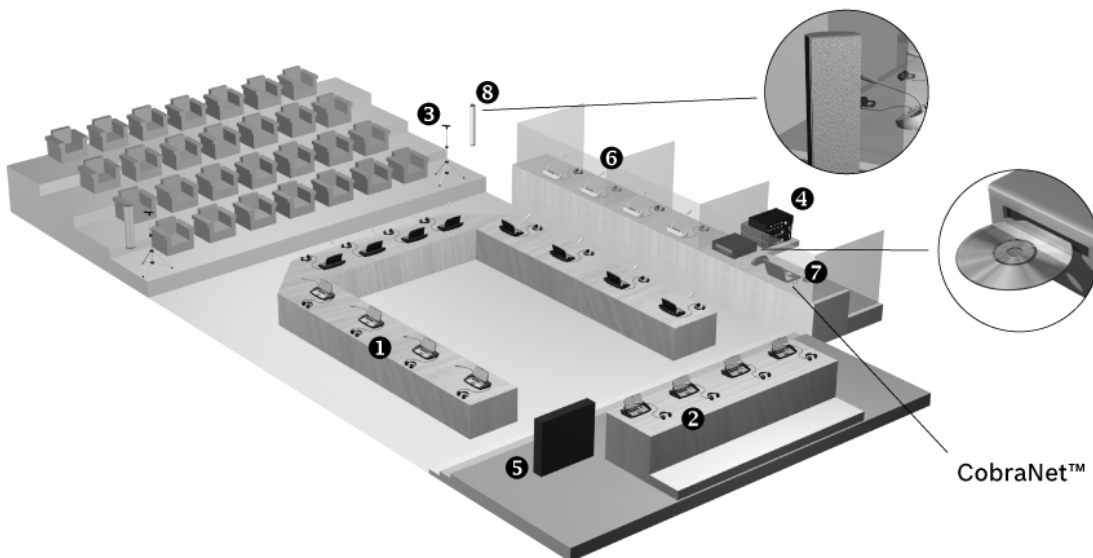
- 1. Delegate unit
- 2. Chairman unit
- 3. Flush mount panel
- 4. Hand microphone
- 5. Central control equipment
- 6. Personal computer with DCN Control Software
- 7. Loudspeakers
- 8. Intercom handset

- Allows up to 5 simultaneous conversations  
**Request a private conversation with others attending the meeting.**

The DCN Intercom facility allows conference participants to hold two-way private conversations using an intercom handset. This allows them to contact their party leader, chairman, operator etc. without physically moving or using other local telephones.

**Example 9 - Private conversation**

- Enables private, two-way conversations between delegates, chairpersons, interpreters and operators without disturbing the meeting



**Shopping list**

1. Delegate unit
2. Chairman unit
3. Hand microphone
4. Central control equipment
5. Large screen
6. Interpreter desk
7. Personal computer with DCN Control Software
8. Loudspeakers
9. CobraNet™

**Example 10 - Audio expansion and audio logging**

- Logging of audio, data and video on hard disk, CD or DVD
- Audience can follow speech through separate loudspeakers and amplifiers
- Additional acoustic feedback suppression

**Have all audio recorded or distributed**

Non-participating listeners can follow proceedings by listening to additional loudspeakers. If logging is required to record the floor and simultaneous interpretation, the logging device can be connected to the DCN System. This can be accomplished over relatively long distances and without loss of quality via fiber optic cabling. The DCN System provides analog or digital audio outputs and inputs. This enables you to keep audio in the digital domain, guaranteeing high audio quality.

If the audio has to be broadcasted, it can be taken directly from the DCN System.

There is a growing demand for audio systems where signal processing and amplification components are distributed throughout a facility. That is why DCN Next Generation interfaces easily with CobraNet™, which is the industry's leading technology for distributing uncompressed real-time digital audio over a fast Ethernet network.



# Discussion Units



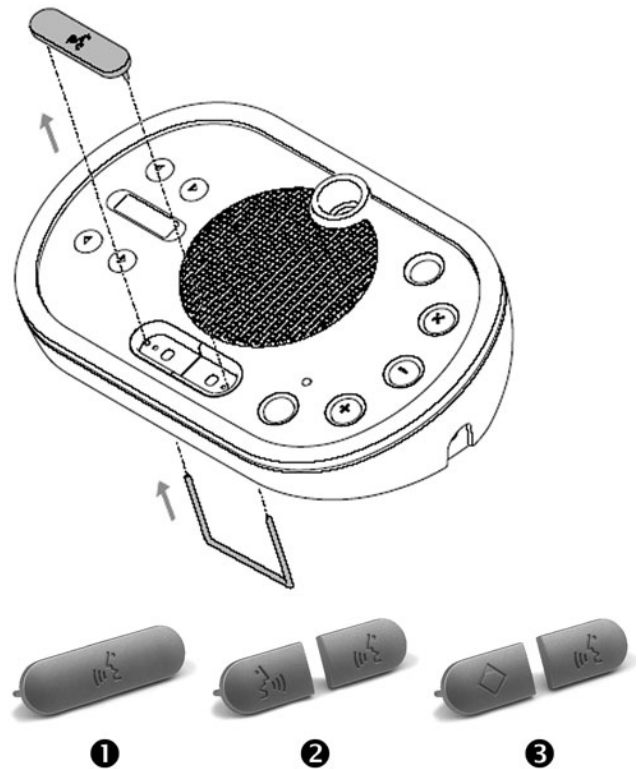
*Discussion units*

Discussion units are typically used for smaller and medium-sized conferences. The units are ideal when a flexible system configuration or portable conference facilities are required. All units are easily plugged into or removed from the system cabling, which enables the configuration to be set up quickly and efficiently. The Discussion unit is available with light- or dark colored bases. Most units have a pluggable microphone (supplied separately) available in short and long stem length versions. The microphones have flexible stems for ease of use. The unit can be free-standing or fixed using mounting screws. The units can also be flush-mounted in more permanent installations. Special rugged suitcases that accommodate complete systems are available for storage and transport. The units are connected in a simple daisy-chain configuration. Alternatively, they can be connected using a single, thin cable and a trunk splitter to link the units to the system cabling, with connectors neatly hidden in the units themselves. This 'one cable' aspect of the DCN Next Generation system means there is no untidy mess of wires at the back of the units. It is especially advantageous for TV coverage, where the backs of the units are on show. The Discussion units range from standard Discussion with a fixed microphone to Discussion units with pluggable microphone, a channel selector and voting that enable contributing delegates to take part in the decision making process, a vital aspect of modern conferencing. The Discussion units have 4 different operation modes. All Discussion units can be used either for normal delegates or as a chairman unit. The third mode is dual use, in which two delegates each have their own microphone button for individual identification. The fourth mode is auxiliary control. In this mode, the delegate has an extra button next to the microphone button, which can be used as an usher call, for example.

## Discussion units overview

	Single delegate	Chairman	Dual use	Auxiliary	Pluggable microphone	Channel Selector	Voting
DCN-DISS	•	•					
DCN-DISL	•	•					
DCN-DISD	•	•	•	•	•		
DCN-DISCS	•	•			•	1	
DCN-DISDCS	•	•	•	•	•	2	
DCN-DISV	•	•		•	•		•
DCN-DISVCS	•	•		•	•	1	•

All units are delivered with a single delegate button. For the chairman, dual and auxiliary mode two different sets of buttons are available: Dual use buttons and chairman buttons. The chairman buttons can also be used for auxiliary control. The buttons are easily removed using a special tool (supplied). Sets of buttons must be ordered separately.



### Replacing the button

Button types:

1. Single use button
2. Dual use button
3. Chairman or Auxiliary control button



*Discussion units with long and short microphones*

The Discussion units with pluggable microphone are delivered without microphones. These microphones have to be ordered separately. Two different lengths of pluggable microphones are available.

All Discussion units are supplied without rims. The rims must be ordered separately. Several rims are available in different finishes. The rims can be mounted without any tools.



*Rims to be mounted on the discussion unit*

To secure the loop trough cable of the Discussion unit, cable clamps must be used.



*Mounting the cable clamp*

# DCN-DISS / DCN-DISL

## Discussion Unit with fixed Microphone



### Features

- ▶ **Low susceptibility to mobile phone interference**
- ▶ **Compact, attractive and ergonomic design**
- ▶ **Fixed microphone**
- ▶ **Built-in loudspeaker**
- ▶ **Usable as delegate unit or chairman unit**

The Discussion Unit with fixed Microphone enables participants to speak, register a request-to-speak and listen to the speaker. The microphone stem is flexible. The unit also accommodates two headphone connections, so the speaker can be heard clearly even in situations with excessive background noise. The built-in loudspeaker is muted when the microphone is on to prevent acoustic feedback. Rims are available in a range of colors to match the interior (DCN-DISR, to be ordered separately).

### Functions

- Headphone output level reduction to prevent acoustic feedback (active when listening to the floor and when the microphone is on)
- The unit can be used as a delegate unit or as a chairman unit (DCN-DISBCM chairman buttons to be ordered separately).
- To lock the loop-through cable, a cable clamp is available (DCN-DISCLM, to be ordered separately).
- The unit is available with two different microphone lengths and in light and dark colored bases.

### Controls and Indicators

- Microphone with red or green indicator

- Microphone button with a red, green or yellow illuminated ring. Red indicates microphone is active, green indicates request-to-speak accepted, and yellow indicates 'VIP'
- VIP indicator is lit when the delegate is part of the notebook (only available if PC Software is used)
- Headphone volume control buttons
- Recessed 'De-init' switch

### Interconnections

- Two 3.5 mm (0.14 in) stereo jack type headphone sockets
- 2 m (78.7 in) cable terminated within a molded six-pole circular connector.
- Six-pole circular connector for loop-through connections

### Certifications and Approvals

Region	Certification
Europe	CE

### Technical Specifications

#### Electrical

Frequency response	30 Hz to 20 kHz
Headphone load impedance	> 32 ohm < 1kohm
Output power	2 x 15 mW/32 ohm

#### Mechanical

Mounting	Tabletop (portable or fixed mounting) and flush mounting
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#### Dimensions (H x W x D) (without microphone)

Tabletop	61 x 190 x 116 mm (2.4 x 7.5 x 4.6 in)
Flush mounted	6 x 190 x 120 mm (0.2 x 7.5 x 4.7 in)

#### Microphone lengths

DCN-DISS	300 mm (11.8 in)
DCN-DISL	470 mm (18.5 in)

#### Weight

DCN-DISS	880 g (1.94 lb)
DCN-DISL	895 g (1.97 lb)

Color top	Silver (RAL 9022)
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#### Color base

DCN-DISS-L	Light Grey (RAL 000 7500)
DCN-DISS-D	Charcoal (PH 10736)
DCN-DISL-D	Charcoal (PH 10736)

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**Ordering Information**

<b>DCN-DISS-L Discussion Short Microphone Light</b>	<b>DCN-DISS-L</b>
short microphone, light base	

<b>DCN-DISS-D Discussion Short Microphone Dark</b>	<b>DCN-DISS-D</b>
short microphone, dark base	

<b>DCN-DISL-L Discussion Long Microphone Light</b>	<b>DCN-DISL-L</b>
long microphone, light base	

<b>DCN-DISL-D Discussion Long Microphone Dark</b>	<b>DCN-DISL-D</b>
long microphone, dark base	

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**Accessories**

<b>DCN-DISRH-SR Rim High Gloss Silver (10 pcs)</b>	<b>DCN-DISRH-SR</b>
silver, high gloss, 10 pieces	

<b>DCN-DISR-SR Rim Silver (10 pcs)</b>	<b>DCN-DISR-SR</b>
silver, 10 pieces	

<b>DCN-DISR-D Rim Dark (10 pcs)</b>	<b>DCN-DISR-D</b>
dark, 10 pieces	

<b>DCN-DISRMH Rim Metal High Gloss (10 pcs)</b>	<b>DCN-DISRMH</b>
metal, high gloss, 10 pieces	

<b>DCN-DISRMS Rim Metal Semi Gloss (10 pcs)</b>	<b>DCN-DISRMS</b>
metal, semi gloss, 10 pieces	

<b>DCN-DISBCM Buttons Chairman (10 sets)</b>	<b>DCN-DISBCM</b>
10 sets	

<b>DCN-DISBDD Buttons Dual Use (10 sets)</b>	<b>DCN-DISBDD</b>
10 sets	

<b>DCN-DISCLM Cable Clamp (25 pcs)</b>	<b>DCN-DISCLM</b>
25 pieces	

# DCN-DISD Basic Discussion Unit



## Features

- ▶ **Low susceptibility to mobile phone interference**
- ▶ **Compact, attractive and ergonomic design**
- ▶ **Pluggable microphone**
- ▶ **Built-in loudspeaker**
- ▶ **Usable as delegate unit, dual delegate unit, chairman unit or single delegate unit with auxiliary button**

The Basic Discussion Unit enables participants to speak, register a request-to-speak and listen to the speaker. A socket is provided to connect the pluggable microphones (DCN-MICS and DCN-MICL, to be ordered separately).

The unit also accommodates two separate headphone connections with individual volume control on either side of the unit, allowing one unit to serve two delegates. It can be converted to a full dual-use unit by replacing the microphone button with two separated microphone buttons for individual microphone control and individual delegate identification (DCN-DISBDD dual-use buttons, to be ordered separately).

## Functions

- Headphone output level reduction to prevent acoustic feedback (active when listening to the floor and when the microphone is on). When unit is used in Dual Delegate mode, this function is available individually
- Built-in loudspeaker speaker is muted when the microphone is on to prevent acoustic feedback
- Unit can be used as a single delegate unit, as a dual delegate unit, as a chairman unit (DCN-DISBCM chairman buttons, to be ordered separately) or as a single delegate unit with auxiliary button

- Different rims are available to allow matching with the interior (DCN-DISR, to be ordered separately)
- The versatile auxiliary button can be used as an usher call, for example
- To lock the loop-through cable, a cable clamp is available (DCN-DISCLM, to be ordered separately)
- Unit is available in light and dark colored bases

## Controls and Indicators

- Microphone button with a red, green or yellow illuminated ring. Red indicates microphone is active, green indicates request-to-speak accepted, and yellow indicates 'VIP' (when unit is used in Dual Delegate mode, this function is available individually)
- VIP indicator is lit when the delegate is part of the notebook (only available if PC Software is used)
- Two individual headphone volume control buttons
- Recessed 'De-init' switch

## Interconnections

- Socket for pluggable microphone
- Two 3.5 mm (0.14 in) stereo jack type headphone sockets
- 2 m (78.7 in) cable terminated within a molded six-pole circular connector.
- Six-pole circular connector for loop-through connections

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Frequency response	30 Hz to 20 kHz
Headphone load impedance	> 32 ohm < 1k ohm
Output power	2 x 15 mW/32 ohm

### Mechanical

Mounting	Tabletop (portable or fixed mounting) and flush mounting
Dimensions (H x W x D)	<b>(without microphone)</b>
Tabletop	61 x 190 x 116 mm (2.4 x 7.5 x 4.6 in)
Flush mounted	6 x 190 x 120 mm (0.2 x 7.5 x 4.7 in)
Weight	800 g (1.76 lb)
Color top	Silver (RAL 9022)

### Color base

DCN-DISD-L	Light Grey (RAL 000 7500)
DCN-DISD-D	Charcoal (PH 10736)

**Ordering Information****DCN-DISD-L Discussion Light**

pluggable microphone, light base, microphone and rims to be ordered separately

**DCN-DISD-L****DCN-DISD-D Discussion Dark**

pluggable microphone, dark base, microphone and rims to be ordered separately

**DCN-DISD-D****Accessories****DCN-MICS Pluggable Short Microphone**

length 310 mm (12.2 inch), silver

**DCN-MICS****DCN-MICL Pluggable Long Microphone**

length 480 mm (18.9 inch), silver

**DCN-MICL****DCN-DISRH-SR Rim High Gloss Silver (10 pcs)**

silver, high gloss, 10 pieces

**DCN-DISRH-SR****DCN-DISR-SR Rim Silver (10 pcs)**

silver, 10 pieces

**DCN-DISR-SR****DCN-DISR-D Rim Dark (10 pcs)**

dark, 10 pieces

**DCN-DISR-D****DCN-DISRMH Rim Metal High Gloss (10 pcs)**

metal, high gloss, 10 pieces

**DCN-DISRMH****DCN-DISRMS Rim Metal Semi Gloss (10 pcs)**

metal, semi gloss, 10 pieces

**DCN-DISRMS****DCN-DISBCM Buttons Chairman (10 sets)**

10 sets

**DCN-DISBCM****DCN-DISBDD Buttons Dual Use (10 sets)**

10 sets

**DCN-DISBDD****DCN-DISCLM Cable Clamp (25 pcs)**

25 pieces

**DCN-DISCLM**

# DCN-DISCS Discussion Unit with Channel Selector



## Features

- ▶ **Low susceptibility to mobile phone interference**
- ▶ **Compact, attractive and ergonomic design**
- ▶ **Pluggable microphone**
- ▶ **Channel selector with number and abbreviated channel name**
- ▶ **Built-in loudspeaker**
- ▶ **Usable as delegate or chairman unit**

The Discussion Unit with Channel Selector enables participants to speak, register a request-to-speak and listen to the speaker. A socket is provided to connect the pluggable microphones (DCN-MICS and DCN-MICL, to be ordered separately). The unit has a built-in channel selector that makes it suitable for discussions in which more than one language is used and simultaneous interpretations are available. The channel selector includes two up and down channel select keys and a display showing the number and the abbreviation of the languages, enabling rapid selection of the required language channel.

## Functions

- Headphone output level reduction to prevent acoustic feedback (active when listening to the floor and when microphone is on)
- The built-in loudspeaker speaker is muted when the microphone is on to prevent acoustic feedback.
- A variety of rims (DCN-DISR, to be ordered separately) are available, so the unit can be matched to the interior

- The unit can be used a delegate unit or as a chairman unit (DCN-DISBCM chairman buttons, to be ordered separately)
- To lock the loop-through cable, a cable clamp is available (DCN-DISCLM, to be ordered separately)
- The unit is available in light and dark colored bases

## Controls and Indicators

- Alphanumeric display for language channel selection with number and abbreviated channel name
- Socket for pluggable microphones (DCN-MICS or DCN-MICL)
- Microphone button with a red, green or yellow illuminated ring. Red indicates microphone is active, green indicates request-to-speak accepted, and yellow indicates 'VIP'
- VIP indicator is lit when the delegate is part of the notebook (only available if PC Software is used)
- Headphones have volume control buttons
- Recessed 'De-init' switch

## Interconnections

- Socket for pluggable microphone
- Two 3.5 mm (0.14 in) stereo jack type headphones sockets
- 2 m (78.7 in) cable terminated with in a molded six-pole circular connector.
- Six-pole circular connector for loop-through connections

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Frequency response	30 Hz to 20 kHz
Headphone load impedance	> 32 ohm < 1k ohm
Output power	2 x 15 mW/32 ohm

### Mechanical

Mounting	Tabletop (portable or fixed mounting) and flush mounting
Dimensions (H x W x D)	<b>(without microphone)</b>
Tabletop	61 x 190 x 116 mm (2.4 x 7.5 x 4.6 in)
Flush mounted	6 x 190 x 120 mm (0.2 x 7.5 x 4.7 in)
Weight	800 g (1.76 lb)
Color top	Silver (RAL 9022)
Color base	
DCN-DISCS-L	Light Grey (RAL 000 7500)
DCN-DISCS-D	Charcoal (PH 10736)

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**Ordering Information**
**DCN-DISCS-L Discussion Channel Selector Light**      **DCN-DISCS-L**

pluggable microphone, light base, microphone and rims to be ordered separately

**DCN-DISCS-D Discussion Channel Selector Dark**      **DCN-DISCS-D**

pluggable microphone, dark base, microphone and rims to be ordered separately

**Accessories**
**DCN-MICS Pluggable Short Microphone**      **DCN-MICS**  
 length 310 mm (12.2 inch), silver

**DCN-MICL Pluggable Long Microphone**      **DCN-MICL**  
 length 480 mm (18.9 inch), silver

**DCN-DISR-SR Rim High Gloss Silver (10 pcs)**      **DCN-DISR-SR**  
 silver, high gloss, 10 pieces

**DCN-DISR-SR Rim Silver (10 pcs)**      **DCN-DISR-SR**  
 silver, 10 pieces

**DCN-DISR-D Rim Dark (10 pcs)**      **DCN-DISR-D**  
 dark, 10 pieces

**DCN-DISRMH Rim Metal High Gloss (10 pcs)**      **DCN-DISRMH**  
 metal, high gloss, 10 pieces

**DCN-DISRMS Rim Metal Semi Gloss (10 pcs)**      **DCN-DISRMS**  
 metal, semi gloss, 10 pieces

**DCN-DISBCM Buttons Chairman (10 sets)**      **DCN-DISBCM**  
 10 sets

**DCN-DISBDD Buttons Dual Use (10 sets)**      **DCN-DISBDD**  
 10 sets

**DCN-DISCLM Cable Clamp (25 pcs)**      **DCN-DISCLM**  
 25 pieces



# DCN-DISDCS Discussion Unit with Dual Channel Selector



## Features

- ▶ **Low susceptibility to mobile phones**
- ▶ **Compact, attractive and ergonomic design**
- ▶ **Pluggable microphone**
- ▶ **Two channel selectors with number and abbreviated channel name**
- ▶ **Built-in loudspeaker**
- ▶ **Usable as delegate unit, dual delegate unit, chairman unit or single delegate unit with auxiliary button**

The Discussion Unit with Dual Channel Selectors enables participants to speak, register a request-to-speak and listen to the speaker. A socket is provided to connect a pluggable microphone. The unit has two built-in channel selectors with headphone connections with individual volume controls on either side of the unit, allowing one unit to serve two delegates. The channel selectors make it suitable for discussions in which more than one language is used and simultaneous interpretations are available. Each of the channel selectors includes up and down channel select keys and a display showing the number and the abbreviation of the channel name, enabling rapid selection of the required language channel.

## Functions

- Headphone output level reduction to prevent acoustic feedback (active when listening to the floor and when the microphone is on). When unit is used in Dual Delegate mode, this function is available individually

- The unit can be a full dual use unit by replacing the microphone button with two separated microphone buttons for individual microphone control and individual delegate identification (DCN-DISBDD dual use buttons, to be ordered separately)
- The built-in loudspeaker is muted when the microphone is on to prevent acoustic feedback.
- Two lengths of microphones are available (DCN-MICS and DCN-MICL, to be ordered separately)
- Different colored rims are available to allow matching with the interior, (DCN-DISR, to be ordered separately)
- The unit can be used as a single delegate unit, as a dual delegate unit, as a chairman unit (DCN-DISBCM chairman buttons, to be ordered separately) or as a single delegate unit with an auxiliary button
- The versatile auxiliary button can be used as an usher call, for example
- To lock the loop-through cable, a cable clamp is available (DCN-DISCLM, to be ordered separately)
- The unit is available in light and dark colored bases

## Controls and Indicators

- Two alphanumeric displays for language channel selection with number and abbreviated channel name
- Microphone button with a red, green or yellow illuminated ring. Red indicates microphone is active, green indicates request-to-speak accepted, and yellow indicates 'VIP' (when unit is used in Dual Delegate mode, this function is available individually)
- VIP indicator is lit when the delegate is part of the notebook (only available if PC Software is used)
- Two individual headphone volume control buttons
- Recessed 'De-init' switch

## Interconnections

- Socket for pluggable microphone
- Two 3.5 mm (0.14 in) stereo jack type headphones sockets
- 2 m (78.7 in) cable terminated within a molded six-pole circular connector.
- Six-pole circular connector for loop-through connections

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Frequency response	30 Hz to 20 kHz
Headphone load impedance	> 32 ohm < 1k ohm
Output power	2 x 15 mW/32 ohm

**Mechanical**

Mounting	Tabletop (portable or fixed mounting) and flush mounting
Dimensions (H x W x D)	<b>(without microphone)</b>
Tabletop	61 x 190 x 116 mm (2.4 x 7.5 x 4.6 in)
Flush mounted	6 x 190 x 120 mm (0.2 x 7.5 x 4.7 in)
Weight	800 g (1.76 lb)
Color top	Silver (RAL 9022)
Color base	
DCN-DISDCS-L	Light Grey (RAL 000 7500)
DCN-DISDCS-D	Charcoal (PH 10736)

**Ordering Information****DCN-DISDCS-L Discussion Dual Channel Selector Light** **DCN-DISDCS-L**

pluggable microphone, light base, microphone and rims to be ordered separately

**DCN-DISDCS-D Discussion Dual Channel Selector Dark** **DCN-DISDCS-D**

pluggable microphone, dark base, microphone and rims to be ordered separately

**Accessories****DCN-MICS Pluggable Short Microphone** **DCN-MICS**  
length 310 mm (12.2 inch), silver**DCN-MICL Pluggable Long Microphone** **DCN-MICL**  
length 480 mm (18.9 inch), silver**DCN-DISRH-SR Rim High Gloss Silver (10 pcs)** **DCN-DISRH-SR**  
silver, high gloss, 10 pieces**DCN-DISR-SR Rim Silver (10 pcs)** **DCN-DISR-SR**  
silver, 10 pieces**DCN-DISR-D Rim Dark (10 pcs)** **DCN-DISR-D**  
dark, 10 pieces**DCN-DISRMH Rim Metal High Gloss (10 pcs)** **DCN-DISRMH**  
metal, high gloss, 10 pieces**DCN-DISRMS Rim Metal Semi Gloss (10 pcs)** **DCN-DISRMS**  
metal, semi gloss, 10 pieces**DCN-DISBCM Buttons Chairman (10 sets)** **DCN-DISBCM**  
10 sets**DCN-DISBDD Buttons Dual Use (10 sets)** **DCN-DISBDD**  
10 sets**DCN-DISCLM Cable Clamp (25 pcs)** **DCN-DISCLM**  
25 pieces

# DCN-DISV Discussion Unit with Voting



## Features

- ▶ **Low susceptibility to mobile phone interference**
- ▶ **Compact, attractive and ergonomic design**
- ▶ **Pluggable microphone**
- ▶ **Five voting buttons**
- ▶ **Built-in loudspeaker**
- ▶ **Usable as a delegate unit or as a chairman unit**

This Discussion Unit with Voting enables participants to speak, register a request-to-speak, listen to the speaker and vote. A socket is provided to connect the pluggable microphones (DCN-MICS and DCN-MICL, to be ordered separately). The unit has five voting buttons for all types of voting. The yellow indicator rings around the voting buttons are used to prompt users to register their presence, to start voting and to confirm their votes. When the unit's attendance LED is yellow, it indicates the delegate is present.

## Functions

- Headphone output level reduction to prevent acoustic feedback (active when listening to the floor and when the microphone is on)
- The unit accommodates two headphone connections, so the speaker can be heard clearly even in situations with excessive background noise
- The built-in loudspeaker is muted when the microphone is on to prevent acoustic feedback
- A variety of rims are available, so the unit can be matched to the interior. (DCN-DISR, to be ordered separately).

- The unit can be used a delegate unit, as a chairman unit (DCN-DISBCM chairman buttons to be ordered separately) or as a delegate unit with auxiliary button. The auxiliary button is a versatile function, which can be used as an usher call for example
- To lock the loop-through cable, a cable clamp is available (DCN-DISCLM, to be ordered separately)
- The unit is available in light and dark colored bases

## Controls and Indicators

- Five voting buttons with indicator rings around the buttons
- Unit activity/delegate presence indicator
- Microphone button with a red, green or yellow illuminated ring. Red indicates microphone is active, green indicates request-to-speak accepted, and yellow indicates 'VIP'
- VIP indicator is lit when the delegate is part of the notebook (only available if PC Software is used)
- Headphone volume control buttons
- Recessed 'De-init' switch

## Interconnections

- Socket for pluggable microphone
- Two 3.5 mm (0.14 in) stereo jack type headphone sockets
- 2 m (78.7 in) cable terminated within a molded six-pole circular connector
- Six-pole circular connector for loop-through connections

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Frequency response	30 Hz to 20 kHz
Headphone load impedance	> 32 ohm < 1k ohm
Output power	2 x 15 mW/32 ohm

### Mechanical

Mounting	Tabletop (portable or fixed mounting) and flush mounting
Dimensions (H x W x D)	<b>(without microphone)</b>
Tabletop	61 x 190 x 116 mm (2.4 x 7.5 x 4.6 in)
Flush mounted	6 x 190 x 120 mm (0.2 x 7.5 x 4.7 in)
Weight	800 g (1.76 lb)
Color top	Silver (RAL 9022)
Color base	
DCN-DISV-L	Light Grey (RAL 000 7500)
DCN-DISV-D	Charcoal (PH 10736)

**Ordering Information**

<b>DCN-DISV-L Discussion Voting Light</b> pluggable microphone, light base, microphone and rims to be ordered separately	<b>DCN-DISV-L</b>
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<b>DCN-DISV-D Discussion Voting Dark</b> pluggable microphone, dark base, microphone and rims to be ordered separately	<b>DCN-DISV-D</b>
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**Accessories**

<b>DCN-MICS Pluggable Short Microphone</b> length 310 mm (12.2 inch), silver	<b>DCN-MICS</b>
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<b>DCN-MICL Pluggable Long Microphone</b> length 480 mm (18.9 inch), silver	<b>DCN-MICL</b>
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<b>DCN-DISRH-SR Rim High Gloss Silver (10 pcs)</b> silver, high gloss, 10 pieces	<b>DCN-DISRH-SR</b>
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<b>DCN-DISR-SR Rim Silver (10 pcs)</b> silver, 10 pieces	<b>DCN-DISR-SR</b>
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<b>DCN-DISR-D Rim Dark (10 pcs)</b> dark, 10 pieces	<b>DCN-DISR-D</b>
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<b>DCN-DISRMH Rim Metal High Gloss (10 pcs)</b> metal, high gloss, 10 pieces	<b>DCN-DISRMH</b>
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<b>DCN-DISRMS Rim Metal Semi Gloss (10 pcs)</b> metal, semi gloss, 10 pieces	<b>DCN-DISRMS</b>
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<b>DCN-DISBCM Buttons Chairman (10 sets)</b> 10 sets	<b>DCN-DISBCM</b>
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<b>DCN-DISBDD Buttons Dual Use (10 sets)</b> 10 sets	<b>DCN-DISBDD</b>
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<b>DCN-DISCLM Cable Clamp (25 pcs)</b> 25 pieces	<b>DCN-DISCLM</b>
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# DCN-DISVCS Discussion Unit with Voting and Channel Selection



## Features

- ▶ **Low susceptibility to mobile phone interference**
- ▶ **Compact, attractive and ergonomic design**
- ▶ **Pluggable microphone**
- ▶ **Five voting buttons**
- ▶ **Channel selector with number and abbreviated Channel name**
- ▶ **Built-in loudspeaker**
- ▶ **Usable as a delegate unit or as a chairman unit**

The Discussion Unit with Voting and Channel Selector enables participants to speak, register a request-to-speak, listen to the speaker and vote. A socket is provided to connect the pluggable microphones (DCN-MICS and DCN-MICL, to be ordered separately). The unit has five voting buttons for all types of voting. The yellow indicator rings around the voting buttons are used to prompt users to register their presence, to start voting and to confirm their vote. When the unit's attendance LED is yellow, it indicates the delegate is present.

The unit has a built-in channel selector, which makes it suitable for discussions in which more than one language is used and simultaneous interpretations are available. The channel selector includes up and down channel select keys and a display showing the number and the abbreviation of the languages, enabling rapid selection of the required language channel.

## Functions

- Headphone output level reduction to prevent acoustic feedback. (active when listening to the floor and when the microphone is on)
- The built-in loudspeaker is muted when the microphone is on to prevent acoustic feedback
- A variety of rims (DCN-DISR, to be ordered separately) are available to allow matching to the interior,
- The unit can be used as a delegate unit, as a chairman unit (DCN-DISBCM chairman buttons to be ordered separately) or as a delegate unit with auxiliary button. The versatile auxiliary button can be used as an usher call, for example
- To lock the loop-through cable, a cable clamp is available (DCN-DISCLM, to be ordered separately)
- The unit is available in light and dark colored bases

## Controls and Indicators

- Five voting buttons with indicator rings around the buttons
- Unit activity / delegate presence indicator
- Alphanumeric display for language channel selection with number and abbreviated channel name
- Microphone button with a red, green or yellow illuminated ring. Red indicates microphone is active, green indicates request-to-speak accepted, and yellow indicates 'VIP'.
- VIP indicator is lit when the delegate is part of the notebook (only available if PC Software is used)
- Headphones volume control buttons
- Recessed 'De-init' switch

## Interconnections

- Socket for pluggable microphone
- Two 3.5 mm (0.14 in) stereo jack type headphone sockets
- 2 m (78.7 in) cable terminated within a molded six-pole circular connector.
- Six-pole circular connector for loop-through connections

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Frequency response	30 Hz to 20 kHz
Headphone load impedance	> 32 ohm < 1k ohm
Output power	2 x 15 mW/32 ohm

### Mechanical

Mounting	Tabletop (portable or fixed mounting) and flush mounting
Dimensions (H x W x D)	<b>(without microphone)</b>
Tabletop	61 x 190 x 116 mm (2.4 x 7.5 x 4.6 in)
Flush mounted	6 x 190 x 120 mm (0.2 x 7.5 x 4.7 in)
Weight	800 g (1.76 lb)

Color top	Silver (RAL 9022)
Color base	
DCN-DISVCS-L	Light Grey (RAL 000 7500)
DCN-DISVCS-D	Charcoal (PH 10736)

### Ordering Information

**DCN-DISVCS-L Discussion Voting Channel Selector Light**      **DCN-DISVCS-L**

pluggable microphone, light base, microphone and rims to be ordered separately

**DCN-DISVCS-D Discussion Voting Channel Selector Dark**      **DCN-DISVCS-D**

pluggable microphone, dark base, microphone and rims to be ordered separately

### Accessories

**DCN-MICS Pluggable Short Microphone**      **DCN-MICS**  
length 310 mm (12.2 inch), silver

**DCN-MICL Pluggable Long Microphone**      **DCN-MICL**  
length 480 mm (18.9 inch), silver

**DCN-DISR-SR Rim High Gloss Silver (10 pcs)**      **DCN-DISR-SR**  
silver, high gloss, 10 pieces

**DCN-DISR-SR Rim Silver (10 pcs)**      **DCN-DISR-SR**  
silver, 10 pieces

**DCN-DISR-D Rim Dark (10 pcs)**      **DCN-DISR-D**  
dark, 10 pieces

**DCN-DISRMH Rim Metal High Gloss (10 pcs)**      **DCN-DISRMH**  
metal, high gloss, 10 pieces

**DCN-DISRMS Rim Metal Semi Gloss (10 pcs)**      **DCN-DISRMS**  
metal, semi gloss, 10 pieces

**DCN-DISBCM Buttons Chairman (10 sets)**      **DCN-DISBCM**  
10 sets

**DCN-DISBDD Buttons Dual Use (10 sets)**      **DCN-DISBDD**  
10 sets

**DCN-DISCLM Cable Clamp (25 pcs)**      **DCN-DISCLM**  
25 pieces

# DCN-DISR Rims for Discussion Units



A rim completes the discussion units. A variety of rims with different finishes are available to allow matching with any interior.

## Technical Specifications

### Mechanical

Mounting	Click and fit on any discussion unit
Color base	
DCN-DISRH-SR	Silver (RAL 9022) high gloss
DCN-DISR-SR	Silver (RAL 9022)
DCN-DISR-D	Charcoal (PH 10736)
DCN-DISRMH	High gloss metal
DCN-DISRMS	Semi gloss metal

## Ordering Information

<b>DCN-DISRH-SR Rim High Gloss Silver (10 pcs)</b> silver, high gloss, 10 pieces	<b>DCN-DISRH-SR</b>
<b>DCN-DISR-SR Rim Silver (10 pcs)</b> silver, 10 pieces	<b>DCN-DISR-SR</b>
<b>DCN-DISR-D Rim Dark (10 pcs)</b> dark, 10 pieces	<b>DCN-DISR-D</b>
<b>DCN-DISRMH Rim Metal High Gloss (10 pcs)</b> metal, high gloss, 10 pieces	<b>DCN-DISRMH</b>
<b>DCN-DISRMS Rim Metal Semi Gloss (10 pcs)</b> metal, semi gloss, 10 pieces	<b>DCN-DISRMS</b>

# DCN-MICS/L Pluggable Microphone Short/Long Stem



## Features

- ▶ **Uni-directional microphone on adjustable stem**
- ▶ **Built-in pop and windshield**

The innovative, stylish and ergonomically designed microphone with an adjustable stem simply plugs directly into a Discussion unit, Concentus, flush-mounted Microphone Connection panels or Interpreter desk. It has a uni-directional response for optimum performance even in noisy conditions, and has low susceptibility to interference from mobile phones.

## Functions

### Controls and Indicators

- Red or green illuminator. Red indicates microphone is active, green indicates request-to-speak accepted

### Interconnections

- Connector to plug and fasten the microphone

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Mechanical

Mounting	Plug and fasten into Discussion units, Concentus, flush mounted Microphone connection panels and Interpreter desks
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### Length

DCN-MICS / DCN-MICS-D	310 mm (12.2 in)
DCN-MICL / DCN-MICL-D	480 mm (18.9 in)

### Weight

DCN-MICS / DCN-MICS-D	100 g (0.22 lb)
DCN-MICL / DCN-MICL-D	115 g (0.25 lb)

### Color top

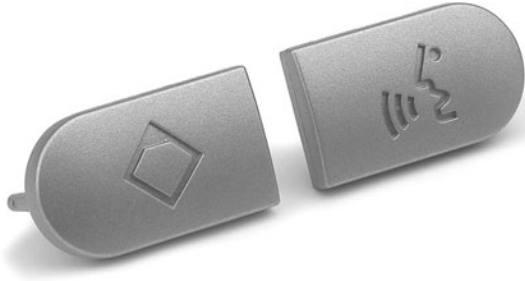
DCN-MICS / DCN-MICL	Silver (RAL 9022)
DCN-MICS-D / DCN-MICL-D	Dark (graphite gray)

## Ordering Information

<b>DCN-MICS Pluggable Short Microphone</b> length 310 mm (12.2 inch), silver	<b>DCN-MICS</b>
<b>DCN-MICL Pluggable Long Microphone</b> length 480 mm (18.9 inch), silver	<b>DCN-MICL</b>



## DCN-DISBCM Buttons Chairman (10 sets)



DCN-DISBCM buttons for Chairman Discussion Units replace the single microphone button on a discussion unit when used in chairman mode. These buttons can also be used for the discussion unit in auxiliary control mode.

### Technical Specifications

#### Mechanical

Mounting	Click and fit on any Discussion unit
Color	Silver (RAL 9022)

### Ordering Information

<b>DCN-DISBCM Buttons Chairman (10 sets)</b> 10 sets	<b>DCN-DISBCM</b>
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## DCN-DISBDD Buttons Dual Use (10 sets)



DCN-DISBDD buttons for Dual Use Discussion Units replace the single microphone button on a discussion unit when used in dual delegate mode.

### Technical Specifications

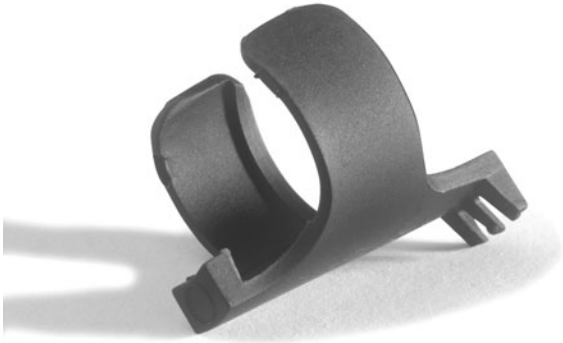
#### Mechanical

Mounting	Click and fit on any Discussion unit
Color	Silver (RAL 9022)

### Ordering Information

<b>DCN-DISBDD Buttons Dual Use (10 sets)</b> 10 sets	<b>DCN-DISBDD</b>
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## DCN-DISCLM Cable Clamp (25 pcs)



DCN-DISCLM cable clamps for Discussion Unit secure loop-through cables to next unit.

### Technical Specifications

#### Mechanical

Mounting	Click and fit on any Discussion unit
Color	Charcoal (PH 10736)

### Ordering Information

<b>DCN-DISCLM Cable Clamp (25 pcs)</b> 25 pieces	<b>DCN-DISCLM</b>
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## DCN-FCDIS Flight Case for 10 Discussion Units



### Features

- ▶ Rugged construction with reinforced corners
- ▶ Simplifies packing and unpacking
- ▶ Easy to carry and store

The DCN-FCDIS Flight Case for Discussion units accommodates 10 Discussion units with attached microphones.

### Technical Specifications

#### Mechanical

Dimensions (H x W x D)	430 x 665 x 255 mm (16.9 x 26.2 x 10 in)
Weight	9.3 kg (20.5 lb)
Color	grey

### Ordering Information

<b>DCN-FCDIS Flight Case for 10 Discussion Units</b> can hold 10 discussion units with microphones	<b>DCN-FCDIS</b>
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# Concentus Units



*Tabletop Concentus units*

Concentus units are typically used for larger conferences. The units

are ideal when a flexible configuration or portable facilities are required. All units are easily plugged into or removed from the system cabling, which enables the conference system to be set up quickly and efficiently. The unit has a pluggable microphone (supplied separately) available in either short or long stem versions. The microphones have flexible stems for ease of use. The unit can be free-standing or fixed using mounting screws. The Concentus units can also be flush-mounted in more permanent installations. Storage and transport is simplified by rugged suitcases that accommodate complete systems.

The units can be connected in a simple daisy chain configuration. Alternatively, they can be connected using one thin cable and a trunk splitter to connect the unit to the system cabling, with connectors neatly hidden in the units. This 'one cable' aspect of the DCN Next Generation system means there is no untidy mess of wires at the back of the units. This 'clean' configuration is especially advantageous for TV coverage, where the backs of the units are on show.

The Concentus units range from standard Concentus units to Concentus with chip card reader, graphic LCD screen and channel selector, up to chairman units with a priority key and advanced options. All Concentus units provide voting facilities that enable contributing delegates to take part in the decision making process, a vital aspect of modern conferencing.

## Concentus units overview

	Pluggable microphone	Channel Selector	Voting	Graphical LCD	ID-card reader	Chairman
DCN-CON	•		•			
DCN-CONCS	•	•	•			
DCN-CONFF	•	•	•	•	•	
DCN-CONCM	•	•	•	•	•	•

# DCN-CON Concentus Basic



## Features

- ▶ Low susceptibility to mobile phones
- ▶ Compact, attractive delegate unit
- ▶ Built-in fold-away flat-panel loudspeaker
- ▶ Five voting buttons
- ▶ Cable connections located underneath the unit
- ▶ External present and fraud contact

The DCN-CON is the standard delegate conference unit that enables delegates to speak, register a request-to-speak, register a response request, listen to the speaker and vote. It has low susceptibility to interference from mobile phones. A socket is provided to connect the pluggable microphones (DCN-MICS and DCN-MICL, to be ordered separately). The flat-panel loudspeaker offers superior acoustics with minimal feedback, thus increasing intelligibility. It is automatically muted when the microphone is activated. When the unit is not being used, the loudspeaker panel conveniently folds down. There are five voting buttons for all kind of voting. An external contact is available to connect external fingerprint readers.

## Functions

### Controls and indicators

- Built-in, fold-away, flat-panel loudspeaker, automatically muted if the microphone is on
- Microphone 'on/off' or 'request-to-speak' button
- 'Microphone on' indicator at the top of the loudspeaker
- Tri-color indicator above the microphone button:
  - Red 'Microphone on' indicator

- Green 'Request-to-speak' confirmation indicator
- Yellow 'VIP' indicator. 'VIP' LED is lit when the delegate unit is part of the notebook, which is only available when PC control software is used
- Five voting buttons with yellow LED confirmation indicators These can be used to register:
  - PRESENT, YES (+), NO (-), ABSTAIN (X), (parliamentary voting)
  - Numerals: 1 to 5 (multiple choice or opinion polls)
  - Rating scale: - -, -, 0, +, ++ (audience response)

### Connections

- Socket for pluggable microphone
- 2 m (78.7 in) cable terminated in a molded six-pole circular connector
- Six-pole circular connector for loop-through connections
- Eight-pole modular jack connector for Intercom Handset LBB 3555/00 and external present and Fraud contact e.g. a fingerprint reader

## Certifications and Approvals

### Region Certification

Europe	CE
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## Technical Specifications

### Mechanical

Mounting	Tabletop (portable or fixed mounting) and flush mounting
Dimensions (H x W x D)	<b>(without microphone)</b>
Tabletop	50 x 275 x 155 mm (2.0 x 10.8 x 6.1 in)
Flush mounted	30 x 275 x 155 mm (1.2 x 10.8 x 6.1 in)
Weight	1.4 kg (3.1 lb)
Color top	Charcoal (PH 10736) with silver (RAL 9022) panel
Color base	Charcoal (PH 10736)

## Ordering Information

<b>DCN-CON Concentus Basic</b> pluggable microphone, voting, microphone to be ordered separately	<b>DCN-CON</b>
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### Accessories

<b>DCN-MICS Pluggable Short Microphone</b> length 310 mm (12.2 inch), silver	<b>DCN-MICS</b>
<b>DCN-MICL Pluggable Long Microphone</b> length 480 mm (18.9 inch), silver	<b>DCN-MICL</b>

# DCN-CONCS Concentus Channel Selector



## Features

- ▶ **Low susceptibility to mobile phones**
- ▶ **Compact, attractive delegate unit**
- ▶ **Built-in, fold-away, flat-panel loudspeaker**
- ▶ **Five voting buttons**
- ▶ **Cable connections located underneath the unit**
- ▶ **External present and fraud contact**

The DCN-CONCS is similar to the DCN-CON Standard Delegate Unit, but includes a built-in language channel selector. This makes it suitable for conferences where more than one language is used and simultaneous interpretations are available. The channel selector includes up and down select keys and a 2-digit display with backlighting, enabling rapid selection of the required language channel. Channel selection is automatically limited to the number of language channels available. The flat-panel loudspeaker offers superior acoustics with minimal feedback, thus increasing intelligibility. When the unit is not being used, the loudspeaker panel conveniently folds down.

## Functions

### Controls and Indicators

- Channel selector with channel number display with back lighting and channel select keys (up/down)
- Headphone volume control on each side of the unit
- Built-in fold-away flat-panel loudspeaker, automatically muted if a microphone is on
- Microphone 'on/off' or 'request-to-speak' button
- 'Microphone-on' indicator at the top of the loudspeaker

- Tri-color indicator above the microphone button:
  - Red microphone on indicator
  - Green 'Request-to-speak' confirmation indicator
  - Yellow 'VIP' indicator. 'VIP' is lit when the delegate unit is part of the notebook, which is only available when PC control software is used
- Five voting buttons with yellow LED confirmation indicators These can be used to register:
  - PRESENT, YES (+), NO (-), ABSTAIN (X), (parliamentary voting)
  - Numerals: 1 to 5 (multiple choice or opinion polls)
  - Rating scale: - -, -, 0, +, ++ (audience response)

### Interconnections

- Socket for pluggable microphone
- 2 m (78.7 in) cable terminated in a molded six-pole circular connector
- Socket for external microphone or headset microphone
- Six-pole circular connector for loop-through connections
- Eight-pole modular jack connector for Intercom Handset LBB 3555/00 and external present and fraud contact e.g. a fingerprint reader
- Left and right 3.5 mm (0.14 in) stereo jack type headphones sockets
- Connection 3.5 mm (0.14 in) for external microphone or stereo jack type headset microphone

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

#### Headphone connection

Frequency response	30 Hz to 20 kHz
Load impedance	> 32 ohm
Output power	2 x 15 mW/32 ohm

#### Headset connection

Frequency response	30 Hz - 20 kHz
Load impedance	> 32 ohm
Output power	2 x 15 mW/32 ohm

Nominal microphone input level	7 mVrms
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Overload microphone input level	> 124 mVrms
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#### Interface data

#### Recommended external microphone type (or headset microphone)

Element	Electret-condenser
Polar pattern	Omni directional
Operating voltage	5 VDC
Sensitivity	62 dB at 1200 ohm (0 dB = 1 V/mbar at 1 kHz)

Frequency response	100 Hz to 14 kHz
Connector	3.5 mm (0.14 in) jack mono or stereo
<b>Mechanical</b>	
Mounting	Tabletop (portable or fixed mounting) and flush mounting
Dimensions (H x W x D)	<b>(without microphone)</b>
Tabletop	50 x 275 x 155 mm 2.0 x 10.8 x 6.1 in)
Flush mounted	30 x 275 x 155 mm (1.2 x 10.8 x 6.1 in)
Weight	1.4 kg (3.1 lb)
Color top	Charcoal (PH 10736) with silver (RAL 9022) panel
Color base	Charcoal (PH 10736)

### Ordering Information

<b>DCN-CONCS Concentus Channel Selector</b> pluggable microphone, voting, channel select, 2 headphone sockets, microphone to be ordered separately	<b>DCN-CONCS</b>
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### Accessories

<b>DCN-MICS Pluggable Short Microphone</b> length 310 mm (12.2 inch), silver	<b>DCN-MICS</b>
<b>DCN-MICL Pluggable Long Microphone</b> length 480 mm (18.9 inch), silver	<b>DCN-MICL</b>

# DCN-CONFF Concentus Full Function



## Features

- ▶ **Low susceptibility to mobile phones**
- ▶ **Compact, attractive delegate unit**
- ▶ **Built-in fold-away flat-panel loudspeaker**
- ▶ **Five voting buttons**
- ▶ **Cable connections located underneath the unit**
- ▶ **External present and fraud contact**

The top-of-the-range, multi-functional delegate unit meets the demands of even the largest conferences. It provides facilities for speaking, registering a request-to-speak, registering a request-to-respond, listening, voting, selecting language channels, chip card reading and displaying conference and user-related information. It has low susceptibility to interference from mobile phones. It is stylistically and functionally similar to the DCN-CONCS Delegate Unit with Channel Selector, but also includes a chip card reader and a graphic display with backlighting. When a chip card is inserted into the card reader, the graphic LCD screen automatically displays user-related information in the language assigned to the delegate chip card. The graphic LCD screen has permanent backlighting, and can display characters from complex European languages or icon-based-scripts such as Chinese. Channel selection is automatically limited to the number of language channels available. The flatpanel loudspeaker offers superior acoustics with minimal feedback, so increasing intelligibility. When the unit is not being used, the loudspeaker panel conveniently folds down.

## Functions

### Controls and Indicators

- Channel selector with channel number display with back lighting and channel select keys (up/down)
- Headphone volume control on each side of the unit
- Graphic LCD screen. Typical displays include:
  - button description
  - multi-lingual user instructions
  - information on the number of current speakers
  - request-to-speak information and confirmation
  - voting results
  - remaining/elapsed speech time
  - public and personal messages
  - additional user information
- Five button with LED indicators (for use in combination with the graphic LCD screen). The soft buttons can provide users with display information such as messages, conference- and microphone user-related information. Depending on the application software the five soft buttons can be used as voting buttons with confirmation indicators (yellow LEDs), enabling the user to register:
  - PRESENT, YES(+), NO (-), ABSTAIN (X), (parliamentary voting)
  - Numerals: 1 to 5 (multiple choice or opinion poll voting)
  - Rating scale: - -, - 0, +, ++ (audience response)
- Identification and access control by card reader with or without PIN
- Identification and access control by card reader with or without PIN
- Built-in fold-away flat-panel loudspeaker, automatically muted if a microphone is on
- Microphone 'on/off' or 'request-to-speak' button
- 'Microphone on' indicator at the top of the loudspeaker
- Tri-color indicator above the microphone button:
  - Red microphone on indicator
  - Green 'Request-to-speak' confirmation indicator
  - Yellow 'VIP' indicator. 'VIP' is lit when the delegate unit is part of the notebook, which is only available when PC control software is used

### Interconnections

- Socket for pluggable microphone
- 2 m (78.7 in) cable terminated in a molded six-pole circular connector
- Socket for external microphone or headset microphone
- Six-pole circular connector for loop-through connections
- Eight-pole modular jack connector for Intercom Handset LBB 3555/00 and external present and fraud contact e.g. a. fingerprint reader
- Left and right 3.5 mm (0.14 in) stereo jack type headphones sockets
- Connection 3.5 mm (0.14 in) for external microphone or stereo jack type headset microphone

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

#### Headphone connection

Frequency response	30 Hz to 20 kHz
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Load impedance	> 32 ohm
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Output power	2 x 15 mW/32 ohm
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#### Headset connection

Frequency response	30 Hz - 20 kHz
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Load impedance	> 32 ohm
----------------	----------

Output power	2 x 15 mW/32 ohm
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Nominal microphone input level	7 mVrms
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Overload microphone input level	> 124 mVrms
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#### Interface data

##### Recommended external microphone type (or headset microphone)

Element	Electret-condenser
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Polar pattern	Omni directional
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Operating voltage	5 VDC
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Sensitivity	62 dB at 1200 ohm (0 dB = 1 V/mbar at 1 kHz)
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Frequency response	100 Hz to 14 kHz
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Connector	3.5 mm (0.14 in) jack mono or stereo
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### Mechanical

Mounting	Tabletop (portable or fixed mounting) and flush mounting
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#### Dimensions (H x W x D) **(without microphone)**

Tabletop	50 x 275 x 155 mm (2.0 x 10.8 x 6.1 in)
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Flush mounted	30 x 275 x 155 mm (1.2 x 10.8 x 6.1 in)
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Weight	1.4 kg (3.1 lb)
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Color top	Charcoal (PH 10736) with silver (RAL 9022) panel
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Color base	Charcoal (PH 10736)
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## Ordering Information

<b>DCN-CONFF Concentus Full Function</b> pluggable microphone, voting, channel select, 2 headphone sockets, graphical display, microphone to be ordered separately	<b>DCN-CONFF</b>
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### Accessories

<b>DCN-MICS Pluggable Short Microphone</b> length 310 mm (12.2 inch), silver	<b>DCN-MICS</b>
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<b>DCN-MICL Pluggable Long Microphone</b> length 480 mm (18.9 inch), silver	<b>DCN-MICL</b>
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# DCN-CONCM Concentus Chairman



## Features

- ▶ **Low susceptibility to mobile phones**
- ▶ **Compact, attractive delegate unit**
- ▶ **Built-in, fold-away, flat-panel loudspeaker**
- ▶ **Five voting buttons**
- ▶ **Cable connections located underneath the unit**
- ▶ **External present and fraud contact**

The stylish and ergonomically designed chairman unit has all the necessary facilities to enable the user to chair a conference. It has low susceptibility to interference from mobile phones. Similar in appearance to the DCN-CONFF Delegate Unit, the DCN-CONCM Chairman Unit includes a microphone priority button. When pressed, the priority button causes all currently active delegate microphones to be temporarily or permanently switched off, allowing the chairman to take control of the meeting. The chairman unit can also be used to start, stop or suspend voting, cancel a request-to-speak, turn off all active microphones and recall messages for display. A graphic LCD screen with permanent backlighting can display characters from complex European languages or icon-based scripts such as Chinese. Channel selection is automatically limited to the number of language channels available. The flat-panel loudspeaker offers superior acoustics with minimal feedback, so increasing intelligibility. When the unit is not being used, the loudspeaker panel conveniently folds down.

## Functions

### Controls and Indicators

- Priority key which causes an optional chime tone to sound while temporarily or permanently muting all active delegate units. The chairman microphone remains active as long as the priority button is pressed.
- Channel selector with channel number display with back lighting and channel select keys (up/down)
- Headphone volume control on each side of the unit
- Graphic LCD screen. Typical displays include:
  - button description
  - multi-lingual user instructions
  - information on the number of current speakers
  - request-to-speak information and confirmation
  - voting results
  - remaining/elapsed speech time
  - public and personal messages
  - additional user information
- Five button with LED indicators (for use in combination with the graphic LCD screen). The soft buttons can provide users with display information such as messages, conference- and microphone user-related information. Depending on the application software the five soft buttons can be used as voting buttons with confirmation indicators (yellow LEDs), enabling the user to register:
  - PRESENT, YES(+), NO (-), ABSTAIN (X), (parliamentary voting)
  - Numerals: 1 to 5 (multiple choice or opinion poll voting)
  - Rating scale: - -, - 0, +, ++ (audience response)
- Identification and access control by card reader with or without PIN
- Built-in fold-away flat-panel loudspeaker, automatically muted if a microphone is on
- Microphone 'on/off' or 'request-to-speak' button
- 'Microphone on' indicator at the top of the loudspeaker
- Tri-color indicator above the microphone button:
  - Red microphone on indicator
  - Green 'Request-to-speak' confirmation indicator
  - Yellow 'VIP' indicator. 'VIP' is lit when the delegate unit is part of the notebook, which is only available when PC control software is used

### Interconnections

- Socket for pluggable microphone
- 2 m (78.7 in) cable terminated in a molded six-pole circular connector
- Socket for external microphone or headset microphone
- Six-pole circular connector for loop-through connections
- Eight-pole modular jack connector for Intercom Handset LBB 3555/00 and external present and fraud contact e.g., fingerprint reader
- Left and right 3.5 mm (0.14 in) stereo jack type headphones sockets
- Connection 3.5 mm (0.14 in) for external microphone or stereo jack type headset microphone

**Certifications and Approvals****Region**      **Certification**

Europe      CE

**Technical Specifications****Electrical**

## Headphone connection

Frequency response      30 Hz to 20 kHz

Load impedance      &gt; 32 ohm

Output power      2 x 15 mW/32 ohm

## Headset connection

Frequency response      30 Hz - 20 kHz

Load impedance      &gt; 32 ohm

Output power      2 x 15 mW/32 ohm

Nominal microphone input level      7 mVrms

Overload microphone input level      &gt; 124 mVrms

## Interface data

## Recommended external microphone type (or headset microphone)

Element      Electret-condenser

Polar pattern      Omni directional

Operating voltage      5 VDC

Sensitivity      62 dB at 1200 ohm (0 dB = 1 V/mbar at 1 kHz)

Frequency response      100 Hz to 14 kHz

Connector      3.5 mm (0.14 in) jack mono or stereo

**Mechanical**

Mounting      Tabletop (portable or fixed mounting) and flush mounting

Dimensions (H x W x D)      (without microphone)

Tabletop      50 x 275 x 155 mm  
(2.0 x 10.8 x 6.1 in)Flush mounted      30 x 275 x 155 mm  
(1.2 x 10.8 x 6.1 in)

Weight      1.4 kg (3.1 lb)

Color top      Charcoal (PH 10736) with silver (RAL 9022) panel

Color base      Charcoal (PH 10736)

**Ordering Information****DCN-CONCM Concentus Chairman****DCN-CONCM**

pluggable microphone, voting, channel select, 2 headphone sockets, graphical display, priority key, microphone to be ordered separately

**Accessories****DCN-MICS Pluggable Short Microphone****DCN-MICS**

length 310 mm (12.2 inch), silver

**DCN-MICL Pluggable Long Microphone****DCN-MICL**

length 480 mm (18.9 inch), silver

# DCN-MICS/L Pluggable Microphone Short/Long Stem



## Features

- ▶ **Uni-directional microphone on adjustable stem**
- ▶ **Built-in pop and windshield**

The innovative, stylish and ergonomically designed microphone with an adjustable stem simply plugs directly into a Discussion unit, Concentus, flush-mounted Microphone Connection panels or Interpreter desk. It has a uni-directional response for optimum performance even in noisy conditions, and has low susceptibility to interference from mobile phones.

## Functions

### Controls and Indicators

- Red or green illuminator. Red indicates microphone is active, green indicates request-to-speak accepted

### Interconnections

- Connector to plug and fasten the microphone

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Mechanical

Mounting Plug and fasten into Discussion units, Concentus, flush mounted Microphone connection panels and Interpreter desks

### Length

DCN-MICS / DCN-MICS-D 310 mm (12.2 in)

DCN-MICL / DCN-MICL-D 480 mm (18.9 in)

### Weight

DCN-MICS / DCN-MICS-D 100 g (0.22 lb)

DCN-MICL / DCN-MICL-D 115 g (0.25 lb)

### Color top

DCN-MICS / DCN-MICL Silver (RAL 9022)

DCN-MICS-D / DCN-MICL-D Dark (graphite gray)

## Ordering Information

**DCN-MICS Pluggable Short Microphone**  
length 310 mm (12.2 inch), silver

**DCN-MICS**

**DCN-MICL Pluggable Long Microphone**  
length 480 mm (18.9 inch), silver

**DCN-MICL**

# DCN-FCCON Flight Case for 10 Concentus Units



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## Features

- ▶ **Rugged construction with reinforced corners**
- ▶ **Simplifies packing and unpacking**
- ▶ **Easy to carry and store**
- ▶ **Shaped foam interior**

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The DCN-FCCON Flight Case accommodates 10 Concentus units. There is also a special cover compartment for housing 10 microphones (standard and long).

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## Technical Specifications

### Mechanical

Dimensions (H x W x D)	430 x 665 x 255 mm (16.9 x 26.2 x 10 in)
Weight	9.3 kg (20.5 lb)
Color	Dark grey

---

## Ordering Information

**DCN-FCCON Flight Case for 10 Concentus Units**      **DCN-FCCON**  
can hold 10 Concentus units with micro-  
phones

# LBB 3555/00 DCN Intercom Handset



## Technical Specifications

### Mechanical

Mounting	Tabletop or wall-mounted using the 2 screw holes on the cradle
Dimensions (H x W)	53 x 210 mm (2.08 x 8.26 in)
Weight	250 g (0.55 lb)
Color	Charcoal (PH 10736)

## Ordering Information

**LBB 3555/00 DCN Intercom Handset** **LBB3555/00**  
with coiled handset cable with 2 m reach, six-pole RJ45 connector

## Features

- ▶ **Ideal for intercom applications**
- ▶ **For use with all Concentus and Dual Delegate Interface**
- ▶ **Can be permanently mounted to wall, chair or tabletop**

Lightweight and compact, this robust and attractively styled handset and cradle enables private 2-way conversation between conference participants. The handset is hard-wired to the cradle by a coiled cable, 0.5 m (19.6 in) long when coiled, and 2 m (78.7 in) uncoiled. The cable is terminated with a six-pole RJ45 connector for connection to Concentus and Dual Delegate Interface. When used in permanent installations, the unit is easily mounted to a tabletop or wall using the two screws.

## Functions

### Interconnections

- Six-pole RJ45 socket

## Certifications and Approvals

Region	Certification
Europe	CE



## Flush Mounted Units

The broad range of DCN Next Generation flush mounted equipment is used for creating individual system contribution units for custom solutions. Flush mounted equipment is ideal for use in permanent installations where portability is not required. It can be installed into either tabletops or seat arm rests.

All functions and facilities of tabletop contribution units are also available in flush mounted versions. As an example, a delegate unit can be created by combining a DCN-DDI Dual Delegate Interface. The main components in custom flush mounted solutions with a combination of the following elements are:

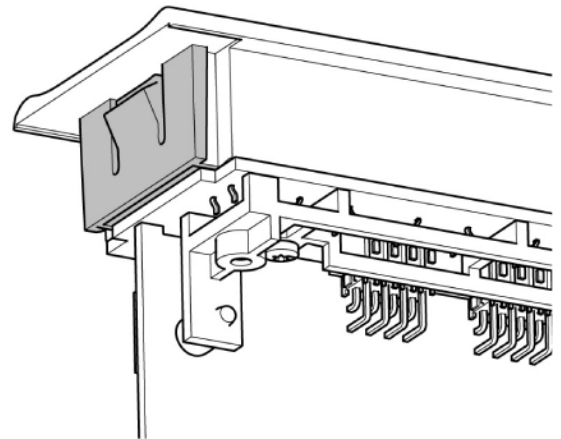
- DCN-DDI Dual Delegate Interface
- LBB 3555/00 Intercom Handset
- DCN-FHH Hand-Held Microphone
- DCN-FHH-C Hand-Held Microphone with coiled cable
- DCN-FMIC Microphone Connection Panel
- DCN-FMICB Microphone Control Panel
- DCN-MICS Pluggable Microphone Short Stem
- DCN-MICL Pluggable Microphone Long Stem
- DCN-FPRIOB Priority Panel
- DCN-FLSP Loudspeaker Panel
- DCN-FV Voting Panel
- DCN-FVCRD Voting + Card Panel
- DCN-FVU Voting Unit\*
- DCN-FVU-CN Voting Unit Chinese\*
- DCN-FCS Channel Selector unit for 32 channels
- DCN-FEC set of 50 end caps
- DCN-FCOUP Set of 50 couplings
- DCN-FPT Flush Positioning Tool
- DCN-TTH set of 10 Table Top Housing

\* The voting units are not connected to the DCN-DDI but directly to the DCN network.

All flush mounted units measure 40 x 100 mm (1.62 x 39.37 in), except the DCN-FMIC Microphone Control Panel, DCN-FMICB, Microphone Control Panel, DCN-FPRIOB Priority Panel, which are 40 x 50 mm (1.57 x 2.36 in).

### Mounting

The units can be mounted in wood or metal. When mounting into a metal surface, the click-to-fit mechanism available on all flush-mounting units is used to secure the units into cut-outs on tabletops or the arm rests of seats.



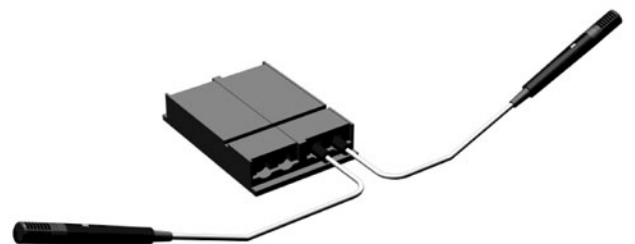
*Click-to-fit mechanism*

When mounting into a wooden surface the units are secured by using DCN-FCOUP Couplings. First the Couplings have to be placed into surface, then the units are clicked into the Couplings. To place the DCN-FCOUP Couplings at the correct position, the DCN-FPT Flush Positioning Tool can be used.

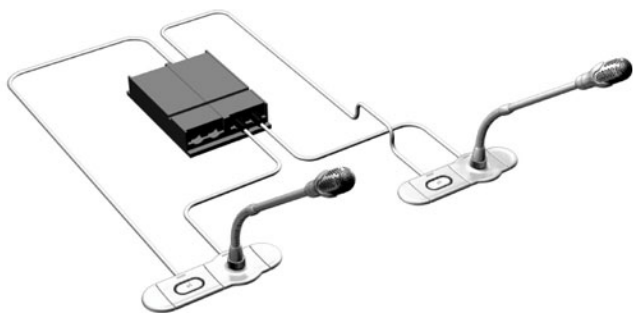


*How to use the flush position tool*

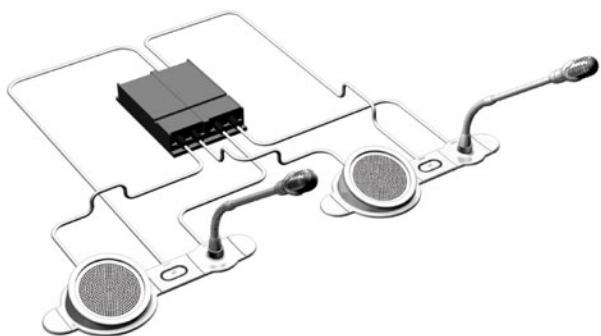
In the examples below, several flush mount configurations are shown. They range from a basic solution with only a hand microphone to a complete solution for chairman with voting and intercom.



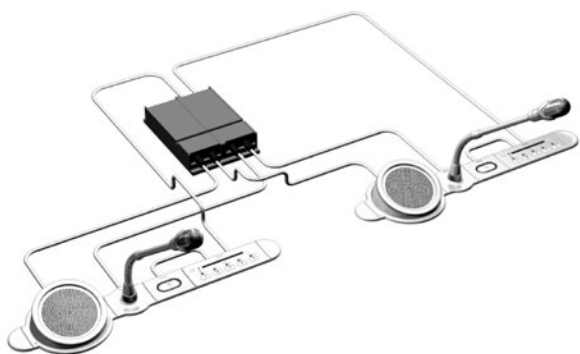
*Configuration with basic microphone functionality*



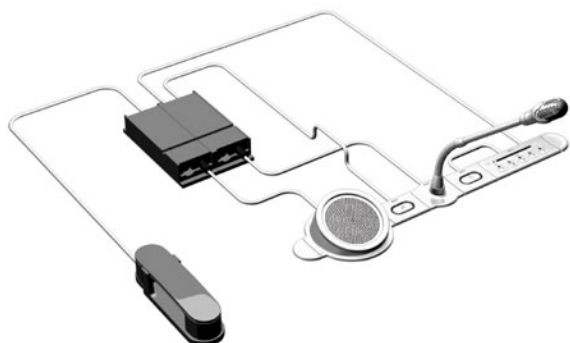
*Flush mount configuration with dual microphones*



*Flush mount configuration with dual microphones and loudspeakers*



*Flush mount configuration with dual microphones, loudspeakers, voting and ID-card readers*



*Flush mount configuration with chairman priority control, microphones, loudspeaker, voting, ID-card reader and Intercom*



# DCN-FMIC Flush Microphone Connection Panel



## Features

- ▶ **Stylish and modern design (IF award)**
- ▶ **Channel selector output level control**

The Microphone Connection Panel connects the pluggable microphone DCN-MICS and DCN-MICL to one of the audio inputs to the Dual Delegate Interface (DCN-DDI).

The Microphone Connection Panel also has an output which controls the output level of the channel selector. This means that when the microphone is active, the output level of the channel selector is reduced to prevent acoustic feedback.

## Functions

### Interconnections

- 2 m (78.7 in) cable terminated with eight-pole 262° DIN-type plug
- Connector to control output level reduction of the channel selector (AMP173977-2 socket)

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Mechanical

Mounting	Click-to-fit in a metal panel with a thickness of 2 mm, or in combination with DCN-FCOUP couplings and DCN-FEC end caps in any surrounding
Dimensions (H x W x D)	40 x 50 x 50 mm (1.57 x 1.97 x 1.97 in)
Weight	10 g (0.02 lb)
Color	
DCN-FMIC	Silver (RAL 9022)
DCN-FMIC-D	Dark (graphite gray)

## Ordering Information

<b>DCN-FMIC Flush Microphone Connection Panel</b>	<b>DCN-FMIC</b>
flush mounted, silver, microphone to be ordered separately	
<b>Accessories</b>	
<b>DCN-MICS Pluggable Short Microphone</b>	<b>DCN-MICS</b>
length 310 mm (12.2 inch), silver	
<b>DCN-MICL Pluggable Long Microphone</b>	<b>DCN-MICL</b>
length 480 mm (18.9 inch), silver	

# DCN-FMICB Flush Microphone Control Panel



## Technical Specifications

### Mechanical

Mounting	Click-to-fit in a metal panel with a thickness of 2 mm, or in combination with DCN-FCOUP couplings and DCN-FEC end caps in any surrounding
Dimensions (H x W x D)	40 x 50 x 50 mm (1.57 x 1.97 x 1.97 in)
Weight	200 g (0.44 lb)
Color	
DCN-FMICB	Silver (RAL 9022)
DCN-FMICB-D	Dark (graphite gray)

## Ordering Information

### DCN-FMICB Flush Microphone Control Panel

flush mounted, silver

### DCN-FMICB

## Features

- ▶ **Stylish and modern design (IF award)**
- ▶ **Microphone on/off button**
- ▶ **Colored status indicator ring**

The Microphone Control Panel is connected to the Dual Delegate Interface (DCN-DDI) via one of the RJ11 control inputs.

## Functions

### Controls and Indicators

- One microphone control button
- Three-color illuminated ring around the microphone button which can show the following states:
  - Red - microphone is active
  - Flashing red\* - last minute of speech time is active
  - Green - the delegate is listed in the request list
  - Flashing green - the delegate is the first in the request list and the next one to get the floor
  - Yellow\* - the delegate is part of the Notebook and can control its microphone without interaction of the operator

\* Only available with PC Control Software.

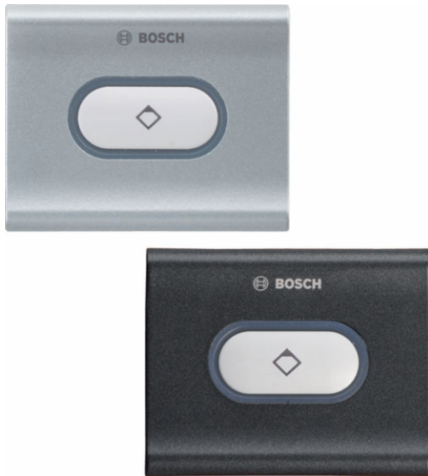
### Interconnections

- 2 RJ11 connectors: one for connection to Dual Delegate Interface (DCN-DDI), and one for loop through

## Certifications and Approvals

Region	Certification
Europe	CE

# DCN-FPRIOB Flush Priority Panel



## Technical Specifications

### Mechanical

Mounting	Click-to-fit in a metal panel with a thickness of 2 mm, or in combination with DCN-FCOUP couplings and DCN-FEC end caps in any surrounding
Dimensions (H x W x D)	40 x 50 x 50 mm (1.57 x 1.97 x 1.97 in)
Weight	200 g (0.44 lb)
Color	
DCN-FPRIOB	Silver (RAL 9022)
DCN-FPRIOB-D	Dark (graphite gray)

## Ordering Information

**DCN-FPRIOB Flush Priority Panel**  
flush mounted, silver

**DCN-FPRIOB**

## Features

- ▶ **Stylish and modern design (IF award)**
- ▶ **Priority on/off button**
- ▶ **Red microphone on indicator**

The Priority Panel is connected to the Dual Delegate Interface (DCN-DDI) to one of the RJ11 control inputs.

## Functions

### Controls and Indicators

- One microphone control button
- Red illuminated ring around the microphone button to indicate that priority is active

### Interconnections

- 2 RJ11 connectors one for connection to DCN-DDI Dual Delegate Interface and one for loop through

## Certifications and Approvals

Region	Certification
Europe	CE

# DCN-FLSP Flush Loudspeaker Panel



## Features

- ▶ Stylish and modern design (IF award)
- ▶ Angled for better intelligibility

This loudspeaker panel is intended for use in combination with the Dual Delegate Interface (DCN-DDI). It consists of a loudspeaker behind a round grille.

## Functions

### Interconnections

- 2 m (78.7 in) cable terminated with a 3.5 mm (0.14 in) stereo jack

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Mechanical

Mounting	Click-to-fit in a metal panel with a thickness of 2 mm, or in combination with DCN-FCOUP couplings and DCN-FEC end caps in any surrounding
Dimensions (H x W x D)	40 x 100 x 100 mm (1.57 x 3.94 x 3.94 in)
Weight	203 g (0.45 lb)
Color	
DCN-FLSP	Silver (RAL 9022)
DCN-FLSP-D	Dark (graphite gray)

## Ordering Information

**DCN-FLSP Flush Loudspeaker Panel**  
flush mounted, silver

**DCN-FLSP**

# DCN-FV Flush Voting Panel



## Features

- ▶ **Stylish and modern design (IF award)**
- ▶ **External 'Present' contact**
- ▶ **LED vote confirmation indicators**
- ▶ **LED unit active indicator**

The Flush Voting Panel allows attendance registration and six types of voting: parliamentary, audience response, multiple choice, opinion poll, rating and for/against.

The Flush Voting Panel has an external present contact, which can be used for an external present or fraud switch. Fingerprint readers are typical for the external present contact use.

The Flush Voting Panel can be click-to-fit mounted in a metal panel with a thickness of 2 mm, or can be mounted in combination with DCN-FCOUP coupling pieces and DCN-FEC end caps in any surface. The Flush Voting Panel is connected to the Dual Delegate Interface (DCN-DDI).

## Functions

### Controls and Indicators

Front

- Five voting buttons with yellow confirmation indicators to prompt the user to indicate presence, to vote and to confirm registration of what is voted. The buttons and indicators work as follows:
  - Yes (+), no (-) and abstain (x) (used for attendance registration, parliamentary voting and for/against)
  - Numerals 1 to 5 (used for multiple choice, opinion polls and rating)

- Rating scale: --, -, 0, +, ++ (used for audience response)
- One blue LED unit active indicator to show that the system is in normal operation

### Interconnections

- Two RJ11 connectors: one for connection to DCN-DDI Dual Delegate Interface, and one for loop through
- Connector for an external present contact (AMP173977-3 socket)

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Mechanical

Mounting	Click-to-fit in a metal panel with a thickness of 2 mm, or in combination with DCN-FCOUP couplings and DCN-FEC end caps in any surrounding
Dimensions (H x W x D)	40 x 100 x 82 mm (1.57 x 3.94 x 3.23 in)
Weight	81 g (0.18 lb)
Color	
DCN-FV	Silver (RAL 9022)
DCN-FV-D	Dark (graphite gray)

## Ordering Information

**DCN-FV Flush Voting Panel**  
flush mounted, silver

**DCN-FV**

# DCN-FVCRD Flush Voting ID Card Panel



## Features

- ▶ **Stylish and modern design (IF award)**
- ▶ **Identification with ID card**
- ▶ **External Present contact**
- ▶ **LED vote confirmation indicators**
- ▶ **LED unit active indicator**

The Flush Voting ID Card Panel has the same functionality as the Flush Voting Panel (DCN-FV) with the addition of an ID card reader.

The ID card reader enables identification of delegates to the DCN Next Generation system, as well as providing a convenient facility that ensures only authorized delegates can participate in voting sessions or general conference proceedings such as microphone use. The unit is connected to the Dual Delegate Interface DCN-DDI.

## Functions

### Controls and Indicators

#### Front

- Five voting buttons with yellow confirmation indicators to prompt the user to indicate presence, to vote and to confirm registration of what is voted. The buttons and indicators work as follows:
  - Yes (+), no (-) and abstain (x) (used for attendance registration, parliamentary voting and for/against)
  - Numerals 1 to 5 (used for multiple choice, opinion polls and rating)
  - Rating scale: - -, -, 0, +, ++ (used for audience response)

- One blue LED unit active indicator to show that the system is in normal operation. The yellow LED indicates the validity of the ID card

### Interconnections

- 2 RJ11 connectors, one for connection to DCN-DDI Dual Delegate Interface and one for loop through
- Connector for an external present contact (AMP173977-3 socket)

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Mechanical

Mounting	Click-to-fit in a metal panel with a thickness of 2 mm, or in combination with DCN-FCOUP couplings and DCN-FEC end caps in any surrounding
Dimensions (H x W x D)	40 x 100 x 82 mm (1.57 x 3.94 x 3.23 in)
Weight	104 g (0.23 lb)
Color	
DCN-FVCRD	Silver (RAL 9022)
DCN-FVCRD-D	Dark (graphite gray)

## Ordering Information

<b>DCN-FVCRD Flush Voting ID Card Panel</b> flush mounted, silver	<b>DCN-FVCRD</b>
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### Accessories

<b>DCN-IDCRD ID Card (100 pcs)</b> standard credit-card format, set of 100	<b>DCN-IDCRD</b>
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# DCN-DDI Dual Delegate Interface



## Features

- ▶ **Dual Delegate mode for two microphones and two voting and card panels**
- ▶ **Two microphone/line inputs**
- ▶ **Outputs to headphones or loudspeakers**
- ▶ **Range of mounting options**
- ▶ **Use for entrance/exit registration**
- ▶ **Shared microphone with dual microphone control**

The Dual Delegate Interface is intended for use in flush mounted custom solutions. It enables a number of functions to be added, making it suitable for chairmen and delegates. Such functions include facilities for connecting a Voting Panel, with or without a Card reader (DCN-FVCRD and DCN-FV). In addition, two separate audio inputs are provided that can also be used as line inputs. Each input can be assigned its own seat number, allowing the DCN-DDI to serve two delegate positions.

Settings are available to assign the Dual Delegate Interface for use as a delegate unit, a dual delegate, chairman unit, entrance/exit unit or ambient microphone. The ambient microphone is located in the conference venue, and automatically switched on when no other delegate unit or chairman unit microphones are active. In this way, interpreters always have audio contact with conference venue.

## Functions

- The loudspeaker output is switched off when the corresponding input is switched on
- The unit can be mounted free-standing on a tabletop, mounted on a wall, or discreetly mounted into tabletops or into the arm rests of chairs, etc.

- The unit is suitable for Hand-Held Microphones (DCN-FHH) or Pluggable Microphones (DCN-MICS, DCN-MICL) with Microphone Connection Panel (DCN-FMIC) and Microphone Control Panel (DCN-FMICB)
- The unit provides a single connection for an Intercom Handset (LBB 3555/00).

## Controls and Indicators

- Three Switches per input with the following possibilities:
  - Microphone or line selection
  - Asymmetrical microphone input, symmetrical microphone/ line input, or symmetrical microphone input with phantom power selection
  - Input attenuation selection of 0, 6, 12 or 18 dB +/- 3 dB input level fine adjustment potentiometer per input Interconnection
- Remote control inputs (switches) and outputs (LEDs) matching the DCN microphones and control panels
- Switch to select the different modes of the DCN-DDI:
  - Dual delegate
  - Chairman
  - Dual delegate, one microphone
  - Dual delegate, muted loudspeakers
  - Single delegate
  - Entrance/Exit
  - Ambient microphone

**Note** To use the entrance/exit mode, PC control software is also required.

## Interconnections

- Two RJ11 connectors for Microphone Control Panel DCN-FMIC, Priority Panel DCN-FPRIOB, Voting Panel DCN-FV, Voting and Card Panel DCN-FVCRD
- RJ11 connector for Intercom Handset LBB 3555/00
- Two balanced audio inputs for line (0 dB), or microphone (-60 dB) sources, with or without a phantom power supply (2 x eight-pole 262° DIN-type socket)
- Six-pole circular connector for loop-through system cabling
- 2 m (78.7 in) cable terminated with a molded six-pole circular connector
- Two 3.5 mm (0.14 in) stereo jack sockets for connection to headphones or to loudspeaker panel (DCN-FLSP).

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Mechanical

Mounting	On wall, under tabletop or seat, in arm rest or in cable duct
Dimensions (H x W x D) (excl. cables)	35 x 100 x 170 mm (1.4 x 3.9 x 6.7 in)
Weight	500 g (1.10 lb)
Color	Charcoal (PH 10736)

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**Ordering Information**

**DCN-DDI Dual Delegate Interface**  
for flush mounted custom solutions

**DCN-DDI**



# DCN-MICS/L Pluggable Microphone Short/Long Stem



## Features

- ▶ **Uni-directional microphone on adjustable stem**
- ▶ **Built-in pop and windshield**

The innovative, stylish and ergonomically designed microphone with an adjustable stem simply plugs directly into a Discussion unit, Concentus, flush-mounted Microphone Connection panels or Interpreter desk. It has a uni-directional response for optimum performance even in noisy conditions, and has low susceptibility to interference from mobile phones.

## Functions

### Controls and Indicators

- Red or green illuminator. Red indicates microphone is active, green indicates request-to-speak accepted

### Interconnections

- Connector to plug and fasten the microphone

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Mechanical

Mounting Plug and fasten into Discussion units, Concentus, flush mounted Microphone connection panels and Interpreter desks

Length	
DCN-MICS / DCN-MICS-D	310 mm (12.2 in)
DCN-MICL / DCN-MICL-D	480 mm (18.9 in)

Weight	
DCN-MICS / DCN-MICS-D	100 g (0.22 lb)
DCN-MICL / DCN-MICL-D	115 g (0.25 lb)

Color top	
DCN-MICS / DCN-MICL	Silver (RAL 9022)
DCN-MICS-D / DCN-MICL-D	Dark (graphite gray)

## Ordering Information

<b>DCN-MICS Pluggable Short Microphone</b> length 310 mm (12.2 inch), silver	<b>DCN-MICS</b>
<b>DCN-MICL Pluggable Long Microphone</b> length 480 mm (18.9 inch), silver	<b>DCN-MICL</b>

# DCN-FVU Flush Voting Unit



## Features

- ▶ **Stylish and modern design (IF award)**
- ▶ **Allows parliamentary voting, numerals and rating scale**
- ▶ **Easily mountable**
- ▶ **Direct loop through connection to the DCN network**
- ▶ **Economic solution for positions which only require voting facilities**

The Flush Voting Unit allows attendance registration and six types of voting: parliamentary, audience response, multiple choice, opinion poll, rating and for/against.

The yellow LED confirmation indicators prompt the user to indicate presence and to vote and to confirm registration of what is voted.

The blue LED unit active indicator shows that the system is in normal operation. The blue LED flashes when the unit detects a communication fault.

The combination of the voting unit with the end caps forms a very stylish design, which fits in both modern and traditional meeting rooms.

The direct connection to the DCN network cable results into an economic solution for positions which only require voting facilities

## Functions

### Controls and Indicators

Front

- Five voting buttons with yellow confirmation indicators to prompt the user to indicate presence, to vote and to confirm registration of what is voted. The buttons and indicators work as follows:
  - Yes (+), no (-) and abstain (x) (used for attendance registration, parliamentary voting and for/against)
  - Numerals 1 to 5 (used for multiple choice, opinion polls and rating)
  - Rating scale: - -, -, 0, +, ++ (used for audience response)
- One unit active indicator. A constant lit blue LED indicates that the system is in normal operation. The blue LED flashes when the unit detects a communication fault

Back

- One de-init/init button

### Interconnections

- 1 m (39.4 in) DCN cable terminated with a molded six-pole male circular connector
- 1 m (39.4 in) DCN cable terminated with a molded six-pole female circular connector for loop-through connection to the DCN network

**Note** An unused output cable must be terminated with an LBB 4118/00 Termination Plug.

## Technical Specifications

### Mechanical

Mounting	Click-to-fit in a metal panel with a thickness of 2 mm, or in combination with DCN-FCOUP couplings and DCN-FEC end caps in any surrounding
Dimensions (H x W x D)	40 x 100 x 82 mm (1.57 x 3.94 x 3.23 in)
Weight	250 g (0.55 lb)
Color	
DCN-FVU	Silver (RAL 9022)
DCN-FVU-D	Dark (graphite gray)

### Ordering Information

DCN-FVU Flush Voting Unit	DCN-FVU
direct loop-through connection to DCN network, flush mounted, silver	

### Accessories

<b>LBB 4118/00 DCN Termination Plug</b> use with opened-ended DCN cabling	<b>LBB4118/00</b>
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# DCN-FVU-CN Flush Voting Unit Chinese



## Features

- ▶ **Stylish and modern design (IF award)**
- ▶ **Colored voting buttons**
- ▶ **Chinese text**
- ▶ **Direct loop through connection to the DCN network**
- ▶ **Allows parliamentary voting**
- ▶ **Economic solution for positions that only require voting facilities**

The unit is used for attendance registration, parliamentary voting and for/against voting. It is provided with colored voting buttons and Chinese text. The texts are: present, yes, no and abstain and the colors are respectively: white, green, red and yellow. The yellow LED confirmation indicators are used to prompt the user to indicate presence and to vote and to confirm registration of what is voted. The blue LED unit active indicator shows that the system is in normal operation. The blue LED flashes when the unit detects a communication fault.

The combination of the voting unit with the end caps forms a very stylish design, which fits in both modern and traditional meeting rooms. The direct connection to the DCN network cable is an economic solution for positions that only require voting facilities.

## Functions

### Controls and Indicators

#### Front

- Four voting buttons with yellow confirmation indicators to register: present, yes, no and abstain

- One unit active indicator. A constantly lit blue LED indicates that the system is in normal operation. The blue LED flashes when the unit detects a communication fault

#### Back

- One de-init/init button

### Interconnections

- 1 m (39.4 in) DCN cable terminated with a molded six-pole male circular connector
- 1 m (39.4 in) DCN cable terminated with a molded six-pole female circular connector for loop-through connection to the DCN network

**Note** An unused output cable must be terminated by an LBB 4118/00 Termination Plug.

## Technical Specifications

### Mechanical

Mounting	Click-to-fit in a metal panel with a thickness of 2 mm, or in combination with DCN-FCOUP couplings and DCN-FEC end caps in any surrounding
Dimensions (H x W x D)	40 x 100 x 82 mm (1.57 x 3.94 x 3.23 in)
Weight	250 g (0.55 lb)
Color	
DCN-FVU-CN	Silver (RAL 9022)
DCN-FVU-CN-D	Dark (graphite gray)

### Ordering Information

<b>DCN-FVU-CN Flush Voting Unit Chinese</b> direct loop-through connection to DCN network, flush mounted, silver	<b>DCN-FVU-CN</b>
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### Accessories

<b>LBB 4118/00 DCN Termination Plug</b> use with opened-ended DCN cabling	<b>LBB4118/00</b>
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# DCN-FCS Flush Channel Selector



## Features

- ▶ **Stylish and modern design (IF award)**
- ▶ **Automatically adapts to available channels**
- ▶ **Built-in “Silent” function**
- ▶ **No audio output until the headphone is connected**
- ▶ **Flush mountable in tabletops, on top or at the front, or in arm rests of seats**

The Flush Channel Selector is a compact and stylish single-user audio channel selector for listening by headphone. It provides a choice of up to 32 high-quality audio channels used for distribution of interpretation and floor channels.

## Functions

- Built-in “Silent” function; no audio output until one of the keys has been pressed to eliminate audible noise from the headphones when not in use
- Upon insertion of a headphone the default “floor” channel (channel 0) is selected with a comfortable headphone volume and the dimmed backlighting is activated

## Controls and Indicators

- Two push-buttons (up/down) for channel selection
  - Two push-buttons (up/down) for headphone volume control
  - Backlit 2-digit LCD for channel number indication
- Interconnection

## Interconnections

- 3.5 mm (0.14 in) stereo jack headphone connector
- Connector for external headphone
- 2 m (78.7 in) cable with a molded six-pole circular connector

Six-pole circular connector for loop-through interconnection

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Frequency response	30 Hz - 20 kHz
Headphone Load impedance	> 32 ohm < 1 k ohm
Output power	2 x 15 mW/32 ohm

### Mechanical

Mounting	Flush mounted
Dimensions (H x W x D)	40 x 100 x 100 mm (1.6 x 3.9 x 3.9 in)
Weight	0.3 kg (0.66 lb)
Color	
DCN-FCS	Silver (RAL 9022)
DCN-FCS-D	Dark (graphite gray)

## Ordering Information

<b>DCN-FCS Flush Channel Selector</b> flush mounted, silver	<b>DCN-FCS</b>
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## Accessories

<b>LBB 3443/00 Lightweight Headphones</b> high quality sound reproduction, lightweight, replaceable ear pads and normal cable	<b>LBB3443/00</b>
<b>LBB 3443/10 Lightweight Headphones Durable Cable</b> high quality sound reproduction, lightweight, replaceable ear pads and durable cable	<b>LBB3443/10</b>
<b>LBB 3441/10 Under the Chin Headphones</b> with 1.2 m (4 ft) cable terminated with 3.5 mm (0.14 in) right-angled stereo jack plug	<b>LBB3441/10</b>
<b>LBB 3442/00 Single Earphone</b> Lightweight single earphone, 1.2 m (3.94 ft) cable terminated with 3.5 mm (0.14 in) jack plug	<b>LBB3442/00</b>
<b>LBB 3015/04 High Quality Dynamic Headphones</b> Durable, dynamic headphones.	<b>LBB3015/04</b>
<b>DCN-TTH Table Top Housing (10 pcs)</b> to hold flush mount units, charcoal, set of 10	<b>DCN-TTH</b>

# DCN-FBP and DCN-FBPS Blank Panel



## Features

- ▶ **Stylish and modern design (IF award)**
- ▶ **50 mm or 100 mm wide**

The blank panel neatly closes off a slot in a flush mounted unit that is not in use. The panel can be removed if a future expansion requires the available slot. Two different panel widths are available: 100 mm (DCN-FBP) and 50 mm (DCN-FBPS).

## Technical Specifications

### Mechanical

Mounting	Click-to-fit in a metal panel with a thickness of 2 mm, or in combination with DCN-FCOUP couplings, DCN-FEC end caps, in any surrounding
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### Dimensions (H x W)

DCN-FBP(-D)	40 x 100 mm (1.57 x 3.94 in)
DCN-FBPS(-D)	40 x 50 mm (1.57 x 1.97 in)

### Weight

DCN-FBP(-D)	17 g (0.04 lb)
DCN-FBPS(-D)	9 g (0.02 lb)

### Color

DCN-FBP, DCN-FBPS	Silver (RAL 9022)
DCN-FBP-D DCN-FBPS-D	Dark (graphite gray)

## Ordering Information

<b>DCN-FBP Flush Blank Panel Long (10 pcs)</b> 100 mm wide, flush mounted, silver, set of 10	<b>DCN-FBP</b>
<b>DCN-FBPS Flush Blank Panel Short (10 pcs)</b> 50 mm wide, flush mounted, silver, set of 10	<b>DCN-FBPS</b>

## DCN-FEC Flush End Cap (50 pcs)



### Features

- Stylish and modern design (IF award)

Matching end caps give a finishing touch to the flush mounted devices. Two end caps are needed per flush mount position.

### Technical Specifications

#### Mechanical

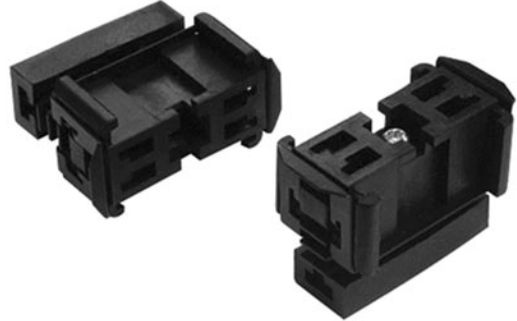
Mounting	Click-to-fit in DCN-FCOUP couplings
Dimensions (H x W)	40 x 20 mm (1.57 x 0.79 in)
Weight	2 g (0.004 lb)
Color	
DCN-FEC	Silver (RAL 9022)
DCN-FEC-D	Dark (graphite gray)

### Ordering Information

**DCN-FEC Flush End Cap (50 pcs)**  
flush mounted, silver, set of 50 pcs

**DCN-FEC**

## DCN-FCOUP Flush Coupling (50 pcs)



The couplings are used to connect flush mount panels and end caps.

### Technical Specifications

#### Mechanical

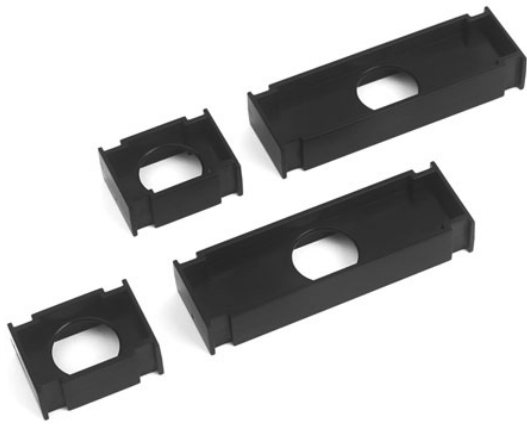
Mounting	Screw in to cutout in tabletop
Weight	12 g (0.027 lb)
Color	Black

### Ordering Information

**DCN-FCOUP Flush Coupling (50 pcs)**  
for flush mounted units, set of 50

**DCN-FCOUP**

## DCN-FPT Flush Positioning Tools (2 sets)



This tool enables the flush mount elements to be easily positioned.

### Technical Specifications

#### Mechanical

Weight	31 g (0.068 lb)
Color	Charcoal (PH 10736)

### Ordering Information

<b>DCN-FPT Flush Positioning Tools (2 sets)</b> for flush mount couplings	<b>DCN-FPT</b>
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## DCN-TTH Table Top Housing (10 pcs)



This housing enables the flush mounted panels to be used in tabletop applications. The panel simply clicks into place in the housing. It is used with the DCN-FVU voting unit, but it can also be used for other flush mounted units such as the DCN-FCS Channel selector for 32 channels.

For permanent applications, the housing can be fixed to the tabletop.

### Technical Specifications

#### Mechanical

Mounting	Free-standing or fixed to the tabletop
Dimensions (H x W x D)	80 x 120 x 105 mm (3.15 x 4.72 x 4.13 in)
Weight	243 g (0.54 lb)
Color	Charcoal (PH 10736)

### Ordering Information

<b>DCN-TTH Table Top Housing (10 pcs)</b> to hold flush mount units, charcoal, set of 10	<b>DCN-TTH</b>
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# DCN-FET Flush Extraction Tools



## Features

- ▶ Easy panel extraction without damaging and scratching
- ▶ Panel extraction from top or bottom

DCN-FET flush extraction tools are used to easily extract flush mounted panels.

## Parts Included

Quantity	Components
1	Tool for top extracting 50 or 100 mm (1.97 or 3.94 in) panels
1	Tool for top extracting DCN-MIC panel
1	Tool for top extracting DCN-FLSP panel
1	Set of spare blocks
1	Tool for bottom extracting 50 mm (1.97 in) panels
1	Tool for bottom extracting 100 mm (3.94 in) panels

## Technical Specifications

### Mechanical

Color	Black
Material	ABS/Metal

## Ordering Information

DCN-FET Flush Extraction Tools to extract flush mounted panels	DCN-FET
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# LBB 3555/00 DCN Intercom Handset



## Technical Specifications

### Mechanical

Mounting	Tabletop or wall-mounted using the 2 screw holes on the cradle
Dimensions (H x W)	53 x 210 mm (2.08 x 8.26 in)
Weight	250 g (0.55 lb)
Color	Charcoal (PH 10736)

## Ordering Information

**LBB 3555/00 DCN Intercom Handset** **LBB3555/00**  
with coiled handset cable with 2 m reach, six-pole RJ45 connector

## Features

- ▶ **Ideal for intercom applications**
- ▶ **For use with all Concentus and Dual Delegate Interface**
- ▶ **Can be permanently mounted to wall, chair or tabletop**

Lightweight and compact, this robust and attractively styled handset and cradle enables private 2-way conversation between conference participants. The handset is hard-wired to the cradle by a coiled cable, 0.5 m (19.6 in) long when coiled, and 2 m (78.7 in) uncoiled. The cable is terminated with a six-pole RJ45 connector for connection to Concentus and Dual Delegate Interface. When used in permanent installations, the unit is easily mounted to a tabletop or wall using the two screws.

## Functions

### Interconnections

- Six-pole RJ45 socket

## Certifications and Approvals

Region	Certification
Europe	CE

# DCN-FHH Hand Held Microphone



## Features

- ▶ **Light, portable microphone**
- ▶ **Built-in plop and windshield**
- ▶ **On/off switch and LED status indicators**

The DCN-FHH is a uni-directional, condenser microphone with built-in plop and windshield. It comfortably fits into one hand and is ideal for applications where the speaker is on the move. Two of these microphones can be connected to the Dual Delegate Interface DCN-DDI.

## Functions

### Controls and Indicators

- Condenser microphone with built-in plop and windshield
- Microphone on/off or request-to-speak button
- 'Microphone on' indicator (red LED)
- 'Request-to-speak' confirmation indicator (green LED)

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Mechanical

Mounting	Using clamp LBC 1215/01 the microphone may be mounted on a stand, wall or on a chair
Dimensions (H x W)	215 x 30 mm (8.5 x 1.2 in)
Cable length	
DCN-FHH	5 m (16.4 ft)
DCN-FHH-C	Coiled 0.4 m (1.3 ft), un-coiled 1.4 m (4.6 ft)
Weight	350 g (0.77 lb)
Color	Charcoal (PH 10736)

## Ordering Information

<b>DCN-FHH Hand Held Microphone</b> cable length 5 m (16.4 ft)	<b>DCN-FHH</b>
<b>DCN-FHHC Hand Held Microphone</b> with coiled cable, length un-coiled 1.4 m (4.6 ft)	<b>DCN-FHHC</b>

## Interpretation and Language Distribution

Bosch simultaneous interpretation and language distribution equipment satisfies the demands of today's multilingual conferences, from informal bilingual group discussions up to full-scale international congresses where many simultaneous interpretations are required. The modular design of the interpretation and distribution products means a made-to-measure interpretation system can be constructed using a combination of system elements. Expanding or reducing the system for other conferences is quickly and easily achieved.

The product range covers virtually all interpretation requirements. The interpreter desks accommodates up to 31 different languages, and can be used stand-alone or as part of an integrated, operator-controlled system. When used stand-alone, the built-in microprocessor allocates language channels, channel routing and interlocks. In operator-controlled systems, the desk is used in combination with dedicated Simultaneous Interpretation software (LBB 4172) to form an integrated interpretation network. The Simultaneous Interpretation module facilitates presetting and monitoring interpretation status in such a system. It can accommodate direct and relay interpretations, and has facilities for the creation of 31 interpreter booths, each with up to six interpreters. Delegate contribution units and channel selection units are available with facilities to select the required interpretation.



*Interpretation and Language Distribution*

Both wired and wireless language distribution is possible in DCN systems. Wired language distribution involves using the DCN system cabling to distribute interpretations to conference participants. The interpretation(s) can be listened to via headphones connected to a channel selector unit, or via a contribution unit with a built-in channel selector. Rapid channel selection is accomplished using up and down select keys. Channel selection is automatically limited to the number of language channels available. Up to 31 interpretations plus the floor language can be accessed.



*Integrus system for wireless language distribution*

An infrared wireless system is also available for conference venues. It offers excellent sound quality as well as freedom of movement for conference participants. Up to 32 channels can be distributed, and high security is ensured as infrared cannot pass through walls. The number of delegates able to receive signals from the infrared system is theoretically unlimited. For further information on Bosch infrared language distribution equipment, please refer to Integrus Databrochure.

# DCN-IDESK Interpreter Desk



## Features

- ▶ **Low susceptibility to mobile phone interference**
- ▶ **Ergonomic design with features for visually impaired**
- ▶ **Up to 31 interpretation channels and the original floor language with an audio bandwidth of 20 kHz**
- ▶ **A graphic LCD with backlighting for bright information display in dark conditions**
- ▶ **5 pre-select keys for relay languages with activation indication at the display**
- ▶ **Compliant to ISO 2603**

The DCN-IDESK is a single-user interpreter desk with a stylish and modern design. It fully conforms to internationally agreed standards. Clear positioning per functional area of the desk controls allows intuitive operation without mistakes.

A socket is provided to connect the pluggable microphones (DCN-MICS and DCN-MICL, to be ordered separately).

## Functions

- A maximum of six desks can be installed per booth
- Tabletop and flush mountable
- Pluggable microphone (DCN-MICS)
- Ergonomic design

## Controls and Indicators

- A and B output channel with status and selection indication at the display
- All channels have channel number, language names and quality level indicated at the display
- Features for visually impaired such as a small bump on the middle button, and beeps to indicate microphone on/off and double relay selected
- Built-in loudspeaker with language channel selector
- Speech timer to indicate elapsed time of interpretation
- Speak slowly facility to alert the current speaker to slow down
- Help request to an operator or usher

- Booth telephone and intercom indicator
- Automatic headset selection when headset connected
- Easy programming via menus on the display after entering the programming mode
- Microphone key with surrounding red “on-air” indicator and green for “booth not in use”
- Mute key
- Help key
- Slow (speak slowly) key
- Operator and chairman intercom call keys
- Message key with yellow LED indicator
- Telephone and Intercom call yellow LED indicators
- A and B channel engaged yellow LED indicators
- Rotary step control for channel settings (and other functions).  
Pressing this button sets the selection to the first available channel
- LCD with backlighting showing selected and activated output channel with channel numbers and abbreviated language names
- Loudspeaker rotary volume control
- Headphone rotary volume control
- Headphone rotary bass and treble tone controls
- Beep on/off key
- Five Relay language pre-select keys
- Floor/auto-relay key with green LED indicators
- Rotary step control (same as for speaking section) to select the relay languages for the relay pre-select keys and the loudspeaker channel. Pressing this button sets the selection to the first available channel
- LCD with backlighting, showing selected relay language with channel numbers, abbreviated names and quality indicators. Also the selected loudspeaker channel with abbreviated name is shown

## Interconnections

- Socket for pluggable microphone
- Headphone or headset connector (five-pole 180° Din type socket wired according to IEC 574-3)
- 6.3 mm (0.25 in) and 3.5 mm (0.14 in) stereo jack headphone connectors
- 2 m (78.7 in) DCN cable with molded six-pole circular connector
- Six-pole circular socket for loop-through connection to the DCN network
- Eight-pole modular jack connector for connection to booth telephone, intercom and booth on-air sign

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Headphone connection

Frequency response	30 Hz - 20 kHz
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Load impedance	> 32 ohm
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Output power	2 x 30 mW/32 ohm
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Headset connection

Frequency response	30 Hz - 20 kHz
Load impedance	> 32 ohm
Output power	60 mW/32 ohm
Nominal microphone input level	7 mVrms
Overload microphone input level	> 124 mVrms

#### Mechanical

Mounting	Free-standing or mounted on a table
Dimensions (H x W x D) (with microphone)	82 x 330 x 170 mm (3.2 x 13 x 6.7 in)
Slope	25 degrees
Weight	1.3 kg (2.87 lb)
Color top	Silver (RAL 9022)
Color base	
DCN-IDESEK-L	Light grey (RAL 000 7500)
DCN-IDESEK-D	Charcoal (PH 10736)

#### Ordering Information

<b>DCN-IDESEK-L Interpreter Desk Light</b> with light base, microphone to be ordered separately	<b>DCN-IDESEK-L</b>
<b>DCN-MICS Pluggable Short Microphone</b> length 310 mm (12.2 inch), silver	<b>DCN-MICS</b>
<b>DCN-MICL Pluggable Long Microphone</b> length 480 mm (18.9 inch), silver	<b>DCN-MICL</b>
<b>DCN-IDESEK-D Interpreter Desk Dark</b> with dark base, microphone to be ordered separately	<b>DCN-IDESEK-D</b>
<b>DCN-MICS Pluggable Short Microphone</b> length 310 mm (12.2 inch), silver	<b>DCN-MICS</b>
<b>DCN-MICL Pluggable Long Microphone</b> length 480 mm (18.9 inch), silver	<b>DCN-MICL</b>

# DCN-MICS/L Pluggable Microphone Short/Long Stem



## Features

- ▶ **Uni-directional microphone on adjustable stem**
- ▶ **Built-in pop and windshield**

The innovative, stylish and ergonomically designed microphone with an adjustable stem simply plugs directly into a Discussion unit, Concentus, flush-mounted Microphone Connection panels or Interpreter desk. It has a uni-directional response for optimum performance even in noisy conditions, and has low susceptibility to interference from mobile phones.

## Functions

### Controls and Indicators

- Red or green illuminator. Red indicates microphone is active, green indicates request-to-speak accepted

### Interconnections

- Connector to plug and fasten the microphone

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Mechanical

Mounting	Plug and fasten into Discussion units, Concentus, flush mounted Microphone connection panels and Interpreter desks
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Length	
DCN-MICS / DCN-MICS-D	310 mm (12.2 in)
DCN-MICL / DCN-MICL-D	480 mm (18.9 in)

Weight	
DCN-MICS / DCN-MICS-D	100 g (0.22 lb)
DCN-MICL / DCN-MICL-D	115 g (0.25 lb)

Color top	
DCN-MICS / DCN-MICL	Silver (RAL 9022)
DCN-MICS-D / DCN-MICL-D	Dark (graphite gray)

## Ordering Information

<b>DCN-MICS Pluggable Short Microphone</b> length 310 mm (12.2 inch), silver	<b>DCN-MICS</b>
<b>DCN-MICL Pluggable Long Microphone</b> length 480 mm (18.9 inch), silver	<b>DCN-MICL</b>

# DCN-FCIDSK Flight Case for 2 Interpreter Desks




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## Features

- ▶ **Rugged construction with reinforced corners**
- ▶ **Simplifies packing and unpacking**
- ▶ **Easy to carry and store**

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The DCN-FCIDSK Flight Case for the DCN-IDESK Interpreter Desk accommodates 2 desks, 2 DCN-MICS microphones and accessories such as headsets, headphones and tabletop reading-lights.

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## Technical Specifications

### Mechanical

Dimensions (H x W x D)	235 x 530 x 385 mm (9.3 x 20.9 x 15.2 in)
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Weight	6 kg (13 lb)
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Color	Light grey
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## Ordering Information

**DCN-FCIDSK Flight Case for 2 Interpreter Desks**      **DCN-FCIDSK**

can hold 2 interpreter desks with microphones and accessories





# Headphones

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An extensive range of headphones is available for use with conference equipment. The options vary from a single lightweight earphone to high quality headphones with solid ear pads or washable soft ear pads. Additionally, an inductive loop neckband is available for coupling to a hearing aid.

# LBB 3443 Lightweight Headphones



## Features

- ▶ **Lightweight with high quality sound reproduction**
- ▶ **Replaceable ear pads**
- ▶ **Available with normal or durable cable**
- ▶ **Separate available solid washable ear pads**

## Functions

These headphones can be fitted with an optional set of washable ear pads.



*Washable ear pads*

## Interconnections

- 1.3 m (4.25 ft) cable terminated with gold-plated 3.5 mm (0.14 in) angled stereo jack plug

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Impedance	32 ohm per earpiece
Audio frequency response	50 Hz to 20 kHz (-10 dB)
Power handling capacity	50 mW
Sensitivity (1 kHz)	98 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	70 g (0.16 lb)
Finish	Charcoal (PH 10736) with silver

## Ordering Information

<b>LBB 3443/00 Lightweight Headphones</b>	<b>LBB3443/00</b>
high quality sound reproduction, lightweight, replaceable ear pads and normal cable	

<b>LBB 3443/10 Lightweight Headphones</b>	<b>LBB3443/10</b>
<b>Durable Cable</b>	
high quality sound reproduction, lightweight, replaceable ear pads and durable cable	

### Accessories

<b>LBB 3443/50 Foam Ear Pads for LBB 3443 (50 pairs)</b>	<b>LBB3443/50</b>
replacement foam ear pads	

<b>HDP-LWSP Solid Ear Pads for LBB 3443 (50 pairs)</b>	<b>HDP-LWSP</b>
washable replacement ear pads	

# LBB 3441/10 Under the Chin Headphones



## Features

- ▶ Lightweight stereo headphones
- ▶ Ergonomic design for use under the chin
- ▶ Replaceable ear tips
- ▶ Right-angled, gold-plated jack plug

## Functions

### Interconnections

- 1.2 m (4 ft) cable terminated with 3.5 mm (0.14 in) right-angled stereo jack plug

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Impedance	150 ohm per earpiece
Audio frequency response	50 Hz to 5 kHz (-10 dB)
Power handling capacity	60 mW
Sensitivity (1 kHz)	107 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	33 g (0.07 lb)
Color	Black

## Ordering Information

<b>LBB 3441/10 Under the Chin Headphones</b> with 1.2 m (4 ft) cable terminated with 3.5 mm (0.14 in) right-angled stereo jack plug	<b>LBB3441/10</b>
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## Accessories

<b>LBB 3441/50 Ear Tips for LBB 3441</b> <b>(500 pairs)</b> for LBB 3441	<b>LBB3441/50</b>
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## LBB 3442/00 Single Earphone



### Features

- ▶ Lightweight single earphone
- ▶ Left or right ear use

### Functions

#### Interconnections

- 1.2 m (3.94 ft) cable terminated with 3.5 mm (0.14 in) jack plug

### Technical Specifications

#### Electrical

Impedance	32 ohm
Audio frequency response	100 Hz to 5 kHz (-10 dB)
Power handling capacity	5 mW
Sensitivity (1 kHz)	114 dB SPL/earpiece at 1 mW/earpiece

#### Mechanical

Weight	25 g (0.06 lb)
Color	Dark grey

### Ordering Information

#### LBB 3442/00 Single Earphone

Lightweight single earphone, 1.2 m (3.94 ft) cable terminated with 3.5 mm (0.14 in) jack plug

**LBB3442/00**

## HDP-ILN Induction Loop Neckband



### Features

- ▶ Lightweight
- ▶ Used with 'T-coil' hearing aids

### Functions

This induction loop neckband can be used with:

- Integrus receivers
- CCS800 unit
- DCN unit

The neckband magnetically couples the sound signal from the headphone output to a 'T-coil' hearing aid.

#### Interconnections

- 0.9 m (3ft) cable terminated with a 3.5 mm (0.14 in) gold-plated plug

### Technical Specifications

#### Mechanical

Weight	45 g (0.10 lb)
Color	Charcoal with silver

### Ordering Information

#### HDP-ILN Induction Loop Neckband

Lightweight neckband.

**HDP-ILN**

# LBB 3015/04 High Quality Dynamic Headphones




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## Features

- ▶ Durable, dynamic headphones
- ▶ Replaceable ear pads
- ▶ High-quality sound reproduction
- ▶ Gold-plated stereo jack plug

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## Functions

### Interconnections

- 1.5 m (5 ft) cable terminated with a 3.5 mm (0.14 in) stereo jack plug

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## Technical Specifications

### Electrical

Impedance	720 ohm per earpiece
Audio frequency response	250 Hz to 13 kHz (-10 dB)
Power handling capacity	200 mW
Sensitivity (1 kHz)	
97 dB SPL/earpiece at 0 dBV/system	
96 dB SPL/earpiece at 1 mW/earpiece	

### Mechanical

Weight	110 g (0.24 lb)
Color	Dark grey

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## Ordering Information

<b>LBB 3015/04 High Quality Dynamic Headphones</b> Durable, dynamic headphones.	<b>LBB3015/04</b>
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### Accessories

<b>LBB 9095/50 Ear pads for LBB 3015 LBB 9095 (25 pairs)</b> 25 pairs	<b>LBB9095/50</b>
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# LBB 9095/30 Interpreter Headphones



## Features

- ▶ Durable and dynamic
- ▶ Replaceable ear pads
- ▶ High-quality sound reproduction

Lightweight, dynamic headphones for direct connection to DCN-IDESK Interpreters Desk.

## Functions

### Interconnections

- 2.2 m (7 ft) cable terminated with a 6.3 mm (0.25 in) stereo jack plug

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Impedance	720 ohm per earpiece
Audio frequency response	250 Hz - 13 kHz (-10 dB)
Power handling capacity	200 mW
Sensitivity (1 kHz)	97 dB SPL/earpiece at 0 dBV/system 96 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	125 g (0.28 lb)
Color	Black/grey

## Ordering Information

<b>LBB 9095/30 Interpreter Headphones</b> Lightweight, dynamic headphones.	<b>LBB9095/30</b>
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## Accessories

<b>LBB 9095/50 Ear pads for LBB 3015</b> <b>LBB 9095 (25 pairs)</b> 25 pairs	<b>LBB9095/50</b>
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# HDP-LWN Lightweight Neckband Headphone



## Features

- ▶ **Comfortable neckband stereo headphone**
- ▶ **Lightweight with high quality sound reproduction**
- ▶ **Replaceable ear pads**

## Functions

### Interconnections

- 1.3 m (4.25 ft) cable terminated with gold-plated 3.5 mm (0.14 in) angled stereo jack plug

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Impedance	32 ohm per earpiece
Audio frequency response	20 Hz to 20 kHz ( $\pm$ 3 dB)
Power handling capacity	30 mW
Sensitivity (1 kHz)	111 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	56 g (0.12 lb)
Finish	Charcoal (PH 10736) with silver

## Ordering Information

<b>HDP-LWN Lightweight Neckband Headphone</b>	<b>HDP-LWN</b>
High-quality sound reproduction, lightweight, replaceable ear pads.	

## Accessories

<b>HDP-LWNEP Earpads for neckband headphone (50 pairs)</b>	<b>HDP-LWNEP</b>
Replacement foam ear pads.	





# Central Equipment

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## **Central control equipment**

The Central Control Unit (CCU) forms the heart of the conference management system. The CCU can operate stand-alone to provide automatic conference control, or be accessed by an operator via a PC when more extensive management is required.

All CCUs can control up to 245 contribution units (such as delegate and chairman units, interpreter desks). If more capacity is required, CCUs can be connected with the optical network to a network controller which can control up to 4000 microphone positions. CCUs can also provide power for a number of contribution units. The maximum number depends on the type of contribution units used in the application.

## **Advanced audio coupling**

Via the optical network, a variety of audio couplings are possible, including coupling small systems with a few languages into a large system with as many as 31 languages. It is also possible to extract and insert both digital (AES/EBU or SPDIF) and analog audio. Other advanced audio coupling techniques include CobraNet™. CobraNet™ is a combination of software, hardware and network protocol, which allows distribution of many real-time, high-quality digital audio channels over an Ethernet network using CAT5 cables. CobraNet™ makes it easy to distribute audio in buildings and connect DCN Next Generation to other audio CobraNet™-compatible devices such as Audio Recorders and Audio Mixers.

# DCN-CCUB Basic Central Control Unit



## Features

- ▶ **Stylish and modern design (IF award)**
- ▶ **Control for up to 245 Contribution units**
- ▶ **Control for an unlimited number of channel selectors**
- ▶ **2 x 32 high-quality audio channels**
- ▶ **PC control facility**

The Central Control Unit (CCU) includes features for controlling delegate microphones, distributing simultaneous interpretation and conducting voting sessions, all without an operator.

In combination with a PC, this control unit brings greater sophistication to conference control. Users can access an extensive range of software modules, each with a specific function in controlling and monitoring a conference. These modules greatly expand the capacity to manage a conference. In the event of PC failure, this control unit will revert to its stand-alone operation mode, enabling the conference to proceed.

## Functions

- Basic microphone management facilities
- Four operational microphone modes:
  - Open: microphone button control with request-to-speak (Auto)
  - Override: microphone button with override of activated microphones (FIFO)
  - Voice: voice activated microphones
  - Push-to-talk (push and hold button to speak)
- Number of open microphones between 1 and 4

- Basic voting control for parliamentary voting procedure. Delegates can register 'Present', 'Yes', 'No' and 'Abstain'. The Concentus Chairman unit can start, stop and suspend the voting. The total results can be displayed on hall displays and on the LCD screens of the units
- A page function, which activates a voting tone. The chairman can use this tone to indicate that a voting round is about to start.
- Basic simultaneous interpretation function with as many as 31 language channels plus one floor channel
- Basic intercom function with a function to assign intercom operator and intercom chairman (both can be called from the interpreter desk)
- Stand-alone automatic camera control
- Extended conference facilities when using control PC software or remote controllers
- Adjustable sensitivity for the audio inputs
- Adjustable level for the audio outputs
- Audio insertion facility to connect external audio processing devices or telephone couplers
- Configuration of CCU and system via a display and a single rotary push button
- The CCU can be assigned a unique name by the installer for easy identification
- VU meter readings to monitor audio inputs and audio outputs. The audio can be monitored using headphones
- 19" (2U) housing for tabletop or rack mounting
- Handgrips for easy transportation

## Controls and Indicators

### Front

- Power on/off switch
- 2 x 16 Character LCD display for status information and configuration
- Rotary control to navigate through the LCD menus

### Back

- Two red LED overload indicators for the DCN network outputs
- Voltage selector

## Interconnections

### Front

- One stereo headphone output 3.5 mm (0.14 in)

### Back

- Euro power socket with built-in fuse
- Two DCN outlet sockets for connection of units, plus extension power supplies. Each socket is protected against short-circuit (2 x six-pole circular sockets)
- Two stereo Cinch unbalanced audio line inputs
- One three-pole XLR balanced audio line output
- Two stereo Cinch unbalanced audio line outputs
- One RS-232 serial data connector for PC control, and controlling cameras and diagnostics

## Certifications and Approvals

Region	Certification
Europe	CE

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**Parts Included**

Quantity	Component
1	DCN-DCCUB Basic Central Control Unit
1	Set of mounting brackets for 19" rack
1	Set of feet
1	System installation and user instruction on CD ROM
1	Power cord

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**Technical Specifications****Electrical**

Supply voltage	115/230 V +/- 10 %
Power consumption	170 W
DCN system supply	40 VDC, max 65 W per DCN socket
Total supply power	130 W
RS-232 connection	1 x nine-pole Sub-D female socket
Frequency response	30 Hz - 20 kHz (-3 dB at nominal level)
THD at nominal level	< 0.5 %
Cross talk attenuation	> 85 dB at 1 kHz
Dynamic range	> 90 dB
Signal-to-noise ratio	> 87 dBA

**Audio inputs**

Cinch nominal input	-24 dBV (+/- 6 dB)
Cinch maximum input	+0 dBV

**Audio outputs**

XLR nominal output	-12 dBV (+6 / -24 dB)
XLR maximum output	+12 dBV
Cinch nominal output	-24 dBV (+6 / -24 dB)
Cinch maximum output	+0 dBV

**Mechanical**

Mounting	Tabletop or mounted in a 19" rack
Dimensions (H x W x D)	
for tabletop use, with feet	92 x 440 x 400 mm (3.6 x 17.3 x 15.7 in)
for 19" rack use, with brackets	88 x 483 x 400 mm (3.5 x 19 x 15.7 in)
in front of brackets	40 mm (1.6 in)
behind brackets	360 mm (14.2 in)
Weight	7 kg (15.4 lbs)
Color	Charcoal (PH 10736) with silver

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**Ordering Information**

<b>DCN-CCUB Basic Central Control Unit</b> for all regions except North-America	<b>DCN-CCUB</b>
<b>DCN-CCUB-UL Basic Central Control Unit</b> <b>UL/CSA</b> for the North-America region	<b>DCN-CCUB-UL</b>

# DCN-CCU Central Control Unit



## Features

- ▶ **Stylish and modern design (IF award)**
- ▶ **Control for up to 245 Contribution units**
- ▶ **Control for an unlimited number of channel selectors**
- ▶ **2 x 32 high quality audio channels**
- ▶ **PC control facility**
- ▶ **Optical network coupling**
- ▶ **Redundant network capability**

The Central Control Unit (CCU) includes features for controlling delegate microphones, distributing simultaneous interpretation and conducting voting sessions, all without an operator.

In combination with a PC, this control unit brings greater sophistication to conference control. Users can access an extensive range of software modules, each with a specific function in controlling and monitoring a conference. These modules greatly expand the capacity to manage a conference. In the event of PC failure, this control unit will revert to its stand-alone operation mode, enabling the conference to proceed.

## Functions

- Basic microphone management facilities
- Four operational microphone modes:
  - Open: microphone button control with request-to-speak (Auto)
  - Override: microphone button with override of activated microphones (FIFO)
  - Voice: voice activated microphones
  - Push-to-talk (push and hold button to speak)
- Number of open microphones between 1 and 4

- Basic voting control for parliamentary voting procedure. Delegates can register 'Present', 'Yes', 'No' and 'Abstain'. The Concentus Chairman unit can start, stop and suspend the voting. The total results can be displayed on hall displays and on the LCD screens of the units
- A page function which activates a voting tone. With this tone the chairman can indicate that a voting round is about to start.
- Basic simultaneous interpretation function with as many as 31 language channels plus one floor channel
- Basic intercom function with function to assign intercom operator and intercom chairman (both can be called from the interpreter desk)
- Stand-alone automatic camera control
- Extended conference facilities when using control PC software or remote controllers
- Adjustable sensitivity for the audio inputs
- Adjustable level for the audio outputs
- Audio insertion facility to connect external audio processing devices or telephone couplers
- Configuration of CCU and system via a display and a single rotary push button
- The CCU can be assigned a unique name by the installer for easy identification
- VU meter readings to monitor audio inputs and audio outputs. The audio can be monitored using a headphone
- 19" (2U) housing for tabletop or rack mounting
- Handgrips for easy transportation

## Controls and Indicators

### Front

- Power on/off switch
- 2 x 16 Character LCD display for status information and configuration
- Rotary control to navigate through the LCD menus

### Back

- Two red LED overload indicators for the DCN network outputs
- Two red LED overload indicators for the optical connections
- Voltage selector

## Interconnections

### Front

- One stereo headphone output 3.5 mm (0.14 in)

### Back

- Euro power socket with built-in fuse
- Two DCN outlet sockets for connection of units, plus extension power supplies. Each socket is protected against short-circuit (2 x six-pole circular sockets)
- Two optical network connections for connection of Integrus, various audio expanders or a network controller
- Two three-pole XLR balanced audio line inputs with galvanic separation.
- Two stereo Cinch unbalanced audio line inputs
- Two three-pole XLR balanced audio line output with galvanic separation.
- Two stereo Cinch unbalanced audio line outputs
- Two RS-232 serial data connectors for PC control, and controlling cameras and diagnostics

**Parts Included**

Quantity	Component
1	DCN-CCU Central Control Unit
1	Set of mounting brackets for 19" rack
1	Set of feet
1	System installation and user instruction on CD ROM
1	Power cord

**Technical Specifications****Electrical**

Supply voltage	115/230 V +/- 10 %
Power consumption	170 W
DCN system supply	40 VDC, max 65 W per DCN socket
Optical network supply	40 VDC, max 65 W
Total supply power	130 W
RS-232 connection	2 x nine-pole Sub-D female socket
Frequency response	30 Hz - 20 kHz (-3 dB at nominal level)
THD at nominal level	< 0.5 %
Cross talk attenuation	> 85 dB at 1 kHz
Dynamic range	> 90 dB
Signal-to-noise ratio	> 87 dBA

**Audio inputs**

XLR nominal input	-12 dBV (+/- 6 dB)
XLR maximum input	+12 dBV
Cinch nominal input	-24 dBV (+/- 6 dB)
Cinch maximum input	+0 dBV

**Audio outputs**

XLR nominal output	-12 dBV (+6 / -24 dB)
XLR maximum output	+12 dBV
Cinch nominal output	-24 dBV (+6 / -24 dB)
Cinch maximum output	+0 dBV

**Mechanical**

Mounting	Tabletop or mounted in a 19" rack
Dimensions (H x W x D)	
for tabletop use, with feet	92 x 440 x 400 mm (3.6 x 17.3 x 15.7 in)
for 19" rack use, with brackets	88 x 483 x 400 mm (3.5 x 19 x 15.7 in)
in front of brackets	40 mm (1.6 in)
behind brackets	360 mm (14.2 in)
Weight	7 kg (15.4 lbs)
Color	Charcoal (PH 10736) with silver

**Ordering Information**

<b>DCN-CCU Central control unit</b> for all regions except North-America	<b>DCN-CCU</b>
<b>DCN-CCU-UL Central Control Unit UL/CSA</b> for the North-America region	<b>DCN-CCU-UL</b>

# DCN-NCO Multi CCU Network Controller



## Features

- ▶ **Stylish and modern design (IF award)**
- ▶ **Connection of up to 30 Central Control Units**
- ▶ **Control of up to 1500 delegate positions**
- ▶ **2 x 32 high quality audio channels**
- ▶ **PC control facility**
- ▶ **Optical network coupling**
- ▶ **Redundant network capability**

The network controller forms the heart of a multi CCU system.

The network controller includes features for controlling delegate microphones, distributing simultaneous interpretation and conducting voting sessions, all without an operator.

In combination with a PC, this control unit brings greater sophistication to conference control. Users can access an extensive range of software modules, each with a specific function in controlling and monitoring a conference. These modules greatly expand the capacity to manage a conference. In the event of PC failure, this control unit will revert to its stand-alone operation mode, enabling the conference to proceed.

## Functions

- Basic microphone management facilities
- Four operational microphone modes:
  - Open: microphone button control with request-to-speak (Auto)
  - Override: microphone button with override of activated microphones (FIFO)
  - Voice: voice activated microphones
  - Push-to-talk: push and hold button to speak

- Number of open microphones between 1 and 4
- Basic voting control for parliamentary voting procedure
- Delegates can register 'Present', 'Yes', 'No' and 'Abstain'. The Concentus Chairman unit can start, stop and suspend the voting. The total results can be displayed on hall displays and on the LCD screens of the units
- A page function which activates a voting tone. With this tone the chairman can indicate that a voting round is about to start
- Basic simultaneous interpretation function with as many as 31 language channels plus one floor channel
- Basic intercom function with function to assign intercom operator and intercom chairman (both can be called from the interpreter desk)
- Stand-alone automatic camera control
- Extended conference facilities when using control PC software or remote controllers
- Adjustable sensitivity for the audio inputs
- Adjustable level for the audio outputs
- Audio insertion facility to connect external audio processing devices or telephone couplers
- Configuration of network controller and system via a display and a single rotary push button
- The network controller can be assigned a unique name by the installer for easy identification
- VU meter readings to monitor audio inputs and audio outputs. The audio can be monitored using a headphone
- Loudspeaker and headphone connection for audio monitoring.
- 19"(2U) housing for tabletop or rack mounting
- Handgrips for easy transportation

## Controls and Indicators

### Front

- 2 x 16 Character LCD display for status information and configuration
- Rotary control to navigate through the LCD menus

### Back

- Power on/off switch

## Interconnections

- Euro power socket with built-in fuse
- Two optical network connections for connection of Central Control Units, Integrus transmitters or various audio expanders
- Two three-pole XLR balanced audio line inputs with galvanic separation
- Two three-pole XLR balanced audio line inputs without galvanic separation
- Four stereo Cinch unbalanced audio line inputs
- Two three-pole XLR balanced audio line outputs with galvanic separation
- Two three-pole XLR balanced audio line outputs without galvanic separation
- Four stereo Cinch unbalanced audio line outputs
- One stereo headphone output 3.5 mm (0.14 in)
- Eight control inputs
- Five control outputs
- One RS-232 serial data connectors for controlling cameras and diagnostics
- One Ethernet connection for PC control

**Parts Included**

Quantity	Component
1	DCN-NCO Multi CCU Network Controller
1	Set of mounting brackets for 19" rack
1	Set of feet
1	Set of connectors
1	System installation and user instruction on CD ROM
1	Power cord

**Technical Specifications****Electrical**

Supply voltage	115/230 V +/- 10 %
Power consumption	170 W
Optical network supply	40 VDC, max 65 W
Total supply power	130 W
RS-232 connection	1 x nine-pole Sub-D female socket
Ethernet connection	1 x RJ45 socket
Frequency response	30 Hz - 20 kHz (-3 dB at nominal level)
THD at nominal level	< 0.5 %
Cross talk attenuation	> 85 dB at 1 kHz
Dynamic range	> 90 dB
Signal-to-noise ratio	> 87 dBA

**Audio inputs**

XLR nominal input	-12 dBV (+/- 6 dB)
XLR maximum input	+12 dBV
Cinch nominal input	-24 dBV (+/- 6 dB)
Cinch maximum input	+0 dBV

**Audio outputs**

XLR nominal output	-12 dBV (+6 / -24 dB)
XLR maximum output	+12 dBV
Cinch nominal output	-24 dBV (+6 / -24 dB)
Cinch maximum output	+0 dBV

**Mechanical**

Mounting	Tabletop or mounted in a 19" rack
Dimensions (H x W x D)	
for tabletop use, with feet	92 x 440 x 400 mm (3.6 x 17.3 x 15.7 in)
for 19" rack use, with brackets	88 x 483 x 400 mm (3.5 x 19 x 15.7 in)
in front of brackets	40 mm (1.6 in)
behind brackets	360 mm (14.2 in)
Weight	7 kg (15.4 lbs)
Color	Charcoal (PH 10736) with silver

**Ordering Information**

<b>DCN-NCO Multi CCU Network Controller</b>	<b>DCN-NCO</b>
for controlling delegate microphones, distributing simultaneous interpretation and conducting voting sessions	

# LBB 4402/00 Audio Expander



## Features

- ▶ **Stylish and modern design (IF award)**
- ▶ **Room coupling facility**
- ▶ **Versatile audio distribution facility**
- ▶ **Optical network for coupling to the CCU**
- ▶ **Redundant network capability**

The audio expander can contribute audio to and distribute audio from the system. Typical applications are room coupling and audio distribution.

## Functions

- Redundant network cabling can be either single branch or redundant loop
- Audio line inputs (of which 2 can be configured as microphone input) for floor and interpretation channels
- Audio line outputs for floor and interpretation channels
- Flexible routing of floor and interpretation channels
- Adjustable sensitivity for the audio inputs
- Adjustable level for the audio outputs
- Configuration of the Audio Expander via a display and a single rotary/push button
- Each Audio Expander can be assigned a unique name by the installer for easy identification
- VU meter readings to monitor audio inputs and audio outputs. The audio can be monitored using a headphone
- 19" (2U) housing for table top or rack mounting
- Handgrips for easy transportation
- The unit is powered from the network

## Controls and Indicators

- 2 x 16 Character LCD display for status display and configuration of the Audio Expander

- Rotary/push control to navigate through the LCD menus

## Interconnections

### Front

- One stereo headphone output 3.5 mm (0.14 in)

### Back

- Two optical network connections for connecting to the CCU
- Four three-pole XLR balanced audio line inputs with galvanic separation
- Four stereo Cinch unbalanced audio line inputs
- Four three-pole XLR balanced audio line outputs with galvanic separation
- Four stereo Cinch unbalanced audio line outputs
- Eight control inputs to enable audio inputs and audio outputs
- Five control outputs to indicate channel engaged state

## Technical Specifications

### Electrical

Supply voltage	24 to 48 VDC
Power consumption	7.6 W (DC)
Frequency response	30 Hz to 20 kHz (-3 dB at nominal level)
THD at nominal level	<0.5%
Crosstalk attenuation	>85 dB at 1 kHz
Dynamic range	>90 dB
Signal-to-noise ratio	>87 dBA

### Audio line inputs

XLR nominal input	0 dBV (±6 dB)
XLR maximum input	+12 dBV
Cinch nominal input	+12 dBV (±6 dB)
Cinch maximum input	0 dBV

### Audio mic inputs

Nominal input	57 dBV (±6 dB)
Maximum input	26 dBV
Phantom supply	12 V ±1 V at 15 mA

### Audio line outputs

XLR nominal output	12 dBV (+6 / -24 dB)
XLR maximum output	+12 dBV
Cinch nominal output	24 dBV (+6 / -24 dB)
Cinch maximum output	0 dBV

### Mechanical

Dimensions (H x W x D)	
for tabletop use, with feet	92 x 440 x 400 mm (3.6 x 17.3 x 15.7 in)
for 19" rack use, with brackets	88 x 483 x 400 mm (3.5 x 19 x 15.7 in)
in front of brackets	40 mm (1.6 in)
behind brackets	360 mm (14.2 in)
Weight	7 kg (15.4 lbs)
Mounting	Tabletop, 19"-rack
Color	Charcoal (PH 10736) with silver



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**Ordering Information**

**LBB 4402/00 Audio Expander**

**LBB4402/00**

Inserts external audio into the system and extracts audio from the system.

# PRS-4DEX4 Audio Expander Digital



## Features

- ▶ Stylish and modern design (IF award)
- ▶ Room coupling facility
- ▶ Versatile audio distribution facility
- ▶ AES/EBU or SPDIF
- ▶ Sample-rate converters (8 – 96 kHz)
- ▶ Optical network coupling
- ▶ Redundant network capability

The digital audio expander can contribute audio to and distribute audio from the system. Typical applications are room coupling and audio distribution.

## Functions

- Automatic Gain Control
- Audio input channels for floor and interpretation channels
- Audio output channels for floor and interpretation channels (16-bit 44.1 kHz)
- Flexible routing of floor and interpretation channels
- Configuration of the Digital Audio Expander via a display and a single rotary push button
- Each Digital Audio Expander can be assigned a unique name by the installer for easy identification
- VU meter readings to monitor audio inputs and audio outputs. The audio can be monitored using headphones
- 19" (2U) housing for tabletop or rack mounting
- Handgrips for easy transportation
- Unit is powered from the network

## Controls and Indicators

- 2 x 16 Character LCD display for status display and configuration of the Audio Expander
- Rotary control to navigate through the LCD menus

## Interconnections

### Front

- One stereo headphone output 3.5 mm (0.14 in)

### Back

- Two optical network connections for connecting to CCU
- Two 3-pole XLR AES/EBU stereo inputs for 2 audio channels per input
- Two Cinch SPDIF stereo inputs for 2 audio channels per input
- Two 3-pole XLR AES/EBU stereo outputs for 2 audio channels per output
- Two Cinch SPDIF stereo outputs for 2 audio channels per output
- Eight control inputs to enable audio inputs and audio outputs
- Five control outputs to indicate channel engaged state

## Certifications and Approvals

Region	Certification
Europe	CE

## Parts Included

Quant.	Component
1	PRS-4DEX4 Digital Audio Expander
1	Set of mounting brackets for 19" rack
1	Set of feet
1	Set of connectors

## Technical Specifications

### Electrical

Supply voltage	24 to 48 VDC
Power consumption	6 W
Frequency response	30 Hz - 20 kHz
THD at nominal level	< 0.5 %

### Mechanical

Mounting	Tabletop or mounted in a 19" rack
Dimensions (H x W x D)	
for tabletop use, with feet	92 x 440 x 400 mm (3.6 x 17.3 x 15.7 in)
for 19" rack use, with brackets	88 x 483 x 400 mm (3.5 x 19 x 15.7 in)
in front of brackets	40 mm (1.6 in)
behind brackets	360 mm (14.2 in)
Weight	6 kg (13.2 lbs)
Color	Charcoal (PH 10736) with silver

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**Ordering Information**

**PRS-4DEX4 Audio Expander Digital**

**PRS-4DEX4**

contribute audio to and distribute audio from  
the system

# LBB 4404/00 CobraNet Interface



## Features

- ▶ Stylish and modern design (IF award)
- ▶ Room coupling facility
- ▶ Versatile audio distribution facility
- ▶ CobraNet™ compatible using Ethernet
- ▶ Optical network for coupling to the CCU
- ▶ Redundant network cabling

The CobraNet™ Interface can interface audio from the DCN system to a CobraNet™ network using standard Ethernet networks. Typical applications are room coupling and audio distribution over long distances.

CobraNet™ is a registered trademark of Peak Audio, a Division of Cirrus Logic, Inc.

## Functions

- Redundant network cabling can be either single branch or redundant loop
- Flexible routing of floor and interpretation channels
- Configuration of the CobraNet™ Interface audio channel routing via a display and a single rotary push button
- Automatic Gain Control
- Configuration of the CobraNet™ Interface with software tools included
- Each CobraNet™ Interface can be assigned a unique name by the installer for easy identification
- VU meter readings to monitor audio inputs and audio outputs. The audio can be monitored using a headphone
- 19" (2U) housing for table top or rack mounting
- Handgrips for easy transportation
- The unit is powered from the network

## Controls and indicators

- 2 x 16-character LCD display for status display and audio channel routing of the CobraNet™ Interface
- Rotary control to navigate through the LCD menus

## Interconnections

### Front

- One stereo headphone output 3.5 mm (0.14 in)

### Back

- Two optical network connections
- Two RJ45 Ethernet connectors for the CobraNet™
- Eight control inputs to enable audio inputs and audio outputs for floor and interpretation channels
- Five control outputs to indicate channel engaged state

## Technical Specifications

### Electrical

Supply voltage	24 to 48 VDC
Power consumption	10.5 W (DC)
Frequency response	30 Hz to 20 kHz
THD at nominal level	<0.5%

### CobraNet™

Physical layer	Ethernet
Channels	4 in / 4 out per interface Max 64 on CobraNet™
Compliance	IEEE 802.3
Audio Transport	16 / 20 / 24-bit
Sample Rate	48 kHz
Latency	5.33 ms

### Mechanical

#### Dimensions (H x W x D)

for tabletop use, with feet	92 x 440 x 400 mm (3.6 x 17.3 x 15.7 in)
for 19" rack use, with brackets	88 x 483 x 400 mm (3.5 x 19 x 15.7 in)
in front of brackets	40 mm (1.6 in)
behind brackets	360 mm (14.2 in)
Weight	7 kg (15.4 lbs)
Mounting	Tabletop, 19"-rack
Color	Charcoal (PH 10736) with silver

## Ordering Information

**LBB 4404/00 CobraNet Interface**  
network protocol for real-time uncompressed digital audio distribution over industry standard 100Base-T Ethernet networks.

**LBB4404/00**

# DCN-FCCCU Flight Case for 2 Central Control Units




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## Features

- ▶ **Robust construction with reinforced corners**
- ▶ **Easy to carry and store**
- ▶ **Shaped interior**
- ▶ **Holds up to two 19" units**

---

The DCN-FCCCU flight case accommodates two 19" units, e.g. 1 central control unit (CCU) + 1 transmitter or 1 audio expander unit.

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## Technical Specifications

### Mechanical

Dimensions (H x W x D)	510 x 460 x 290 mm (20.1 x 18.1 x 11.4 in)
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Weight	6 kg (13.2 lb)
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Color	Light grey
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## Ordering Information

<b>DCN-FCCCU Flight Case for 2 Central Control Units</b>	<b>DCN-FCCCU</b>
--	------------------

can hold two 19" units (CCU, audio expander, transmitter)



# Application Software

Bosch offers a comprehensive range of software solutions to control DCN conference and discussion systems:

- Bosch DCN Conference Software Suite
- Bosch DCN Conference Software Basic Essentials
- Bosch DCN Conference Software Classic

## Bosch DCN Conference Software Suite (DCN-SW)

State-of-the-art software bundle for DCN Next Generation Conference Systems and DCN Wireless Discussion Systems. This software makes it remarkably ergonomic and simpler than ever to set up and manage meetings and conferences. Featuring sophisticated interfacing options, the software has been created according to the very latest technology standards. Flexible both in operation and in the range of functionality, the Bosch DCN Conference Software Suite offers powerful support and control in a user-friendly package.

## Basic Software (DCN-SWSMV)

This basic software is suitable for a smaller DCN Next Generation Conference System or DCN Wireless System with the need for basic essentials like synoptic microphone control and voting. It has a stylish and ergonomic design that is based on the latest trends in software and operating systems.

## Classic Software (LBB 4170 to LBB 4190)

This bundle of software modules for DCN Next Generation Conference Systems integrates conference preparation, management and control. This software is generally used in larger-scale systems. Any combination of software modules can easily be activated according to specific system requirements; for instance when new hardware is added, or the conference changes from unilingual to multilingual.

## Overview

See the following table for an overview of the functionality available for the software solutions.

	Suite	Basic essentials*	Classic
<b>Microphone Management</b>	•		•
<b>Synoptic Control</b>	•	•	•
<b>System Installation</b>	•	•	•
<b>Parliamentary Voting</b>	•	•	•
<b>Multi-Voting</b>			•
<b>Delegate Database</b>	•		•
<b>Simultaneous Interpretation</b>			•
<b>Text/Data Display</b>			•
<b>Attendance Registration</b>			•
<b>ID Card Encoding</b>			•
<b>Message Distribution</b>			•
<b>Intercom</b>			•
<b>Video Display</b>			•
<b>Camera Control</b>			•
<b>Multi-PC</b>	•		•

*Available functions*

*\* cannot be extended*

## Software Licensing

DCN software is activated with a license key. The license key depends on the Central Control Unit/Network Controller and the set of software modules. This means that an individual license key is required per Central Control Unit/Network Controller.

# DCN-SW Conference Software Main Module



### Features

- ▶ Meeting & Agenda
- ▶ User management
- ▶ Client server solution
- ▶ Optimized for Microsoft Vista
- ▶ Off-line configuration
- ▶ Multi PC
- ▶ Supports DCN Next Generation or DCN Wireless Discussion System
- ▶ On-screen help facility

- 1 DCN-SW Server
- 2 Vote results print application
- 3 Remote Configuration application
- 4 Remote Operator application (Multi PC license required)
- 5 Touch screen
- 6 RS232 connection
- 7 Ethernet connections
- 8 Single CCU (Central Control Unit)
- 9 NCO (Network Controller)
- 10 Bosch optical network
- 11 CCU (Central Control Unit)

The DCN-SW Conference Software Main Module is used as a platform on which all other software modules run. Basic functions are included where others can be added depending on the functionality required.

### System Overview

The DCN-SW Conference Software Main Module is build as a client server solution and consists of four software components:

- The server provides management, control and monitoring of the DCN Next Generation System or DCN Wireless Discussion system.
- The configuration application provides system installation and meeting preparation.
- The operator application provides system monitoring and meeting control.
- The print application provides printing of voting results.

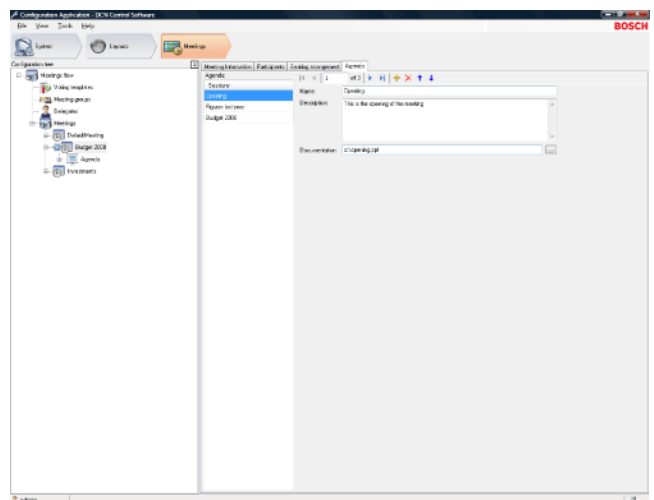
All DCN-SW applications can, but not necessary need to be run on separate computers and integrate seamlessly with each other. This allows the possibility for assigning functionality to different users and/or PCs – for instance, let one or more users configure the set-up and register delegates (configuration application), and another person actually control the meeting on a separate pc (operator application). Contextual help file provides instant support for all applications.

### Functions

#### The server

- Monitor and control of the conference data.
- It runs on the background and links all applications.
- SQL database stores all data and settings.
- Status report of database connection and system connection.
- Error logging for quick diagnostics.

#### Configuration application

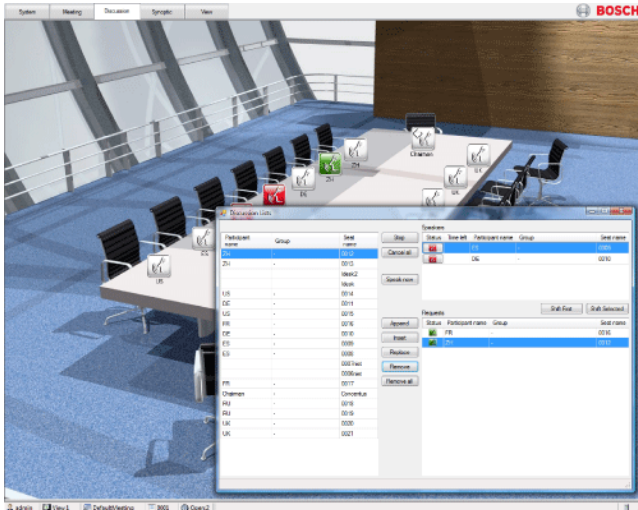


- Easy step-by-step pre-configuration which makes it exceptionally ergonomic.
- Off-line system configuration.



- Administrator user management: defining users and user groups with group privileges like view- and control rights.
- Installer system setup: defining seats and synoptic layouts.
- Operator meeting preparation: voting templates, participating delegates, authorizations for each meeting, the agenda, lists of speakers and voting scripts.

### Operator application



- Full meeting control.
- Touch screen optimized.
- Ribbon technology giving the user a graphical representation of all main functions, which makes it very intuitive to use.
- Functionality depending on user rights and system license.
- Synoptic microphone control, voting results, Individual microphone sensitivity control, battery status and signal status.
- Ergonomically designed synoptic shapes and shadings help the color-impaired people to distinguish different statuses.
- Quick-links to jump instantaneously to configuration application to make adjustment to the pre-configuration.

### Print application

- Automatic printing of voting results

### Installation/Configuration Notes

#### License

DCN-SW is license activated and comes with an authorization code which includes synoptic control with basic microphone control functionality. Activation is done via the license website.

The configuration application can be used independent of the additional licenses as where the operator application does need the license to control the conference system.

Running the operator application on a separate PC requires DCN-SWMP.

### Parts Included

Quantity	Component
1	DVD includes:
	DCN-SW Conference Software Main module
	Authorization code including synoptic control
	Setup wizard that can selectively install all components (Server-, Configuration-, Operator- and Print- application) in all supported languages

### Technical Specifications

Maximum number of client PCs	20
Supported operating system	Windows 7 Home Premium (32 and 64 bits) or above or Windows Vista Home Premium(32 or 64 bits) or above or Windows XP Professional (32 or 64 bits) and .Net Framework 2.0. All with the latest service packs and updates.

Required open TCP port for client PCs	9461
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#### PC requirements

Single CCU	Dual core processor (2.66 GHz) and 2 GBytes internal memory for single PC systems and for the server PC in multi PC systems. Dual core processor (2.66 GHz) and 1 GBytes internal memory for client PC's in multi PC systems.
Multi CCU	Quad core processor (2.40 GHz) and 2 GBytes internal memory for single PC systems and for the server PC in multi PC systems. Dual core processor (2.66 GHz) and 1 GBytes internal memory for client PC's in multi PC systems.

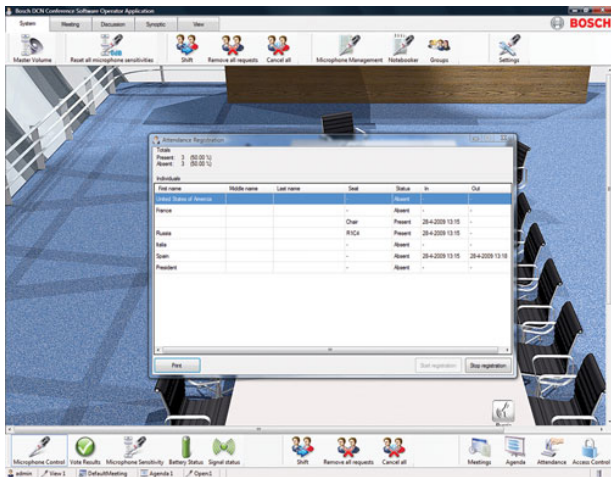
### Ordering Information

#### DCN-SW Conference Software Main Module

a platform on which all other Conference software modules run

#### DCN-SW

# DCN-SWAT Conference Software Attendance & Access



## Features

- ▶ **Attendance Registration using ID-card with or without PIN-code, or present button**
- ▶ **Access Control using ID-card with or without PIN-code or PIN-code only**
- ▶ **All data instantly available to operator**
- ▶ **Print function to reproduce data**

The Attendance Registration & Access Control software module is used to register attendance of delegates in a conference meeting, and to control access to the conference facilities in the conference room.

## Functions

The functionality of Attendance Registration & Access Control software falls into two categories:

### Attendance Registration:

It is possible to specify entrance requirements that delegates have to meet before entering the meeting. This normally means delegates have to insert an ID-card in a card reader, either at the entrance to the meeting or at the conference unit. Registration at a conference unit can also be done by pressing the 'Present' button.

It is possible to display lists on-screen of all 'present' and 'absent' delegates, and print hard copies.

### Access Control:

The settings specified for Attendance Registration can be used for access control. This means that although delegates can enter the meeting, they cannot use any of the conference unit's facilities (such as microphone and voting) without access requirements. Access is controlled by means of ID- cards, with or without PIN-code (free seating). There is an option whereby delegates register attendance at the entrance using an ID-card reader, and a specific conference unit is then made available for them (fixed seating).

Access control can be done on the conference unit only by ID-card with or without PIN-code or PIN-code only (fixed seating).

## Ordering Information

### DCN-SWAT Conference Software Attendance & Access

**DCN-SWAT**

used for registering and accessing facilities in the conference room. Can only be used in combination with DCN-SW and DCN-SWDB software modules. Can not be used with the DCN Wireless Discussion System (DCN-WCCU).

### DCN-SW Conference Software Main Module

**DCN-SW**

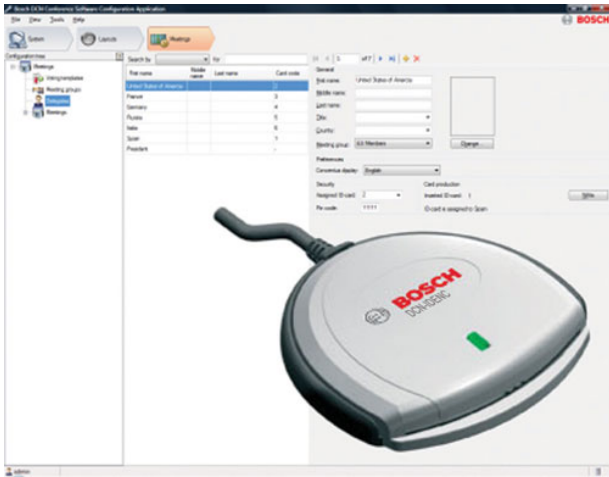
a platform on which all other Conference software modules run

### DCN-SWDB Conference Software Delegate Database

**DCN-SWDB**

can only be used in combination with DCN-SW

# DCN-SWID Conference Software ID Card Encoding

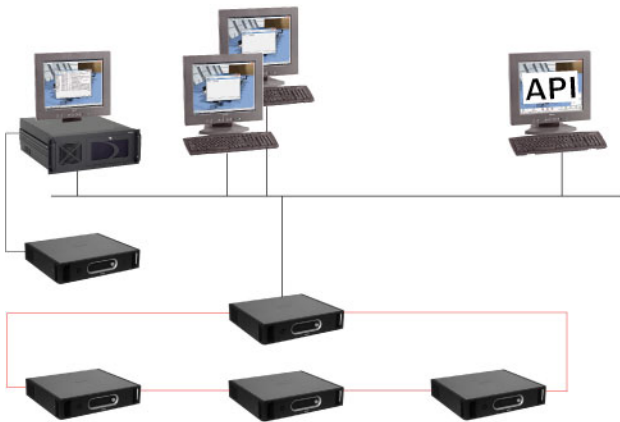


The ID-card Encoding module is used for encode ID-cards. ID-cards are used to identify delegates during a meeting. The ID-card Encoder (USB) (DCN-IDENC) and DCN-SW Conference Software Main module are required to produce ID-cards.

## Ordering Information

<b>DCN-SWID Conference Software ID Card Encoding</b> software module for producing ID cards. Can only be used in combination with DCN-IDENC, DCN-SW and DCN-SWDB. Can not be used with the DCN Wireless Discussion System (DCN-WCCU).	<b>DCN-SWID</b>
<b>DCN-IDENC ID Card Encoder (USB)</b> used in combination with the ID Card Encoder (DCN-SWID), DCN-SW and DCN-SWDB software modules	<b>DCN-IDENC</b>
<b>DCN-SW Conference Software Main Module</b> a platform on which all other Conference software modules run	<b>DCN-SW</b>
<b>DCN-SWDB Conference Software Delegate Database</b> can only be used in combination with DCN-SW	<b>DCN-SWDB</b>

# DCN-SWAPI Conference Software API



## Features

- ▶ Exchange and synchronize delegate and participants information with 3rd party systems
- ▶ Import of vote scripts
- ▶ Encoding ID cards solution for 3rd party systems
- ▶ Example C-Sharp source code available
- ▶ Extensive software developer manual available

DCN-SWAPI is deployed as Microsoft.Net components to be used by 3rd party applications to modify, add, remove and update a subset of the DCN-SW configuration data.

## System Overview

A 3rd party application will be connected to the DCN-SW Conference Software server as a client in the same way as the DCN-SW Configuration Application does.

All changes applied through the DCN-SWAPI affect the meeting- configuration and currently active meeting immediately.

All changes applied to the configuration data of a currently active meeting, will be actualized immediately to the operational state of the system.

## Functions

- Add or remove delegates to the system. This implies per delegate:
  - Definition of title, first, middle and last name
  - ID-card assignment
  - Assignment to a group (e.g. political party)
  - Language assignment
- Update delegate information
- Encode ID-card for a delegate

- Assign or remove delegates as participant to or from a prepared or active meeting. This implies per participants:
  - Assignment to the meeting
  - Assignment to a seat
- Add or remove votes to/from a voting script of a prepared or active meeting. This implies per voting:
  - Assignment to voting script
  - Definition of voting template to use
  - Definition of voting answer set to use
  - Definition of voting 100% setting
- Update voting information in a voting script of a prepared or active meeting
- Example C-Sharp source code and extensive software developer manual available on DCN-SW DVD

## Ordering Information

### DCN-SWAPI Conference Software API

to be used by 3rd party applications to modify, add, remove and update a subset of the DCN-SW configuration data. Can only be used in combination with DCN-SW Conference Software module. Can not be used with the DCN Wireless Discussion System (DCN-WCCU).

### DCN-SWAPI

### DCN-SW Conference Software Main Module

a platform on which all other Conference software modules run

### DCN-SW

# DCN-SWSMD Conference Software Streaming Meeting Data



## Features

- ▶ **Interface to custom-made PC software client to display meeting data by using video screens or video projectors**
- ▶ **XML streams for easy processing**
- ▶ **Extensive filtering possibilities**
- ▶ **Example C-Sharp source code available**
- ▶ **Software developer manual available**

Conference Software Streaming Meeting Data is an interface to provide meeting data such as current speakers, request lists, vote results and other information to custom-made video screens or video projectors.

## System Overview

Conference Software Streaming Meeting Data unlike other Conference Software modules does not require any user interaction of an operator; it consists of a software interface from the Conference Software Server to any number of custom-made PC software Clients.

The interface consists of streams containing meeting data in XML format. Every time an activity (e.g. microphone on/off, start/stop vote) takes place data is sent over the XML stream.

The stream can be picked up by a custom-made PC software client which is connected to a video screen or a video projector to display the meeting data.

The content of each stream can be freely defined so that each PC software Client receives only the required meeting data.

The streams are protected meaning that only authorized PC software clients can receive the streams.

## Functions

**A great diversity of activities can be streamed. The main items are:**

- Start/Stop meeting, speakers list, request list, vote results both Individual and totals, participating delegates.
- Filters are available to define the content of a stream; e.g. if only voting activity is required in the stream all other information can be filtered out.
- Activities are queued before they are sent to the stream. The size of the queues are free definable.
- Custom-made PC software client authorization is controlled by a list of allowed IP addresses. Clients with unknown IP addresses will not be able to receive the stream.
- Example C-Sharp source code and software developer manual available on DCN-SW DVD

## Ordering Information

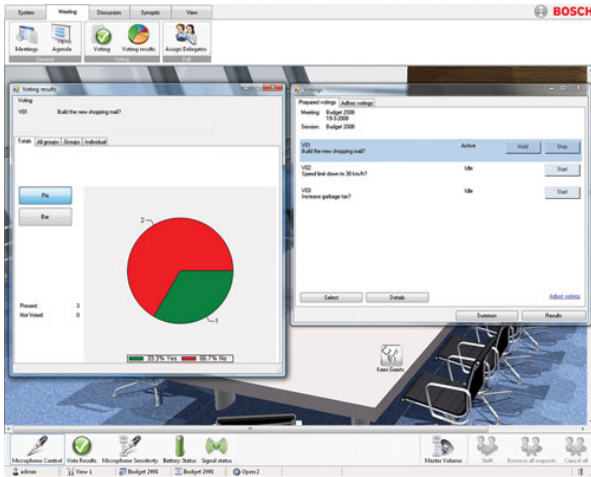
<b>DCN-SWSMD Conference Software Streaming Meeting Data</b>	<b>DCN-SWSMD</b>
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to be used as an interface to provide meeting data such as current speakers, request list, vote results and other information to custom-made video screens or video projectors. Can only be used in combination with DCN-SW Conference Software main module. Can not be used with the DCN Wireless Discussion System (DCN-WCCU).

<b>DCN-SW Conference Software Main Module</b>	<b>DCN-SW</b>
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a platform on which all other Conference software modules run

# DCN-SWPV Conference Software Parliamentary Voting

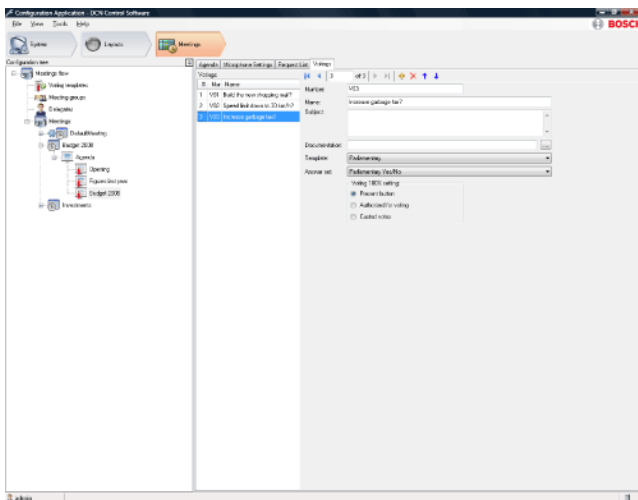


## Features

- ▶ Complete operator control of parliamentary voting sessions
- ▶ Extensive motion preparation facilities
- ▶ Output voting results to printers
- ▶ Wide range of vote-related parameter options

The DCN-SWPV Conference Software Parliamentary Voting is a software module designed to control and to prepare parliamentary voting.

## Functions



Vote preparation

## Applications

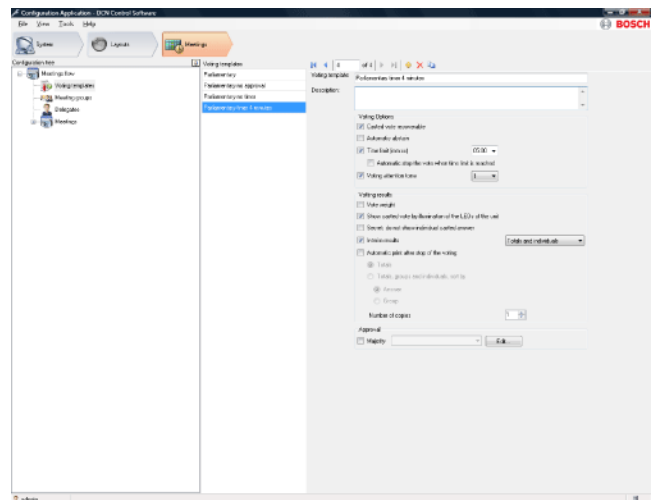
The software covers a number of functions including vote preparation, specifying vote-related parameters, and starting and controlling voting.

In the configuration application voting is prepared as in the operator application the voting can be started and results can be shown.

## Voting

Voting is an optional part of every agenda entry. Voting can consist of a number of proposals or motions, each of which will be voted on.

The preparation of the voting is done in two steps. First a template needs to be defined. The template contains more general settings like automatic print, secret, majority and many more. Secondly a single vote can be created. Now the number, name subject, template and answer set must be defined. Also a link to a document can be defined which can be activated from the operator application. This document can be used as extra information for a specific vote.



Voting template

## Operator

The operator selects the desired vote from the prepared voting list and starts the vote; participants can use their units to register votes. The operator has full control over the voting procedure, and can stop or suspend a vote at any time. It is also possible to start a vote which is not prepared before (ad-hoc voting).

## Display

The software program offers the possibility of displaying cast answers and the final result of a vote on the PCs screens. Optional delegate units with a display facility can display the vote results. There is also a facility of automatically print-out the vote results once the vote is completed.

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**Parts Included**

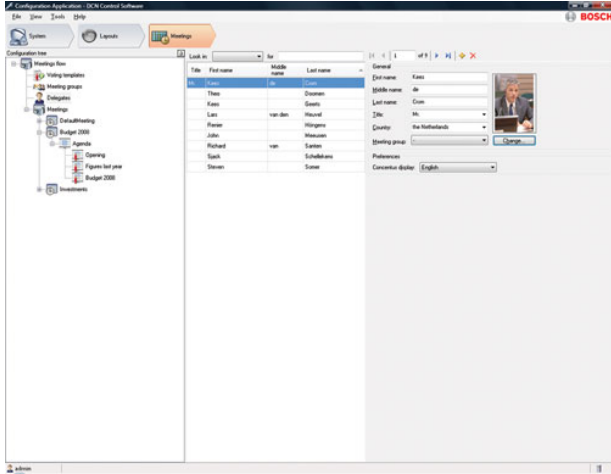
<b>Quantity</b>	<b>Component</b>
1	Authorization code

---

**Ordering Information**

**DCN-SWPV Conference Software  
Parliamentary Voting**                      **DCN-SWPV**  
can only be used in combination with  
DCN-SW. DCN-SWDB is required if individual  
vote results are required.

# DCN-SWDB Conference Software Delegate Database



## Features

- ▶ **Comprehensive database information for all delegates**
- ▶ **Re-use of delegate information across meetings**
- ▶ **Define vote and microphone authorization for each individual participant**

The DCN-SWDB Conference Software Delegate Database allows users to compile a comprehensive database of information relating to delegates. During the meeting preparation stage the delegates can be assigned to the meeting as participants. The advantage of this method is that delegates participating in multiple meetings only need to be entered once and can be assigned to any desired meeting without re-entering the same delegate information again.

## Functions

### Database

All information is entered via the configuration application, before or during conference proceedings. A considerable amount of data can be specified for each conference participant. All delegate specific information like: delegate name, delegate country, delegate group and delegate unit display language, can be re-used and does not need to be re-entered for every meeting.

At meeting preparation it is possible to grant or deny authorization to individual delegates in a specific meeting for microphone, and voting use; also the voting weight can be defined.

## Data Input

All delegate information is input via the configuration application. For some entries (first name, last name) the only restriction is the number of characters entered. For other entries (country, group, etcetera.), the input can easily be selected from a list of options that is presented by the system. This option list is automatically controlled by the system. When the user enters a text it is automatically added to the list.

## User rights

By defining the correct user rights a delegate information entry PC client can be created. This entry client can be placed at the lobby of a conference hall entrance, where the registration officer can enter delegate information and assigning the delegate to the desired meeting.

## Parts Included

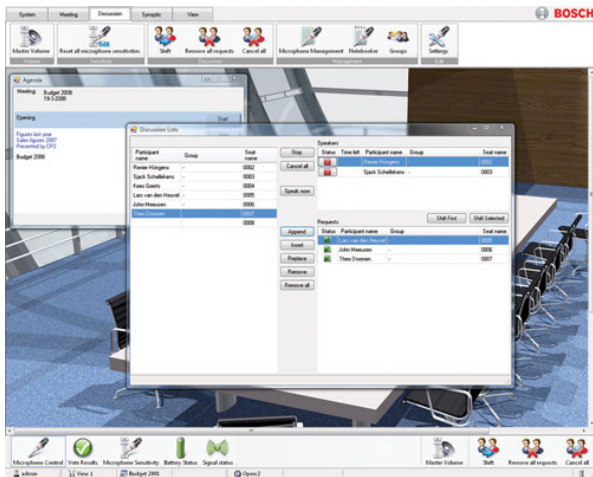
Quantity	Component
1	Authorization code

## Ordering Information

**DCN-SWDB Conference Software Delegate Database**      **DCN-SWDB**  
 can only be used in combination with  
 DCN-SW



# DCN-SWMM Conference Software Microphone Management

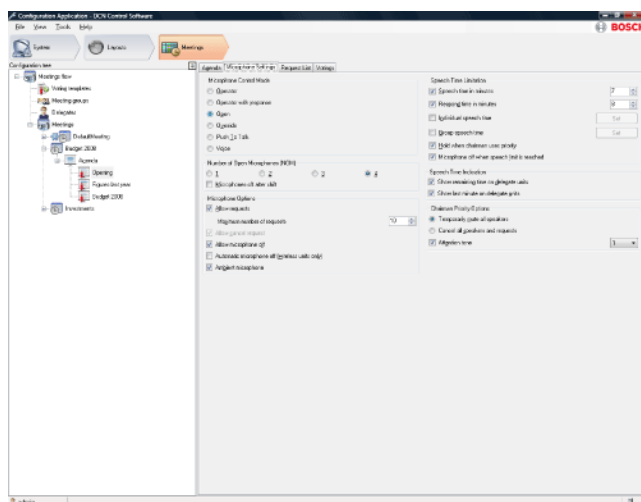


## Features

- ▶ Prepare request-to-speak lists
- ▶ Group and individual speech timers
- ▶ Notebook

DCN-SWMM Conference Software Microphone Management is the way to efficient control microphones in a conference and provides the user a powerful and easy-to-use tool that covers all aspects of microphone management.

## Functions



Function screenshot

## Preparation

The operator prepares how the discussion will take place using the configuration application. Microphone settings can be defined for every entry in the meeting agenda. Settings available are: microphone mode, number of active microphones, request-to-speak list, individual and group speech timers and many more.

During the actual meeting the operator can choose to run the set-up as pre-configured, or make adjustments in real-time.

## Microphone Management

Microphone Management offers a number of microphone control options. This has a bearing on both how the Microphone Management module operates and how the conference itself proceeds. These options are:

- Control by operator with request-to-speak list (manual).
- Control by operator with request-to-speak list and response list.
- Control by delegate with request-to-speak list (open).
- Control by delegate with override of other delegate microphones (first-in, first-out).
- Control by delegate with voice activation.
- Control by delegate with Push-To-Talk.

Each mode allows a different level of both operator and delegate microphone control, so all general conferences can be covered. For example, smaller, informal discussions require very little operator microphone control, so a mode such as microphone control by delegate would be ideal. For a full-scale international conference with hundreds of participants, control by operator with request-to-speak list would be more appropriate. The operator can specify whether one, two, three or four normal delegate microphones can be active simultaneously. It is also possible to specify whether delegates are allowed to cancel requests-to-speak or switch their microphones off. The amount of time delegates are allowed to speak can be defined for the current speaker, response speaker, individual delegates and for delegate groups.

## Notebook

It is also possible to give delegates additional microphone activation privileges, which means they do not have to join the request list and can enjoy certain other privileges not granted to other delegates. The microphone type must be specified for the notebook. The possibilities are:

- 'Chair' for chairman microphones.
- 'Button' where delegates activate their microphones by pressing their microphone button (in this mode the 'VIP'LED of the contribution units is illuminated).
- 'Operator' where the microphones of more active delegates are activated by the operator.
- 'Voice' where the microphones are voice activated.
- 'PTT' where microphones are activated by using Push-To-Talk.

Both DCN Next Generation and DCN Wireless systems automatically recognize an assigned chairman unit and will automatically add it to the notebook.

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**Parts Included**

Quantity	Component
1	Authorization code

---

**Ordering Information**

<b>DCN-SWMM Conference Software Microphone Management</b> can only be used in combination with DCN-SW	<b>DCN-SWMM</b>
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# DCN-SWMPC Conference Software Multi PC




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## Features

- ▶ Remote operator application

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The DCN-SWMPC Conference Software Multi PC Module is needed when more than one PC is required to operate a meeting running on a DCN Next Generation or DCN Wireless system.

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## Functions

### General

The DCN-SWMPC Conference Software Multi PC Module enables the use of multi operator applications running on multi PCs in a network.

Running configuration application on multi PCs does not require this module.

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## Parts Included

Quantity	Component
1	Authorization code

---

## Ordering Information

**DCN-SWMPC Conference Software Multi PC**      **DCN-SWMPC**

can only be used in combination with DCN-SW

# DCN-IDENC ID Card Encoder (USB)



## Features

- ▶ **USB (2.0) supported**
- ▶ **ID card supported (DCN-IDCRD)**
- ▶ **Supported by DCN-SW and LBB 4190/00**

The ID Card Encoder (USB) is used to encode ID cards (DCN-IDCRD). It is used in combination with the following Conference software modules: ID Card Encoder (DCN-SWID), Delegate Database (DCN-SWDB) and Conference Software Main module (DCN-SW).

The DCN-IDENC can also be used with the LBB 4181/00 from software version 2.80 onwards.

## Certifications and Approvals

FCC part 15 Class B, UL, CE, VCCI  
EMV 2000 Level 1

## Technical Specifications

### Electrical

Power supply	Through USB bus
Indication on top of unit	One dual state green LED
Operating System	XP, Server2003, Vista
ID card supported	DCN-IDCRD

### Mechanical

Cable	1.5 m long with USB type A connector
Dimensions (H x W x D)	10 x 70 x 70 mm (0.39 x 2.8 x 2.8 in)
Weight	60 g (0.13 lb)

## Environmental

Operating temperature	0 ° to +50 °C (+32 °F to +122 °F)
Storage temperature	-20 ° to +60 °C (-4 °F to +140 °F)
Relative humidity	15% to 90%

## Ordering Information

<b>DCN-IDENC ID Card Encoder (USB)</b> used in combination with the ID Card Encoder (DCN-SWID), DCN-SW and DCN-SWDB software modules	<b>DCN-IDENC</b>
<b>DCN-SWID Conference Software ID Card Encoding</b> software module for producing ID cards. Can only be used in combination with DCN-IDENC, DCN-SW and DCN-SWDB. Can not be used with the DCN Wireless Discussion System (DCN-WCCU).	<b>DCN-SWID</b>
<b>DCN-SW Conference Software Main Module</b> a platform on which all other Conference software modules run	<b>DCN-SW</b>
<b>DCN-SWDB Conference Software Delegate Database</b> can only be used in combination with DCN-SW	<b>DCN-SWDB</b>
<b>Accessories</b>	
<b>DCN-IDCRD ID Card (100 pcs)</b> standard credit-card format, set of 100	<b>DCN-IDCRD</b>

# DCN-SWSMV Synoptic Microphone and Voting Software



## Features

- ▶ **Synoptic room overview for monitoring and controlling the microphones**
- ▶ **Voting control with individual results**
- ▶ **Real-time voting results displayed in Microsoft PowerPoint®**
- ▶ **On-screen help in many languages**

The DCN-SWSMV Synoptic Microphone and Voting Software provides a range of conference facilities when used in combination with a DCN Wireless or DCN Next Generation system. The available functions include automatic seat assignment, synoptic microphone monitoring and control, and voting management.

## Functions

### Ease of use

Although it offers many powerful features, the software is extremely easy to use thanks to its innovative design. The application moves away from traditional control panels and buttons and replaces them with a highly intuitive graphic user interface. All functions are controlled from a single window making the software suitable for touch screen operation. The software features on-screen help in most major languages.

## User interface

The user interface is based on a graphical representation of the conference venue. When a device is connected to the system it is automatically recognized and an icon is created for it on the on-screen room layout. The icons display information about device status and can be used by the operator to select individual devices for remote control functions. If a device becomes disconnected from the system, a red cross is displayed on top of its icon to alert the operator.

## Operating modes

The Synoptic Microphone and Voting Software can operate in the following modes, depending on the required task:

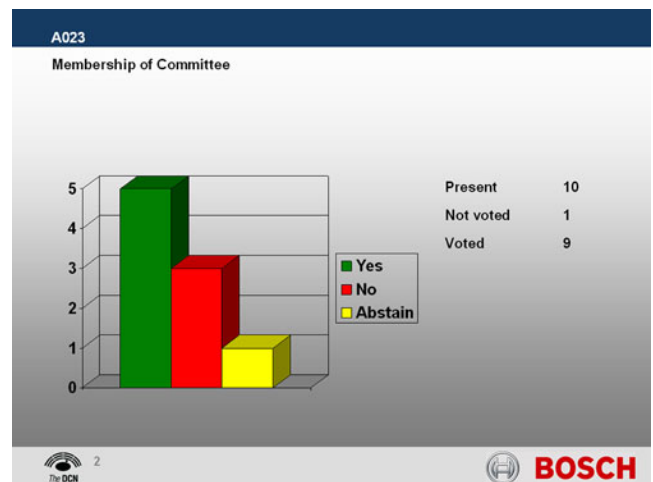
- Assignment mode allows you to assign names to microphone icons. The positions of the icons on the room layout can also be changed using the standard windows 'drag & drop'.
- Microphone control mode allows you to observe and control the state of each individual microphone. Microphones can be switched on and off, or placed in the 'request to speak' queue.
- Battery and signal view mode shows the remaining battery charge time and the signal strength for each wireless discussion unit
- Voting result mode shows individual results in different colors according to votes cast

## Note

The different symbols in the various modes are specially designed so that they are also easily identified by persons with the visual disability of color blindness.

## Parliamentary and real-time voting

The application provides parliamentary voting functionality. The system operator can summon delegates to vote, as well as starting and stopping voting sessions. Final vote results can be automatically printed or exported to a file; the software can also be configured to send real-time voting information to Microsoft PowerPoint® for display.



Real-time voting results in Microsoft PowerPoint®

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### Installation/Configuration Notes

Used in combination with a DCN Wireless or DCN Next Generation system.

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### Technical Specifications

Supported operating system	Windows 7 Home Premium (32 and 64 bits) or above or Windows Vista Home Premium(32 or 64 bits) or above or Windows XP Professional (32 or 64 bits) and .Net Framework 2.0. All with the latest service packs and updates.
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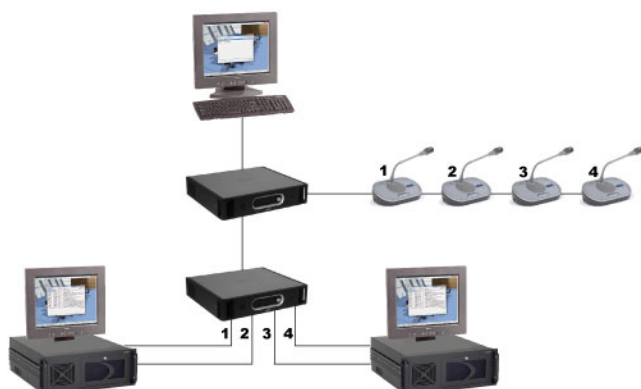
### Ordering Information

**DCN-SWSMV Synoptic Microphone and Voting Software**

include automatic seat assignment, synoptic microphone monitoring and control, and voting management

**DCN-SWSMV**

## DCN-SWIND Individual Channels



### Recorder trigger

The digital output contact of the connected Audio Expander or Cobranet Interface becomes automatically active as soon as the presence of the individual channel signal has been recognized. The output contact is threshold configurable in the Audio Expander and Cobranet Interface.

### Ordering Information

#### DCN-SWIND Individual Channels

routes an individual delegate microphone audio signal to an audio channel of the DCN system. Can not be used with the DCN Wireless Discussion System (DCN-WCCU).

#### DCN-SWIND

### Features

- ▶ Easy routing of individual audio channels
- ▶ Up to 26 Individual Channels can be defined

The Individual Channels software is used to route individual delegate microphone audio signals to the DCN system audio channels. These individual audio channels can only be received by Audio Expanders or Cobranet Interfaces.

### Functions

#### Individual Channels

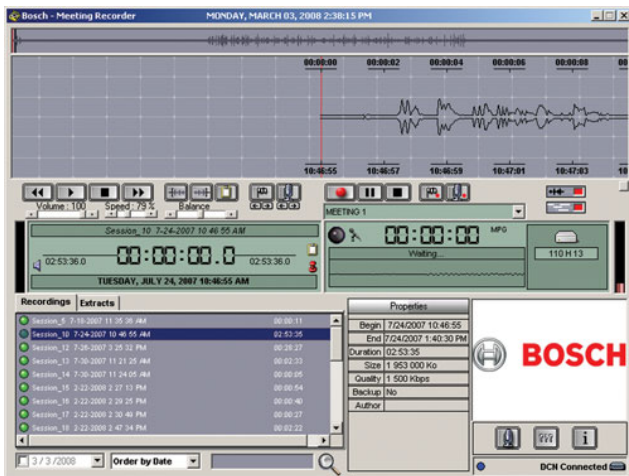
A typical application for the Individual Channels software is to individually record a selected number of microphones in a courtroom environment (witness protection often needs unrecognizable audio).

The individual channels share the DCN audio channels with interpretation channels. A maximum of 26 individual channels can be used.

#### Route Individual Channels

When a delegate audio signal is assigned as an individual channel it is routed to a specific DCN audio channel and available on the output of an Audio Expander or Cobranet Interface. Optionally, it is then sent to an external audio processing device (e.g. distortion/vocoder) and returned to the audio input of the CCU, Audio Expander or Cobranet Interface. Delegate microphones which are used in Voice Activation mode can not be assigned to an individual channel.

# DCN-MR Meeting Recorder



## Features

- ▶ **Recording in PCM/WAV, WMA or MP3 audio format**
- ▶ **Stereo track can be used for bilingual recording**
- ▶ **Ability to attach speaker names in the audio file**
- ▶ **Network sharing of audio files**

The DCN-MR Meeting Recorder software is designed for recording and playback purposes during a meeting or conference.

The Meeting Recorder can record two analog audio channels. In most cases one audio channel is sufficient to record the floor language. However in some (bilingual) applications it is ideal to record two channels simultaneously.

Recording is done on the hard drive of a computer in PCM/WAV, WMA or MP3 format.

## Functions

### Recording

The Meeting Recorder can be used in combination with CCS 800, DCN NG<sup>1</sup> or DCN Wireless systems.

The Meeting Recorder can record two analog audio channels. In most cases one audio channel is sufficient to record the floor language. However, in some (bilingual) applications it is ideal to record two channels simultaneously.

<sup>1</sup>Multi-CCU not yet supported

### Attach speaker names

The name of the current speaker can be attached in the audio file, during or after the meeting. This can be done manually or automatically. Manually by simply double clicking on the delegates name in list. Automatically when the DCN-MR is coupled with the DCN Central Control Unit<sup>2</sup>. For automatic attaching of the speaker names, the delegate names must be assigned to the corresponding microphone numbers. Additional conference information, such as the agenda or meeting minutes can also included in the audio file.

<sup>2</sup> Open interface LBB 4187/00 additional required

### Playback

Recorded files can be played back for listening or transcribing. While the audio file is played the name of the speaker (if available) and time-information can be displayed in a window of the text editor. In case two audio sources are recorded, they are recorded as one stereo file. When the balance slider is in the far left position (or right), only the left (or right) channel is heard during playback. When the balance slider is in middle position both audio channels are heard (stereo) making this product ideal for interpreter training applications.

### Transcription

Although transcription is possible through the Meeting Recorder, the optional DCN Transcription Module (DCN-MRT) is especially suited for it. The DCN-MRT is in fact the same software as the DCN-MR but without the recording function.

For easy control during transcription; start, stop, fast-forward/rewind, an optional transcription foot pedal is available (DCN-MRFP).

### Ease of use

Although it offers many powerful features, the software is easy to use. The intuitive graphic user interface is divided into recording, playback, visualization and files sections.

## Installation/Configuration Notes

### Installation

The DCN-MR Meeting Recorder software is supplied on DVD and can be installed on one or more computers.

The software is designed to be used on a computer network. This gives the possibility, for example, to install a Meeting Recorder next to the DCN CCU, while storage of the files is done in parallel on a server via the computer network. Persons responsible for transcription can have access from their computer via the network to the files on the server.



**Licence**

Licensing of the Meeting Recorder is done with USB dongle. The Meeting Recorder software can be installed on more computers. As soon the USB dongle is plugged-in, the software is ready to use with the applicable licenses. This makes it very flexible, with a minimum of effort and cost.

For demonstration purposes, the DCN-MR software can be used to make or play recordings of five minutes maximum without the dongle.

**Parts Included**

Quantity	Component
1	DCN-MR Meeting Recorder software on DVD
1	USB dongle (blue)
1	Audio connection cable

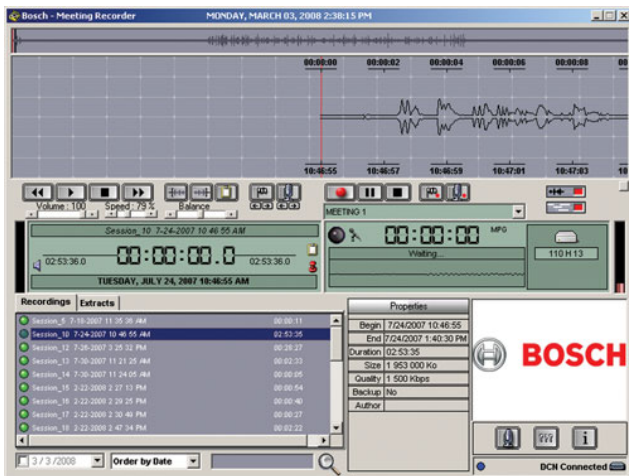
**Technical Specifications**

Recording formats	(max. sample rate)
	WMA (128 kbps)
	PCM / WAV (48 kHz)
	MP3 (256 kbps)
System platform	Windows Vista Home Premium SP1 or above or Windows XP Professional SP2

**Ordering Information**

<b>DCN-MR Meeting Recorder</b> used with the DCN-MR or DCN-MRT	<b>DCN-MR</b>
<b>Accessories</b>	
<b>DCN-MRT Transcription Module</b> used with DCN-MR, CCS-CUR, or CCS-CURD	<b>DCN-MRT</b>
<b>DCN-MRFP Transcription Foot Pedal</b> used with the DCN-MR or DCN-MRT	<b>DCN-MRFP</b>

# DCN-MRT Transcription Module



## Features

- ▶ Transcription of Meeting Recorder and CCS 800 files
- ▶ Can play PCM/WAV, WMA or MP3 audio formats
- ▶ Network sharing of audio files
- ▶ Easy copying or extracting (parts) of audio files

The DCN-MRT Transcription Module software is designed for playback and transcription of Meeting Recorder or CCS 800 recordings.

The DCN-MRT can play PCM/WAV, WMA or MP3 formatted files.

## Functions

### Transcription

The DCN-MRT transcription module is especially suited for playback and transcription of Meeting Recorder or CCS 800<sup>1</sup> recordings. The DCN-MRT is in fact the same software as the DCN-MR but without the recording function.

For easy control during transcription; start, stop, fast-forward/rewind, an optional transcription foot pedal is available (DCN-MRFP).

<sup>1</sup> CCS 800 recordings from CCS-CUR or CCS-CURD

### Playback

Recorded files can be played back for listening or transcribing. While the audio file is played the name of the speaker (if available) and time-information can be displayed in a window of the text editor. The DCN-MR Meeting Recorder can record two audio channels as stereo file. When the balance slider is in the far left

position (or right), only the left (or right) channel is heard during playback. When the balance slider is in middle position both audio channels are heard (stereo) making this product ideal for interpreter training applications.

### Extracting

Parts of recorded files can be easily extracted and optionally exported. In case the names of the speakers are available in the recording, easy retrieval of parts of a specific speaker are possible.

### Ease of use

Although it offers many powerful features, the software is easy to use. The intuitive graphic user interface is divided into playback, visualization and files sections.

## Installation/Configuration Notes

### Installation

The DCN-MRT Transcription Module software is supplied on USB dongle and can be installed on one or more computers.

The software is designed to be used on a computer network. This gives the possibility, for example, to install a Transcription Module next to the DCN Central Control Unit, while storage of the files is done in parallel on a server via the computer network. Persons responsible for transcription can have access from their computer via the network to the files on the server.

### Licence

Licensing of the Transcription Module is done with USB dongle. The Transcription Module software can be installed on more computers. As soon the USB dongle is plugged-in, the software is ready to use with the applicable licenses. This makes it very flexible, with a minimum of effort and cost.

For demonstration purposes, the DCN-MRT software can be used to play recordings of five minutes maximum without the dongle.

## Parts Included

Quantity	Component
1	DCN-MRT Transcription Module
1	USB dongle (yellow)

## Technical Specifications

System platform	Windows Vista Home Premium SP1 or above or Windows XP Professional SP2
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**Ordering Information****DCN-MRT Transcription Module**

used with DCN-MR, CCS-CUR, or CCS-CURD

**DCN-MRT**

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**Accessories****DCN-MRFP Transcription Foot Pedal**

used with the DCN-MR or DCN-MRT

**DCN-MRFP**

# DCN-MRFP Transcription Foot Pedal




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## Installation/Configuration Notes

### Connection

The DCN-MRFP Transcription Foot Pedal is connected via USB.

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## Parts Included

Quantity	Component
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1	DCN-MRFP Transcription Foot Pedal
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## Ordering Information

**DCN-MRFP Transcription Foot Pedal**  
used with the DCN-MR or DCN-MRT

**DCN-MRFP**

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## Features

- ▶ **Hands-free control**
- ▶ **User-programmable pedals**
- ▶ **Rugged and reliable construction**
- ▶ **USB connection**
- ▶ **Pedal pressing security**

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The DCN-MRFP Transcription Foot Pedal is used for easy control of start, stop, fast-forward and rewind during transcription of audio recordings.

The Transcription Foot Pedal is connected via the USB port of the computer and is configured for the DCN Meeting Recorder or DCN Transcription Module software (DCN-MR or DCN-MRT).

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## Functions

### Controls

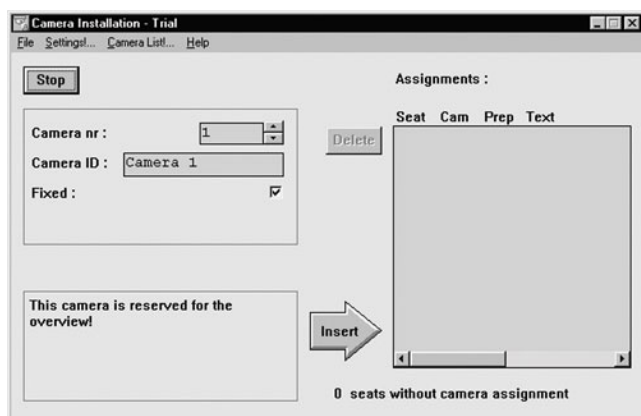
For easy control during transcription; start, stop, fast-forward/rewind; three foot pedals are provided which are configured in the Meeting Recorder or Transcription Module software. The pedals are mechanically secured against accidentally depressing more than one pedal.

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## Certifications and Approvals

Region	Certification
Europe	CE

# LBB 4188/00 LBB 4162/00 Automatic Camera Control



The DCN Next Generation Automatic Camera Control software interfaces DCN Next Generation conference systems with the Bosch Allegiant series of video control switchers. It selects fixed or pre-positioned cameras (such as the Bosch AutoDomes) to be activated to display the current active speaker at a conference.

## Functions

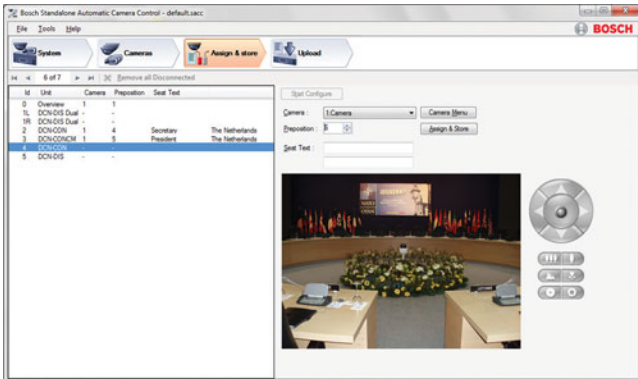
When a chairman or delegate microphone is activated on the DCN Next Generation equipment, the camera assigned to that position is activated. When no microphones are active, an overview camera is automatically selected. The image can be displayed on hall displays or other monitors together with information about the current speaker if required (such as delegate identification). The system operator has a monitor, which also displays information about which camera is active. This system provides an extra dimension to conference proceedings.

## Ordering Information

<b>LBB 4162/00 Stand-Alone Automatic Camera Control</b> for systems without PC control	<b>LBB4162/00</b>
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<b>LBB 4188/00 Automatic Camera Control</b> PC controlled	<b>LBB4188/00</b>
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# DCN-SWSACC Standalone Automatic Camera Control



## Features

- ▶ **On-screen Pan, Tilt and zoom control**
- ▶ **Supports Windows 7**
- ▶ **For use with DCN Next Generation and DCN Wireless Discussion Systems**
- ▶ **Print-out of configuration setting**
- ▶ **On-screen help facility**

DCN-SWSACC Standalone Automatic Camera Control of the DCN Conference systems interfaces with the Bosch Allegiant or Autodome. It selects fixed or movable cameras to be activated to display the current active speaker at a conference.

## Functions

When a chairman or delegate microphone is activated on the DCN Conference system equipment, the camera assigned to that position is activated. When none of the microphones are active, an overview camera is automatically selected. The image can be displayed on projectors or other screens together with information about the current speaker if required (such as delegate identification). The system operator has a dedicated screen, which also displays information about which camera is active. This system provides an extra dimension to conference proceedings.

The DCN-SWSACC software runs on a PC which is temporarily connected to configure the DCN Next Generation or DCN Wireless Discussion System and the Bosch Allegiant or Autodome.

With this PC the camera positions can be defined using the on-screen Pan, Tilt and Zoom control and stored as prepositions in the Autodome camera. At the same time a delegate position is linked to a camera preposition.

When all delegate positions are linked to camera prepositions the configuration needs to be uploaded to the DCN Conference system where it will be stored persistent in the CCU or NCO.

The configuration file can be printed and stored on the temporarily PC for later use. In case help or more information is needed the on-screen help can be activated from the software.

After configuration the PC is removed and Bosch Allegiant or Autodome is directly connected to the DCN Conference system.

## Technical Specifications

### Electrical

Supported DCN systems	DCN Next Generation version 2.68 or higher
	DCN Wireless Discussion System version 2.68 or higher
Supported operating systems	Windows 7 Home Premium (32 and 64 bits) or above.
	Windows Vista Home Premium (32 and 64 bits) or above.
PC requirements	Dual core processor (2.66 GHz) and 2 Gb internal memory.
	At least one serial port (2 serial ports are preferred).
	In case a PC without serial ports is used one or two separate USB to serial port converters are needed.

### Mechanical

Dimensions (H xW x D)	240 x 180 x 46 mm
Weight	0.375 kg

## Ordering Information

**DCN-SWSACC Standalone Automatic Camera Control**  
interfaces DCN Conference systems with the Bosch Allegiant or Autodome.

**DCN-SWSACC**

# LBB 4190/00 Startup



## Installation/Configuration Notes

Active whenever DCN Next Generation software modules are used.

## Ordering Information

### LBB 4190/00 Startup

**LBB4190/00**

I.e. used as a platform from which the other software modules are selected

## Features

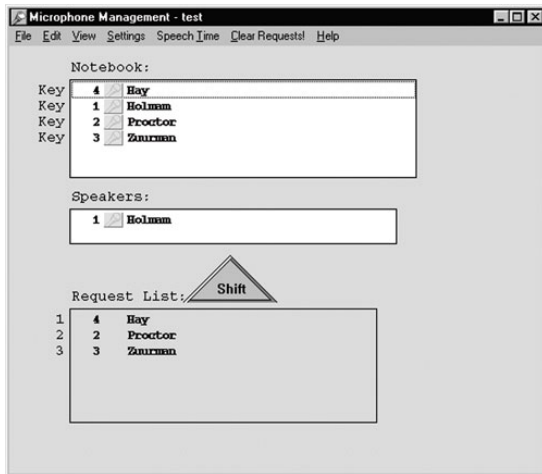
- ▶ **Setting master volume levels**
- ▶ **Opening, closing and deleting Installation File**
- ▶ **Configuring the Startup program to automatically load selected DCN Next Generation modules**
- ▶ **Accessing, acknowledging and printing error messages**
- ▶ **On-screen help facility**

The Startup screen is active whenever DCN Next Generation software modules are used for controlling and monitoring. This module is different from other DCN Next Generation software modules as it is primarily used as a platform from which the other modules are selected. However, this is only one aspect of the different functions of Startup.

## Functions

When Startup is loaded, it presents the user with a desktop window that is the DCN Next Generation opening screen. The other DCN Next Generation modules are represented by icons in this opening screen, and activated simply by clicking on them. Startup also has a facility, which allows other DCN Next Generation modules to be loaded automatically. This saves having to manually select modules that are used virtually every time the DCN Next Generation system is in operation. The user can specify any combination of modules for automatic Startup.

# LBB 4170/00 Microphone Management



## Features

- ▶ Single-point control of all microphone units
- ▶ Various microphone control options
- ▶ Extensive range of options for microphone related parameters
- ▶ Output to printer and/or external equipment such as cameras
- ▶ On-screen help facility

The efficient management of delegate microphone status is a vital element in successful conference control. The Microphone Management software module provides the user with a powerful and easy-to-use tool that brings all aspects of microphone management to a single point of control.

## Functions

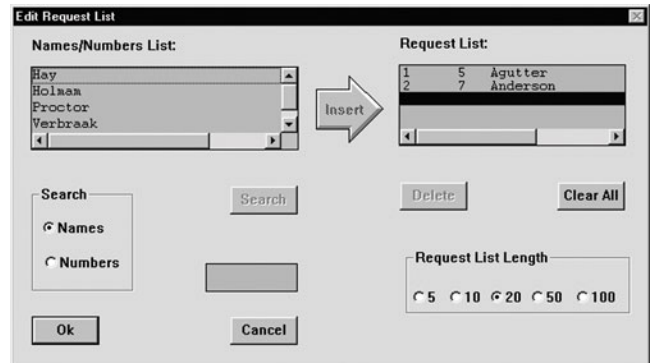
Microphones are controlled using the name (or desk number) of the delegate. The user can select microphones for the speakers list (active microphones) or prepare a request list. The order of delegates within the request list and speakers list can be altered at any time before or during a conference. A search facility is available that allows the operator to locate specific delegates. It is also possible to give notebook status to delegates, which means they do not have to join the request list and can enjoy certain other privileges not granted to other delegates. The microphone type must be specified for the notebook. The possibilities are:

- 'Chair' for chairman microphones

- 'Key' where delegates activate their microphones by pressing their microphone buttons. (in this mode the 'VIP'LED of the contribution units is illuminated)
- 'Operator' where the microphones of more active delegates are activated by the operator

The DCN Next Generation system automatically recognizes an assigned chairman unit and will automatically add it to the notebook. Microphone Management offers a number of microphone control options. This has a bearing on both how the Microphone Management module operates and how the conference itself proceeds. These options are:

- Control by operator with request-to-speak list (manual)
- Control by operator with request-to-speak list and response list
- Control by delegate with request-to-speak list (open)
- Control by delegate with override of other delegate microphones (first-in-first-out)
- Control by delegate with voice activation



Each mode allows a different level of both operator and delegate control, so almost all situations can be covered. For example, smaller, informal discussions require very little operator control, so a mode such as control by delegate would be ideal. For a full-scale international conference with hundreds of participants, control by operator with request-to-speak list would be more appropriate. The operator can specify whether one, two, three or four normal delegate microphones can be active simultaneously. It is also possible to specify whether delegates are allowed to cancel requests to speak or switch their microphones off. The amount of time delegates are allowed to speak can also be specified.





### Ordering Information

**LBB 4170/00 Microphone Management**  
brings all aspects of microphone management to a single point of control

**LBB4170/00**

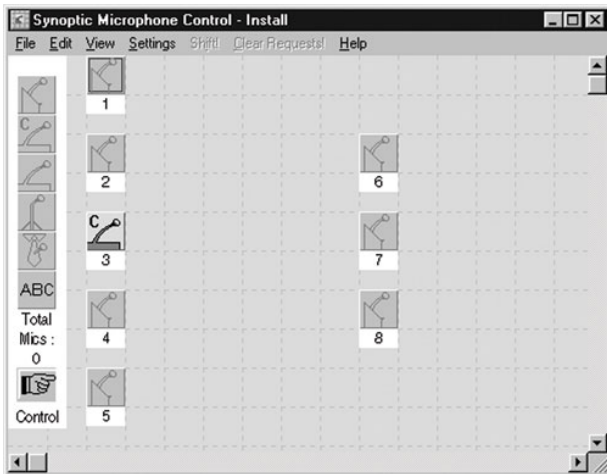
A number of options are available as to how the conference information is presented. The contents of the main window can be altered, and how each delegate is represented in any of the lists is also user-definable. There is a facility to automatically test and scan all installed microphones individually, with or without a sound generator. The microphone under test is indicated on-screen and the results of the test are made known to the system operator. This program can also be used in combination with the Text/ Status Display module, LBB 4183/00, to show delegate names or seat numbers on a hall display as soon as they are present on the speakers list or request-to-speak list. Delegates' microphone activity can be recorded on file or sent to a printer. Microphone activity data is also made available for controlling external equipment such as an automatic camera system.

During a conference, the main window is used for monitoring and controlling delegate microphone status. Depending on the operating mode, delegate microphones can be switched on or off by simply clicking on the screen microphone icon, or double-clicking on a delegates name. A single click on a delegate name allows the operator to either insert, delete or replace the delegate from the request-to speak list.

### Installation/Configuration Notes

Single-point control. Can be used in combination with the Text/ Status Display module, LBB 4183/00.

# LBB 4171/00 Synoptic Microphone Control



## Features

- ▶ Easily-created synoptic layout used for microphone control
- ▶ Single-point control of all microphone units
- ▶ Various microphone control options
- ▶ Output to printer and/or external equipment such as cameras
- ▶ On-screen help facility

This software module takes microphone control away from the traditional method of control panels and keys and replaces it with an extremely user-friendly, on-screen means of managing microphone status. A graphical representation of the contribution units in a conference venue is created and then used to control the microphone status of delegates. Through the use of different icons and colors, the user has an at-a-glance overview of the status of all conference participants. The result is a highly visual 'push-button' conference control facility. There are two modes of operation within Synoptic Microphone Control; layout mode and control mode.

## Functions

### Layout mode

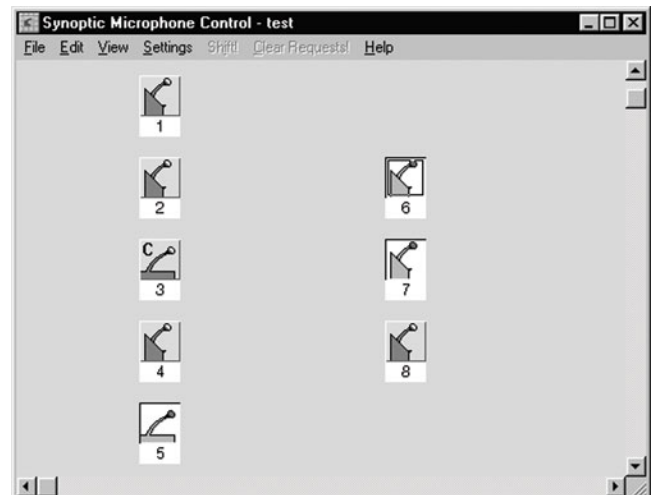
In layout mode, the user creates a graphical representation of the contribution units present in the conference venue. This synoptic layout is a plan view of the conference venue. Layout mode contains dedicated tools for this purpose. Icons representing the contribution equipment are used to build up the layout. Each item of contribution equipment (delegate unit, chairman unit, podium or lavalier microphone, etc.) has its own icon.

Viewing options that reduce the size of the icons make it easier to work with larger layouts. An optional on-screen grid helps with alignment and a snap facility lines up icons with the grid lines. Seat numbers can be automatically assigned to each layout element. The synoptic layout can be changed simply and quickly. Contribution units can be moved by dragging them using the cursor. Standard Windows functions such as cutting and pasting can be used to move, remove or add elements to the layout.

### Control mode

While layout mode is used to create a synoptic floor plan of the conference venue (for preparation purposes), control mode is used to monitor and control a conference. The synoptic layout generated in layout mode becomes a control panel in control mode. The icons in the layout become functional, and are used as status indicators or buttons to initiate actions for the contribution unit the icon represents. The color of a particular icon is related to the state (request-to-speak, active, etc.) of the actual microphone it represents. Icons cannot be moved in control mode, but a layout can be edited by returning to layout mode. The state of a delegate microphone can be altered by clicking on the appropriate icon. Synoptic Microphone Control offers the following microphone control mode options:

- Control by operator with request-to-speak list (manual)
- Control by delegate with request-to-speak list (open)
- Control by delegate with override of other delegate microphones (first-in-first-out)



The synoptic layout is stored in a layout file. There are a number of options available to the user for working with these files, all of which are standard DCN Next Generation file options. These consist of opening, creating and saving files under a new name. Delegate microphone activity can be recorded on file or sent to a printer. Microphone activity data is also made available for controlling external equipment such as an automatic camera system. Synoptic Microphone Control has a facility to automatically test and scan all installed microphones individually, with or

without a sound generator. The microphone under test is indicated on-screen and the results of the test are made known to the system operator.

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**Installation/Configuration Notes**

Single point of control. Standard Windows functions.

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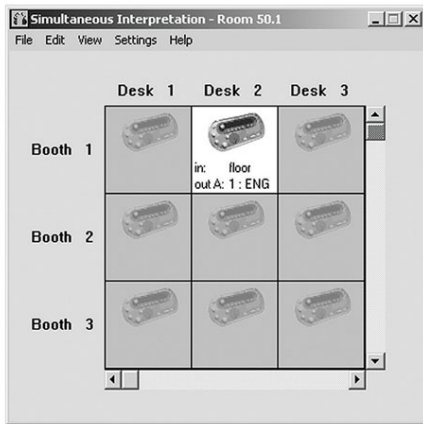
**Ordering Information**

**LBB 4171/00 Synoptic Microphone**                      **LBB4171/00**

**Control**

two modes of operation within Synoptic Microphone Control; layout mode and control mode

# LBB 4172/00 Simultaneous Interpretation



## Features

- ▶ Can accommodate 186 interpreter desks
- ▶ Online monitoring of interpretation activities
- ▶ Facilitates normal and relay interpretations
- ▶ Microphone mode options
- ▶ Specifying a language for each of the system interpretation channels
- ▶ Determining the microphone interlock mode
- ▶ On-screen help facility

Simultaneous interpretation is essential for international conference venues. The Simultaneous Interpretation program supports the preparation of simultaneous interpretation facilities and the monitoring of interpreter activities during a conference. It accommodates 31 interpreter booths, each with up to 6 interpreter desks.

## Functions

The main window has two display modes, both with graphics for easy management of information. One gives a channel-oriented overview of system status, such as which language is present on that channel, the mnemonic for that language, on which language the interpretation is based, and the number of the desk and booth generating that language. The other display mode gives the same information in a different form, providing an overview of the status of each desk in each booth. This includes booth and desk status (active or non-active), and the language in and out of each active desk. In addition, the software enables the operator to establish microphone interlocks, between booths and within booths, with or without using

an override facility. In interlock mode, the active microphone must first be turned off before any other microphones can become active. In override mode, any microphone can automatically override the current active microphone and become active. The interpreter system settings are stored in an interpreter configuration file. There are a number of options available to the user for working with these files, all of which are standard DCN NG file options. These consist of opening, creating and saving files under a new name. A print function enables a hard copy printout of desk and channel language assignment— ideal for use as a reference to current system settings.

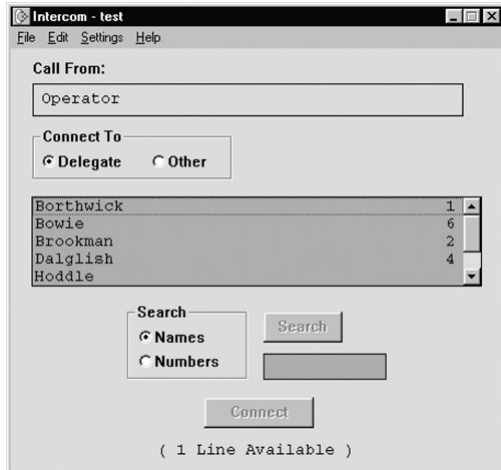
## Installation/Configuration Notes

Interpreter system settings are stored in an interpreter configuration file.

## Ordering Information

**LBB 4172/00 Simultaneous Interpretation**      **LBB4172/00**  
 supports the preparation of simultaneous interpretation facilities and the monitoring of interpreter activities during a conference

## LBB 4173/00 Intercom



### Features

- ▶ Enables private, two-way conversations between delegates, chairmen, interpreters and other PC users
- ▶ Search facility to locate delegates
- ▶ Allows up to 5 simultaneous conversations
- ▶ Simple menus for ease of control
- ▶ On-screen help facility

The Intercom software module forms the basis of a communication system that allows conference participants to hold two-way private conversations. It provides a means of setting up and controlling intercom calls between delegates, chairmen, interpreters and other PC-users during a conference.

It allows several types of calls to be made:

- Participant to / from operator
- Between participants
- Interpreter to/from operator
- Between interpreters
- Participant to/from interpreter
- Between PC operators in a multi-PC system

### Functions

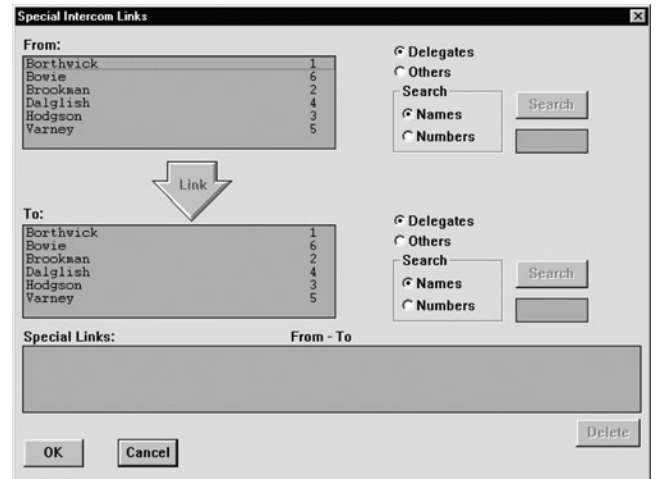
The Intercom software is used in combination with the Intercom Handset and Cradle. It provides assistance in both the pre-conference creation of an intercom network, and the routing and controlling of intercom calls once the conference is underway. Preparation work includes assigning special intercom links between participants, interpreters or both. Once the conference is taking place, the operator can establish and re-route intercom calls via simple on-screen windows. Each intercom link uses a

system channel. The maximum number of intercom links is 5. If no intercom links are assigned, the intercom module will not start.

**Note** The number of DCN Next Generation audio channels available for intercom purposes is set using the System Installation software LBB 4185/00.

**Note** Delegate Database LBB 4180/00 is required if delegate names are used.

**Note** Simultaneous interpretation LBB 4172/00 is required if interpreter names are used.



### Installation/Configuration Notes

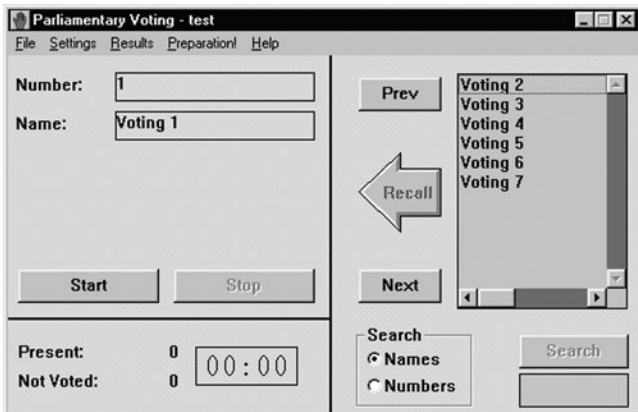
Software is used in combination with the Intercom Handset and Cradle.

### Ordering Information

**LBB 4173/00 Intercom**  
allows conference participants to hold two-way private conversations

**LBB4173/00**

## LBB 4175/00 Parliamentary Voting



### Features

- ▶ **Allows complete operator control of parliamentary voting sessions**
- ▶ **Extensive motion preparation facilities**
- ▶ **Can output voting results to disk, hall displays or printers**
- ▶ **Wide range of vote-related parameter options**
- ▶ **On-screen help facility**

The Parliamentary Voting module is a DCN Next Generation software module designed for controlling and monitoring conferences and discussions using the DCN Next Generation contribution equipment. The module allows an operator to implement and manage voting at a conference.

### Functions

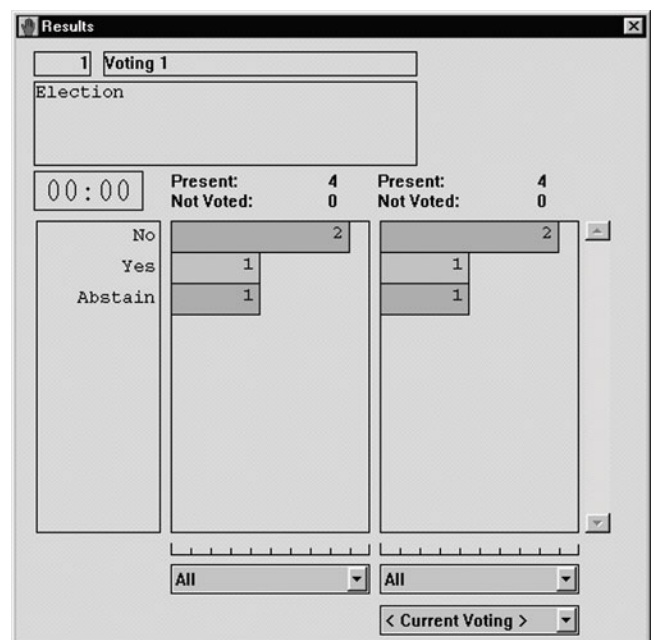
The program covers a number of functions including vote preparation, specifying vote-related parameters, and starting and controlling voting. The module has two main windows; the Preparation window and the Control window. The preparatory and parameter definition work is mainly carried out from the Preparation window, and the starting and controlling of voting is carried out from the Control window.

The files created using this module are called script files as they act as the script for voting procedures. The file menu allows script files to be opened, created, deleted, saved, saved under a different name, imported and printed out.

A script file consists of a number of proposals or motions (between 1 and 999), each of which will be voted on. New ones can be created and existing ones edited within script files. Items to be edited are selected from a list in the currently open script file and displayed on-screen. All parameters related to this can be altered, although certain parameters have to satisfy system-specified criteria. Once an item has been edited it is inserted back into the list. Every item must have a unique number, which is used by the DCN Next Generation system as a reference. The name and description of each defines it for both users and delegates. It is also possible to enable a quorum function. This specifies how many authorized delegates must be present before voting can legitimately take place. A majority function determines what percentage of votes constitutes a majority voting. Once a vote is ready to be taken, it is recalled in the Control window and the voting process is started. When the program enters the active voting state, delegates can use their delegate units to register votes. The user has full control over the voting procedure, and can stop or suspend a vote at any time. Motions that have already been voted on cannot be edited, but voting again on the same motion is possible. It is also possible to vote without opening a script file.

The program offers the possibility of displaying incoming votes or the final result of a vote on hall displays connected to the DCN Next Generation system, on delegate units with a display facility, and on-screen. It is possible to print out a hard copy of a vote with its results. There is also a facility that automatically prints out the results of a vote once voting is completed.

**Note** Delegate Database LBB 4180/00 is required if delegate names are used.



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### **Installation/Configuration Notes**

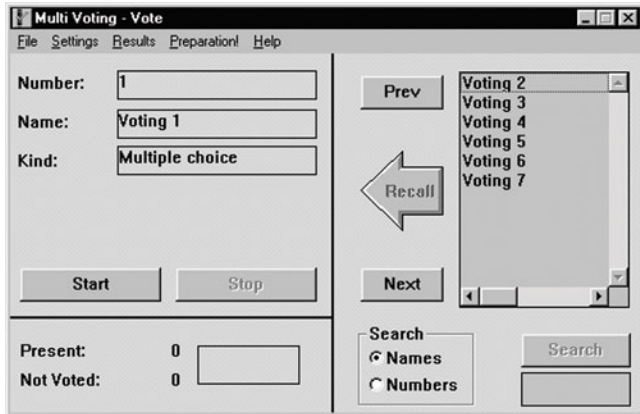
Delegate Database LBB 4180/00 is required if delegate names are used.

---

### **Ordering Information**

<b>LBB 4175/00 Parliamentary Voting</b>	<b>LBB4175/00</b>
allows an operator to implement and manage voting at a conference	

## LBB 4176/00 Multi Voting



### Features

- ▶ Allows selection between six different kinds of voting
- ▶ Extensive voting preparation facilities
- ▶ Wide range of vote-related parameter options
- ▶ Choice of three voting results display types
- ▶ On-screen help facility

This software module provides the means to select and control six different kinds of conference voting, including Parliamentary Voting. The voting types that can be implemented or selected are:

- Parliamentary
- Opinion Poll
- Audience Response
- Rating
- Multiple Choice
- For/Against

In each case, the program allows the user to prepare for voting, specify vote-related parameters, display and print voting results and start and control voting.

### Functions

There are two main windows: the Preparation window and the Control window. The Preparation window is where voting motions are created and parameters are defined or changed. The Control window is used for starting and controlling voting. There is also a Results window for displaying voting results. These can be displayed in bar-, pie- or thermometer charts. It is also possible to see voting results while the voting is still taking place. These 'interim results' can be specified in the Preparation window. It is also possible to enable a quorum function. This specifies how many authorized delegates must be present before a voting can legitimately take place. A majority function determines what percentage of votes constitutes a majority voting. The files created are called

script files as they act as the script for voting procedures. A file menu allows script files to be opened, created, saved, deleted and printed. There is also a facility for importing script files that have been created and saved in another application. Each script file can consist of a number of voting motions (up to 9,999), each of which can be selected from a 'voting motions list' in the Preparation window. Once selected, a voting can be edited and then inserted back into the voting list. All parameters related to the voting can be altered although certain parameters have to satisfy system specific criteria. A search facility is provided to help locate specific voting motions. Vote-related parameters can be specified for each individual voting.

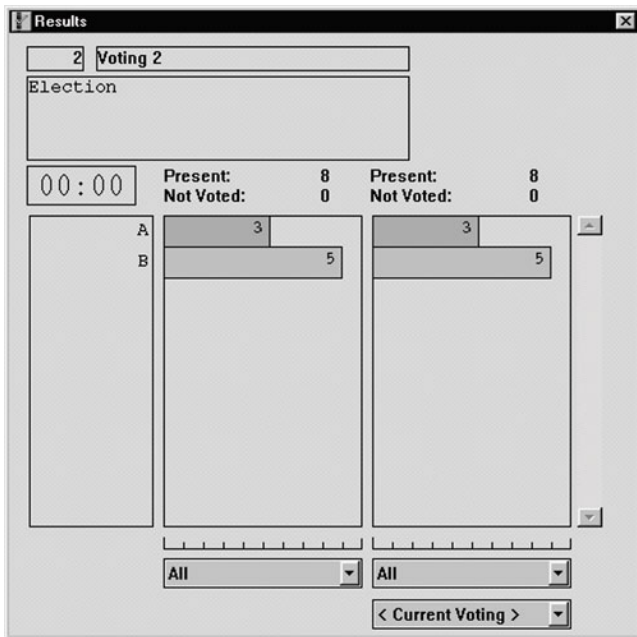
These are:

- Vote type (open or closed, majority or non-majority, timed or non-timed)
- Time related options
- Results display style
- Interim results display
- Screen and print legends
- Hall display, vote weighting, roll call, voting LEDs and abstain options

Once a motion is ready to be voted on, delegates can register votes on their delegate units. Multi Voting incorporates a roll call function which, when activated, means that delegates must vote in a predetermined order that is specified in the Delegate Database Module (LBB 4180/00). Otherwise, delegates can vote in any order at the same time. Voting without a script is also possible, and the same functions are available as with a script. Voting can be stopped or suspended at any time, and incoming votes or the final result of a vote can be displayed on hall displays connected to the DCN Next Generation system, on delegate units with a display facility and on-screen. The user can print the final result of a vote, and it can also be automatically exported to a file.

**Note** Delegate Database LBB 4180/00 is required if delegate names are used.






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### Installation/Configuration Notes

Delegate Database LBB 4180/00 is required if delegate names are used.

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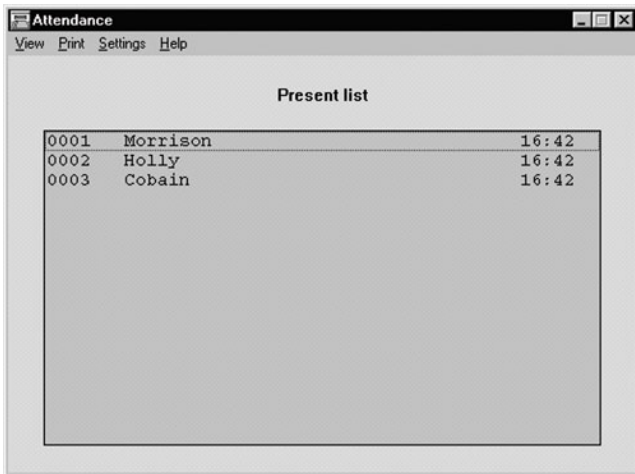
### Ordering Information

**LBB 4176/00 Multi Voting**

select and control six different kinds of conference voting, including Parliamentary Voting

**LBB4176/00**

# LBB 4178/00 Attendance Registration



## Features

- ▶ Registration using chip card with or without PIN-code, or present key
- ▶ Access control facilities
- ▶ All data instantly available to operator
- ▶ Print facility to reproduce data in several formats
- ▶ On-screen help facility

This software module is used when registering for a conference room, and for accessing facilities in the conference room.

## Functions

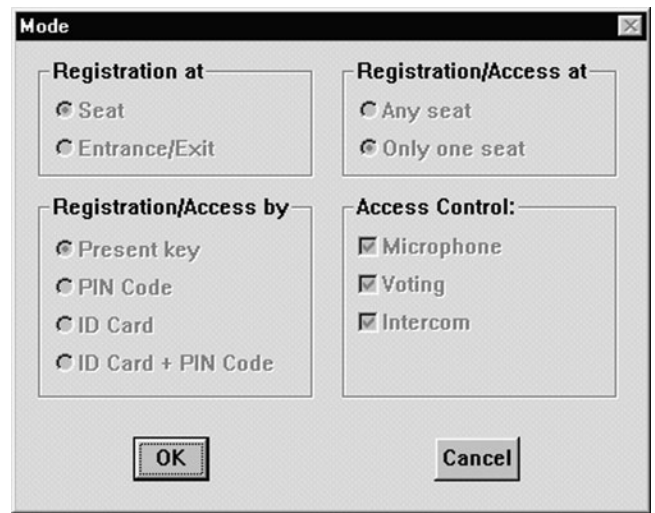
The functionality of Attendance Registration falls into two categories:

### Registration:

It is possible to specify entrance requirements that conference participants have to meet before entering the conference room. This normally means participants have to insert a chip card in a chip card reader, either at the entrance to the conference venue or at the contribution unit. Registration at a contribution unit can also be by means of pressing the 'Present' key. It is possible to display lists on-screen of all 'present' and 'absent' participants, and print hard copies of these lists. There is also a window that can be permanently displayed on-screen that gives an overview of all participants who have registered their presence or absence.

### Access:

The settings specified for registration can also be used for access. This means that although participants can enter the conference venue, they cannot use any of the contribution unit facilities (such as microphone, voting, intercom) without first satisfying access requirements. Access is also controlled by means of chip cards, with or without PIN code. There is also an option whereby participants register their presence at the entrance using a chip card reader, and a specific contribution unit is then made available for them. You can also control where participants sit by specifying whether they can occupy any seat or a particular, pre-defined one.



## Installation/Configuration Notes

Registration using chip card or present key.

## Ordering Information

**LBB 4178/00 Attendance Registration**

Used for registering and accessing facilities in the conference room

**LBB4178/00**

# LBB 4180/00 Delegate Database

**Delegate Database - 30\_Oct**

File Edit Search View Fields Configure Apply Help

Previous Name New Name Records: 7 Next Name

**Conference Data**

Last Name: Finn  
 First Name: Neil Title: [None]  
 Country: New Zealand Seat Number: 2  
 Interpretation: Maori PIN Code: 321  
 User Display: English Card Code: 069345351 Read Card  
 Group: Musicians Vote Weight: 1

**Authorization**

Mic  
 Voting  
 Intercom

**Personal Data**

Street: 17 Rowarawutu Road Phone:  
 Postal Code: 5614 GH City: Auckland 00 487 28 65774  
 Company: Crowded House Ltd. Fax: 00 487 28 65774  
 Birthdate: 30/10/82 E-Mail: finn@crowdhouse.nz

## Features

- ▶ Comprehensive database creation for all delegates
- ▶ Facility for configuring 'screen line' and 'card label'
- ▶ Facility for printing labels and chip card production
- ▶ Dedicated fields for ease-of-use
- ▶ On-screen help facility

The Delegate Database software allows users to compile a comprehensive database of information relating to participants at a conference or meeting. The delegate information is classed as either 'conference-related' or 'personal'.

- Conference-related deals with parameters like interpretation language, vote weight and authorization. This data is used by the DCN Next Generation for conference controlling
- Personal information deals with data such as home address and telephone number, date of birth and fax number. This data is for reference only

## Functions

The data for each delegate is stored in a 'screen card', which contains delegate data in dedicated fields. Screen cards are stored collectively in a names file. There are a number of options available to the user for working with these files, all of which are standard DCN Next Generation file options. These consist of opening, creating, deleting and saving files under a new name. All information is entered via a PC, before or during conference proceedings. A considerable amount of data can be

specified for each conference participant. Many parameters are not general but delegate specific, including:

- PIN Code
- Card Code for chip card
- Delegate group
- Delegate country
- Delegate name
- Delegate vote weight
- Delegate seat number
- Language of delegate screen display (French, German, Italian, Dutch, English, Portuguese, Japanese or Spanish)
- Simultaneous interpretation language

If the Chip Card Encoder (LBB 4157/00) and printer are connected to the DCN Next Generation system, chip cards can be encoded by using the ID Card Encoder module (LBB 4181/00) and the labels for the chip cards printed. It is also possible to grant or deny authorization to individual delegates for the following:

- Microphone
- Voting
- Intercom

This is possible when they use an ID card to register, and is carried out using the Attendance Registration and Access Control module (LBB 4178/00). All delegate data is input via the main window. For some entries (first name, last name) the only restriction is the number of characters entered. For other entries (country, group, etc.), the input can easily be selected from a list of options that is presented by the system when the user activates that particular field. This options list can be edited and expanded by the user. In the personal data section, the user can input such delegate data as date-of-birth, address, telephone number, fax and E-mail number. Certain fields within the screen card can be identified in order to print on an ID card label, or associated (as a screen line) with other software packages such as Microphone Management and Attendance Registration and Access Control.

**Delegate Database - test**

File Edit Search View Fields Configure Apply Help

Previous Name New Name Records: 4 Next Name

**Conference Data**

Last Name: Borthwick  
 First Name: David Title: [None]  
 Country: [None] Seat Number: 1  
 Interpretation: [None] PIN Code: 123  
 User Display: Dutch Card Code: 00000001 Read Card  
 Group: group 1 Vote Weight: 1

**Authorization**

Mic  
 Voting  
 Intercom

**Personal Data**

**ID Card Label:**

Borthwick  
 David group 1  
 00000001

**Screen Line:**  
 Borthwick

Produce Card

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**Installation/Configuration Notes**

Information is entered via a PC to compile a database.

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**Ordering Information**

<b>LBB 4180/00 Delegate Database</b>	<b>LBB4180/00</b>
used to compile a comprehensive database of information relating to participants at a conference or meeting	

## LBB 4181/00 ID Card Encoder

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Encoder software is used in combination with the Delegate Database software (LBB 4180/00) as a software driver for producing ID cards. These ID Cards are used to identify delegates during a conference and contain information specified using Delegate Database. An encoding unit (LBB 4157/00) is also required to produce the ID cards.

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**Ordering Information**

<b>LBB 4181/00 ID Card Encoder</b>	<b>LBB4181/00</b>
software driver for producing ID cards	

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**Accessories**

<b>LBB 4157/00 DCN ID Card Encoder</b>	<b>LBB4157/00</b>
Used in combination with the ID Card Encoder software module	

# LBB 4157/00 DCN ID Card Encoder



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Used in combination with the ID Card Encoder software module.

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## Certifications and Approvals

Region	Certification
Europe	CE

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## Technical Specifications

### Mechanical

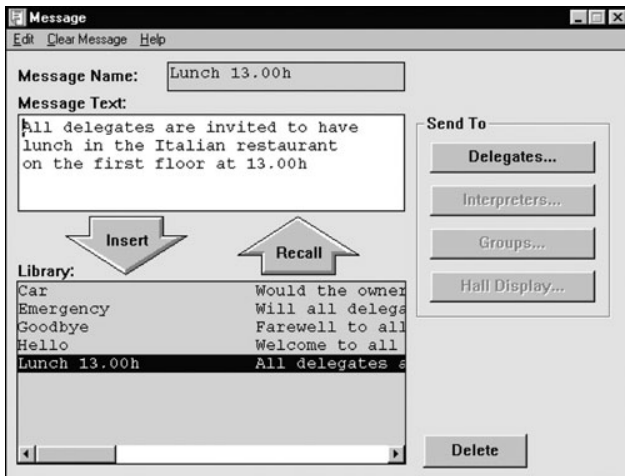
Dimensions (H x W x D)	90 x 70 x 16.5 mm (3.5 x 2.8 x 0.6 in)
Weight	145 g (0.3 lb)

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## Ordering Information

<b>LBB 4157/00 DCN ID Card Encoder</b>	<b>LBB4157/00</b>
Used in combination with the ID Card Encoder software module	

# LBB 4182/00 Message Distribution



## Installation/Configuration Notes

The Message Distribution software can be used in combination with the Video Display software (LBB 4184/00) and the Text/Status Display software (LBB 4183/00).

## Ordering Information

**LBB 4182/00 Message Distribution**  
allows the operator to originate messages that can be sent via the DCN Next Generation to delegates

**LBB4182/00**

## Features

- ▶ **Message distribution to personal or hall displays**
- ▶ **Easy message generation procedure**
- ▶ **Archiving facility allows messages to be retrieved and re-used**
- ▶ **Automatic message removal option**
- ▶ **On-screen help facility**

The Message Distribution software allows the operator to originate messages that can be sent via the DCN Next Generation to individual delegates, groups of delegates and other participants to view on their units. Messages can also be sent to hall displays for general viewing by the public and delegates.

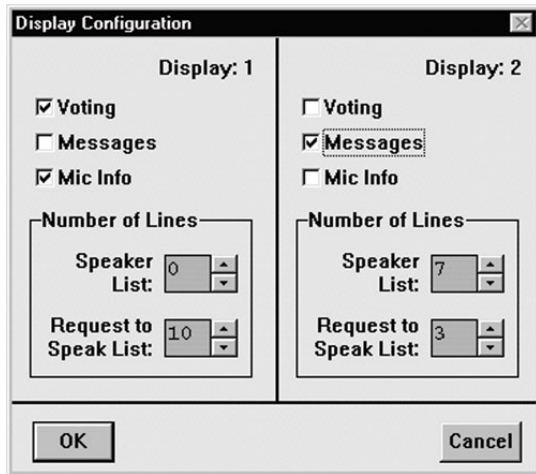
**Note** Message text is only available on delegate units with display.

## Functions

### Message handling

Messages created can be stored in a library for later use. There is a facility that automatically removes messages after they have been displayed for a pre-specified period of time.

# LBB 4183/00 Text/Status Display



## Features

- ▶ Supports numeric, alphanumeric and geographic displays
- ▶ Displays voting, message and microphone information
- ▶ Automatic priority system for displays
- ▶ Accepts information from other DCN Next Generation software modules
- ▶ On-screen help facility

The Text/Status Display module provides a means of displaying conference-related information on character displays in the conference venue. Almost all displayed information is generated by other DCN Next Generation modules. The text that appears on screen to accompany voting results can be generated using Text/ Status Display. It is also possible to specify the display length of the speakers list and the request-to-speak list.

## Functions

Text/Status Display accepts the following types of display information:

- Voting Results display. This information is generated using the Parliamentary Voting module (LBB 4175/00) and consists of a voting motion (number, description, time) and the results of the vote on that motion
- Messages display. This information is generated using the Message Distribution (LBB 4182/00) and consists of a conference-related text message

- Microphone Information display. This information is generated either using the Microphone Management module (DCNSWMM) or the Synoptic Microphone Control module (DCNSWSC). It consists of a list of delegates whose microphones are active and those waiting to speak. This software supports three different types of conference venue displays:
- Numeric display. This is typically a dot matrix display of only a few characters per line, and allows only purely numerical information to be displayed
- Alphanumeric display. Also typically a dot matrix display, but for up to 10 lines of 33 characters. Information can be displayed using both text and numbers
- Geographic or status display. This kind of display gives information on the voting status of each conference participant (if the vote is non-secret). A representation of the seating plan and different colored LEDs for vote status are used to achieve this.

## Installation/Configuration Notes

Displayed information can be generated by modules LBB 4175/00, LBB 4182/00, DCNSWMM, DCNSWSC.

## Ordering Information

**LBB 4183/00 Text/Status Display**  
used to display conference-related information on character displays in the conference venue

**LBB4183/00**

# LBB 4184/00 Video Display

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## Features

- ▶ **Interface to monitors, video projectors and Vidiwalls**

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Video Display is unlike all other DCN Next Generation modules in that there is no user action required to operate it. It automatically interfaces the DCN Next Generation software with video displays. It provides a means of displaying conference-related information on video displays located in the conference venue. The information can consist of text, numbers and graphical elements like bar charts. All information displayed is generated by other DCN Next Generation modules, and it is not possible to alter this information in Video Display.

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## Functions

To use Video Display, it is necessary to have a Video Display (VD) Client application. The VD Client application receives the information that is passed to it from the Video Display (server) module. The user can change settings related to how information is displayed on the video screens, such as text or background colors. This can be carried out either during or after installation of Video Display. This VD Client application accepts four different types of display information:

- Voting Results display. A voting motion and the results of the vote on that motion.
- Message display. A conference-related text message (e.g. when and where lunch will be, or when tomorrow's session will begin).
- Microphone Information display. A list of delegates whose microphones are active and those waiting to speak.
- Attendance registration display. Information about how many delegates are absent or present.

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## Installation/Configuration Notes

All information displayed is generated by other DCN Next Generation modules.

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## Ordering Information

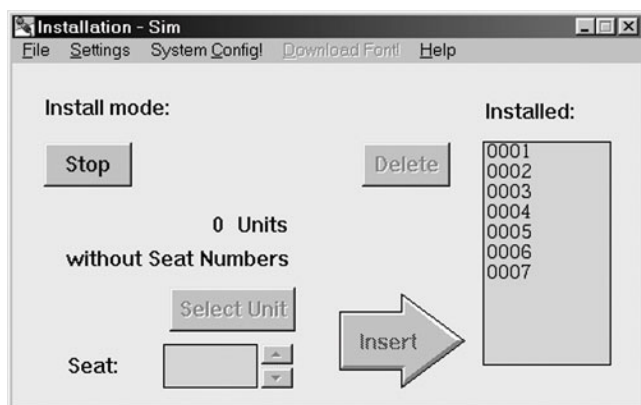
**LBB 4184/00 Video Display**

Used for displaying conference-related information

**LBB4184/00**



# LBB 4185/00 System Installation



## Features

- ▶ **Single-point control of system installation**
- ▶ **Facilities for assigning functions to audio channels**
- ▶ **In-conference warning message when installation configuration changes**
- ▶ **On-screen help facility**

The System Installation software is an effective tool for installers and system operators when installing and setting up the DCN Next Generation system. System installation, set-up and functions are brought entirely under PC control through its easy-to-use, Windows-based software.

## Functions

The DCN Next Generation System Installation software provides – in an easy yet methodical way – to specify the number of audio channels dedicated to interpretation and intercom facilities.

### Assigning seat numbers

The initial task in any installation is to assign seat numbers to delegate contribution units. The System Installation software offers a choice of two assignment methods:

1. From the hall, by physically pressing delegate microphone buttons in sequence. This is registered by the PC, which in turn automatically allocates the unit a number.
2. From the PC, where the operator selects a random microphone and allocates a number. The next assigned number will follow on sequentially. The software instantly recognizes when a new unit is installed by offering a seat number for the newly installed unit.

A dialogue box displaying the system configuration is available at any time, with the total number of installed delegate and chairman units, interpreter desks etc.

### Downloading font sets

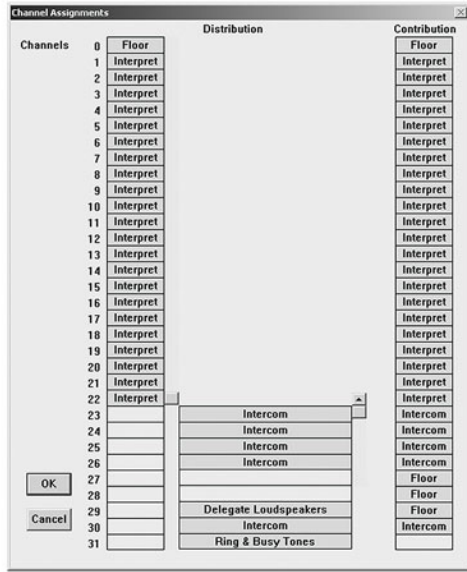
It is possible to download special font sets that allow certain DCN Next Generation contribution units to display characters in complex European languages, or icon-based scripts such as Chinese.

### Audio channel assignment

The DCN Next Generation system offers 32 audio output channels, with a default configuration of 26 distribution, 4 contribution and 1 intercom link (requires 2 channels) channels. Ten distribution channels can be assigned to combinations of interpretations, floor language and intercom, with two channels reserved for line output and one for delegate loudspeakers as default. If required, all 31 channels can also be used for interpretations. All channel assignments are interdependent. The number of channels assigned to floor and intercom is dependent on the number required for simultaneous interpretation. In large international conferences using 31 interpretation channels plus one floor channel, no channels are available for intercom use. In such a case, the system performs totally as an interpretation system. The task of assigning audio channels is made easy with the aid of on-screen channel selection, using a display with three scroll bars that gives an instant overview of channel allocation and the effect of altering any of these. System Installation is primarily a preparation program. Once all microphones and delegate units have been assigned seat numbers and the audio channels configured and tested, there is no need to use System Installation for day-to-day monitoring and controlling of a conference. However, if the physical layout changes in the conference hall (delegate units are added, for example), the data in System Installation must be updated, and a message appears in the installation window.

The conference-related information generated is stored in an installation file. The user can open, create, save, delete and save these files under a new name.

## LBB 4187/00 Open Interface



The DCN Next Generation Open Interface software allows remote control of selected DCN Next Generation functions via third party equipment and control software. Control data exchange between DCN Next Generation and the remote control device or system is carried out via an RS232 port on the CCU or via Ethernet on the NCO.

### Ordering Information

#### LBB 4187/00 Open Interface

**LBB4187/00**

allows remote control of selected DCN Next Generation functions via third party equipment and control software

### Installation/Configuration Notes

System installation, set-up and functions are entirely under PC control.

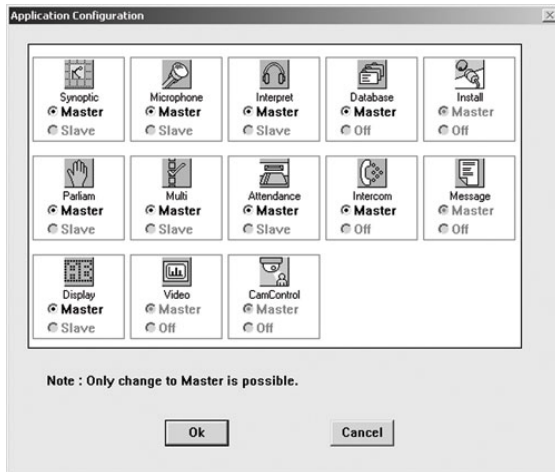
### Ordering Information

#### LBB 4185/00 System Installation

**LBB4185/00**

effective tool for installers and system operators when installing and setting up the DCN Next Generation system

## LBB 4189/00 Multi PC



### Features

- ▶ Master / Slave configuration
- ▶ On-screen help facility

The Multi PC software module is needed when more than one PC is required to control the DCN Next Generation system. All Slave PCs in a multi-PC environment are connected via Ethernet to the Master PC, which is connected to the CCU.

### Functions

This module sets up the master/slave mode of all other modules in a multi PC environment. The Multi PC configuration is accessed from the menu in the Startup screen (LBB 4190/00).

### Ordering Information

#### LBB 4189/00 Multi PC

LBB4189/00

Is needed when more than one PC is required to control the DCN Next Generation system



# Information Displays

A flexible and versatile display system is important for distributing information in conference venues. Bosch information displays provide a quick and effective means of informing participants and audience of the status of events such as conference arrangements, room allocation, changes in the agenda, advertising spots, interpretation distribution, microphone status, voting information and results, and up-to-date news.

Within this range of information displays are products to match the requirements of almost any conference, from small-scale informal discussions to large-scale multi-lingual conferences.

## Personal displays

The basic DCN Next Generation personal display system is housed in Conventus units and consists of a graphical LCD display for displaying text messages in almost every available font. They display information generated by DCN Next Generation software modules as well as text to describe the contribution unit soft key functions. LCD technology has also been applied in the development of compact displays that can be built into tabletops or the backs of seats, providing an ideal solution for personal information presentation to selected delegates or groups of delegates or interpreters. These displays are an unobtrusive solution for displaying live or recorded video material, adding a valuable extra dimension to delegate information facilities connected to a separate cable system.

## Video display

The Video Display displays conference-related information in the conference venue. The information may consist of text, numbers and graphical elements like bar charts. All information displayed is extracted from the DCN Next Generation software.



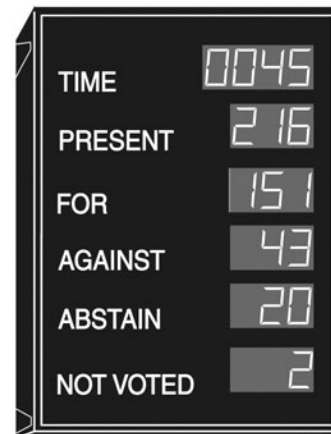
Video display

## Hall displays

Hall displays provide information clearly and effectively to a large number of conference participants. Numeric, alphanumeric and geographic displays are available, and are mainly used for displaying voting results and other text and conference-related data. Also direct view or front or rear projector video displays can be used, e.g. TV receivers. Video projectors are ideal for large audiences or longer distance viewing. These systems allow high quality display of any live or recorded video material as well as computer-generated graphics and text.

## Numeric Hall Display

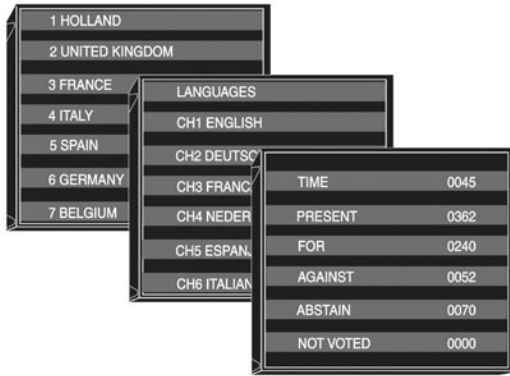
This dot matrix display with its own built-in power supply unit is used in DCN Next Generation systems to display voting results and remaining voting time. Legends can be fixed to the screen to accompany and clarify the numeric display. These would typically be 'TIME', 'PRESENT', 'FOR', 'AGAINST', 'ABSTAIN' and 'NOTVOTED'. This display can be supplied ready-for-use including an installed Data Distribution Board (DCN-DDB).



Numeric hall display

## Alphanumeric Hall Display

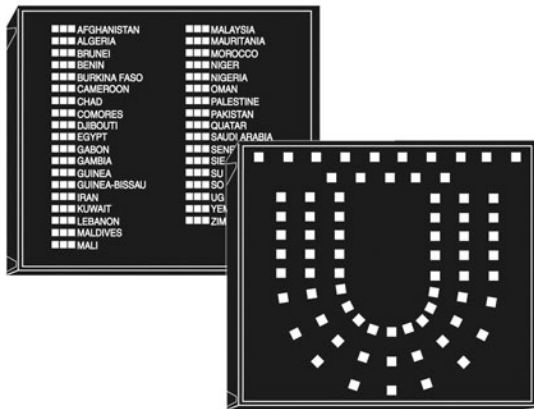
This dot matrix display with its own built-in power supply can display both numbers and text, and can therefore be used for showing microphone information (speakers list or request-to-speak list), voting results and motion information and messages. This information is generated in the relevant software modules and sent to the hall display via the Text/Status Display software module LBB 4183/00. The Alphanumeric Hall Display can be supplied ready-for-use including an installed Data Distribution Board DCN-DDB. The recommended number of lines is 10 and the number of characters per line is 33.



Alphanumeric hall display

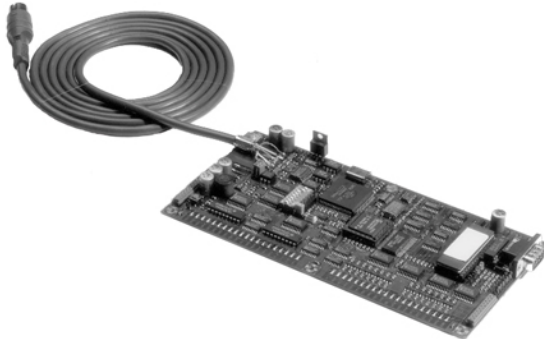
**Geographic Hall Display**

The hall display screen is built-up using LED modules and is designed to show individual voting results. Each contribution unit in the conference venue is represented by three different colored LEDs that show how each delegate has voted ('YES', 'NO', 'ABSTAIN'.). The layout of the display can be either according to the seating arrangement (synoptic) or according to a list showing delegate names and/or country. The geographic display can be supplied ready-for-use including an installed Data Distribution Board DCN-DDB. Information on connection to the DCN Next Generation system is available on request.



Geographic hall display

# DCN-DDB Data Distribution Board



- External initialization button and LED
- 8-bit parallel data input and output
- Nine-pole D-sub socket for RS232 output

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## Technical Specifications

### Electrical

External supply 7.5 – 35 VDC.

### Mechanical

Dimensions (H x W) 100 x 200 mm (3.93 x 7.87 in)

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## Ordering Information

### DCN-DDB Data Distribution Board

**DCN-DDB**

Used to provide the data communication link to the DCN Next Generation

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## Features

- ▶ **Drives hall displays**
- ▶ **Allows transparent data transport for remote control of external equipment**
- ▶ **Speak slowly and help indicator control**

The DCN-DDB is a printed circuit board that is used with digital equipment such as hall displays, recorder systems and camera controllers to provide the data communication link to the DCN Next Generation. Transparent data transport between data communication boards in the DCN Next Generation system is possible, i.e. for remote control of slide projectors, lights, blinds, projection screens etc. It is intended for mounting in external equipment, and includes an RS232 communication port with a baud rate of 9600 or 1200 baud - selectable by an onboard dip switch. Opto-couplers isolate it from the DCN Next Generation system. It can be powered by DCN Next Generation system supply or an external power source. Other function is to control indicators to show speak slowly and help request from interpreters. When the interpreter presses the speak slowly or help button another output control of the DDB is activated, which can control an indicator of the chairman or operator's position.

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## Functions

### Controls and Indicators

- Initialization button with LED indication

### Interconnections

- 2 m (78.7 in) cable terminated with a molded six-pole circular connector
- Multi-pole PCB connector for:





# Installation Equipment

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The range of installation accessories greatly simplifies system installation by the use of readymade cables with connectors for both trunk cables and optical network cables. Splitters allow cables to be split and run in diverse directions, which mean contribution units and central equipment can be located precisely where they are required in a conference venue. Dedicated optical network interfaces are available to make it possible to run the system signal and data over great distances. Installation equipment is used for both fixed and portable installations.

# DCN-EPS Extension Power Supply



## Features

- ▶ **Easy to connect to DCN**
- ▶ **Maximum supply power of 255 W**
- ▶ **Built-in DCN network splitter allows installation at any convenient point in the system cabling**
- ▶ **Loop-through cabling**
- ▶ **Switches on automatically when the CCU is switched on**
- ▶ **All outputs are protected against short circuit**
- ▶ **Freestanding on a tabletop or mounted in a 19" rack**

The Extension Power Supply unit is used in combination with a CCU to supply extra power to the DCN network.

## Functions

### Controls and Indicators

- "Power on" LED indicator
- Three indicators to indicate DCN outlet overload (red LEDs)

### Interconnections

- Euro power socket with built-in fuse holder
- 2 m (78.7 in) DCN cable with molded six-pole circular connector
- Six-pole circular socket for loop-through connection to the DCN network
- Three DCN outlet sockets for connection of units, plus extension power supplies. Each socket is protected against short-circuit (3 x six-pole circular sockets)

## Parts Included

Quantity	Component
1	DCN-EPS Extension Power Supply
1	Power cord 1.7 m (66.9 in)

## Technical Specifications

### Electrical

Supply voltage	105, 115, 125, 220, 230, 240 VAC
Power consumption	350 W
DCN system supply	40 VDC, max 85 W per DCN socket

### Mechanical

Mounting	Free-standing on a tabletop or mounted in a 19" rack unit (required 2U, 19" width)
Dimensions (H x W x D)	100 x 220 x 308 mm (3.9 x 8.7 x 12.1 in)
Weight	8.3 kg (18.3 lbs)
Color cabinet	Charcoal (PH 10736)
Color handles	Charcoal (PH 10736)

## Ordering Information

<b>DCN-EPS Extension Power Supply</b> for all regions except North-America	<b>DCN-EPS</b>
<b>DCN-EPS-UL Extension Power Supply UL/CSA</b> for the North-America region	<b>DCN-EPS-UL</b>

# LBB 4114/00 DCN Trunk Splitter

## Ordering Information

**LBB 4114/00 DCN Trunk Splitter**  
2 m (78.7 in) cable, charcoal

**LBB4114/00**



The Trunk Splitter is used in conjunction with the system installation to divide the trunk-line cabling, thus allowing system installers to optimize layout of the trunk-line and contribution equipment to suit the conference venue.

The Trunk Splitter comes complete with cable restraining clamps and includes mounting holes for fixing to a floor or wall.

## Functions

### Interconnections

- 2 m (78.7 in) long cable terminated with a molded six-pole circular connector
- Six-pole circular connector for loop-through connections
- 2 x six-pole circular connector for trunk cable splitting and pulse regeneration purposes

## Certifications and Approvals

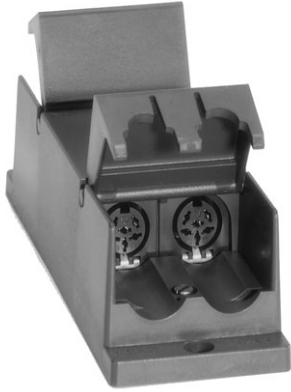
Region	Certification
Europe	CE

## Technical Specifications

### Mechanical

Mounting	Floor, cable duct or wall mounting
Dimensions (H x W x D)	35 x 49 x 140 mm (1.4 x 1.9 x 5.5 in)
Weight	0.3 kg (0.66 lb)
Color	Charcoal (PH 10736)

# LBB 4115/00 DCN Tap-Off Unit



## Mechanical

Mounting	Floor, cable duct or wall mounting
Dimensions (H x W x D)	35 x 49 x 140 mm (1.4 x 1.9 x 5.5 in)
Weight	0.3 kg (0.66 lb)
Color	Charcoal (PH 10736)

## Ordering Information

**LBB 4115/00 DCN Tap-Off Unit**  
2 m (78.7 in) cable, charcoal

**LBB4115/00**

The Tap-Off Units create short-circuit proof tap-off points on the trunk line cabling. Each tap-off point allows for connection of up to five channel selector panels or one tabletop contribution unit such as Discussion unit, Cententus unit or Interpreter Desk. A Tap-Off Unit consists of two tap-off points. The Tap-Off Unit comes complete with cable restraining clamps and includes mounting holes for fixing purposes.

## Functions

### Interconnections

- 2 m (78.7 in) cable terminated with a molded six-pole circular connector
- Six-pole circular connector for loop-through connections
- 2 x six-pole circular connector for trunk cable splitting and pulse regeneration purposes
- Short-circuit proof tap-off points at the system cable

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Max power at Tap-offs	4.5 W each
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## LBB 4116 Series DCN Extension Cables



Cable terminated at both ends with a molded six-pole circular connector (male and female). The extension to the type number gives the length of the cable.

### Technical Specifications

#### Mechanical

Dimensions (dia.)	6 mm (0.24 in)
Material	PVC
Color	Grey

### Ordering Information

<b>LBB 4116/02 DCN Extension Cable 2m</b> 2 m (6.6 feet), terminated with connectors	<b>LBB4116/02</b>
<b>LBB 4116/05 DCN Extension Cable 5m</b> 5 m (16.0 feet), terminated with connectors	<b>LBB4116/05</b>
<b>LBB 4116/10 DCN Extension Cable 10m</b> 10 m (33.0 feet), terminated with connectors	<b>LBB4116/10</b>
<b>LBB 4116/15 DCN Extension Cable 15m</b> 15 m (49.2 feet), terminated with connectors	<b>LBB4116/15</b>
<b>LBB 4116/20 DCN Extension Cable 20m</b> 20 m (66.0 feet), terminated with connectors	<b>LBB4116/20</b>
<b>LBB 4116/25 DCN Extension Cable 25m</b> 25 m (82.0 feet), terminated with connectors	<b>LBB4116/25</b>

## LBB 4116/00 DCN Installation Cable 100m



The LBB 4116/00 is a 100 m (328 ft) roll of cable identical to DCN Extension cable assembly, but without the connectors.

### Certifications and Approvals

Region	Certification
Europe	CE

### Technical Specifications

#### Mechanical

Dimensions (dia.)	6 mm (0.24 in)
Material	PVC
Color	Grey

### Ordering Information

<b>LBB 4116/00 DCN Installation Cable 100m</b>	<b>LBB4116/00</b>
100 m (328 feet), without connectors	

## LBB 4117/00 DCN Cable Locking Clamp (25 pcs)



Matching clamps for male/female cable connectors such as those on the DCN Extension Cable (LBB 4416). One clamp per male/ female connector required.

### Ordering Information

<b>LBB 4117/00 DCN Cable Locking Clamp (25 pcs)</b>	<b>LBB4117/00</b>
set of 25	

## LBB 4118/00 DCN Termination Plug



The termination plug is specially designed for use with opened-ended DCN cabling.

### Certifications and Approvals

Region	Certification
Europe	CE

### Ordering Information

<b>LBB 4118/00 DCN Termination Plug</b> use with opened-ended DCN cabling	<b>LBB4118/00</b>
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## LBB 4119/00 DCN Connectors (25 pairs)



The set DCN Connectors contains 25 female and 25 male connectors that can be used with the 100 m (328 ft) DCN Installation Cable LBB 4116/00.

### Ordering Information

<b>LBB 4119/00 DCN Connectors (25 pairs)</b> 25 female and 25 male connectors	<b>LBB4119/00</b>
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# LBB 4416 Series Optical Network Cables



This is a special cable with 2 plastic fibers for data and audio communication and 2 copper cores for the power supply. The cable is supplied with the network connectors fitted. This cable can be used to connect the CCU to audio expanders.

The network cables are supplied in different lengths. The extension (/xx) on the type number indicates the length of the cable. Only the LBB 4416/00 is without connectors. The connectors are available separately (LBB 4417/00).

## Certifications and Approvals

Region	Certification
Europe	CE

## Ordering Information

<b>LBB 4416/00 Network Cable 100m</b> without the network connectors fitted	<b>LBB4416/00</b>
<b>LBB 4417/00 Set Network Connectors (20 pcs)</b> 20 connectors that can be used with the network cable.	<b>LBB4417/00</b>
<b>LBB 4418/00 Cable Connector Tool Kit</b> Optical fiber cable connector tools	<b>LBB4418/00</b>
<b>LBB 4416/01 Network Cable Assembly 0.5m</b> with the network connectors fitted	<b>LBB4416/01</b>
<b>LBB 4416/02 Network Cable Assembly 2m</b> with the network connectors fitted	<b>LBB4416/02</b>
<b>LBB 4416/05 Network Cable Assembly 5m</b> with the network connectors fitted	<b>LBB4416/05</b>

## Ordering Information

<b>LBB 4416/10 Network Cable Assembly 10m</b> with the network connectors fitted	<b>LBB4416/10</b>
<b>LBB 4416/20 Network Cable Assembly 20m</b> with the network connectors fitted	<b>LBB4416/20</b>
<b>LBB 4416/50 Network Cable Assembly 50m</b> with the network connectors fitted	<b>LBB4416/50</b>



## LBB 4417/00 Set Network Connectors (20 pcs)



The set contains 20 connectors that can be used with the network cable LBB 4416/00 to make up to ten custom cables. The cable/connector toolkit LBB 4418/00 is required for assembly.

### Certifications and Approvals

Region	Certification	
Europe	CE	Declaration of Conformity
	TUEV-SUED	TUV
	GL	GL

### Ordering Information

**LBB 4417/00 Set Network Connectors (20 pcs)** **LBB4417/00**  
 20 connectors that can be used with the network cable.

## LBB 4418/00 Cable Connector Tool Kit



### Certifications and Approvals

Region	Certification	
Europe	TUEV-SUED	TUV

### Parts Included

Quantity	Component
1	Standard cutting pliers
1	Stripping pliers
1	Crimping pliers
1	Plastic optical fiber cutting/stripping tool
1	Plastic optical fiber positioning and indent tool
1	Torx screw driver
1	Spare cutting system

### Ordering Information

**LBB 4418/00 Cable Connector Tool Kit** **LBB4418/00**  
 Optical fiber cable connector tools

## LBB 4419/00 Cable Couplers (10 pcs)



Cable couplers are used to couple LBB 4416/xx network cable assemblies for extension.

### Certifications and Approvals

Region	Certification	
Europe	CE	Declaration of Conformity
	TUEV-SUED	TUV
	GL	GL

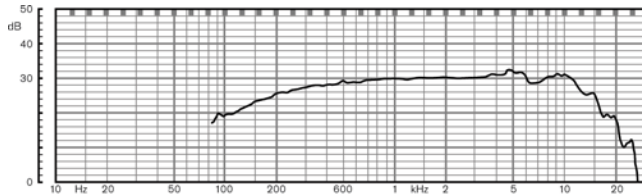
### Ordering Information

**LBB 4419/00 Cable Couplers (10 pcs)**      **LBB4419/00**  
used to couple LBB 4416/xx network cable assemblies for extension.

# Technical Data

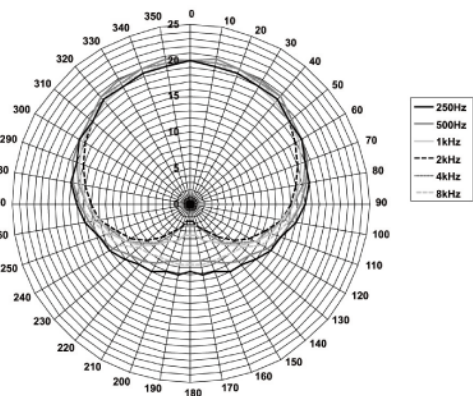
Conforms to international standard IEC 60914, the international standard for conference systems.

## Microphones



Microphone frequency response

Frequency response	100 Hz to 16 kHz
Transducer type	Condenser
Directional pattern	Cardioid
Sensitivity	9.3 mV at 85 dB SPL (RI=3k3, U=5V)
Max. SPL for THD	< 3 % 110 dB
Equivalent input noise level	24 dB lin, 21 dBA



Microphone polar diagram of LBB 4149 measured with pink noise in octaves

	250	500	1k	2k	4k	8k	Hz
F-Rear Sensitivity Index	10.5	12	15.5	17.5	17	11.5	[dB]
F-Random Sensitivity Index	3.7	3.7	4.6	5.0	4.3	3.9	[dB]

## Transmission links

- From delegate to interpreter
- From delegate to delegate
- From interpreter to delegate
- From interpreter to interpreter
- From auxiliary input to delegate
- From auxiliary input to interpreter
- From delegate to auxiliary output
- From interpreter to auxiliary output

## General

Frequency response	125 Hz to 20 kHz*
Harmonic distortion	< 0.5 %
Harmonic distortion at overload	< 1 %
Crosstalk attenuation at 4 kHz	> 80 dB
Dynamic range	> 90 dB

\* Intercom links: 125 Hz to 5 kHz

## Combined units

- Delegate microphone with transmission link to interpreter headphone
- Delegate microphone with transmission link to delegate headphone
- Delegate microphone with transmission link to auxiliary output
- Interpreter microphone with transmission link to interpreter headphone
- Interpreter microphone with transmission link to delegate headphone
- Interpreter microphone with transmission link to auxiliary output

## General

Typical frequency response	125 Hz (-8 dB) to 16 kHz (-8 dB)
Front-to-random sensitivity index	> 4.6 dB
Rated equivalent sound pressure level due to inherent noise	< 24 dB (A)
Total harmonic distortion at overload	< 1 %
Crosstalk attenuation	> 96 dB

## System electrical and electro-acoustic characteristics

### General

Normal input level	125 Hz (-8 dB) to 16 kHz (-8 dB)
Overload input level	> 4.6 dB
Automatic gain reduction at Overload input level	25 dB interpretation channels, 21 dB delegate loudspeaker channel (not for PA-floor output)
Operator master gain control	24 x 1 dB and OFF (Mute)

## System environmental conditions

### General

Working conditions	125 Hz (-8 dB) to 16 kHz (-8 dB)
Temperature range	-20 °C to +55 °C (-4 °F to +131 °F)
- transport	+5 °C to +45 °C (+41 °F to +113 °F)
- operating	
Relative humidity	15 - 90 % max.
Safety	According to IEC 60065, and according to CAN/CSA-E65 (Canada and USA) and UL6500
EMC emission	According to harmonized standard EN 55103-1 and FCC Rules (Part 15) complying with the limits for a class A digital device
EMC immunity	According to harmonized standard EN 55103-2
EMC approvals	Affixed with the CE mark

ESD	According to harmonized standard EN 55103-2
Mains harmonics	According to harmonized standard EN 55103-1
Other legal requirements	No cadmium used other than in the nickel cadmium battery housed in the central unit
Shock resistance	According to IEC 60069-2 – 29 Eb
Vibration resistance	According to IEC 60069-2 – 6 Fc

### Power consumption and nodes

The Power Consumption and the nodes of units connected to a CCU have a bearing on the total number of such units that can be connected.

The maximum power of all units connected to DCN-CCU must not exceed 130 Watts.

The maximum number of nodes must not exceed 63.

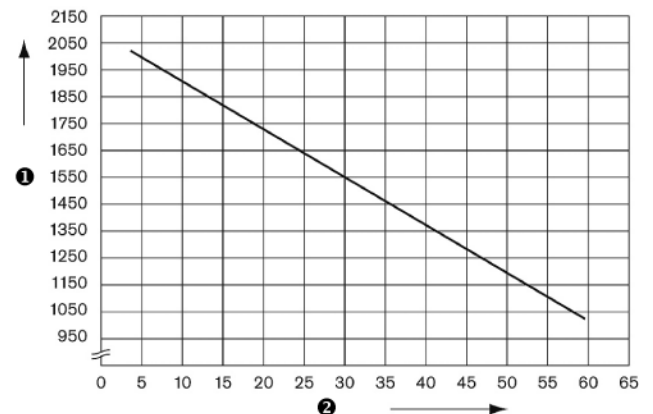
The power of all units that can be connected to DCN-CCU is given below:

Device	Watt	Nodes
DCN-DISS / DCN-DISL	2.75	-
DCN-DISD	2.8	-
DCN-DISCS	2.9	-
DCN-DISDCS	3.15	-
DCN-DISV	3.05	-
DCN- DISVCS	3.20	-
DCN-CON	3.4	-
DCN-CONCS	3.7	-
DCN-CONFF	4.2	-
DCN-CONCM	4.2	-
DCN-DDB	2	-
DCN-DDI	4.9	-
DCN-EPS	0.1	-
DCN-FCS	0.9	-
DCN-FVU	1.0	-
DCN-FVU-CN	1.0	-
DCN-IDESK	3.6	-
LBB 4114/00	1.3	-
LBB 4115/00	1.4	-
DCN-CCU	n.a.	2
LBB 4402/00	7.6	1
PRS-4DEX4	6	1
LBB 4404/00	10.5	1
LBB 4414/10	4.6	1*
LBB 4410/00	3.9	1
INT-TX04	-	1
INT-TX08	-	2
INT-TX16	-	4
INT-TX32	-	8

\* LBB 4414/00 does not count in the maximum of 63 nodes

### System Limits

- The total DCN cable length (using standard LBB 4116/xx cable) between the central control unit and the last unit in any branch of the system must not exceed 250 m (820 ft). This includes all extension cables and the 2 m (78.74 in) long cable attached to each system unit
- The total number of units from the central control DCN-CCU unit to the first regenerative tap-off (i.e., from Trunk Splitter LBB 4114/00 or Extension Power Supply Unit DCN-EPS) must not exceed 50 pieces The total length of the extension cable between regenerative tap-offs outputs must not exceed 100 m (328 ft)
- The maximum distance between units is normally 160 cm (63 in), each units has 2 m (78.74 in) cable. This distance can be increased by using the LBB 4116/xx Extension Cable
- The maximum Plastic Optical Fiber (POF) length (using standard LBB 4416/xx cable) between two units is 50 m. When more than 50 and less than 1500 meter is required, fiber interfaces LBB 4414/10 and Glass Optical Fiber (GOF) must be used. Only multimode GOF with a maximum attenuation of 2 dB/km and a wavelength of 1300 and terminated with SC connectors is supported. It is also possible to increase the 50 m by inserting a network splitter LBB 4410/00 every 50 m or less.
- The maximum length of all optical fibers together (POF and GOF) depends on the number of nodes in the system. The graph below shows the relation between the number of nodes and the fiber lengths.



Relation between no. of nodes and fiber lengths

(1) – Maximum cable length (m)

(2) – Number of nodes

The examples given below of the DCN-CCU, DCN-EPS show the following:

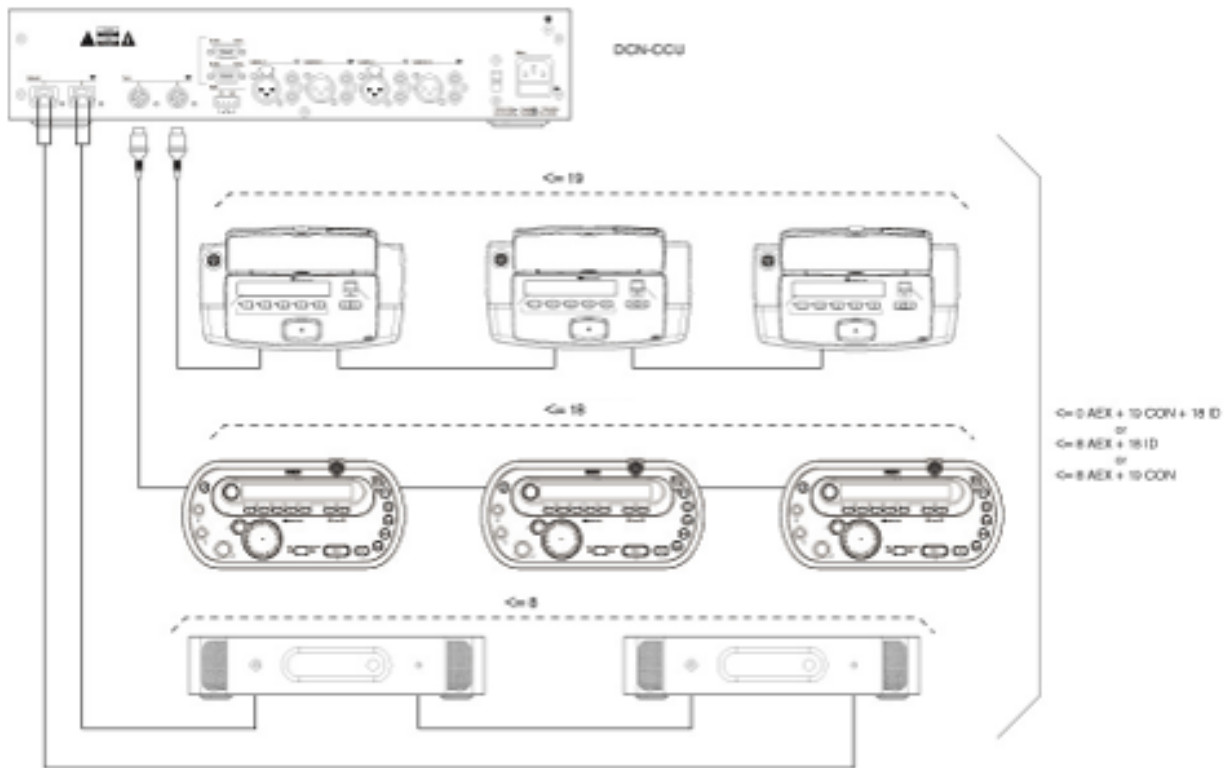
- Maximum number of units that can be connected to a single output
- Maximum number of units that can be connected to all outputs
- Maximum DCN cable length from an output to the last unit

### Examples

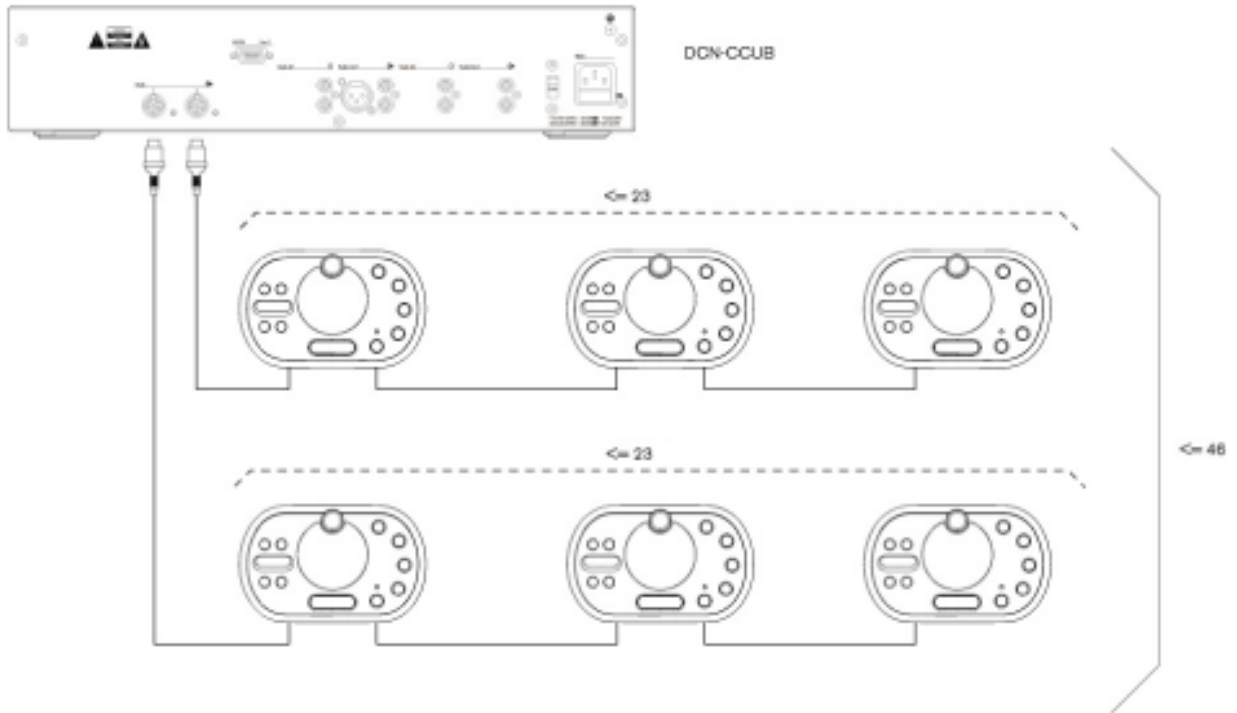
The examples given below of the DCN-CCU, DCN-CCUB and DCN-EPS show the following:

- Maximum number of units that can be connected to a single output
  - Maximum number of units that can be connected to all outputs
  - Maximum cable length from an output to the last unit
- In these examples, the following annotations are used:

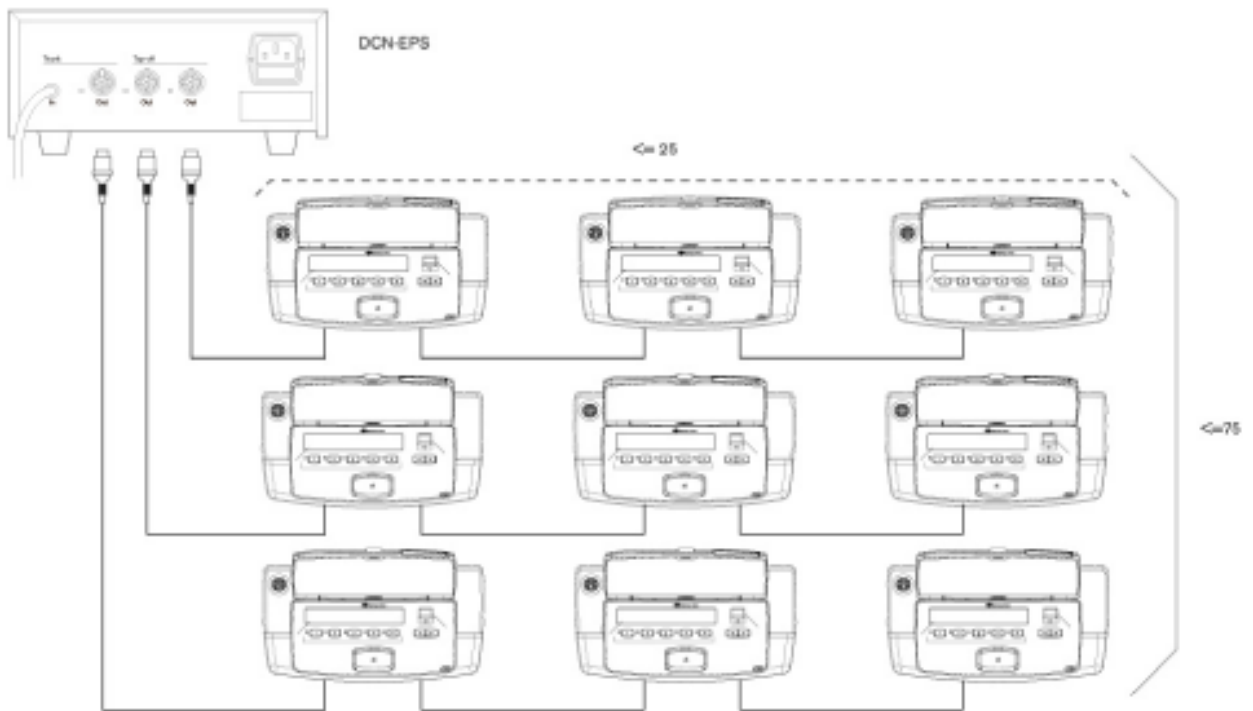
DIS = Discussion unit DCN-DISS  
 CON = Concentus DCN-CON  
 AEX = Audio Expander LBB 4402



*DCN-CCU with connected units*



DCN-CCUB with connected units



DCN-EPS with connected units

# CCS 900 Ultra Introduction



## **Bosch Security Systems: World-class Solutions for Meetings and Conferences**

Bosch is pleased to introduce its latest innovation, the CCS900 Ultra Discussion System as the successor of the former CCS 800 Ultra System. It offers new design features and extra functions, including a patent-pending “Possible-To-Speak” indication. Designed and developed by Bosch experts in Europe, the system makes it easy to manage meetings and lets users record the proceedings digitally, via MP3.

### **Simple straight-forward installation**

Designed for installation flexibility, the system is ideal for small-to-medium-scale meeting areas, such as town halls, local business centers and courtrooms. Each system includes a control unit (CU) connected to a number of delegate and chairman units. The advanced CU is equipped with a recording feature, including an easy-to-read LCD screen and a Secure Digital (SD) card slot. Like all Bosch products, the CCS 900 Ultra is backed by Bosch’s world-renowned customer support and service commitment.

### **Easy to Use & Easy to Install**

Since it’s a plug-and-play, all-in-one discussion solution, the CCS 900 Ultra requires no special training or operator. Anyone can begin using the intuitive controls immediately. The display on the CU is language-independent, and the microphone mode and the volume level can be adjusted using the CU dials.

## **Innovative, Elegant Design**

The CCS 900 Ultra is designed in Europe and reflects Bosch’s many years of experience in creating state-of-the-art conferencing equipment. It delivers excellent ergonomics, improved acoustical characteristics and a design that complements any interior, from new, ultra-modern buildings to traditional, centuries-old structures.

It combines excellent acoustics, superior component design and intuitive use with eye-catching aesthetic quality, and is exclusively registered to Bosch.



## **Genuine Bosch Development**

The microphones used in the CCS 900 Ultra delegate units, optimized for speech intelligibility, were specially developed by Bosch’s R&D department for conferencing. The new, patent-pending “Possible-To-Speak” indication is exclusive to Bosch. The DAFS (Digital Acoustic Feedback Suppressor) filtering algorithm is a Bosch-invented feature that has been used for years in Bosch’s conferencing and

public address systems. The newly redesigned discussion unit delivers superior acoustical performance and reflects Bosch's famous attention to detail.

#### **A New, "Possible-To-Speak" Indication**

The new, patent-pending "Possible-To-Speak" indicator gives delegates a visual indication when the microphone is available. Depending on the selected mode of the CU, up to four delegates can switch on their microphones simultaneously.

During the meeting, the "Possible-To-Speak" indication on each delegate unit displays one of three options: red, white or off. A red light indicates that the delegate actively has the floor. A white light indicates that it is possible to switch on the microphone for speaking, and an off light indicates that the maximum number of active microphones has been reached. The delegate must wait for the LED to light up white again, indicating that it is possible to switch on the microphone. Chairman units can always switch on microphones, regardless of who else has the floor. The "Possible-To-Speak" indication can be switched off if it's not wanted.

#### **Excellent Speech Intelligibility**

Bosch's European engineers designed the system with the best possible sound quality. Use of genuine Bosch DAFS ensures superb speech intelligibility. The technology employs proprietary DSP (Digital Signal Processing) functions to balance sound pressure levels and system gain above normal feedback limits. As a result, users can increase the volume to higher-than-normal levels without generating feedback or making the microphone "howl." Authentic Bosch components and sophisticated design combine to provide the highest quality of sound amplification.

#### **Recording from the Floor**

With this compact all-in-one system, users can listen to the proceedings and participate directly in the discussion. The chairperson can digitally record and playback up to 64 hours of discussion using a 2-GB SD card. When it's time to insert a new SD card, the patent-pending recording buffer stores the ongoing discussion for up to 60 seconds, so there's no loss of data while changing cards. The LCD screen displays five soft-touch keys to control the menu: start, stop, pause recording, playback and change settings. The screen also displays date and time, file name, elapsed recording time, elapsed playback time, number of recorded tracks, used and remaining SD card memory, SD card availability status, menu icons, playback mode and a settings menu. To archive the proceedings on a PC, users can connect the CU to a computer via a USB port. Users can also dedicate a separate SD card reader to load files onto a PC. The CCS 900 Ultra provides several options for playback, including previously recorded segments, background music or pre-recorded messages and speeches. Before playing back recorded segments to the audience, it is possible to pre-listen to the recorded files via the CU.

#### **Operational Flexibility and Discussion Control**

The CCS 900 Ultra supports almost any kind of small- or medium meeting. The tabletop delegate units include a built-in loudspeaker, a microphone that's activated with a single touch and two headphone sockets with volume control. The dedicated chairman unit adds a priority button, which mutes all active delegate microphones and sounds an "attention" tone. The CU supplies power for up to 50 units and each system can be expanded to support up to 150 units. Systems can be installed permanently or used in mobile applications. Rugged, custom-made transport suitcases protect the system when it's stored or moved from site to site.

#### **Operating Modes and Applications**

Four easy-to-use operating modes give the CCS 900 Ultra added versatility for more focus on the conversation. For business discussions and small conferences, one to four microphones can be active simultaneously, with the chairman always having speaker priority. Unused microphones are switched off automatically if delegates forget to switch off their units. To support external participants (during town-council meetings, for example), extra microphones in any style (wired, wireless, handheld or podium) can be connected to the system. In specific applications like business meetings, the MP3 audio recording is typically used for writing meeting notices after meetings. In applications like courtrooms, the recorded testimony is used for archiving and evidence purposes. As an option, an individual microphone-output box can be integrated to extract individual microphone signals. Users with hearing problems can use earphones or, if they wear a hearing aid, can use Induction Loop Neckband. Double headphone sockets let two users share one microphone.

#### **Future-proof**

Value-added features, an elegant design, an excellent price/quality ratio and innovative technology make the CCS 900 Ultra system exceptional. The system is designed for future expansion, with the possibility of adding a wide range of additional equipment and auxiliary components, including an interpretation system, language distribution, an interface for tele/video conferencing and a public address system.

The Bosch CCS 900 Ultra is the ideal choice for small-to-medium-sized venues such as town halls, local business centers and courtrooms:

#### **Innovative and authentic European design, established Bosch quality & reliability**

- Subtle aesthetics with attractive look and feel
- Advanced acoustic design
- Unique, patent-pending "Possible-To-Speak" indicator
- Excellent speech intelligibility with genuine Bosch DAFS technology
- Built-in digital (MP3) recording and playback stored on removable SD cards
- Built-in, patent-pending recording buffer
- Conserves SD card memory by only recording when microphone is receiving audio
- Language-independent LCD user interface



- Full discussion control with four operating modes
- Highly flexible and customizable system supporting up to 150 units
- Easy plug-and-play installation: one-cable, daisy-chain connectivity
- Easy to use, no operator required
- Suitable for mobile or permanent installation
- Excellent entry-level price/quality ratio with future-proof extendibility
- Bosch's years of experience developing state-of-the-art conference systems



## Example 1 - Town hall



- 1: Control Unit with Recorder
- 2: Chairman Unit
- 3: Delegate Units
- 4: Plena Mixer Amplifier
- 5: XLA 3200 Line Array Speakers 60W (x2)
- 6: Microphone

### Excellent speech intelligibility and delegate management

In small-to medium-sized applications, like town halls, there may be different types of discussions, but they all need excellent speech intelligibility. The CCS 900 Ultro, a flexible solution for this type of venue, makes it easy to conduct meetings without an operator. The chairman can guide the discussion, allowing individual delegates to speak or letting several delegates take the microphone simultaneously. Delegates are guided by a visual LED to know when to speak.

The daisy-chained system has an intuitive interface and is fast and easy to install. The system can easily handle external equipment like handheld microphones or a public address system to allow the audience to listen to the discussion.

## Example 2 - (International) Business Conference Center



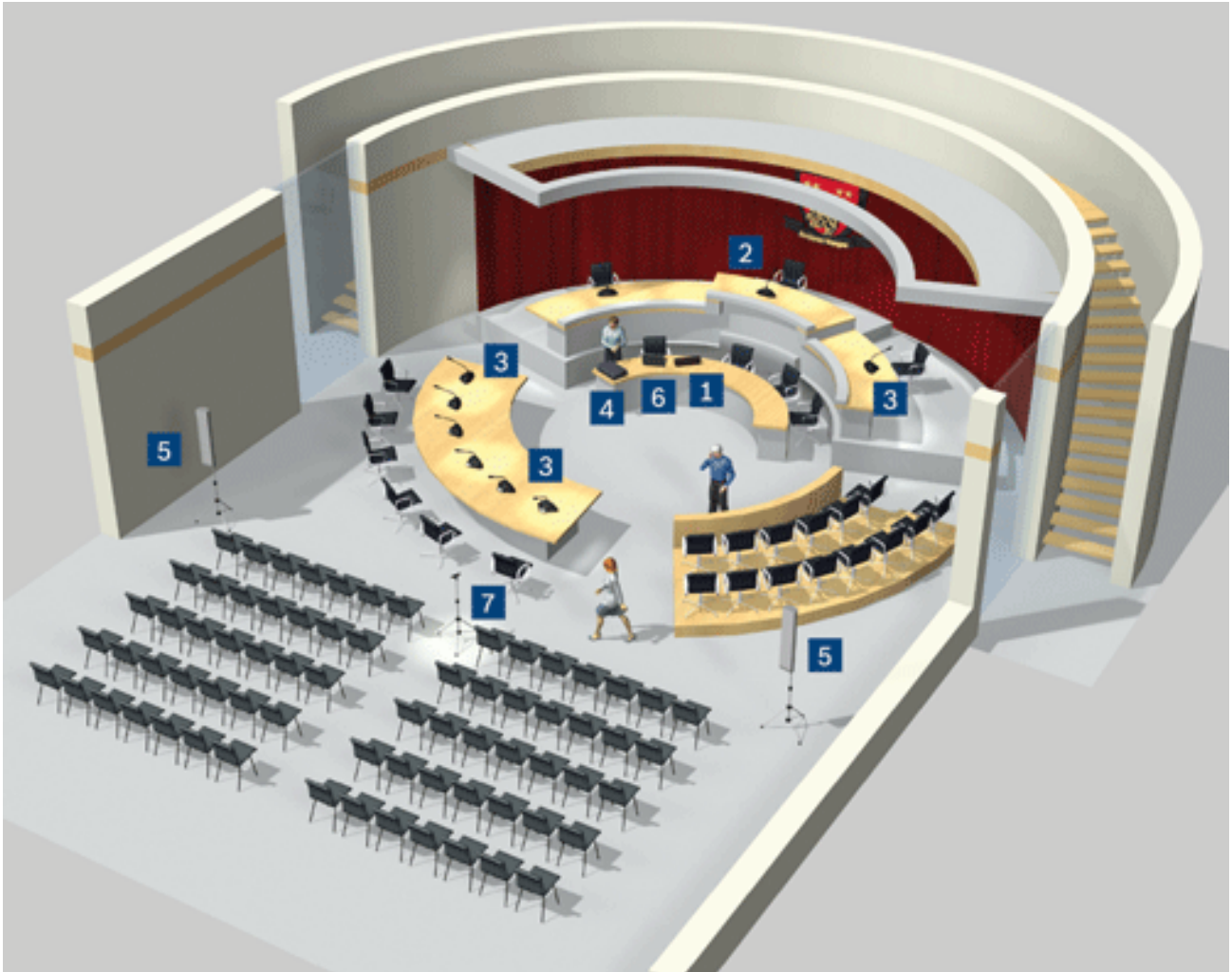
- 1: Control Unit with Recorder
- 2: Chairman Unit
- 3: Delegate Units
- 4: Video conferencing interface
- 5: Plena Mixer Amplifier 120W
- 6: XLA 3200 Line Array Loudspeakers 60W (x2)
- 7: Six-channel Analog Interpretation Desk
- 8: Integrus Transmitter
- 9: Integrus Radiators
- 10: Integrus Receivers
- 11: Wireless Microphone & Receiver
- 12: Camera system

### Excellent choice for dynamic business environments

The CCS 900 Ulro Discussion System makes an excellent base installation for medium-scaled applications such as international business and conference centers. It can easily record an entire conference or event for accurate archival or publication. It is easily integrated with the Bosch Integrus Digital Infrared Language Distribution System. Since language selection occurs on the wireless Integrus receiver itself, this solution gives delegates and audience members access to simultaneous interpretations generated by interpreters at Bosch interpreter desks. There are a variety of integration possibilities, like a Bosch

handheld microphone to speak or give presentations. Using an interface for tele- and video conferencing, two remote locations can be connected with each other.

## Example 3 - Courtroom



- 1: Control Unit with Recorder
- 2: Chairman Unit
- 3: Delegate Units
- 4: Plena Mixer Amplifier 120W
- 5: XLA 3200 Line Array Speakers 60W (x2)
- 6: PC for archiving MP3 recordings
- 7: Microphone

### MP3 recording and system expandability

In a typical courtroom, the CCS 900 Ultra system is a top performer, allowing people to participate directly in the hearing via table-top delegate units while the judge maintains order via the chairman unit.

Best of all, the CCS 900 Ultra system can record the entire session or key segments on removable SD Cards – an easy and accurate method for archiving on a PC or separate storage device, and playing back previous testimony. The system automatically denotes vital information like date, time, and tracking numbers on its icon-based LCD screen.

As an option, an individual microphone-output box can be integrated to extract individual microphone signals.

Easily expandable, the CCS 900 Ultra features various connectivity options including headphone connections for the court clerks, additional external microphones and a Bosch Plena public address system for the public gallery as well as telephone conferencing, interpretation and videoconferencing possibilities.

The CCS 900 Ultra lets users record and archive MP3-compatible audio recordings on individual SD Cards\*. The easy-to-use control unit LCD screen displays additional information such as the date and time, file name, elapsed recording time, number of recorded tracks, and memory status.

\*not included



# System Specifications



## Features

- ▶ **Attractive and modern design**
- ▶ **Possible-To-Speak indication**
- ▶ **High speech intelligibility is ideal for small to medium-sized meetings**
- ▶ **Built-in MP3 recorder**
- ▶ **Digital acoustic feedback suppression**
- ▶ **Easy to install and convenient to use**
- ▶ **Can be interfaced with a wide range of external equipment, providing numerous system expand capabilities**
- ▶ **Up to 150 contribution units**

Conforms to international standard IEC 60914, the international standard for conference systems.

## Functions

- Two types of contribution unit (chairman and delegate)
- Delegate units enable participants to actively take part in a conference
- Control Unit controls and powers the microphones of contribution units and provides connections for audio inputs and outputs

## Certifications and Approvals

### Safety

according to EN 60065

according to CAN / CSA-E60065

according to USA / UL 60065

### Electromagnetic compatibility

Emission EN 55103-1, FCC rules (part 15) class A

### Safety

Immunity EN 50103-2

### Mains harmonics

prepared to EN 61000-3-2 and EN 61000-3-3

### Shock resistance, vibration resistance, bump and transport

according to IEC 60068-2-6, 5G acceleration

## Technical Specifications

### Electrical

#### Contribution units

DC supply	24 V ± 1 V (current limited)
Typical frequency response	125 Hz to 12.5 kHz tolerances according to IEC 60268-4, 5 standard

#### Total harmonic distortion

at nominal input level (85 dB SPL)	< 0.5 %
at maximum input level (110 dB SPL)	< 1 %

#### Auto microphone switch-off function (selectable on the Control Unit)

after 30 seconds without speech (sound level below 64 dB SPL), the microphone is switched off

### Environmental

#### Temperature

Operating	+5°C to +45°C (+41°F to +113°F)
Storage and transport	-20°C to +70°C (-4°F to +158°F)

#### Humidity

Operating	20% to 95% RH
Storage	up to 99% RH

#### Air pressure **600 to 1100 mBar**

### System limits and cabling

Maximum number of contribution units connected to Control Unit	50 units, (can provide control for 150 units)
Maximum number of contribution units per trunk output	25 units, (2 trunk outputs per Control Unit)
Maximum trunk length using CCS 800 Ultra standard cabling	100 m
Maximum control	150 units (consult your dealer for more information)





# CCS-Dx CCS Delegate Unit



## Features

- ▶ **Unique, patent pending “Possible-To-Speak” indicator**
- ▶ **Compact, attractive design**
- ▶ **Built-in volume control for headphones**
- ▶ **Microphone with flexible stem and light ring**
- ▶ **Two headphone sockets**
- ▶ **Available with standard or extended length microphone stems**

The CCS-Dx CCS Delegate Units enable delegates to actively take part in the proceedings. A built-in microphone allows them to speak to the other delegates, and they can listen to the discussion using the built-in loudspeaker or (optional) personal headphones.

## Functions

### Possible-To-Speak

A so called ‘Possible-To-Speak’ indicator is built-in showing if it is possible to switch on the microphone. This functionality is shown by a white LED combined with the ‘microphone on’ indicator.

### Microphone with flexible stem and light ring

The microphone is mounted on a flexible stem, which is easily adjustable to suit personal preferences. It also allows two people to use the same delegate unit as they can pull the microphone towards them when required to speak. Incorporated into the head of the microphone is a light ring which illuminates red to indicate when the microphone is on.

### Built-in loudspeaker

Loudspeaker volume is set centrally at the Control Unit for all delegate units. To prevent acoustic feedback, the built-in loudspeaker is automatically muted when the microphone is on.

### Two headphone sockets

Two 3.5 mm (0.14 in) stereo headphone sockets (wired for mono) allow two pairs of headphones to be connected so two delegates can simultaneously use the unit. It is also possible to connect a tape recorder to one headphone socket, and use the other headphone socket to listen to the proceedings.

### Built-in volume control for headphones

The headphone volume level can be adjusted by means of a thumbwheel on the unit for maximum comfort.

### Compact, attractive design

Featuring modern, unobtrusive styling and finished in charcoal gray these units make a valuable addition to any venue.

### Standard or Extended Length Microphone Stems

The delegate units are available with standard 313 mm (12.3 in) or extended 488 mm (19.2 in) microphone stem lengths.

### Controls and Indicators

- Microphone on/off button
- Rotary volume control for adjusting headphone volume
- Loudspeaker, automatically muted when microphone is on and/or headphones are connected
- Possible-To-Speak indicator (white LED)
- Microphone ‘on’ indicator (red LED)
- Light ring indicator on microphone stem, lights up red when microphone is on

### Interconnections

- 1 x 2 m (78.7 in) cable terminated with a 7-pole male connector for loop-through connection to other delegate or chairman units, or to a Control Unit
- 1 x 7-pole circular female connector for loop-through connection to other delegate or chairman units
- 2 x 3.5 mm (0.14 in) stereo headphone sockets

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Mechanical

Dimensions unit without microphone (H x W x D)	71 x 220 x 140 mm (2.8 x 8.7 x 5.5 in)	
Height with microphone in horizontal position	134 mm (5.3 in)	
Length of microphone from mounting surface	CCS-DS	CCS-DL
	313 mm (12.3 in)	488 mm (19.2 in)
Weight	approx. 1 kg (2.2 lb)	

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Mounting	tabletop (portable or fixed)
Material (top)	polymer
Material (base)	painted metal
Color (top)	charcoal (PH10736)
Color (base)	charcoal (PH10736)

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**Ordering Information****CCS-DS CCS Delegate Unit Short**                      **CCS-DS****Microphone**

microphone stem length 313 mm (12.3 inch)

**CCS-DL CCS Delegate Unit Long**                      **CCS-DL****Microphone**

microphone stem length 488 mm (19.2 inch)

**Accessories****DCN-DISCLM Cable Clamp (25 pcs)**                      **DCN-DISCLM**

25 pieces

# CCS-CMx CCS Chairman Unit



## Features

- ▶ **Incorporates all functions of the CCS-Dx CCS Delegate Units (with the exception of the Possible-To-Speak functionality/LED)**
- ▶ **Priority button for chairman microphone**
- ▶ **Temporary or permanent muting of delegate microphones**
- ▶ **Optional chime tone facility for preceding chairman announcements**
- ▶ **Modern, unobtrusive styling to match the CCS-Dx CCS Delegate Units**
- ▶ **Available with standard or extended length microphone stems**

The CCS-CMx CCS Chairman Units are equipped with enhanced functionality that enables the user to take the role of chairman in a conference or meeting.

## Functions

### Priority button for chairman microphone

In addition to the 'microphone on' button the chairman units feature a 'chairman priority' button. When pressed the priority button causes all currently active delegate microphones to be temporarily or permanently muted.

### Temporary or permanent muting of delegate microphones

The 'chairman priority' button can be set to mute delegate microphones on a temporary or permanent basis. On the temporary setting, delegate microphones are muted only as-long as the chairman has the priority button pressed down. On the permanent setting delegates must reactivate their microphone after a 'chairman priority'

announcement by pressing the 'microphone on' button on their delegate unit. Activation of the permanent mute option is carried out by setting an internal switch, which can be accessed by removing a small plastic plate on the base of the chairman unit.

### Optional chime tone facility for preceding chairman announcements

An optional chime tone can be selected to precede chairman priority calls. Activate the chime tone option by setting an internal switch; this can be accessed by removing a small plastic plate on the base of the chairman unit.

### Standard or extended length microphone stems

The chairman units are available with standard 313 mm (12.3 in) or extended 488 mm (19.2 in) microphone stem lengths.

### Controls and Indicators

- Microphone on/off button
- Chairman priority button
- Rotary volume control for adjusting headphone volume
- Loudspeaker, automatically muted when microphone is on and/or headphones are connected
- Internal switch for selection of chairman announcement chime tone
- Internal switch for temporary or permanent muting of delegate microphones when chairman priority button is pressed
- Microphone has 'on' indicator (red LED)
- Light ring indicator on microphone stem, lights up red when microphone is on
- No Possible-To-Speak functionality and indicator is required because a Chairman Unit can always switch-on the microphone, no matter the number of delegates speaking

### Interconnections

- 1 x 2 m (78.7 in) cable terminated with a molded 7-pole circular male connector, for loop-through interconnection to delegate unit or Control Unit
- 1 x 7-pole circular female connector for loop-through interconnection to delegate units
- 2 x 3.5 mm (0.14 in) stereo headphone sockets

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Mechanical

Dimensions unit without microphone (H x W x D)	71 x 220 x 140 mm (2.8 x 8.7 x 5.5 in)	
Height with microphone in horizontal position	134 mm (5.3 in)	
Length of microphone from mounting surface	CSS-CMS	CCS-CML
	313 mm (12.3 in)	488 mm (19.2 in)
Weight	approx. 1 kg (2.2 lb)	

Mounting	tabletop (portable or fixed)
Material (top)	polymer
Material (base)	painted metal
Color (base)	charcoal (PH10736)
Color (top)	charcoal (PH10736)

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### Ordering Information

**CCS-CMS CCS Chairman Unit Short**                      **CCS-CMS**

**Microphone**

microphone stem length 313 mm (12.3 inch)

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**CCS-CML CCS Chairman Unit Long**                      **CCS-CML**

**Microphone**

microphone stem length 488 mm (19.2 inch)

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### Accessories

**DCN-DISCLM Cable Clamp (25 pcs)**                      **DCN-DISCLM**

25 pieces

# CCS-SC10 Suitcase for 10 Delegate units



## Technical Specifications

### Mechanical

Dimensions (H x W x D)	560 x 795 x 235 mm (22.0 x 31.3 x 9.3 in)
Weight (empty)	6 kg (13.2 lb)
Material (body)	3 mm (0.12 in) ABS
Material (rim)	aluminum
Color (body)	black (RAL9004)
Color (rim)	silver

## Ordering Information

<b>CCS-SC10 Suitcase for 10 Delegate units</b>	<b>CCS-SC10</b>
Suitcase for 10 Delegate Units where CCS 900 Ultra contribution units will be placed for storage or transportation.	

## Features

- ▶ **Can hold 10 contribution units and cables**
- ▶ **Attractive, yet sturdy construction**
- ▶ **Interior specially molded to securely hold system units**
- ▶ **Easy to transport and store**
- ▶ **Two separate locks for extra security**

The CCS-SC10 CCS Suitcase for 10 Delegate Units is used where CCS 900 Ultra contribution units will not be used in one fixed location and, therefore, have to be easily transportable. This is often the case in town halls, hotels, business centers, local government offices or smaller halls in major conference venues.

## Functions

### Capacity

The CCS-SC10 is designed to accommodate ten contribution units with standard (short) length microphones. Any combination of delegate/chairman units can be catered for.

### Specially shaped interior

The suitcase interior has shaped foam packing to accommodate the discussion units. This gives ample protection and makes packing and unpacking easier.

### Easy to transport and store

The suitcase is attractive but also extremely durable and practical. It has handles on the top and side with two wheels on the underside for easy transport. There are two separate locks for extra security.

# CCS-SC6 Suitcase for Control Unit and 6 Delegate Units



## Technical Specifications

### Mechanical

Dimensions (H x W x D)	560 x 795 x 235 mm (22.0 x 31.3 x 9.3 in)
Weight (empty)	6 kg (13.2 lb)
Material (body)	3 mm (0.12 in) ABS
Material (rim)	aluminum
Color (body)	black (RAL9004)
Color (rim)	silver

## Ordering Information

### CCS-SC6 Suitcase for Control Unit and 6 Delegate Units

CCS-SC6

Used to transport the CU, multiple delegate units, cables and/or other accessories.

## Features

- ▶ Can hold CU and/or 6 contribution units and cables
- ▶ Attractive, yet sturdy construction
- ▶ Interior specially molded to securely hold system units
- ▶ Easy to transport and store
- ▶ Two separate locks for extra security

The CCS-SC6 is used where CCS 900 Ultra contribution units will not be used in one fixed location and, therefore, have to be easily transportable. This is often the case in town halls, hotels, business centers, local government offices or smaller halls in major conference venues.

## Functions

### Capacity

The CCS-SC6 can accommodate one CU and up to six contribution units with standard (short) length microphones. Capacity for the storage of several extension cables or other accessories is also provided.

### Specially shaped interior

The suitcase interior has shaped foam packing to accommodate the units. This gives ample protection and makes packing and unpacking easier.

### Easy to transport and store

The suitcase is attractive but also extremely durable and practical. It has handles on the top and side with two wheels on the underside for easy transport. There are two separate locks for extra security.

## CCS-CU Control Unit



### Features

- ▶ **Built-in MP3 recording and playback with graphical display**
- ▶ **Patent-pending recording buffer**
- ▶ **Digital Acoustic Feedback Suppression**
- ▶ **Discussion control without operator**
- ▶ **Controls up to 150 contribution devices**
- ▶ **Built-in monitor loudspeaker**

The Control Unit (CU) is the heart of the CCS Ultra Discussion System and supplies the power for all delegate and chairman units in the system. The unit also controls the chairman and delegate unit microphones, as well as providing connections for audio inputs and outputs.

### Functions

#### **Built-in MP3 recording and playback with graphical display**

(CCS-CURD)

The CU has a built-in recorder to digitally record a discussion to an SD Card. The graphical display shows the status of the recorder and the accompanying buttons can be used to configure the recorder. As an option, the recording is only active when a microphone is active.

The SD card can be removed from the CU and processed on a PC for transcription purposes; the recordings can also be retrieved by connecting a PC to the CU's USB. The recordings can be played back to the monitor loudspeaker or to delegate's loudspeakers. An audible beep and a flashing LED indicate when the SD Card is almost full and the user needs to replace it with a new card.

#### **Patent-pending recording buffer**

(CCS-CURD)

A card can be replaced by an empty card while recording is running. When the full card is removed, the recording is continued to a patent-pending recording buffer. When a new card is inserted into the CU, the buffered recording is written onto the new card and the recording continues normally. This gives seamless recording without the loss of any audio while an SD Card is exchanged.

#### **Digital acoustic feedback suppression**

(CCS-CUD, CCS-CURD)

The digital acoustic feedback suppression facility automatically eliminates acoustic feedback (also known as 'howling' or 'Larsen effect'). This gives better speech intelligibility by allowing the speaker volume to be turned up as loud as required without any risk of feedback.

#### **Discussion control without operator**

The CU can be setup to operate standalone without the need for an operator. The following 5 modes can be chosen using a rotary control on the unit's top panel:

- Open mode – allows selection of one to four microphones (excluded chairman microphones) which can be simultaneously active
- Open mode with auto-switch-off – allows selection of one to four microphones (excluded chairman microphones) which can be simultaneously active. If the delegate does not speak for 30 seconds, microphones are automatically switched off
- Override mode – delegates can override each other simply by activating their microphones. Only one microphone can be active at any one time. (Note: In override mode, delegates cannot override chairman)
- Chairman only mode – only chairmen can speak. Delegate microphones cannot be activated, even when a chairman is not speaking
- Test mode – checks if system connections are correct. All microphone light rings and contribution unit LEDs light up to indicate that units are properly connected

#### **Supplies power for up to 50 contribution units**

The CU has two trunk outputs for the loop-through connection of contribution units. It is possible to connect 25 contribution units to each trunk output, with a maximum system cable length of 100 m (109.3 yards).

#### **Provides control for up to 150 contribution units**

Up to 3 CUs can be used together in a discussion system to power and control a maximum of 150 contribution units. In this configuration a single CU acts as a master controller for the entire system.

#### **Built-in monitor loudspeaker**

The built-in monitor loudspeaker and headphone socket allow the conference to be monitored.

#### **Interfaces the system with external equipment**

The following equipment can be interfaced to the CCS Ultra Discussion System through the CU:

- External wired or wireless microphone – for guest speakers or audience participation. (Note: The external microphone is muted when the priority button on a chairman unit is pressed, and when the system is operating in ‘chairman only’ mode)
- External PA system – for transmitting the proceedings to an audience in the same room or an adjacent room
- Tape recorder – for external recording and playing back meetings and discussions
- Audio equipment – for providing background music
- Telephone coupler – to allow a remote delegate to participate via telephone
- External audio processing – an insertion connector is provided

**Controls and Indicators**

Top

- Mains on/off switch
- Graphical display for status information (CCS-CURD)
- 5 soft buttons for configuration and control of the built-in MP3 recorder (CCS-CURD)
- Loudspeaker volume control, for setting output level of loudspeakers of contribution units. This control also determines the maximum level for the headphone outputs of the contribution units and the CU.
- Microphone mode rotary switch, for setting the number of simultaneously active microphones, and selecting one of the four operation modes (plus test mode)
- Power on LED

Back

- On/off switch for digital acoustic feedback suppression facility (CCS-CUD, CCS-CURD)
- Microphone input gain adjustment
- External recorder input gain adjustment
- Insertion connector bypass switch

**Interconnections**

Top

- 1 x 3.5 mm (0.14 inch) stereo headphone socket

Back

- 1 x AC input
- 2 x 7-pole circular female connectors, trunk in/out loop through interconnection
- 1 x 3-pole female XLR connector, microphone input (can be used as line input by included 50dB attenuator)
- 1 x Cinch connector pair, line input/output
- 1 x Cinch connector pair, telephone input/output
- 1 x Cinch connector pair, insertion input/output
- 2 x Cinch connector pairs (R/L channel), external recorder input/output
- USB interface (CCS-CURD)



- 1 CCS-CUD, CCS-CURD
- 2 CCS-CURD

**Parts Included**

Quant.	Component
1	Control Unit
1	50 dB Attenuator
1	User manual
1	Power cord

**Technical Specifications**

**Electrical**

Mains voltage	100 to 240 VAC ± 10 %
Current consumption	maximum 0.9 A (100 VAC) to 0.3 A (240 VAC)
DC supply to contribution units	24 V ± 1 V (current limited)
Loudspeaker volume control	mute (50 dB att.) + 10 steps of 1.9 dB
Limiter threshold level to unit	10 dB above nominal level loudspeaker / headphone
Gain reduction due to number of open microphones (NOM)	÷ NOM ± 1 dB
Total harmonics	
Nominal input (85 dB SPL)	< 0.5
Max. input (110 dB SPL)	< 0.5

**Sample frequency (CCS-CURD)**

Recording	32 kHz
Playback	32, 44.1, 48 kHz

**Bit rate (CCS-CURD)**

Recording	64, 96, 128, 192, 256 KBit/sec
Playback	any bitrate

**Compatible conform ID3V2 mp3-tags (CCS-CURD)**

Memory card	Any SD Card up to 2 Gb (high speed cards advised)
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**Recording capacity (CCS-CURD)**

	Internal memory	Card size		
Bit rate	225 MB	512 MB	1 GB	2 GB
64	07 h : 41 m	17 h : 14 m	34 h : 28 m	64 h : 56 m
96	05 h : 07 m	11 h : 29 m	22 h : 59 m	45 h : 58 m
128	03 h : 50 m	08 h : 37 m	17 h : 14 m	34 h : 28 m
192	02 h : 33 m	05 h : 44 m	11 h : 29 m	22 h : 58 m
256	01 h : 55 m	04 h : 18 m	08 h : 37 m	17 h : 14 m



**Mechanical**

Dimensions including feet 84 x 361 x 143 mm (3.4 x 14.2 x 5.6 in)  
(H x W x D)

Height of feet 5.5 mm (0.22 in)

Mounting tabletop (portable or fixed)  
19-inch rack  
flush mounting

Weight 1.5 kg (3.3 lb)

Material (top) polymer

Material (base) painted metal

Color (top) charcoal (PH10736)

Color (base) black (PH80007)

**Ordering Information**

**CCS-CU Control Unit CCS-CU**

supplies the power for all delegate and chairman units in the system, plus the unit microphones, as well as providing connections for audio inputs and outputs

**CCS-CUD Control Unit with DAFS CCS-CUD**

With digital acoustic feedback suppression facility.

**CCS-CURD Control Unit with Recorder and DAFS CCS-CURD**

With built-in recorder, graphical display, recording buffer and acoustic feedback suppression facility.

# LBB 3311/00 CCS Rack Mounting Set



The LBB 3311/00 19-inch rack mounting set is a set of brackets and other necessary fixings to mount a Control Unit into a 19-inch rack system.

**Technical Specifications**

**Mechanical**

Material metal

Color charcoal (PH10736)

**Ordering Information**

**LBB 3311/00 CCS Rack Mounting Set LBB3311/00**  
Set of brackets and other necessary fixings to mount a Control Unit into a 19-inch rack system

# LBB 3316/00 CCS Installation Cable 100m



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A 100 m (328 ft) length of installation cable plus 10 connector sets (5 male and 5 female).

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## Parts Included

### Quantity Component

1x	Installation cable, length 100 m (328 ft)
5x	Connector sets, male and female

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## Technical Specifications

### Mechanical

Length	100 m (328 ft)
Diameter	5.9 ± 0.3 mm (0.23 ± 0.01 in)
Insulation material	PVC
Color	grey

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## Ordering Information

**LBB 3316/00 CCS Installation Cable 100m**    **LBB3316/00**  
100 m (328 ft), includes 5 male and 5 female  
connector sets

## LBB 3316/xx CCS Extension Cable



Extension cables for contribution unit / Control Unit interconnection. These cables provide additional system flexibility in larger application sites.

### Functions

#### Interconnections

- 1 x 7-pole male DIN connector
- 1 x 7-pole female DIN connector

### Technical Specifications

#### Mechanical

	<b>LBB 3316/05</b>	<b>LBB 3316/10</b>
Length	5 m (16.4 ft)	10 m (32.8 ft)
Diameter	5.9 ± 0.3 mm (0.23 ± 0.01 in)	
Material	PVC	
Color	grey	
Connector material	molded plastic	
Connector color	grey	

### Ordering Information

<b>LBB 3316/05 CCS Extension Cable 5m</b> 5 m (16.4 ft), 7-pole male and female DIN connectors	<b>LBB3316/05</b>
<b>LBB 3316/10 CCS Extension Cable 10m</b> 10 m (32.8 ft), 7-pole male and female DIN connectors	<b>LBB3316/10</b>

## LBB 4117/00 DCN Cable Locking Clamp (25 pcs)

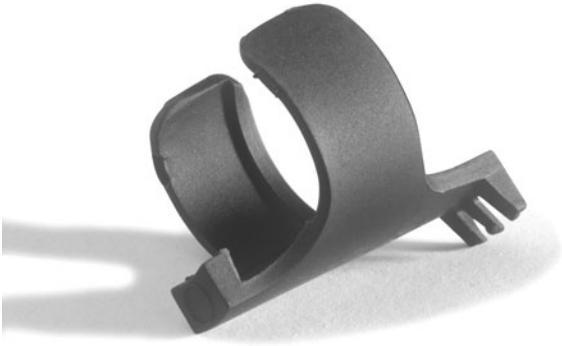


Matching clamps for male/female cable connectors such as those on the DCN Extension Cable (LBB 4416). One clamp per male/ female connector required.

### Ordering Information

<b>LBB 4117/00 DCN Cable Locking Clamp (25 pcs)</b> set of 25	<b>LBB4117/00</b>
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## DCN-DISCLM Cable Clamp (25 pcs)



DCN-DISCLM cable clamps for Discussion Unit secure loop-through cables to next unit.

### Technical Specifications

#### Mechanical

Mounting	Click and fit on any Discussion unit
Color	Charcoal (PH 10736)

### Ordering Information

**DCN-DISCLM Cable Clamp (25 pcs)**  
25 pieces

**DCN-DISCLM**

# LBB 3443 Lightweight Headphones



## Features

- ▶ **Lightweight with high quality sound reproduction**
- ▶ **Replaceable ear pads**
- ▶ **Available with normal or durable cable**
- ▶ **Separate available solid washable ear pads**

## Functions

These headphones can be fitted with an optional set of washable ear pads.



*Washable ear pads*

## Interconnections

- 1.3 m (4.25 ft) cable terminated with gold-plated 3.5 mm (0.14 in) angled stereo jack plug

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Impedance	32 ohm per earpiece
Audio frequency response	50 Hz to 20 kHz (-10 dB)
Power handling capacity	50 mW
Sensitivity (1 kHz)	98 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	70 g (0.16 lb)
Finish	Charcoal (PH 10736) with silver

## Ordering Information

<b>LBB 3443/00 Lightweight Headphones</b> high quality sound reproduction, lightweight, replaceable ear pads and normal cable	<b>LBB3443/00</b>
<b>LBB 3443/10 Lightweight Headphones Durable Cable</b> high quality sound reproduction, lightweight, replaceable ear pads and durable cable	<b>LBB3443/10</b>
<b>Accessories</b>	
<b>LBB 3443/50 Foam Ear Pads for LBB 3443 (50 pairs)</b> replacement foam ear pads	<b>LBB3443/50</b>
<b>HDP-LWSP Solid Ear Pads for LBB 3443 (50 pairs)</b> washable replacement ear pads	<b>HDP-LWSP</b>

# HDP-LWN Lightweight Neckband Headphone



## Features

- ▶ **Comfortable neckband stereo headphone**
- ▶ **Lightweight with high quality sound reproduction**
- ▶ **Replaceable ear pads**

## Functions

### Interconnections

- 1.3 m (4.25 ft) cable terminated with gold-plated 3.5 mm (0.14 in) angled stereo jack plug

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Impedance	32 ohm per earpiece
Audio frequency response	20 Hz to 20 kHz ( $\pm 3$ dB)
Power handling capacity	30 mW
Sensitivity (1 kHz)	111 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	56 g (0.12 lb)
Finish	Charcoal (PH 10736) with silver

## Ordering Information

<b>HDP-LWN Lightweight Neckband Headphone</b>	<b>HDP-LWN</b>
High-quality sound reproduction, lightweight, replaceable ear pads.	

## Accessories

<b>HDP-LWNEP Earpads for neckband headphone (50 pairs)</b>	<b>HDP-LWNEP</b>
Replacement foam ear pads.	

# LBB 3442/00 Single Earphone




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## Features

- ▶ **Lightweight single earphone**
- ▶ **Left or right ear use**

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## Functions

### Interconnections

- 1.2 m (3.94 ft) cable terminated with 3.5 mm (0.14 in) jack plug

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## Technical Specifications

### Electrical

Impedance	32 ohm
Audio frequency response	100 Hz to 5 kHz (-10 dB)
Power handling capacity	5 mW
Sensitivity (1 kHz)	114 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	25 g (0.06 lb)
Color	Dark grey

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## Ordering Information

<b>LBB 3442/00 Single Earphone</b>	<b>LBB3442/00</b>
Lightweight single earphone, 1.2 m (3.94 ft) cable terminated with 3.5 mm (0.14 in) jack plug	

# LBB 3441/10 Under the Chin Headphones



## Features

- ▶ Lightweight stereo headphones
- ▶ Ergonomic design for use under the chin
- ▶ Replaceable ear tips
- ▶ Right-angled, gold-plated jack plug

## Functions

### Interconnections

- 1.2 m (4 ft) cable terminated with 3.5 mm (0.14 in) right-angled stereo jack plug

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Impedance	150 ohm per earpiece
Audio frequency response	50 Hz to 5 kHz (-10 dB)
Power handling capacity	60 mW
Sensitivity (1 kHz)	107 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	33 g (0.07 lb)
Color	Black

## Ordering Information

<b>LBB 3441/10 Under the Chin Headphones</b> with 1.2 m (4 ft) cable terminated with 3.5 mm (0.14 in) right-angled stereo jack plug	<b>LBB3441/10</b>
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## Accessories

<b>LBB 3441/50 Ear Tips for LBB 3441</b> <b>(500 pairs)</b> for LBB 3441	<b>LBB3441/50</b>
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## LBB 3015/04 High Quality Dynamic Headphones



### Features

- ▶ Durable, dynamic headphones
- ▶ Replaceable ear pads
- ▶ High-quality sound reproduction
- ▶ Gold-plated stereo jack plug

### Functions

#### Interconnections

- 1.5 m (5 ft) cable terminated with a 3.5 mm (0.14 in) stereo jack plug

### Technical Specifications

#### Electrical

Impedance	720 ohm per earpiece
Audio frequency response	250 Hz to 13 kHz (-10 dB)
Power handling capacity	200 mW
Sensitivity (1 kHz)	
97 dB SPL/earpiece at 0 dBV/system	
96 dB SPL/earpiece at 1 mW/earpiece	

#### Mechanical

Weight	110 g (0.24 lb)
Color	Dark grey

### Ordering Information

<b>LBB 3015/04 High Quality Dynamic Headphones</b> Durable, dynamic headphones.	<b>LBB3015/04</b>
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### Accessories

<b>LBB 9095/50 Ear pads for LBB 3015 LBB 9095 (25 pairs)</b> 25 pairs	<b>LBB9095/50</b>
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## HDP-ILN Induction Loop Neckband



### Features

- ▶ Lightweight
- ▶ Used with 'T-coil' hearing aids

### Functions

This induction loop neckband can be used with:

- Integrus receivers
- CCS800 unit
- DCN unit

The neckband magnetically couples the sound signal from the headphone output to a 'T-coil' hearing aid.

#### Interconnections

- 0.9 m (3ft) cable terminated with a 3.5 mm (0.14 in) gold-plated plug

### Technical Specifications

#### Mechanical

Weight	45 g (0.10 lb)
Color	Charcoal with silver

### Ordering Information

<b>HDP-ILN Induction Loop Neckband</b> Lightweight neckband.	<b>HDP-ILN</b>
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# LBB 9600/20 Condenser Handheld Microphone



## Features

- ▶ Condenser transducer
- ▶ Unidirectional
- ▶ High speech intelligibility
- ▶ Low sensitivity to case noise and vibrations
- ▶ Phantom powered
- ▶ Rugged construction
- ▶ Modern non-reflecting matt black finish

This condenser microphone is based on an electric transducer element in a sturdy housing with shielding against wind and wind bursts (pops). It is intended for public address and sound reinforcement applications, such as in churches, theaters, and conference centers.

## Functions

The handheld LBB 9600/20 is an excellent microphone with almost frequency independent, unidirectional directivity. Its low equivalent input noise level and insensitivity to stray electrostatic and electromagnetic fields keep the audio signal free from spurious noise.

The microphone has an on/off slide-switch and a 3-pin, lockable XLR plug. It uses a phantom power supply, which is available on all microphone inputs on Bosch public address amplifiers.

It comes with a push-on clip with a Whitworth-threaded screw fitting, and a multi-thread adaptor (3/8", 1/2", and 5/8") for mounting. The supplied 7 m (23 ft) connection cable has 3-pin, lockable male and female XLR connectors.

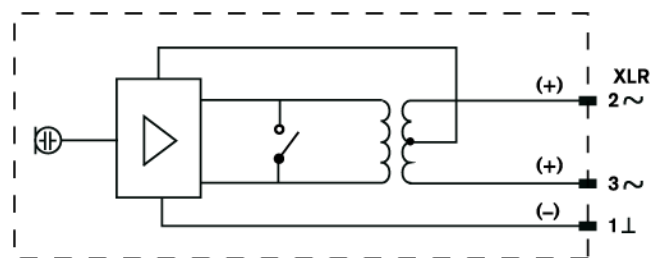
## Accessories

A number of accessories, such as extension cables, table stands and floor stands are also available. See the separate microphone accessories data sheet.

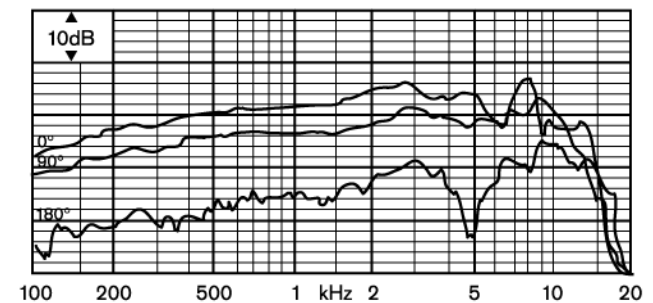
## Certifications and Approvals

Region	Certification
Europe	CE Declaration of Conformity

## Installation/Configuration Notes



Circuit diagram



Frequency response

## Technical Specifications

### Electrical\*

#### Phantom power supply

Voltage range 11 V to 52 V (acc. to DIN 45596 and IEC 268-15A)

Current consumption <1.5 mA

#### Performance

Polar pattern Unidirectional

Frequency range 100 Hz to 16 kHz

Sensitivity 2 mV/Pa +/-3 dB (-54 dB rel. to 1 V/Pa)

Rated output impedance 200 ohm

Equivalent input noise level 26 dB (A)

\* Technical performance data acc. to IEC 60268-4

**Mechanical**

Dimensions (D x L)	54 x 170 mm (2.13 x 6.69 in)
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Weight	245 g (8.64 oz)
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Color	Black
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Switch	On/off slide
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Cable type	
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Cable length	7 m (23 ft)
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Connector	3-pin XLR (male)
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**Environmental**

Operating temperature	-20 °C to +55 °C (-4 °F to +131 °F)
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Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
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Relative humidity	<95%
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**Ordering Information**

<b>LBB 9600/20 Condenser Handheld Microphone</b>	<b>LBB9600/20</b>
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7 m (23 ft) cable, 3-pin lockable male and female XLR connectors

**Accessories**

<b>LBC 1221/01 Floor Stand</b>	<b>LBC1221/01</b>
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Three folding legs, adjustable length with twist clamp.

<b>LBC 1226/01 Adjustable Boom</b>	<b>LBC1226/01</b>
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maximum reach of 670 mm (2.12 ft); length 840 mm (2.76 ft)

<b>LBC 1227/01 Table Stand</b>	<b>LBC1227/01</b>
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with 3/8" Whitworth stud; 130 mm (5.12 in) diameter

# LBC 1208/40 Microphone Cable

**Features**

- ▶ 10 m (32.8 ft) extension cable
- ▶ Twin-core screened cable
- ▶ Three-pole lockable male and female XLR connectors (metal)

**System Overview**

LBC 1208/40 (10 m)

**Technical Specifications****Mechanical**

Length	10 m (32.8 ft)
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Weight	420 g (1.13 lb)
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Color	black
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**Ordering Information**

<b>LBC 1208/40 Microphone Cable</b>	<b>LBC1208/40</b>
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3-pin XLR; 10 m (32.8 ft)

## LBC 1226/01 Adjustable Boom



### Features

- ▶ Adjustable in reach and angle (quick-release screw clamp)
- ▶ Maximum reach of 670 mm (2.12 ft)
- ▶ Fits onto 3/8" Whitworth thread

### Technical Specifications

#### Mechanical

Length	840 mm (2.76 ft)
Weight	700 g (1.88 lb)
Color	matt black

### Ordering Information

<b>LBC 1226/01 Adjustable Boom</b>	<b>LBC1226/01</b>
maximum reach of 670 mm (2.12 ft); length 840 mm (2.76 ft)	

### Accessories

<b>LBC 1221/01 Floor Stand</b>	<b>LBC1221/01</b>
Three folding legs, adjustable length with twist clamp.	

## LBC 1221/01 Floor Stand



### Features

- ▶ Adjustable from 850 to 1600 mm (2.79 to 5.25 ft) with twist clamp
- ▶ Three folding legs (360 mm; 1.18 ft) for stability
- ▶ Column terminates in male 3/8" Whitworth thread

### Technical Specifications

#### Mechanical

Dimensions (folded)	850 x 110 mm (33.46 x 5.25 in)
Weight	2.4 kg (6.43 lb)
Color	matt black

### Ordering Information

<b>LBC 1221/01 Floor Stand</b>	<b>LBC1221/01</b>
Three folding legs, adjustable length with twist clamp.	

### Accessories

<b>LBC 1226/01 Adjustable Boom</b>	<b>LBC1226/01</b>
maximum reach of 670 mm (2.12 ft); length 840 mm (2.76 ft)	

# LBC 1227/01 Table Stand



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## Features

- ▶ Heavy-duty table stand
- ▶ 3/8" Whitworth stud
- ▶ Shock-absorbing under surface

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## Technical Specifications

### Mechanical

Diameter	130 mm (5.12 in)
Weight	995 g (2.66 lb)
Color	matt black

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## Ordering Information

**LBC 1227/01 Table Stand** **LBC1227/01**  
with 3/8" Whitworth stud; 130 mm (5.12 in)  
diameter

# Architect and Engineering Specifications

## 1. CONTROL EQUIPMENT

### Control Unit with recording and digital acoustic feedback suppression

The CU shall have a built-in recorder to digitally record a discussion to any type of SD Card. The graphical display shall show the status of the recorder and the accompanying buttons shall be used to configure the recorder. As an option, the recording shall only be active when a microphone is active.

The SD Card shall be removable from the CU and shall be possible to process on a PC for transcription purposes; the recordings shall also be retrievable by connecting a PC to the CU's USB. The recordings shall be playable back to the monitor loudspeaker or to delegate's loudspeakers. An audible beep and a flashing LED shall indicate when the SD Card is almost full and the user needs to replace it with a new card.

During recording it shall be possible to exchange an SD card without the loss of any recorded audio.

The Control Unit (CU) shall have an incorporated digital acoustic feedback suppression facility based on pre-active algorithms (feedback is not heard). Other included features for managing the number of active microphones and determining the operating mode, without the need for a central operator, should be available.

It shall be possible to connect external equipment to extend the system capabilities. There shall be a built-in loudspeaker and headphone connector to allow the conference to be monitored by, for example, a stenographer. It shall interface the following equipment to the discussion system:

- Tape recorder - for recording and playing back meetings and discussions
- External PA system - for transmitting the proceedings to an audience in the same room or an adjacent room
- External wired or wireless microphone - for use by guest speakers or for audience participation. Note: The external microphone shall be muted when the priority button on a chairman unit is pressed, and when the system is operating in 'chairman only' mode
- Audio equipment - for providing background music
- Telephone/video coupler - for allowing a remote delegate to take part via a telephone/video connection

The following five modes shall be selectable using a rotary control on the unit's front panel:

- Open mode with auto-switch-off - shall allow selection of the number of microphones, from one to four, which can be simultaneously active. If the delegate does not speak for 30 seconds, the microphone shall automatically be switched off. It shall also be possible to switch microphones off manually

- Open mode without auto-switch-off - shall allow selection of the number of microphones, from one to four, which can be simultaneously active
- Override mode - shall allow delegates to override each other simply by activating their microphones. It shall only be possible for one microphone to be active at any one time. Note: In override mode, delegates shall not be able to override chairmen
- Chairman only mode - shall only allow chairmen to speak. It shall not be possible to activate delegates' microphones, even if no chairman is speaking
- Test mode - shall be used to check that the system connections have been made correctly. All microphone ring and contribution unit LEDs shall light up if the unit is properly connected

The CU shall have the following controls and indicators:

- Mains on/off switch
- Microphone-mode switch for selecting one of four modes (plus test mode)
- Rotary loudspeaker volume control for setting the output level of loudspeakers of contribution units. This control shall also determine the maximum level for the headphone outputs of contribution units and CU
- Monitoring volume control of CPSU loudspeaker or headphones
- 'Power on' green LED indicator

It shall provide the following facilities:

- Control for 150 units
- Mains input connection
- Two trunk outputs for loop-through connection of contribution units. It shall be possible to connect 25 contribution units to each output. The maximum cable length shall be not longer than 100 m (109.3 yards). 150 contribution units can be connected in one system
- Microphone input with gain adjustment for connecting an external microphone
- Recorder input and output with gain control
- Line input and output for connecting a PA system or background music source
- Telephone coupler input and output for connecting a telephone line. The input signal shall be isolated from the output to prevent echoing
- Insertion connector (with by-pass switch) for connecting external audio processors
- One 3.5 mm (0.1 in) stereo headphone socket
- On/off switch for digital acoustic feedback suppression facility

It shall be suitable for use in portable or fixed mountings. It shall be 84 mm (3.4 in) high, 361 mm (14.2 in) wide and 143 mm (5.6 in) deep.

### Control Unit with recording

*This unit is identical but without digital acoustic feedback suppression facility.*

### Control Unit with digital acoustic feedback suppression

*This unit is identical but without recording.*

### Control Unit

*This unit is identical but without recording and without digital acoustic feedback suppression facility.*

### 19-Inch Rack-Mounting Set

This set shall consist of brackets and other necessary fixings to enable the CU to be mounted in a 19-inch rack system. Flush mounting of the CU shall be possible by using a custom-made bracket.

## 2. CONTRIBUTION EQUIPMENT

### Delegate Unit

The Delegate Unit shall enable delegates to speak and listen to the proceedings via a loudspeaker or headphones. The unit shall include a microphone with a red indicator ring, which shall illuminate when the microphone is on. The unit shall include a 'Possible-To-Speak' white LED indicator, which shall illuminate showing the delegate when it is possible to switch on the microphone. To prevent acoustic feedback, the built-in loudspeaker shall be muted when the microphone is on, and/or the headphones are connected. Two 3.5 mm stereo headphone sockets (wired for mono) shall allow two pairs of headphones to be connected, enabling two delegates to simultaneously use the unit. The headphone volume level shall be adjustable on the unit for maximum comfort. It shall also be possible to connect a tape recorder to one headphone socket, and use the other headphone socket to listen to the proceedings. The unit shall have the following controls and indicators:

- 'Possible-To-Speak indicator' (white LED)
- Microphone with light-ring indicator which illuminates when the microphone is on
- Microphone on/off button
- 'Microphone on' indicator (red LED)
- Rotary volume control for adjusting headphone volume
- Loudspeaker, automatically muted when microphone is on and/or headphones are connected

Each unit shall have a 2 m (78.7 in) cable terminated with a molded 7-pole circular connector, and a 7-pole circular socket for loop-through connections. There shall be two 3.5 mm (0.1 in) stereo jack headphone sockets. The front panel shall be 71 mm (2.8 in) high and 220 mm (8.7 in) wide, and the unit footprint shall be 220 mm (8.7 in) x 140 mm (5.5 in). The weight of the unit shall be approximately 1 kg (2.2 lb). The stem length of the microphone shall be 313 mm (12.3 in) or 488 mm (19.2 in)

### Chairman Unit

The Chairman Unit shall enable the user to function as chairman of a conference or meeting. It shall be similar in appearance to the Delegate Unit, and shall also include a 'chairman priority' button. When pressed, the priority button shall cause all currently active delegate microphones to be temporarily or permanently muted, allowing the chairman to take control of the meeting. To prevent acoustic feedback, the built-in loudspeaker shall be muted when the microphone is on, and/or the headphones are connected. An optional chime shall be selectable to precede chairman priority calls. The unit shall have the following controls and indicators:

- Chairman priority button

- Microphone on/off button
- Rotary volume control for adjusting headphone volume
- Microphone with light-ring indicator which illuminates when the microphone is on
- 'Microphone on' indicator (red LED)
- Internal chime selection switch (see Note)
- Internal switch (see Note) for temporary or permanent muting of delegate microphones when chairman priority key is pressed
- Loudspeaker, automatically muted when microphone is on and/or headphones are connected

**Note** Both internal switches shall be accessible by first removing a small plastic plate on the bottom of the Chairman Unit. If any Delegate Unit is permanently muted on activation of a 'microphone priority' key, it shall be possible to reactivate it using the 'microphone on' button on the Delegate Unit.

Each unit shall have a 2 m (78.7 in) cable terminated with a molded 7-pole circular connector, and a 7-pole circular socket for loop-through connections. There shall be two 3.5 mm (0.1 in) stereo jack headphone sockets. The front panel shall be 71 mm (2.8 in) high and 220 mm (8.7 in) wide, and the unit footprint shall be 220 mm (8.7 in) x 140 mm (5.5 in). The weight of the unit shall be approximately 1 kg (2.2 lb). The stem length of the microphone shall be 313 mm (12.3 in) or 488 mm (19.2 in).

### Suitcase for 10 contribution units

The transport and storage suitcase shall be used to protect contribution units in transit or while in storage. It shall have the capacity to hold 10 contribution units with standard-length microphones. Any combination of delegate/ chairman units shall be catered for. The inside of the suitcase shall have specially molded packing to accommodate the discussion units, which shall give ample protection, while making packing and unpacking easier. The suitcase shall have handles on the top and side, and two wheels on the underside for ease of transportation. There shall be two separate locks for extra security. The suitcase shall be 560 mm (22.0 in) high, 795 mm (31.3 in) wide and 235 mm (9.2 in) deep. The weight of the empty suitcase shall be 6 kg (13.2 lb). The material used shall be 3 mm (0.12 in) thick ABS. The color shall be RAL 9004 (black).

### Suitcase for CU and 6 contribution units

This suitcase shall be functionally identical to the Transport and Storage Suitcase for 10 contribution units, except that it shall have the capacity to hold one CU and six contribution units with standard microphone stems, and some extension cables. The suitcase shall be 560 mm (22.0 in) high, 795 mm (31.3 in) wide and 235 mm (9.2 in) deep. The weight of the suitcase shall be 6 kg (13.2 lb). The material used shall be 3 mm (0.12 in) thick ABS. The color shall be RAL 9004 (black).



**Extension Cable Assembly**

The extension cable assembly shall consist of 5 m (197 in) and 10 m (394 in) of 6 mm (0.24 in) diameter cable terminated at one end with a molded 7-pole male circular connector, and at the other end with a molded 7-pole female circular connector. The installation cable shall consist of 100 m (3940 in) of 6 mm (0.24 in) diameter cable plus 5 connector sets, male & female (7-pole circular).

**Set of 25 Cable Locking Clamps**

A set of Cable Locking Clamps shall match male and female cable connectors, such as those on Extension Cable Assemblies. Each male/female connector shall require one clamp.

**Cable Clamp**

The Cable Clamp shall secure loop-through cables to the next discussion unit to prevent disconnection. Each male/female connector shall require one cable lock clamp.



## Introduction



### A world-class recording solution for conferences

Recently updated, the new Bosch CCS 800 Ultra is a versatile, economical discussion system for small-to-medium meeting areas as well as an excellent base installation for medium to large-scale business and conference centers. With its unique built-in MP3 audio recording and playback feature that works with removable Secure Digital (SD) Cards, the system records proceedings digitally for reliable archiving, playback and general meeting management.

Using this compact, all-in-one system, participants can take part in proceedings by means of tabletop delegate and chairman units that feature built-in loudspeakers and microphones. The chairman unit features an additional attention tone and priority button. Removable Secure Digital Cards (SD Cards) ensure full reliability of recordings, while the patent-pending recording buffer guarantees that no speech is lost while switching SD Cards.

Delivering high quality speech intelligibility thanks to built-in digital acoustic feedback suppression (DAFS) technology, the CCS 800 Ultra is ideal for local government councils and courts of law, corporate meeting rooms, hotel conference rooms, local business venues and international conference centers.

### Simple straight-forward installation

System installation is quick and easy, and requires no special training. The system includes a Control Unit that can handle up to 150 delegate units. Designed for flexibility, the CCS 800 Ultra includes a tailored number of delegate and chairman units linked to the Control Unit (CU), which is equipped with an icon-based LCD screen and an SD Card slot.

The language-independent LCD screen displays 5 soft-touch keys that control the menu: start, stop, pause recording, playback or change settings. Other items include date and time, file name, elapsed recording time, elapsed playback time, number of recorded tracks, used and remaining SD Card memory, SD Card availability status, menu icons, playback mode, and a setting menu.

Each delegate unit has an interconnection socket and a 2 m (6 ft 6 in) cable that terminates in a matching plug. During installation, the units are simply plugged into each other in a 'daisy chain'. Power and control are provided by plugging the first unit in the chain into the Control Unit.

Each Control Unit provides connection for 2 daisy chains of up to 25 units; these can control up to 150 units upon request. System interconnections are verified using the test mode feature, which is part of the Control Unit.

### Easy and convenient to use

After installation is complete, set-up couldn't be simpler. Before the meeting begins, the desired microphone-operating mode is selected from one of the four available; other parameters, such as volume, are also chosen. The system is then ready for use: it does not require a specially designated operator. If necessary, however, system settings can be easily altered from the Control Unit.

To speak during meetings, delegates merely press the one-touch button to activate the microphone on their units. Microphones are mounted on flexible stems, which can be adjusted to individual preferences. In larger and noisier settings, users can plug in earphones to eliminate disturbing background noise. There is a double headphone socket for two users per microphone.

### Future-proof extensibility

System longevity is part of the CCS 800 Ultra design. The system can be interfaced with a wide range of external equipment, providing numerous expansion capabilities that 'future-proof' the system. External wired or wireless microphones allow guest speakers or audience participation. Additionally, a public address system might be incorporated to broadcast proceedings to a wider audience. Delegates may participate remotely by telephone via a telephone coupler connected to the Control Unit. Doubling as a base for more complex discussion management systems, CCS 800 Ultra also offers various connectivity options including teleconferencing and video conferencing, and interpretation and language distribution.

### Digital acoustic feedback suppression

The CCS 800 Ultra features proprietary DAFS technology. Balancing sound pressure level and system gain above normal feedback limits, an additional chip contains proprietary digital signal processing. Basically, it lets users increase the volume above normal levels without disturbing feedback and microphone 'howling'. The result is excellent speech intelligibility under all conditions.

### Operational modes and applications

The four operating modes are readily adapted to a variety of situations:

- For business events, between 1 and 4 microphones can be active at once, with the chairperson choosing speaker priority. Unused microphones are switched off automatically.
- In town council settings, wired or wireless microphones (hand-held or podium-style) are ideal.
- In the courtroom, MP3 audio recording or playback mode secures and replays testimony.
- For large, noisy environments, plug-in earphones eliminate background noise. Hearing aid users can connect Induction Loop Neckband headphones via these sockets.

### Modern contemporary design

Besides excellent acoustic and component design, users can expect a stunning yet subtle aesthetic quality. Practical and intuitive, the CCS 800 Ultra's updated look complements practically any interior from highly modern architecture to classic town halls.



### Fixed or temporary installations

The CCS 800 Ultra is ideal for both fixed and temporary installations. The delegate and chairman units, and Control Units, are designed for portable or fixed tabletop mounting. In permanent installations, the Control Unit can be flush-mounted to a desk, or installed in a 19-inch rack.

To facilitate transportation, there are two types of transport and storage suitcases, both of which are lightweight, rugged, and easy to carry and pack.

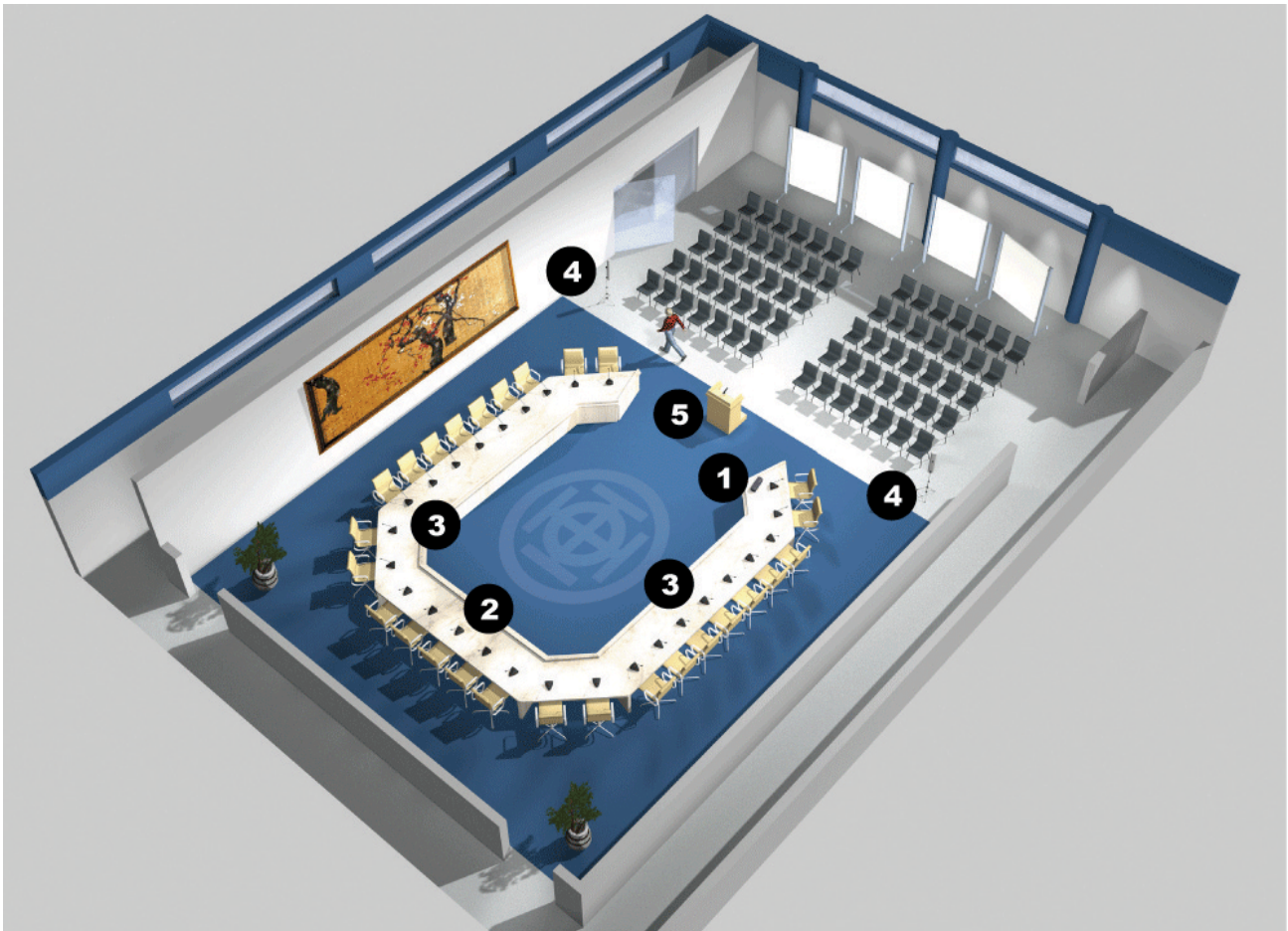
- The first accommodates 10 contribution units with standard microphone stem length.
- The second holds one Control Unit, six contribution units (with standard or extended microphone stem length), and extension cables.

### A genuine Bosch product

The CCS 800 Ultra Discussion System forms part of the Bosch range of conference systems. The range includes the Digital Congress Network (DCN), DCN Discussion System and Integrus Digital infra-red Language Distribution System.

The name Bosch has been synonymous with innovation for over 100 years. As a manufacturer of original, innovative products, Bosch Security Systems have led the market for over 50 years. Like all Bosch products, the CCS 800 Ultra is backed by Bosch's renowned customer support and service commitment.

## Example 1 – In the City Council



- 1: Control Unit with Recorder
- 2: Chairman Unit
- 3: Delegate Units
- 4: XLA 3200 Line Array Speakers 60W (x2)
- 5: Microphone

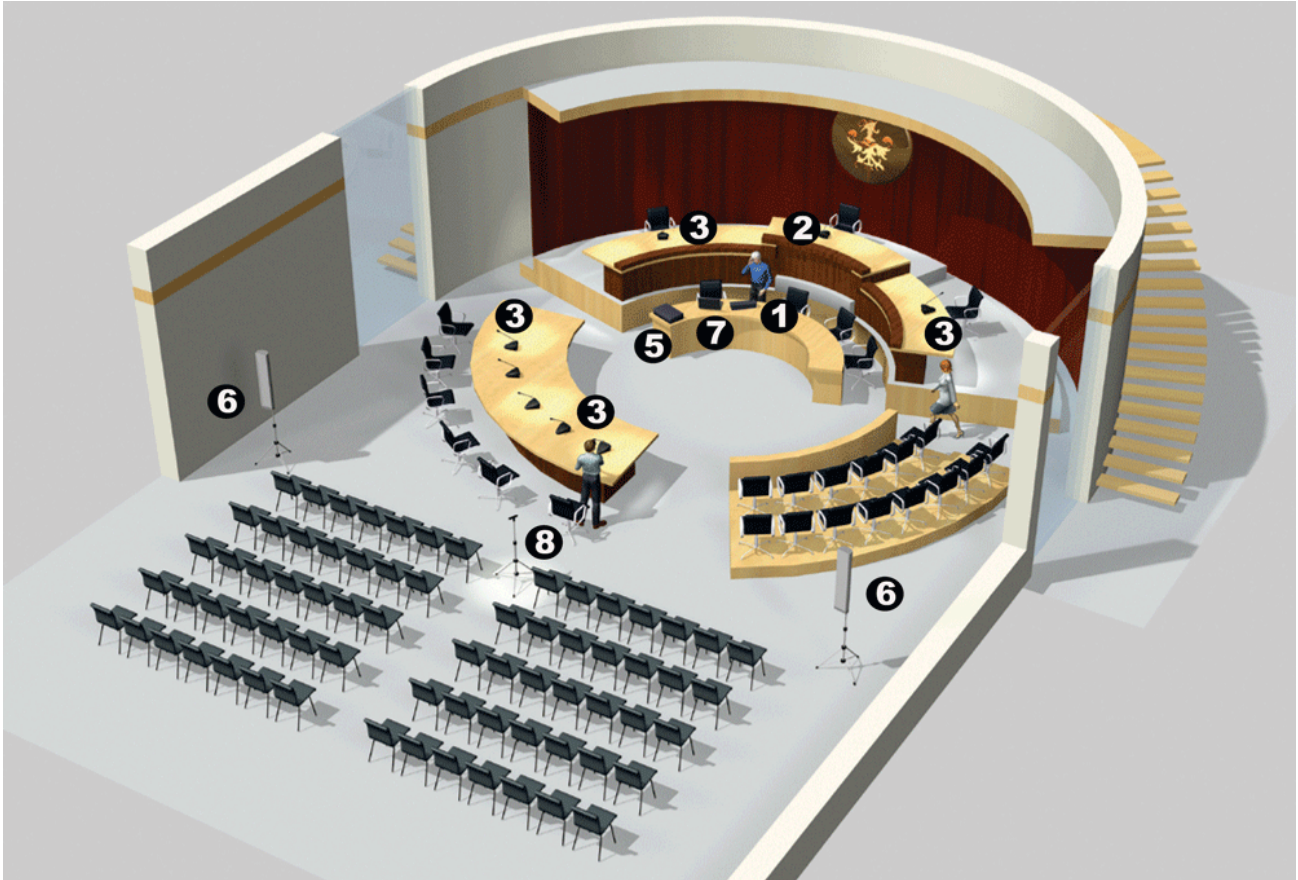
### Excellent speech intelligibility and delegate management

Different discussions occur every day in small-to-medium-sized public spaces where the city council meets. A flexible solution for this type of venue, the CCS 800 Ultra, allows the chairperson to guide and record the proceedings while providing excellent speech intelligibility throughout the room.

The system can control up to 150 units. Via the chairman unit, the chairperson has access to a priority button with an attention tone to temporarily or permanently mute all delegate unit microphones. The system can easily handle most external equipment including separate microphones and a public address system for the audience.

The CCS 800 Ultra lets the chairperson manage and record the proceedings. The chairman unit has a priority button with attention tone to mute delegate microphones. Additional microphones and other equipment can be added as well. Thanks to DAFS, excellent speech intelligibility is guaranteed throughout the room.

## Example 2 – In the Courtroom



- 1: Control Unit with Recorder
- 2: Chairman Unit
- 3: Delegate Units
- 5: Plena Mixer Amplifier 120W
- 6: XLA 3200 Line Array Speakers 60W (x2)
- 7: PC for archiving MP3 recordings
- 8: Microphone

### MP3 recording and system expandability

In a typical courtroom, the CCS 800 Ultra system is a top performer, allowing people to participate directly in the hearing via table-top delegate units while the judge maintains order via the chairman unit.

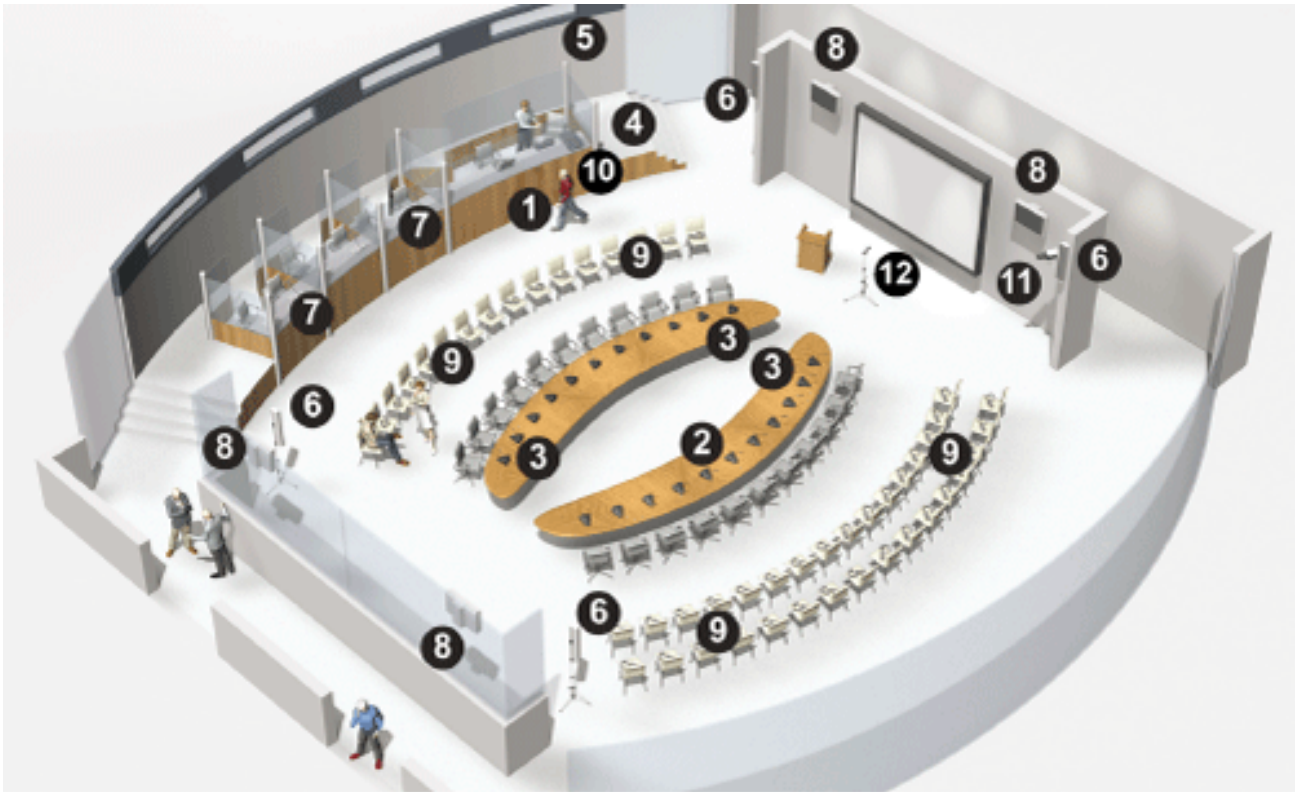
Best of all, the CCS 800 Ultra system can record the entire session or key segments on removable SD Cards – an easy and accurate method for archiving on a PC or separate storage device, and playing back previous testimony. The system automatically denotes vital information like date, time, and tracking numbers on its icon-based LCD screen.

Easily expandable, the CCS 800 Ultra features various connectivity options including headphone connections for the court clerks, additional external microphones and a Bosch Plena public address system for the public gallery as well as telephone conferencing, interpretation and videoconferencing possibilities.

The CCS 800 Ultra lets users record and archive MP3-compatible audio recordings on individual SD Cards\*. The easy-to-use control unit LCD screen displays additional information such as the date and time, file name, elapsed recording time, number of recorded tracks, and memory status.

\*not included

## Example 3 - In the Business Conference Center



- 1: Control Unit with Recorder
- 2: Chairman Unit
- 3: Delegate Units
- 4: Telephone Coupler
- 5: Plena Mixer Amplifier 120W
- 6: XLA 3200 Line Array Speakers 60W (x2)
- 7: 6-Channel Interpreter desk
- 8: Integrus Radiator
- 9: Integrus Receiver
- 10: Integrus Transmitter including the Interface Module
- 11: Videoconferencing system
- 12: Wireless microphone & receiver

### Excellent base installation for dynamic business environments

The CCS 800 Ultra makes an excellent base installation for larger-scale international business and conference centers. The CCS 800 Ultra is easily integrated with interpretation systems like the Bosch Integrus digital infrared language distribution system. With language selection occurring on the wireless receiver itself, this solution gives delegates and audience members access to simultaneous interpretations generated by interpreters using Bosch interpreter desks.

Another option is to integrate a telephone link to allow individual delegates or even groups to participate from remote locations. On-site participants can use a Bosch Wireless Microphone to speak or give presentations. With a variety of other integration possibilities, including videoconferencing, it is easy to forget that the CCS 800 Ultra can also record an entire conference or event for accurate archiving or publication.

The CCS 800 Ultra system can handle a variety of external equipment such as an interpretation system, language distribution, a telephone coupler for teleconferences, a public address system and videoconferencing equipment. The auxiliary components can be plugged directly into the back of the control unit.





# System Specifications

## Features

- ▶ **Built-in MP3 recorder**
- ▶ **Up to 150 contribution units**
- ▶ **Possible-To-Speak indication**
- ▶ **High speech intelligibility is ideal for small to medium-sized meetings**
- ▶ **Digital acoustic feedback suppression**
- ▶ **Can be interfaced with a wide range of external equipment, providing numerous system expand capabilities**
- ▶ **Attractive and modern design**
- ▶ **Easy to install and convenient to use**

Conforms to international standard IEC 60914, the international standard for conference systems.

## Functions

- Two types of contribution unit (chairman and delegate)
- Delegate units enable participants to actively take part in a conference
- Control Unit controls and powers the microphones of contribution units and provides connections for audio inputs and outputs

## Certifications and Approvals

### Safety

according to EN 60065

according to CAN / CSA-E60065

according to USA / UL 6500

### Electromagnetic compatibility

Emission EN 55103-1, FCC rules (part 15) class A

Immunity EN 50103-2

### ESD

according to IEC 801-2 and 801-4

### Mains harmonics

prepared to EN 61000-3-2 and EN 61000-3-3

### Shock resistance, vibration resistance, bump and transport

according to IEC 68, 5G acceleration

### Transport

UN-D 1400

## Technical Specifications

### Electrical

#### Contribution units

DC supply 24 V ± 1 V (current limited)

Typical frequency control 25 Hz to 12.5 kHz tolerances according to IEC 60914 standard

#### Total harmonic distortion

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

at maximum input level (110 dB SPL) < 3 %

#### Auto microphone switch-off function (selectable on the Control Unit)

after 30 seconds without speech (sound level below 64 dB SPL), the microphone is switched off

### Environmental

#### Temperature

Operating +5°C to +45°C (+41°F to +113°F)

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

#### Humidity

Operating 20% to 95% RH

Storage up to 99% RH

#### Air pressure

**600 to 1100 mBar**

#### System limits and cabling

Maximum number of contribution units connected to Control Unit 50 units, (can provide control for 150 units)

Maximum number of contribution units per trunk output 25 units, (2 trunk outputs per Control Unit)

Maximum trunk length using CCS 800 Ulro standard cabling 100 m

Maximum control 150 units (consult your dealer for more information)



# LBB 3330 CCS Delegate Unit



## Features

- ▶ **Microphone with flexible stem and light ring**
- ▶ **Built-in loudspeaker**
- ▶ **Two headphone sockets**
- ▶ **Built-in volume control for headphones**
- ▶ **Compact, attractive design**
- ▶ **Available with standard or extended length microphone stems**

The LBB 3330 CCS Delegate Units enable delegates to actively take part in the proceedings. A built-in microphone allows them to speak to the other delegates, and they can listen to the discussion using the built-in loudspeaker or (optional) personal headphones.

## Functions

### Microphone with flexible stem and light ring

The microphone is mounted on a flexible stem, which is easily adjustable to suit personal preferences. It also allows two people to use the same delegate unit as they can pull the microphone towards them when required to speak. Incorporated into the head of the microphone is a light ring which illuminates red to indicate when the microphone is on.

### Built-in loudspeaker

Loudspeaker volume is set centrally at the Control Unit for all delegate units. To prevent acoustic feedback, the built-in loudspeaker is automatically muted when the microphone is on.

### Two headphone sockets

Two 3.5 mm (0.14 in) stereo headphone sockets (wired for mono) allow two pairs of headphones to be connected so two delegates can simultaneously use the unit. It is also possible to connect a tape recorder to one headphone socket, and use the other headphone socket to listen to the proceedings.

### Built-in volume control for headphones

The headphone volume level can be adjusted by means of a thumbwheel on the unit for maximum comfort.

### Compact, attractive design

Featuring modern, unobtrusive styling and finished in charcoal gray these units make a valuable addition to any venue.

### Standard or Extended Length Microphone Stems

The delegate units are available with standard 313 mm (12.3 in) or extended 488 mm (19.2 in) microphone stem lengths.

### Controls and Indicators

- Microphone on/off button
- Rotary volume control for adjusting headphone volume
- Loudspeaker, automatically muted when microphone is on and/or headphones are connected
- Microphone 'on' indicator (red LED)
- Light ring indicator on microphone stem, lights up red when microphone is on

### Interconnections

- 1 x 2 m (78.7 in) cable terminated with a 7-pole male connector for loop-through connection to other delegate or chairman units, or to a Control Unit
- 1 x 7-pole circular female connector for loop-through connection to other delegate or chairman units
- 2 x 3.5 mm (0.14 in) stereo headphone sockets

## Technical Specifications

### Mechanical

Dimensions unit without microphone (H x W x D)	63 x 124 x 172 mm (2.5 x 4.9 x 6.8 in)	
Height with microphone in horizontal position	127 mm (5.0 in)	
Length of microphone from mounting surface	LBB 3330/00	LBB 3330/50
	313 mm (12.3 in)	488 mm (19.2 in)
Weight	approx. 1 kg (2.2 lb)	
Mounting	tabletop (portable or fixed)	
Material (top)	polymer	
Material (base)	painted metal	
Color (top)	charcoal (PH10736)	
Color (base)	black (PH80007)	

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**Ordering Information**

**LBB 3330/00 CCS Delegate Unit Short**      **LBB3330/00**  
**Microphone**  
microphone stem length 313 mm (12.3 inch)

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**LBB 3330/50 CCS Delegate Unit Long**      **LBB3330/50**  
**Microphone**  
microphone stem length 488 mm (19.2 inch)

# LBB 3331 CCS Chairman Unit



## Features

- ▶ Incorporates all functions of the LBB 3330 CCS Delegate Units
- ▶ Priority button for chairman microphone
- ▶ Temporary or permanent muting of delegate microphones
- ▶ Optional chime tone facility for preceding chairman announcements
- ▶ Modern, unobtrusive styling to match the LBB 3330 CCS Delegate Units
- ▶ Available with standard or extended length microphone stems

The LBB 3331 CCS Chairman Units are equipped with enhanced functionality that enables the user to take the role of chairman in a conference or meeting.

## Functions

### Priority button for chairman microphone

In addition to the 'microphone on' button the chairman units feature a 'chairman priority' button. When pressed the priority button causes all currently active delegate microphones to be temporarily or permanently muted.

### Temporary or permanent muting of delegate microphones

The 'chairman priority' button can be set to mute delegate microphones on a temporary or permanent basis. On the temporary setting, delegate microphones are muted only as-long as the chairman has the priority button pressed down. On the permanent setting delegates must reactivate their microphone after a 'chairman priority' announcement by pressing the 'microphone on' button on

their delegate unit. Activation of the permanent mute option is carried out by setting an internal switch, which can be accessed by removing a small plastic plate on the base of the chairman unit.

### Optional chime tone facility for preceding chairman announcements

An optional chime tone can be selected to precede chairman priority calls. Activate the chime tone option by setting an internal switch; this can be accessed by removing a small plastic plate on the base of the chairman unit.

### Standard or extended length microphone stems

The chairman units are available with standard 313 mm (12.3 in) or extended 488 mm (19.2 in) microphone stem lengths.

### Controls and Indicators

- Microphone on/off button
- Chairman priority button
- Rotary volume control for adjusting headphone volume
- Loudspeaker, automatically muted when microphone is on and/or headphones are connected
- Internal switch for selection of chairman announcement chime tone
- Internal switch for temporary or permanent muting of delegate microphones when chairman priority button is pressed
- Microphone has 'on' indicator (red LED)
- Light ring indicator on microphone stem, lights up red when microphone is on

### Interconnections

- 1 x 2 m (78.7 in) cable terminated with a molded 7-pole circular male connector, for loop-through interconnection to delegate unit or Control Unit
- 1 x 7-pole circular female connector for loop-through interconnection to delegate units
- 2 x 3.5 mm (0.14 in) stereo headphone sockets

## Technical Specifications

### Mechanical

Dimensions unit without microphone (H x W x D)	63 x 124 x 172 mm (2.5 x 4.9 x 6.8 in)	
Height with microphone in horizontal position	127 mm (5.0 in)	
Length of microphone from mounting surface	LBB 3331/00	LBB 3331/50
	313 mm (12.3 in)	488 mm (19.2 in)
Weight	approx. 1 kg (2.2 lb)	
Mounting	tabletop (portable or fixed)	
Material (top)	polymer	
Material (base)	painted metal	
Color (base)	charcoal (PH10736)	
Color (top)	black (PH80007)	

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**Ordering Information**

**LBB 3331/00 CCS Chairman Unit Short**      **LBB3331/00**  
**Microphone**  
microphone stem length 313 mm (12.3 inch)

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**LBB 3331/50 CCS Chairman Unit Long**      **LBB3331/50**  
**Microphone**  
microphone stem length 488 mm (19.2 inch)

## LBB 3312/00 CCS Suitcase for 10 Delegate Units



### Technical Specifications

#### Mechanical

Dimensions (H x W x D)	560 x 795 x 235 mm (22.0 x 31.3 x 9.3 in)
Weight (empty)	6 kg (13.2 lb)
Material (body)	3 mm (0.12 in) ABS
Material (rim)	aluminum
Color (body)	black (RAL9004)
Color (rim)	silver

### Ordering Information

#### LBB 3312/00 CCS Suitcase for 10 Delegate Units

**LBB3312/00**

Suitcase for 10 Delegate Units where CCS 800 Ulro contribution units will not be used in one fixed location.

### Features

- ▶ Can hold 10 contribution units and cables
- ▶ Attractive, yet sturdy construction
- ▶ Interior specially molded to securely hold system units
- ▶ Easy to transport and store
- ▶ Two separate locks for extra security

The LBB 3312/00 CCS Suitcase for 10 Delegate Units is used where CCS 800 Ulro contribution units will not be used in one fixed location and, therefore, have to be easily transportable. This is often the case in town halls, hotels, business centers, local government offices or smaller halls in major conference venues.

### Functions

#### Capacity

The LBB 3312/00 is designed to accommodate ten contribution units with short-length microphones. Any combination of delegate/chairman units can be catered for.

#### Specially shaped interior

The suitcase interior has shaped foam packing to accommodate the discussion units. This gives ample protection and makes packing and unpacking easier.

#### Easy to transport and store

The suitcase is attractive but also extremely durable and practical. It has handles on the top and side with two wheels on the underside for easy transport. There are two separate locks for extra security.

# LBB 3312/10 CCS Suitcase for Control Unit and 6 Delegate Units



## Features

- ▶ Can hold CU and/or multiple contribution units and cables
- ▶ Attractive, yet sturdy construction
- ▶ Interior specially molded to securely hold system units
- ▶ Easy to transport and store
- ▶ Two separate locks for extra security

The LBB 3312/10 is used where CCS 800 Ultra contribution units will not be used in one fixed location and, therefore, have to be easily transportable. This is often the case in town halls, hotels, business centers, local government offices or smaller halls in major conference venues.

## Functions

### Capacity

The LBB 3312/10 can accommodate one CU and up to six contribution units with short or long-length microphones. Capacity for the storage of several extension cables is also provided.

### Specially shaped interior

The suitcase interior has shaped foam packing to accommodate the units. This gives ample protection and makes packing and unpacking easier.

## Easy to transport and store

The suitcase is attractive but also extremely durable and practical. It has handles on the top and side with two wheels on the underside for easy transport. There are two separate locks for extra security.

## Technical Specifications

### Mechanical

Dimensions (H x W x D)	560 x 795 x 235 mm (22.0 x 31.3 x 9.3 in)
Weight (empty)	6 kg (13.2 lb)
Material (body)	3 mm (0.12 in) ABS
Material (rim)	aluminum
Color (body)	black (RAL9004)
Color (rim)	silver

## Ordering Information

**LBB 3312/10 CCS Suitcase for Control Unit and 6 Delegate Units**      **LBB3312/10**

Used to transport the CU and/or multiple delegate units and cables.



## CCS-CU Control Unit



### Features

- ▶ **Built-in MP3 recording and playback with graphical display**
- ▶ **Patent-pending recording buffer**
- ▶ **Digital Acoustic Feedback Suppression**
- ▶ **Discussion control without operator**
- ▶ **Controls up to 150 contribution devices**
- ▶ **Built-in monitor loudspeaker**

The Control Unit (CU) is the heart of the CCS Ultra Discussion System and supplies the power for all delegate and chairman units in the system. The unit also controls the chairman and delegate unit microphones, as well as providing connections for audio inputs and outputs.

### Functions

#### **Built-in MP3 recording and playback with graphical display**

(CCS-CURD)

The CU has a built-in recorder to digitally record a discussion to an SD Card. The graphical display shows the status of the recorder and the accompanying buttons can be used to configure the recorder. As an option, the recording is only active when a microphone is active.

The SD card can be removed from the CU and processed on a PC for transcription purposes; the recordings can also be retrieved by connecting a PC to the CU's USB. The recordings can be played back to the monitor loudspeaker or to delegate's loudspeakers. An audible beep and a flashing LED indicate when the SD Card is almost full and the user needs to replace it with a new card.

#### **Patent-pending recording buffer**

(CCS-CURD)

A card can be replaced by an empty card while recording is running. When the full card is removed, the recording is continued to a patent-pending recording buffer. When a new card is inserted into the CU, the buffered recording is written onto the new card and the recording continues normally. This gives seamless recording without the loss of any audio while an SD Card is exchanged.

#### **Digital acoustic feedback suppression**

(CCS-CUD, CCS-CURD)

The digital acoustic feedback suppression facility automatically eliminates acoustic feedback (also known as 'howling' or 'Larsen effect'). This gives better speech intelligibility by allowing the speaker volume to be turned up as loud as required without any risk of feedback.

#### **Discussion control without operator**

The CU can be setup to operate standalone without the need for an operator. The following 5 modes can be chosen using a rotary control on the unit's top panel:

- Open mode – allows selection of one to four microphones (excluded chairman microphones) which can be simultaneously active
- Open mode with auto-switch-off – allows selection of one to four microphones (excluded chairman microphones) which can be simultaneously active. If the delegate does not speak for 30 seconds, microphones are automatically switched off
- Override mode – delegates can override each other simply by activating their microphones. Only one microphone can be active at any one time. (Note: In override mode, delegates cannot override chairman)
- Chairman only mode – only chairmen can speak. Delegate microphones cannot be activated, even when a chairman is not speaking
- Test mode – checks if system connections are correct. All microphone light rings and contribution unit LEDs light up to indicate that units are properly connected

#### **Supplies power for up to 50 contribution units**

The CU has two trunk outputs for the loop-through connection of contribution units. It is possible to connect 25 contribution units to each trunk output, with a maximum system cable length of 100 m (109.3 yards).

#### **Provides control for up to 150 contribution units**

Up to 3 CUs can be used together in a discussion system to power and control a maximum of 150 contribution units. In this configuration a single CU acts as a master controller for the entire system.

#### **Built-in monitor loudspeaker**

The built-in monitor loudspeaker and headphone socket allow the conference to be monitored.

#### **Interfaces the system with external equipment**

The following equipment can be interfaced to the CCS Ultra Discussion System through the CU:

- External wired or wireless microphone – for guest speakers or audience participation. (Note: The external microphone is muted when the priority button on a chairman unit is pressed, and when the system is operating in ‘chairman only’ mode)
- External PA system – for transmitting the proceedings to an audience in the same room or an adjacent room
- Tape recorder – for external recording and playing back meetings and discussions
- Audio equipment – for providing background music
- Telephone coupler – to allow a remote delegate to participate via telephone
- External audio processing – an insertion connector is provided

**Controls and Indicators**

Top

- Mains on/off switch
- Graphical display for status information (CCS-CURD)
- 5 soft buttons for configuration and control of the built-in MP3 recorder (CCS-CURD)
- Loudspeaker volume control, for setting output level of loudspeakers of contribution units. This control also determines the maximum level for the headphone outputs of the contribution units and the CU.
- Microphone mode rotary switch, for setting the number of simultaneously active microphones, and selecting one of the four operation modes (plus test mode)
- Power on LED

Back

- On/off switch for digital acoustic feedback suppression facility (CCS-CUD, CCS-CURD)
- Microphone input gain adjustment
- External recorder input gain adjustment
- Insertion connector bypass switch

**Interconnections**

Top

- 1 x 3.5 mm (0.14 inch) stereo headphone socket

Back

- 1 x AC input
- 2 x 7-pole circular female connectors, trunk in/out loop through interconnection
- 1 x 3-pole female XLR connector, microphone input (can be used as line input by included 50dB attenuator)
- 1 x Cinch connector pair, line input/output
- 1 x Cinch connector pair, telephone input/output
- 1 x Cinch connector pair, insertion input/output
- 2 x Cinch connector pairs (R/L channel), external recorder input/output
- USB interface (CCS-CURD)



1 CCS-CUD, CCS-CURD  
 2 CCS-CURD

**Parts Included**

Quant.	Component
1	Control Unit
1	50 dB Attenuator
1	User manual
1	Power cord

**Technical Specifications**

**Electrical**

Mains voltage	100 to 240 VAC ± 10 %
Current consumption	maximum 0.9 A (100 VAC) to 0.3 A (240 VAC)
DC supply to contribution units	24 V ± 1 V (current limited)
Loudspeaker volume control	mute (50 dB att.) + 10 steps of 1.9 dB
Limiter threshold level to unit	10 dB above nominal level loudspeaker / headphone
Gain reduction due to number of open microphones (NOM)	÷ NOM ± 1 dB
Total harmonics	
Nominal input (85 dB SPL)	< 0.5
Max. input (110 dB SPL)	< 0.5

**Sample frequency (CCS-CURD)**

Recording	32 kHz
Playback	32, 44.1, 48 kHz

**Bit rate (CCS-CURD)**

Recording	64, 96, 128, 192, 256 KBit/sec
Playback	any bitrate

**Compatible conform ID3V2 mp3-tags (CCS-CURD)**

Memory card	Any SD Card up to 2 Gb (high speed cards advised)
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**Recording capacity (CCS-CURD)**

	Internal memory	Card size		
Bit rate	225 MB	512 MB	1 GB	2 GB
64	07 h : 41 m	17 h : 14 m	34 h : 28 m	64 h : 56 m
96	05 h : 07 m	11 h : 29 m	22 h : 59 m	45 h : 58 m
128	03 h : 50 m	08 h : 37 m	17 h : 14 m	34 h : 28 m
192	02 h : 33 m	05 h : 44 m	11 h : 29 m	22 h : 58 m
256	01 h : 55 m	04 h : 18 m	08 h : 37 m	17 h : 14 m

**Mechanical**

Dimensions including feet 84 x 361 x 143 mm (3.4 x 14.2 x 5.6 in)  
(H x W x D)

Height of feet 5.5 mm (0.22 in)

Mounting tabletop (portable or fixed)  
19-inch rack  
flush mounting

Weight 1.5 kg (3.3 lb)

Material (top) polymer

Material (base) painted metal

Color (top) charcoal (PH10736)

Color (base) black (PH80007)

**Ordering Information**

**CCS-CU Control Unit** **CCS-CU**

supplies the power for all delegate and chairman units in the system, plus the unit microphones, as well as providing connections for audio inputs and outputs

**CCS-CUD Control Unit with DAFS** **CCS-CUD**

With digital acoustic feedback suppression facility.

**CCS-CURD Control Unit with Recorder and DAFS** **CCS-CURD**

With built-in recorder, graphical display, recording buffer and acoustic feedback suppression facility.

# LBB 3311/00 CCS Rack Mounting Set



The LBB 3311/00 19-inch rack mounting set is a set of brackets and other necessary fixings to mount a Control Unit into a 19-inch rack system.

**Technical Specifications**

**Mechanical**

Material metal

Color charcoal (PH10736)

**Ordering Information**

**LBB 3311/00 CCS Rack Mounting Set** **LBB3311/00**

Set of brackets and other necessary fixings to mount a Control Unit into a 19-inch rack system

# LBB 3316/00 CCS Installation Cable 100m



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A 100 m (328 ft) length of installation cable plus 10 connector sets (5 male and 5 female).

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## Parts Included

### Quantity Component

1x	Installation cable, length 100 m (328 ft)
5x	Connector sets, male and female

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## Technical Specifications

### Mechanical

Length	100 m (328 ft)
Diameter	5.9 ± 0.3 mm (0.23 ± 0.01 in)
Insulation material	PVC
Color	grey

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## Ordering Information

**LBB 3316/00 CCS Installation Cable 100m**    **LBB3316/00**  
100 m (328 ft), includes 5 male and 5 female  
connector sets

## LBB 3316/xx CCS Extension Cable



Extension cables for contribution unit / Control Unit interconnection. These cables provide additional system flexibility in larger application sites.

### Functions

#### Interconnections

- 1 x 7-pole male DIN connector
- 1 x 7-pole female DIN connector

### Technical Specifications

#### Mechanical

	<b>LBB 3316/05</b>	<b>LBB 3316/10</b>
Length	5 m (16.4 ft)	10 m (32.8 ft)
Diameter	5.9 ± 0.3 mm (0.23 ± 0.01 in)	
Material	PVC	
Color	grey	
Connector material	molded plastic	
Connector color	grey	

### Ordering Information

<b>LBB 3316/05 CCS Extension Cable 5m</b> 5 m (16.4 ft), 7-pole male and female DIN connectors	<b>LBB3316/05</b>
<b>LBB 3316/10 CCS Extension Cable 10m</b> 10 m (32.8 ft), 7-pole male and female DIN connectors	<b>LBB3316/10</b>

## LBB 4117/00 DCN Cable Locking Clamp (25 pcs)



Matching clamps for male/female cable connectors such as those on the DCN Extension Cable (LBB 4416). One clamp per male/ female connector required.

### Ordering Information

<b>LBB 4117/00 DCN Cable Locking Clamp (25 pcs)</b> set of 25	<b>LBB4117/00</b>
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# LBB 3015/04 High Quality Dynamic Headphones



## Features

- ▶ Durable, dynamic headphones
- ▶ Replaceable ear pads
- ▶ High-quality sound reproduction
- ▶ Gold-plated stereo jack plug

## Functions

### Interconnections

- 1.5 m (5 ft) cable terminated with a 3.5 mm (0.14 in) stereo jack plug

## Technical Specifications

### Electrical

Impedance	720 ohm per earpiece
Audio frequency response	250 Hz to 13 kHz (-10 dB)
Power handling capacity	200 mW
Sensitivity (1 kHz)	
97 dB SPL/earpiece at 0 dBV/system	
96 dB SPL/earpiece at 1 mW/earpiece	

### Mechanical

Weight	110 g (0.24 lb)
Color	Dark grey

## Ordering Information

<b>LBB 3015/04 High Quality Dynamic Headphones</b> Durable, dynamic headphones.	<b>LBB3015/04</b>
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## Accessories

<b>LBB 9095/50 Ear pads for LBB 3015 LBB 9095 (25 pairs)</b> 25 pairs	<b>LBB9095/50</b>
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# LBB 3441/10 Under the Chin Headphones



## Features

- ▶ Lightweight stereo headphones
- ▶ Ergonomic design for use under the chin
- ▶ Replaceable ear tips
- ▶ Right-angled, gold-plated jack plug

## Functions

### Interconnections

- 1.2 m (4 ft) cable terminated with 3.5 mm (0.14 in) right-angled stereo jack plug

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Impedance	150 ohm per earpiece
Audio frequency response	50 Hz to 5 kHz (-10 dB)
Power handling capacity	60 mW
Sensitivity (1 kHz)	107 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	33 g (0.07 lb)
Color	Black

## Ordering Information

<b>LBB 3441/10 Under the Chin Headphones</b> with 1.2 m (4 ft) cable terminated with 3.5 mm (0.14 in) right-angled stereo jack plug	<b>LBB3441/10</b>
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## Accessories

<b>LBB 3441/50 Ear Tips for LBB 3441</b> <b>(500 pairs)</b> for LBB 3441	<b>LBB3441/50</b>
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# LBB 3442/00 Single Earphone




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## Features

- ▶ **Lightweight single earphone**
- ▶ **Left or right ear use**

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## Functions

### Interconnections

- 1.2 m (3.94 ft) cable terminated with 3.5 mm (0.14 in) jack plug

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## Technical Specifications

### Electrical

Impedance	32 ohm
Audio frequency response	100 Hz to 5 kHz (-10 dB)
Power handling capacity	5 mW
Sensitivity (1 kHz)	114 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	25 g (0.06 lb)
Color	Dark grey

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## Ordering Information

<b>LBB 3442/00 Single Earphone</b>	<b>LBB3442/00</b>
Lightweight single earphone, 1.2 m (3.94 ft) cable terminated with 3.5 mm (0.14 in) jack plug	

# LBB 3443 Lightweight Headphones



## Features

- ▶ **Lightweight with high quality sound reproduction**
- ▶ **Replaceable ear pads**
- ▶ **Available with normal or durable cable**
- ▶ **Separate available solid washable ear pads**

## Functions

These headphones can be fitted with an optional set of washable ear pads.



*Washable ear pads*

## Interconnections

- 1.3 m (4.25 ft) cable terminated with gold-plated 3.5 mm (0.14 in) angled stereo jack plug

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Impedance	32 ohm per earpiece
Audio frequency response	50 Hz to 20 kHz (-10 dB)
Power handling capacity	50 mW
Sensitivity (1 kHz)	98 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	70 g (0.16 lb)
Finish	Charcoal (PH 10736) with silver

## Ordering Information

<b>LBB 3443/00 Lightweight Headphones</b> high quality sound reproduction, lightweight, replaceable ear pads and normal cable	<b>LBB3443/00</b>
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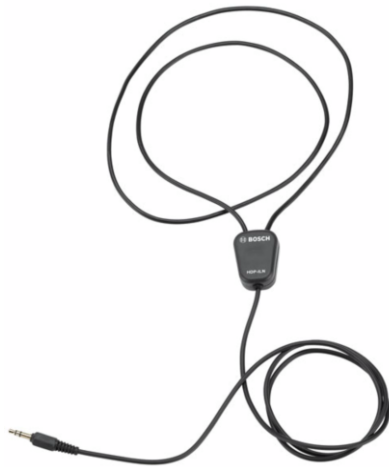
<b>LBB 3443/10 Lightweight Headphones</b> <b>Durable Cable</b> high quality sound reproduction, lightweight, replaceable ear pads and durable cable	<b>LBB3443/10</b>
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### Accessories

<b>LBB 3443/50 Foam Ear Pads for LBB 3443 (50 pairs)</b> replacement foam ear pads	<b>LBB3443/50</b>
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<b>HDP-LWSP Solid Ear Pads for LBB 3443 (50 pairs)</b> washable replacement ear pads	<b>HDP-LWSP</b>
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# HDP-ILN Induction Loop Neckband




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## Features

- ▶ **Lightweight**
- ▶ **Used with 'T-coil' hearing aids**

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## Functions

This induction loop neckband can be used with:

- Integrus receivers
- CCS800 unit
- DCN unit

The neckband magnetically couples the sound signal from the headphone output to a 'T-coil' hearing aid.

## Interconnections

- 0.9 m (3ft) cable terminated with a 3.5 mm (0.14 in) gold-plated plug

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## Technical Specifications

### Mechanical

Weight	45 g (0.10 lb)
Color	Charcoal with silver

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## Ordering Information

<b>HDP-ILN Induction Loop Neckband</b> Lightweight neckband.	<b>HDP-ILN</b>
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# HDP-LWN Lightweight Neckband Headphone



## Features

- ▶ **Comfortable neckband stereo headphone**
- ▶ **Lightweight with high quality sound reproduction**
- ▶ **Replaceable ear pads**

## Functions

### Interconnections

- 1.3 m (4.25 ft) cable terminated with gold-plated 3.5 mm (0.14 in) angled stereo jack plug

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Impedance	32 ohm per earpiece
Audio frequency response	20 Hz to 20 kHz ( $\pm 3$ dB)
Power handling capacity	30 mW
Sensitivity (1 kHz)	111 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	56 g (0.12 lb)
Finish	Charcoal (PH 10736) with silver

## Ordering Information

<b>HDP-LWN Lightweight Neckband Headphone</b>	<b>HDP-LWN</b>
High-quality sound reproduction, lightweight, replaceable ear pads.	

## Accessories

<b>HDP-LWNEP Earpads for neckband headphone (50 pairs)</b>	<b>HDP-LWNEP</b>
Replacement foam ear pads.	

# LBB 9600/20 Condenser Handheld Microphone



## Features

- ▶ Condenser transducer
- ▶ Unidirectional
- ▶ High speech intelligibility
- ▶ Low sensitivity to case noise and vibrations
- ▶ Phantom powered
- ▶ Rugged construction
- ▶ Modern non-reflecting matt black finish

This condenser microphone is based on an electric transducer element in a sturdy housing with shielding against wind and wind bursts (pops). It is intended for public address and sound reinforcement applications, such as in churches, theaters, and conference centers.

## Functions

The handheld LBB 9600/20 is an excellent microphone with almost frequency independent, unidirectional directivity. Its low equivalent input noise level and insensitivity to stray electrostatic and electromagnetic fields keep the audio signal free from spurious noise.

The microphone has an on/off slide-switch and a 3-pin, lockable XLR plug. It uses a phantom power supply, which is available on all microphone inputs on Bosch public address amplifiers.

It comes with a push-on clip with a Whitworth-threaded screw fitting, and a multi-thread adaptor (3/8", 1/2", and 5/8") for mounting. The supplied 7 m (23 ft) connection cable has 3-pin, lockable male and female XLR connectors.

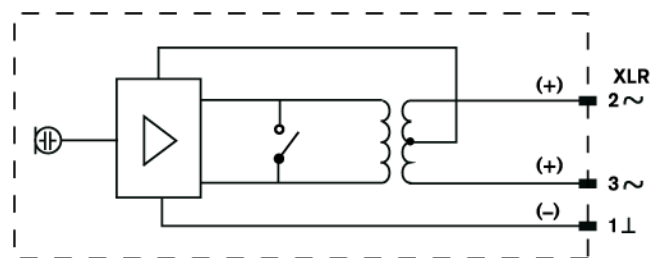
## Accessories

A number of accessories, such as extension cables, table stands and floor stands are also available. See the separate microphone accessories data sheet.

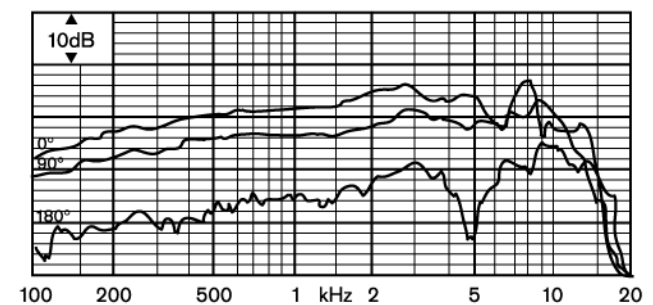
## Certifications and Approvals

Region	Certification
Europe	CE Declaration of Conformity

## Installation/Configuration Notes



Circuit diagram



Frequency response

## Technical Specifications

### Electrical\*

#### Phantom power supply

Voltage range 11 V to 52 V (acc. to DIN 45596 and IEC 268-15A)

Current consumption <1.5 mA

#### Performance

Polar pattern Unidirectional

Frequency range 100 Hz to 16 kHz

Sensitivity 2 mV/Pa +/-3 dB (-54 dB rel. to 1 V/Pa)

Rated output impedance 200 ohm

Equivalent input noise level 26 dB (A)

\* Technical performance data acc. to IEC 60268-4

**Mechanical**

Dimensions (D x L)	54 x 170 mm (2.13 x 6.69 in)
--------------------	------------------------------

Weight	245 g (8.64 oz)
--------	-----------------

Color	Black
-------	-------

Switch	On/off slide
--------	--------------

Cable type	
------------	--

Cable length	7 m (23 ft)
--------------	-------------

Connector	3-pin XLR (male)
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**Environmental**

Operating temperature	-20 °C to +55 °C (-4 °F to +131 °F)
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Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
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Relative humidity	<95%
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**Ordering Information**

<b>LBB 9600/20 Condenser Handheld Microphone</b>	<b>LBB9600/20</b>
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7 m (23 ft) cable, 3-pin lockable male and female XLR connectors

**Accessories**

<b>LBC 1221/01 Floor Stand</b>	<b>LBC1221/01</b>
--------------------------------	-------------------

Three folding legs, adjustable length with twist clamp.

<b>LBC 1226/01 Adjustable Boom</b>	<b>LBC1226/01</b>
------------------------------------	-------------------

maximum reach of 670 mm (2.12 ft); length 840 mm (2.76 ft)

<b>LBC 1227/01 Table Stand</b>	<b>LBC1227/01</b>
--------------------------------	-------------------

with 3/8" Whitworth stud; 130 mm (5.12 in) diameter

# LBC 1226/01 Adjustable Boom

**Features**

- ▶ **Adjustable in reach and angle (quick-release screw clamp)**
- ▶ **Maximum reach of 670 mm (2.12 ft)**
- ▶ **Fits onto 3/8" Whitworth thread**

**Technical Specifications****Mechanical**

Length	840 mm (2.76 ft)
--------	------------------

Weight	700 g (1.88 lb)
--------	-----------------

Color	matt black
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**Ordering Information**

<b>LBC 1226/01 Adjustable Boom</b>	<b>LBC1226/01</b>
------------------------------------	-------------------

maximum reach of 670 mm (2.12 ft); length 840 mm (2.76 ft)

**Accessories**

<b>LBC 1221/01 Floor Stand</b>	<b>LBC1221/01</b>
--------------------------------	-------------------

Three folding legs, adjustable length with twist clamp.

## LBC 1221/01 Floor Stand



### Features

- ▶ Adjustable from 850 to 1600 mm (2.79 to 5.25 ft) with twist clamp
- ▶ Three folding legs (360 mm; 1.18 ft) for stability
- ▶ Column terminates in male 3/8" Whitworth thread

### Technical Specifications

#### Mechanical

Dimensions (folded)	850 x 110 mm (33.46 x 5.25 in)
Weight	2.4 kg (6.43 lb)
Color	matt black

### Ordering Information

<b>LBC 1221/01 Floor Stand</b> Three folding legs, adjustable length with twist clamp.	<b>LBC1221/01</b>
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### Accessories

<b>LBC 1226/01 Adjustable Boom</b> maximum reach of 670 mm (2.12 ft); length 840 mm (2.76 ft)	<b>LBC1226/01</b>
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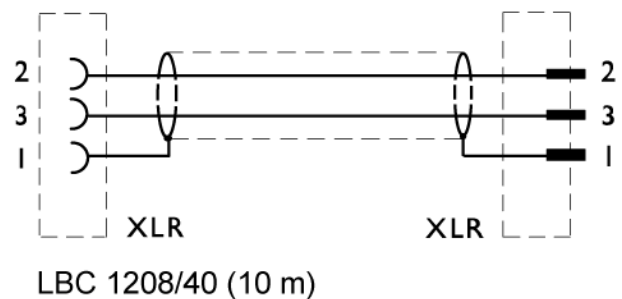
## LBC 1208/40 Microphone Cable



### Features

- ▶ 10 m (32.8 ft) extension cable
- ▶ Twin-core screened cable
- ▶ Three-pole lockable male and female XLR connectors (metal)

### System Overview



### Technical Specifications

#### Mechanical

Length	10 m (32.8 ft)
Weight	420 g (1.13 lb)
Color	black

### Ordering Information

<b>LBC 1208/40 Microphone Cable</b> 3-pin XLR; 10 m (32.8 ft)	<b>LBC1208/40</b>
--	-------------------

## LBC 1227/01 Table Stand



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### Features

- ▶ Heavy-duty table stand
- ▶ 3/8" Whitworth stud
- ▶ Shock-absorbing under surface

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### Technical Specifications

#### Mechanical

Diameter	130 mm (5.12 in)
Weight	995 g (2.66 lb)
Color	matt black

---

### Ordering Information

**LBC 1227/01 Table Stand** **LBC1227/01**  
with 3/8" Whitworth stud; 130 mm (5.12 in)  
diameter



# Architect and Engineering Specifications

## 1. CONTROL EQUIPMENT

### Control Unit with recording and digital acoustic feedback suppression

The CU shall have a built-in recorder to digitally record a discussion to any type of SD Card. The graphical display shall show the status of the recorder and the accompanying buttons shall be used to configure the recorder. As an option, the recording shall only be active when a microphone is active.

The SD Card shall be removable from the CU and shall be possible to process on a PC for transcription purposes; the recordings shall also be retrievable by connecting a PC to the CU's USB. The recordings shall be playable back to the monitor loudspeaker or to delegate's loudspeakers. An audible beep and a flashing LED shall indicate when the SD Card is almost full and the user needs to replace it with a new card.

During recording it shall be possible to exchange an SD card without the loss of any recorded audio.

The Control Unit (CU) shall have an incorporated digital acoustic feedback suppression facility based on pre-active algorithms (feedback is not heard). Other included features for managing the number of active microphones and determining the operating mode, without the need for a central operator, should be available.

It shall be possible to connect external equipment to extend the system capabilities. There shall be a built-in loudspeaker and headphone connector to allow the conference to be monitored by, for example, a stenographer. It shall interface the following equipment to the discussion system:

- Tape recorder - for recording and playing back meetings and discussions
- External PA system - for transmitting the proceedings to an audience in the same room or an adjacent room
- External wired or wireless microphone - for use by guest speakers or for audience participation. Note: The external microphone shall be muted when the priority button on a chairman unit is pressed, and when the system is operating in 'chairman only' mode
- Audio equipment - for providing background music
- Telephone coupler - for allowing a remote delegate to take part via telephone

The following five modes shall be selectable using a rotary control on the unit's front panel:

- Open mode with auto-switch-off - shall allow selection of the number of microphones, from one to four, which can be simultaneously active. If the delegate does not speak for 30 seconds, the microphone shall automatically be switched off. It shall also be possible to switch microphones off manually

- Open mode without auto-switch-off - shall allow selection of the number of microphones, from one to four, which can be simultaneously active
- Override mode - shall allow delegates to override each other simply by activating their microphones. It shall only be possible for one microphone to be active at any one time. Note: In override mode, delegates shall not be able to override chairmen
- Chairman only mode - shall only allow chairmen to speak. It shall not be possible to activate delegates' microphones, even if no chairman is speaking
- Test mode - shall be used to check that the system connections have been made correctly. All microphone ring and contribution unit LEDs shall light up if the unit is properly connected

The CU shall have the following controls and indicators:

- Mains on/off switch
- Microphone-mode switch for selecting one of four modes (plus test mode)
- Rotary loudspeaker volume control for setting the output level of loudspeakers of contribution units. This control shall also determine the maximum level for the headphone outputs of contribution units and CU
- Monitoring volume control of CPSU loudspeaker or headphones
- 'Power on' green LED indicator

It shall provide the following facilities:

- Control for 150 units
- Mains input connection
- Two trunk outputs for loop-through connection of contribution units. It shall be possible to connect 25 contribution units to each output. The maximum cable length shall be not less than 100 m (109.3 yards). 150 contribution units can be connected in one system
- Microphone input with gain adjustment for connecting an external microphone
- Recorder input and output with gain control
- Line input and output for connecting a PA system or background music source
- Telephone coupler input and output for connecting a telephone line. The input signal shall be isolated from the output to prevent echoing
- Insertion connector (with by-pass switch) for connecting external audio processors
- One 3.5 mm (0.1 in) stereo headphone socket
- On/off switch for digital acoustic feedback suppression facility

It shall be suitable for use in portable or fixed mountings. It shall be 84 mm (3.4 in) high, 361 mm (14.2 in) wide and 143 mm (5.6 in) deep.

### Control Unit with recording

*This unit is identical but without digital acoustic feedback suppression facility.*

### Control Unit with digital acoustic feedback suppression

*This unit is identical but without recording.*

### Control Unit

*This unit is identical but without recording and without digital acoustic feedback suppression facility.*

### 19-Inch Rack-Mounting Set

This set shall consist of brackets and other necessary fixings to enable the CU to be mounted in a 19-inch rack system. Flush mounting of the CU shall be possible by using a custom-made bracket.

## 2. CONTRIBUTION EQUIPMENT

### Delegate Unit

The Delegate Unit shall enable delegates to speak and listen to the proceedings via a loudspeaker or headphones. The unit shall include a microphone with a red indicator ring, which shall illuminate when the microphone is on. To prevent acoustic feedback, the built-in loudspeaker shall be muted when the microphone is on, and/or the headphones are connected. Two 3.5 mm stereo headphone sockets (wired for mono) shall allow two pairs of headphones to be connected, enabling two delegates to simultaneously use the unit. The headphone volume level shall be adjustable on the unit for maximum comfort. It shall also be possible to connect a tape recorder to one headphone socket, and use the other headphone socket to listen to the proceedings. The unit shall have the following controls and indicators:

- Microphone with light-ring indicator which illuminates when the microphone is on
- Microphone on/off button
- 'Microphone on' indicator (red LED)
- Rotary volume control for adjusting headphone volume
- Loudspeaker, automatically muted when microphone is on and/or headphones are connected

Each unit shall have a 2 m (78.7 in) cable terminated with a molded 7-pole circular connector, and a 7-pole circular socket for loop-through connections. There shall be two 3.5 mm (0.1 in) stereo jack headphone sockets. The front panel shall be 63 mm (2.5 in) high and 124 mm (4.9 in) wide, and the unit footprint shall be 63 mm (2.5 in) x 172 mm (6.8 in). The weight of the unit shall be approximately 0.9 kg (2.0 lb). The stem length of the microphone shall be 313 mm (12.3 in) or 488 mm (19.2 in)

### Chairman Unit

The Chairman Unit shall enable the user to function as chairman of a conference or meeting. It shall be similar in appearance to the Delegate Unit, and shall also include a 'chairman priority' button. When pressed, the priority button shall cause all currently active delegate microphones to be temporarily or permanently muted, allowing the chairman to take control of the meeting. To prevent acoustic feedback, the built-in loudspeaker shall be muted when the microphone is on, and/or the headphones are connected. An optional chime shall be selectable to precede chairman priority calls. The unit shall have the following controls and indicators:

- Chairman priority button
- Microphone on/off button
- Rotary volume control for adjusting headphone volume
- Microphone with light-ring indicator which illuminates when the microphone is on
- 'Microphone on' indicator (red LED)
- Internal chime selection switch (see Note)

- Internal switch (see Note) for temporary or permanent muting of delegate microphones when chairman priority key is pressed
- Loudspeaker, automatically muted when microphone is on and/or headphones are connected

**Note** Both internal switches shall be accessible by first removing a small plastic plate on the bottom of the Chairman Unit. If any Delegate Unit is permanently muted on activation of a 'microphone priority' key, it shall be possible to reactivate it using the 'microphone on' button on the Delegate Unit.

Each unit shall have a 2 m (78.7 in) cable terminated with a molded 7-pole circular connector, and a 7-pole circular socket for loop-through connections. There shall be two 3.5 mm (0.1 in) stereo jack headphone sockets. The front panel shall be 63 mm (2.5 in) high and 124 mm (4.9 in) wide, and the unit footprint shall be 63 mm (2.5 in) x 172 mm (6.8 in). The weight of the unit shall be approximately 0.9 kg (2.0 lb). The stem length of the microphone shall be 313 mm (12.3 in) or 488 mm (19.2 in).

### Suitcase for 10 contribution units

The transport and storage suitcase shall be used to protect contribution units in transit or while in storage. It shall have the capacity to hold 10 contribution units with standard-length microphones. Any combination of delegate/ chairman units shall be catered for. The inside of the suitcase shall have specially molded packing to accommodate the discussion units, which shall give ample protection, while making packing and unpacking easier. The suitcase shall have handles on the top and side, and two wheels on the underside for ease of transportation. There shall be two separate locks for extra security. The suitcase shall be 560 mm (22.0 in) high, 795 mm (31.3 in) wide and 235 mm (9.2 in) deep. The weight of the empty suitcase shall be 6 kg (13.2 lb). The material used shall be 3 mm (0.12 in) thick ABS. The color shall be RAL 9004 (black).

### Suitcase for CU and 6 contribution units

This suitcase shall be functionally identical to the Transport and Storage Suitcase for 10 contribution units, except that it shall have the capacity to hold one CU and six contribution units with either standard or extended microphone stems, and some extension cables. The suitcase shall be 560 mm (22.0 in) high, 795 mm (31.3 in) wide and 235 mm (9.2 in) deep. The weight of the suitcase shall be 6 kg (13.2 lb). The material used shall be 3 mm (0.12 in) thick ABS. The color shall be RAL 9004 (black).

**Extension Cable Assembly**

The extension cable assembly shall consist of 5 m (197 in) and 10 m (394 in) of 6 mm (0.24 in) diameter cable terminated at one end with a molded 7-pole male circular connector, and at the other end with a molded 7-pole female circular connector. The installation cable shall consist of 100 m (3940 in) of 6 mm (0.24 in) diameter cable plus 5 connector sets, male & female (7-pole circular).

**Set of 25 Cable Locking Clamps**

A set of Cable Locking Clamps shall match male and female cable connectors, such as those on Extension Cable Assemblies. Each male/female connector shall require one clamp.



# Introduction



## Simultaneous Interpretation

For international conferences with multiple languages, it is obviously of utmost importance that all participants can understand what is being said. That is why a system which enables interpreters to simultaneously interpret the speaker's language is almost indispensable. The interpretations created are then distributed throughout the conference venue, so delegates can select their language of choice and listen to it through headphones.

## Infra-Red Distribution

The most effective method of distributing the interpretations is by using an infra-red language distribution system. Infra-red means wireless, so delegates have total freedom of movement. It means information integrity, because distributed signals cannot pass beyond the conference hall. And now, with the Bosch Integrus system, it means better than ever audio quality, with no interference from hall lighting.

In simple terms, an infra-red distribution system consists of a transmitter, one or more radiators and a number of receivers. Various accessories are also available, such as headphones, cables and battery chargers.

The transmitter is the central element in the Integrus system. It accepts inputs from either analog or digital sources, modulates these signals on to carrier waves, then transmits the waves to infra-red radiators located elsewhere in the room. The transmitter accommodates special interface modules to ensure compatibility with these external signal sources. Depending on the transmitter model, up to 32 separate channels can be transmitted simultaneously.

The output of the infra-red radiators is intensity-modulated infra-red radiation. Each delegate is supplied with a pocket receiver, which has a lens to collect the infra-red signal and direct it to a sensor. These signals are then decoded back into interpretation languages, which are chosen by delegates using a channel selector and passed to the delegate's headphones.

## Advanced Digital Technology

The Integrus language distribution system incorporates unique, specially-developed Bosch Ir-Digital technology that is characterized by a number of features:

- The Integrus conforms to IEC 61603, part 7. This is the industry standard for digital infra-red transmission for language distribution
- The use of the 2-8 MHz frequency band eliminates disturbance from all types of lighting systems
- Error correction by means of a Reed Solomon coder, plus the bit error rate threshold, ensures a high audio quality
- The digital transmission protocol used allows additional information to be sent (e.g. synchronization of the number of channels in use)
- The application of digital technology results in a very high sound quality with a signal/noise ratio of 80 dB

Some of the advantages of this new technology are described in more detail below.

## Characteristics of Infra-red Distribution

Infra-red radiation is an ideal medium for audio distribution. It is invisible to the human eye and can carry multiple channels, each with a separate language, over relatively large distances. And, above all, it is a wireless distribution system, so conference participants can receive interpretations without being physically connected to the system.

## Freedom of Movement for Delegates

With an infra-red system, delegates have great freedom in movement throughout the conference room. As the interpretations are transmitted through the air, there is no physical connection to the system, so the only limitations are the walls of the venue itself. The receivers used by delegates to pick up interpretations are lightweight, portable and unobtrusive, and can be easily slipped into a shirt or jacket pocket.



### Conference Hall Privacy

Conferences can often involve discussion of sensitive information, where it is important that any audio distribution does not compromise security. As infra-red radiation is unable to pass through opaque structures such as walls, the conference venue itself acts as a barrier to infra-red radiation escaping and being overheard.



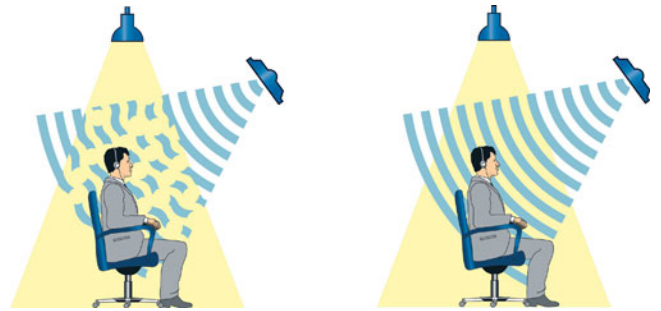
### Language Distribution in Adjacent Halls

Infra-red systems are ideally-suited for conference centers with a number of separate halls. Since walls are opaque to infra-red radiation, there is no interference between separate conferences.

### No Interference from Lighting Systems

One of the limitations of traditional infra-red language distribution systems was interference from lighting. The problem was particularly acute with newer (fluorescent) lighting systems, which operate at higher frequencies and therefore cause more interference. The Integrus system has completely solved this problem by using a much higher frequency band – 2 to 8 MHz – for audio distribution.

Freedom from interference from all types of venue lighting brings two major advantages: audio quality is greatly improved, and systems can be used much more easily on a rental basis, because they will be compatible with all types of venue lighting.



*Distorted reception (left) with other language distribution systems, and perfect reception (right) with Bosch Integrus system*

### Audio Quality

The Integrus system offers greatly improved audio quality. Better compression techniques and a higher signal-to-noise ratio means that the received signal is much clearer, and, as mentioned above, there is no interference from lighting systems. Greater intelligibility makes the system less tiring to use over extended periods. Delegates can therefore maintain their concentration more easily during a long conference session.

### Number of Channels

The Integrus gives the user real flexibility in choosing the number of required channels. By using a much higher frequency band (2 to 8 MHz) it offers four quality modes:

- Standard-quality mono (for interpretations). Four channels of this quality can be incorporated in a single carrier signal
- Standard quality stereo (for reproduction of music or presentations). Two channels of this quality can be incorporated in a single carrier signal
- Premium-quality mono (with double the bandwidth). Two channels of this quality can be incorporated in a single carrier signal
- Premium-quality stereo (for excellent reproduction of music or presentations). One channel of this quality can be incorporated in a single carrier signal

The Integrus can therefore provide a maximum of 32 standard-quality audio channels (which means up to 31 different interpretations + the floor), more than enough to accommodate even the largest international conferences. It can also be configured for high quality stereo sound, with up to eight different channels available for applications like multimedia presentations or music distribution. Combinations of standard- and premium-quality configuration are also possible.

### User-Friendly Channel Selection

The Integrus receivers offer the user the exact amount of channels available. This eliminates having to scroll through unused channels before reaching the required signal. All receivers in the system automatically update themselves if the number of available channels changes.

### Installation and Maintenance of the System

The Integrus system is easy to install (installation time is largely determined by the time required to position and align the radiators.) Connection of the transmitters is straightforward and quick. The transmitter has slots for modules that enable interfacing with digital or analogue conference systems. All information regarding installation, configuration and system status is given on the transmitter front-panel display. The display also shows the menu, which allows all system parameters to be set or altered. One easy-to-use button is all that is required to select all menu options.

Circuitry in the transmitter and matching circuitry in the radiators allows effective monitoring of the infra-red radiator function. The status of the radiators is indicated on the transmitter display and by LEDs on each radiator. The system is also easy to maintain. Maintenance of the receivers generally involves recharging or replacing the batteries they use.

Once installed, the system can easily be extended to accommodate more conference delegates, simply by adding the required number of extra receivers. The basic system structure will remain the same.

### Testing Coverage

The Integrus receivers have an ingenious feature, which allows installers to test the coverage of infra-red radiators without the need for measuring equipment. Simply by walking throughout the venue holding a receiver in measuring mode, it is possible to check the coverage at every point. This makes it easy to see whether extra radiators are required or if the positioning of existing ones should be altered.

### Integrated Charging Electronics

A breakthrough in technology has made receiver charging more reliable than ever. The process is regulated from the Integrus system IC, although each receiver now has integrated electronics to allow it to manage its own charging process. This ensures optimum charging performance and maximum battery lifetime.

### Room Coupling

For distributing interpretations to multiple rooms, the Integrus transmitter has a master/slave operation mode. This means that separate (slave) transmitters can be located in the other rooms, providing exactly the same functionality as the master transmitter and providing local outputs for radiators. This removes the need to connect the radiators required for the additional rooms to one transmitter, which cuts the amount of wiring required and eliminates the risk of capacity overload.

### Emergency or Auxiliary Input

To provide delegates with an additional degree of safety and security, the infra-red transmitter unit includes an additional auxiliary input which overrides all active audio channels. This auxiliary input allows the immediate distribution of emergency messages to all active channels. The auxiliary input may also be used for the distribution of music or other information.

### Complete Integration

Integrus integrates seamlessly with the DCN Next Generation and DCN Wireless using an optical network for a maximum 31 different languages, plus floor. Use Integrus with CCS 800 Ultro and the analog 6-channel interpreter desk for perfect reception at smaller meetings. Or easily interface with virtually any other brand of conference system.

For more information, see the relevant data brochures.



### Music Distribution and Hearing Assistance

The Integrus offers more than just language (interpretation) distribution. Its flexibility and high audio quality also make it suitable for:

- Music distribution. In places as diverse as fitness centers and factories, it can provide a choice of music for listeners in locations throughout the premises
- High-quality audio distribution. Multi-lingual cinemas can offer different language soundtracks in the same hall
- Hearing assistance. Helps the hard-of-hearing in places like theatres and other public buildings
- Concert halls and life theaters can distribute the amplified sound in high quality to the musicians on stage without interference or risk of feedback
- Distribution of instructions. TV studios can use the system to distribute instructions from the control gallery to the camera men without RF interference
- Tour guide. Canal boats and museums can offer their customers the tour information in their own language with high audio quality
- Provides musicians on stage the audio they require for their performance
- Interpretation schools. Distribution of the floor and the interpretation on respectively the left and right channel for simultaneous listening to the floor and the selected interpretation





# System Description and Planning

## System overview

Integrus is a system for wireless distribution of audio signals via infra-red radiation. It can be used in a simultaneous interpretation system for international conferences where multiple languages are used. To enable all participants to understand the proceedings, interpreters simultaneously translate the speaker's language as required. These interpretations are distributed throughout the conference venue, and delegates select the language of their choice and listen to it through headphones.

The Integrus system can also be used for music distribution (mono as well as stereo).

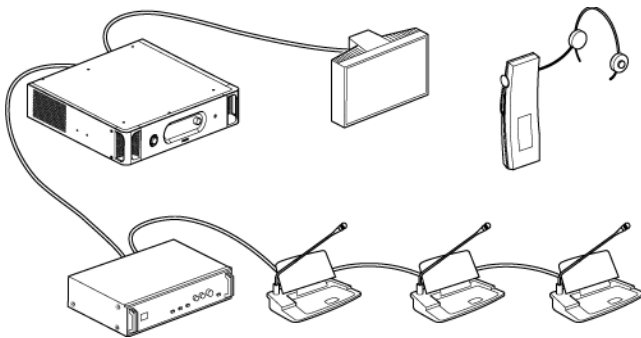


Figure 1: Integrus system overview (with DCN system as input)

The Integrus Digital Infra-red Language Distribution System comprises one or more of the following:

### Infra-red transmitter

The transmitter is the core of the Integrus system. Four types are available:

- INT-TX04 with inputs for 4 audio channels
- INT-TX08 with inputs for 8 audio channels
- INT-TX16 with inputs for 16 audio channels
- INT-TX32 with inputs for 32 audio channels

### Interface module

An LBB 3422/20 Symmetrical Audio Input and Interpreter Module to connect to analogue discussion and conference systems (such as CCS 800), or to LBB 3222/04 6-channel interpreters desks.

### Infra-red radiators

Three types of radiators available:

- LBB 3410/05 wide beam radiator for small conference venues
- LBB 4511/00 medium-power radiator for small / medium conference venues
- LBB 4512/00 high-power radiator for medium/large conference venues

All three types can be switched between full and half power use. They can be mounted on walls, ceilings or floor stands.

### Infra-red receivers

Three multi-channel infra-red receivers are available:

- LBB 4540/04 for 4 audio channels
- LBB 4540/08 for 8 audio channels
- LBB 4540/32 for 32 audio channels

They can operate with a rechargeable NiMH battery pack or with disposable batteries. Charging circuitry is incorporated in the receiver.

### Charging equipment

Equipment is available for charging and storing 56 infra-red receivers. It is available for portable or fixed-installation applications.

## System technology

### IR radiation

The Integrus system is based on transmission by modulated infra-red radiation. Infra-red radiation forms part of the electro-magnetic spectrum, which is composed of visible light, radio waves and other types of radiation. It has a wavelength just above that of visible light. Like visible light, it is reflected from hard surfaces, yet passes through translucent materials such as glass. The infra-red radiation spectrum in relation to other relevant spectra is shown in figure 2

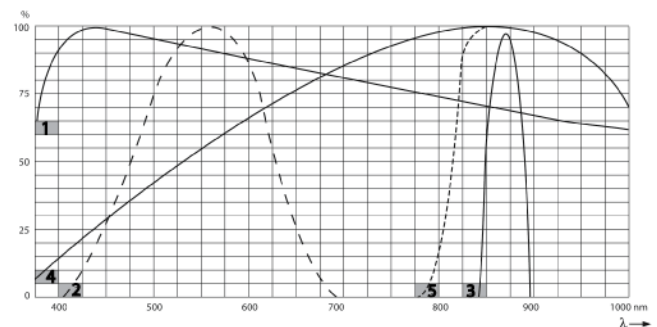


Figure 2: Infra-red radiation spectrum in relation to other spectra

(1) Daylight spectrum

(2) Sensitivity of the human eye

(3) IR radiator

(4) Sensitivity of the IR sensor

(5) Sensitivity of the IR sensor with daylight filter

### Signal Processing

The Integrus system uses high frequency carrier signals (typically 2 to 8 MHz) to prevent interference problems with modern light sources (see section 'Ambient Lighting'). The digital audio processing guarantees a constant high audio quality.

The signal processing in the transmitter consists of the following main steps (see figure 3):

1. **A/D conversion** -Each analogue audio channel is converted to a digital signal.

2. **Compression** - The digital signals are compressed to increase the amount of information that can be distributed on each carrier. The compression factor is also related to the required audio quality.
3. **Protocol Creation** - Groups of up to four digital signals are combined into a digital information stream. Extra fault algorithm information is added. This information is used by the receivers for fault detection and correction.
4. **Modulation** - A high frequency carrier signal is phase modulated with the digital information stream.
5. **Radiation** - Up to 8 modulated carrier signals are combined and sent to the IR radiators, which convert the carrier signals to modulated infra-red light.

In the IR receivers a reverse processing is used to convert the modulated infra-red light to separate analogue audio channels.

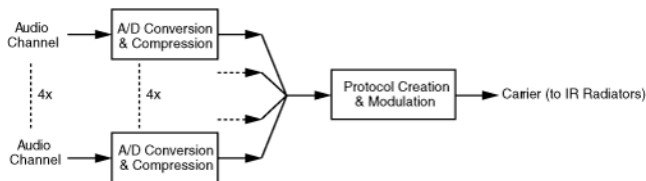


Figure 3: Overview of the signal processing (for one carrier)

**Quality modes**

The Integrus system can transmit audio in four different quality modes:

- Mono, standard quality, maximum 32 channels
- Mono, premium quality, maximum 16 channels
- Stereo, standard quality, maximum 16 channels
- Stereo, premium quality, maximum 8 channels

The standard quality mode uses less bandwidth and can be used for transmitting speech. For music the premium quality mode gives near CD quality.

**Carriers and channels**

The Integrus system can transmit up to 8 different carrier signals (depending on the transmitter type). Each carrier can contain up to 4 different audio channels. The maximum number of channels per carrier is dependent on the selected quality modes. Stereo signals use twice as much bandwidth as a mono signals, premium quality uses twice as much bandwidth as standard quality.

Per carrier a mix of channels with different quality modes is possible, as long as the total available bandwidth is not exceeded. The table below lists all possible channel combinations per carrier:

**Channel Quality**

Mono Standard	Mono Premium	Stereo Standard	Stereo Premium	Bandwidth
4				4 x 10 kHz
2	1			2 x 10 kHz and 1 x 10 kHz
2		1		2 x 10 kHz and 1 x 10 kHz (left) and 1 x 10 kHz (right)
	1	1		1 x 20 kHz and 1 x 10 kHz (left) and 1 x 10 kHz (right)

	2	2 x 20 kHz (left) and 2 x 10 kHz (right)
	2	2 x 20 kHz
	1	1 x 20 kHz (left) and 1 x 10 kHz (right)

**Aspects of infra-red distribution systems**

A good infra-red distribution system ensures that all delegates in a conference venue receive the distributed signals without disturbance. This is achieved by using enough radiators, placed at well planned positions, so that the conference venue is covered with uniform IR-radiation of adequate strength.

There are several aspects that influence the uniformity and quality of the infra-red signal, which must be considered when planning an infra-red radiation distribution system. These are discussed in the next sections.

**Directional sensitivity of the receiver**

The sensitivity of a receiver is at its best when it is aimed directly towards a radiator. The axis of maximum sensitivity is tilted upwards at an angle of 45 degrees (see figure 4). Rotating the receiver will decrease the sensitivity.

For rotations of less than +/- 45 degrees this effect is not large, but for larger rotations the sensitivity will decrease rapidly.

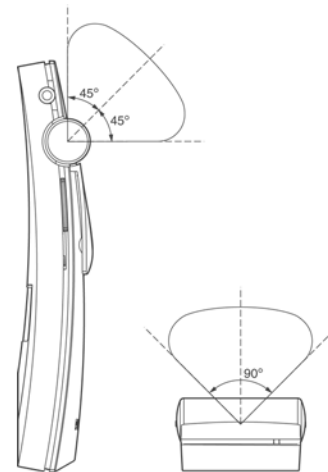


Figure 4: Directional characteristics of the receivers

**The footprint of the radiator**

The coverage area of a radiator depends on the number of transmitted carriers and the output power of the radiator. The coverage area of the LBB 4512/00 radiator is twice as large as the coverage area of the LBB 4511/00. The coverage area can also be doubled by mounting two radiators side by side. The total radiation energy of a radiator is distributed over the transmitted carriers.

When more carriers are used, the coverage area gets proportionally smaller. The receiver requires a strength of the IR signal of 4 mW/m<sup>2</sup> per carrier to work without errors (resulting in a 80 dB S/N ratio for the audio channels).

The effect of the number of carriers on the coverage area can be seen in figure 5 and figure 6. The radiation pattern is the area within which the radiation intensity is at least the minimum required signal strength.

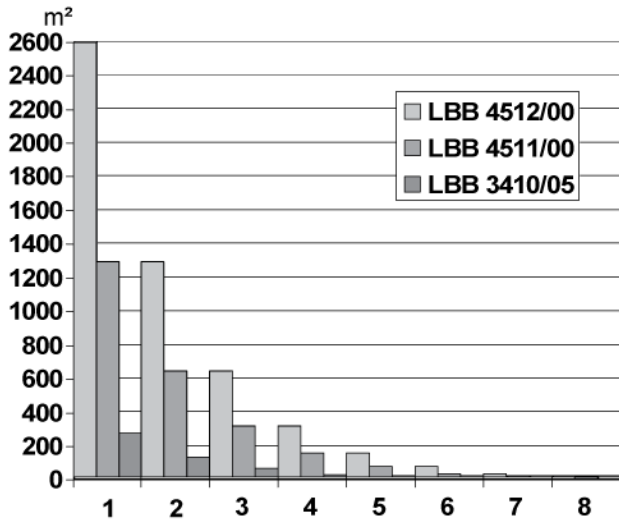


Figure 5: Total coverage area of LBB 4511/00, LBB 4512/00 and LBB 3410/05 for 1 to 8 carriers

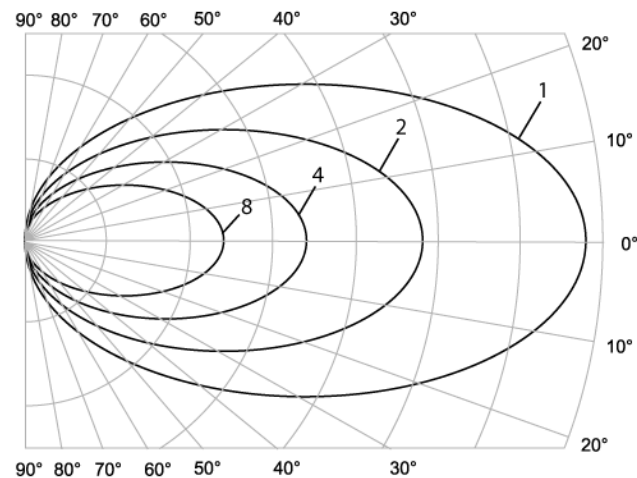


Figure 6: Polar diagram of the radiation pattern for 1, 2, 4 and 8 carriers

The cross section of the 3-dimensional radiation pattern with the floor of the conference venue is known as the footprint (the white area in figure 7 to figure 9). This is the floor area in which the direct signal is strong enough to ensure proper reception, when the receiver is directed towards the radiator. As shown, the size and position of the footprint depends on the mounting height and angle of the radiator.

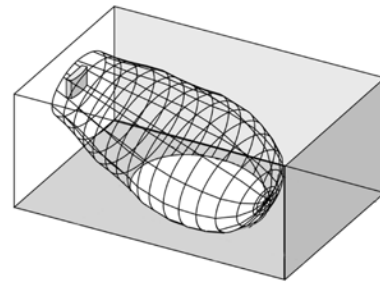


Figure 7: The radiator mounted at 15° to the ceiling

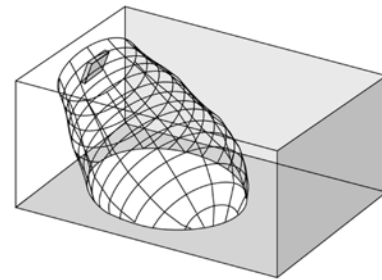


Figure 8: The radiator mounted at 45° to the ceiling

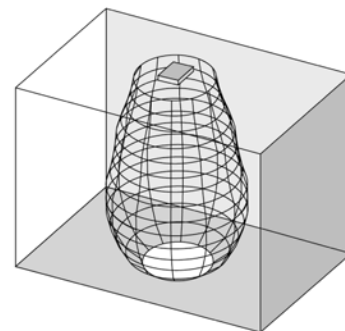


Figure 9: The radiator mounted perpendicular (at 90°) to the ceiling

### Ambient lighting

The Integrus system is practically immune for the effect of ambient lighting. Fluorescent lamps (with or without electronic ballast or dimming facility), such as TL lamps or energy saving lamps give no problems with the Integrus system. Also sunlight and artificial lighting with incandescent or halogen lamps up to 1000 lux give no problems with the Integrus system. When high levels of artificial lighting with incandescent or halogen lamps, such as spotlights or stage lighting are applied, you should directly point a radiator at the receivers in order to ensure reliable transmission. For venues containing large, unscreened windows, you must plan on using additional radiators. For events taking place in the open air a site test will be required in order to determine the required amount of radiators. With sufficient radiators installed, the receivers will work without errors, even in bright sunlight.

**Objects, surfaces and reflections**

The presence of objects in a conference venue can influence the distribution of infra-red light. The texture and color of the objects, walls and ceilings also plays an important role.

Infra-red radiation is reflected from almost all surfaces. As is the case with visible light, smooth, bright or shiny surfaces reflect well. Dark or rough surfaces absorb large proportions of the infra-red signal (see figure 10). With few exceptions it cannot pass through materials that are opaque to visible light.

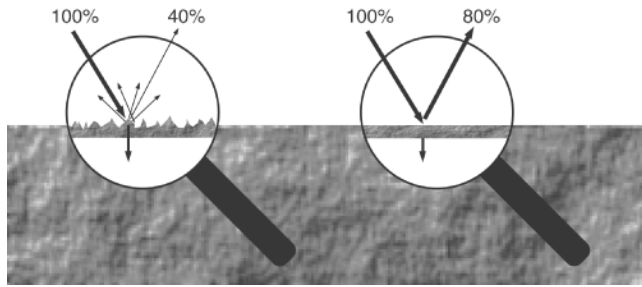


Figure 10: The texture of the material determines how much light is reflected and how much is absorbed

Problems caused by shadows from walls or furniture can be solved by ensuring that there are sufficient radiators and that they are well positioned, so that a strong enough infra-red field is produced over the whole conference area. Care should be taken not to direct radiators towards uncovered windows, as most of this radiation will subsequently be lost.

**Positioning the radiators**

Since infra-red radiation can reach a receiver directly and/or via diffused reflections, it is important to take this into account when considering the positioning of the radiators. Though it is best if receivers pick up direct path infra-red radiation, reflections improve the signal reception and should therefore not be minimized. Radiators should be positioned high enough not to be blocked by people in the hall (see figures 11 and 12).

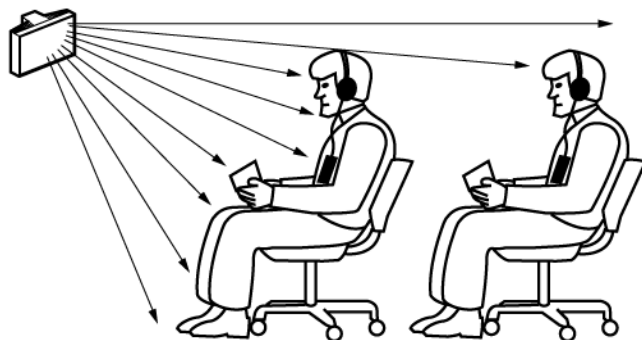


Figure 11: Infra-red signal blocked by a person in front of the participant

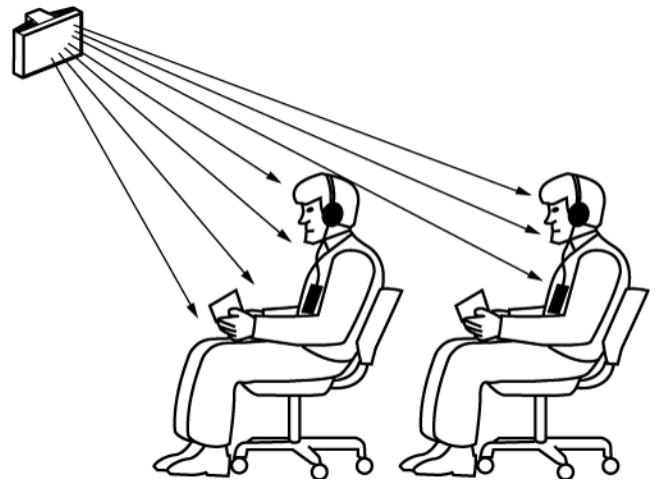


Figure 12: Infra-red signal not blocked by a person in front of the participant

The figures below illustrate how infra-red radiation can be directed to conference participants. In figure 13, the participant is situated clear from obstacles and walls, so a combination of direct and diffused radiation can be received. Figure 14 shows the signal being reflected from a number of surfaces to the participant.

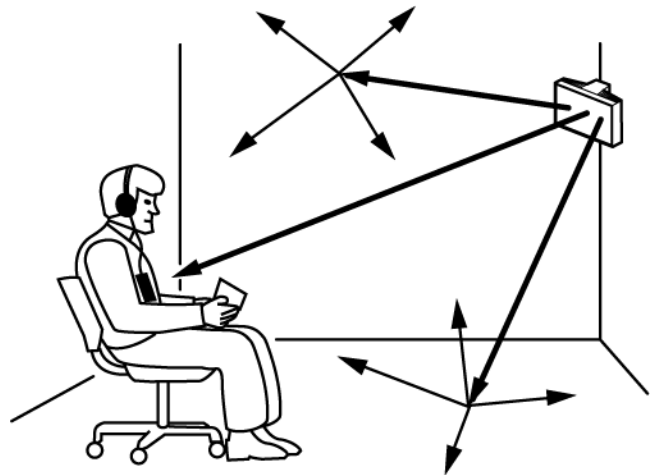


Figure 13: Combination of direct and reflected radiation

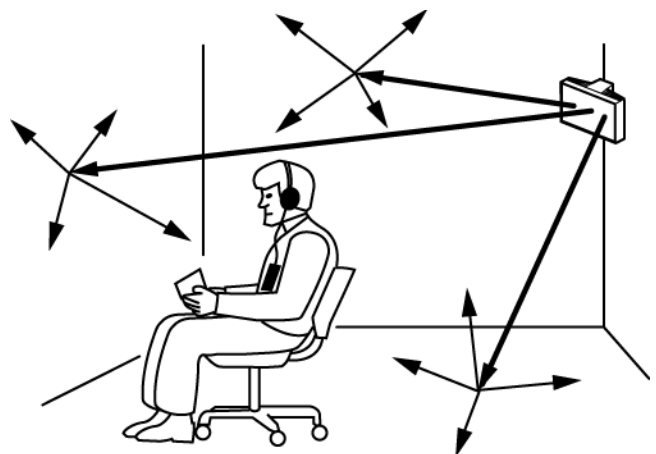


Figure 14: Combination of several reflected signals

For concentrically arranged conference rooms, centrally placed, angled radiators located high up can cover the area very efficiently. In rooms with few or no reflecting surfaces, such as a darkened film-projection room, the audience should be covered by direct path infra-red radiation from radiators positioned in front. When the direction of the receiver changes, e.g. with varying seat arrangements, mount the radiators in the corners of the room (see figure 15).

If the audience is always directed towards the radiators, you do not need radiators at the back (see figure 16). If the path of the infra-red signals is partially blocked, e.g. under balconies, you should cover the 'shaded' area with an additional radiator (see figure 17).

The figures below illustrate the most effective positioning of the radiators:

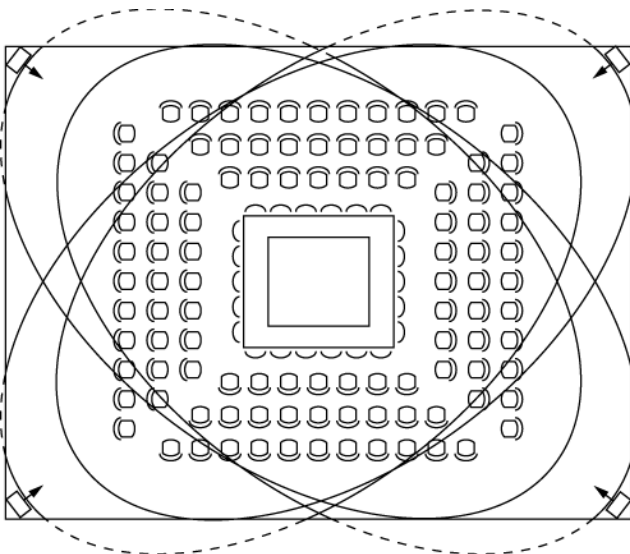


Figure 15: Radiators covering seats arranged in a square

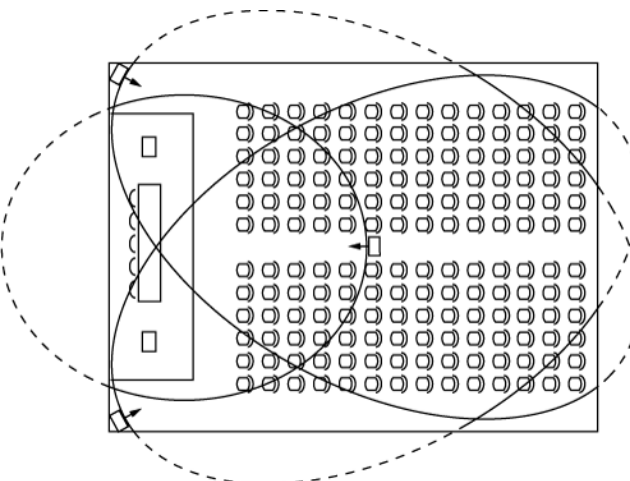


Figure 16: Radiator position in a conference hall with auditorium seating and podium

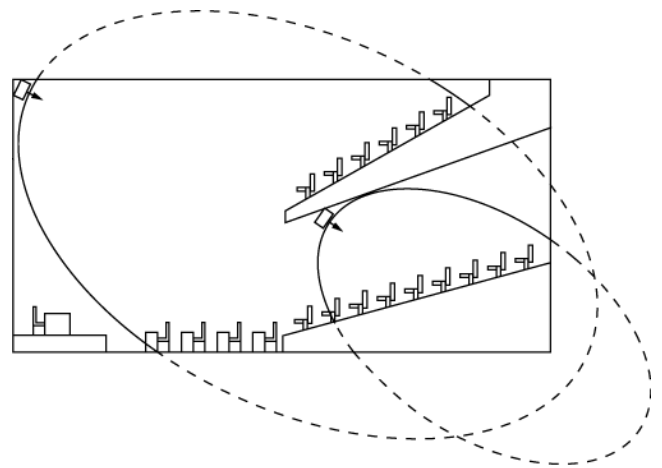


Figure 17: Radiators covering seats beneath a balcony

**Overlapping footprints and multipath effects**

When the footprints of two radiators partly overlap, the total coverage area can be larger than the sum of the two separate footprints. In the overlap area the signal radiation power of two radiators are added, which increases the area where the radiation intensity is larger than the required intensity.

However, differences in the delays of the signals picked up by the receiver from two or more radiators can cause the signals to cancel each other out (multi path effect). In worst-case situations this can lead to a loss of reception at such positions (black spots). Figures 18 and 19 show the effect of overlapping footprints and differences in signal delays.

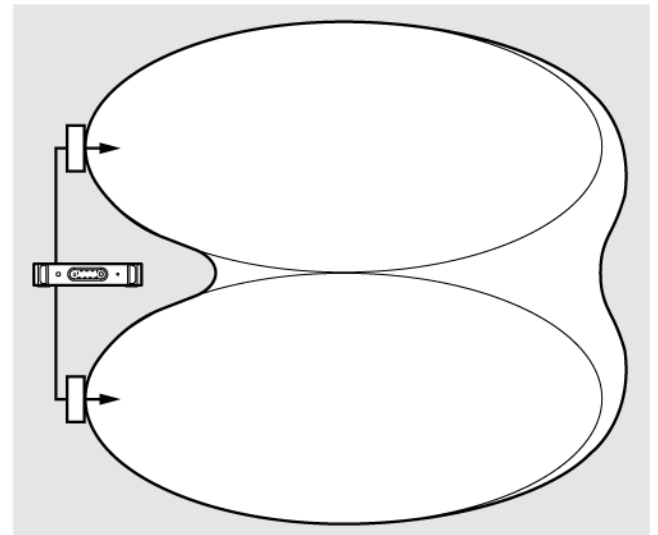


Figure 18: Increased coverage from added radiation power

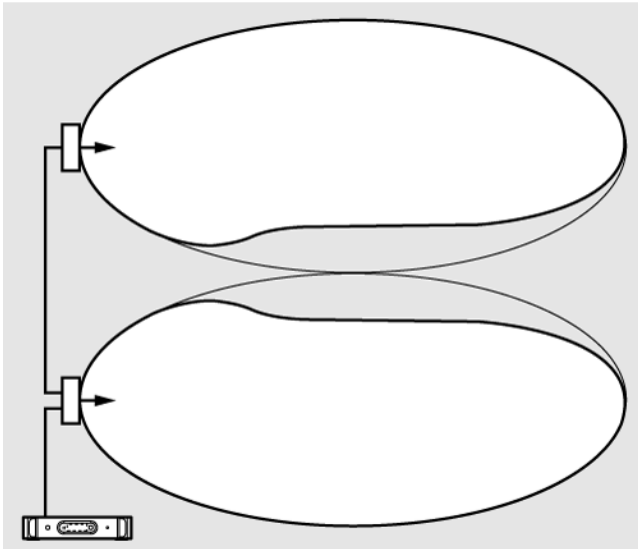


Figure 19: Reduced coverage caused by cable signal delay differences

The lower the carrier frequency, the less susceptible the receiver is for differences in signal delays.

The signal delays can be compensated by using the delay compensation switches on the radiators (see manual).

**Planning an Integrus infra-red radiation system**  
**Rectangular footprints**

Determining the optimal number of infra-red radiators required to give 100% coverage of a hall can normally only be done by performing a site test. However, a good estimation can be made by using ‘guaranteed rectangular footprints’. Figures 20 and 21 show what is meant by a rectangular footprint. As can be seen, the rectangular footprint is smaller than the total footprint. Note that in figure 21 the ‘offset’ X is negative because the radiator is actually mounted beyond the horizontal point at which the rectangular footprint starts.

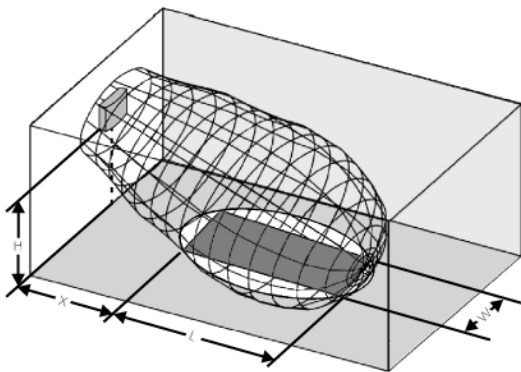


Figure 20: Typical rectangular footprint for a 15° mounting angle

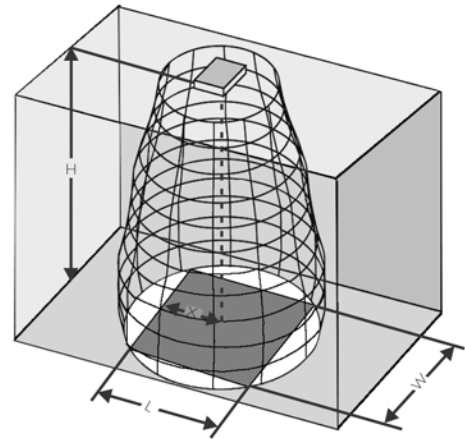


Figure 21: Typical rectangular footprint for a 90° mounting angle

The guaranteed rectangular footprints for various numbers of carriers, mounting heights and mounting angles can be found in the section ‘Guaranteed rectangular footprints’. The height is the distance from the reception plane and not from the floor.

Guaranteed rectangular footprints can also be calculated with the footprint calculation tool (available on the documentation CD-ROM). The given values are for one radiator only, and therefore do not take into consideration the beneficial effects of overlapping footprints. The beneficial effects of reflections are also not included.

Generally (for systems with up to 4 carriers) if the receiver can pick up the signal of two adjacent radiators, the distance between these radiators can be increased approximately by a factor 2.4 (see figure 22).

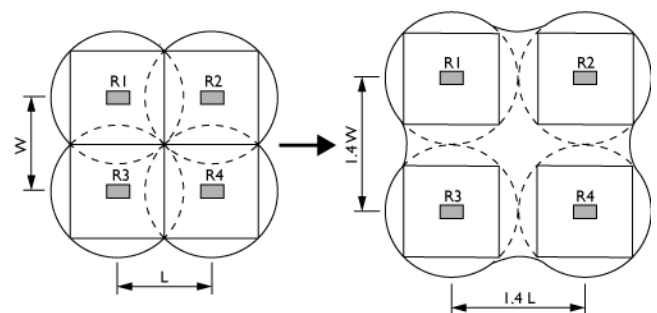


Figure 22: The effect of overlapping footprints

**Planning radiators**

Use the following procedure to plan the radiators:

1. Follow the recommendations in section ‘Aspects of infra-red distribution systems’ to determine the radiator positions.
2. Look up (in the table) or calculate (with the footprint calculation tool) the applicable rectangular footprints.
3. Draw the rectangular footprints in the room lay-out.
4. If the receiver can pick up the signal of two adjacent radiators in some areas, determine the overlap effect and draw the footprint enlargement(s) in the room lay-out.

5. Check if you have sufficient coverage with the radiators at the intended positions. If not, add additional radiators to the room.

See figures 15, 16 and 17 for examples of a radiator layout.

**Cabling**

Signal delay differences can occur due to differences in the cable length from the transmitter to each radiator. To minimize the risk of black spots use equal cable length from transmitter to radiator if possible (see figure 23).

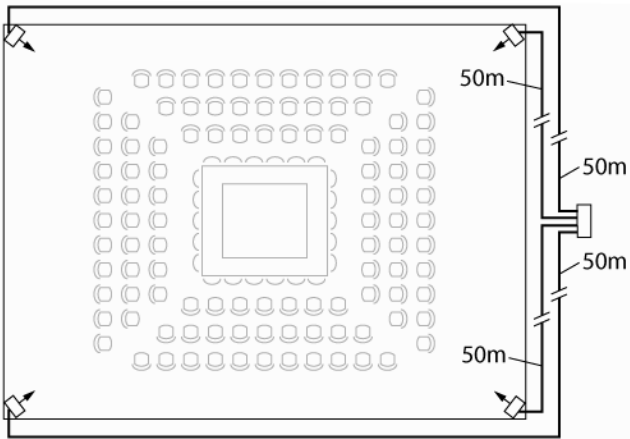


Figure 23: Radiators with equal cable length

When radiators are loop-through connected, the cabling between each radiator and the transmitter should be as symmetrical as possible (see figures 24 and 25). The differences in cable signal delays can be compensated with the signal delay compensation switches on the radiators.

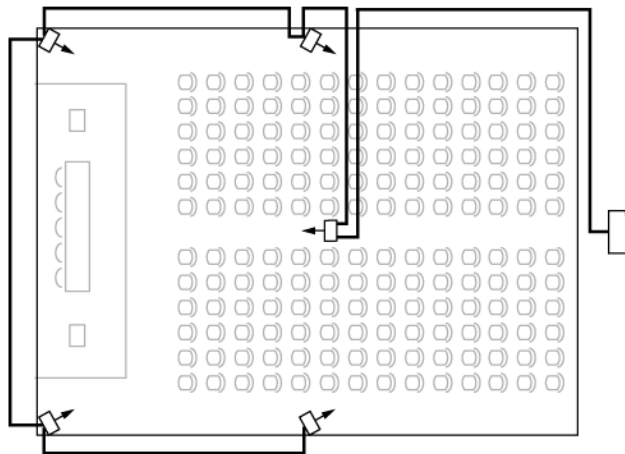


Figure 24: Asymmetrical radiator cabling (to be avoided)

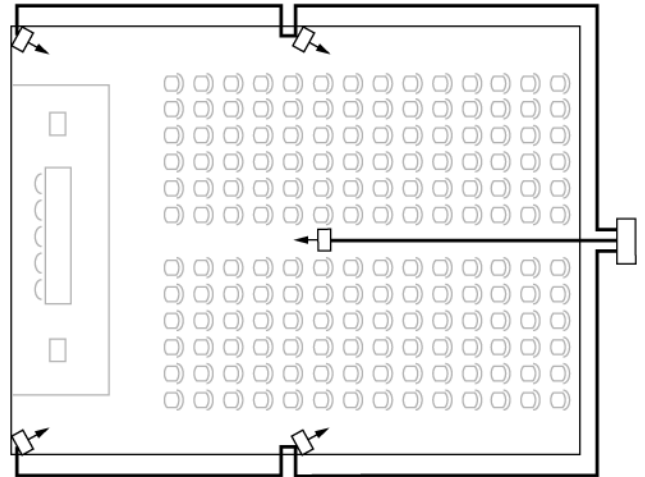


Figure 25: Symmetrical radiator cabling (recommended)

n	H (m)	α	LBB 3410/05				LBB 4511/00				LBB 4512/00			
			A (m <sup>2</sup> )	L (m)	W (m)	X (m)	A (m <sup>2</sup> )	L (m)	W (m)	X (m)	A (m <sup>2</sup> )	L (m)	W (m)	X (m)
1	2.5	0	130	13	10	4	814	37	22	8.5	1643	53	31	11.5
		15	130	13	10	4	714	34	21	8	1440	48	30	10.5
		30	140	14	10	3	560	28	20	5	1026	38	27	6.5
		45	120	12	10	3	340	20	17	2	598	26	23	3
		60	100	10	10	1	240	16	15	-0.5	380	20	19	0
1	5	90	56	7	8	-4	169	13	13	-6.5	196	14	14	-7
		15	72	9	8	7	651	31	21	6	1189	41	29	8
		30	90	9	10	4	480	24	20	2.5	837	31	27	3
		45	108	12	9	0	380	20	19	-1.5	600	25	24	-1
		60	80	8	10	-5	324	18	18	-9	441	21	21	-10.5
1	10	30					609	29	21	12	1364	44	31	11
		45					594	27	22	6	1140	38	30	4.5
		60					504	24	21	0.5	899	31	29	-1.5
		90					441	21	21	-10.5	784	28	28	-14
		30												
2	2.5	15	63	9	7	2	360	24	15	5	714	34	21	7
		15	63	9	7	3	375	25	15	6	714	34	21	8
		30	56	8	7	3	294	21	14	4	560	28	20	5
		45	49	7	7	1	195	15	12	1.5	340	20	17	2
		60	49	7	7	0	156	13	12	-1	240	16	15	-0.5
2	5	90	42	6	7	-3	121	11	11	-5.5	169	13	13	-6.5
		30					330	22	15	5.5	651	31	21	6
		45					285	19	15	2.5	480	24	20	2.5
		60	30	5	6	2	224	16	14	-1	380	20	19	-1.5
		90	42	6	7	-3	196	14	14	-7	324	18	18	-9
2	10	60					255	17	15	2.5	504	24	21	0.5
		90					225	15	15	-7.5	441	21	21	-10.5
		15	20	5	4	2	187	17	11	4	360	24	15	5
		15					187	17	11	5	375	25	15	6
		30					165	15	11	3.5	294	21	14	4
4	5	45					120	12	10	1.5	195	15	13	1.5
		60					90	10	9	-0.5	156	13	12	-1
		90					81	9	9	-4.5	121	11	11	-5.5
		45					154	14	11	3	285	19	15	2.5
		60					132	12	11	0	224	16	14	-1
4	10	90					100	10	10	-5	196	14	14	-7
		90					100	10	10	-5	225	15	15	-7.5
		15	20	5	4	2	187	17	11	4	360	24	15	5
		15					187	17	11	5	375	25	15	6
		30					165	15	11	3.5	294	21	14	4
8	5	45					120	12	10	1.5	195	15	13	1.5
		60					90	10	9	-0.5	156	13	12	-1
		90					81	9	9	-4.5	121	11	11	-5.5
		45					154	14	11	3	285	19	15	2.5
		60					132	12	11	0	224	16	14	-1
8	10	90					100	10	10	-5	196	14	14	-7
		90					100	10	10	-5	225	15	15	-7.5
		15	20	5	4	2	187	17	11	4	360	24	15	5
		15					187	17	11	5	375	25	15	6
		30					165	15	11	3.5	294	21	14	4

Guaranteed rectangular footprints of the radiators at full power (shown in metric units)

n	Number of carriers	W	Width
H	Mounting height from the reception plane	X	Offset
α	Mounting angle in degrees		
A	Area		
L	Length		



n	H (ft)	α	LBB 3410/05				LBB 4511/00				LBB 4512/00			
			A (ft²)	L (ft)	W (ft)	X (ft)	A (ft²)	L (ft)	W (ft)	X (ft)	A (ft²)	L (ft)	W (ft)	X (ft)
1	8	0	1419	43	33	13	8712	121	72	28	17748	174	102	38
		15	1419	43	33	13	7728	112	69	26	15386	157	98	34
		30	1518	46	33	10	6072	92	66	16	11125	125	89	21
		45	1287	39	33	10	3696	66	56	7	6375	85	75	10
		60	1089	33	33	3	2548	52	49	-2	4092	66	62	0
	16	90	598	23	26	-13	1849	43	43	-21	2116	46	46	-23
		15					8280	115	72	33	16422	161	102	41
		30	780	30	26	23	7038	102	69	20	12825	135	95	26
		45	990	30	33	13	5214	79	66	8	9078	102	89	10
		60	1170	39	30	0	4092	66	62	-5	6478	82	79	-3
	33	90	858	26	33	-16	3481	59	59	-30	4761	69	69	-34
		30					6555	95	69	39	14688	144	102	36
		45					6408	89	72	20	12250	125	98	15
		60					5451	79	69	2	9690	102	95	-5
		90					4761	69	69	-34	8464	92	92	-46
2	8	15	690	30	23	7	3871	79	49	16	7728	112	69	23
		15	690	30	23	10	4018	82	49	20	7728	112	69	26
		30	598	26	23	10	3174	69	46	13	6072	92	66	16
		45	529	23	23	3	1911	49	39	5	3696	66	56	7
		60	529	23	23	0	1677	43	39	-3	2548	52	49	-2
	16	90	460	20	23	-10	1296	36	36	-18	1849	43	43	-21
		30					3528	72	49	18	7038	102	69	20
		45					3038	62	49	8	5214	79	66	8
		60	320	16	20	7	2392	52	46	-3	4092	66	62	-5
		90	460	20	23	-10	2116	46	46	-23	3481	59	59	-30
	33	60					2744	56	49	8	5451	79	69	2
		90					2401	49	49	-25	4761	69	69	-34
		15	208	16	13	7	2016	56	36	13	3871	79	49	16
		15					2016	56	36	16	4018	82	49	20
		30					1764	49	36	11	3174	69	46	13
	16	45					1287	39	33	5	2107	49	43	5
		60					990	33	30	-2	1677	43	39	-3
		90					900	30	30	-15	1296	36	36	-18
		45					1656	46	36	10	3038	62	49	8
		60					1404	39	36	0	2392	52	46	-3
	33	90					1089	33	33	-16	2116	46	46	-23
		60					1089	33	33	-16	2401	49	49	-25
		15					1014	39	26	10	2016	56	36	13
		15					897	39	23	15	2016	56	36	16
		30					936	36	26	10	1764	49	36	11
	16	45					690	30	23	5	1287	39	33	5
		60					598	26	23	-2	990	33	30	-2
		90					529	23	23	-11	900	30	30	-15
		60					676	26	26	5	1404	39	36	0
		90					676	26	26	-13	1089	33	33	-16

Guaranteed rectangular footprints of the radiators at full power (shown in imperial units)

- n Number of carriers
- H Mounting height from the reception plane
- α Mounting angle in degrees
- A Area
- L Length
- W Width
- X Offset



# System Specification



## Features

- ▶ **Up to 32 digital audio channels**
- ▶ **Wireless transmission gives participants freedom of movement**
- ▶ **Digitized audio ensures very high audio quality**
- ▶ **Powerful compression techniques enable efficient, low-loss transmission**
- ▶ **Comprehensive error correction ensures error-free transmission**
- ▶ **Mono standard quality mode for efficient language distribution**
- ▶ **Stereo standard quality mode for efficient music distribution**

## Functions

- Conference hall privacy; the conference venue itself acts as a barrier to infra-red signals escaping and being overheard (infra-red cannot pass through opaque structures such as walls)
- No interference between separate conference rooms makes it possible to use an unlimited number of systems in adjacent rooms
- Synchronization with the number of channels in use means the user does not have to scroll through unused channels
- Quality levels are programmable per channel, giving maximum flexibility for optimizing transmission
- Premium quality modes for distribution of very high quality sound
- Transmission in 2-8 MHz frequency band eliminates disturbance from all types of lighting systems

## Certifications and Approvals

CE marking	Conforms to IEC 60914, the international standard for conference systems. Conforms to IEC 61603 part 7, the international standard for digital infra-red transmission of audio signals for conference and similar applications
Safety:	According to EN 60065, CAN/CSA-E65 (Canada and US) and UL 6500 or UL1419 (for LBB 4511/00 and LBB 4512/00)
EMC emission	According to harmonized standard EN 55103-1 and FCC rules part 15, complying with the limits for a class A digital device
EMC immunity	According to harmonized standard EN 55103-2
EMC approvals	Affixed with the CE mark
ESD	According to harmonized standard EN 55103-2
Mains harmonics	According to harmonized standard EN 55103-1
Environmental requirements	Contains no banned substances as specified in UAT-0480/100 (e.g. no cadmium or asbestos)

## Technical Specifications

### Transmission Characteristics

IR transmission wavelength	870 nm
Modulation frequency	
Carriers 0 to 5	2 to 6 MHz
Carriers 6 and 7	up to 8 MHz
Protocol and modulation technique	DQPSK

### System Audio Performance

#### Measured from the audio input of an INT-TX transmitter to the headphone output of an LBB 4540 receiver

Audio frequency response	
at Standard Quality	20 Hz to 10 kHz (-3 dB)
at Premium Quality	20 Hz to 20 kHz (-3 dB)
Total harmonic distortion at 1 kHz	< 0.05%
Crosstalk attenuation at 1 kHz	> 80 dB
Dynamic range	> 80 dB
Weighted signal-to-noise ratio	> 80 dB(A)

### Cabling and System Limits

Cable type	75 ohm RG59
Maximum number of radiators	30 per HF output
Maximum cable length	900 m per HF output

**System Environmental Conditions**

Working conditions	Fixed / stationary / portable
Temperature range	
transport	-40 to +70 °C (-40 to 158 °F)
operating	+5 to +45 °C (41 to 122 °F)
for LBB 4560	+5 to +35 °C (41 to 113 °F)
for INT-TX	+5 to +55 °C (41 to 131 °F)
Maximum relative humidity	< 93%

## INT-TX Transmitters



### Features

- ▶ Can distribute a maximum of 4, 8, 16 or 32 audio channels
- ▶ Can be used with DCN Next Generation, or analogue systems like the CCS 800
- ▶ Flexible configuration of channels and channel quality modes for efficient distribution
- ▶ Configuration of transmitter and system via a display and one single rotary push button

The transmitter is the central element in the Integrus system. It accepts analogue or digital input, modulates these signals onto carrier waves and transmits these carrier waves to radiators located in the room.

### Functions

- Auxiliary mode for distribution of music to all channels during a break
- Slave mode for distribution of signals from another transmitter allows multiple rooms to be used
- Test mode which produces a different frequency tone for each input/channel, with the tone gradually rising as the channels are stepped through
- Adjustable sensitivity for each input to enable fine tuning of audio levels
- Built-in mini infra-red radiator for audio monitoring
- Radiator and system status indication via display
- Each transmitter can be assigned a unique name by the installer for easy identification in a multi-transmitter system
- Each audio channel can also be assigned a unique name by the installer. These names can be selected from a list of options or entered manually
- Automatic distribution of emergency messages to all channels
- Automatic standby/on function
- Automatic synchronization to the number of channels in use in a DCN system
- Universal mains power facility allows use worldwide

- Stylish 19" (2U) housing for tabletop use or rack mounting
- Handgrips for easy transportation

### Controls and Indicators

- 2 x 16 character LCD display for status information and transmitter configuration
- Rotary push button for navigation through menus and configuration
- Power on/off switch on front panel

### Interconnections



#### *Interconnections (at rear of transmitter)*

- Male Euro socket for mains connection
- Slot with audio data bus connector (H 15, female) for accepting LBB 3422/20 Symmetrical Audio Input and Interpreters Module
- 4, 8, 16 or 32 cinch connectors for input of asymmetrical audio signals
- Two XLR sockets for input of symmetrical signals of floor, emergency messages or music
- One terminal block socket for distribution of emergency messages to all channels
- 3.5 mm (0.14 in) stereo headphone socket for monitoring inputs and channels
- One BNC connector for accepting an HF signal from another transmitter
- Six BNC connectors for output of HF signal to up to 30 radiators
- Two Optical Network Connectors for connection within a DCN Next Generation system\*

\* LBB 4416/xx Optical Network Cables required

### Parts Included

Quantity	Component
1	INT-TX transmitter
1	19" rack mounting brackets, detachable feet and mounting accessories for modules included
1	System installation and operating manual on CD-ROM
1	Mains cable

## Technical Specifications

### Electrical

Mains voltage	90 to 260 V, 50 to 60 Hz
Power consumption	
operating, maximum	55 W
standby	29 W
Asymmetrical audio inputs	+3 dBV nominal, +6 dBV maximum (± 6 dB) +15 dBV nominal, +18 dBV maximum (± 6 dB)
Symmetrical audio inputs	+6 to +18 dBV nominal
Emergency switch connector	emergency control input
Headphone output	32 ohm to 2 kohm
HF input	nominal 1 V <sub>pp</sub> , minimum 10 mV <sub>pp</sub> , 75 ohm
HF output	1 V <sub>pp</sub> , 6 VDC, 75 ohm

### Mechanical

Dimensions (H x W x D)	
for tabletop use, with feet	92 x 440 x 410 mm (3.6 x 17.3 x 16.1 in)
for 19" rack use, with brackets	88 x 483 x 410 mm (3.5 x 19 x 16.1 in)
in front of brackets	40 mm (1.6 in)
behind brackets	370 mm (14.6 in)
Weight	
without brackets, with feet	6.8 kg (15.0 lb)
Mounting	brackets for 19" rack mounting or fixing to a tabletop Detachable feet for free-standing on a tabletop
Color	charcoal (PH 10736) with silver

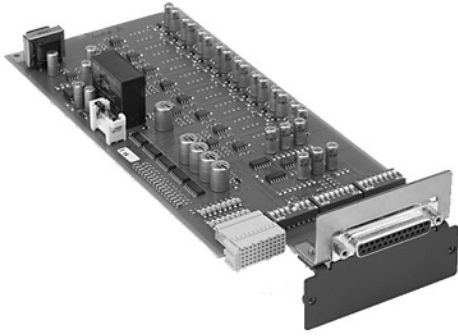
## Ordering Information

<b>INT-TX04 4-Channel Transmitter</b> 4-channel	<b>INT-TX04</b>
<b>INT-TX08 8-Channel Transmitter</b> 8-channel	<b>INT-TX08</b>
<b>INT-TX16 16-Channel Transmitter</b> 16-channel	<b>INT-TX16</b>
<b>INT-TX32 32-Channel Transmitter</b> 32-channel	<b>INT-TX32</b>

### Accessories

<b>LBB 3422/20 Symmetrical Audio Input and Interpreter Module</b> Used for interfacing the transmitter with the CCS 800 discussion systems and the LBB 3222/04 6-Channel Interpreter Desk.	<b>LBB3422/20</b>
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# LBB 3422/20 Symmetrical Audio Input and Interpreter Module



## Features

- ▶ **Direct connection of up to 12 LBB 3222/04 Interpreter Desks for six languages**
- ▶ **Routing of floor signal (for instance from a CCS 800 discussion system) to interpreter desks**
- ▶ **Eight symmetrical inputs**
- ▶ **Facility for mounting input transformers for galvanic isolation between audio source and the transmitter**

The LBB 3422/20 Symmetrical Audio Input and Interpreters Module is used for interfacing the transmitter with the CCS 800 discussion systems and the LBB 3222/04 6-Channel Interpreter Desk with Loudspeaker. Different connections and switch settings are possible to also allow the module to be used with non-Bosch systems.

## Functions

### Controls and Indicators

- On-board switches can be set for directly connecting interpreter desks (LBB 3222/04) or other audio sources
- An on-board switch can be used to match the amplification of floor signals from CCS 800 or from other analogue conference systems
- An on-board switch can be used to replace the interpretation signal with the floor signal for distribution to the listeners when an interpreter channel is not in use

### Interconnection

- Symmetrical analogue audio input; 25-pole female sub-D connector
- Audio and data bus connector; H 15 male connector

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Audio input level with AGC	-16.5 dBV (150 mVeff) to +3.5 dBV (1500 mVeff)
Audio input level without AGC	-4.4 dBV (600 mVeff)
Asymmetric input impedance	≥ 10 kohm
DC input impedance	≥ 200 kohm

### Mechanical

Mounting	Front panel is removed when used with INT-TX Transmitter
Dimensions (H x W x D) without front panel	100 x 26 x 231 mm (39 x 10 x 91 in)
Weight without front panel	132 g (0.29 lb)

## Ordering Information

<b>LBB 3422/20 Symmetrical Audio Input and Interpreter Module</b>	<b>LBB3422/20</b>
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Used for interfacing the transmitter with the CCS 800 discussion systems and the LBB 3222/04 6-Channel Interpreter Desk.

## DCN-FCCCU Flight Case for 2 Central Control Units




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### Features

- ▶ **Robust construction with reinforced corners**
- ▶ **Easy to carry and store**
- ▶ **Shaped interior**
- ▶ **Holds up to two 19" units**

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The DCN-FCCCU flight case accommodates two 19" units, e.g. 1 central control unit (CCU) + 1 transmitter or 1 audio expander unit.

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### Technical Specifications

#### Mechanical

Dimensions (H x W x D)	510 x 460 x 290 mm (20.1 x 18.1 x 11.4 in)
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Weight	6 kg (13.2 lb)
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Color	Light grey
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### Ordering Information

#### DCN-FCCCU Flight Case for 2 Central Control Units

can hold two 19" units (CCU, audio expander, transmitter)

**DCN-FCCCU**



## LBB 451x/00 Infra-red Radiators



### Features

- ▶ **LBB 4511/00 covers up to 1300 m<sup>2</sup> (one carrier, 4 standard quality channels)**
- ▶ **LBB 4512/00 covers up to 2600 m<sup>2</sup> (one carrier, 4 standard quality channels)**
- ▶ **Automatic gain control ensures the IREds (infra-red emitting diodes) function with maximum efficiency**
- ▶ **Power output selection for efficiency and economy**

These radiators are used to distribute infra-red signals throughout the conference venue, enabling delegates to listen to the proceedings by means of personal receivers.

### Functions

- Universal mains power facility allows use worldwide
- No fan - cooled by convection - resulting in quieter operation and less moving parts to wear out
- LED indicators for radiator status checking
- Communication between radiator and transmitter for easy checking by the operator
- Automatically switches on when transmitter is switched on and vice versa
- Automatic cable equalization ensures maximum transmission efficiency with different quality of cables
- Automatic cable termination simplifies installation
- Temperature protection circuitry automatically switches radiator from full- to half- power if the temperature becomes too high
- Adjustable radiator angle ensures maximum coverage
- IREds protected by a cover plate, making the units easy to maintain and clean
- Attractive and stylish design

### Controls and Indicators

- Two yellow LEDs: one on each radiator panel to indicate that this panel is switched on and is receiving carrier waves from the transmitter
- Two red LEDs: one on each radiator panel to indicate that this panel is in standby mode
- Red and yellow LEDs simultaneously illuminated to indicate the radiator panel is malfunctioning
- Red LED flashing and yellow LEDs to indicate the radiator panel is in temperature protection mode
- Power reduction switch to reduce the output of the radiator to half-power
- Two delay compensation switches to compensate for differences in cable lengths between transmitter and radiators

### Interconnection

- Male Euro socket for mains connection
- HF input and output connectors (2 x BNC) for connection to transmitter and loop-through to other radiators

### Parts Included

Quantity	Component
1	LBB 451x/00 Infra-red Radiator
1	Mains cable
1	Bracket for mounting unit on ceiling
2	Plates for mounting unit on floor stand

### Technical Specifications

#### Electrical

Mains voltage 90 to 260 V, 50 to 60 Hz

#### Power consumption

LBB 4511, operating 100 W

LBB 4511, standby 8 W

LBB 4512, operating 180 W

LBB 4512, standby 10 W

#### Number of IREds

LBB 4511 260

LBB 4512 480

#### Total optical peak intensity

LBB 4511 12 W/sr

LBB 4512 24 W/sr

Angle of half intensity  $\pm 22^\circ$

HF input nominal 1 Vpp, minimum 10 mVpp

**Mechanical**

Mounting	Suspension bracket for direct ceiling mounting Mounting plates for floor stands with M10 and 1/2 in Whitworth thread Optional wall mounting bracket (LBB 3414/00) available
Dimensions (H x W x D)	
LBB 4511 without bracket	200 x 500 x 175 mm (7.9 x 19.7 x 6.9 in)
LBB 4512 without bracket	300 x 500 x 175 mm (11.0 x 19.7 x 6.9 in)
Radiator angle	
floor-stand mounting	0, 15, and 30°
wall/ceiling mounting	0, 15, 30, 45, 60, 75 and 90°
Weight	
LBB 4511 without bracket	6.8 kg (15 lb)
LBB 4511 with bracket	7.6 kg (17 lb)
LBB 4512 without bracket	9.5 kg (21 lb)
LBB 4512 with bracket	10.3 kg (23 lb)
Color	bronze

**Ordering Information**

<b>LBB 4511/00 Infra-red Radiator</b> medium-power, covers up to 1300 m <sup>2</sup> (4265 ft <sup>2</sup> )	<b>LBB4511/00</b>
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<b>LBB 4512/00 Infra-red Radiator</b> high-power, covers up to 2600 m <sup>2</sup> (8530 ft <sup>2</sup> )	<b>LBB4512/00</b>
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**Accessories**

<b>LBB 3414/00 Wall Mounting Bracket</b> wall mount bracket for radiators	<b>LBB3414/00</b>
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<b>INT-FCRAD Flight Case for Radiator</b> flight case for 1 radiator	<b>INT-FCRAD</b>
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## INT-FCRAD Flight Case for Radiator



### Features

- ▶ Robust construction with reinforced corners
- ▶ Easy to carry and store
- ▶ Shaped interior
- ▶ Holds one radiator

Storage suitcase for LBB 4511/00 or LBB 4512/00 Radiator.

### Technical Specifications

#### Mechanical

Dimensions (H x W x D)	250 x 540 x 400 mm (10 x 21 x 16 in)
Weight	7.0 kg (15 lb)
Color	grey

### Ordering Information

<b>INT-FCRAD Flight Case for Radiator</b> flight case for 1 radiator	<b>INT-FCRAD</b>
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## LBB 3414/00 Wall Mounting Bracket



Bracket to wall mount the LBB 4511/00 and LBB 4512/00 Radiators.

### Technical Specifications

#### Mechanical

Dimensions (H x W x D)	200 x 280 x 160 mm (7.9 x 11.0 x 6.3 in)
Weight	1.8 kg (4.0 lb)
Color	quartz grey

### Ordering Information

<b>LBB 3414/00 Wall Mounting Bracket</b> wall mount bracket for radiators	<b>LBB3414/00</b>
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# LBB 4540 Pocket Receivers



## Features

- ▶ **Specially-designed IC for maximum performance and a long battery life time**
- ▶ **Recharging electronics integrated in the chip, ensuring optimum charging performance**
- ▶ **2-digit LCD display with battery and reception status indication**
- ▶ **Number of available channels is always the same as the number of channels in use by the system, eliminating the need to scroll through unused channels**

These ergonomically designed receivers incorporate the latest electronics technology - including a specially designed IC - to ensure maximum performance and a long battery lifetime. The receivers can be used for both language and music distribution.

## Functions

- Audio signal automatically muted when signal is too low, ensuring that the user receives only high quality audio
- Can be used with disposable batteries (2x AA alkaline batteries, not included) or environmentally-friendly NiMH rechargeable battery pack LBB 4550/00, (not included)
- No power used when headphone is disconnected
- Clip for easy wearing
- Measurement mode for easy checking of radiator coverage
- Attractive and stylish design
- Up to 200 hours operation with alkaline batteries
- Up to 75 hours operation with battery pack
- Recharges from empty to full capacity within 1 hour and 45 minutes

## Controls and Indicators

- 2-digit LCD display with channel number, battery and reception status indication
- On/off button
- Volume control slide adjuster
- Channel selection up/down buttons
- Charging indicator LED

## Interconnections

- 3.5 mm (0.14 in) stereo jack output socket for headphones
- Battery contacts for use with AA alkaline batteries
- Connector for use with LBB 4550/00 battery packs
- Charging contacts on the left-hand side of the receiver for compatibility with LBB 4560 charging units\*

\* LBB 3406, 3407, 3408 and 3409 charging units are electronically incompatible with LBB 4540 Pocket Receivers, and can actually damage them. The charging contacts on LBB 4540 Pocket Receivers and LBB 4560 Charging Units have deliberately been located on the left-hand side, which is a different position than found on the mentioned charging units. The battery pack and disposable batteries are not included.

## Technical Specifications

### Electrical

IR irradiance level	4 mW/m <sup>2</sup> per carrier
Angle of half sensitivity	± 50°
Headphone output level at 2.4 V	450 mVrms (speech at maximum volume, 32 ohm headphone)
Headphone output frequency range	20 Hz to 20 kHz
Headphone output impedance	32 ohm to 2 kohm
Max. signal-to-noise ratio	80 dB(A)
Supply voltage	1.8 to 3.6 V, nominal 2.4 V
Power consumption at 2.4 V (battery voltage)	15 mA (speech at maximum volume, 32 ohm headphone)
Power consumption (standby)	< 1 mA

### Mechanical

Dimensions (H x W x D)	155 x 45 x 30 mm (6.1 x 1.8 x 1.2 in)
Weight	
excluding battery	75 g (0.16 lb)
including battery	125 g (0.27 lb)
Color	charcoal with silver

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**Ordering Information**

<b>LBB 4540/04 Pocket Receiver</b> 4-channel	<b>LBB4540/04</b>
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<b>LBB 4540/08 Pocket Receivers</b> 8-channel	<b>LBB4540/08</b>
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<b>LBB 4540/32 Pocket Receiver</b> 32-channel	<b>LBB4540/32</b>
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**Accessories**

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<b>INT-FCRX Storage Case</b> For 100 LBB 4540 Pocket Receivers	<b>INT-FCRX</b>
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<b>LBB 4550/00 NiMH Battery Pack</b> Battery pack for pocket receivers.	<b>LBB4550/00</b>
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<b>LBB 4560/00 Charging Case</b> for portable use	<b>LBB4560/00</b>
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<b>LBB 4560/50 Charging Cabinet</b> for fixed installation	<b>LBB4650/50</b>
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# LBB 4550/00 NiMH Battery Pack




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## Features

- ▶ Temperature sensor for optimal charging process

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NiMH battery pack for use with LBB 4540 Pocket Receivers.

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## Certifications and Approvals

Region	Certification
Europe	CE

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## Technical Specifications

### Electrical

Voltage	2.4 V
Capacity	1100 mAh

### Mechanical

Dimensions (H x W x D)	14 x 28 x 49 mm (0.6 x 1.1 x 1.9 in)
Weight	50 g (0.11 lb)

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## Ordering Information

<b>LBB 4550/00 NiMH Battery Pack</b>	<b>LBB4550/00</b>
Battery pack for pocket receivers.	

# LBB 4560/xx Charging Units



## Features

- ▶ Can accommodate 56 receivers
- ▶ Universal mains power facility allows use worldwide
- ▶ Rapid recharging: within 1 hour and 45 minutes

The charging units are used for charging and storing the LBB 4540 Pocket Receivers.

## Functions

### Controls and Indicators

- On/off switch
- Charging status indication on the receivers

### Interconnection

- Mains input with loop-through facility; male and female Euro mains socket
- 56 charging contacts. Compatible with LBB 4540 receivers

## Parts Included

Quantity	Component
1	LBB 4560 Charging Unit
1	Mains cable

## Technical Specifications

### Electrical

Mains voltage	90 to 260 V, 50 to 60 Hz
Power consumption	270 W (56 receivers charging)
Power consumption (standby)	17 W (no receivers in the charging unit)

### Mechanical

#### Mounting

LBB 4560/50	Screws and plugs for wall mounting included
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#### Dimensions (H x W x D)

LBB 4560/00	230 x 690 x 530 mm (9 x 27 x 21 in)
LBB 4560/50	130 x 680 x 520 mm (5 x 27 x 20 in)

#### Weight excl. receivers

LBB 4560/00	15.5 kg (34 lb)
LBB 4560/50	11.2 kg (25 lb)

#### Weight incl. 56 receivers

LBB 4560/00	22.3 kg (49 lb)
LBB 4560/50	18.0 kg (40 lb)

Color	Charcoal with grey
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LBB 4560/50 Charging Cabinet

## Ordering Information

<b>LBB 4560/00 Charging Case</b> for portable use	<b>LBB4560/00</b>
<b>LBB 4560/50 Charging Cabinet</b> for fixed installation	<b>LBB4650/50</b>



# INT-FCRX Storage Case



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## Features

- ▶ **Robust construction with reinforced corners**
- ▶ **Easy to carry and store**
- ▶ **Shaped foam interior**
- ▶ **Holds up to 100 receivers**

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This storage case can hold up to 100 LBB 4540 Pocket Receivers.

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## Technical Specifications

### Mechanical

Dimensions (H x W x D)	207 x 690 x 530 mm (8 x 27 x 21 in)
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Weight	7.5 kg (16.5 lb)
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Color	grey
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## Ordering Information

**INT-FCRX Storage Case**  
For 100 LBB 4540 Pocket Receivers

**INT-FCRX**



# LBB 3443 Lightweight Headphones



## Features

- ▶ **Lightweight with high quality sound reproduction**
- ▶ **Replaceable ear pads**
- ▶ **Available with normal or durable cable**
- ▶ **Separate available solid washable ear pads**

## Functions

These headphones can be fitted with an optional set of washable ear pads.



*Washable ear pads*

## Interconnections

- 1.3 m (4.25 ft) cable terminated with gold-plated 3.5 mm (0.14 in) angled stereo jack plug

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Impedance	32 ohm per earpiece
Audio frequency response	50 Hz to 20 kHz (-10 dB)
Power handling capacity	50 mW
Sensitivity (1 kHz)	98 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	70 g (0.16 lb)
Finish	Charcoal (PH 10736) with silver

## Ordering Information

<b>LBB 3443/00 Lightweight Headphones</b> high quality sound reproduction, lightweight, replaceable ear pads and normal cable	<b>LBB3443/00</b>
<b>LBB 3443/10 Lightweight Headphones Durable Cable</b> high quality sound reproduction, lightweight, replaceable ear pads and durable cable	<b>LBB3443/10</b>
<b>Accessories</b>	
<b>LBB 3443/50 Foam Ear Pads for LBB 3443 (50 pairs)</b> replacement foam ear pads	<b>LBB3443/50</b>
<b>HDP-LWSP Solid Ear Pads for LBB 3443 (50 pairs)</b> washable replacement ear pads	<b>HDP-LWSP</b>

# LBB 3441/10 Under the Chin Headphones



## Features

- ▶ Lightweight stereo headphones
- ▶ Ergonomic design for use under the chin
- ▶ Replaceable ear tips
- ▶ Right-angled, gold-plated jack plug

## Functions

### Interconnections

- 1.2 m (4 ft) cable terminated with 3.5 mm (0.14 in) right-angled stereo jack plug

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Impedance	150 ohm per earpiece
Audio frequency response	50 Hz to 5 kHz (-10 dB)
Power handling capacity	60 mW
Sensitivity (1 kHz)	107 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	33 g (0.07 lb)
Color	Black

## Ordering Information

<b>LBB 3441/10 Under the Chin Headphones</b> with 1.2 m (4 ft) cable terminated with 3.5 mm (0.14 in) right-angled stereo jack plug	<b>LBB3441/10</b>
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## Accessories

<b>LBB 3441/50 Ear Tips for LBB 3441</b> <b>(500 pairs)</b> for LBB 3441	<b>LBB3441/50</b>
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## LBB 3442/00 Single Earphone



### Features

- ▶ Lightweight single earphone
- ▶ Left or right ear use

### Functions

#### Interconnections

- 1.2 m (3.94 ft) cable terminated with 3.5 mm (0.14 in) jack plug

### Technical Specifications

#### Electrical

Impedance	32 ohm
Audio frequency response	100 Hz to 5 kHz (-10 dB)
Power handling capacity	5 mW
Sensitivity (1 kHz)	114 dB SPL/earpiece at 1 mW/earpiece

#### Mechanical

Weight	25 g (0.06 lb)
Color	Dark grey

### Ordering Information

<b>LBB 3442/00 Single Earphone</b>	<b>LBB3442/00</b>
Lightweight single earphone, 1.2 m (3.94 ft) cable terminated with 3.5 mm (0.14 in) jack plug	

## LBB 3015/04 High Quality Dynamic Headphones



### Features

- ▶ Durable, dynamic headphones
- ▶ Replaceable ear pads
- ▶ High-quality sound reproduction
- ▶ Gold-plated stereo jack plug

### Functions

#### Interconnections

- 1.5 m (5 ft) cable terminated with a 3.5 mm (0.14 in) stereo jack plug

### Technical Specifications

#### Electrical

Impedance	720 ohm per earpiece
Audio frequency response	250 Hz to 13 kHz (-10 dB)
Power handling capacity	200 mW
Sensitivity (1 kHz)	97 dB SPL/earpiece at 0 dBV/system
	96 dB SPL/earpiece at 1 mW/earpiece

#### Mechanical

Weight	110 g (0.24 lb)
Color	Dark grey

### Ordering Information

<b>LBB 3015/04 High Quality Dynamic Headphones</b>	<b>LBB3015/04</b>
Durable, dynamic headphones.	

### Accessories

<b>LBB 9095/50 Ear pads for LBB 3015</b>	<b>LBB9095/50</b>
<b>LBB 9095 (25 pairs)</b>	
25 pairs	

# HDP-ILN Induction Loop Neckband




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## Features

- ▶ **Lightweight**
- ▶ **Used with 'T-coil' hearing aids**

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## Functions

This induction loop neckband can be used with:

- Integrus receivers
- CCS800 unit
- DCN unit

The neckband magnetically couples the sound signal from the headphone output to a 'T-coil' hearing aid.

## Interconnections

- 0.9 m (3ft) cable terminated with a 3.5 mm (0.14 in) gold-plated plug

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## Technical Specifications

### Mechanical

Weight	45 g (0.10 lb)
Color	Charcoal with silver

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## Ordering Information

<b>HDP-ILN Induction Loop Neckband</b> Lightweight neckband.	<b>HDP-ILN</b>
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# HDP-LWN Lightweight Neckband Headphone



## Features

- ▶ **Comfortable neckband stereo headphone**
- ▶ **Lightweight with high quality sound reproduction**
- ▶ **Replaceable ear pads**

## Functions

### Interconnections

- 1.3 m (4.25 ft) cable terminated with gold-plated 3.5 mm (0.14 in) angled stereo jack plug

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Impedance	32 ohm per earpiece
Audio frequency response	20 Hz to 20 kHz ( $\pm$ 3 dB)
Power handling capacity	30 mW
Sensitivity (1 kHz)	111 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	56 g (0.12 lb)
Finish	Charcoal (PH 10736) with silver

## Ordering Information

<b>HDP-LWN Lightweight Neckband Headphone</b>	<b>HDP-LWN</b>
High-quality sound reproduction, lightweight, replaceable ear pads.	

## Accessories

<b>HDP-LWNEP Earpads for neckband headphone (50 pairs)</b>	<b>HDP-LWNEP</b>
Replacement foam ear pads.	





# LBB 3222/04 Interpreter Desk



## Features

- ▶ Accommodates 6 different language channels plus the original floor language
- ▶ Incoming channel pre-selector key eliminates the need to manually search through all available language channels
- ▶ Quick switching between the floor language and the channel set on the channel selector reduces the chance of operator errors
- ▶ Electronic channel interlock function prevents interpreters in different booths from using the same output channel

## Functions

- Built-in loudspeaker
- 12 interpreter desks can be loop-through connected within and/or between interpreter booths
- Up to three interpreter desks can be present per booth
- Auto relay enable function allows the interpreter to provide the auto relay language (OR2) for relay interpretation
- The channel B disable function allows the interpreter to disable channel B while ensuring that the desk remains connected to channel A

## Controls and Indicators

- Microphone mounted on a flexible stem, complete with a light ring which illuminates when the microphone is on
- Headphone volume, treble and bass controls
- A-B channel selector key with channel select indicators
- Six outgoing B-channel select keys with channel select indicators
- Outgoing 'OR2' (auto relay) indicator
- 'Channel engaged' indicators to show which channels are in use by other interpreters

- Microphone 'mute' key
- Microphone activating key with LED status indicator
- Select key with LED indicators for fast switching between the original floor language and the channel set on the channel selector
- Incoming channel 'OR2' (auto relay) indicator to show that the original floor language has been replaced by a transfer interpretation channel, when the auto-relay facility is in operation
- Incoming language channel selector for headphone monitoring
- Call key (voice) to provide two-way communication between interpreter and chairman/operator
- Outgoing message key
- Incoming message indicator
- Rotary switch to preset the outgoing channel via the A output

## Interconnections

- 3 m (10 ft) cable terminated with a 25-pin sub D-type connector
- 25-pin sub D-type socket for loop-through connections
- 6.3 mm (0.25 in) stereo jack headphone connectors
- 15-pole 180° DIN-type socket for connection of interpreter's headset with microphone, plus switch to mute the built-in microphone
- Auxiliary socket (message) for the desk's message function

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Frequency response	125 Hz (-10 dB) to 12.5 kHz (-2 dB)
Rated equivalent sound pressure due to inherent noise	< 32 dB
Total harmonic distortion at overload	< 5%
Crosstalk attenuation	> 66 dB

### Mechanical

Mounting	tabletop or flush mounting
Dimensions (H x W x D)	20-58 x 250 x 189 mm (0.79-2.28 x 9.84 x 7.44 in)
Weight	1.75 kg (3.85 lb)
Color	light grey

## Ordering Information

**LBB 3222/04 Interpreter Desk**  
Accommodates 6 different language channels plus the original floor language.

**LBB3222/04**

## LBB 3306 Extension Cables



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Extension cables to interconnect 6-channel interpreter desks when the standard cable is too short.

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### Functions

#### Connectors

- 25-pole sub-D type plug with sliding lock mechanism
- 25-pole sub-D type socket with pin lock mechanism

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### Ordering Information

<b>LBB 3306/00 Installation Cable</b> 100 m, without connectors	<b>LBB3306/00</b>
<b>LBB 3306/05 Extension Cable</b> 5 m, 25-pole sub-D type plug and socket	<b>LBB3306/05</b>
<b>LBB 3306/20 Extension Cable</b> 20 m, 25-pole sub-D type plug and socket	<b>LBB3306/20</b>

# LBB 9095/30 Interpreter Headphones



## Ordering Information

**LBB 9095/30 Interpreter Headphones**

Lightweight, dynamic headphones.

**LBB9095/30**

## Features

- ▶ **Durable and dynamic**
- ▶ **Replaceable ear pads**
- ▶ **High-quality sound reproduction**

Lightweight, dynamic headphones for direct connection to DCN-IDEK Interpreter's Desk.

## Functions

### Interconnections

- 2.2 m (7 ft) cable terminated with a 6.3 mm (0.25 in) stereo jack plug

## Certifications and Approvals

Region	Certification
Europe	CE

## Technical Specifications

### Electrical

Impedance	720 ohm per earpiece
Audio frequency response	250 Hz - 13 kHz (-10 dB)
Power handling capacity	200 mW
Sensitivity (1 kHz)	97 dB SPL/earpiece at 0 dBV/system 96 dB SPL/earpiece at 1 mW/earpiece

### Mechanical

Weight	125 g (0.28 lb)
Color	Black/grey

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