

# Bosch DCN Wireless Discussion System

## Data Brochure



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Invented for life



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# Introduction

## Introduction



### Innovation

Bosch brings innovation to the congress 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
- congress control software
- information displays and installation equipment
- simultaneous interpretation and optional language distribution equipment



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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.



### 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 Congress 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 congress 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. All CCUs can control up to 150 discussion units (such as delegate and chairman units) and up to 93 Interpreter desks.

### 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 Congress 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

The DCN Wireless Discussion System supports simultaneous interpretation via Bosch Interpreter desks. Integrus, a digital and wireless infrared language distribution system, is connected to the optical network and enables sound to be distributed reliably across 32 channels 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 desk's built-in microprocessor is manually programmed to allocate language channels, channel routing and interlocks.



### 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.

# Examples



## Example 1 - Discussion

The wireless system can be adjusted to meet any discussion requirement: from a basic set-up requiring no operator to a fully interactive voting arrangement.



### Shopping List

1. Bosch Wireless Central Control Unit
2. Personal computer with Bosch DCN Control Software
3. Bosch Battery Pack Charger
4. Bosch Wireless Access Point
5. Bosch Dual Wireless Discussion Unit



## Example 2 - Electronic Voting

For interactive situations where polling and voting are important, discussion units with voting functionality can be used in the DCN Wireless Discussion System.

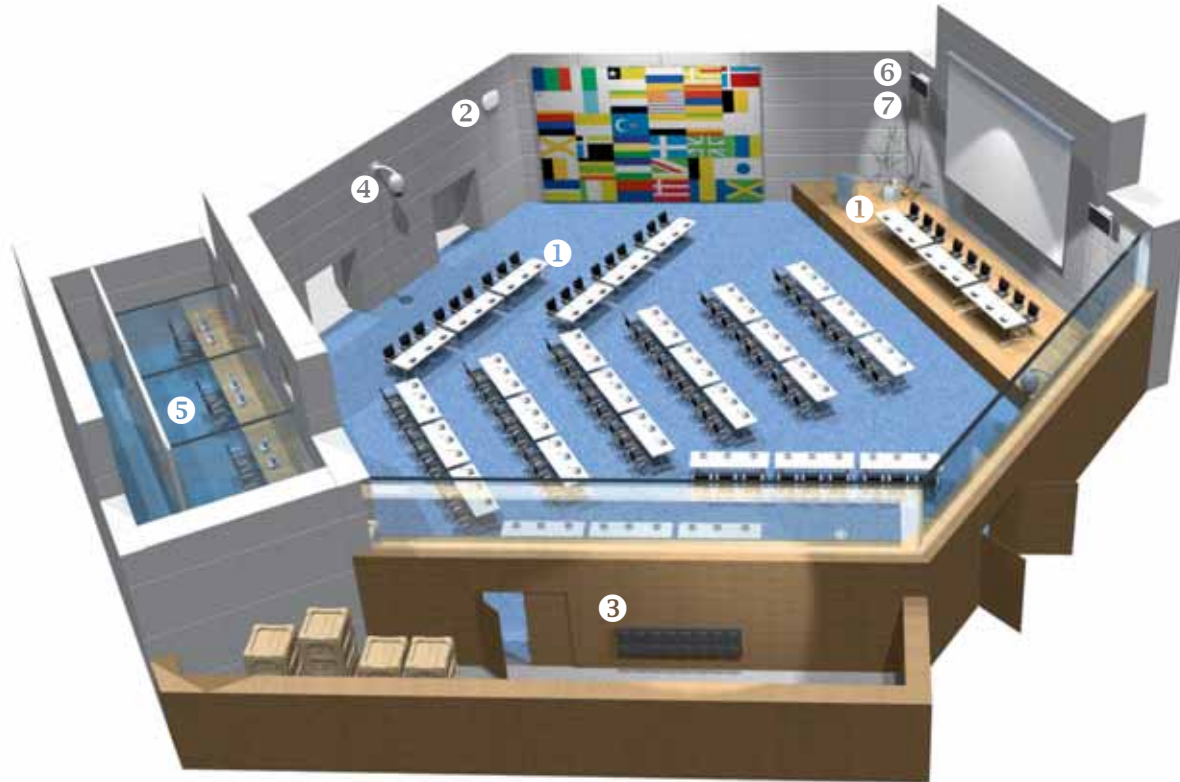


### Shopping List

1. Bosch Wireless Discussion Unit with Voting (delegate/chairman mode)
2. Bosch Wireless Central Control Unit
3. Personal computer with Bosch DCN Control Software
4. Large Screen
5. Bosch Wireless Access Point
6. Bosch Battery Pack Charger

## Example 3 - Interpretation

Interpreters are located in soundproof booths and are equipped with Bosch interpreter units. In combination with the DCN Wireless Discussion System, the Integrus System allows sound to be digitally distributed and received in CD HiFi audio quality.



### Shopping List

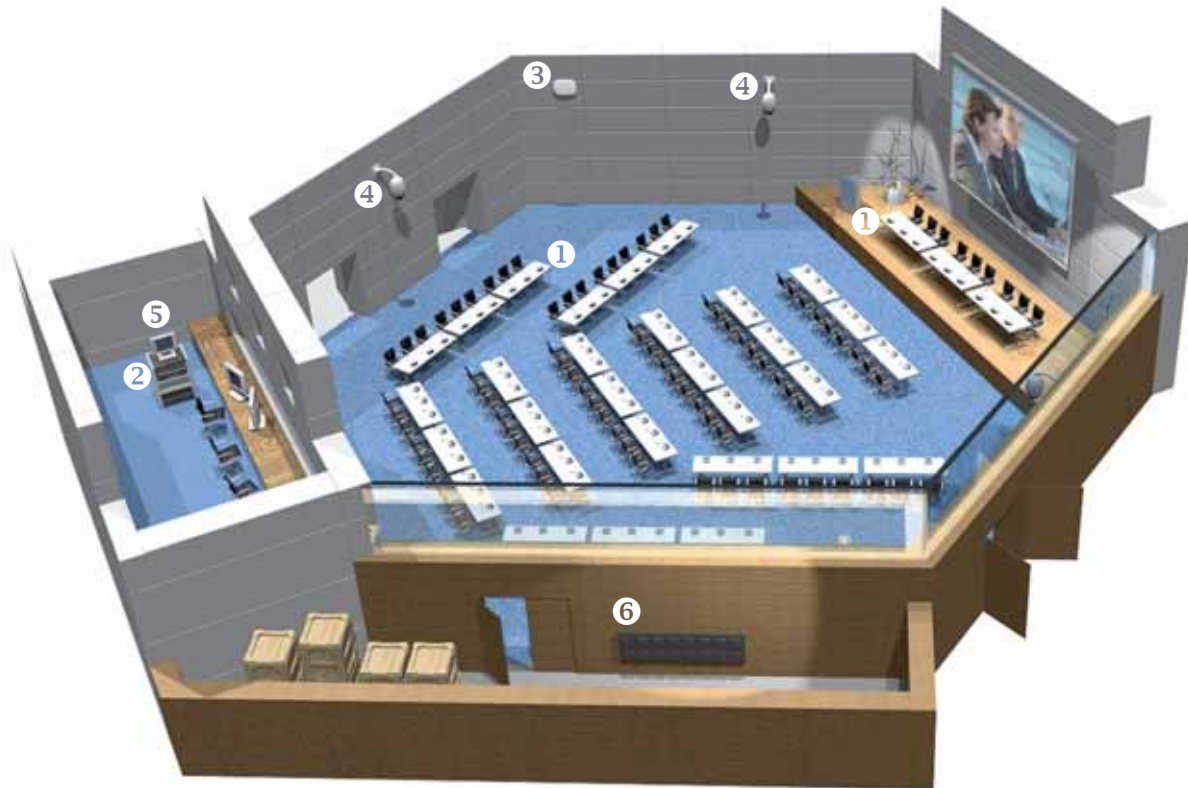
1. Bosch Wireless Discussion Unit
2. Bosch Wireless Access Point
3. Bosch Battery Pack Charger
4. Bosch Autodome Camera
5. Interpreter Desk
6. Bosch Integrus digital infrared language distribution system
7. Infrared radiator



## Example 4 - Camera Control

The system can automatically show an image of the current speaker on monitors or projection screens. 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.



### Shopping List

1. Bosch Wireless Discussion Unit
2. Bosch Wireless Central Control Unit
3. Bosch Wireless Access Point
4. Bosch Autodome Camera
5. Personal computer with Bosch DCN Control Software
6. Bosch Battery Pack Charger



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# Wireless Discussion Units

## DCN-WD-D Wireless Discussion Unit



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. 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.

### 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

### 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**

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

**Mechanical****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****Model & Description**

DCN-WD-D Wireless Discussion Unit

pluggable microphone, dark base, wireless

DCN-MICS Pluggable Microphone Short stem

length 310 mm (12.2 inch)

DCN-MICL Pluggable Microphone Short stem

length 480 mm (18.9 inch)

DCN-DISR-SR Rims for Discussion Units

silver, high gloss, set of 10

DCN-DISR-SR Rims for Discussion Units

silver, set of 10

DCN-DISR-D Rims for Discussion Units

dark, set of 10

DCN-DISRMH Rims for Discussion Units

metal, high gloss, set of 10

DCN-DISRMS Rims for Discussion Units

metal, semi gloss, set of 10

DCN-DISBCM Buttons for Chairman Discussion Unit

set of 10

DCN-WLIION-D Battery Pack

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

DCN-WPS Power Supply

powers wireless discussion units if no battery pack is present

DCN-WFCD10 Flight Case for Wireless Discussion units

light grey, holds 10 wireless discussion units and 2 charging units





## DCN-WDD-D Wireless Dual Discussion Unit



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. 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.

### 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



## 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

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

#### Mechanical

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

### Ordering Information

#### Model & Description

DCN-WDD-D Wireless Dual Discussion Unit	dual delegate, pluggable microphone, dark base, wireless
DCN-DISBDD Buttons for Dual Use Discussion Unit	set of 10
DCN-MICS Pluggable Microphone Short stem	length 310 mm (12.2 inch)
DCN-MICL Pluggable Microphone Short stem	length 480 mm (18.9 inch)
DCN-DISR-H-SR Rims for Discussion Units	silver, high gloss, set of 10
DCN-DISR-SR Rims for Discussion Units	silver, set of 10
DCN-DISR-D Rims for Discussion Units	dark, set of 10
DCN-DISRMH Rims for Discussion Units	metal, high gloss, set of 10
DCN-DISRMS Rims for Discussion Units	metal, semi gloss, set of 10
DCN-DISBCM Buttons for Chairman Discussion Unit	set of 10
DCN-WLIION-D Battery Pack	charcoal color, lithium-ion, 7.2 VDC, 4800 mAh
DCN-WPS Power Supply	powers wireless discussion units if no battery pack is present
DCN-WFCD10 Flight Case for Wireless Discussion units	light grey, holds 10 wireless discussion units and 2 charging units

## DCN-WDV-D Wireless Discussion Unit with Voting



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. 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.

### 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

## 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

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

#### Mechanical

#### Dimensions (H x W x D)

<b>without microphone</b>	61 x 190 x 160 mm (2.4 x 7.5 x 6.3 in)
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#### Weight

<b>without battery</b>	505 g (1.11 lb)
<b>with battery</b>	720 g (1.58 lb)

<b>Color top</b>	Silver (RAL 9022)
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<b>Color base</b>	Charcoal (PH 10736)
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### Ordering Information

#### Model & Description

DCN-WDV-D Wireless Discussion Unit with Voting

voting, pluggable microphone, dark base, wireless

DCN-DISBDD Buttons for Dual Use Discussion Unit  
set of 10

DCN-MICS Pluggable Microphone Short stem  
length 310 mm (12.2 inch)

DCN-MICL Pluggable Microphone Short stem  
length 480 mm (18.9 inch)

DCN-DISRH-SR Rims for Discussion Units  
silver, high gloss, set of 10

DCN-DISR-SR Rims for Discussion Units  
silver, set of 10

DCN-DISR-D Rims for Discussion Units  
dark, set of 10

DCN-DISRMH Rims for Discussion Units  
metal, high gloss, set of 10

DCN-DISRMS Rims for Discussion Units  
metal, semi gloss, set of 10

DCN-DISBCM Buttons for Chairman Discussion Unit  
set of 10

DCN-WLIION-D Battery Pack  
charcoal color, lithium-ion, 7.2 VDC, 4800 mAh

DCN-WPS Power Supply  
powers wireless discussion units if no battery pack is present

DCN-WFCD10 Flight Case for Wireless Discussion units  
light grey, holds 10 wireless discussion units and 2 charging units



## DCN-MICS/L Pluggable microphone short/long stem



The innovative, stylish and ergonomically designed microphone with an adjustable stem simply plugs directly into a Discussion unit, Concentus, flush-mounted Microphone Connection panes or Interpreter desk. It has a uni-directional response for optimum performance even in noisy conditions, and includes an indicator which is red when the microphone is on and green when the delegate unit is in the request state. It has low susceptibility to interference from mobile phones.

### Features

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

### 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

### Technical Specifications

#### Mechanical

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

#### Length

**DCN-MICS** 310 mm (12.2 in)

**DCN-MICL** 480 mm (18.9 in)

#### Weight

**DCN-MICS** 100 g (0.22 lb)

**DCN-MICL** 115 g (0.25 lb)

**Color top** Silver (RAL 9022)

### Ordering Information

#### Model & Description

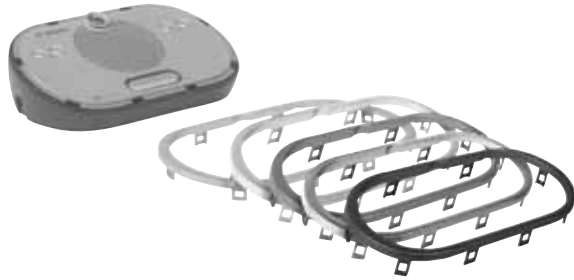
DCN-MICS Pluggable Microphone Short stem

length 310 mm (12.2 inch)

DCN-MICL Pluggable Microphone Short stem

length 480 mm (18.9 inch)

## DCN-DISR Rims for Discussion Units



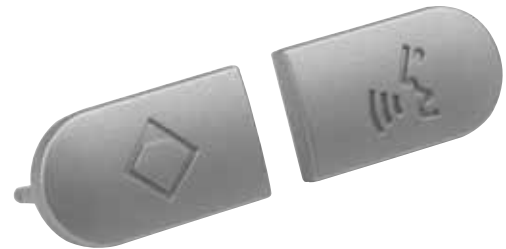
A rim completes the discussion units. A variety of rims with different finishes are available to allow matching with any interior.

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

Ordering Information	
Model & Description	
DCN-DISRH-SR Rims for Discussion Units	silver, high gloss, set of 10
DCN-DISR-SR Rims for Discussion Units	silver, set of 10
DCN-DISR-D Rims for Discussion Units	dark, set of 10
DCN-DISRMH Rims for Discussion Units	metal, high gloss, set of 10
DCN-DISRMS Rims for Discussion Units	metal, semi gloss, set of 10

## DCN-DISBCM Buttons for Chairman Discussion Unit



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	
<b>Mounting</b>	Click and fit on any discussion unit
<b>Color</b>	Silver (RAL 9022)

Ordering Information	
Model & Description	
DCN-DISBCM Buttons for Chairman Discussion Unit	set of 10

## DCN-WPS Power Supply

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, USA, Australian, Rest of World).

### Features

- Powers wireless discussion units if no battery pack is present

#### Technical Specifications

##### Electrical

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

##### Mechanical

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

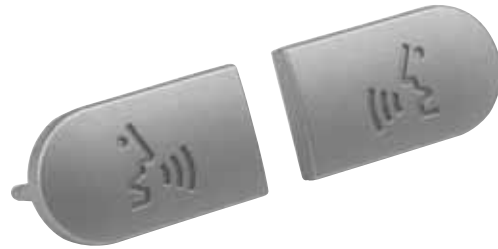
#### Ordering Information

##### Model & Description

DCN-WPS Power Supply

powers wireless discussion units if no battery pack is present

## DCN-DISBDD Buttons for Dual Use Discussion Unit



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

<b>Mounting</b>	Click and fit on any Discussion unit
<b>Color</b>	Silver (RAL 9022)

#### Ordering Information

##### Model & Description

DCN-DISBDD Buttons for Dual Use Discussion Unit  
set of 10

# Central Control Equipment



## DCN-WAP Wireless Access Point



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.

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.

### 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)

### 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	
<b>Electrical</b>	
<b>Power consumption</b>	4 W
<b>Mechanical</b>	
<b>Mounting</b>	Ceiling, Wall or Floor Stand (using included bracket)
<b>Dimensions (H x W x D) with bracket</b>	59 x 284.5 x 201 mm (2.3 x 11.2 x 7.9 in)
<b>Weight with bracket</b>	907 g (2 lb)
<b>Weight without bracket</b>	643 g (1.4 lb)
<b>Color</b>	Light grey (RAL 000 7500)

Ordering Information	
<b>Model &amp; Description</b>	
DCN-WAP Wireless Access Point	
light grey color, universal mounting bracket included	
DCN-WFCCCU Flight Case for WCCU and WAP	
light grey, holds wireless central control unit(s), access point & cable	
LBC 1259/00 Universal Floor-stand	
lightweight aluminum construction, foldable, M10 x 12 reducer flange	

## DCN-WCCU Wireless Central Control Unit



The DCN-WCCU is the brain of the DCN Wireless system. It provides control for up to 150 wireless discussion units and 93 interpreter units.

The WCCU uses Bosch's proprietary optical network for easy connection to the wireless access point and other Bosch congress 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.

### 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 93 interpreter desks
- Serial ports for PC and camera 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 congress equipment, such as: Integrus transmitter for infra-red language distribution; Audio Expanders, and CobraNet™ interfaces)
- DCN trunk to connect to DCN-IDESK interpreter desks
- 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)
- Voting control for parliamentary voting procedure when using PC and DCN-SWSMV software
- Simultaneous interpretation function with up to 31 language channels, plus one floor channel via Integrus language distribution system
- 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-IDEK 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	
<b>Supply voltage</b>	100 - 240 VAC +/- 10 % 50 - 60 Hz
<b>Power consumption</b>	200 W
<b>DCN system supply</b>	40 VDC, max 65 W per DCN socket
<b>Optical network supply</b>	40 VDC, max 65 W
<b>Total supply power</b>	130 W
<b>RS-232 connection</b>	2 x nine-pole Sub-D female socket
<b>Frequency response</b>	30 Hz - 20 kHz (-3 dB at nominal level)
<b>THD at nominal level</b>	< 0.5 %
<b>Cross talk attenuation</b>	> 85 dB at 1 kHz
<b>Dynamic range</b>	> 90 dB
<b>Signal-to-noise ratio</b>	> 87 dBA

### Audio inputs

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

### Audio outputs

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

### Mechanical

<b>Mounting</b>	Free-standing or mounted in a 19" rack
<b>Dimensions (H x W x D)</b>	
<b>with brackets, without feet</b>	88 x 483 x 350 mm (3.5 x 19 x 13.8 in)
<b>without brackets, with feet</b>	92 x 440 x 350 mm (3.6 x 17.3 x 13.8 in)
<b>Weight</b>	7 kg (15.4 lbs)
<b>Color</b>	Charcoal (PH 10736) with silver

### Ordering Information

Model & Description
DCN-WCCU Wireless Central Control Unit for all regions except North-America
DCN-WFCCU Flight Case for WCCU and WAP light grey, holds wireless central control unit(s), access point & cable
DCN-WCCU-UL Wireless Central Control Unit UL/CSA for the North-America region



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# Battery Packs



## DCN-WLIION-D Battery Pack



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.

### 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

### Functions

#### Controls and Indicators

- Charge capacity LEDs and push-to-test button

#### Interconnections

- Power / charge connector

#### Technical Specifications

##### Electrical

<b>Output Voltage</b>	7.2 VDC
<b>Capacity</b>	4800 mAh

##### Mechanical

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

#### Ordering Information

##### Model & Description

DCN-WLIION-D Battery Pack
charcoal color, lithium-ion, 7.2 VDC, 4800 mAh
DCN-WCH05 Battery Pack Charger 5 Bins

## DCN-WCH05 Battery Pack Charger 5 Bins



This unit can simultaneously re-charge up to 5 DCN-WLIION battery packs. The charging status of each pack is shown on individual charge capacity indicator LEDs.

The unit is suitable for tabletop use, or can be wall-mounted.

The loop-through mains voltage connector allows a maximum number of charging units to be connected in series to share from the same mains outlet:

- A maximum 5 chargers can be connected in series for 100 - 127 VAC, 50 - 60 Hertz regions
- A maximum 10 chargers can be connected in series for 220 - 240 VAC, 50 - 60 Hertz regions

### Features

- Simultaneous charging of up to 5 battery packs
- Recharges from empty in 3 hours
- Loop-through mains connector
- Auto-ranging PSU, 100 – 240 VAC

### Functions

#### Controls and Indicators

- Charge capacity indicator LEDs on each bin
- Mains power indicator LED

#### Interconnections

- Mains supply connector
- Loop-through mains connector
- Battery pack charging connector

#### Technical Specifications

##### Electrical

<b>Supply Voltage</b>	100 - 240 VAC +/- 10 % 50 – 60 Hz
-----------------------	--------------------------------------

##### Mechanical

<b>Dimensions (H x W x D)</b>	82 x 195 x 340 mm (3.2 x 7.6 x 13.4 in)
<b>Weight (without batteries)</b>	1.4 kg (3.08 lb)
<b>Color</b>	Charcoal (PH 10736)

#### Ordering Information

##### Model & Description

DCN-WCH05 Battery Pack Charger 5 Bins





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# Accessories

## DCN-WFCD10 Flight Case for Wireless Discussion units



The DCN-WFCD10 Flight Case accommodates up to 10 wireless discussion units complete with battery packs and microphones (long or short stems).

The case also holds 2 DCN-WCH05 charging units.

### Features

- Holds 10 wireless discussion units and microphones
- Also holds 2 battery chargers and 10 batteries
- Safe transport and storage
- Rugged construction with reinforced corners
- Shaped foam interior simplifies (un)packing

### Ordering Information

#### Model & Description

DCN-WFCD10 Flight Case for Wireless Discussion units  
light grey, holds 10 wireless discussion units and 2 charging units

## DCN-WFCCCU Flight Case for WCCU and WAP



The DCN-WFCCCU 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)

### Features

- Holds WCCU, WAP and network cabling
- Safe transport and storage
- Rugged construction with reinforced corners
- Shaped foam interior simplifies (un)packing

### Technical Specifications

#### Mechanical

<b>Dimensions (H x W x D)</b>	510 x 460 x 290 mm (20.1 x 18.1 x 11.4 in)
<b>Weight</b>	6 kg (13.2 lb)
<b>Color</b>	Light grey

### Ordering Information

#### Model & Description

DCN-WFCCCU Flight Case for WCCU and WAP  
light grey, holds wireless central control unit(s), access point & cable

## LBC 1259/00 Floor-stand



This Universal Floor-stand provides effective mounting solutions for loudspeaker installations, a Wireless Access Point of the DCN-Wireless system, or a radiator of the Integrus digital language distribution system. They are manufactured and finished to the same high standards as all Bosch products, assuring excellent quality and guaranteed compatibility throughout the range. The LBC 1259/00 is suited to a wide range of applications where a secure yet transportable mounting solution is required.

### Adjustable and safe

The LBC 1259/00 floor-stand is hand-adjustable using a spring-loaded locking screw for heights between 1.4 and 2.2 m (4.6 and 7.2 ft). An extra safety bolt on the support can be tightened to ensure the stand remains extended.

This lightweight stand has a double-braced folding base for extra strength, and a wide leg span to ensure stability.

### Adaptable

The floor-stand is standard supplied with a 36 mm (1.42 in) reducer flange with an M10 x 12 threaded pin to mount different sized equipment, and with an M10 knob to fix the Wireless Access Point mounting bracket.

### Accessories

For storage and ease of transport, a carrier bag is available with two inside compartments with separate zippers for holding two universal floor-stands (LBC 1259/00).

The bag is made from sturdy black weather-proof nylon and provided with Bosch logo. Two handles are fitted for carrying the bag by hand or over the shoulder.

### Features

- Multi-purpose, lightweight aluminum stand
- For mounting a loudspeaker, wireless access point or Integrus radiator
- Double-braced folding base
- Reducer flange for different mountings
- Hand-adjustable
- Carrier bag for two pieces as optional accessory

### Parts Included

Quantity	Component
1	Floor-stand
1	36 mm (1.42 in) reducer flange with (M10 x 12) threaded pin
1	M10 securing knob for WAP mounting bracket

### Installation/Configuration Notes



*LBC 1259/00 with XLA 3200 line array loudspeaker*



*LBC 1259/00 with DCN wireless access point*

**Technical Specifications****Mechanical****Stand****Length (max.)** 2.185 m (86 in)**Length (min.)** 1.375 m (54 in)**Length (folded)** 1.20 m (47 in)**Material** aluminum**Tube Diameter** 36 mm (1.42 in)**Max. Load** up to 50 kg (110.2 lb)**Weight** 3.5 kg (7.7 lb)**Carrier bag accessory****Length x diameter** 1.25 m x 27 mm (49 x 1.06 in)**Material** nylon**Color** black with light grey handles**Weight** 750 g (1.65 lb)**Ordering Information****Model & Description**

LBC 1259/00 Floor-stand

lightweight aluminum construction, foldable, M10 x 12  
reducer flange

LM1-CB Carrier Bag for two floor-stands LBC 1259/00



# Software

## DCN-SWSMV Synoptic Microphone and Voting Software



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.

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.

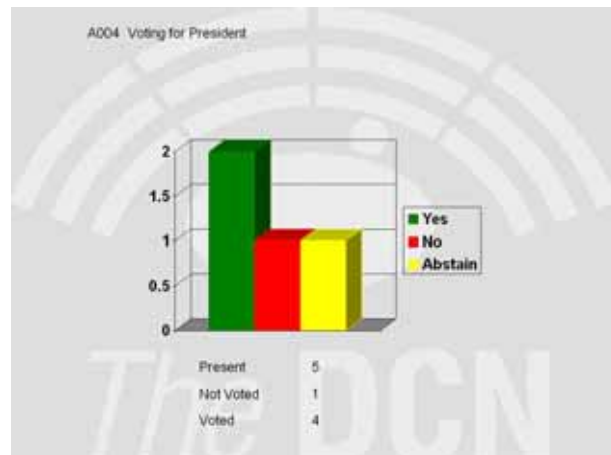
The user interface is based on a graphical representation of the conference venue. When a device is connected to the system it is automatically recognized and an icon is created for it on the on-screen room layout. The icons display information about device status and can be used by the operator to select 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.

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.

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®*

### Features

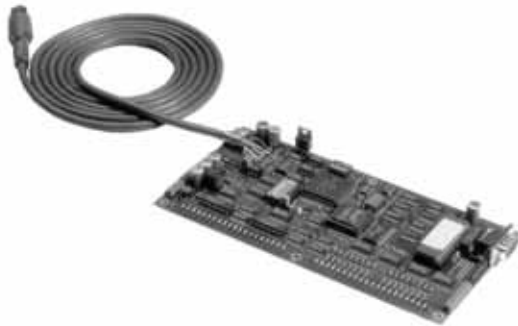
- Synoptic room overview for monitoring and controlling the microphones
- Voting control with individual results
- Real-time voting results displayed in Microsoft PowerPoint®
- On-screen help in many languages

### Ordering Information

#### Model & Description

DCN-SWSMV Synoptic Microphone and Voting Software

## DCN-DDB Data Distribution Board



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.

### Features

- Drives hall displays
- Allows transparent data transport for remote control of external equipment
- Speak slowly and help indicator control

### 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:
  - External initialization button and LED
  - 8-bit parallel data input and output
- Nine-pole D-sub socket for RS232 output

#### Technical Specifications

##### Electrical

**External supply** 7.5 – 35 VDC.

##### Mechanical

**Dimensions (H x W)** 100 x 200 mm (3.93 x 7.87 in)

#### Ordering Information

##### Model & Description

DCN-DDB Data Distribution Board





# LBB 4410/00 Network Splitter



The network splitter is used in a network to tap off two branches from the main cable run. The unit can be connected to an external DC power supply or it can use the power supply from the network controller. The unit is automatically powered from the local power supply if connected. The maximum power feed to tap-off outlets can be reduced.

The network splitter can also be used as a repeater to extend the cable length with another 50 meters of plastic fiber.

### Features

- Redundant network connection
- Power 'ON' indication
- Error indication
- Possibility to connect a local power supply

### Functions

- The network splitter has 2 LEDs for diagnostic purposes.
- The maximum current is selectable.
- The external power from the local supply is not fed back to the main system cable.
- The local power supply is 48 V DC.

### Certifications and Approvals

Safety	According to IEC60065-98 CE / FCC IEC60849
Immunity	According to EN55103-2

### Installation/Configuration Notes

#### Interfaces

- 2 x system network connection for main run
- 2 x system network connection for tap off

#### Indications and Controls

2 LEDs for status indications

Green	Yellow	Indicates
Off	Off	No power
On	Off	Functioning correctly
Off	On	No network or network fault

- One jumper to select if power to the branches is switched off when power is removed from the main branch
- One jumper to select whether external power is used
- One jumper to select current limit to tap off outputs

Technical Specifications	
Power Consumption	
<b>LBB 4410/00</b>	3.9 W (dc)

Mechanical	
<b>Mounting</b>	By 2 screws in bracket
<b>Dimensions (H x W x D)</b>	200 x 82.5 x 28.9 mm
<b>Weight</b>	0.3 kg (0.66 lb)
<b>Color</b>	Charcoal grey

Environmental	
<b>Emissions</b>	According to EN55103-1 / FCC-47 part 15B
<b>Immunity</b>	According to EN55103-2
<b>Safety</b>	According to IEC60065-98
<b>Approvals</b>	CE / FCC IEC60849
<b>Temperature</b>	-5°C to +55°C (23°F to 131°F)
<b>Humidity</b>	15% to 90%

Ordering Information	
<b>Model &amp; Description</b>	LBB 4410/00 Network Splitter

## LBB 4414/00 Fiber Interface



The fiber interface is used in a network to convert from glass fiber optic cable to plastic fiber optic cable and vice versa. This unit supports the redundant wiring topology. The unit can be provided with an external DC supply or it can use the supply from the network controller. The unit is automatically powered from the local supply if connected. The fiber interface has 2 LEDs for diagnostic purposes (see the table).

The local power supply is 48 V DC.

### Features

- Redundant network connection
- Power 'ON' indication
- 2 supervised control inputs
- Error indication
- Possibility to connect a local power supply

### Certifications and Approvals

Safety	According to IEC60065-98 CE / FCC IEC60849
Immunity	According to EN55103-2

### Installation/Configuration Notes

#### Interfaces

- 1 x system network connection for plastic optical fiber
- 1 x system network connection for glass optical fiber

#### Indications and Controls

2 LEDs (yellow and green) for status indications. Indications are as below:

Green	Yellow	Indicates
Off	Off	Off; no external power available
Off	On	Standby; external power to POF switched off
On	On	Operating; external power to POF switched on
On	Off	Operating; no external power available but powered from the POF side
Flash	Off	Fault; no external power available and no protocol received
Flash	On	Fault; external power available but no protocol received

#### Inputs

- 2 x control inputs

#### Technical Specifications

##### Power Consumption

<b>LBB 4414/00</b>	4.6 W (dc)
--------------------	------------

##### Mechanical

<b>Mounting</b>	By 2 screws in bracket
<b>Dimensions (H x W x D)</b>	200 x 82.5 x 28.9 mm
<b>Weight</b>	0.3 kg (0.66 lb)
<b>Color</b>	Charcoal grey

##### Environmental

<b>Emissions</b>	According to EN55103-1 / FCC-47 part 15B
<b>Immunity</b>	According to EN55103-2
<b>Safety</b>	According to IEC60065-98
<b>Approvals</b>	CE / FCC IEC60849
<b>Temperature</b>	-5°C to +55°C (23°F to 131°F)
<b>Humidity</b>	15% to 90%

#### Ordering Information

##### Model & Description

LBB 4414/00 Fiber Interface

## 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).

### Ordering Information

#### Model & Description

LBB 4416/00 Network Cable 100 m without the network connectors fitted
LBB 4416/01 Network Cable Assembly 0,5 m (1.64 ft) with the network connectors fitted
LBB 4416/02 Network Cable Assembly 2 m (6.56 ft) with the network connectors fitted
LBB 4416/05 Network Cable Assembly 5 m (16.4 ft) with the network connectors fitted
LBB 4416/10 Network Cable Assembly 10 m (32.8 ft) with the network connectors fitted
LBB 4416/20 Network Cable Assembly 20 m (65.6 ft) with the network connectors fitted
LBB 4416/50 Network Cable Assembly 50 m (164.4 ft) with the network connectors fitted

## LBB 4417/00 Set Network Connectors



The set network connectors contains 20 connectors that can be used with the network cable LBB 4416/00.

For assembly the cable/connector toolkit LBB 4418/00 is required.

### Ordering Information

#### Model & Description

LBB 4417/00 Set Network Connectors

**D**

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