CCS 900 Ultro Discussion System
Data Brochure

BOSCH
Invented for life

Congratulations with your new Data Brochure!

Dear Customer,

It is with great pride that we present the CCS 900 Ultro Data Brochure to you! In this Data Brochure we are proud to present the new CCS 900 Ultro range, including:

- CCS 900 Ultro Delegate and Chairman units
- CCS 900 Ultro Control Units
- CCS 900 Ultro Accessories

With its elegant design and the innovative patent pending "Possible-To-Speak" indicator the CCS 900 Ultro will help us further strengthen our position in the small to medium sized applications.

In addition to our product offering, Bosch offers excellent support, to enable you to help your customers find the perfect solution for their particular situation. A key element in our support is training and we offer a great variety of training sessions.

For more information regarding our product range, or for sales support and training, please visit our website (www.boschsecurity.com) or contact your local Bosch representative. An address list per country is included in this Data Brochure.

Once again we thank you for your support and hope you will be able to put the CCS 900 Ultro Data Brochure to good use.

With kind regards,

Bosch Security Systems

CCS 900 Ultro Discussion System

Superior security, safety and communication products: stressing quality, innovation and support.

For over 100 years, the Bosch name has stood for quality and reliability. Bosch is the global supplier of choice for innovative technology, backed by the highest standards for service and support.

A tradition of innovation

We have a long tradition of attaching top priority to innovation. To achieve this, we invest an average of 11 percent of our sales volume in R&D. Around the world, the Bosch Group has more than 25,000 research and development associates continuously working to develop new products, systems and innovative manufacturing processes, as well as to improve existing products.
The results are impressive: Bosch files an average of over 3000 patents a year, putting it among the world's top filers.

Committed to your success

Integral to our success are an in-depth understanding of our partners' and customers' needs and a commitment to delivering solutions that add real value and offer your customers a greater return on their investment. We make sure that all Bosch security, safety and communication products are efficient and user-friendly — and thus easier for you to sell.

Quality comes first

Our company's founder, Robert Bosch, set the standard. He wrote "I have constantly tried to make products that prove themselves superior in every respect ..." His motto was "sell the best of the best". Our strict adherence to this principle down to this day ensures the reliability of our products from day one. We use only the very best materials, purchased according to strict criteria. In-house quality control standards support our core processes of development, production, logistics and purchasing.

Global and local service you can count on

As part of the Robert Bosch Corporation, we are one of the world's largest manufacturers of security, safety and communication products. Our worldwide network of highly trained support technicians is always near at hand, responding quickly and effectively to meet your needs as they arise. The **Bosch Security Academy** also holds local training courses to keep you optimally informed about all our products and technologies.

Long-term partnerships

Our goal has always been to build long-term, sustainable relationships with our partners and customers. With Bosch behind you, you can look forward to many years of successful and profitable partnership.

Great variety

You can choose from a great variety of Security, Safety and Communication Products and Systems: Video surveillance -- including video over IP and Intelligent Video Analysis --, Intrusion, Access control and Fire alarm, Public Address and Voice evacuation, Management systems, Professional audio, Conference systems, Personal security, Paging and Care solutions.

Europe, Middle East and Africa

Corporate Office

Germany

Bosch Sicherheitssysteme GmbH
Werner-von-Siemens-Ring 10
85630 Grasbrunn
Phone: +49 89 6290 0
Fax:+49 89 6290 1020
de.securitysystems@bosch.com
www.bosch-sicherheitsprodukte.de

Regional / Export Office

The Netherlands

Bosch Security Systems BV
Direct Export
PO Box 80002
5600 JB Eindhoven, The Netherlands
Phone: +31 40 2577 315
Fax: +31 40 2577 300
export.securitysystems@bosch.com
www.boschsecurity.com/export

Sales Offices

Belgium

Bosch Security Systems NV/SA
Torkonjestraat 21F
8510 Kortrijk-Marke
Phone: +32 56 24 5080
Fax: +32 56 22 8078
be.securitysystems@bosch.com
www.boschsecurity.be

Czech Republic

Bosch Security Systems s.r.o.
Pod Višnovkou 1661/35
140 00 Praha 4
Phone: +420 261 300 244
Fax: +420 261 300 249
cz.securitysystems@bosch.com
www.boschsecurity.cz

Denmark

Robert Bosch A/S
Security Systems Division
Telegrafvej 1
2750 Ballerup
Phone: +45 4489 8620
Fax: +45 4489 8630
dk.securitysystems@bosch.com
www.boschsecurity.dk

Dubai

Robert Bosch Middle East FZE
DAFZA West Wing 6B
Office 535 Po-Box
54307 Dubai
UAE
Phone: + 9714 2123340
Fax: + 9714 2996137
www.boschsecurity.com

Estonia

Robert Bosch OÜ
Security Systems Division
Järvevana Tee 9
11314 Tallinn
Phone: +372 6549 563
Fax: +372 6549 569

Finland

Robert Bosch Oy
Security Systems Division
Ansatie 6 a C
01740 Vantaa
Phone: +358 9 435 991
Fax: +358 9 4359 9333
fi.securitysystems@fi.bosch.com
www.boschsecurity.fi

France

Bosch Security Systems France SAS
Atlantic 361
Avenue du Général de Gaulle
92147 Clamart
Phone: +33 825 078 476
Fax : +33 1 4128 8191
fr.securitysystems@bosch.com
www.boschsecurity.fr

Great Britain

Bosch Security Sysetms Ltd.
North Orbital Rd
Denham UB9 5HJ
Phone: +44 1895 87 80 88
Fax: +44 1895 83 90 39
www.boschsecurity.co.uk

Germany

Bosch Sicherheitssysteme STDE
Werner-Heisenberg-Strasse 16
D-34123 Kassel
Phone: /Fax: +49(0)561 8908-
CCTV: -200/-299; Comm. -300/-399
Einbruch/Brand/Access: -500/-199
de.securitysystems@bosch.com
www.bosch-sicherheitsprodukte.de

Greece

Robert Bosch A.E.
Erchias 37
19 400 Koropi
Phone: +30 210 570 1352
Fax: +30 210 570 1357
BoschST@gr.bosch.com
www.boschsecurity.gr

Hungary

Robert Bosch Kft.
Gyömrői út 120.
1103 Budapest
Phone: +36 1 4313 200
Fax: +36 1 4313 222
hu.securitysystems@bosch.com
www.boschsecurity.hu

Portugal

Bosch Security Systems -
Sistemas de Segurança, SA.
Av. Infante D.Henrique, Lt.2E - 3E
Apartado 8058
1801-805 Lisboa
Phone: +351 218 500 360
Fax: +351 218 500 088
pt.securitysystems@bosch.com
www.boschsecurity.com/pt

Spain

Bosch Security Systems, SAU
C/Hermanos García Noblejas, 19
28037 Madrid
Tel.: +34 914 102 011
Fax: +34 914 102 056
es.securitysystems@bosch.com
www.boschsecurity.es

Italy

Bosch Security Systems S.P.A.
Via M.A.Colonna, 35
20149 Milano
Phone: +39 02 3696 1
Fax: +39 02 3696 3907
it.securitysystems@bosch.com
www.boschsecurity.it

Norway

Robert Bosch AS
Security Systems
Berghagan 1, Postboks 350
1402 Ski
Phone: +47 64 87 89 70
Fax: +47 64 87 89 80
no.securitysystems@bosch.com
www.boschsecurity.no

Poland

Robert Bosch Sp. z o.o.
Jutrzenki 105 str.
02-231 Warszawa
Phone: +48 22 715 4101
Fax: +48 22 715 4105
pl.securitysystems@bosch.com
www.boschsecurity.pl

Russia

Robert Bosch OOO
Security Systems
13/5, Akad. Korolyova str.
129515 Moscow
Phone: +7 495 937 5361
Fax: +7 495 937 5363
Info.bss@ru.bosch.com
ru.securitysystems@bosch.com
www.boschs.ru

South Africa

Robert Bosch (Pty) Ltd.
Security Systems Division
Private Bag X118
Midrand 1685
Phone: +2711 651 9828
Fax: +27 11 651 7887

Sweden

Bosch Security Systems AB
Vestagatan 2
416 64 Göteborg
Phone: +46 31 722 5300
Fax: +46 31 722 5340
se.securitysystems@bosch.com
www.boschsecurity.se

The Netherlands

Bosch Security Systems BV
Postbus 80002
5600 JB Eindhoven
Phone: +31 40 2577 200
Fax: +31 40 2577 202
nl.securitysystems@bosch.com
www.boschsecurity.nl

Turkey

Bosch Sanayi ve Ticaret AS.
Güvenlik Sistemleri
Ahi Evran Cad.
Ata Center K:1 34398
Maslak - Istanbul
Phone: +90 212 335 0660
Fax : +90 212 286 00 89
www.tr.boschsecurity.com

Ukraine

Robert Bosch Ltd.
Security Systems Division
1, Kraynya Str.
02606 Kiev
Phone: +380 44 490 5990
Fax: +380 44 490 2507
ua.securitysystems@bosch.com
www.boschsecurity.com/ua

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View of a product with the complete archive of product-related information

CCS 900 Ultro Discussion System

CCS 900 Ultro Introduction

Bosch Security Systems: World-class Solutions for Meetings and Conferences

Bosch is pleased to introduce its latest innovation, the CCS900 Ultro Discussion System as the successor of the former CCS 800 Ultro 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 Ultro 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 Ultro 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 Ultro 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 Ultro 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 Ultro 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 Ultro 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 Ultro 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 Ultro 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 Ultro 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 ArrayLoudspeakers 60W (x2)
7: Six-channel Analog Interpretation Desk
8: Integrus Transmitter
9: Integrus Radiators
10: Integrus Receivers
11: Wireless Microphone &Receiver
12: Camera system

Exellent choice for dynamic business environments

The CCS 900 Ultro 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 Ultro 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 Ultro 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 Ultro 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 Ultro 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
Immunity	EN 50103-2

Safety

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℃ to +45℃ (+41℉ to +113℉)
Storage and transport	-20℃ to +70℃ (-4℉ to +158℉)

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 Ultro 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 build-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)	

Mounting	tabletop (portable or fixed)
Material (top)	polymer
Material (base)	painted metal
Color (top)	charcoal (PH10736)
Color (base)	charcoal (PH10736)

Ordering Information

CCS-DS CCS Delegate Unit Short Microphone
microphone stem length 313 mm (12.3 inch) — **CCS-DS**

CCS-DL CCS Delegate Unit Long Microphone
microphone stem length 488 mm (19.2 inch) — **CCS-DL**

Accessories

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

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)

Ordering Information

CCS-CMS CCS Chairman Unit Short Microphone microphone stem length 313 mm (12.3 inch)	**CCS-CMS**
CCS-CML CCS Chairman Unit Long Microphone microphone stem length 488 mm (19.2 inch)	**CCS-CML**

Accessories

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

CCS-SC10 Suitcase for 10 Delegate units

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 Ultro 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.

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-SC10 Suitcase for 10 Delegate units   **CCS-SC10**
Suitcase for 10 Delegate Units where CCS 900 Ultro contribution units will be placed for storage or transportation.

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
Used to transport the CU, multiple delegate units, cables and/or other accessories.

CCS-SC6

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 Ultro 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 Ultro 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 chairmen microphones) which can be simultaneously active
• Open mode with auto-switch-off – allows selection of one to four microphones (excluded chairmen 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 chairmen)
• 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 Ultro 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)

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 (H x W x D)	84 x 361 x 143 mm (3.4 x 14.2 x 5.6 in)
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
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-CU

CCS-CUD Control Unit with DAFS
With digital acoustic feedback suppression facility.

CCS-CUD

CCS-CURD Control Unit with Recorder and DAFS
With built-in recorder, graphical display, recording buffer and acoustic feedback suppression facility.

CCS-CURD

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
Set of brackets and other necessary fixings to mount a Control Unit into a 19-inch rack system

LBB3311/00

LBB 3316/00 CCS Installation Cable 100m

A 100 m (328 ft) length of installation cable plus 10 connector sets (5 male and 5 female).

Parts Included

Quantity	Component
1x	Installation cable, length 100 m (328 ft)
5x	Connector sets, male and female

Technical Specifications

Mechanical

Length	100 m (328 ft)
Diameter	5.9 ± 0.3 mm (0.23 ± 0.01 in)
Insulation material	PVC
Color	grey

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

	LBB 3316/05	LBB 3316/10
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

|	
LBB 3316/05 CCS Extension Cable 5m 5 m (16.4 ft), 7-pole male and female DIN connectors	**LBB3316/05**
LBB 3316/10 CCS Extension Cable 10m 10 m (32.8 ft), 7-pole male and female DIN connectors	**LBB3316/10**

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

LBB 4117/00 DCN Cable Locking Clamp (25 pcs) set of 25	**LBB4117/00**

DCN-DISCLM Cable Clamp (25 pcs)
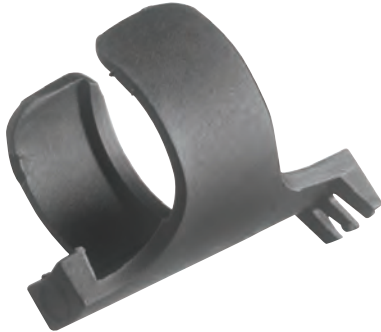
DCN-DISCLM cable clamps for Discussion Unit secure loop-through cables to next unit.

Technical Specifications

Mechanical

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

Ordering Information

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

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

LBB 3443/00 Lightweight Headphones high quality sound reproduction, lightweight, replaceable ear pads and normal cable	LBB3443/00
LBB 3443/10 Lightweight Headphones Durable Cable high quality sound reproduction, lightweight, replaceable ear pads and durable cable	LBB3443/10
Accessories	
LBB 3443/50 Foam Ear Pads for LBB 3443 (50 pairs) replacement foam ear pads	LBB3443/50
HDP-LWSP Solid Ear Pads for LBB 3443 (50 pairs) washable replacement ear pads	HDP-LWSP

HDP-LWN Lightweight Neckband Headphone

Ordering Information

HDP-LWN Lightweight Neckband Headphone	**HDP-LWN**
High-quality sound reproduction, lightweight, replaceable ear pads.	

Accessories

HDP-LWNEP Earpads for neckband headphone (50 pairs)	**HDP-LWNEP**
Replacement foam ear pads.	

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 (± 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

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

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

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

Accessories

LBB 3441/50 Ear Tips for LBB 3441 (500 pairs) for LBB 3441	LBB3441/50

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

LBB 3015/04 High Quality Dynamic Headphones Durable, dynamic headphones.	**LBB3015/04**

Accessories

LBB 9095/50 Ear pads for LBB 3015 LBB 9095 (25 pairs) 25 pairs	**LBB9095/50**

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 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", ½", 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.
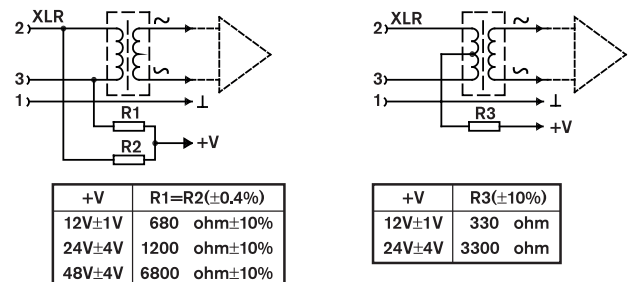
Certifications and Approvals

Region	Certification	
Europe	CE	Declaration of Conformity

Installation/Configuration Notes

Circuit diagram

+V	R1=R2(±0.4%)
12V±1V	680 ohm±10%
24V±4V	1200 ohm±10%
48V±4V	6800 ohm±10%
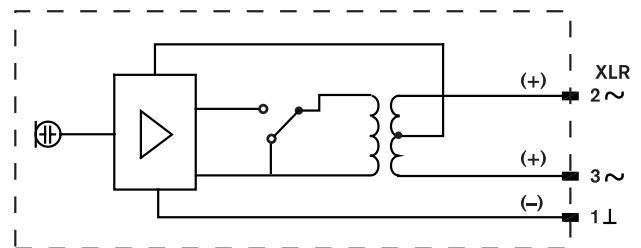
+V	R3(±10%)
12V±1V	330 ohm
24V±4V	3300 ohm

Circuit diagram
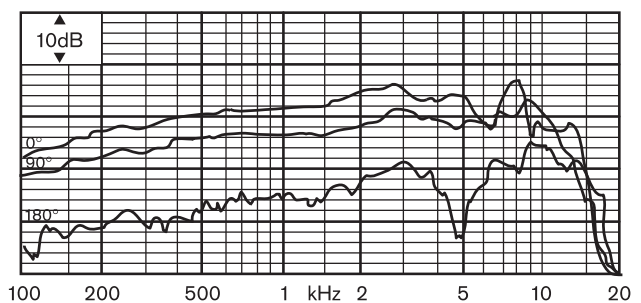
Frequency response

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)

Environmental

Operating temperature	-20 ℃ to +55 ℃ (-4 ℉ to +131 ℉)
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Relative humidity	<95%

Ordering Information

LBB 9600/20 Condenser Handheld Microphone 7 m (23 ft) cable, 3-pin lockable male and fe-male XLR connectors	**LBB9600/20**

Accessories

LBC 1221/01 Floor Stand Three folding legs, adjustable length with twist clamp.	**LBC1221/01**
LBC 1226/01 Adjustable Boom maximum reach of 670 mm (2.12 ft); length 840 mm (2.76 ft)	**LBC1226/01**
LBC 1227/01 Table Stand with 3/8" Whitworth stud; 130 mm (5.12 in) diameter	**LBC1227/01**

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
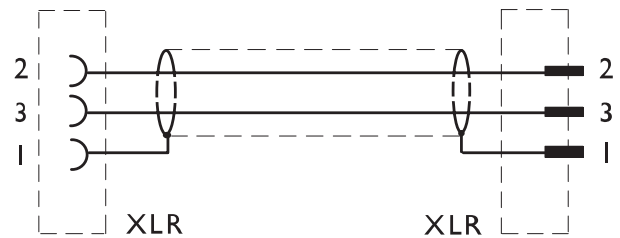
LBC 1208/40 (10 m)

Technical Specifications

Mechanical

Length	10 m (32.8 ft)
Weight	420 g (1.13 lb)
Color	black

Ordering Information

LBC 1208/40 Microphone Cable 3-pin XLR; 10 m (32.8 ft)	**LBC1208/40**

LBC 1226/01 Adjustable Boom

LBC 1221/01 Floor Stand

Features

▸ **Adjustable in reach and angle (quick-release screw clamp)**

▸ **Maximum reach of 670 mm (2.12 ft)**

▸ **Fits onto 3/8" Whitworth thread**

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

Length	840 mm (2.76 ft)
Weight	700 g (1.88 lb)
Color	matt black

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

LBC 1226/01 Adjustable Boom maximum reach of 670 mm (2.12 ft); length 840 mm (2.76 ft)	**LBC1226/01**
Accessories	
LBC 1221/01 Floor Stand Three folding legs, adjustable length with twist clamp.	**LBC1221/01**

Ordering Information

LBC 1221/01 Floor Stand Three folding legs, adjustable length with twist clamp.	**LBC1221/01**
Accessories	
LBC 1226/01 Adjustable Boom maximum reach of 670 mm (2.12 ft); length 840 mm (2.76 ft)	**LBC1226/01**

LBC 1227/01 Table Stand

Features

▸ **Heavy-duty table stand**

▸ **3/8" Whitworth stud**

▸ **Shock-absorbing under surface**

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/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 'Possiible-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.

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