

SHURE®

LEGENDARY
PERFORMANCE™

Conferencing and Discussion Systems

EX 6010 Extension Unit

USER GUIDE



Table of Contents

Table of Contents	2	Features	8
Important	3	Operating instruction	9
Important Safeguards	3	User Controls, indications & connectors 9	
Labels	4	Front plate layout.....	9
Note for Power Connections	4	Back panel layout.....	10
Power Disconnect	4	System design	11
Compliance	4	‘Repeated chain’ connection	11
Cleaning	5	‘Loop through’ connection	12
Repacking	5	System Setup	13
Warranty	5	Installation	13
Your DCS 6000 Conference System	6	Cabling guidelines	13
The DCS 6000 system	6	Max. number of units to be connected 14	
System components	7	Typical schematics	16
Central equipment etc.	7	Technical Specifications	17
Interpreter equipment.....	7	Connection Details	18
Conference units and Ch. selectors	7	Accessories	18
Accessories	7		
General Description	8		

Important

Important Safeguards

- 1 Read these instructions** - All the safety and operating instructions should be read before the apparatus or system is operated.
- 2 Keep these instructions** - The important safety instructions and operating instructions should be retained for future reference.
- 3 Heed all warnings** - All warnings on the apparatus and in the operating instructions should be adhered to.
- 4 Follow all instructions** - All instructions for installation or use/operating should be followed.
- 5 Do not use this apparatus near water** - Do not use this apparatus in a water or moistures environment - for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, near a swimming pool, in an unprotected outdoor installation, or any area which is classified as a wet location.
- 6 Warning: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture and no objects filled with liquids, such as vases, should be placed on this apparatus.**
- 7 Clean only with dry cloth** - Unplug the apparatus from the outlet before cleaning. Do not use liquid cleaners or aerosol cleaners.
- 8 Do not block any ventilation openings. Install in accordance with the manufacturer's instructions** - Openings in the enclosure, if any, are provided for ventilation and to ensure reliable operation of the apparatus and to protect it from overheating. These openings must not be blocked or covered. This apparatus should not be placed in a built-in installation unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
- 9 Do not install near any heat sources such as radiators, heat registers, stoves, air ducts, or other apparatus (including amplifiers) that produce heat.**
- 10 Do not install the unit in a place exposed to direct sunlight, excessive dust or humidity, mechanical vibration or shock.**
- 11 To avoid moisture condensations do not install the unit where the temperature may rise rapidly.**
- 12 Do not defeat the safety purpose of the polarized or ground-type plug.** A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wider blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 13 Protect the power cord from being walked on or pinched particularly at plug, convenience receptacles, and the point where they exit from the apparatus.**
- 14 Only use attachments/accessories specified by the manufacturer.** Any mounting of the apparatus should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
- 15 Use only with the cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the apparatus.**
When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over - Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
- 16 Unplug this apparatus during lightning storms or when unused for long periods of time.** - Not applicable when special functions are to be maintained, such as evacuation systems.
- 17 Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the**



apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

18 Replacement Parts - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or having the same characteristics as the original part.

Unauthorized substitutions may result in fire, electric shock or other hazards.

19 Safety Check - Upon completion of any service or repairs to this apparatus, ask the service technician to perform safety checks to determine that the apparatus is in proper operating condition.

20 Overloading - Do not overload outlets and extension cords as this can result in a risk of fire or electric shock.

21 Power Sources - This apparatus should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply you plan to use, consult your appliance dealer or local power company. For apparatuses intended to operate from battery power, or other sources, refer to the operating instructions.

22 Power Lines - An outdoor system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outdoor system, extreme care should be taken to keep from activating such power lines or circuits, as contact with them might be fatal.

23 Object and Liquid Entry - Never push objects of any kind into this apparatus through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock.

Never spill liquid of any kind on the apparatus. Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it further.

Labels



"Lightning Flash Symbol" with the lightning flash with arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of un-insulated "dangerous

Compliance

voltage" within the product enclosure that may be of sufficient magnitude to constitute a risk of shock to persons.

"Exclamation Point Symbol" with the exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



Note for Power Connections

Check that the voltage of your local power supply is within the operating voltage of the unit. If a voltage conversion is required, consult your DIS dealer or qualified personnel.

Set the Power switch to 'Off' if it is not used for several days.

Important: The equipment must be connected to earth (ground)

The wires in the main lead supplied with the equipment are colored in accordance with the following codes:

- Green-and-yellow Earth (Ground)
- Blue Neutral
- Brown Live

The green-and-yellow wire must be connected to the terminal in the plug marked with the letter E or with the safety earth symbol or marked with green-and-yellow color.

The blue wire must be connected to the terminal marked with the letter N or marked with black color.

The brown wire must be connected to the terminal marked with the letter L or marked with red color.

For pluggable equipment, the socket-outlet shall be installed near the equipment and shall be easily accessible.

Power Disconnect

Apparatuses with or without On/Off switches have power supplied to the apparatus whenever the power cord is inserted into the power source; however, the apparatus is operational only when the On/Off switch is in the On position. The power cord is the main power disconnect for all apparatuses.

The equipment has been tested and found to comply with the limits of the following standards for digital devices:

- EN55103-1 (Emission)
- EN55103-2 (Immunity)
- EN60065 safety
- UL6500 safety

The device complies with part 15 of the FCC rules. Operation is subject to the following conditions: (1) The device may not cause harmful interference, and (2) the device must accept any interference received, including interference that may cause undesired operation.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in residential, commercial or light industrial environments. The equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the user manual it may cause harmful interference to radio communications.

You are cautioned that any changes or modifications not expressly approved in this

Cleaning

To keep the cabinet in its original condition, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with a mild detergent solution. Never

Repacking

Save the original shipping cardboard box and packing material; they will become handy if you ever have to ship the unit. For maximum

Warranty

The units are minimum covered by 24 months warranty against defects in materials or workmanship.

manual could void your authority to operate this equipment.

Operation of this equipment in residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Intentional or unintentional changes or modifications not expressly approved by the party responsible for compliance shall not be made. Any such changes or modifications could void the user's authority to operate the equipment.

If necessary, the user should consult the dealer or an experienced radio/ television technician for corrective action.

Industry Canada ICES-003 Compliance

Label: CAN ICES-3 (A)/NMB-3(A)

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

use organic solvents such as thinners or abrasive cleaners since these will damage the cabinet.

protection, re-pack the unit as originally packed from the factory.

Your DCS 6000 Conference System

The DCS 6000 system

DCS 6000 Digital Conference System is a system to be used at meetings, where a number of people are addressing the 'Floor' in a structured manor. The audio from the Conference units can be heard in the built in loudspeakers in the units.

The system does also allow for simultaneous interpretation for international conferences where multiple languages are used.

To enable all participants to understand the proceedings, interpreters can simultaneously translate the speaker's language as required. These interpretations are distributed through the connected Conference units and delegates can select the language of their choice and listen to it through headphones.

DCS 6000 Digital Conference System comprises of one CU 61xx Central Unit and a number of Conference Units, Gooseneck Microphones and other accessories depending on the system configuration.

The DCS 6000 system has the following main features:

- Fully digital
- Excellent sound quality
- "State of the Art" fully digital integrated interpretation, discussion and voting system offering interpretation, language distribution, conference microphone and voting facilities with attendance check with Chip Card™
- Digital transmission of audio from/to the Conference unit to/from the central unit using a unique digital DATA and AUDIO bus named DCS-LAN
- Control of up to 3800 conference units. This number does not include Channel Selectors, Repeaters etc. In practical use there are no limits for the number of Channel Selectors in a system
- Delegate and Interpreter units are powered and controlled by the CU 61xx Central Unit, which drives up to app. 50 units with the PS CU power supply
- EX 6010 Extension Unit or PS 6001 DCS-LAN Power Kit is available if more units are required

- Delayed switching on of power to the two DCS-LAN chains, to minimize the total 'in-rush' current on the Mains supply
- Designed for 31 interpretation channels and 8 open microphones
- Audio scrambling of the audio to avoid eavesdropping
- Designed in a standard 1HE 19" cabinet
- TCP/IP connection on CU 61xx for external operation of the system using a PC or control system such as AMX® or Crestron®
- Functionality on the CU 61xx depends on the Feature License uploaded into the unit
- Firmware in Delegate units, Interpreter Units, Central Units etc. is upgradeable
- Operated either stand alone or from a PC using the CU browser or using SW 6000 software
- Added functionality and comprehensive features provided by SW 6000 software package running on PC

The SW 6000 is an optional software package, which expands the functionality of the DCS 6000 system. The software runs on standard computer technology (Standard PC with Windows 7, Server 2008 etc.).

Main features of the SW 6000 are:

- Microphone management
- Mimic panel operation
- Interpretation management
- Voting management
- Message handling
- Agenda handling
- Data stored on SQL data base
- Web service interface available for easy links to external applications
- Multi language user interfaces
- Supports different User types with different priorities, user interfaces and control possibilities

System components

Central equipment etc.

CU 6105	Central Unit
CU 6110	Central Unit
EX 6010	Extension Unit
PS 6001	DCS-LAN Power Kit consisting of one PS CU and one PI 6000
PS CU	Power Supply
PI 6000	DCS-LAN Power Inserter
RC 6000	Redundancy Controller
AO 6004	Audio Output Unit
AO 6008	Audio Output Unit
RP 6004	Repeater for four chains
JB 6104	Junction Box with 4 outputs
SZ 6104	DCS-LAN Switcher

Interpreter equipment

IS 6132 P	Interpreter Unit
LS 6132 P	Interpreter Loudspeaker

Conference units and Ch. selectors

DC 6990 P	Conference Unit (portable) with touch screen with two built-in channel selector, Chip-card and 5 voting buttons, configurable as Delegate, Dual Delegate or Chairman.
DC 6120 P	Conference Unit (portable)
DC 6190 P	Conference Unit (portable) with two built-in channel selectors
DM 6680 P	Conference Unit (portable) with voting
CM/DM 6080 F	Conference Unit (flush mounted) with built-in channel selectors

DM 6620 F	Conference Unit (flush mounted) with, Chip-card and 5 voting buttons
CM/DM 6680 F	Conference Unit (flush mounted) with one built-in channel selector, Chip-card and 5 voting buttons
MU 6040 C/D	Microphone Unit for use with FD/FC front plate with Loudspeaker, Microphone and Buttons. Available in Delegate (D) and Chairman (C) version
MU 6042 D	Dual Microphone Unit for use with FD/FC front plate with Loudspeaker, Microphone and two delegate Buttons
DV 6501 F	Voting Unit
AM 6040	Ambient Microphone Unit
CS 6340 FV/FH	Channel Selector (flush mounted)

Accessories

In addition to the unit a number of accessories are available like:

- Storage Boxes
- GM 6523 Gooseneck Microphone, 40 cm
- GM 6524 Gooseneck Microphone, 50 cm
- GM 6525 Gooseneck Microphone, 63 cm
- DH 6021 Delegate Headphone
- DH 6223 Stethoscope Headphone
- DH 6225 Ear Clip Headphone

For detailed instruction in how to use the above units, please refer to the User Manuals for the relevant products.

General Description

The EX 6010 Extension Unit provides additional Power Supplies, Repeater and Splitter functionality for the DCS 6000 system. One CU 6105 or CU 6110 Central Unit is needed in each DCS 6000 system, however for expansion of the system the EX 6010 Extension Unit is suitable. The EX 6010 consist of two main parts, which are built into a 19" cabinet:

- Repeater/splitter board with 4 individual outputs
- 4 individual power supplies.

Features

The main features of the EX 6010 Extension Unit are:

- Built in Power Supplies for app 200 units (Conference Units) or app. 600 Channel Selectors
- 4 outputs for connection to Delegate Units, Interpreter Units etc.
- Loop through connectors for connection additional EX 6010 or other units, which are part of the DCS 6000 system
- Delayed switching on of power to the four chains, to minimise the total 'in rush' current on the Mains supply.
- Designed in a standard 2HE 19" cabinet.

Operating instruction

User Controls, indications & connectors

Front plate layout



Front plate controls

The EX 6010 Extension Unit features the following controls and display:

1. Power Led

When power is switched ON at the CU 6105 or CU 6110 Central Unit any connected EX 6010 Extension Units will automatically be powered up. An LED indicates when power is switched ON.

2. Fault LED

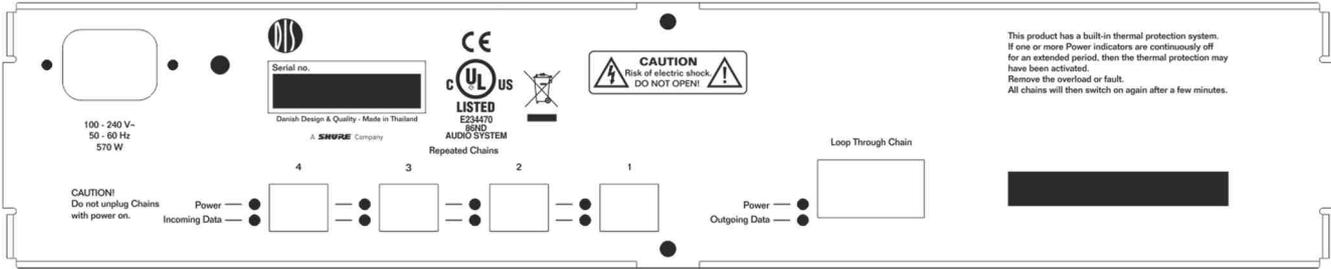
This indication lights up, if the internal power supply is malfunctioning i.e. because of overheating or overload of a chain.

The Fault LED will always light up some seconds after the unit is switched on caused by the delayed switching on of the four supplies.

As a warning the light is flashing at an internal temperature above 45°C. At a temperature above 55°C or if one of the DCS-LAN outputs is supplying no voltage, the LED is lighting constantly.

Please note that the maximum ambient temperature for the CU 6105 or CU 6110 is 40 deg. Celsius.

Back panel layout



Connectors

3. Mains Power connector

Connection for mains power. See specs.

4. Loop through connectors

RJ45 connector, 2 pieces with auto-termination

DCS-LAN connectors for connection to the CU 6105 or CU 6110 and for connection to other units with DCS-LAN connectors, such as more EX 6010.

5. Repeated Chains 1, 2, 3 & 4

RJ45 connector, 4 pieces

Those connectors are DCS-LAN connectors for connection to DM/CM 6xxx, IS 6132, CS 6032, EX 6010, AO 6004/6008 etc.

6. Power LED's

Those LED's light up when Power is available on the connector next to the LED and only if the voltage is over 24V (not overloaded).

7. Incoming data LED's

Those LED's lights up, when the unit is received in-coming data from connected units on the connector next to the LED.

8. Outgoing data LED

This LED lights up when outgoing data is received from the central unit

System design

There are no settings to be done on the EX 6010 Extension Unit.

However it is important to observe, that the unit is only repeating one of the chains on the CU 6105 or CU 6110 Central Unit.

So when designing a system to incorporate EX 6010 Extension units, bear in mind, that as the EX 6010 Extension Unit is repeating only one of the two outputs on CU 6105 or one of the four outputs

on CU 6110, the max. number of languages configured on the four outputs (1, 2, 3 and 4) is totally max. 16.

If more languages are required, Interpreter sets for those languages have to be connected either to another EX 6010 Extension Unit, which is connected to another of the four chains on the CU 6110, or directly to one other of the four chains on a CU 6110.

'Repeated chain' connection



Figure 0-A Repeated Chain connection

When connecting the EX 6010 Extension Units to the CU 6105 or CU 6110, the first EX is connected to the 'Loop through' connector.

The next EX 6010 Extension units can be connected to either the other 'Loop through' connector or to one of the 'Repeated out'

connectors. If using the 'Repeated' outputs two more EX 6010 Extension units (or RP 6004 Repeaters) can be connected extending the maximum cable length in one chain up to 680 m. The above schematic is showing the connection using the "Repeated chains' connectors.

'Loop through' connection

When connecting a number of EX 6010 Extension Units to the CU 6105 or CU 6110 an almost unlimited number of EX 6010 can be connected by using the 'Loop through' connector.

However the practical limitation is the maximum cable length in one chain, which is 200 m and the supply of power to the 'Loop Through' connectors at the EX 6010.

The following schematic is showing the connections using the 'Loop through' connectors.



Figure 0-B Loop through connection

System Setup

Installation

The EX 6010 is suitable for either table-top or 19-inch rack-mounted use. Two mounting brackets (for rack mounting) are supplied.

When installing in a 19" rack the supplied 19" brackets shall be used.

The unit has a low noise built-in fan taking air in at the left side of the unit and blowing the hot air out at the right side. That allows units in 19" racks to be stacked close with other units without extra room for cooling air between them.

Please check that other units in the rack will allow this.

Connect the EX 6010 to the various DCS 6000 units using CAT5e cabling (F/UTP or U/FTP) shielded cables following the guidelines in the next chapter.

The operation and installation of the various DCS 6000 units is found in the User Manuals for the specific units.

Cabling guidelines

The Conference Units are connected to the CU 61xx Central Unit using Cat5e F/UTP or U/FTP shielded cables and the following guidelines have to be observed:

- The Conference units are daisy chain connected to the central unit
- The number of units, which can be connected to EX 6010, depends on length of the feeding cable and the length of the cable between each unit.

If the feeding cables are short and the cables between the units are short, more units can be connected than if the feeding cable is long and/or the cables are long between the units.

- Maximum cable length in one chain is 200 m (before using EX 6010 or a RP 6004 Repeater in a chain). This includes interconnection cables between the units.
- Maximum cable length in one chain when using EX 6010 or RP 6004 Repeaters and Cat5e cables is 680 m.
- Cables must be AWG24 if the number of units in the tables in section [\0](#)
- [\1](#) is to be used. AWG26 cables will not allow as many units. DIS cables series EC 6001-xx are all AWG 24.
- It is desirable that the square of the feeding cables is as big as possible to minimize the voltage drop in the cables. Cat5e cables are delivered in various gauges:

The following table shows the Diameter/square for various AWG types:

Type	Diameter	Square
AWG22	0.64 mm	0.32 mm ²
AWG23/1	0.57 mm	0.25 mm ²
AWG24	0.53 mm	0.22 mm ²
AWG26	0.42 mm	0.14 mm ²

Although the DCS-LAN chain output connectors have a 125 W supply, this 125 W power is not all available with long cables, as there will be a power drop in the feeding cable from the EX 6010 to the units connected.

Please consult the next sections for details about the number of units, which can be connected depending on the cable length.

Max. number of units to be connected

The following tables shows the maximum number of units, which can be connected to each DCS-LAN output of an EX 6010.

In the tables the 'Feeding Cable' is defined as the cable between the EX 6010 and the first Conference Unit and the 'Interconnecting Cable' is defined as the cable connecting two conference units.

The following tables show the maximum number of units, which can be connected to each DCS-LAN chain output

The same numbers are valid for the output of a PS 6001.

DC 6120 P, DC 6190 P, DM 6680 P Conference Units

Length of Feeding Cable Type CAT5e AWG24	Length of inter connecting Cable, Type CAT5e AWG24	Total cable length	Max. number of units pr output
10 m	1 m	51 m	42
30 m	1 m	67 m	38
50 m	1 m	83 m	34
100 m	1 m	122 m	23
150 m	1 m	165 m	16
10 m	2 m	88 m	40
30 m	2 m	98 m	35
50 m	2 m	108 m	30
100 m	2 m	140 m	21
150 m	2 m	178 m	15

Figure 0-A DC 6120 P, DC 6190 P or DM 6680 P Conference Units connected

DC 6990 P Conference Unit

Length of Feeding Cable Type CAT5e AWG24	Length of inter connecting Cable, Type CAT5e AWG24	Total cable length	Max. number of DC 6990 P pr. output
10 m	1 m	35 m	26
30 m	1 m	53 m	24
50 m	1 m	70 m	21
100 m	1 m	112 m	13
150 m	1 m	158 m	9
10 m	2 m	56 m	25
30 m	2 m	72 m	22
50 m	2 m	90 m	19
100 m	2 m	124 m	13
150 m	2 m	166 m	9

Figure 0-B DC 6990 P Conference Units connected

CM/DM 6080 F / DM 6620 F Chairman/Delegate

Length of Feeding Cable Type CAT5e AWG24	Length of inter connecting Cable, Type CAT5e AWG24	Total cable length	Max. number of DC 61xxP pr. output
10 m	1 m	39 m	30
30 m	1 m	56 m	27
50 m	1 m	73 m	24
100 m	1 m	115 m	16
150 m	1 m	160 m	11
10 m	2 m	64 m	28
30 m	2 m	78 m	25
50 m	2 m	94 m	23
100 m	2 m	130 m	16
150 m	2 m	170 m	11

Figure 0-C CM/DM 6080 F or DM 6620 F Chairman/Delegate Units connected

CM/DM 6680 F Chairman/Delegate Units connected

Length of Feeding Cable Type CAT5e AWG24	Length of inter connecting Cable, Type CAT5e AWG24	Total cable length	Max. number of DC 61xxP pr. output
10 m	1 m	35 m	27
30 m	1 m	53 m	24
50 m	1 m	70 m	21
100 m	1 m	113 m	14
150 m	1 m	159 m	10
10 m	2 m	58 m	25
30 m	2 m	72 m	22
50 m	2 m	88 m	20
100 m	2 m	126 m	14
150 m	2 m	166 m	9

Figure 0-D CM/DM 6680 F Chairman/Delegate Units connected

MU 6040 C/D and MU 6042 D

Length of Feeding Cable, Type CAT5e AWG24	Cable length between each MU 6040	Total cable length	Max. number of MU 6040 pr. output
10 m	2 m	168 m	80
30 m	2 m	178 m	75
50 m	2 m	188 m	70
100 m	2 m	200 m	51
150 m	2 m	200 m	26
100 m	1 m	151 m	52
150 m	1 m	191 m	42

Figure 0-E MU 6040 C/D and MU 6042 D without connected loudspeaker.

Note: The numbers are valid with no audio in loudspeaker or no loudspeaker connected to each unit. If loudspeakers are used, then use the figures for DC 6120 P or DC 6190 P.

IS 6132 P Interpreter Units

Length of Feeding Cable, Type CAT5e AWG24	Length of inter-connecting Cables, Type CAT5e AWG24	Max. number of units pr output All ON ½ ON 1/3 ON
10m	2 m	54 x x
30m	2 m	49 57 60
50m	2 m	44 51 x
100m	2 m	35 40 x
150m	2 m	25 30 x

Figure 0-F IS 6132 P Interpreter Units connected. The numbers are with no loudspeakers connected.

Note: The number of units is dependent of how many interpreter sets there are per booth (or language), as there only can be one set switched ON per language (channel).

IS 6132 P Units and JB 6104

Length of Feeding Cable, Type CAT5e AWG24	Length of cable between booths	Number of booths	Number of IS 6132/ booths	Number of LS 6132 P/ booths
10 m	5 m	19	4	0
10 m	5 m	12	4	4
30 m	5 m	17	4	0
30 m	5 m	10	4	4
50 m	5 m	15	4	0
50 m	5 m	9	4	4
100 m	5 m	11	4	0
100 m	5 m	7	4	4
150 m	5 m	8	4	0
150 m	5 m	5	4	4

Figure 0-G IS 6132 P Units and JB 6104 and with/without LS 6132 P Loudspeaker connected.

CS 6340 F Channel Selector

Length of Feeding Cable, Type CAT5e AWG24	Length of Inter-connecting cable, Type CAT5e AWG24	Total cable length	Max. number of CS 6340 pr output
30 m	1 m	139 m	110
50 m	1 m	144 m	95
100 m	1 m	184 m	85
150 m	1 m	200 m	51
10 m	2 m	200 m	96
30 m	2 m	200 m	86
50 m	2 m	200 m	76
100 m	2 m	200 m	51
150 m	2 m	200 m	26

Figure 0-H CS 6340 F Channel Selector w/back light on

Typical schematics

The following schematics are showing a typical configuration with use of EX 6010.

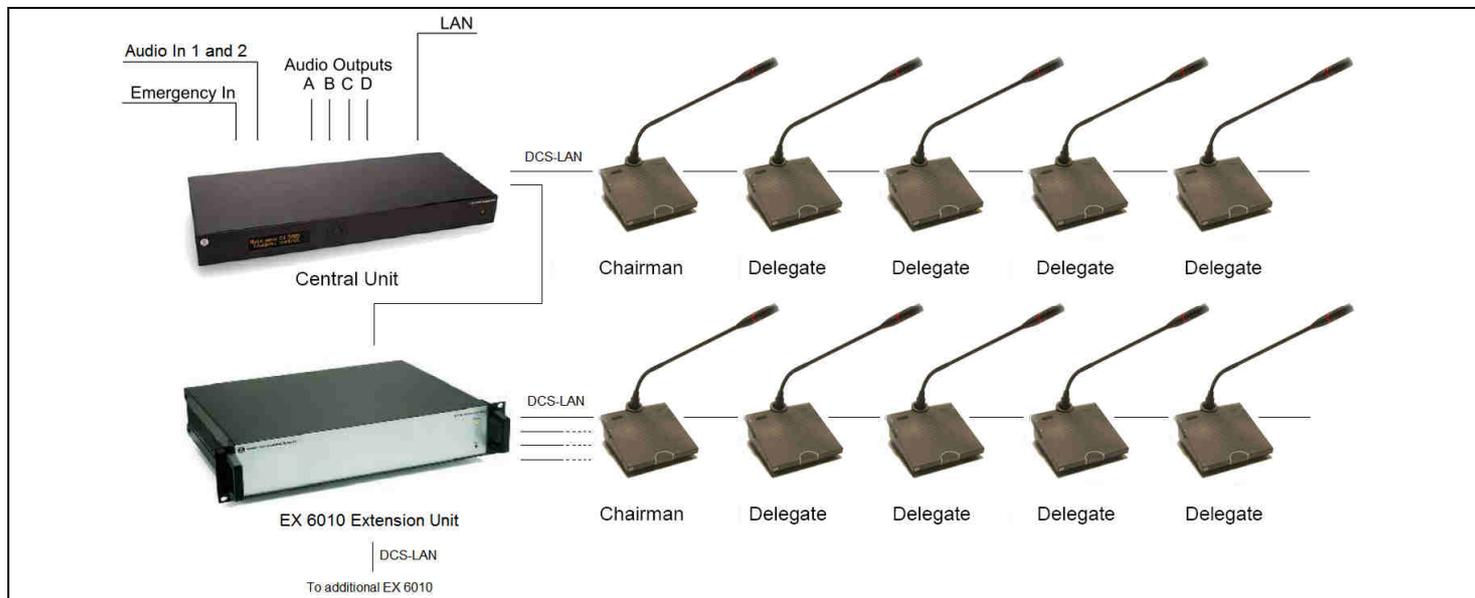


Figure 0-A System with EX 6010

Technical Specifications

General

Power consumptionmax. 570W

In-rush current max. [30A @115V](#) or max. 60A@230V

Mains voltage: 100 - 240V, 50 - 60Hz

Supply voltage for units (each A1, A2, B1, B2)
..... 48V/125W

Max. power load on Loop Through connectors7.5W

Temperature to guarantee specified performance
..... 5 Deg C. to 40 Deg C. (35 to 80% humidity)

Storage temperature
..... -20 Deg C. to 60 Deg C. (10 to 80% humidity)

Weight5.5 kg

Dimensions (W x H x D) ... 425 (483) x 87 x 317 (357)
mm

Dimensions in bracket are including 19" brackets

Connectors

DCS-LAN loop through2 pieces RJ45

DCS-LAN repeated output.....4 pieces RJ45

Cabling and System Limits

Cable type (min. specification) Cat5e, AWG 24,
shielded

Maximum cable length in one chain200 m

System Environmental Conditions

Working conditionFixed, stationary or portable

Approvals

ApprovalsCE, cULus

EMC emission According to harmonized
standard EN 55103-1 and
FCC rules part 15, complying
with the limits for a class A
digital devices

EMC immunity According to harmonized
standard EN 55103-2

EMC approvals Affixed with the CE mark

ESD According to harmonized
standard EN 55103-2

Mains harmonics According to harmonized
standard EN 55103-1

Environmental requirementsContains no banned
substances as specified in UAT-0480/100 (e.g. no
cadmium or asbestos)

Accessories supplied
.... User Manual, Mains cable and 5 pieces termination
plugs

**Specifications are subject to change without
notice**

Connection Details

DCS-LAN Chain

The DCS 6000 system uses shielded Cat5e, Cat6 or Cat7 F/UTP or U/FTP cables with shielded RJ45 connectors.

EIA 568-B wiring shall be used.

Important: The names of Cat5/6/7 cable type have changed.

Old name	New name
FTP	F/UTP
STP	U/FTP
UTP	U/UTP

Important: Use only F/UTP or U/FTP (shielded) cables and shielded RJ45 connectors and not U/UTP cable, which are unshielded.

How to wire a Cat5e (EIA 568-B) cable to a RJ45 con.:

Pin	Function	Connector #1	Connector #2
1	In-going +	ORG/WHT	ORG/WHT
2	In-going -	ORG	ORG
3	+48V	GRN/WHT	GRN/WHT
4	0V	BLU	BLU
5	0V	BLU/WHT	BLU/WHT
6	+48V	GRN	GRN
7	Outgoing -	BRN/WHT	BRN/WHT
8	Outgoing +	BRN	BRN

Important: If other color codes are used then the four pairs are connected as follows:

Pair 2: Pin 1 & 2
 Pair 3: Pin 3 & 6
 Pair 1: Pin 4 & 5
 Pair 4: Pin 7 & 8

The phase of the pairs must be correct and the wiring spec. as stated in Cat5e (EIA 568-B) have to be followed.

Note: Cat6 and Cat7 cables can normally only be terminated in sockets (female) and not in cable plugs. Cat6 and Cat7 can thus only be used for feeding cables terminating in wall outlets or patch panels.

Accessories

Cat5e Connection Cables (AWG24)

EC 6001-0.5 Connection Cable 0.5 m
 EC 6001-01 Connection Cable 1 m
 EC 6001-02 Connection Cable 2 m
 EC 6001-05 Connection Cable 5 m

EC 6001-10 Connection Cable 10 m
 EC 6001-20 Connection Cable 20 m
 EC 6001-50 Connection Cable 50 m



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