Instruction manual

DIGIMIC DCen MkII
Central unit for DIGIMIC conference systems
Article no.: 05.0055

Table of contents

About this guide

Keep these operating instructions together with the device. If you pass the device on to third parties, also pass on these operating instructions.

Symbols
The following means of representation are used in this manual:

Indicates instructions which, if not followed, may endanger your health, the functionality of your device or the security of your data.

Indicates additional information and tips.

<u>**Text**</u>　Texts in bold font and/or underlined texts are texts or terms that should be highlighted.

General information

Read this manual carefully and attentively. Pay particular attention to the instructions marked with the symbols listed above.

All brand names (indicated by *) are registered trademarks of their respective owners.

The warranty becomes void if defects are caused to the device by improper interventions.

Important information

Safety instructions

- Read this manual!
- Keep the manual in a safe place
- Observe the specified warnings
- Follow the instructions
- Do not use the device near water
- Clean the device only with a dry, clean cloth
- Do not block the ventilation slots
- Install the device only according to the instructions in this manual
- Do not operate near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat
- This device is supplied with an IEC power cord including molded-in power plug. This is for your safety! Do not attempt to replace the supplied cord yourself if it does not fit your outlet. Instead, consult a competent electrician. He will be able to replace the cable with one that matches the mains sockets in your country. Or have obsolete outlets replaced with new ones.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments and accessories that are suitable according to the manufacturer.
- Unplug the unit during lightning storms or when unused for long periods of time.
- Have all maintenance work performed by qualified personnel. Servicing is required when the equipment has been damaged in any way, such as power-supply cord or plug is damaged, the equipment has been dropped, exposed to moisture, or does not operate normally.

Safety information

Warning.

To reduce the risk of fire or electric shock, do not expose the device to rain or moisture. Do not open the device! Potentially dangerous voltages are present inside. Refer all servicing to qualified service personnel.

Attention!

Use only accessories recommended by the manufacturer as suitable to avoid fire, electric shock or other hazards. Do not remove any parts of the housing to avoid the risk of electric shock. There are no user-serviceable parts. Refer all servicing to qualified service personnel.

Warning. Power source

The central control unit is a Class 1 device. It may only be connected to properly grounded outlets. This equipment must be operated only from outlets specified on the label affixed to the bottom of the unit. If you are unsure of the type of power supply in your building, consult your dealer or local power company.

Disconnection from the mains
To disconnect the device from the mains, pull the mains plug out of the socket.

Overload!
Do not overload your sockets and cables. This can cause fire and electric shock.

Objects and liquids
Never insert objects of any kind into the openings of the device. This may cause dangerous voltage or short out parts and result in fire or electric shock. Do not spill liquids on the unit. If liquid does spill on the unit, unplug the unit and have it checked by a technician.

Maintenance and care
There are no user-serviceable parts! Do not attempt to repair the unit yourself. Never remove or open covers - this may expose you to dangerous voltages or other hazards. Refer all servicing to qualified service personnel.

Only clean the device with a dry, clean cloth. Do not use any cleaning agents or other liquids.

Spare parts
If spare parts are required, make sure that the technician on site uses spare parts that are approved by the manufacturer or have the same characteristics as the original parts. The use of unsuitable spare parts may result in fire, electric shock and other hazards.

Safety check
After maintenance or repair of the device, it is mandatory to perform a safety check to determine that the device is in a safe operating condition.

The DIGIMIC Conference System is state-of-the-art and has been developed in accordance with all applicable regulations. Nevertheless, the individual components of the system can result in danger to persons and property if:

- the system is not used as intended,
- the system is not set up by personnel who are familiar with the safety regulations,
- the system is improperly converted or modified,
- the safety instructions are not observed.

Warning.
This system is capable of generating sound pressure in excess of 85 dB(A). 85 dB(A) corresponds to the maximum permissible limit for the duration of a working day. This was determined as a basis according to the specifications of the medical industry. Higher sound pressures or longer periods under such sound pressures can damage your hearing. Shorten the duration at higher sound pressures to prevent hearing damage.

The following signs indicate that you have been exposed to excessive noise for too long:

- You hear a ringing or whistling in your ear,
- You have the impression that you can no longer hear the high notes (even for a short time).

Disposal

This symbol on the product, instructions for use or packaging means that electrical and electronic equipment should be disposed of separately from household waste at the end of its working life. There are collection systems for recycling within the EU or countries outside the EU. For more information, please contact the local authorities or your dealer where you purchased the product.

Make sure that used batteries are disposed of in accordance with local regulations. Never throw batteries into a fire (risk of explosion) and do not dispose of batteries in the trash can.

If devices are to be scrapped, remove all components such as batteries, housings, circuit boards and cables. Dispose of all individual components in accordance with local waste disposal regulations.

DIGIMIC Digital Conference System

Thank you for choosing the DIGIMIC conference system. You have invested in future-proof conference technology.

DIGIMIC meets the requirements of studio technology and thus goes far beyond the original standard of conference technology. The system can be configured via the software "DCen ConfigTool" and controlled via the software MicControl or brählerOS. Various functions can be realized via the TCP/IP interface, such as microphone control, name management and voting.

The individual microphone units of the CMic series as well as the DDol interpreter console are almost self-explanatory in their operation. Delegates and interpreters can thus concentrate on the real thing - the spoken word.

System components

- CMic/CChair
- CMic ID/CChair ID
- CMic One/CChair One
- VIS versions (with support for the visually impaired)
- SMic123W and SMic/133D133
- DLine
- DSwitch
- DRoute
- DExt
- DDol
- CSX4 and DIGIMIC CS
- Brähler Microphones (TMD/01; TM58/6)
- System accessories (cables etc.)

For more information on the individual system components of the DIGIMIC family and their operation, please read the corresponding operating instructions.

Software components

- DCen ConfigTool
- DCen Weaver
- MicControl2
- brählerOS with the components
  - Admin Tool
  - Conference Operator
  - Digivote
  - TimeControl
  - IdentControl
  - InterpretationManagement
  - CameraControl
  - AudioEventPlayer

For more information on the Brähler software products and their operation, please read the corresponding operating manuals.

Declaration of Conformity

The DIGIMIC system complies with the standards: ICE 914; ISO 4043; ISO 2603; DIN 56924

CE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to the European Council Directive on the approximation of the laws of the Member States relating to electromagnetic compatibility (98/336/EEC) in accordance with EN 55022.

CAUTION
Changes or modifications not expressly approved by Brähler System GmbH could void the user's authority to operate the equipment.

Structure

Introduction

The DCen MkII central DIGIMIC control unit controls all connected DIGIMIC units within the DIGIMIC system. The DCen MkII automatically configures the units and routes all audio signals exactly where you need it. The central unit provides all common microphone modes, voting, identification, channel selector (32 channels), chairman priority switching and VIP management. In addition, the DCen MkII manages and controls the DDol interpreter consoles.

Via four independently operated ports, the DCen MkII can control 100 or more microphone units - in combination with the DExt auxiliary power supply, additional units are possible. Alternatively, DDol interpreter consoles can be connected or combined with microphone units in separate chains. As soon as a unit is connected to the central unit, it is immediately ready for use without any further settings.

To adapt the setup to local conditions, the DCen MkII central unit can be configured via the DCen ConfigTool software - among other things, you can use the software to select the microphone mode used and set the channel selector, for example. The MicControl2 software also offers you functions such as seat-based microphone control as well as name management and speech time display - CamControl2 puts your conference in the best possible light with optimally coordinated camera control. The brählerOS software was developed for comprehensive control tasks and for the management of several conference rooms.
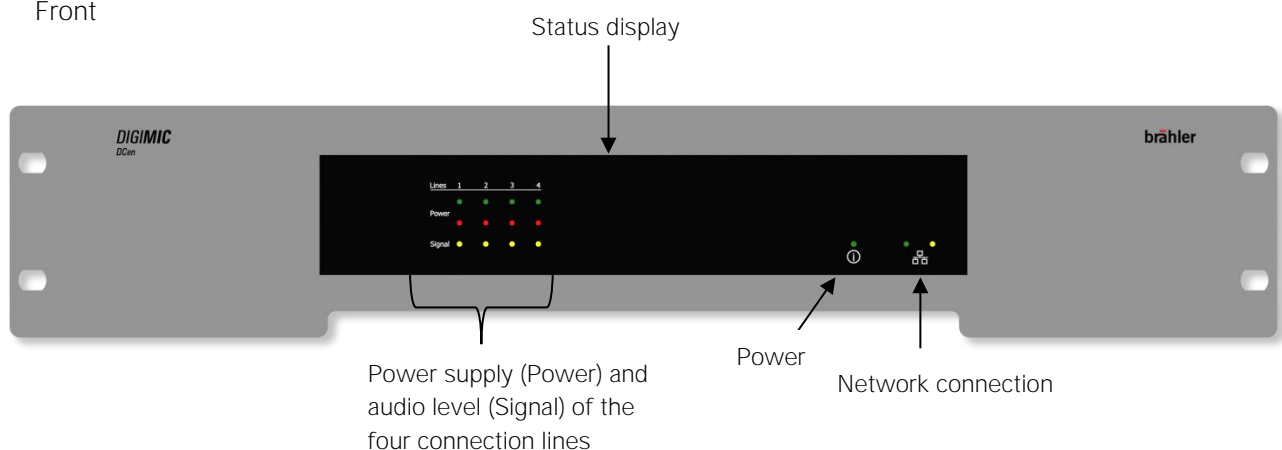
In the default settings, the DCen MkII is ready to use without further configuration

To configure your DCen MkII, the Brähler System DCen Config Tool is mandatory. Please read the DCen ConfigTool operating instructions.
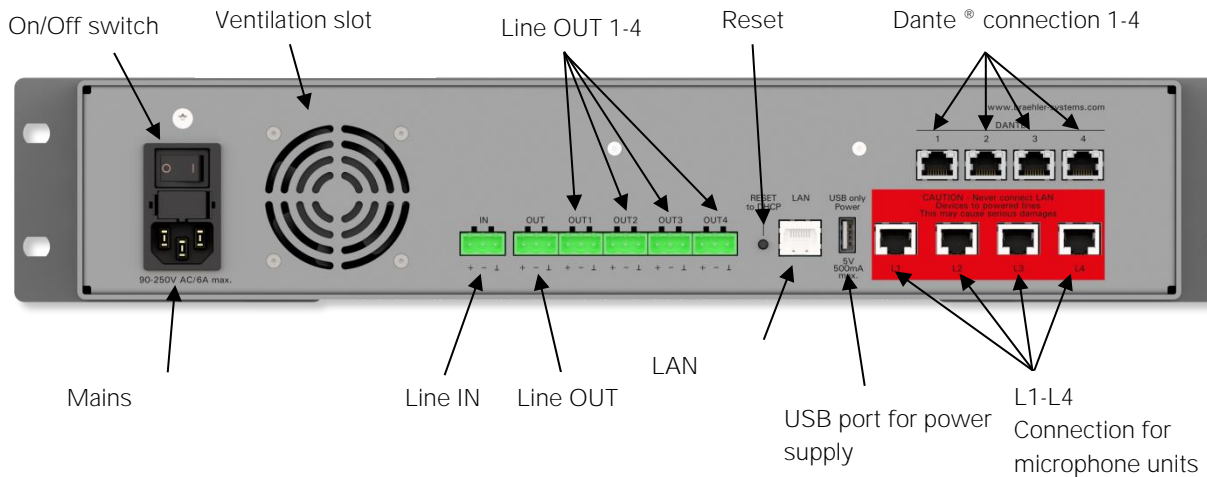
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Connections

Front

Status display

Power supply (Power) and audio level (Signal) of the four connection lines

Power

Network connection

Back

On/Off switch — Ventilation slot — Line OUT 1-4 — Reset — Dante ® connection 1-4

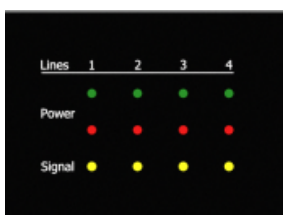Mains — Line IN — Line OUT — LAN — USB port for power supply — L1-L4 Connection for microphone units

Controls

Front

Status display

The status display shows you the corresponding status for each line output (left).

Power

Power shows you the operating voltage on the respective line.
Green: Power supply is proper
Red: there is an error e.g. short circuit, the line is not supplied with power.

In case of failure of one power supply unit of a line, the remaining line outputs can continue to be operated without restriction.

In the event of a short circuit, it should be rectified immediately. The device must not be short-circuited for an unnecessarily long time.

Signal
The four yellow LEDs under Signal indicate an incoming AF signal from delegate microphone units or interpreter consoles on the respective line.

Power

At the bottom right of the status display you will see the operation of the DCen MkII.

Green oscillating: The DCen MkII starts (booting process)
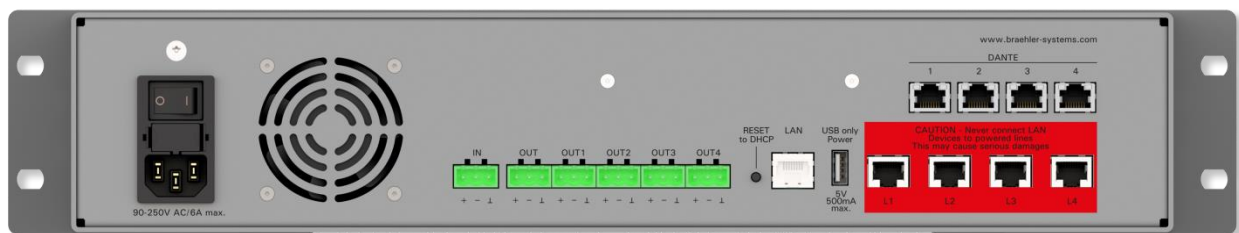Green: DCen MkII is ready for operation

Network connection

Shows the status or connection to the network.
Yellow: Link present
Green: Data is being transferred

Back

On/Off switch

Press the on/off switch to turn the DCen MkII on or off.

Mains connection

IEC connector (C14 female panel connector) for connecting the power supply via the supplied power cable (line C13 connector). The DCen MkII is equipped with a switching power supply. The unit operates reliably in a voltage range of 90-250 V at 50-60 Hz.
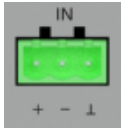
Ventilation grille


Ventilation grille at the rear of the DCen MkII.

To ensure sufficient cooling, the ventilation grille must not be covered.

LINE-IN

LINE-IN socket (Phoenix terminal) for feeding external signals for decentralized sound reinforcement via the integrated loudspeakers of the microphone consoles, as well as the original signal for the interpreters. If the signal is fed in via a mixing console and is to come through the integrated loudspeakers, the signal must be fed back from the mixing console. This is done via the LINE-IN socket, line level, transformer balanced.
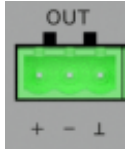
LINE-OUT

A sum signal of all switched-on delegate units can be taken from the LINE-OUT socket (Phoenix terminal). In the audio matrix the signal routing for this output can be changed if required, line level, transformer balanced.

Line output jacks Out1- Out4
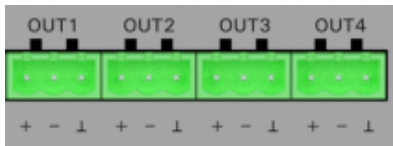
Audio signals are transmitted to external devices via four LINE outputs (Phoenix terminal). For example, an external mixing console can be connected to these jacks to perform sound recordings or to route signals to a PA system. In the audio matrix, the signal routing for these outputs can be changed if required.
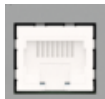
Reset

Press and hold this button when powering on the DCen MkII until the DCen has finished booting. This will reset the network settings to DHCP. To reset all settings to factory defaults, use the DCenConfig tool.
If you press the button while the DCen is running, this can be displayed in the DCenConfig tool. This helps you to identify a specific DCen.

LAN

The DCen MkII can be connected to your network via the LAN socket. This gives you the ability to control the unit and all connected units via software. Never plug a cable from DIGIMIC microphone consoles into this LAN jack.

USB Power

The USB output can be used to power external USB devices. The maximum power is 500mA at 5V.

The USB port is intended exclusively for power supply! The port cannot be used as a port for USB media.

L1-L4

Four outputs (RJ45) for connecting DIGIMIC family devices - such as microphone units, interpreter consoles or other system components (e.g. DSwitch or DLine). The individual chains can be extended by the DExt additional power supply for the operation of further DIGIMIC devices.

DDol interpreter consoles must not be connected in a chain together with other devices of the DIGIMIC family. Otherwise, the functionality cannot be guaranteed.

Never connect devices other than DIGIMIC microphone or interpreter consoles to these outputs. The operating voltage could damage other equipment.

DANTE®

Four Dante ®connectors allow audio signals of numerous channels to be transmitted via network cable. The technology offers a relatively interference-free transmission with low latency even over longer distances. The Dante® connectors are also operated with 48kHz sample rate. By default, the four Dante® ports are configured as switches. However, using the Dante ®Controller, the mode of operation can be switched to Primary / Secondary. In this case, only ports 4 (Primary) and 1 (Secondary) are used.
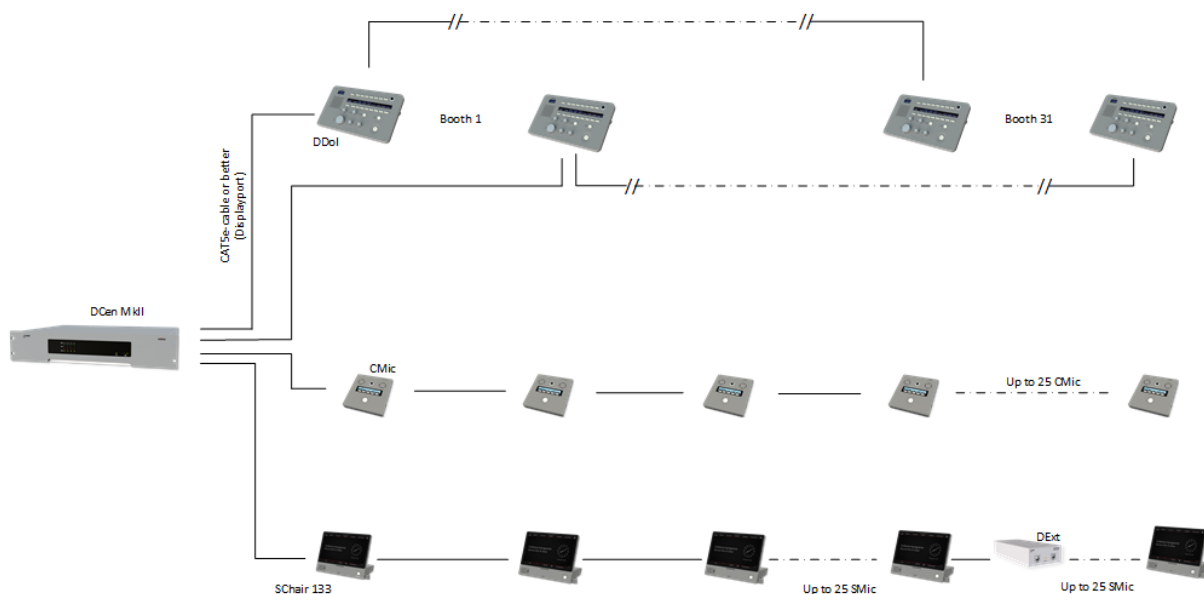
In the following system example, a DLine is interconnected in an SMic chain. This allows external audio signals (e.g. lectern) to be integrated into the DIGIMIC system and controlled like a microphone console.
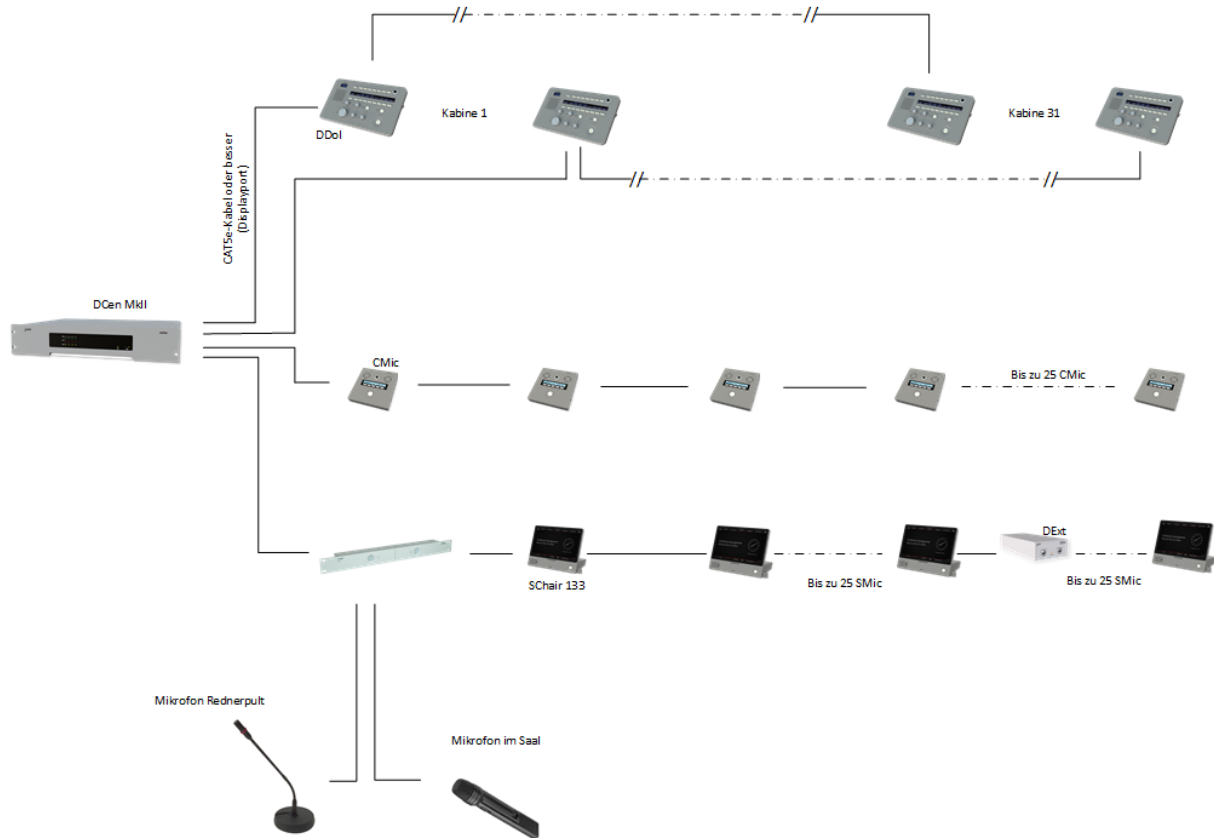

Further example system images can be found from page 20 of this manual.

Structure

To put the DCen MkII into operation, first establish a power connection. To do this, plug the power cord into the power connector and connect the DCen MkII to your power source. Also connect at least one unit of the DIGIMIC family to the DCen MkII.

At least one connection must be made between the DIGIMIC unit and the DCen MkII.
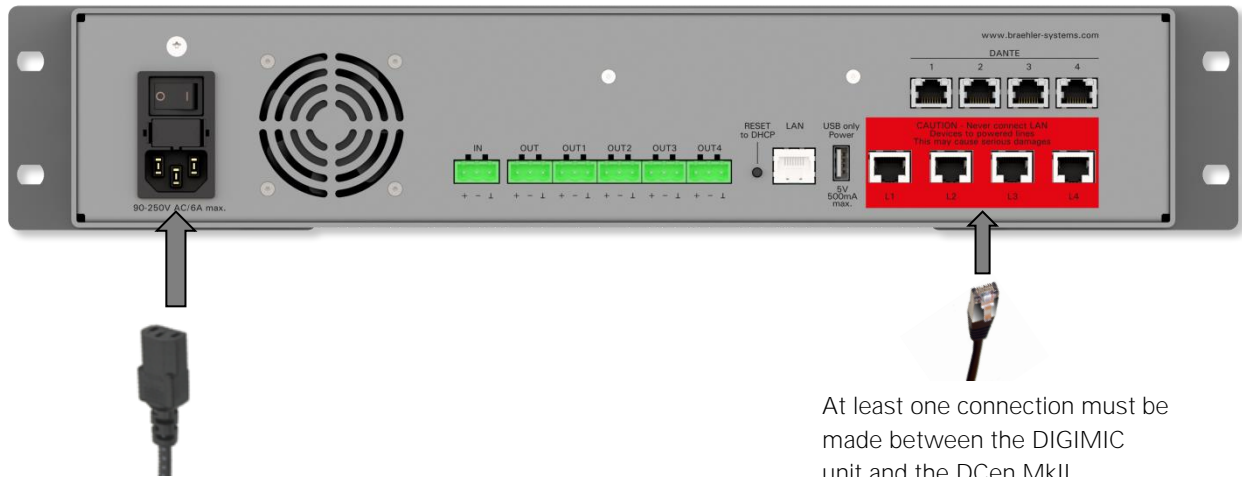
Now connect the individual elements that you need for your conference. All DIGIMIC components are connected to the central unit via the L1 - L4 sockets. Use suitable shielded CAT5e cables and RJ45 plugs.
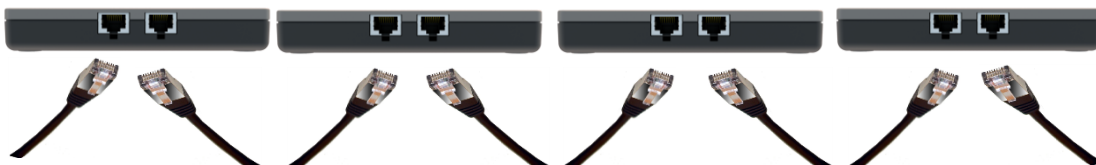
DDol interpreter consoles must not be connected in a chain with other DIGIMIC devices. The exception is the DExt auxiliary power supply.

When the DCen MkII is switched on for the first time, it starts with default factory settings (see table on page 17). The DCen MkII is therefore immediately ready for use with the most common settings. All settings made are automatically saved and recalled the next time the unit is switched on.

Operation

Press the on/off switch of the DCen MkII to switch on the central unit. The system will power up. All 4 green line LEDs should light up indicating correct voltage at the outputs. If this is not the case, turn off the DCen immediately and check the wiring for shorts. During boot-up, the 4 signal LEDs on the front panel will illuminate in sequence before extinguishing. During the boot process, the power LED oscillates slowly. After approx. 35 seconds the boot process is completed, the power LED is constantly on, if necessary the network LED indicates connection or data traffic. (see also from page 9 of this manual).

The DCen MkII is ready for immediate use in the factory settings. Individual settings can be made using the DCen ConfigTool software. All configurations are automatically saved by the DCen MkII and automatically recalled the next time it is switched on. The DCen MkII is therefore ready for use after the first configuration (in these settings) even without a computer.

Alternatively, some settings can also be made via the BrählerOS software. However, there are exceptions, such as audio routing, these settings can only be realized by means of DCenConfigTool.

Reset to DHCP

If your DCen MkII is assigned to a fixed IP address and this is not available on the network, you have the option to manually set the DCen MkII to DHCP. To do this, press and hold the "Reset to DHCP" button on the back of your DCen MkII during power up and boot. An IP address will then be assigned automatically via DHCP.

If no DHCP server is available, your DCen is automatically set to a private IP address of the form 169.254.X.Y. X and Y are derived from the serial number of your DCen MKII.

256 * X + Y = serial number of the DCen MkII

Appendix

Default factory settings

The default factory settings are as follows:

Conference parameters		
Priority	OFF (Off)	
permanently or temporarily "mute all	PERMANENT	
Max. Number of active DELegates (delegate microphones)	DEL3 (3 participants)	
Max. Number of active VIP microphones	VIP3	
Volume and conference mode		
LS volume	50%	
Conference operation AUT, AUTN, AUTF, MAN	AUT	
INTernal or EXTernal audio source	**INTERNAL**	
Network menu		
Static and dynamic address assignment (address assignment static or dynamic)	DYNAMIC	
TCP/IP address	Automatic	
Network Mask	Automatic	
Default gateway	Automatic	
SysLog Server	Automatic	
DHCP server	Automatic	
MAC Address	MAC address display	
Ethernet **line** status	Automatic entry	
Audio menu		
Audio routing (audio distribution)	DEFAULT	
Audio routing		
Default (standard)	Fix (not editable)	
Chairman (Chairman)	Fix (not editable)	
Individual Preset 1-8 (individual settings no. 1-8)	blank (editable)	

Technical data

Digital audio
- 48 kHz sampling frequency
- 20 - 20,000 Hz frequency range
- Approx. 1 ms latency
- Low sensitivity to cell phones, Bluetooth, UMTS, WiFi, etc.

Audio interfaces
- 1x OUT IN (Phoenix terminal)
- 5x OUT (OUT and OUT 1to 4) (Phoenix terminal)

Dante™ Interface
Configurable Ethernet switch for 4 Dante ports (Dante 1-4)
- 4 port network switch
- Link speed: 1 GBps
- Sample Rate: 48 kBps/24 bit
- Number of DANTE input channels: 48 (32 languages + 16 input channels (floor mix))
- Number of output channels: 64 (32 languages + 32 configurable channels)

Control
- Network connection (TCP/IP), 100 MBit

Connection of delegate units
- UNITS L1 ... L4 (CAT5e cable)
- 100 delegate units or more at four outputs or interpreter consoles at one output and delegate units at the other line outputs
- Extension of line outputs by means of DExt auxiliary power supply unit

Equipment
- Power switch
- Power supply via USB
- 4 green and 4 red LEDs for indication of operating voltage at L1 - L4
- 4 yellow LEDs for audio signal at L1 - L4
- 4 independent power supplies, 1 per output line
- 4x5 audio matrix enables individual sound distribution
- Protection against short circuit and overload on output L1 - L4
- Expandable up to 1000 microphone units

Power supply
- Mains voltage: (90 ... 250) VAC, (50 ... 60) Hz
- Power consumption: 480 W max.

Housing:
- 19'', 2 HU, aluminum, silver anodized
- WxHxD: 433 x 88 x 330 mm or 17.0 x 3.5 x 13.0 inches (without mounting bracket)
- Operating temperature: 0°C to +50°C
- Weight: 4.5 kg

Troubleshooting

Error description	Possible cause of error	Possible solution
After switching on the DCen MkII (power on), the system remains without reaction. (The green LED on the power switch does not light up).	The power cord is not or not properly connected to the appropriate power outlet. The power cord is defective. The power switch is not in its correct position.	Plug the mains cable into the mains socket or check the connection by pressing it in. Replace the power cord with a new one. Set the power switch to the "Power on" position.
One or more of the yellow AF indicators of the DCEn MkII control panel are not lit (L1...L4).	Probably no audio signal is present (no microphone active).	Check whether the speaker has activated the microphone (illuminated ring on the microphone is lit). Check the wiring of the units and the microphones.
One or more of the green voltage indicators (48 VDC) of the DCen MkII control panel are not lit (L1...L4).	One or more microphone units cause a short circuit. One or more lines of the console chains are out of order. The cable between the units and the DCen MkII is not connected correctly.	Check the corresponding line for faults in the wiring. Check the units. Remove or replace the defective unit in the corresponding line. Check the wiring. <u>**Do not**</u> attempt to correct the short circuit by turning the DCen MkII control panel off and on. Check which cable is causing the short circuit by disconnecting the 4 line connection cables. Correct the short circuit before plugging the cable back in.

brähler
SYSTEMS

## Example system diagrams (continued)

If delegates are mainly to receive audio signals without making speeches themselves, a combination with the CSX4 control center and DIGIMIC CS units is a good choice.
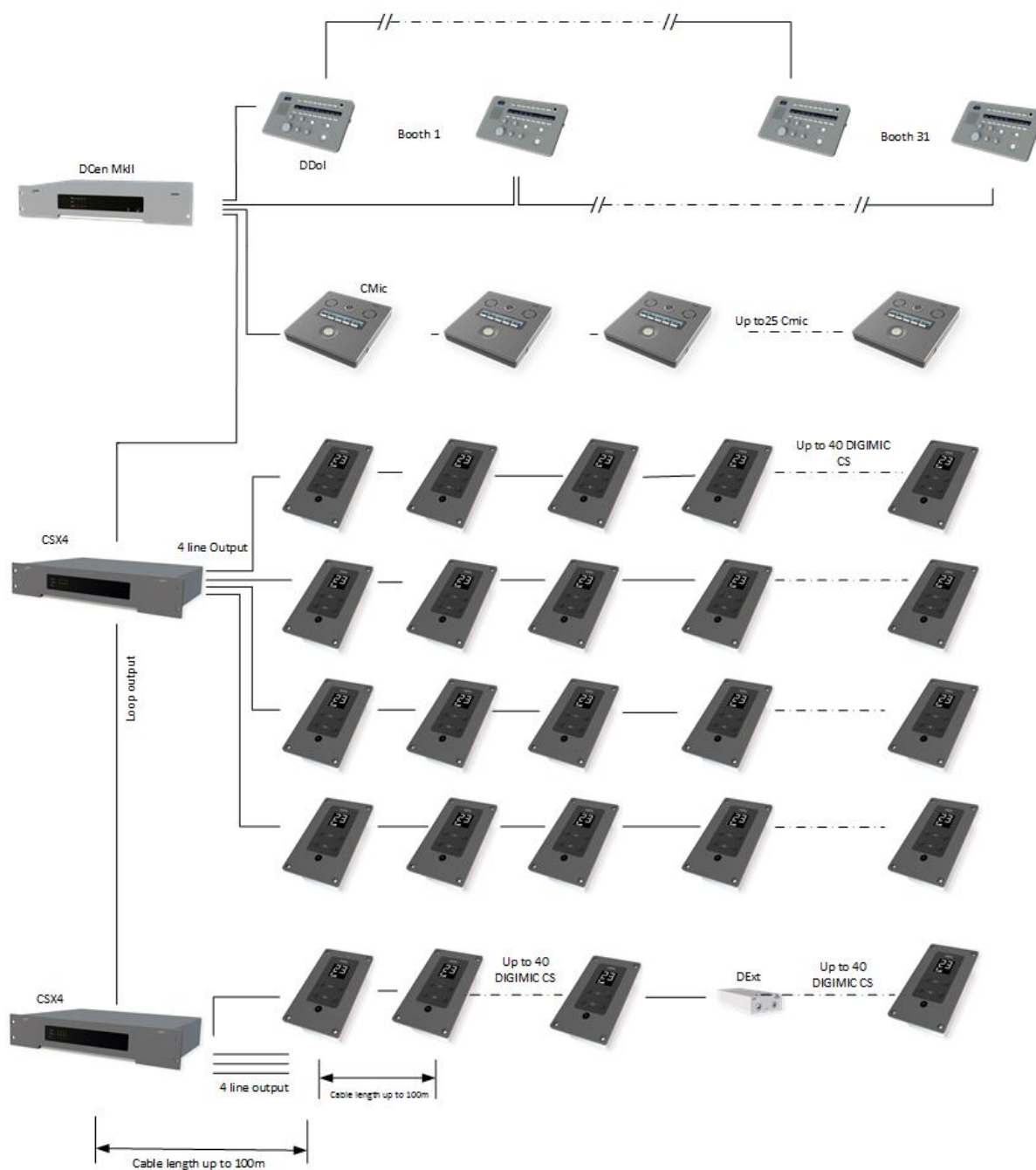
In this example, a DSwitch is integrated into the system. The DSwitch protects the DCen MkII and switches to a back-up device in the event of a fault. Each DSwitch protects up to two DCen MkII.
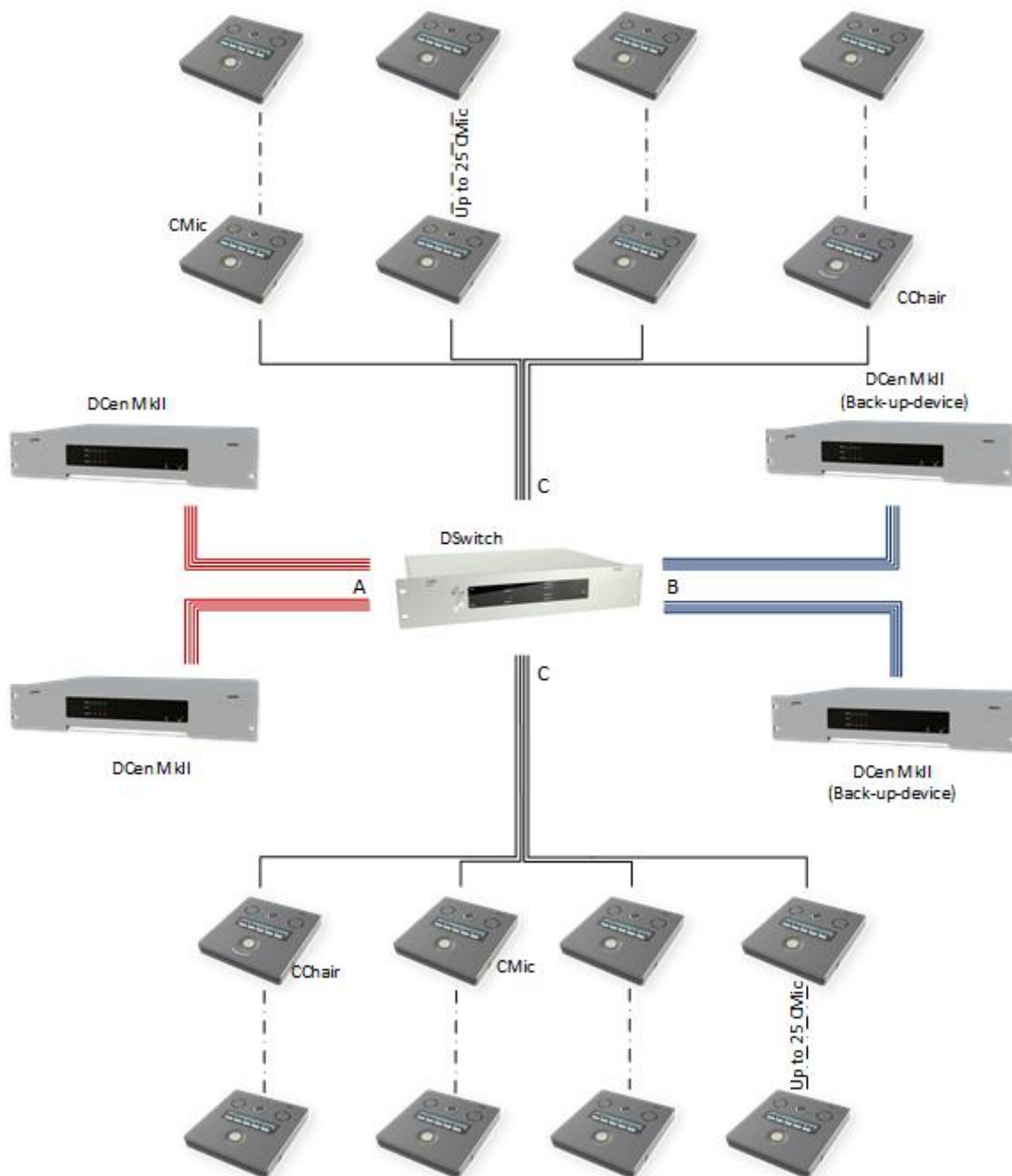
In this example, CMic VIS ID (with supporting audio functions for visually impaired conference participants) is integrated in addition to CMic ID.
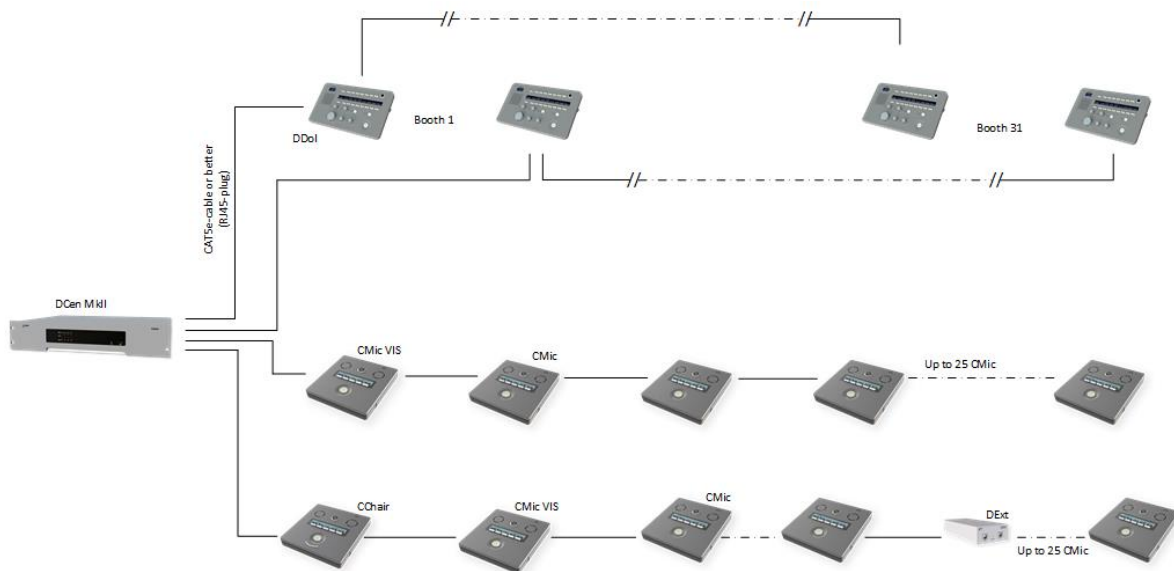
In this example, a DPU is connected in between. The DPU is an interface box that you use to connect delegate units to the Delegate App from Brähler. Almost any touchscreen monitor can be connected to the DPU; size and manufacturer can be selected according to your individual needs.
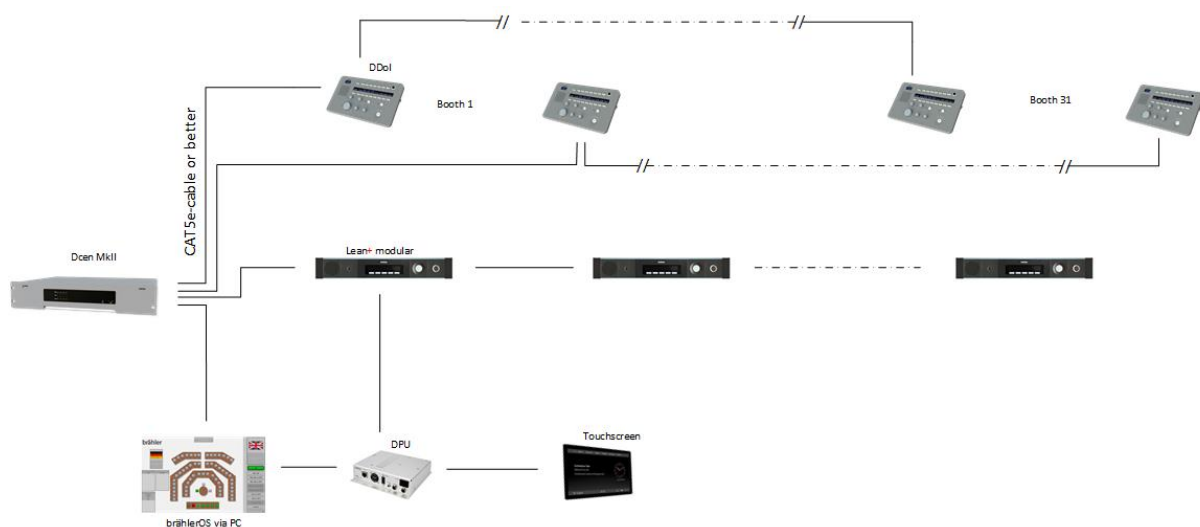
In this example application, DIGIMIC multimedia units SMic123W and SMic133D are connected to the DCen MkII. These allow, for example, viewing of documents relevant to the meeting. Votes, for example, are made via the touchscreen display.
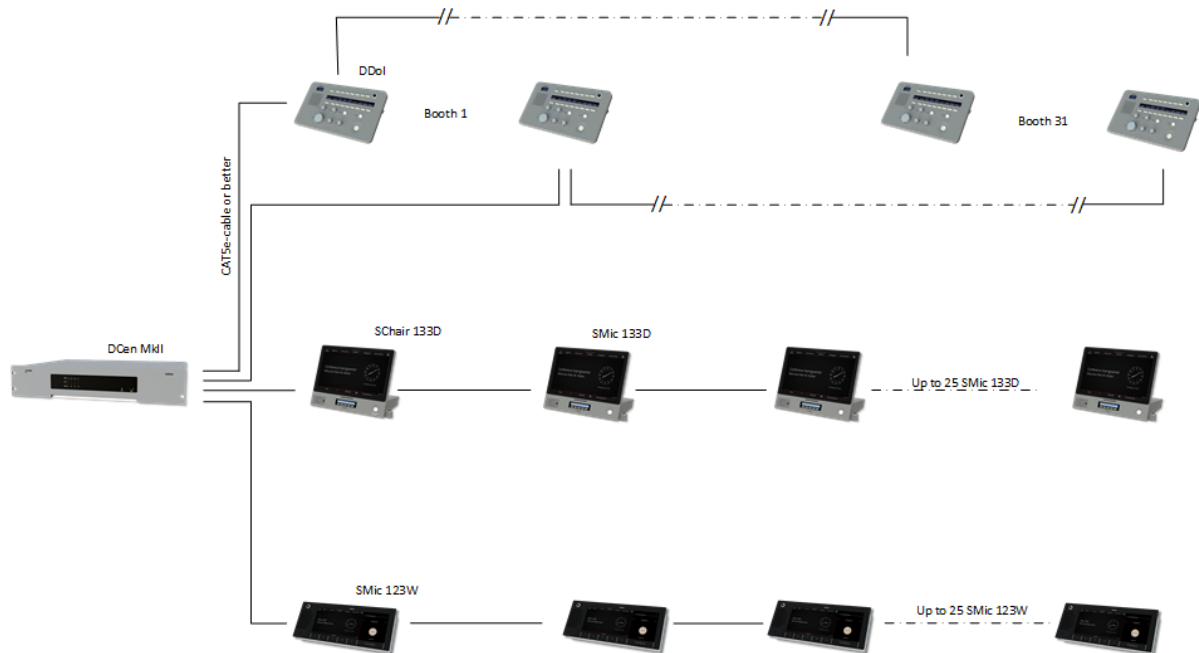
List of ISO 639-2 language codes

Abkhazian	ABK	Hungarian	HUN	Portuguese	POR
Afar	AAR	Icelandic	ICE	Punjabi	PAN
Afrikaans	AFR	Ido	IDO	Quechua	QUE
Akan	AKA	Igbo	IBO	Romanian	RUM
Albanian	ALB	Indonesian	IND	Romansh	ROH
Amharic	AMH	Interlingua	INA	Russian	RUS
Arabic	ARA	Inuktitut	IKU	Samoan	SMO
Aragonese	ARG	Inupiaq	IPK	Sango	SAG
Armenian	ARM	Irish	GLE	Sanskrit	SAN
Assamese	ASM	Italian	ITA	Sardinian	SRD
Avaric	AVA	Japanese	JPN	Scottish Gaelic	GLA
Aymara	AYM	Javanese	JAV	Serbian	SRP
Azerbaijani	AZE	Kannada	KAN	Shona	SNA
Bambara	BAM	Kanuri	KAU	Sichuan Yi	III
Bashkir	BAK	Kashmiri	KAS	Sindhi	SND
Basque	BAQ	Kazakh	KAZ	Sinhalese	SIN
Belarusian	BEL	Kikuyu	KIK	Slovak	SLO
Bengali	BEN	Kinyarwanda	KIN	Slovenian	SLV
Bislama	BIS	Kirghiz	KIR	Somali	SOM
Bosnian	BOS	Kirundi	RUN	South Ndebele	NBL
Breton	BRE	Klingon	TLH	Southern Sotho	SOT
Bulgarian	BUL	Komi	COM	Spanish	SPA
Burmese	MYA	Congo	CON	Sundanese	SUN
Cambodian	KHM	Korean	KOR	Swahili	SWA
Catalan	CAT	Kurdish	KUR	Swati	SSW
Chamorro	CHA	Kwanyama	KUA	Swedish	SWE
Chechen	CHE	Laotian	LAO	Tagalog	TGL
Chichewa	NYA	Latin	LAT	Tahitian	TAH
Chuvash	CHV	Latvian	LAV	Tajik	TGK
Cornish	COR	Limburgish	LIM	Tamil	TAM
Corsican	COS	Lingala	LIN	Tatar	TAT
Cree	CRE	Lithuanian	LIT	Telugu	TEL
Croatian	HRV	Luba-Katanga	LUB	Thai	THA
Czech	CZE	Luxembourgish	LTZ	Tibetan	TIB
Danish	DAN	Macedonian	MAC	Tigrinya	TIR
Divehi	DIV	Malagasy	MLG	Tonga	TON
Dutch	DUT	Malay	MAY	Tsonga	TSO
Dzongkha	DZO	Malayalam	MAL	Tswana	TSN
English	ENG	Maltese	MLT	Turkish	TUR
Esperanto	EPO	Mandarin	CMN	Turkmen	TUK
Estonian	EST	Manx	GLV	Twi	TWI
Ewe	EWE	Maori	MRI	Uighur	UIG
Faroese	FAO	Marathi	MAR	Ukrainian	UKR
Fijian	FIJ	Marshallese	MAH	Urdu	URD
Finnish	FIN	Mongolian	MON	Uzbek	UZB
French	FRE	Nauru	NAU	Venda	VEN
Fula	FUL	Navajo	NAV	Video	VID
Galician	GLG	Ndonga	NDO	Vietnamese	VIE
Ganda	LUG	Nepalese	NEP	Walloon	WLN
Georgian	GEO	Northern Ndebele	NDE	Welsh	WEL
German	GER	Northern Sami	SME	Western Frisian	FRY
Greek	GRE	Norwegian	NOR	Wolof	WOL
Greenlandic	KAL	Occitan	OCI	Wu Chinese	WUU
Guaraní	GRN	Ojibwa	OJI	Xhosa	XHO
Gujarati	GUJ	Oriya	ORI	Yiddish	YID
Haitian	HAT	Oromo	ORM	Yoruba	YOR
Hausa	HAU	Ossetian	OSS	Yue Chinese	YUE
Hebrew	HEB	Other	OTH	Zhuang	ZHA
Herero	HER	Pashto	PUS	Zulu	ZUL
Hindi	HIN	Persian	PER		
Hiri Motu	HMO	Polish	POL		

If you have any questions about these operating instructions, please contact:

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Note: Changes or modifications to the equipment not expressly approved by Brähler Systems could void the user's authority to operate this equipment.