PIXELab

DCS5000 Series
Digital Network Conference System

(Flush Mounted)

Discussion

Simultaneous Interpretation

Voting

DCS5000 Series
Digital Network Conference System

Discussion Simultaneous Interpretation Voting

Technical Specifications

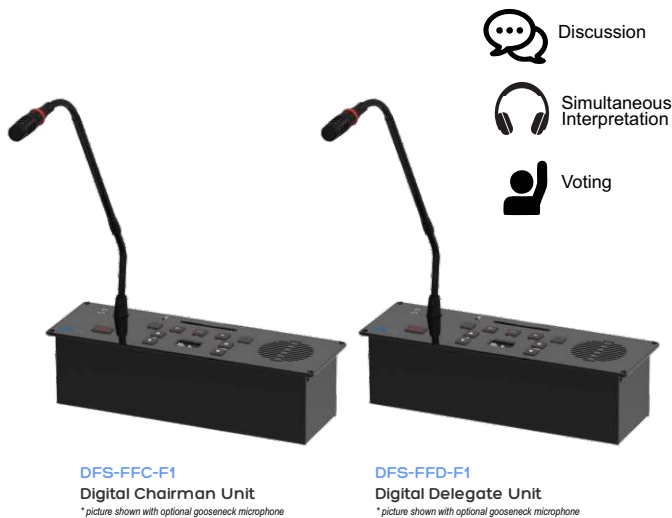|	
Frequency Response	20 Hz ~ 20 kHz (-3 dB @ nominal)
Total Harmonic Distortion (THD)	< 0.05%
Channel Crosstalk	> 85 dB
Signal to Noise Ratio (S/N)	> 96 dBA
Dynamic Range	> 94 dB
Power to Delegate Units	PoE (48 VDC), max. 150W
Interface	
Discussion Units / Expander:	2 x RJ45
RS-485 / RS-232:	9-pin D-Sub (M) external control & (F) camera control
RS-485 Keyboard:	1 x 3-pin Phoenix Screw Terminals
Ethernet:	1 x RJ45
Audio Input:	1 x RCA, 1 x XLR
Audio Output:	1 x RCA, 1 x XLR, 6 x Phoenix Screw Terminals
Digital Audio Interface :	2 x RJ45
Headphone :	1 x 3.5mm phone socket
Recording Interface :	1 x USB
Power Requirements	110~240VAC, 50/60 Hz; 12W (Idle) / 150W max.
Operating Temperature	0°C ~ 40°C;
Operating Humidity	Humidity 10~85% (Non-Condensing)
Dimensions (WxHxD)	483 x 44 x 260 mm
Weight	3 kg

DCS5064P-CC
Fully Digital Network Conference Controller with DSP

❖ Simple and intuitive function key design, self-explainatory and immediate use out of the box.

❖ AUDIO-LINK™ digital ring network technology to provide bandwidth management of 64 simultaneous audio channels in all-digital signal transmission and processing.

❖ One CAT5e network cable transmits 64 channels of audio and data control.

❖ High fidelity sound quality, lossless audio transmission technology, 48K audio sampling frequency, 20 Hz ~ 20 kHz frequency response.

❖ User selection of up to 6 simultaneous delegates (1, 2, 4, or 6 units) with various operation mode (OPEN, APPLY, FREE, OVERRIDE).

❖ Ring redundant loop network connection enables the system to operate and perform a hot-swap with automatic recovery function when there is a unit failure or a break in the line.

❖ Independent level control and 8-band equalizer for individual tone adjustment.

❖ **Built-In Audio DSP functions: Automatic Gain Control (AGC) for automatic level adjustment, Adaptive Feedback Cancellation (AFC), Acoustic Noise Cancellation (ANC) to prevent acoustic feedback and echo cancellation (EC).**

❖ Support USB interface for USB storage disk for audio recording with advanced noise elimination technology for clearer recording.

❖ Utilising the expansion unit (DCS3020-E), the conference system is able to be extended up to 5200 delegates.

❖ The unit automatically assigns each delegate unit a unique ID to eliminate ID conflicts.

❖ Supports 2 channel of additional audio inputs and 8 channel audio outputs to the room AV system, simultaneous interpretation system and other systems.

❖ Supports TCP/IP connection to the host PC for synchronous control of the system (unit ON/OFF, Priority & Level Control).

❖ RS-485 / RS-232 output to send PELCO & VISCA protocols for PTZ camera telemetric control with auto-tracking function.

❖ Supports voting function:
(i) APPROVE / OBJECT
(ii) APPROVE / ABSTAIN / OBJECT
(iii) RATING of 1 to 5
(iv) RANKING: -- / - / 0 / + / ++

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DCS5000 Series
Digital Network Conference System

(Flush Mounted)

Discussion

Simultaneous Interpretation

Voting

DFS-FFC-F1
Digital Chairman Unit (Flush Mounted)

DFS-FFD-F1
Digital Delegate Unit (Flush Mounted)

DFS-FFC-F1
Digital Chairman Unit
* picture shown with optional gooseneck microphone

DFS-FFD-F1
Digital Delegate Unit
* picture shown with optional gooseneck microphone

❖ Maximum 64 language selectable channels to be line out to the headphone outputs.

❖ Supports voting function:
   (i) FOR / OBJECT
   (ii) FOR / ABSTAIN / OBJECT
   (iii) RATING of 1 to 5
   (iv) RANKING: -- / - / 0 / + / ++

❖ Fully-digital signal transmission and processing, completely eliminating RF interference from cell phone or similar devices.

❖ The use of standard off-the-shelf UTP/STP cable coupled with RJ45 connectors makes installation & maintenance a breeze.

❖ Ring redundant loop network connection enables the system to operate and perform a hot-swap with automatic recovery function when there is a unit failure or a break in the line.

❖ Built-in high fidelity speaker unit which is automatically muted when the unit is in use to prevent acoustic feedback.

❖ Headphone output at both sides of the unit with adjustable volume knob.

❖ Line-In interface for connection to devices with audio output such as laptop or mobile phone for teleconferencing.

❖ Multiple chairman units can be set as VIP mode (up to 32 units) where every VIP unit can be simultaneously used.

❖ 16-level equaliser for individual tone control, limiter circuit to cap the output level of the unit and prevent clipping & distortion and Active Noise Control (ANC) to turn on the microphone only when in use.

❖ Automatic Gain Control (AGC) automatically adjusts the level of the unit in use for the optimum output level, Adaptive Feedback Cancellation (AFC) to prevent acoustical feedback and Auto-Mix to provide a uniform loudness for every delegate.

❖ Precision uni-directional high sensitivity condenser gooseneck microphone coupled with an acoustically transparent foam windshield to prevent noise pop.

❖ Bi-colour LED indicator ring at the gooseneck microphone and at the unit to indicate the unit status.

❖ Chairman unit (DFS-FFC-F1) comes with PRIORITY Override button to mute all delegate units.

Technical Specifications

Frequency Response	20 Hz ~ 20 kHz (-3 dB @ nominal)
Sensitivity	-46 dBV / Pa
Microphone	Cardioid Condenser 2-Section Gooseneck
Input Impedance	2 kW
Signal to Noise Ratio (S/N)	70 dB
Dynamic Range	125 dB max (THD <3%)
Power from Controller	PoE (48 VDC), max. 2W
Interface	
Connection to Controller:	2 x RJ45
Headphones:	2 x 3.5mm Stereo Headphone Jack
Audio Input:	1 x 3.5mm Stereo Input Jack
Pluggable Microphone Base:	1 x XLR (M)
Request to Talk	Push Button
Discussion Modes	FIFO, OPEN, VOICE, APPLY, APP
Headphone Output	3.5 mm stereo, 10 mW
Headphone Impedance	16W
Operating Temperature	0°C ~ 55°C;
Operating Humidity	Humidity 10 ~ 85% (Non-Condensing)
Dimensions (WxDxH)	200 x 58 x 50 mm
Weight	1.1 kg (without microphone)

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DCS5000 Series
Digital Network Conference System

Discussion

Simultaneous Interpretation

Voting

DCS5301-MC
Modular Digital Chairman Discussion Unit (Flush-Mounted)

DCS5302-MD
Modular Digital Delegate Discussion Unit (Flush-Mounted)

❖ Capacitive touch panel interface.

❖ The use of standard off-the-shelf UTP/STP cable coupled with RJ45 connectors makes installation & maintenance a breeze.

❖ Chairman Unit (DCS5301-MC) comes with Priority Override and Allow to Speak button.

❖ 3.5 mm earphone jack output.

❖ 48kHz audio sampling rate fully-digital signal transmission and processing, completely eliminating RF interference from cell phone or similar devices.

❖ Hot Plug & Play with auto-recovery function for how-swapping of faulty unit during use.

❖ Can be used independently or be connected to Voting Module, Interpretation Module and Speaker Module.

❖ Each unit is independently assigned an ID by the controller to avoid duplicate ID conflict.

❖ Ring redundant loop network connection enables the system to operate and perform a hot-swap with automatic recovery function when there is a unit failure or a break in the line.

❖ Active Noise Control (ANC) to turn on the microphone only when in use.

❖ Automatic Gain Control (AGC) automatically adjusts the level of the unit in use for the optimum output level, Adaptive Feedback Cancellation (AFC) to prevent acoustical feedback and Auto-Mix to provide a uniform loudness for every delegate.

❖ Precision uni-directional high sensitivity condenser gooseneck microphone coupled with an acoustically transparent foam windshield to prevent noise pop.

❖ Bi-colour LED indicator ring at the gooseneck microphone and at the unit to indicate the unit status.

DCS5301-MC
MOdular Digital Chairman Unit
* picture shown with optional gooseneck microphone

DCS5302-MD
Modular Digital Delegate Unit
* picture shown with optional gooseneck microphone

Technical Specifications

Frequency Response	20 Hz ~ 20 kHz (-3 dB @ nominal)
Sensitivity	-46 dBV / Pa
Microphone	Cardioid Condenser 2-Section Gooseneck
Input Impedance	2 kW
Signal to Noise Ratio (S/N)	70 dB
Dynamic Range	125 dB max (THD <3%)
Power from Controller	PoE (48 VDC), max. 2W
Interface	
Connection to Controller:	2 x RJ45
Headphones:	2 x 3.5mm Stereo Headphone Jack
Audio Input:	1 x 3.5mm Stereo Input Jack
Pluggable Microphone Base:	1 x XLR (M)
Request to Talk	Push Button
Discussion Modes	FIFO, OPEN, VOICE, APPLY, APP
Headphone Output	3.5 mm stereo, 10 mW
Headphone Impedance	16W
Operating Temperature	0°C ~ 55°C;
Operating Humidity	Humidity 10 ~ 85% (Non-Condensing)
Dimensions (WxDxH)	100 x 40 x 65 mm (without microphone)
Weight	0.6 kg (with microphone)

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DCS5000 Series
Digital Network Conference System

Discussion

Simultaneous
Interpretation

Voting

DCS5303-MS
Modular Digital Channel Selector Unit

DCS5303-MS
Modular Digital Channel Selector Unit

Features

❖ Stylish, low profile design with capacitive touch interface.

❖ 64 language channels for simultaneous interpretations, all channels with a 20Hz to 20kHz frequency response.

❖ Standard CAT5e and RJ45 connectors are used in CLEACON series to provide more convenient on projects and maintenance.

❖ Automatically adapts to available channels.

❖ Built-in "Auto Silent" function.

❖ Flush mountable in tabletops, on top or at the front, or in arm-rest of seats.

❖ Hot plug and play.

❖ The channel selector can be used independently or connected to the Voting Module DCS5304-MVID or DCS5305-MV.

Functions

❖ 64 language channels for simultaneous interpretations, all channels with a 20Hz to 20kHz frequency response.

❖ Built-in channel selecting buttons, volume adjust buttons and OLED display.

❖ The channel selectors will active only when the headphone is inserted.

❖ Upon insertion of a headphone the default 'floor' channel (channel 0) is selected with a comfortable headphone volume and the dimmed backlight is activated.

Control & Indicators

❖ Two touch-buttons (up/down) for channel selection.

❖ Two touch-buttons (up/down) for headphone volume control.

❖ OLED display for channel and volume information.

Technical Specifications

User Interface	Capacitive Touch Button
Input Impedance	2 kW
Frequency Response	20 ~ 20000 Hz
Signal to Noise Ratio (S/N)	70 dB
Power from Controller	max. 1.8W
Interface	
Main Discussion Unit:	1 x RJ11 and 3.5mm socket
Headphones:	1 x 3.5mm Stereo Headphone Socket
Connection to Voting Module:	1 x RJ11
Headphone Output	3.5 mm stereo, 10 mW
Headphone Impedance	16W
Operating Temperature	0°C ~ 55°C;
Operating Humidity	Humidity 10 ~ 85% (Non-Condensing)
Dimensions (WxDxH)	100 x 40 x 65 mm
Weight	0.2 kg

DCS5000 Series
Digital Network Conference System

Discussion

Simultaneous Interpretation

Voting

DCS5304-MVIC
Modular Digital Voting Unit with IC Reader

DCS5304-MVIC
Modular Digital Voting Unit with IC Reader

DCS5305-MV
Modular Digital Voting Unit

DCS5305-MV
Modular Digital Voting Unit

Features

❖ Flush Mounted low profile design with capacitive touch interface.

❖ Maximum system capacity: 3000 voting units.

❖ 5 voting keys.

❖ Built-in contactless IC Card reader (DCS5304-MVIC).

❖ Flush mountable in tabletops, on top or at the front, or in arm-rest of seats.

❖ Hot plug and play.

Technical Specifications

User Interface	Capacitive Touch Button
Power from Controller	max. 1.8W
Interface Main Discussion Unit:	1 x RJ11
Operating Temperature	0°C ~ 55°C;
Operating Humidity	Humidity 10 ~ 85% (Non-Condensing)
Dimensions (WxDxH)	100 x 40 x 65 mm
Weight	0.2 kg

Functions

❖ 5 voting buttons with the red back-light confirmation indicators to prompt the users to indicate presence, to vote and to confirm registration of what is voted. The buttons and indicators work as follows:

- Yes (+), no (-) and abstain(x) (For/against, parliamentary voting).

- Numerals 1 to 5 (Used for multiple choice, option polls and rating).

- Rating scale: --, -,0, +, ++ (used for audience response).

❖ Use of PC software to support more voting form.

❖ Max. system capacity:3000 voting units.

❖ Built-in contactless IC card reader.

❖ Key-press sign-in.

❖ Automatic detection.

DCS5306-MS
Modular Speaker Unit

Technical Specifications

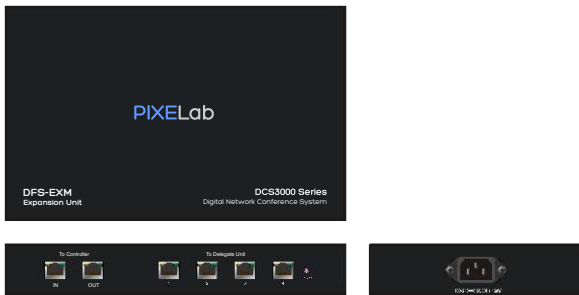| Speaker Impedance	16W
Speaker Power	max. 3W
Interface Main Discussion Unit:	1 x 3.5mm stereo jack
Operating Temperature	0°C ~ 55°C;
Operating Humidity	Humidity 10 ~ 85% (Non-Condensing)
Dimensions (WxDxH)	100 x 40 x 30 mm
Weight	0.2 kg

Control & Indicators

❖ Five touch-buttons for voting.

❖ One LED sign-in indicator.

❖ One IC card reader slot (DCS5304-MVIC).

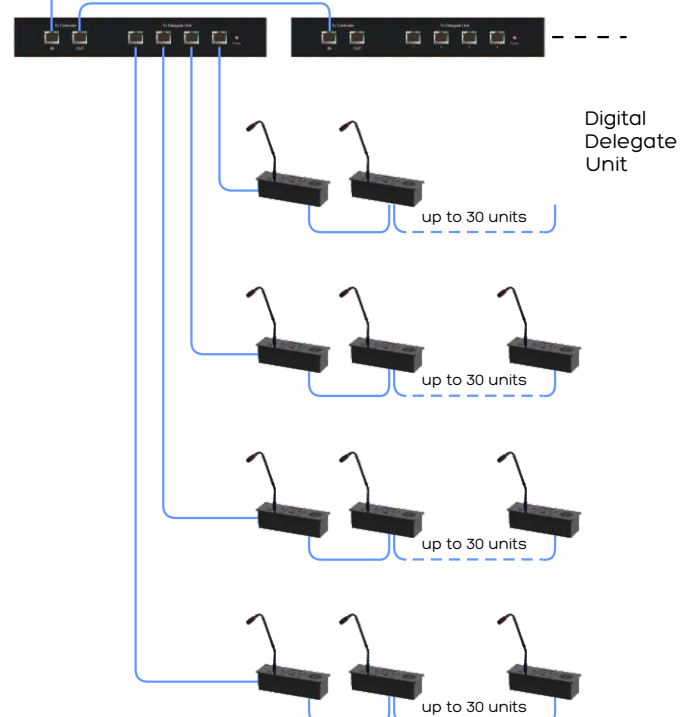## DCS5000 Series
Digital Network Conference System

DFS-EXM
Expansion Unit

❖ Connects to the Conference Controller to expand the system up to 5200 delegate units.

❖ Each Expansion Unit has 4 ports that supports up to 30 delegates per port (depending on cable distance).

❖ AUDIO-LINK^{TM} digital ring network technology to realize all-digital signal transmission and processing.

❖ One CAT5e network cable transmits 64 channels of audio and data control.

❖ The use of standard off-the-shelf UTP/STP cable coupled with RJ45 connectors makes installation & maintenance a breeze.

❖ Loop out RJ45 connection to the next expansion unit.

❖ Self Powered unit from AC mains power supply and supply to all delegate units connected to it.

❖ Noiseless fan-free operation.

Technical Specifications

Connection to Controller	1 x RJ45
Connection to Next Expansion	1 x RJ45
Connection to Delegate Unit	4 x RJ45
Max. Nos. of Delegate Unit	120 delegates
Max. Nos. of Delegate per port	30 delegates
Power Requirements	110 ~ 240 VAC, 150W
Operating Temperature	0°C ~ 55°C;
Operating Humidity	Humidity 10 ~ 85% (Non-Condensing)
Dimensions (WxHxD)	223 x 92 x 37 mm
Weight	0.5 kg

Length of Extension Cable from Controller to Expansion Unit	Number of Delegates				
	Port 1	Port 2	Port 3	Port 4	Total
5 m	30	30	30	30	120
10 m	28	28	28	28	112
20 m	24	24	24	24	96
50 m	20	20	20	20	80
100 m	10	10	10	10	40

Conference Controller

Expansion Unit

Digital Delegate Unit
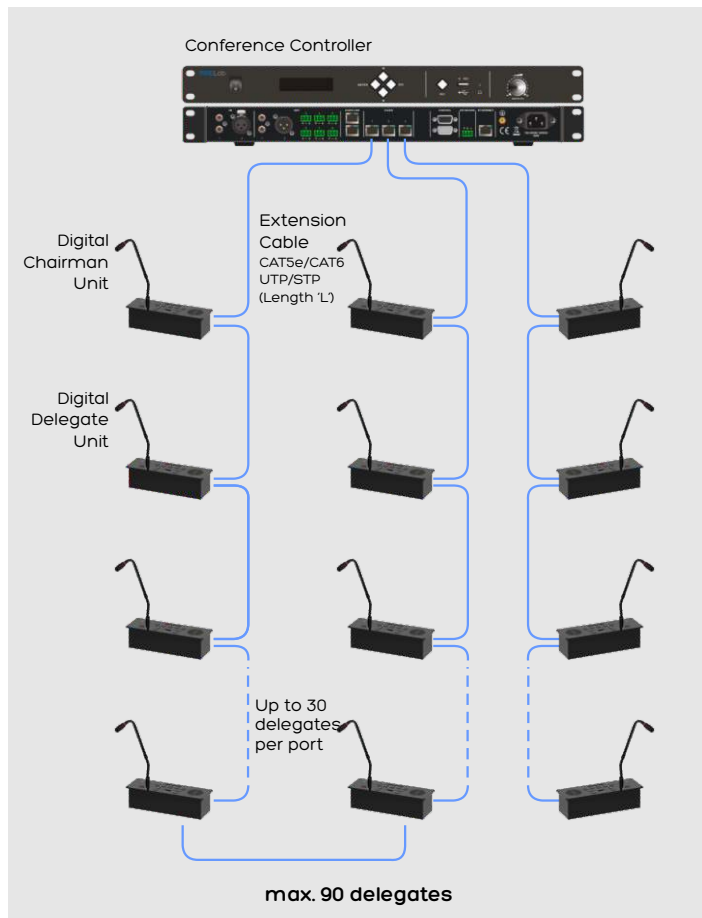
up to 30 units

up to 30 units

up to 30 units

up to 30 units

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DCS5000 Series
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Typical Application

Scenario A - PORT 1 & 2 forms Redundant Loop

Conference Controller

Digital
Chairman
Unit

Extension
Cable
CAT5e/CAT6
UTP/STP
(Length 'L')

Digital
Delegate
Unit

Up to 30
delegates
per port

max. 90 delegates

**Maximum Delegates
per CU/DU Port**

L = 5m : max. 30 per port
L = 10m : max. 28 per port
L = 20m : max. 24 per port
L = 50m : max. 20 per port
L = 100m : max. 20 per port

Scenario B - PORT 2 & 3 forms Redundant Loop
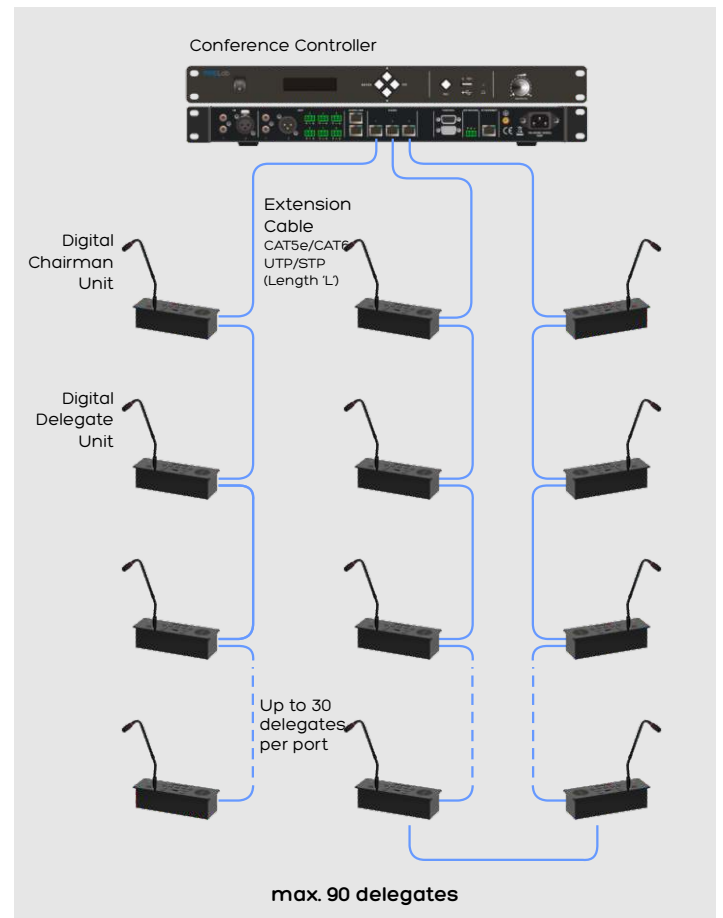
Conference Controller

Digital
Chairman
Unit

Extension
Cable
CAT5e/CAT6
UTP/STP
(Length 'L')

Digital
Delegate
Unit

Up to 30
delegates
per port

max. 90 delegates

**Maximum Delegates
per CU/DU Port**

L = 5m : max. 30 per port
L = 10m : max. 28 per port
L = 20m : max. 24 per port
L = 50m : max. 20 per port
L = 100m : max. 20 per port

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DCS5000 Series
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Typical Application

Audio Mixer Amplifier

Video Conferencing Terminal

4K PTZ Camera

4K Multimedia Display Unit

Conference Controller

Conference Management Software

Extension Cable
CAT5e/CAT6
UTP/STP
(Length 'L')

Digital Delegate Unit

Loop Cable
CAT5e/CAT6
UTP/STP

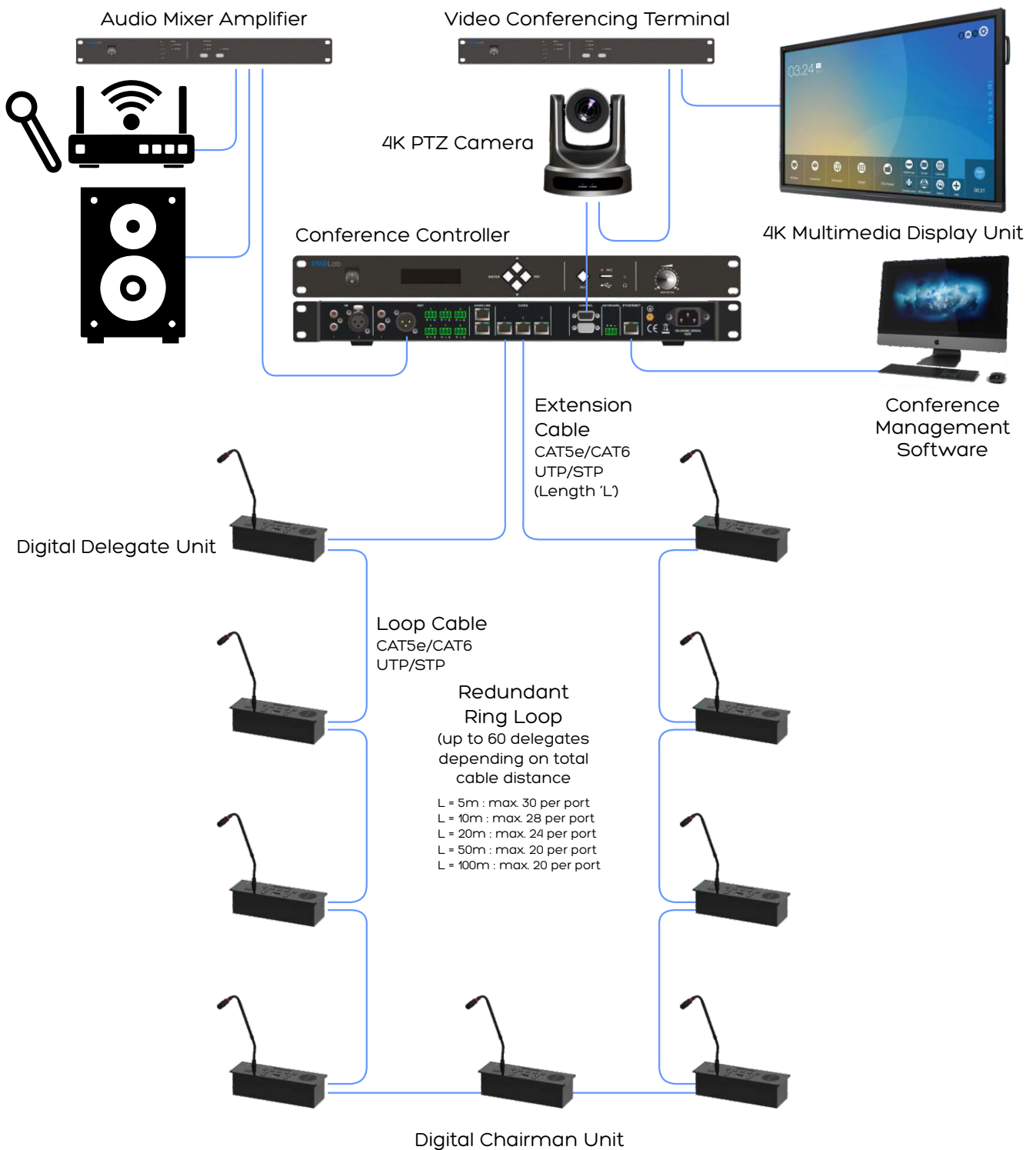Redundant Ring Loop
(up to 60 delegates depending on total cable distance

L = 5m : max. 30 per port
L = 10m : max. 28 per port
L = 20m : max. 24 per port
L = 50m : max. 20 per port
L = 100m : max. 20 per port

Digital Chairman Unit

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Typical Application

Scenario C - Using the Expansion Unit to Increase the delegate units › 90

Conference Controller

Expansion Unit

Expansion Unit

Expansion Unit

Extension
Cable
CAT5e/CAT6
UTP/STP
(Length 'L')

up to 30 units

up to 30 units

up to 30 units

up to 30 units

up to 30 units

up to 30 units

up to 30 units

up to 30 units

Up to 30
delegates
per port

up to 30 units

up to 30 units

max. 30 delegates

max. 120 delegates

max. 120 delegates