EMPERTECH™

DULCET SERIES INTELLIGENT CONFERENCE SYSTEM

Assurance of Reliability ■
Easy-to-use ■

EMPERTECH™

EMPERTECH, a brand owned by Honeywell Audiovisuals, is committed to provide customers around the globe with reliable, user-friendly, and cost competitive audio management solutions that are in accordance with international standards.

Intelligent and Excellent

Composed of central control unit, expansion host, chairman unit, delegate unit and automatic camera tracking components, Dulcet series intelligent conference system is designed on the basis of ergonomics and simulation operation. The newly developed system inherits both the reliability and elegance of the EMPERTECH brand.

Recent trend of diversified meeting requires both multimedia and intelligence in real applications. Therefore, integration with 3rd party devices and central control systems becomes the focus of most users. EMPERTECH Dulcet conference system provides standard interfaces facilitating a flexible system building and a much user friendly central management. Since the quality of audio transmission still determines the overall meeting effect, Dulcet conference system adopts the advanced DSP technology to restrain squeal, ensuring a high speech quality and clarity. In addition, the elegant design that can blend into the interior of any premises creates a unique user experience. EMPERTECH Dulcet intelligent conference system is dedicated to providing an unparalleled conference audio solution in your best interest.
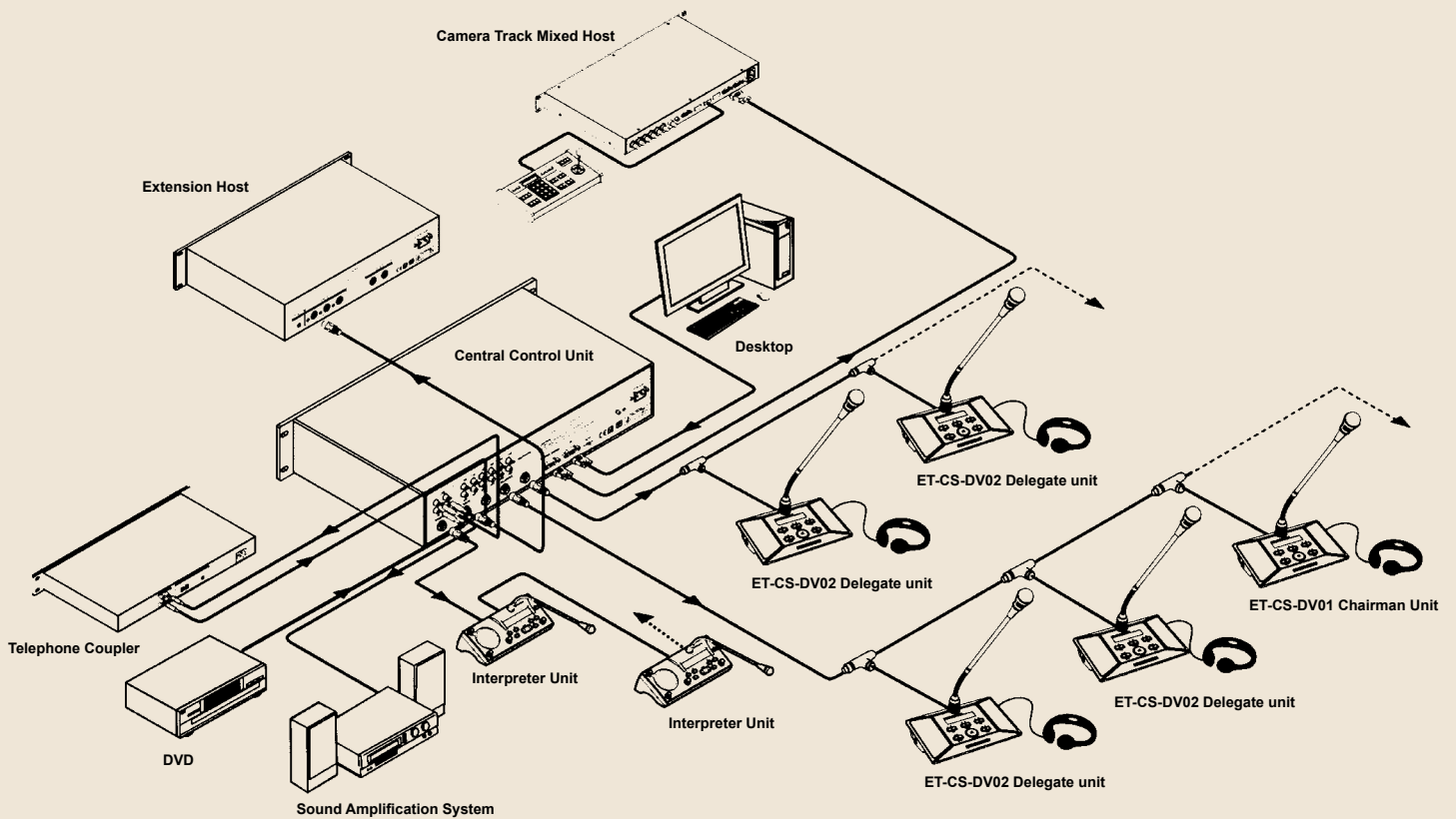
EMPERTECH Dulcet conference system makes your investment worthwhile!

- Efficiency and functional reliability
- Easy installation and operation
- Unrestricted and unlimited expansion
- Ability to restrain squeal

Dulcet Conference System Connection Diagram

Camera Track Mixed Host

Extension Host

Central Control Unit

Desktop

ET-CS-DV02 Delegate unit

ET-CS-DV02 Delegate unit

ET-CS-DV01 Chairman Unit

ET-CS-DV02 Delegate unit

Telephone Coupler

Interpreter Unit

Interpreter Unit

ET-CS-DV02 Delegate unit

DVD

Sound Amplification System

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Central Control Unit : ET-CS-M128

The Central Control Unit is the core of the whole conference system. ET-CS-M128 provides excellent control for all the conference units, in which every function of the conference unit can be set. The running status is visually shown by the LED light on the control panel. To meet the requirement of large projects, the number of the conference units can be increased by adding extending host. A "T" type connection between the extending host and the conference unit makes it easy for both installation and maintenance.

- The central control unit is for connecting up to 128 conference units. With extension host, a set of conference system can connect up to 4098 conference units.
- Using a dedicated 8-pin high-density aviation port to avoid poor connection. Able to shield any signal interference.
- "Hand-by-hand" connecting mode.
- Audio input interface.
- Multiple acoustic channels output.
- Limitation of speaker number: number of speaking units 1/2/4/6 adjustable, chairman units is not limited.
- Applicable for multiple conference modes of FIFO, NORMAL, FREE APPLY.
- Support camera auto-tracking.
- Realize remote phone meeting with telephone coupler.
- Enabling attendance, voting and data management function.
- Easy to be installed in a standard 19'' rack.

Specifications

Power Supply	100V / 240V
Power Consumption	10 W
Max. Power	350 W
Output Power	≤110 W/24 V per circuit
Audio Output	Impedance: 100Ω Mode: unbalance
Microphone Input	Impedance: 100k Ω
	Level: -60 dB
	Mode: non-balance
Frequency Response	60~8k Hz
S/N ratio	> 80 dB
Total Harmonic distortion	< 0.5 %
Distortion	<1 %
Crosstalk attenuation(1kHz)	>50 dB
Weight	6.5 kg
Size	483mm(L) x 275mm(W) x 88mm(H)
Color	Black

Extension Host:
ET-CS-EH

Specifications	
Power Supply	110V / 220V
Static Power Consumption	10 W
Max Power	350 W
Output Power	≤110 W/24V each channel
Audio Output	Impedance: 100 Ω Method: unbalanced
Microphone Input	Impedance: 100k Ω
	Level: -60 dB
	Method: unbalance
Frequency Response	60~8k Hz
S/N Ratio	>80 dB
Total Distortion	< 0.5 %
Off-carrier Distortion	<1 %
Crosstalk Attenuation(1kHz)	>50 dB
Weight	6 kg
Size	483mm(L) x 275mm(W) x 88mm(H)
Color	Black

- Using a dedicated 8-pin high-density aviation port to avoid poor connection. Able to shield any signal interference.
- Increase the number of speaking units by connecting extension host with central control unit.
- In compliance with security standards by passing the high voltage(3500V) test.
- Made of metal to resist 8000V static electricity
- Easy to be installed in a standard 19'' rack

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Chairman Unit / Delegate Unit:
ET-CS-D01/02

- Using a dedicated 8-pin high-density aviation port to avoid poor connection. Able to shield any signal interference.
- Cardioid directional capacitive pickup, with two-color indicator light—red when speaking while green suggesting speaking application.
- 2-meter connecting cable attached.
- Screw type microphone stem delivering excellent sound effect including good clarity, reproduction, high fidelity and other advantages.
- An inner magnetic speaker, headphone jack and volume control knob.
- Units of passive devices, power supplied by the host system , input voltage of 24V.
- Ability to restrain squeal. When the microphone is on, the speakers automatically turn off to prevent feedback signal.

Specifications:

Power Supply	DC24 V(power supplied by the host system)
Unit Intercommunication	8-pins high-density air connector
Power Consumption	3 W
Headphone Output	9dBu, 8~32 Ω, 3.5 mm mini-jack
Amplifier Power	≤ 2 W
Soniferous Type	Cordiform capacitor
Directivity	Heart-shaped
S/N Ratio	> 80 dB
Crosstalk Attenuation	> 80 dB
Distortion	< 0.10 %
Frequency response	60~12k Hz
Equivalent noise	≈20 dB SPL
Maximum SPL	105 dB (3% threshold)
Sensitivity	22 dB v/Pa
Weight	1.45 kg
Size	247mm(L) x 155mm(W) x 60mm(H)
Color	Black

Chairman Unit / Delegate Unit with
Voting Function: ET-CS-DV01/02

- Combination of the speaking, voting and attendance recording function.
- Using a dedicated 8-pin high-density aviation port to avoid poor connection. Able to shield any signal interference.
- Cardioid directional capacitive pickup, with two-color indicator light—red when speaking while green suggesting speaking application.
- 2-meter connecting cable attached.
- Screw type microphone stem delivering excellent sound effect including good clarity, reproduction, high fidelity and other advantages.
- An inner magnetic speaker, headphone jack and volume control knob.
- The chairman unit has the function to approve speaking application from delegate unit.
- The chairman unit will not be restricted by the number of the speaking units.
- The chairman unit has the priority to fully control the speaker order.
- The position of chairman unit will not be restricted.
- Units of passive devices, power supplied by the host system, input voltage of 24V.
- Ability to restrain squeal. When the microphone is on, the speakers automatically turn off to prevent feedback signal.
- "Hand-by-hand" or "T-type" connecting mode.

Specifications

Power Supply	DC24V(power supplied by the host system)
Unit Interface	8-pin high-density aviation connector
Power Consumption	3 W
Earphone Output	9dBu, 8~32Ω, 3.5mm mini jack
Amplifier Power	≤ 2 W
Soniferous Type	Cordiform capacitor
Directivity	Heart-shaped
S/N Ratio	> 80 dB
Crosstalk Attenuation	> 80 dB
Distortion	< 0.10 %
Frequency Response	60~12 kHz
Equivalent Noise	≈20dB SPL
SPL Maximum SPL	105dB (3% threshold)
Sensitivity	22dBv/Pa
Weight	1.45 kg
Size	247mm(L) x 155mm(W) x 60mm(H)
Color	Black

Camera Track Mixed Host: ET-CS-TMH01

- 6-channel video signal input, RCA, BNC, VGA3 video signal output
- Built-in scaler, enabling transformation from VIDEO signal into VGA output with 3 resolution setting -- 800x600, 1024x768, 1280x1024
- LCD screen presenting the current status and parameters.
- Ability to set the camera ID controlled by every channel through the button on the front panel

Specifications	
Gain	0 dB
Bandwidth	150MHz (-3 dB),full load
	0 -10 MHz:≤ +/- 0.1 dB
	0 -30 MHz:≤ +/- 0.5 dB
Crosstalk by single channel to multiple channel	-50 dB @ 5 MHz, -45 dB @ 10 MHz
Differential Phase I/0S	<1.28°，3.58 MHz
Differential Phase Error	0.1 %, 3.58 - 4.43 MHz
Differential Gain Error	0.1° , 3.58 - 4.43 MHz
Maximum Transmission Delay	5nS(±1nS)
Switching Speed	200 ns(max)
Signal Type	Mixed video signal
Interface	6 channel BNC female interface
Minimum/Maximum Level	Analog signal: 0.5 V ～ 2.0 V p-p
Impedance	75 Ω
Consumption of Echo Resistance	-30 dB @ 5MHz
Synchronous Gunlock	0.3V ~ 0.4Vp-p
Maximum DC Bias Error	15 mV
Interface	One BNV interface; One RCA interface
Minimum/Maximum level	Analog signal: 0.5V ～ 2.0 V p-p
Impedance	75 Ω
Consumption of Echo Resistance	-30 dB @5 MHz
DC Bias	Max. ±5 mV
Switching Type	Vertical
Interface	15-pin HD interface
Minimum/Maximum Level	2.0 V p-p
Impedance	75 Ω
Consumption of Echo Resistance	<-40 dB @ 5 MHz
DC Bias	Max. ±5 mV
Synchronous Signal	
Input / Output Type	NTSC 3.58，NTSC4.43，PAL，SECAM
Serial Control Interface	RS-232, 9-pin D type interface
Baud Rate and Protocol	Baud rate：9600, Data bits：8 bits，Stop bits：1, no parity
Power Setting	100VAC ～ 240VAC, 50/60 Hz,
Temperature	Temperature for storage and use: -20° ～ +70° C
Humidity	Humidity for storage and use:10% ～ 90%
Size of the Cabinet	485(L) × 245(W) × 45mm(H)
Weight	1.5 Kg

High-Speed Ceiling Camera
ET-CS-CV01 / ET-CS-WV01

Dulcet conference system comes with two types of high-speed camera, which are wall mount and ceiling mount. User can choose either one of them according to the actual requirement. The wall mount camera can be directly fixed into the wall by screws, while ceiling camera can be easily attached on the ceiling. The two cameras are different in shape but same in functions. They can be applied to almost all applications.

ET-CS –CV01

Ceiling Camera

■ Designed by the full-featured, high-performance digital DSP, assuring stable capability.
■ Data of internal set, will not be lost after power off.
■ All-in-one integrated design, compact structure, high reliability.
■ 64 preset bit, assured random storage and accurate positioning.
■ Automatic cruise monitoring.
■ RS-485 bus control.
■ Using DC motor, stable operating with low speed.
■ Driven by Precision motor, smooth and responsive.

Specifications	
Photo Sensor	Colorful CCD
Effective Pixels	752H×582V（440000pixels） PAL
Synchronous System	internal synchrony
Video Output	Composite signal1.0Vp-p/75Ω
White Balance	Automatic/Manual
Power Setting	AC 24 V±10% 1.25 A
Power Consumption	30 VA
Weight	4 Kg
Installation Method	Indoor wall mount and ceiling mount
Relative Humidity	10-75 %（no cohesion）
Operation Temperature	0°C~40°C（normal range）
Scanner System	15.625 kHz(H) 50 Hz(V)
Camera Specs	
Resolution Level	480
Signal to Noise Ratio	>48 dB
Electronic Shutter	1/3 ~ 1/10000second
Illumination	0.01 ~ 1Lux(F1.6)
Lens Specs	
Zoom Range	18x optical zoom 12 times digital zoom
Aperture	Automatic/Manual
Zoom	Automatic/Manual
Basic Function	
Plane Rotation	0 ~ 300° /s
Vertical Rotation	0 ~ 60° /s
Preset	At most 128
Patrol Function	Store up to 6 cruise tracks
Line Scan Speed	0.5 ~ 30° /s
Trajectory Self-learning	40 s

ET-CS-WV01

High-speed Wall Mount Camera

■ 360° Continuous rotation without blind spot.
■ Rotation speed automatically adjusted according to the lens conversion factor.
■ 180 °automatically reverse in vertical direction to achieve continuous monitoring.
■ Auto iris, auto focus and auto white balance.
■ Backlight compensation function, objects visible even in the background with strong light source.
■ Night vision, it can automatically convert CCD illumination according to the ambient light changes.

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Headphone
ET-CS-HE01

- Used for units monitoring in simultaneous interpretation conference.
- Used with conference system to avoid the influence from others.
- 1.5m cable attached.
- Hi-Fi quality.

Specifications	
Unit Interface	3.5 mm Double-channel plug
Frequency Response	80 Hz – 2k Hz
Sensitivity	90 dB
Signal to Noise Ratio	> 80 dB
Distortion	< 0.1 dB
Impedance	32 Ω
Dynamic Range	> 85 dB
Output Power	100mW

Extension Power
ET-CS-EP01

- Used for power extension for speaking units and interpreter units , serving as a relay when insufficient power supply from the mainframe.
- 1 channel of power input, AC100□240, 50/60Hz.
- 1 channel of input UNIT.
- 4 channels of output UNIT connecting to speaking unit or interpreter unit.

Installing Cable and Connector

Extension Cable
ET-CS-EC2/5/10/20/50/100

- Used for extending connection between the central control unit and the extending host or conference units.
- 6 types: 2/5/10/20/50/100 meters.
- 8-pin cable with 1 male and 1 female connectors.
- Transmission distances up to 1000 meters.

T-Shape Aviation Conference Discussion Cable
ET-CS-TEC2/5

- Used for branch connection among the conference units.
- Available with 2 and5 meters.
- 8-pin cable with 1 male and 1 female connectors.

Gooseneck Microphone Stem
ET-CS-GMS

- Cardioid directional capacitive microphone.
- 5-pin high-density aviation port.
- Stem up to 415 mm.
- Power-on indicator.
- Speaking application indicator.

T-Shape Interface
ET-CS-TI

- Used for branch connection among the conference units.
- 1 female 8-pin high-density aviation port and 2 male 8-pin high-density aviation ports.

Board Receptacle
ET-CS-BR

- 1 channel of input UNIT.
- 2 channels of output: UNIT A and UNIT B connecting speaking units.
- Designed for desk and wall mounting.

Pop-up Ground Receptacle
ET-CS-GR

- 1 channel of input UNIT.
- 2 channels of output: UNIT A and UNIT B connecting speaking units.
- 1 universal power port.
- Designed for desk and ground mounting.

8-Pin Aviation Interface
ET-CS-AI8

- One male and one female, screw-type, allow welding by contractor.

E Installation

A Info Reading

S Access & Control

Y Maintenance

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