User's Manual of

DULCET Series Intelligent Conference System

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Caution：

This Manual is used for user operation guide only, rather than the purpose of maintenance service. Since the date of release, should there is any function or parameter alteration, additional instruction will be provided. For details, please refer to device manufacturer.

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⚠ Safety Operation Guide

To ensure reliable use of the device and the safety of staff, please comply with the following instructions:

① When installing the device, please be sure that earth wire is well-grounded. DO NOT use two-core plug. And please ensure the voltage of input power is the same as the stated voltage in the main frame.

② With AC 100V to 240V high-voltage components, please DO NOT open the case on your own, for avoiding electric shock.

③ DO NOT place the device at the place over cold or over hot.

④ Good environmental ventilation must be maintained when the device power is working, for avoiding damage by overheating.

⑤ Under rainy or humid weather, or when it is not used for a long term, please shut down the main switch of the device.

⑥ Before the following operation, be sure to plug off the power cable from AC power supply:
Take off or reinstall any component of the device.
Break off or reconnect any electric plug or other connection to the device.

⑦ Without permit from the professional, please DO NOT try to dismantle the case of device. DO NOT try to fix it on your own, for avoiding any accidence or making it damaged more seriously.

⑧ Do not spray any corrosive chemical power or liquid on or around the device.。

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1 Introduction

Product Profile

◆ ET-CS-M128 The central control unit

◆ The extended main host

ET-CS-M128 The central control unit

Front Panel Instruction
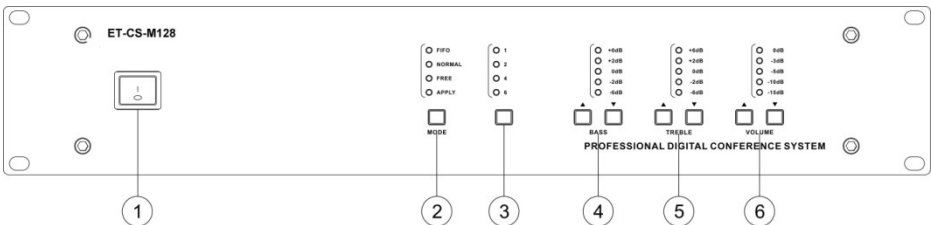
① Power switch

② MODE ——Analogue setting

◆ FIFO mode, when a certain number of machines are on, the earliest initiated speech unit will be shut down by the latter one.

◆ NORMAL mode, when a certain number of machines are on, a new delegate with speech request will be automatically added into the speech line.

◆ FREE mode, allowing 20 delegate speech units are on simultaneously , unlimited by the number of mainframe speakers. A new delegate with speech request will be automatically added into the speech line.

◆ APPLY mode, delegate unit must be authorized by chairman unit or operator before delivering a speech.

③ Number of speakers limit, adjustable for 1/2/4/6 sets of delegate speech unit simultaneously.

④ BASS ——Output bass volume adjustment.

⑤ TREBLE ——Output treble volume adjustment.

⑥ VOLUME ——Output volume adjustment.

Rear Panel Instruction
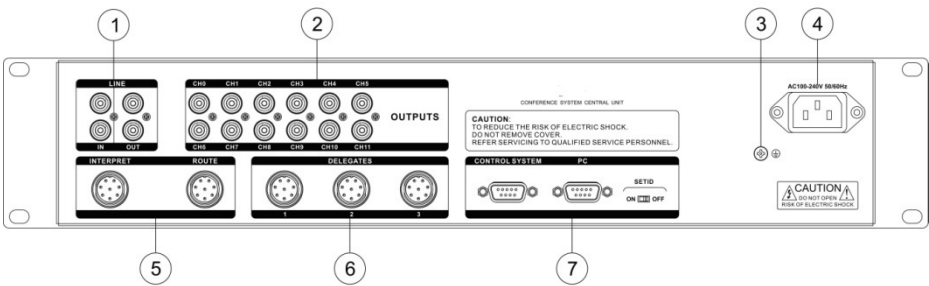
① IN ——Audio line input, such as background music or output terminal of remote telephone conference.

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OUT ——Connect to amplifying system or recording device, including conference audio and audio line input.

② OUTPUTS ——11+1 channels audio output, connecting to infrared transmitting main frame.

③ Grounding pole

④ Power input, support AC100V~240V 50/60Hz input

⑤ INTERPRET ——Connect to interpreter machines up to 36 units, realizing 11+1 languages simultaneous interpretation, with hand-in-hand series connection among interpreter machines.

ROUTE ——Connect to extension main frame, with multiple main frames in hand-in-hand series connection.

⑥ DELEGATES ——Connect to speech unit.

⑦ CONTROL SYSTEM ——Connect to the main frame of central control system or camera tracing main frame, realizing the function of automatic camera tracing.

PC ——Connect to serial port at PC, realizing software conference management function.

SET ID ——Conference unit ID switch

Functions and Features

◆ The central control unit is for connecting up to 128 conference units. With extended main host, a set of conference system can connect up to 4098 sets of conference unit;

◆ For connecting up to 36 interpreter units, realizing 11+1 languages simultaneous interpretation；

◆ Adopt dedicated 8-core aviation Interface；

◆ Hand-in-hand series connection mode；

◆ With audio input port；

◆ With multiple acoustic channels output；

◆ Speakers number limit: number of speech units 1/2/4/6 adjustable, chairman units are not limited；

◆ Support multiple conference modes of FIFO, NORMAL, FREE and APPLY；

◆ Support automatic camera tracing function；

◆ Along with phone coupling devices, you may hold remote telephone conference ；

◆ Support sign-in, voting and data management function；

◆ Main frame is for installed onto a 19-inch standard cabinet.

NOTICE

1，CONTROL SYSTEM COM Pin Functions Description：
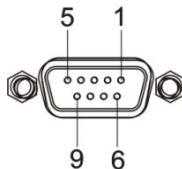
	Pin	Signal	Description
	1	—	—

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Control System	2	—	—
	3	TXD	Transmit data
	4	—	—
	5	GND	Signal ground
	6	—	—
	7	—	—
	8	—	—

2，PC COM Pin Function Description：
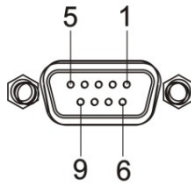
	Pin	Signal	Description
PC	1	—	—
	2	TXD	Transmit data
	3	RXD	Receive data
	4	—	—
	5	GND	Signal ground
	6	—	—
	7	—	—
	8	—	—

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ET-CS-EMH01 Extended main host

Front Panel Instruction

① POWER ——Power switch

② ACTIVE ——Working indicator

③ NETWORK ——Network indicator

④ COMMUNICATION ——Communication indicator

Rear Panel Instruction

⑤ ID ——For setting the network ID of extension main frame.

⑥ UNIT ——3 ways of speech unit port.

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⑦ ROUTE ——Cascade connection port. A connects to forestage device; B connect to rear stage device.

⑧ Ground pole

⑨ Power input, support AC100V~240V 50/60Hz input

Functions and Features

◆ Adopt dedicated 8—core aviation plug for connection；

◆ Along with conference control main frame, for extended connection of speech units；

◆ Under high pressure resistance （3500V）test，in comply with safety standard；
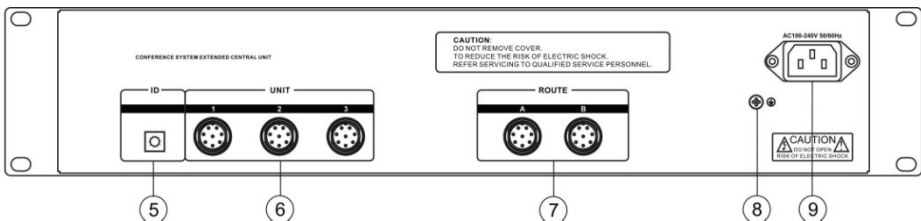
◆ The main frame adopts metal case, with 8000V anti-static ability ；

◆ The main frame is for installation onto a 19-inch standard cabinet.

Technical Parameters

Technical Parameters	System main frame	System extension main frame
Power	Power switch 110V / 220V	Power switch 110V / 220V
Static power consumption	10W	10W
Max power	350W	350W
Output power	≤110W/24V each way	≤110W/24V each way

Audio output	Impedance：100Ω Mode：Unbalanced	Impedance：100Ω Mode：Unbalanced
MIC Input	Impedance：100kΩ Electric level：-60 dB Mode：unbalanced	Impedance：100kΩ Electric level：-60 dB Mode：unbalanced
Frequency response	60－8kHz	60－8kHz
S/N	〉80dB	〉80dB
THD	〈 0.5%	〈 0.5%
Carrier distortion	〈1%	〈1%
Crosstalk attenuation（1kHz）	〉50dB	〉50dB
Weight	About 6.5KG	About 6KG
Dimension	483L x 275W x88H (mm)	483L x 275W x88H (mm)
Color	Grey	Grey

Connection Illustration
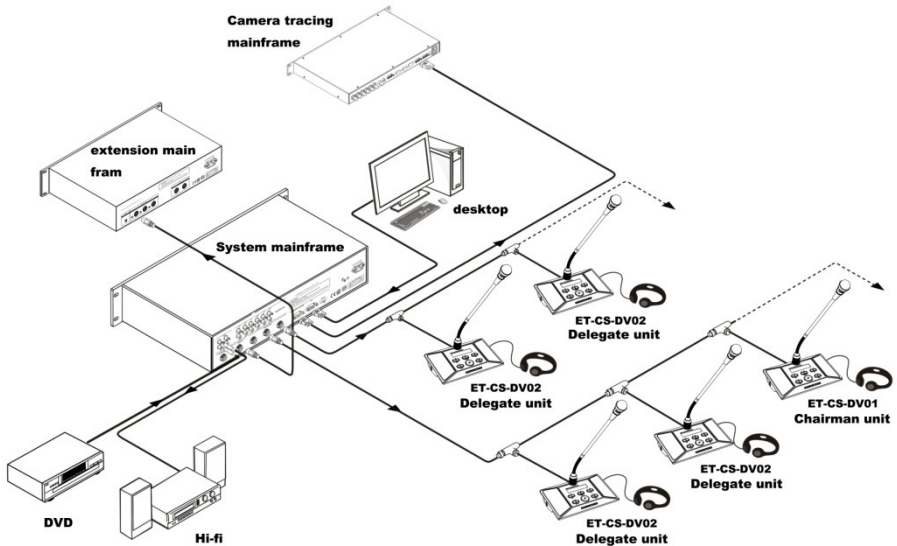
Conference Unit ID Setting

1. In terms of conference unit ID setting, it is about allocating a system unique address to each conference unit (including interpretation unit and speech unit) for identification by the mainframe.

2. To setting conference unit, please turn on the power of conference mainframe when finishing conference system connection, turn "SET ID" switch to "ON", and turn on speech units and interpretation units, until all conference units are on. You

can see the ring indicators on MIC will be on. Turn "SET ID" switch to "OFF" to see all ring indicators for MIC in conference units turn off. Then the system will access to normal use mode.

2 Speech Unit

ET-CS-DV01，ET-CS-DV02 vote, discuss and speech unit

| ET-CS-DV01 | ET-CS-DV02 | ET-CS-DV01/02 |

Top view   Top view   Side view
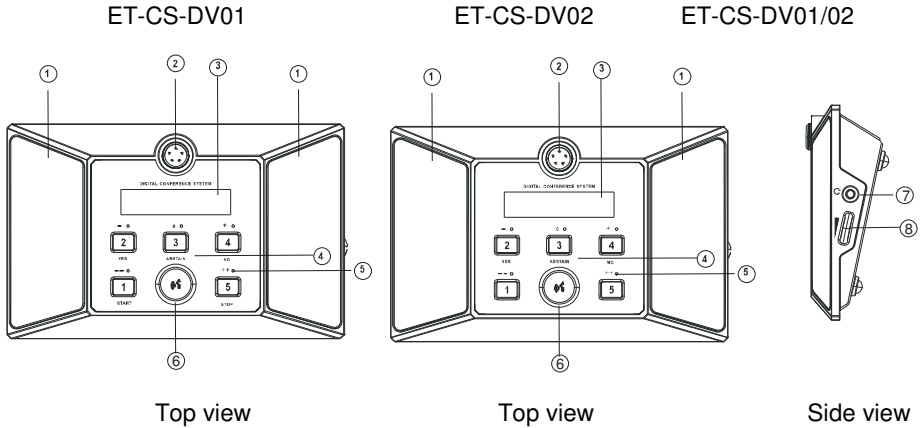
①   Speaker

②   MIC port

③   LCD Monitor

④   Multi-functional voting button indicator

⑤   Multi-functional voting button：

——Conference voting, numbers 2, 3 and 4 respectively for agree, abstention and

objection.

——Conference election, numbers 1－5 stand for different candidates.

——Conference evaluation, numbers 1－5 respectively stand for level－－,－, 0,＋,

＋＋

Press and hold chairman unit number key "1" for 3 seconds to launch voting. And it

accesses to voting mode. The last vote is valid. Speech unit is with memory function

for remembering last key pressing. Voting result is displayed by indicator. Press and

hold chairman number key "5" for 3 seconds to stop voting. Press the "5" key again to

return to conference mode.

Pre-conference sign in

Press and hold chairman number key "2" for 3 seconds to launch a sign-in and access

to sign-in mode. Press "MIC Switch" key to sign in.

Press and hold chairman number key "5" for 3 seconds to exit to sign-in mode.

Processing application for speech

Press chairman unit number key "3" to approve speech application. Press once to

approve the speech application from one delegate unit, in comply with the principle of

"first in, first out".

⑥   MIC switch, chairman unit is with priority.

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Priority function

Shutdown function---press and hold the MIC switch key of chairman unit for 3 seconds

to shut down all delegate speech units.

⑦   Headset port

⑧   Volume adjustment knob

Function and features

◆   Integrated with speech, voting and key sign-in functions;

◆   Adopting dedicated 8-core high-density aviation port;

◆   Heart-shaped directional condenser pickup, with dual colors indicator, it is in red

when delivering speech；

◆   2m connection cable attached；

◆   Adopting knob plugging MIC stand ；

◆   With magnetic speaker, headset port and volume adjustment knob；

◆   Chairman unit is with function of approving delegate's speech application；

◆   Chairman unit is not limited by the number of speakers；

◆   Chairman unit is with priority function to manage conference order as a whole；

◆   The connection position of chairman unit is not limited ；

◆   The units are passive components, with power supply from system main frame,

and input voltage of 24V；

◆ With feedback suppressing mode, when the MIC is on, the speaker will be

automatically shut down；

◆ T-shaped connection mode.

Connection Illustration

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ET-CS-D01，ET-CS-D02 Sheer Discussion and Speech Unit

Function Description

Top View of ET-CS-D01/D02 Speech Unit   Side View of ET-CS-D01/D02 Speech Unit
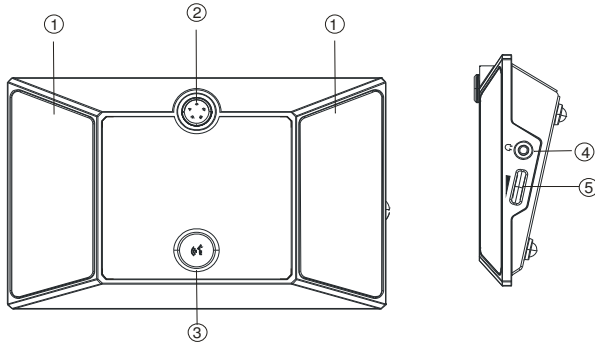
①   Speaker

②   MIC port

③   MIC switch, chairman is with priority

Priority Function

Shutdown function---press and hold the priority key in chairman unit for 3 seconds to
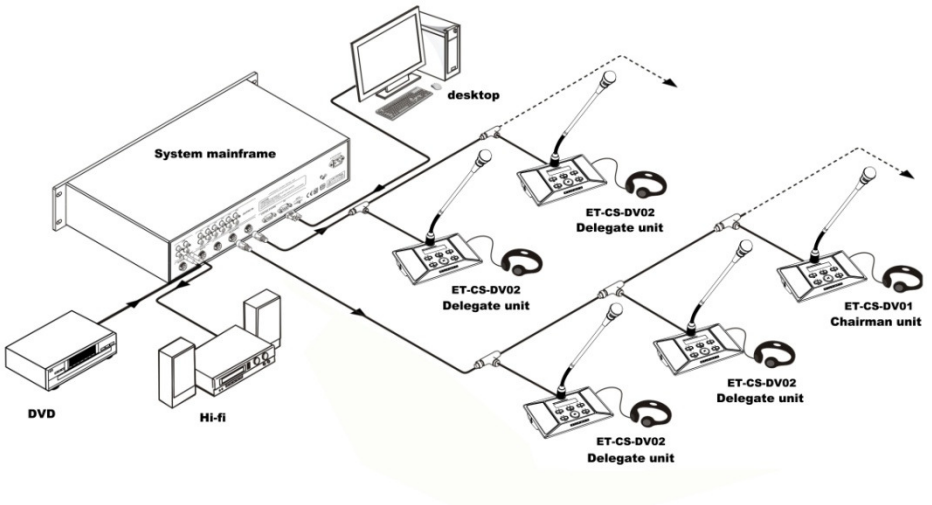
shut down all delegate speech units.

④   Head earphone port

⑤   Volume adjustment knob

Functions and Features

◆ Integrated with speech and key sign-in functions ；

◆ Adopting dedicated 8-core high-density aviation port；

◆ Heart-shaped directional condenser pickup, with dual colors indicator, it is in red when delivering speech;

◆ **2**m connection cable attached；

◆ Adopting knob plugging MIC stand ；

◆ With magnetic speaker, headset port and volume adjustment knob；

◆ Chairman unit is with function of approving delegate's speech application；

◆ Chairman unit is not limited by the number of speakers；

◆ Chairman unit is with priority function to manage conference order as a whole；

◆ The connection position of chairman unit is not limited ；

◆ The units are passive components, with power supply from system main frame, and input voltage of 24V；

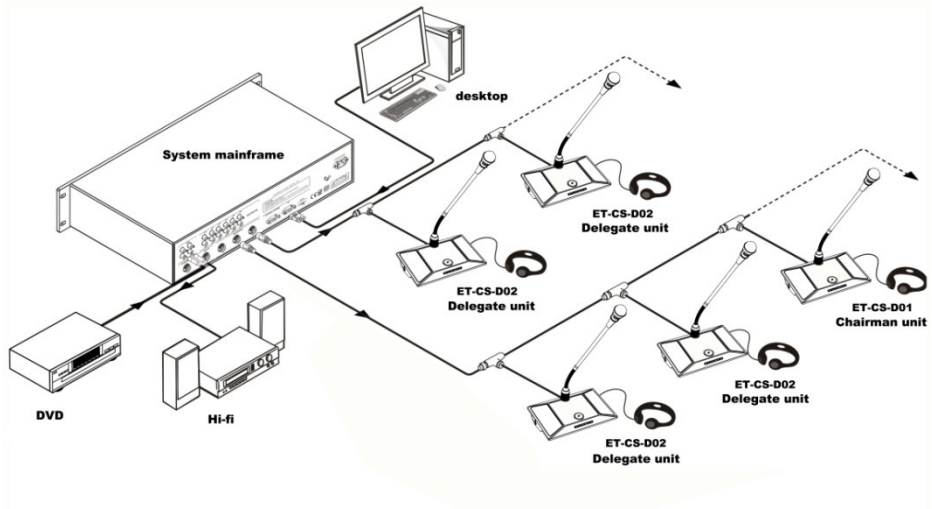◆ With feedback suppressing mode, when the MIC is on, the speaker will be automatically shut down for preventing from feedback；

◆ T-shaped connection mode.

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Connection Illustration

Technical Parameters

Parameters	ET-CS-DV01	ET-CS-DV02	ET-CS-D01	ET-CS-D02
Power	DC24V(power supply from the central control unit)			
Unit port	8-core aviation port			
Power consumption	3W	3W	3W	3W
Headset output	9dBu，8－32Ω，3.5mm mini jack			
Speaker power	2W	2W	2W	2W
MIC type	Capacitive			
Directional	Heart-shaped			

| characteristic	
S/N	〉80dB
Crosstalk attenuation	〉80dB
Distortion	〈 0.10%
Frequency response	60－8kHz
Equivalent noise	≈20dB SPL
Max SPL	105dB（3% thread hold）
Sensitivity	－22dBv/Pa
Dimension(nm)	230LX130WX45H

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3 Camera Tracing

Products and Devices

◆   ET-CS-TMH01   Camera track mixed host

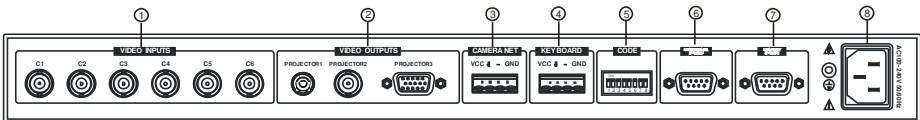◆   ET-CS-WV01/CV01 High-speed camera

ET-CS-TMH01 Camera track mixed host

Panel Functions

Front panel:
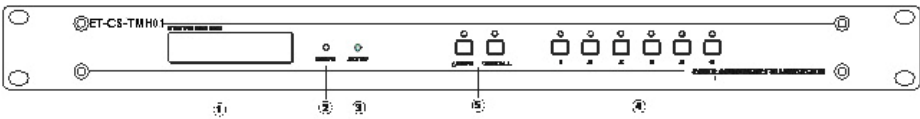
Rear panel：

Front panel instruction:

①　LCD monitor——for displaying the operation information of the main frame.

②　POWER——Power indicator

③　ACTIVE——signal indicator, flashing when the mainframe is sending code or

receiving signal

④　1~6——Corresponding to the signal channels of cameras 1 to 6, in combination

with △/SAVE, ▽/RECALL for appointing the corresponding address codes of high-

speed camera under control

⑤　△/SAVE　▽/RECALL——use in combination with key 1 to 6, for storing and

recalling the preset position of high-speed camera.

Rear panel instruction:

①　VIDEO INPUTS ——Connect to the video signal input of 6 ways of camera video

signal.

②　VIDEO OUTPUTS ——Output RCA, BNC and VGA---3 ways of camera video

signal.

③　CAMERA NET——For the control over high-speed camera RS485.

④　KEY BOARD——For connecting to the control keyboard of high-speed camera.

⑤　CODE ——Switch of protocol and baud rate setting（Not support the protocols of

other manufacturers so far）

⑥　CONFERENCE SYSTEM ——Connect to conference control mainframe.

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⑦ CONTROL SYSTEM——Connect to the mainframe of central control system.

⑧ Power input, support AC100-240V input

Functions and Features

◆ Support 6 ways of video signal input, 3 ways of RCA, BNC and VGA video signal output;

◆ With built-in upscaler, for converting Video signal to VGA signal to output, supporting 3 resolutions of 800x600，1024x768 and 1280x1024;

◆ LCD monitor can display current status and setting parameters etc.；

◆ Keys on front panel can be used for configuring the camera ID of every channel.

Technical Parameters

Model	ET-CS-TMH01
Video	
Gain	0 dB
Bandwidth	150MHz (-3dB), full-loaded 0 -10MHz:≤+/- 0.1dB 0 -30MHz：≤+/- 0.5dB
Multi-channel vs. one channel crosstalk	-50dB @ 5 MHz, -45dB @ 10 MHz
Differential phase I/0S	‹1.28 degree，3.58MHz
Differential phase error	0.1%, 3.58-4.43MHz
DG error	0.1 degree, 3.58-4.43MHz
Max transferring delay	5nS(±1nS)

Switching speed	200 ns(longest time)
Signal type	Composite video signal
Video input	
Port	6 ways of BNC female port
Min/Max level	Analogue signal: 0.5V ～ 2.0V p-p
Impedance	75 Ω
Return loss	-30dB@5MHz
Genlock	0.3V-0.4Vp-p
Max. DC bias error	15mV
Video output	
Port	1 way BNC female port； 1 way RCA female port；
Min/Max level	Analogue signal: 0.5V ～ 2.0V p-p
Impedance	75 Ω
Return loss	-30dB@5MHz
DC bias	Max.±5mV
Converting type	Vertical separation
Port	15-pin HD female port
Min/Max level	2.0V p-p
Impedance	75 Ω
Return loss	〈-40dB@5MHz
DC bias	Max.±5mV
Sync signal	
I/O type	NTSC 3.58，NTSC4.43，PAL，SECAM
Control types	
Serial control port	RS-232, 9-pin female D-shaped port

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Baud rate and protocol	Baud rate：9600, data bit：8-bit, stop bit：1, no parity check bit
Specification	
Power	100VAC ～ 240VAC, 50/60 Hz, Universal self-adaptive power
Temperature	Storage and use temp: -20°～ +70℃
Humidity	Storage and use temp:10% ～ 90%
Case dimension	485(L)X245(W)X45mm(H)
Weight	About 1.5kg

ET-CS-WV01/ET-CS-CV01 High-speed Camera

Functions and Features

In DULCET conference system, there are two types of high-speed cameras for hanging on wall and ceiling, based on actual need. On-wall high-speed camera can be directly fixed onto wall by screws, while the ceiling type can be directly attached onto the ceiling. These two cameras are actually the same but with difference in appearance, for adapting to a variety of installation needs.

◆ With multi-functional quality digital DSP design, working with stability；

◆ Memory won't lose when power is off；

◆ Integrated design as a whole, with compact structure and high reliability；

◆ 64 presets for free storage, with accurate positioning；

◆ Auto-pilot monitoring；

◆ Adopt RS-485 BUS control；

◆ Adopt DC machine, stably running at low speed；

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◆ High-precise machine driving, stably running, sensitive response ；

◆ Horizontal 360°continuous rotating, without monitoring blind zone；

◆ Auto-adjusting rotating speed according to lens alteration；

◆ Vertically realizing180°auto-reversing continuous monitoring ；

◆ Auto iris, auto focusing, auto white balance;

◆ Backlight compensation, all objects are visible in background with strong light sources；

◆ Night view function, auto-changing CCD illumination according to the change of environmental light.

Technical Parameters

Specification	
Image sensor	1/4″ color CCD
Effective pixel	752H×582V（440000pixels） PAL
Sync system	Internal sync
Video output	Composite signal 1.0Vp-p/75Ω
White balance	Auto/manual
Power	AC24V±10% 1.25A
Consumption	30VA
Weight	4Kg
Installation	Indoor ceiling, indoor on-wall
Relative humidity	10-75%（incohesive condition）
Operation temperature	0℃~40℃（Normal range）
Scan system	15.625KHz(H) 50Hz(V)
Camera function	

Horizontal resolution	480 TV lines
S/N	˃48dB
Electronic shutter	1/3～1/10000 second
Lowest illumination	0.01～1Lux(F1.6)
Len parameters	
Zoom range	18 times optical and 12 times electronic magnification.
Aperture	Auto/manual
Zoom	Auto/manual
Basic function of the ball unit	
Horizontal rotation	0～300°/s
Up and down movement	0～60°/s
Presets	128 at maximum
Pilot function	Storing 6 pilot tracks at maximum
Line scan speed	0.5～30°/s
Track self-learning	40 s

System Connection Illustration

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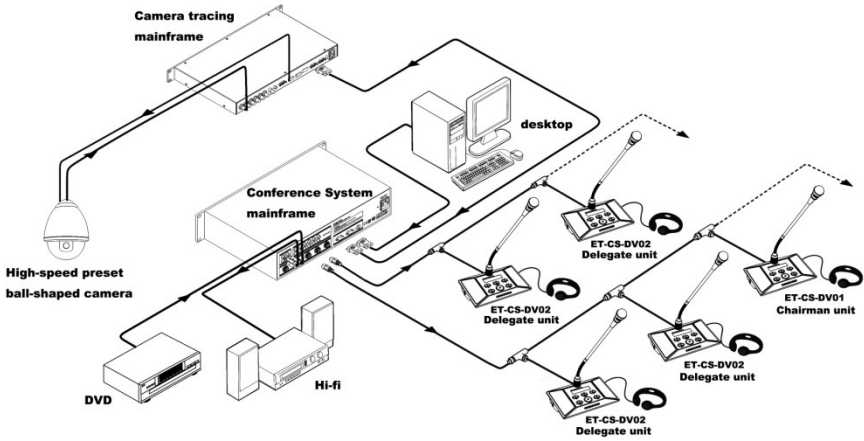
4 Accessories

ET-CS-HE01 Head earphone（Without MIC）

Functions Description

◆ For monitoring the units in simultaneous

interpretation conference ；

◆ For the use in conference system, avoiding

the influence from others；

◆ 1.5m cable attached；

◆ Hi-Fi quality.

Technical Parameters

Technical Parameters	ET-CS-HE01
Unit port	3.5mm stereo jack
Frequency response	80Hz – 2KHz
Sensitivity	90dB
S/N	> 80dB
Distortion	< 0.1dB
Impedance	32 Ω
Dynamic range	> 85 dB
Output power	100mW

Installing Cable

Product Profile

◆ ET-CS-EC02 2 m aviation conference discussion cable（8-core）

◆ ET-CS-EC05   5m aviation conference discussion cable（8-core）

◆ ET-CS-EC10 10m aviation conference extended cable（8-core）

◆ ET-CS-EC20   20m aviation conference extended cable（8-core）

◆ ET-CS-EC50 50m aviation conference extended cable（8-core）

◆ ET-CS-EC100 100m aviation conference extended cable（8-core）

Functions and Features

◆ For the extension connection within conference mainframe and extension mainframe or conference speech units;

◆ Optional with 2m, 5m, 10m, 20m, 50m and 100m;

◆ 8-core cable, with one male and one female ports；

◆ Transmitting distance up to 1000m.

Product Profile

◆ 2m T-shaped aviation conference discussion cable（8-core）

◆ 5m T-shaped aviation conference discussion cable（8-core）

Functions and Features

◆ For branch connection within conference speech units；

◆ Optional with 2m and 5m;

◆ 8-core cable, with 1 male and 1 female ports.

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ET-CS-GMS 415mm Gooseneck Microphone Stem

Product Profile

◆ Heart-shaped directional capacitive MIC;

◆ High-density 5-core aviation port；

◆ Power on indicator；

◆ Speech application indicator

ET-CS-TI T-shaped Interface

Product Profile

◆ For branch connection of conference units；

◆ 1 female 8-core high-density aviation port

2 male 8-core high-density aviation ports.

ET-CS-BR Conference Board receptacle

Product Profile

◆ 1 way of front-end input unit

◆ 2 ways of output：UNIT A and UNIT B connecting speech unit；

◆ Suitable for desktop and on-wall installation.

ET-CS-GR Pop-up Ground receptacle

Product Profile

◆ 1 way of front-end input unit；

◆ 2 ways of output：UNIT A and UNIT B connecting speech unit；

◆ 1 way of universal power port；

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◆ Suitable for desktop and floor installation.

ET-CS-AI8 8 core Aviation Interface

Product Profile

◆ One male and one female, screw-type, engineering
agents may weld it on their own.

ET-CS-EP01 Extension Power

Product Profile

◆ For power extension for speech unit and interpreter unit, It serves as a relay when
with insufficient power supply from the mainframe.

◆ 1 way of power input, AC100～240，50/60hz；

◆ 1 way of UNIT input；

◆ 4 ways of UNIT output, connecting to speech unit
or interpreter unit.

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