Relacart® 力卡

CS-300
conferencing
discussion system
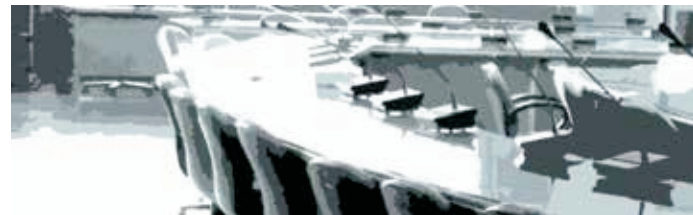
Installation and Operation

Contents

P-24V External Power Supplier

Maximum power output: 100W
Input current: 1.5A/115V AC,1A/230V AC
Surge current: 50A/230V AC,25A/115V AC
Supply voltage: 90-264V AC or 127-370V AC，47-63Hz
Output voltage: 24V/3.2A
Efficiency: 85%
Input interface: Anti drop 9P aviation plug x 1
Output interface: Anti drop 9P aviation plug x 1
Weight: 740g
Dimension: 166mm x 58mm x 101mm

Introduction

Thank you for choosing a discussion conference system produced by RELACART, and welcome you to join our thousands of professional users. Our more than 20 years of professional design and manufacturing experience ensure the excellent performance of our products in all aspects of quality, performance and stability.

CS-300C/D Conference units

Polar pattern: Cardioid Conderser
Frequency response: 50Hz-18KHz
Sensitivity: -47dB+/-3dB(0dB=1V/Pa,f=1KHz)
Maximum input sound pressure level: 105dB(THD＜5%, f=1KHz)
SNR: ＞52dBA
Power supply: 24V DC(supplied by the receiver)
Maximum power of speakers: 1.5W
Power consumption: 0.8W-2.5W
Phone connector: 3.5mm jack
Screen type: OLED
Unit interface: Anti drop 9P aviation plug
Weight: 950g
The length of microphone : 340mm/420mm/480mm
The size of the microphone base: 182mmx 51mm x 110mm

CS-300 Conference system

Frequency response: 50Hz-18KHz

Total Harmonic Distortion: <0.1% (f=1KHz)

SNR: >98 dB(THD<1%, f=1KHz)

Connecting cable: Anti-detached 9 core shielded cable

The maximum number of conference units: 110

The number of simultaneous opening microphone: 2/3/4

Operating condition: Fixed, stationary or moving

CS-300M conference system receiver

Supply voltage: 90-264V AC or 127-370V AC, 47-63Hz
Static power consumption:6W
Rated power: 75W/24V
Maximum power: 100W/24V
XLR balances carnon maximum output level: 14dBm
Maximum output level of the 6.35mm balance socket: 14dBm
RCA lotus socket maximum output level: 10dBm
RCA lotus socket maximum input level: 1.5dBm
Conference unit extension: Anti drop 9P aviation plug x 2
Video input port: BNC x 4
Video output port: BNC x 1
Video interface impedance: 75Ω
9 pin serial port control interface: DB9 Female plug x 1
Rs-232 control protocol interface: 5P Phoenix terminal X 1
Rs-422 control protocol interface: 5P Phoenix terminal X 1
Dante interface: RJ45x1
Audio output: XLRM x 1, 6.35mm jack x 1, RCA Lotus x 1
Audio input: RCA Lotus x 1
Screen type: OLED
Key mode: touch style
Weight: about 2.3kg
Dimension (mm): 410 (W) x43 (H) x206 (D)

1. Please read instructions for safety operation carefully before installation and operation. Please save your safety operation guide for future reference.
2. Do not scratch, bend, twist, stretch or heat the power cord as this may cause damage to the power cord, resulting in a fire or electric shock.
3. Do not open the device shell, otherwise it may cause electric shock. If you need to repair, maintain or repair, please contact your local agent.
4. Do not touch the power plug with wet hands as this may cause a fire or electric shock.
5. Do not attempt to modify this device. Failure to do so may result in personal injury or product malfunction.
6. Do not use this equipment near water.
7. If the power cord is damaged (such as a broken wire or bare core), obtain replacement parts from your dealer. Continued use of the equipment with a damaged power cord may result in fire or electric shock.
8. To move the device he power, unplug the power cord, and unplug all connecting cables as this may damage the cable, resulting in a fire or electric shock.
9. Before cleaning the device, unplug the power cord and unplug all connecting cables. Please clean it with a dry soft cloth.
10. If the device is not in use for a long time, turn off the power, it is best to unplug the socket
11. With the power plug and appliance coupler as the disconnecting device, it should be kept easy to operate.
12. For the safe use of the equipment and adequate ventilation, the minimum clearance around the equipment should be maintained at a distance of 5 cm or more.
13. DO NOT cover the Ventilation holes, such as: newspaper / fabric / curtains and other items.
14. Equipment should not be placed on a bare flame source, such as: lit candles.
15. Battery should not be exposed to sunshine, roasted or other high temperature overheating environment.
16. Do not throw the waste battery, please put in the designated bins.
17. Water protection rating: IPX0
18. The device can be used normally in tropical / temperate climates.
19. This product is only suitable for safe use at the altitude of 2000m and below.
This symbol "⚡"indicates that dangerous voltage constituting a risk of electric shock is present within this unit.
All Relacart products will be afforded one year free maintenance except for man-made damage, such as:
— the device is damaged by man-made factors.
—the device is damaged by improper operation.
—some components are damaged or loss after the self-disassembly.

CS-300 is a simple and affordable Conference discussion system. With exquisite design, focusing on application of various conferences, the newly developed sound activate mode, the participants don't need operating manually, just speaking to microphones directly, the microphone unit can be started to speak, simple to use, fully applicable to the various conference locations.

This system is composed of software and hardware, adopt microprocessor control, the unit automatically detect settings, innovation speaking mode setting, limiting times setting, and implementation of system video preset functions. As a new generation of multi function, can be separated from the computer to use, convenient operation of the video tracking discuss conference system, is the ideal solution for conference engineering application.
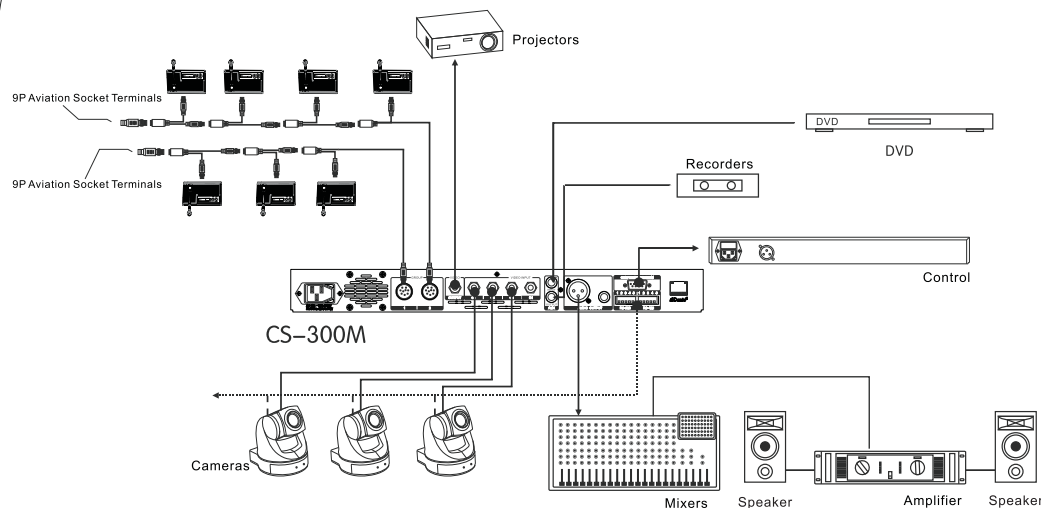
Product features:

· Adopt the newly OLED display, can display the microphone status, operating mode, central controller status, the number of speaker, etc.

· 4 kinds of conference mode selection: FIFO, Automatic(with limiting time), Request, Sound activate.

· The central controller can select the number of speakers, active 2/3/4 microphones in a time

· Support camera tracking, through the serial port RS-232 or RS-422 communication protocol control up to 4 cameras, compatible with VISCA, PELCO-D, PELCO-P 3 kinds of camera control code protocol.

· With 4 video inputs and 1 video output port, SD and HD SDI video inputs and outputs are supported. HD SDI supports HDcctv1.0, HD-SDI (ST292), 3G-SDI (ST424) and SD-SDI (259).

· 9-pin serial port control interface can be connected to intelligent control system for camera tracking.

·Support Dante protocol, flexible to meet various engineering solutions.

· The newly developed high-voltage, low-current power supply system minimizes line voltage losses and minimizes the effects of overly long connecting cables. One cable to connect more conference units makes installation easier.

CS-300 Conference System Microphone Connection Diagram Description

CS-300

9P Aviation Socket Terminals
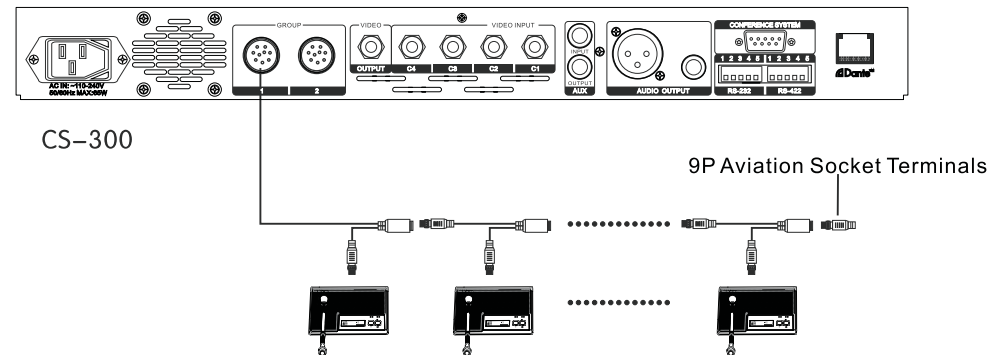
Note: After connecting all the hosts and microphones of the CS-300 conference system, connect the 9P aviation socket terminal to the extension line of the CS-300 system connected to the last microphone. Failure to do so may cause the work lights of individual system microphones to flash continuously due to inability to communicate.

9P Aviation Socket Terminals

9P Aviation Socket Terminals

Projectors

DVD

DVD

Recorders

Control

CS-300M

Cameras

Mixers   Speaker   Amplifier   Speaker

· Adopt using anti shedding aviation cable hand in hand connection mode, the connection is simple, reliable and stable, the whole system required engineering and installation costs can be reduced.

Clear Sound Quality
With automatic gain audio processing circuit, prevent feedback effectively and improve the clarity of the whole system.

Flexible Expansion
It is easy to expand and change configuration. The central controller connect up to 40 microphone units. If connect the EXP-24V45, can connect up to 110 microphone units.Connecting telephone coupler can be applied directly to a remote call meeting.

Flexible Speech
CS-300C chairman unit has the priority to override all delegate units, to control the atmosphere of the meeting.

Four Speech Modes
Automatic(with time limiting time): allow one speaker only and can set the speaking time; When set speaking time over, the other unit will override the activated unit.
FIFO: when the maximum number of speakers is reach, subsequent talk key units with override of activated microphones.
Request: the operation of delegate unit should be approved by chairman unit.
Sound activate: sound to open the microphone, when the maximum number of speaker is reach, subsequent microphone speaks.
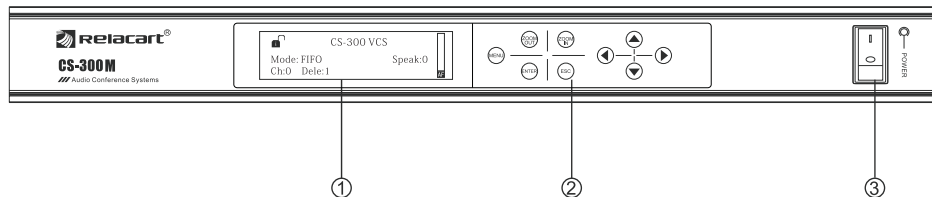
Multiple Ports
With record output can connect the recorder, all records can be fully recorded, also can connect the external audio device.
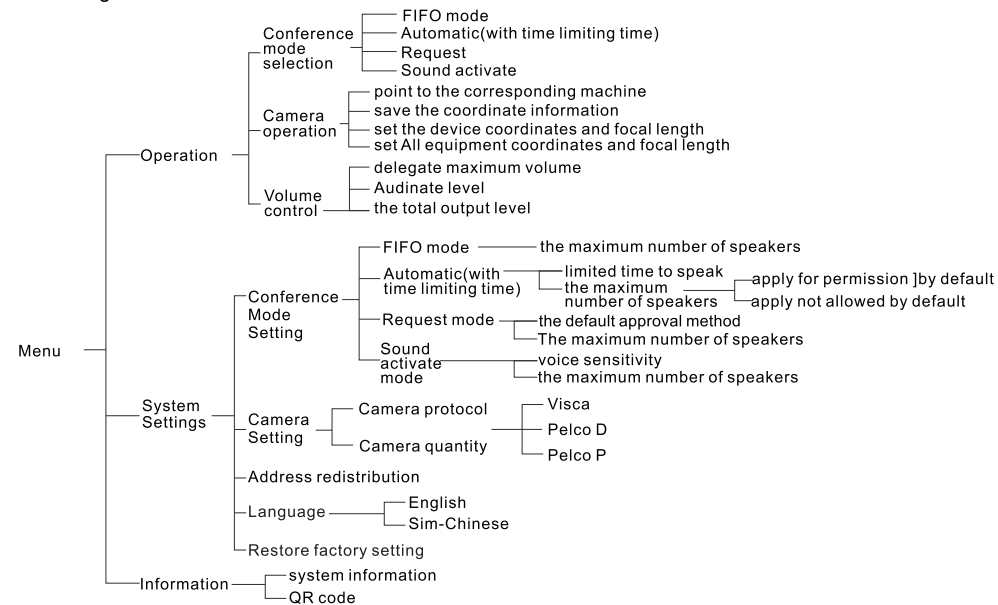
3.1.Central Controller CS-300M

Front panel

| Relacart®
CS-300M
Audio Conference Systems | CS-300 VCS
Mode: FIFO   Speak:0
Ch:0   Dele:1 | | POWER |

① ② ③

1.LCD operation display
2.Touch control panel
3.Power switch with indicator light

Tree diagram of the function menu

- Menu
  - Operation
    - Conference mode selection
      - FIFO mode
      - Automatic(with time limiting time)
      - Request
      - Sound activate
    - Camera operation
      - point to the corresponding machine
      - save the coordinate information
      - set the device coordinates and focal length
      - set All equipment coordinates and focal length
    - Volume control
      - delegate maximum volume
      - Audinate level
      - the total output level
  - System Settings
    - Conference Mode Setting
      - FIFO mode ——— the maximum number of speakers
      - Automatic(with time limiting time)
        - limited time to speak
        - the maximum number of speakers
          - apply for permission]by default
          - apply not allowed by default
      - Request mode
        - the default approval method
        - The maximum number of speakers
      - Sound activate mode
        - voice sensitivity
        - the maximum number of speakers
    - Camera Setting
      - Camera protocol
        - Visca
        - Pelco D
        - Pelco P
      - Camera quantity
    - Address redistribution
    - Language
      - English
      - Sim-Chinese
    - Restore factory setting
  - Information
   - system information
    - QR code

3. Press the arrow key to enter the next cell setting and display in "Set device number 002" Press "ENTER" key to enter the video tracking device mode, then the address is "002" unit of the microphone rod red work light Press the arrow key to point the camera to the flashing unit of the work indicator. At the same time, the "ZOOM OUT" / "ZOOM IN" button can be used to adjust the focal length of the lens. Press "ENTER" after confirmation, the system will automatically save the setting and return Interface "set device number: 002" and "common device number: XXX"

Device No: 001
Dev Amount: 002
C:N   Z:N/A   P:N/A   T:N/A
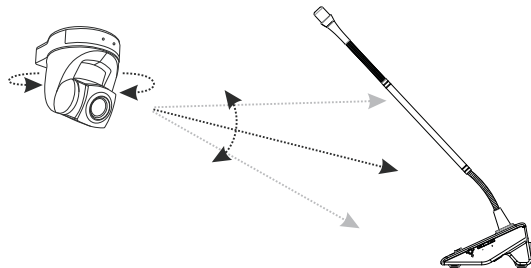
4. Press the arrow key again to repeat the video tracking until all the conference units have been set up. In order to avoid omissions, please set again when set by 001 in order.
5. After confirming that each conference unit completes the video tracking setting, you can freely press the speech key of one unit to test. At this moment, the camera will automatically track the speaking unit and display on the video.

Rear panel
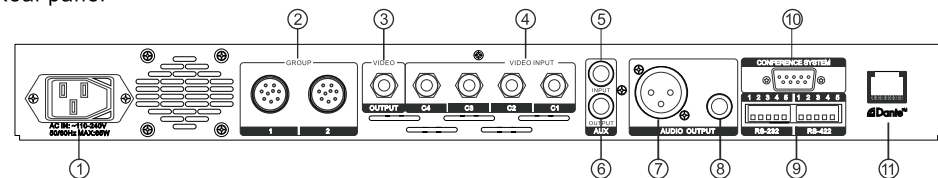
1.Power input: standard IEC socket, can work in 110V / 240V 50 / 60Hz AC power supply.
2.Two microphone input: a host can be connected to 40 conference microphone units, such as access to auxiliary power EXP-24V, conference microphone unit can be expanded to 110
3.Video output port: connect the projector
4.Video Input Port: Connects to the camera's video output and can connect up to 4 cameras for video output
5.RCA audio line input: can be directly connected to MP3 / DVD and other external audio signal input
6.RCA Audio Line Output: Connects directly to the mixer or recorder
7.Balanced audio output jacks: XLR jacks can be connected to the mixer using a standard two-conductor shielded cable
8.Unbalanced audio output jacks: 6.3mm jacks can be connected to an unbalanced input of a mixer or amplifier using standard unbalanced audio cables.
9.RS-232 or RS-422 Ports: Communication Protocol Control Up to 4 Cameras Compatible with VISCA, PELCO-D, PELCO-P 3 Camera Control Code Protocols
  RS-422 port pin definition: 1.TXD- 2.TXD + 3.RXD- 4.RXD + 5.GND
  RS-232 port pin definition: 1.DSR 2.RX 3.DTR 4.TX 5.GND
10.9-pin serial port control interface: Connect intelligent control system to achieve camera tracking
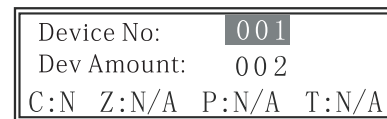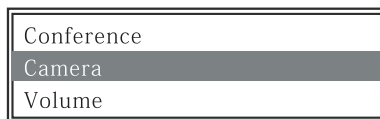11.RJ45 port: Dante interface to connect devices that support various Dante protocols
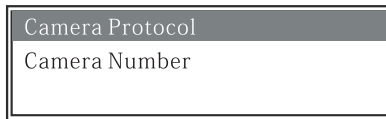
2.Chairman Unit CS-300C

Top view
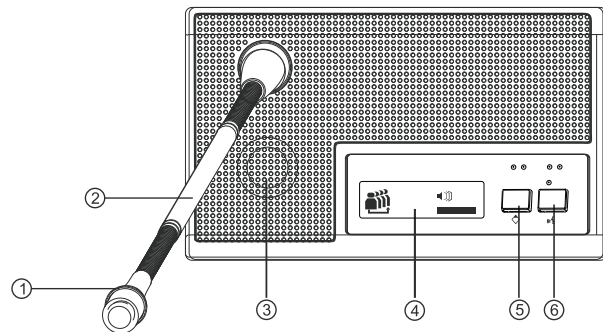
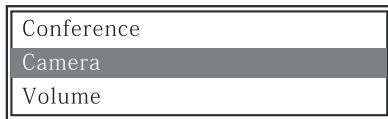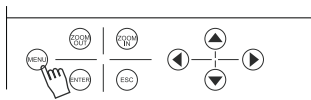**1.**Speaking Aperture: When you open the microphone to speak, this indicator light bright.

2.Microphone rod: You can use the standard length 420m, or other microphone rod

3.Monitor Speaker: The voice signal input from the chairman or delegate unit and the central unit is output from this speaker. Use the right monitor speaker control (P9 ⑨) to adjust the monitor volume. When the unit speaker is muted, the howling is suppressed

4.OLED display: can display a variety of working conditions

5.Priority speech key: allows the chairman unit to switch off the delegate unit being used. The chairman unit may choose to approve or not to approve the delegate unit to speak when applying for speech mode.

6.Speaking key: When you press this key, the microphone speak indicator light and work light will be lit at the same time, the microphone is also open, press the button again, indicating the aperture and work lights off, and the microphone is turned off.

2. Press the ESC key to return to the "Operation" menu selection window and select "Operation" → "Camera Operation" → "Set All Devices Coordinates and Focal length". Now you can get " Set Device Number: 001" and "Total Device Number : XXX ", press" ENTER "key to enter the camera tracking setting mode, then the address is" 001 "unit on the microphone rod red work light is flashing, press the" "arrow key, the camera is pointing to the work light flashes And press "ZOOM OUT" / "ZOOM IN" to adjust the focal length of the lens. Press "ENTER" key after confirmation, the system will automatically save the settings and return to the interface "Set device number: 001" and common device number "XXX".
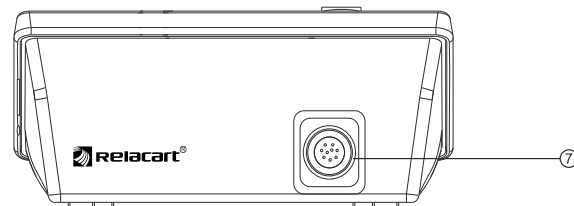
Conference
Camera
Volume

Save Addr Pos
Set Addr Pos
Set All Addr Pos

Device No:	001
Dev Amount:	002
C:N Z:N/A P:N/A T:N/A	

3.Camera tracking settings

1. Connect the camera and projector equipment to the CS-300 system. The CS-300 host will enter the main menu, and select "System Operation" → "Camera Setting" → "Camera Agreement" and "Number of Cameras" Compatible camera protocols and the number of cameras used.
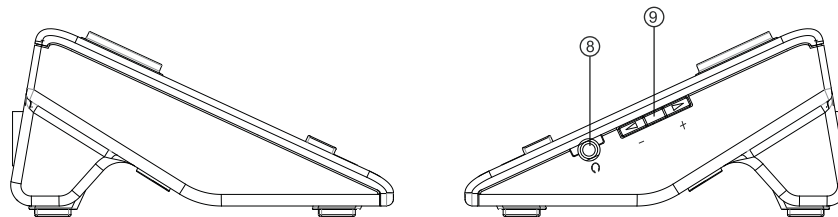
Conference
Camera
Volume

Conference
Camera
Volume

Camera Protocol
Camera Number

Backside:

7.Microphone connection: for communication between the host and the microphone
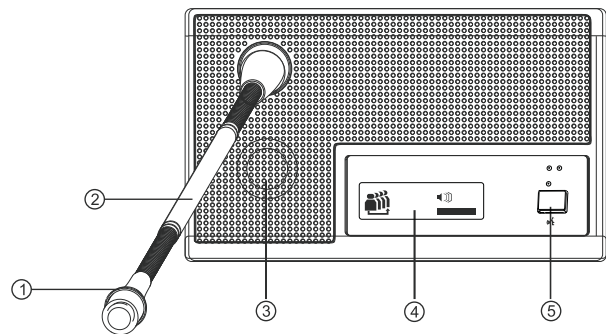
Left and right side

8.Right headphone jack: Connect the headphone to this jack (mini jack). After the headset is plugged in, the speaker mutes and stops howling.
9.Monitor speaker and headphone volume control buttons: "+" means volume up, "-" means volume down

3.Delegate Unit CS-300D

Top view

1.Speaking Aperture: When you open the microphone to speak, this indicator light bright.
2.Microphone rod: You can use the standard length 420m, or other microphone rod
3.Monitor Speaker: The voice signal input from the chairman or delegate unit and the central unit is output from this speaker. Use the right monitor speaker control (P9 ⑨) to adjust the monitor volume. When the unit speaker is muted, the howling is suppressed
4.OLED display: can display a variety of working conditions
5.Speaking key: When you press this key, the microphone speak indicator light and work light will be lit at the same time, the microphone is also open, press the button again, indicating the aperture and work lights off, and the microphone is turned off.

E. Restore the default settings

| Address Reset |
| Language |
| Set Default |

| Warning:All setting will reset!Sure? |
| Yes   No |
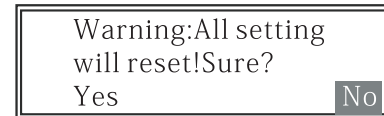
Restore default settings: refers to restore all the factory default settings

3. Select Information, the system software version information is displayed.

| Operation |
| System Setup |
| Information |

| System Setup |
| Information |

| FW: V20170602 |
| WEB: www.Relacart.com |
| <<< |

c: Address redistribution

```
Conference
Camera
Address Reset
```

```
Warning:All addresses
will reset!Sure?
Yes                    No
```

Address Redistribution: This function arranges the address of the microphone unit in the order of "001, 002, 003 …" to help the operator more conveniently select and find the microphone unit when setting the video tracking. Choose Yes to do this, or No to do so.
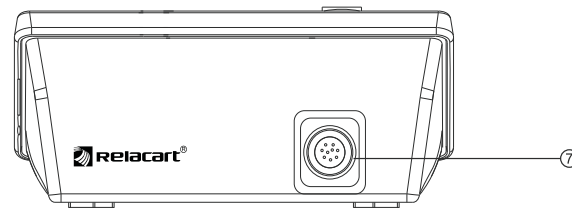
D.Language

```
Address Reset
Language
Set Default
```

```
English(英文)
Chinese(中文)
```

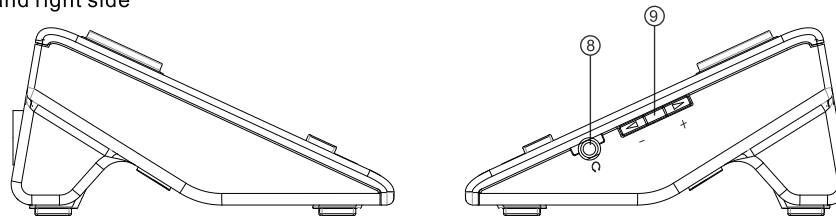a. English: The system language is displayed in English
b. Simplified Chinese (Sim-Chinese): The system language is displayed as Simplified Chinese

Backside:

⑦

7.Microphone connection: for communication between the host and the microphone

Left and right side

⑧ ⑨

8.Right headphone jack: Connect the headphone to this jack (mini jack). After the headset is plugged in, the speaker mutes and stops howling.
9.Monitor speaker and headphone volume control buttons: "+" means volume up, "-" means volume down

Start the system
Please connect the host unit and the delegate unit to the host computer to turn on the host. At this time, the host power indicator and the work indicator of each unit will be on, and the system will automatically search for the number of active microphone units and display on the OLED panel .
If the number of microphones displayed on the OLED does not match the actual number used, check that all microphone units are connected to the system correctly.

CS-300M Function Setting
After the system starts, the display of the CS-300M will show the main interface of the system

1.Panel keyboard lock
2.Conference Mode
3.The number of Chairman Unit
4.The number of Delegate Unit
5.The number of microphone units being
   spoken
6.Audio sensitivity indicator

① 🔓 CS-300 VCS
② Mode: FIFO   Speaker:0
③ Ch:0   Del:1   AF
④   ⑤   ⑥
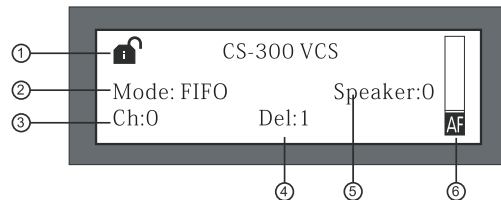
c: Request mode: the default approval mode a "request for default permission" refers to the host auxiliary approval speak
   "Application default is not allowed" refers to the host auxiliary approval does not speak
   The maximum number of speakers --- can be set 2, 3 or 4 delegate unit at the same time
d: Sound activate mode: voice sensitivity: the microphone can be adjusted to open the level of voltage required, the higher the sensitivity the easier to open the microphone
   The maximum number of speakers --- can be set 2, 3 or 4 representatives at the same time

B. Camera setting

Conference
Camera
Address Reset

Camera Protocol
Camera Number
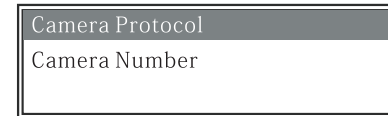
a: Camera Protocol: There are three different camera protocols available: "Visca", "Pelco-D", "Pelco-P"
b: the number of cameras: choose 1-4 cameras to work

2. Select the system setting, press the ENTER key to enter the following operations:

A. Conference mode setting

Operation
System Setup
Information

Conference
Camera
Address Reset

Address Reset
Language
Set Default

FIFO
Limiting_Times
Request

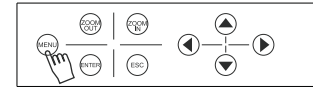| Limiting_Times |
|---|
| Request |
| Voice Control |

a: FIFO mode: the maximum number of speakers --- can be set 2, 3 or 4 delegate unit at the same time
b: Automatic(with time limiting time) mode: limited time speech time --- can be set on behalf of the unit's speech time
The maximum number of speakers --- can be set 2, 3 or 4 representatives at the same time

2. Press MENU to enter the function menu. "Operation" is the basic function settings, "System Settings" is the system function settings, "Information" is the system software version information.

Operation
System Setup
Information

1. Select the operation, press ENTER to enter the following operation:
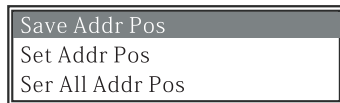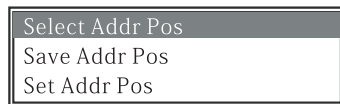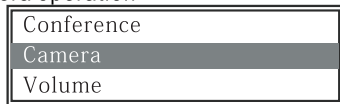A. conference mode selection

Conference
Camera
Volume

FIFO
Limiting_times
Request

Limiting time
Request
Voice Control

a: FIFO mode: refers to the microphone speaks in turn, when speaking microphone exceeds the
   host limited number of speakers, the first speaker will shut down.
b. Automatic(with time limiting time): refers to the set time to speak. When you speak more than
   the host the limited number of microphones speakers, microphone applications for speech to
   be the first speaker to speak within a set time frame to speak.
c: Request: This means that the speaking of the delegate unit needs the approval of the chairman
   unit or host to speak. The microphone that speaks first closes when it speaks more speakers
   than the host limits the number of speakers.
d: Sound activate: refers to the delegate unit to pick up the external sound and automatically
   open the microphone. The microphone that speaks first closes when it speaks more speakers
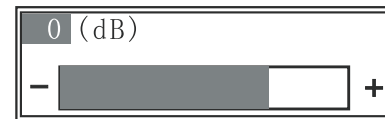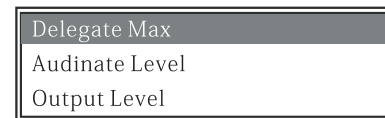   than the host limits the number of speakers.

B. camera operation

Conference
Camera
Volume

Select Addr Pos
Save Addr Pos
Set Addr Pos

Save Addr Pos
Set Addr Pos
Ser All Addr Pos

a: point to the corresponding machine: enter this menu, you can manually change the tracking
   position of the camera. If the operator does not want the video camera to show the conference
   delegate speaking, the operator can use this function to select other unit addresses, change
   the camera's tracking, and move on to other participating delegates.
b: Save Coordinate Information: With this function, other cameras displayed by the camera can
   be saved at the address of a unit. When the unit speaks, the camera actively tracks the saved
   camera and displays it.

c: Set Device Coordinates and Focal Length: This feature allows you to set the camera's video
tracking based on the address of each unit.
d: Set the desired device coordinates and focal length: This operation starts from "001" machine
until the completion of the automatic video tracking of all conference units.

C. Volume control

Conference
Camera
Volume

Delegate Max
Audinate Level
Output Level

Delegate Max
Audinate Level
Output Level

0 (dB)
− ▬▬▬▬▬ +

a: the maximum volume of the delegate unit: the volume of the loudspeaker of the microphone
   unit can be adjusted.
b.Aduinate Level: Adjusts the volume of RCA audio line input.
c. Total Output Level: Adjusts the volume of unbalanced audio output, balanced audio output,
   and RCA audio output
d: Sound activate mode: voice sensitivity, microphone can be adjusted to open the level of voltage
   required, the higher the sensitivity the easier to open the microphone
   The maximum number of speakers --- can be set 2, 3 or 4 representatives at the same time