



INSTALLATION AND OPERATING MANUAL

ICS Standard

Standard series multifunction conference system



PART 1. Safety Operation

1.1 Safety Operation

Firstly, thank you very much for using INTREND conference system. To make sure safety of equipments and user, please read this safety instruction carefully before installing and using, and operate seriously according to this manual. Also please keep this safety instruction for future reference. Notices are as below:

1. Read this manual carefully before installing and using. And keep it for further reference.
2. Wiring during installation must follow national electric safety standards, national fireproofing regulations and all related local regulations.
3. Protect the power cord from being walked on and do not stack things on the power cord, particularly at plugs.
4. To make sure earth wire connecting well. Do not use 2- pin plugs. Power supply: 220V 50Hz.
5. Power supply cords:
 - America, Japan: AC 110 V~120 V 60 Hz
 - Asia, Europe: AC 220 V~240 V 50 Hz
6. The packaging of equipment is designed for protecting 1.5 meters dropping, but please prevent from stress and shocking during transportation, installation and storing.
7. Do not place the system equipments on too cold or too hot room.
8. The power supply of the equipment will generate heat during operation. Therefore, to maintain good ventilation in the working environment, there should be a minimum of 20cm or more around the equipment; the ventilation holes should not cover items such as newspapers, tablecloths and curtains to prevent ventilation, so as to avoid temperature.
9. Unplug the system during wet weather or when unused for long periods of time.
10. Do not touch the power plug with wet hands, which may cause the danger of potential electric shock.
11. Hold the power cord plug when unplugging from the power outlet. Do not pull the power cord. The damaged power cord may cause a potential fire or electric shock.
12. Do not scratch, bend, twist, pull the power cord or heat it; do not hang or rotate heavy objects (including the unit) on the power cord. The damaged power cord may cause fire or electric shock.

13. If the power supply is damaged (such as cutting or bare wires), please ask your dealer to replace it. If you use a damaged power cord for this unit, it may cause fire or electric shock.
14. In the event of a drop or damage to the unit, turn off the power switch, unplug the power cord from the AC outlet, and contact your dealer. If you continue to use the unit without paying attention to it, it may cause a fire or electric shock.
15. Must unplug the equipment before below operations:
 - Taking down or resetting any part on machine
 - Reconnecting any plug in system
16. Do not disassemble or maintain the product by non-authorized personnel to avoid accident or damage. Warning label is as below:



This lightning symbol alerts the user to uninsulated dangerous voltages that may cause an electric shock.



The exclamation mark inside this equilateral triangle reminds the user to follow the operation and maintenance instructions that come with the device.



Note: This product is applicable to the altitude of 2000m and below!

17. Do not spill any chemicals or liquids on or near the equipment; The equipment should not be subjected to water drops or splashing; Items filled with liquid, such as vases, should not be placed on equipment
18. Be sure to keep the unit away from the following locations:
 - Suffering from oil splashes or vapors, such as near kitchen stoves, humidifiers, etc.
 - Unstable surfaces, such as a shaking tabletop, beveled surface.
 - Locations subject to excessive heat, such as in a car with a closed window, or in a location subject to direct sunlight.
 - Locations subject to excessive moisture or dust.
19. If the equipment is not used for a long time, please turn off the power. And it is best to unplug the power.

20. If the power plug and appliance couplers are used as disconnection devices, the disconnection device should be easy to operate.
21. Please thoroughly check the connection of the system before turning on the host power. Before using the host, check whether the host settings are correct and meet the conference usage requirements.
22. This equipment is a Class I equipment, which shall be connected to the power grid output socket with protective ground connection device.

PART 2. System introduction

2.1 Brief introduction

ICS-ST Conference System Model		
Main Controller with Monitoring and Recording Function		
System controller	ICS-ST-CU	
Conference units		
Chairman unit	ICS-ST-MC	
Delegate unit	ICS-ST-MD	
Accessories		
1.5M Y type line	--	

PART 3. Main Controller

3.1 Introduction

The system controller is the core component of conference system, which is the important intercommunication factor between units and PC management software modules. It controls all the conference functions via the navigation keyboard and 2.8 inch LCD screen on the front panel.



Figure 3.1 Main Controller ICS-ST-CU

3.1.1 Function and Feature

- Intrend original conference technique, compliant to IEC60914.
- Control all the conference functions by navigation keyboard on front panel
- Adopt high speed RISC Embedded hardware structure, more reliable, faster.
- Adopt digital audio transmission technique, close to CD sound quality.
- 2.8 Inch LCD
- Built-in input/out volume adjustment.
- Built-in 8X8 video matrix switcher, it can manage multipath video signs easily.
- Built-in 8X8 overall view video switching, time and order can setup freely.
- System can support multiple chairman units simultaneously and appoint one as executive chairman.
- MIC management modes
 - Limited mode: 1~6pcs units can be opened simultaneously
 - FIFO mode: the last opened MIC covers the first opened MIC.
 - Apply mode: executive chairman can approve or reject the speaking.
 - Voice activating mode
 - Free discussion mode: allow all the units to be opened simultaneously
- 6 channels output ports
- Y type hand in hand connection
- Turning off speaking unit, camera will track previous unit. Turning off all the speaking units, it will return to overall view.

- Protocols sharing, it can compatible with all the popular cameras. As the units positions being exchanged, camera always keep the correct tracking position by edit ID automatically.
- Cooperating with conference management software, the system can have more functions with easier operation.

3.1.2 Technical Parameter of Main Controller

Model	ICS-ST-CU
Power consumption	Depends on the quantity of connecting units: Single unit 25W, Maximum 420W
Unit capacity	Up to 40 pcs
Audio input	RCA × 2 2V p—p 6.3mm ×1 —50dB XLR × 1 —50dB
Audio output	RCA × 2 2V p—p XLR × 1 —50dB
Output impedance	47KΩ
Frequency response	20~20KHz
SNR	102dB
Dynamic range	106dB
Total harmonic distortion	< 0.05%
Channel separation	102dB
Connector	Big 6 pin DIN
Band width of video (-3dB)	30MHz
Color	Dark grey
Net weight	8KG
Dimension	432×90×350 mm
Installation	Suitable for 19 inch normal stand

3.1.3 Schematic diagram of front panel

3.1.3.1 ICS-ST-CU Systematic Diagram of Front Panel Ports

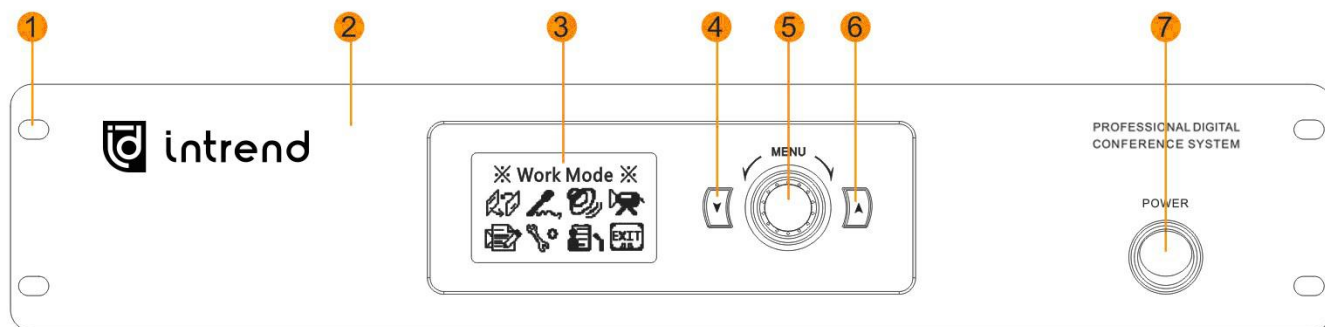


Figure 3.2 Front Panel

1. Mounting hole for 19 inch stand
2. Front panel of main controller. Aluminum Alloy
3. LCD screen, can adjust the brightness and contrast.
4. DOWN KEY
5. Rotary knob: Turn left or turn right to move cursor , press down to confirm
6. UP KEY
7. Power switch, with electrifying indicator.

3.1.3.2 ICS-ST-CU Systematic Diagram of Back Panel Ports

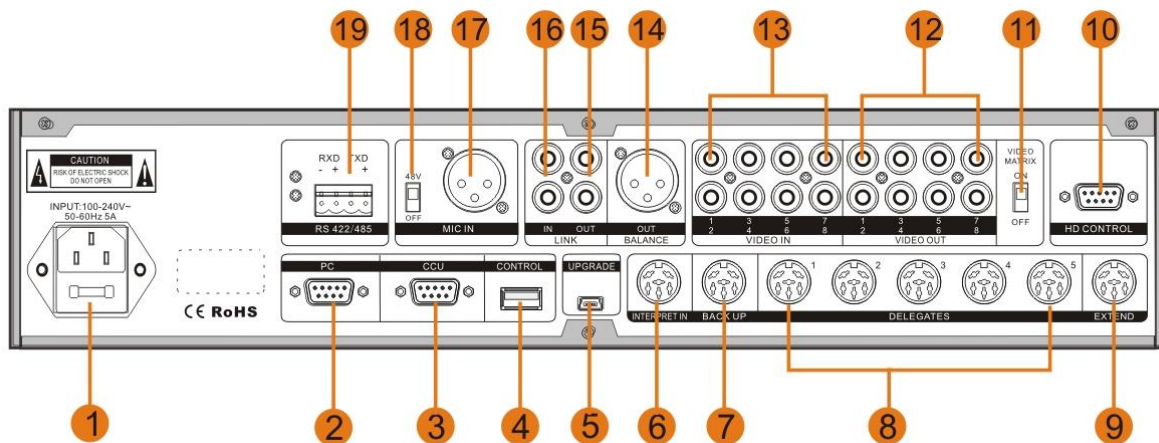


Figure 3.3 Back Panel A

1. Power port: Input AC 100~120V, 8A/AC 220~240V, 4A 50-60Hz power supplier
2. RS232 interface (PC): Computer control system interface.
3. RS232 interface(CCU): Central control system interface.
4. USB interface (CONTROL IN): Function extension interface. Reserve for function extension
5. SMALL USB interface (UPGRADE):
6. 6P DIN digital interface (INTERPRET IN) : interpretation controller digital interface; Connect to INTERPRET OUT on interpretation controller
7. BACKUP interface (BACK UP): System controller data backup
8. 5pcs 6P DIN interface (DRAGOMAN) : 5 channels units' output interface
9. 6P DIN interface (EXTEND) : interface for extension controller, connect to EXTEND IN on extension controller.
10. HD CONTROL interface (HD CONTROL)
11. VIDEO MATRIX interface (VIDEO MATRIX)
12. Video signal output interface (VIDEO OUT) :Connect to TV or other external screen via 8 channels.
13. Video signal input interface (VIDEO IN) : 8 channels input, connecting to camera.
14. Cannon balance audio output interface (BALANCE OUT) : Balance audio output.
15. RCA Audio interface (LINK OUT) : Audio output interface of system controller, can connect peripheral amplifying system or recording system.
16. RCA Audio interface (LINK IN) : Sound input interface for the third party

PART 4. Conference units

4.1 Introduction



Figure 4.1 Table top conference unit ICS-ST-MC & ICS-ST-MD

4.2 Function and feature :

- INTREND original full digital conference technique, compliant to IEC 60914 international standard.
- Built-in 24 points self restraint return function. The sound is near CD quality.
- All digital audio transmission technique, point to point connection mode, remote transmission won't influence on sound quality. Distance between equipments could reach at 150m
- Elegant table top design.
- The system is connected by "Hand in hand ring" or "Y type hand in hand".
- In "hand in hand ring", the system will not be effected if there is a disconnection in ring.
- Support "PnP"
- Strong anti-interference from mobile phone; Anti-interference from external driving source.
- Built-in high fidelity speaker, when turn on MIC or connect with earphone, speaker could mute automatically.
- Each unit has arbitrary distribution ID address, convenience for installation and avioding ID address repeating
- Built-in channel selector, can receive 4 languages.
- Double stereo earphone output, could adjust sound volume.
- 4 work modes

Limited mode FIFO mode
Apply mode Free discussion mode

- Cooperated with video controller and camera, have video tracing function.
- Chairman unit have Priority, could switch off the speaking units.
- System support 80 chairman units, could specify one as chief chairman, carry out function as follow,

Speaking priority, no limitation for speaking persons
Can stop delegate's speaking and control the whole conference
Can reject or approve delegate unit's speaking application
No limitation for chairman unit's position
There are many chairman units in a system

- Working with management software to achieve more functions.

4.3 Technical parameter

Mode	ICS-ST-MC & ICS-ST-MD series
Capacity of system	Up to 40 pcs
Frequency respond	30-20KHz (Human voice golden Frequency respond)
MIC type	Capacitive
sensitivity of MIC	-47Db
SNR	102Db
Dynamic Range	106Db
Resolution of channels	102Db
Total harmonic distortion	<0.45%
Working power	24DC, -5%
Working current	50ma, ±5%
Maximum power	2W
Control type	RS-485
Editting number	User-defined
Earphone output	16Ω, 250mW/32Ω, 125mW
Connection mode	Hand in Hand ring or Y type hand in hand
Mount	Big 6 pin DIN/RJ45
Simultaneously interpretation function	4 CH

Voting	NO
IC Card	NO
Color	Grey ,Black, Silver (Custom-made)
Installation	Tabletop

4.4 Schematic diagram of function key on units

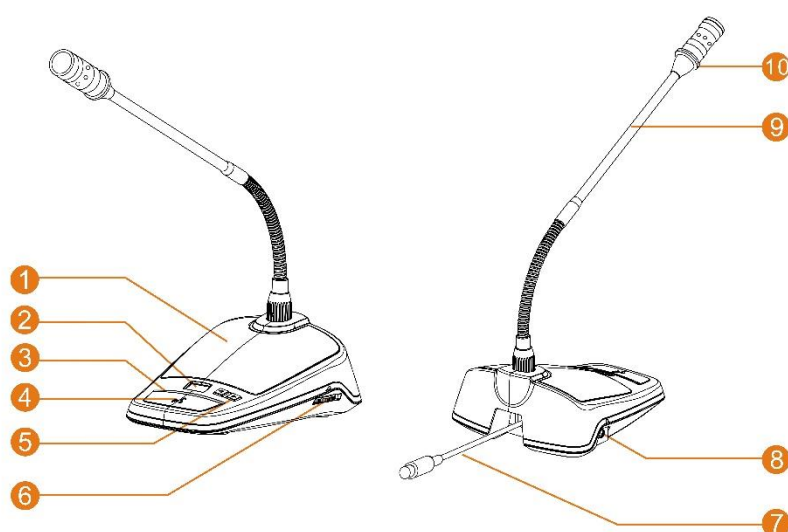
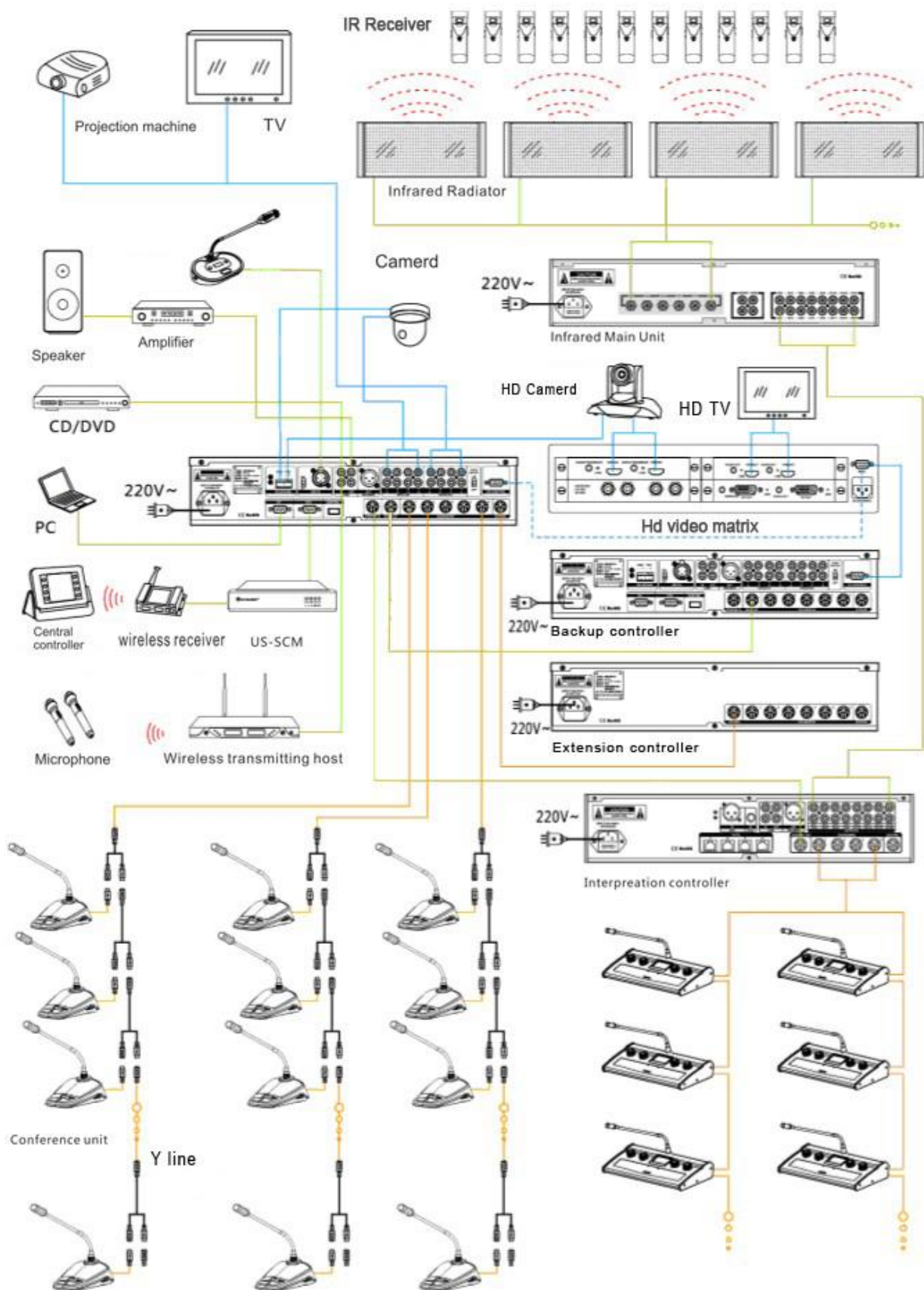


Figure 4.2 Schematic diagram of function key on unit

1. Built-in high-fidelity loudspeaker; Mute automatically during speaking.
2. Display screen
3. Speaking indicator
4. One key for delegate unit; For chairman unit, left key is priority key and right key is speaking key.
5. Channel selector key
6. Volume adjustable knob
7. 6 pin cable
8. 3.5MM earphone jack. As soon as inserting the earphone, built-in speaker will be switch off automatically.
9. Gooseneck pole
10. MIC indicator light: high sensitivity, red indicator light which lights during MIC opening.

PART 5. Installation and Connection

5.1 System Connection Figure



PART 6. Setup and operation of the system

6.1 Setup and operation of system controller

Users can setup the controller through 2.8 inch LCD display and 5 directional buttons. Below parts will introduce the operation of each menu.

6.1.1 Setup initialization

1. Turn on the controller and start initialization. Then check the system according to connection and display the equipment list. Editing ID number should be first. Then equipment list will be same as actual quantity for new connection.



Opening interface

2. Finishing initialization, the system controller enters to operation interface. If there isn't any work within 1 minute, the screen will return to standby interface. See below figures:



Standby interface



Operation menu

6.1.2 Main menu



Work mode: setup unit work mode.



Speaker setup: setup output and input volume.



Video-tracing: setup panorama/unit video tracing.

 System setup: Editing unit NO、system checking、chairman unit、LED setup、language、IC card and speech count down time.

 Help: system version No.

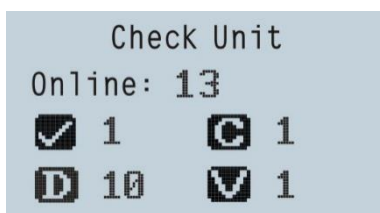
 Exit: Exit system menu.

6.1.3 New system adjustment steps

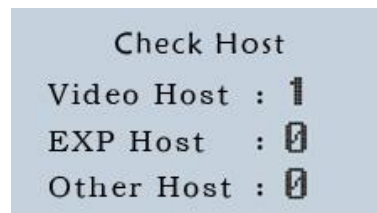
6.1.3.1 Adjustment steps

A. Checking the connection firstly

Check connection as system connection diagram, and then turn on system controller. System checks units automatically and show equipment list. Please confirm the equipment list is the same as actually quantity. (If there isn't editing ID number before using, the quantity on equipment list will be different as actual quantity.) See below figures:



Units list

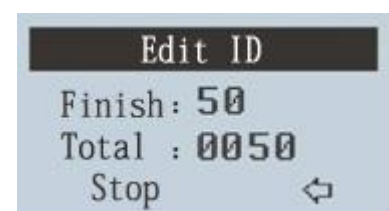


Controllers list

Notice: in this list, the chairman unit is executive chairman. Video controller means video module.

B. Setup unit quantity and edit ID No.

Press , enter system main menu, select  system setup, then select  to edit ID No, press  again to start editing ID number. Move cursor to "Total" and setup total quantity of units; Then move cursor to "Start", and press  to edit ID number. (In below example, the total quantity of units is 50pcs)



During this time, the red indicator light on units will flicker. Press “MIC” on units, then the system can edit ID number for each unit. (From 0001 to total) Finishing it, please press “STOP” on main controller and return.

Notice: System need re-edit ID No in below instance

Setup new system

Move, change, add or delete units

There is same ID number for 2 or more units.

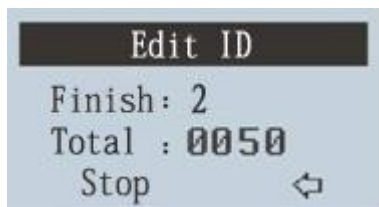
There is no ID number for unit.

ID number is over the total quantity on main controller.

System resets. (Return to factory setup)

- We suggest re-edit ID No in below instance
- Changing the system connection
- Moving or deleting units

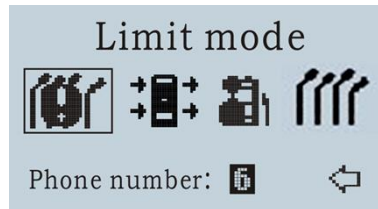
If there is no ID number for a unit, we can edit ID number by hand. Enter “Edit ID No” menu, select right key, and edit ONE ID Number as below photo:



Setup ID No, move cursor to “start”, and press . Then press unit’s “MIC” key. The system can edit an ID number for this unit.

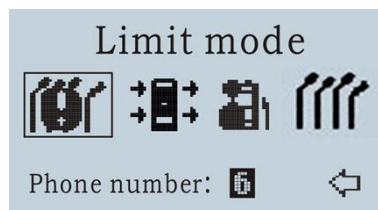
6.1.3.2 Setup work mode on controller

Press  to enter system main menu and work mode  interface, see below photo:

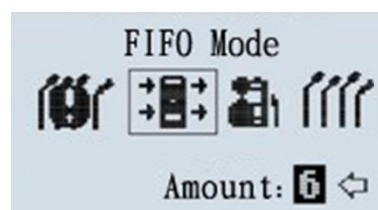


This menu includes:

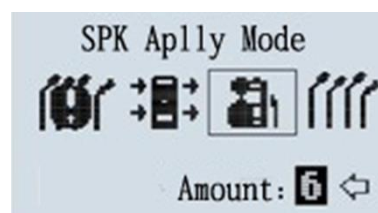
 **Limit mode:** set the numbers of delegates permitted to speak at the same time. See below photo



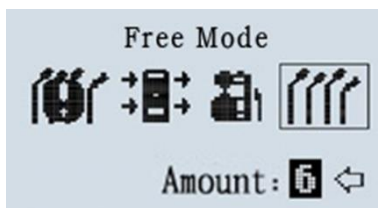
 **FIFO mode:** Select this mode, and setup the quantity of simultaneous speaking units. If the active microphones override the setup quantity, the system will close the first opened microphone. See below photo:



 **Apply mode:** microphone key with request -to-speak registration (AUTO). See below photo



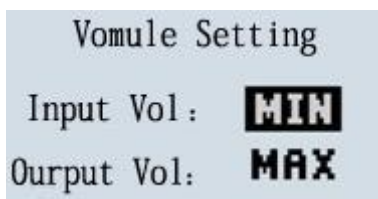
 **Free discussion mode:** After selecting this mode, all the units can be opened simultaneously. The function of chairman unit will be same as delegate unit. See below photo:



Notice: You only can choose 1 from 5 work modes. Executive chairman unit and chairman unit can be opened freely.

6.1.3.3 Setup input/output volume on controller

Press  enter system main menu and volume setup interface, see below photo:



This menu includes

Input volume: MAX is no limit; maximum volume. It could adjust volume as meeting room request.

Output volume: MAX is no limit; maximum volume. It could adjust volume as meeting room request

6.1.3.4 Setup video trace function on controller

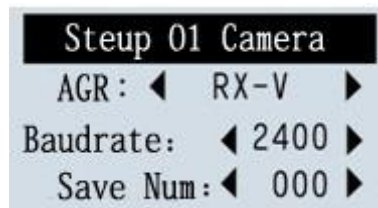
Press  to enter system main menu and video trace interface, see below photo:



This menu includes:



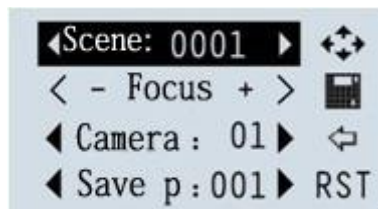
Camera parameter: setup baud rate、protocol、preset point. See below photo



It could setup 8 cameras with difference protocol and baud rate.



Operation option: setup scene、preset point. See below photo



Setup scene (Take top photo as an example)

1. Unit:001 option, right key to select “scene 0001”, press  .

Notice: left and right keys are used to adjust camera panorama. One camera could have 4 panorama points. After finishing camera 1, it choose camera 2 to setup panorama point automatically.

2. Move cursor to  , adjust camera panorama position.
3. Move cursor to “Zoom”, right key to choose “Focus”、”Aperture”、”up down”、”left right”.

Notice: “up down、left right” is for camera moving speed between two positions.

4. Move cursor to “ camera 01”, select correspondence panorama.

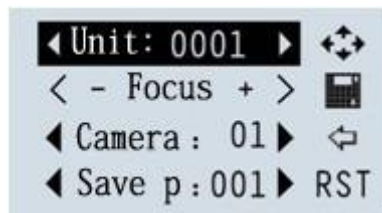
Notice: Camera address number will change automatically when adjust panorama position.

5. Move cursor to save NO:001, select one to save camera position.

6. Move cursor to  save “ panorama 001” as preset point

Notice: Preset point can't repeat.  **Back to previous menu**, **RST** means clear all preset points.

Setup unit tracing steps: (see below photo)



1. Select “unit 0001”, press  .
2. Move cursor to  , preset unit position.
3. Move cursor to “Zoom”, right key to choose “Zooming”, “Aperture”, “Up down”, and “left right” to adjust camera.

Notice: “up down, left right” is for camera moving speed.

4. Move cursor to “ camera 01”, select correspondence unit.
5. Move cursor to preset point NO:001, select one to save camera position.
6. Move cursor to  save “ unit 0001” as preset point 0001

Notice: Save No can’t repeat.  **Back to previous menu, RST means clearing all save No.**



Video matrix: setup controller 8 matrix video outputs. See below photo

Output1	1	2	3	4	5	6	7	8
Output2	1	2	3	4	5	6	7	8
Output3	1	2	3	4	5	6	7	8
Output4	1	2	3	4	5	6	7	8
Output5	1	2	3	4	5	6	7	8
Output6	1	2	3	4	5	6	7	8
Output7	1	2	3	4	5	6	7	8
Output8	1	2	3	4	5	6	7	8

Left out put 1-8 meant video output; Right 1-8 meant 8 cameras.

For instance, setup output 1 with 1-3 cameras video signal, as below steps:

1. Move cursor to “output1”, and press  ; Move cursor to 1-3, and press  , then back ground is black; Move cursor to 4-8, and press  , then back ground is white;
2. Move cursor to save it.

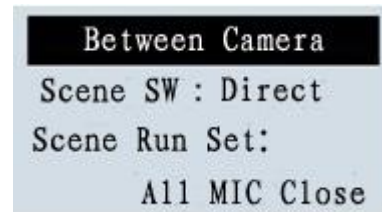
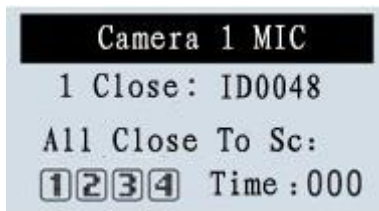
Functions: Video output of port 1 can display video tracing images of camera #1, #2, #3. There are 2 ways:

If there are units which are tracked by camera #1, #2, #3, the displayed image is the last tracked unit.

If there isn't any unit which is tracked by camera #1, #2, #3, the displayed image is switched between 3 panoramas. Switching time is setup in "Turn off MIC video".



Turn off MIC video: (See below photos)



As above photo: (preset camera 1 to trace unit No1-5, setup 4 panoramas.)

"Camera 1 corresponding MIC" setup camera 1 corresponding MIC.

"Single closing" set up the camera's action after camera 1 closing.

3 options

"Previous unit": display the image of last unit

"No action": continue to display, no action of camera

"ID 0001": display unit whose ID number is 0001

"Turn off all to panorama": camera switches to panorama when all units are off.

"1-4" meant panorama 1-4 of camera 1, black grounding.

"Time" meant camera 1 panorama switching time.

"Cameras switch": panorama switching has two types.

"Sequence": selecting panorama sequence according to port.

"Dependence": panorama switching according to camera number.

For instance:

Port 1 setup output of camera 1、camera 2、camera 3. All cameras have 4 panoramic positions as 1a、1b、1c、1d、2a、2b、2c、2d、3a、3b、3c、3d、4a、4b、4c、4d.

"Sequence": panoramic switching sequence: 1a、1b、1c、1d、2a、2b、2c、2d、3a、3b、3c、3d、4a、4b、4c、4d

"Dependence", panoramic switch sequence: 1a、2a、3a、4a、1b、2b、3b、4b、1c、2c、3c、4c、1d、2d、3d、4d

6.1.3.5 Setup system function on main controller

Press  , enter system main menu, then enter system setup interface, see below photo



This menu includes:

 Edit No: setup total audience quantity and unit number.

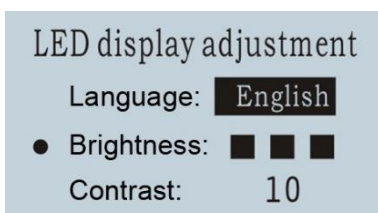
 Circuit checking: checking controllers and unit in system.

Notice: Compare the result and actual unit quantity. If they are same, the system connection is correct; if it is less than actual quantity, the system connection is fault. Please check the circuit in time.

 Status setup: setup executive chairman unit.

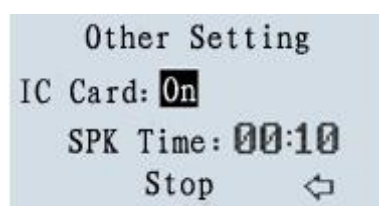
Notice: One system only have one executive chairman unit. ID column displays all IDs of common chairman units. Select executive chairman unit's ID, and confirm.

 Screen setup: setup language of main controller and LED brightness & contrast. System has Chinese and English for option. Also you can order more languages. See below photo:



 MIC setup: setup parameter of "MIC volume"

 Other setup: IC card sign-in function, speech count down time. As below photo:



Function of speech count down time: For each delegate unit, (except executive chairman unit), it turns off units automatically in countdown.



Central controller setup: setup baud rate of central controller as 9600. Users can change the baud rate.



Back: back to previous menu.

PART 7. FAQ

Failure	Reason	Solution
No respond when turn on system controller(Power light is dark)	Power Supply trouble	clear
	plug is not stable	clear
	AC fuse is broken (F3A250V)	replacing
system controller can't edit ID number automatically	need edit No for units	Please press unit "MIC" key, editing ID Number for every unit.
Chairman unit can be on; Delegate unit can not be on	In "Apply mode"	Change the setup to "FIFO mode"
system controller can't control camera	System controller and camera communication protocol、 baud rate are different	Please reset system controller and camera communication protocol、 baud rate. Suggest to use PELCO-D; Baud rate 9600.
Video tracking in trouble	Operation isn't as steps.	setup operation option 1. Confirm tracing type 2. Move cursor to  , confirm tracing position. 3. Move cursor to "Zoom"; Press right key to choose "Zooming" "Aperture"; "Up down、 left right" is for camera moving speed. 4. Move cursor to "camera 01", select correspondence camera number. 5. Move cursor to save NO: 001, select one to save camera position. 6. Move cursor to  and save setup.
Video matrix in trouble	Operation isn't same as steps.	setup in video matrix 1. video output channel(1~8) 2. Right key to move cursor, and confirm corresponding camera output and port. 3. Move cursor to "Save" this setup.
Can not save MP3file on SD	SD card/U disk is full or be protected	Check the SD card/U disk, and cancel the protecting on it; Check the compatible of SD card/U disk.
Missing audio on SD card/U disk	Remove the SD card/U disk during the recording	Must stop recording firstly, then remove the SD card/U disk
Above information only for reference. If have other problem, please contact distributor, request technique support.		