NVS-DC600013CH
Intelligent Conference Controller
User Manual

About this User Manual

This User Manual is available and effective upon completion of development of the Series intelligent digital conference system. The User Manual includes system description, matters needing attentions in use, instructions on system connection, instructions on use of product and technical specifications of the Series intelligent digital conference system. Please read this User Manual carefully before connection, installation and use and operate in accordance with corresponding instructions in the Manual.

⚠ This symbol on the rear panel indicates matters needing attentions, please use or operate the production accordance with corresponding instructions.

Please keep this User Manual in good custody for future use.

The Installation and Operation Manual of the series intelligent digital conference system includes detailed description with respect to installation and operation of all equipment of the conference system of such series. This Manual mainly includes description of the functions and ports of all equipment units in the series conference system, graphic illustration of connection between equipment, description of system configuration and operation instructions as well as precautions and technical indexes. Please read this Manual carefully before disassembly of the equipment and preparation for installation, in order to install and operate the equipment properly. Please keep this Manual in good custody for future reference. For other information or parameters with respect to the equipment uncovered in this Manual, please contact the local dealer or after-sales service personnel of our Company.

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System Overview

Introduction

The series Digital Conference System is based on ARM9 Embedded System Platform and adopts high performance DSP technologies and Hi-Fi circuit design, which integrates the advanced control technologies and audio processing technologies effectively, to realize a comprehensive solution with digital control, high-level audio transmission and visualized operation. The system can easily realize conference recording throughout the whole process and can be connected to PCs to realize remote conference control and it supports wireless control via an Android tablet PC. The series intelligent digital conference system provides functions such as discussion speech, votes, conference check-in, simultaneous interpretation, infrared voice distribution, teleconference, and automatic camera tracking, etc. The system is composed of hosts, conference units, cameras, and corresponding application software. The conference system includes conference hosts and extended hosts. The conference units include chairman speech units, delegate speech units, vote units, interpretation units and infrared voice receiving units, etc. Application software includes computer remote control software, Android tablet PC control software and other application software. The conference units in the system are connected to one another by "+ shape" adapters in a series with 8-core cables, which is simply for installation and engineering, safe and reliable and has good anti-jamming capability.

Technical Features

1. Built-in high performance ARM processor

The system adopts embedded operating system, which is stable and reliable and supports TCP/IP connection and voice recording functions, etc.

2. 4.3" high-definition colour touch screen

All functions and settings operations process are displayed via a GUI, with which the functions are clear, and the touch operations are visualized and simply. The human-machine interaction is user-friendly.

Main interface of the Host

3. TCP/IP network interface

The system integrates modern network technologies and realizes network connection to PC via the Ethernet, so the remote-control software independently developed by our company can be used to control all functions of the conference system, such as voting, check-in and system setting, etc.

4. Mobile control terminals

The system integrates WIFI technologies, so the Android system platform can be used to control all functions of the conference system, via Android and 3G (wired or wireless connection) tablet PC. (In case WIFI is used, such tablet PC only needs to be in a same network with the conference system, while if 3G technology is used, remote control may be used by professional network engineers.)

Control panel of the tablet PC

5. Built-in high performance DSP technology

It adopts high performance DSP technology with 14-band graphic equalizer, frequency shifter, low cut, and other feedback inhibition functions. The equalizer can save six settings in manual mode and the system also provides a variety of default modes, so that it ensures that the system can output Hi-fi audio signals.

Equalizer settings interface of the Host

6. Automatic Camera Tracking System

The system can connect 6 BNC cameras, and switch among 6 HDMI with the automatic camera tracking function. The angle and the swing speed are both adjustable and their values will be stored. The system supports cameras compatible with PELCO D/PELCO P/VISCA protocols. If all 6 interfaces are used at a same time, they must be connected to cameras of the same model.

7. Conference System Host

The conference system host is the core equipment of the whole conference system, and it provides electric power supply to the conference units connected to it. It is a platform integrating ARM, DSP, and other software with system hardware to realize system control. A host may be connected to maximally 128 conference units and with extended hosts (a system allows a maximum number of 31 extended hosts) the system can be connected to up to 4096 conference units, in which any number of chairman speech units may be connected to the system and two of them may be designated as control units. The conference host can realize conference control, unit configuration, electronic voting, camera tracking and audio input/output, and can be connected seamlessly to the central control system. When the system host is connected via Ethernet to PC where remote control software is installed, it can realize remote conference control.

8. Conference Unit

The conference unit is the basic equipment for delegate to attend and operate the conference. Conference units include chairman units, delegate units, interpreter units and speech units, etc. And such conference unit for each conventioneer may vary from person to person, for instance, the chairman may use a chairman unit with speech key which has absolute control and operation rights for the order of the conference. The conference units are uniformly powered by the host where there are interfaces for speakers and headphones. Conference units integrated with speech and vote functions are equipped with a LCD screen and a LED indicator, while those conference units only for use in speech or votes are only with LED indicators.

Functional Features

1. Discussion speech

- Limitations on the number of simultaneous speakers (1/2/3/4/5/6), and speech timing and countdown function.
- 2 chairman units can be set in 1 system.
- VIP delegate units with speech keys can be set.

In the system software, a delegate unit with speech key may be set as a VIP unit, which works under the FREE mode, where VIP unit can make free speeches when maximally 20 units (including VIP units and normal units) are activated, while in other modes, the VIP unit can make speech freely when the total activated units are no more than 10. The system allows a maximum number of 30 VIP units.

- The system provides five speech modes:

    a) FIFO mode: Speech is delivered in a first-in-first-out mode. After the activated delegate units reach the maximum limit, any newly activated units will deactivate the first activated one.

    b) NORMAL mode: Speech will be delivered in queue. After the number of activated delegate units reaches the maximum limit, all newly activated units may wait in a queue until a previously activated unit is off.

    c) VOICE mode: The conference units are in a voice control mode (VIP units and chairman units are free). Within the maximum unit limit, the speech unit will be activated by voice signal received. Both the sensitivity and length of speech are adjustable.

    d) FREE mode: The conference units are in a free mode (chairman unit is free). Within the limits on activated speech units, the order of speech is free of any limitation.

    e) APPLY mode: The conference units are in a speech application mode (VIP units and chairman units are free). An individual speech unit sends an application for speech, and the speech will be delivered after such application is approved by the chairman unit.

2. Voting

The Vote function is only available on the conference units with vote functions. For units with LCD screen:

- The LCD screen on chairman unit and delegate units will display all indication content for the voting operation, and the chairman and the delegate can complete the voting operation (Affirmative/Negative/Abstention) on basis of such indication.
- The LCD screen will display the total number of votes, affirmative votes, negative votes and abstention votes.
- It can realize various forms of voting can be implemented.

For units without LCD, the voting is initialized on PC application software and the delegate may vote by pressing the corresponding buttons in accordance with instructions at the conference venue. The result of votes will be displayed on the PC software.

3. Conference check-in

Conference check-in is initialized by the PC control software, and after the conference unit enters its check-in mode, the delegate may complete the check-in by pressing corresponding buttons in according to the indication on such conference unit.

4. Sound control

Sound control includes adjustment to the AUX input volume, control of master volume (control all input/output volume), low cut, frequency shifter and equalizer.

5. Camera tracking system

The conference system integrates a camera tracking system with 6 BNC camera interfaces and 6 HDMI camera interfaces, which can realize automatic camera tracking function.

6. Conference recording

On the main interface, touch the "Recorder" button to enter the recorder operation interface. The conference system can realize conference recording, and the audio file recorded may be saved on a USB flash disk. Before the recording is started, plug a USB flash disk to the front panel of the conference controller, otherwise the recording function cannot be realized.

7. Unit testing

Before the meeting begins, test the microphone, LCD screen, buttons, LED indicator light and speaker of the meeting unit to see whether the above parts can work normally. There are two testing methods: automatic testing and manual testing.

8. Speech timing and countdown

With the speech timing function, the speech time for units can be set, or be free when deactivating this function. The speech time may be set within a range of 1-300 minutes and the warning countdown at the end of such speech time may be set to be 1-60 seconds.

9. System time adjustment and setting of LCD status

The system time and the time of screen saver can be set.

10. Remote control

The system can be connected to a PC via TCP/IP or to an Android tablet PC via WIFI, to realize remote control of the conference system and centralized control over several conference systems.

11. Seamless connection to control system

The intelligent digital conference system can be connected seamlessly to the central control room, forming a complete conference system solution, to realize comprehensive management over the multi-media peripheral equipment, lights, projectors, and audio system at the conference venue. It can integrate, specialize, intelligentise the system to its largest extent, and simplify the system layout and save resources.

12. Other functions

The system provides audio input/output interfaces and warning signal override function. It can be connected to players, amplifiers, and fire control centre to realize emergent fire alarm function.

Conference Host

General Introduction

The series conference system includes conference host and extended host. It integrates the automatic camera tracking function, 4.3" TFT touch screen, simply and clear GUI display as well as other advanced management and control functions, which will lead the design trend of conference system equipment. The conference host is the core equipment of the conference system, which can provide power supply to all conference units and is well-extensible. The series digital conference host supports check-in, voting, camera tracking, automatic testing and data management functions. It provides multiple conference modes for users (FIFO, NORNAL, FREE, VOLCE, APPLY). A host may be connected to maximally 128 conference units and with extended hosts (a system allows a maximum number of 31 extended hosts), the system can be connected to up to 4096 conference units, in which any number of chairman units with speech keys may be connected to the system and two of them may be designated as control units. Any unit on the host can be set as the VIP unit. The system allows automatic or manual testing the MIC, speaker, buttons, LED indicators and screen on the conference units. The host has built-in digital sound processor (DSP), which can set up multiple EQ modes and select the corresponding mode according to different conference situation. With audio input/output interface and alarm signal override function, the host can expand more broadcast functions; with the limitation on spokesman and speech timing settings, it can effectively maintain the order at the conference venue; with 6 BNC camera interfaces and 6 HDMI camera interfaces, it can directly connect the camera to realize conference video tracking.

Models of Conference Hosts:

NVS-DC600013CH Intelligent Conference Controller
NVS-DC600083CE Conference System Extension Controller

## NVS-DC600013CH Intelligent Conference Controller

Features

- Comply with IEC 60914 international standards.
- The conference host allows connection of a maximum number of 128 conference units and with the extended host, 1 conference system allows connection of up to 4096 units.
- Connection through 8-core aviation plugs in a series mode.
- Limitation on number of spokesman at a same time (1/2/3/4/5/6).
- Vote function, timed speech, and other data management functions.
- 4.3" TFT display/touch screen.

- The system adopts graphic interface and all functions and configuration messages as well as basic information of the units are displayed clearly, besides it has artistic and modern appearance.
- Operation via touch screen makes human-machine interaction easier.
- Users can adjust the system time and back light duration, to save energy.
- Messages on the system LCD screen may be in Chinese or English
- Users can set several VIP speech units, which when the total number of activated units is less than the limit of 20 (20 in FREE mode and 10 in other modes), can be activated and if free of any limitation of conference mode. A maximum number of 30 VIP units are allowed.
- The system supports five conference modes, namely FIFO, NORMAL, VOICE, FREE and APPLY.
- The system has embedded a DSP, including low cut, frequency shifter and equalizer.
- The system can realize recording of the entire conference and provides two recording modes, namely automatic recording and manual recording, and the user can choose the desired one.
- The system provides unit testing function, with which testing the conference units may be realized automatically or manually.
- It provides speech timing and countdown function. With the speech timing function, the user can set a time limit for each speech or deactivate this function.
- The conference systems also provide a camera tracking system and 4 BNC camera ports through which the system can realize automatic camera tracking function.
- The system provides one RS232 serial port, with which the system can be connected to the central control system seamlessly, in addition, it also provides one RS422 serial port for connection of camera control circuit to realize centralized control on the 6 cameras.
- The 8-core aviation socket: one is for connection of interpreter host, anther for connection to extended host and three for conference units.
- RCA sockets:
    - ✓ Two secondary audio input ports, for connection to audio players, etc.
    - ✓ Two secondary audio output ports, for connection to specialized amplifiers.
    - ✓ Two warning audio signal input ports for connection to warning audio signals in the fire control centre.
- Cannon socket: It is a secondary audio output port and is used to realize parallel output together with two secondary audio output RCA sockets (LINE OUT) and for connection to specialized amplifiers.
- The system also provides a +5V trigger voltage warning input port, which, together with the warning audio input port, is used to realize warning breaking in function.
- The system provides RJ45 ports under TCP/IP protocol, which is used for connection to the network where a PC application program will be used to control all functions of the system.
- The equipment casing is made from metal materials and all the lines and casing are properly grounded, so the system has an anti-static of 10kV in case of physical contact and 15kV in case of air contact.

- The system adopts high-grade appearance design, 2U standard chassis, and can be installed in a 19-inch standard cabinet.

Front Panel
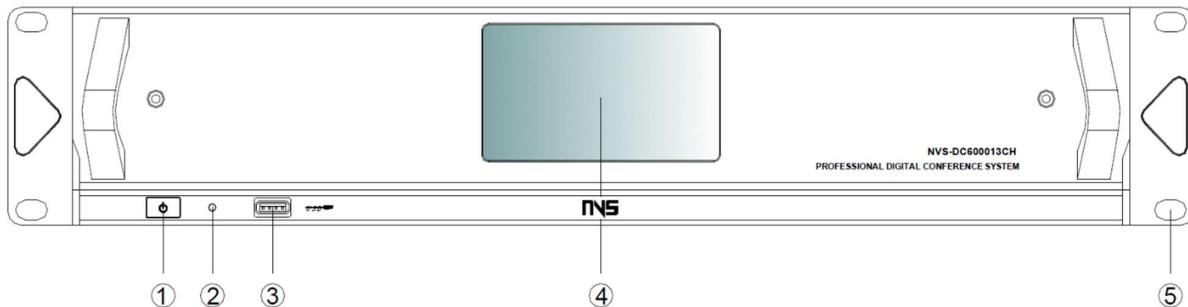
1. Power switch (POWER)

- Power is on when the button is pushed down and is off when the button is ejected.

2. Power indicating light (ON)

- The indicating light will be on, when the system is powered on, and it is off when the system is powered off.

3. USB port (USB)

- For connection of USB flash disks during the recording process.
- A mouse with USB port may be connected to operate the system.

4. LCD touch screen display

- For display of function icons and menus in the operation process; touch screen is used in configuration.

5. Screw holes for installation in cabinets

Rear Panel
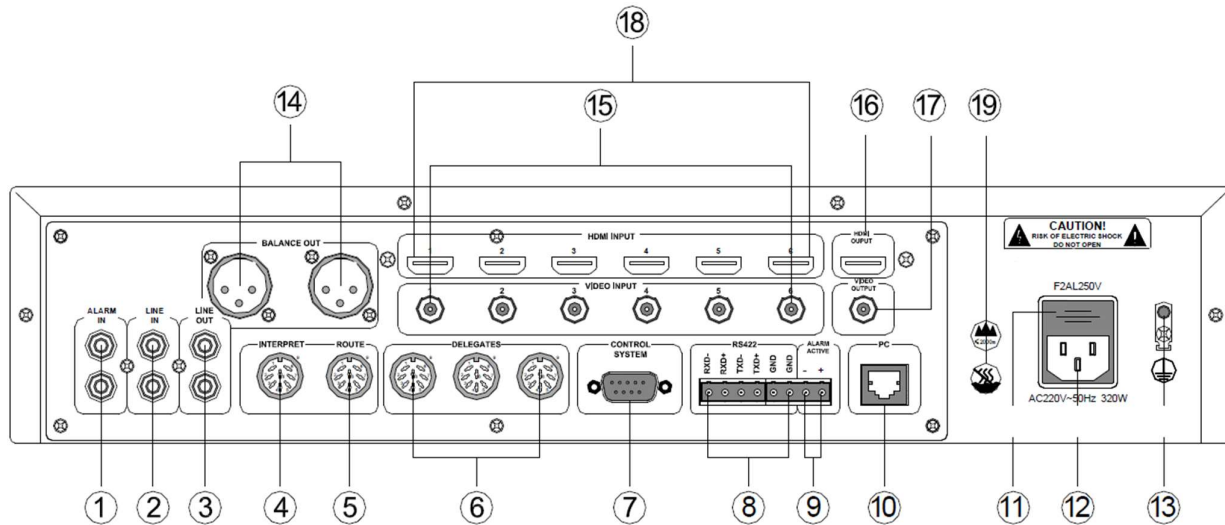
1. Warning audio signal input port (ALARM IN)

- It is used for connection to be warning signals from the fire control centre and is interlocked to the warning triggering signal as mentioned in ⑨.

2. Line audio signal input port (LINE IN)

- It is for connection of sound source or sound console equipment to provide line audio signal to this system.

3. Mix output of audio signal (LINE OUT)

- It is for connection of amplifiers, and the output signal includes line audio signals, warning signals and microphone signals.

4. Port for connection of the interpreter host to the control host (INTERPRET)

5. Extended port (ROUTE)

- It is used to connect the conference host and extended hosts and to transmit audio signals and communication signals.

6. Conference unit output port (3-way output, DELEGATES1-3)

- The three ports allow connection of up to 128 conference units.

7. Port for central control system (CONTROL SYSTEM)

- It is used to connect the system to a smart central control system, to realize centralized control over the conference system by far infrared.

8. Camera control port (RS422)

- It is used for connection of control signals of 6 cameras, which are connected in serial manner.

9. Fire alarm interlocking and activation port (ALARM ACTIVE)

- The system adopts +5V voltage to trigger the alarm interlocking, in which "Alarm" will be displayed on the screen of all conference units and the microphones of all conference units will be deactivated.
- When the +5V voltage on this port is off, the system will automatically return to the working status before such alarm.

10. Ethernet port (PC)
- The conference can realize remote control via TCP/IP network.
- When the system is connected to a WIFI network, it allows wireless conference control via a tablet PC.

11. Fuse in power supply of the system

- F2AL250V fuse socket.
- If the fuse is blown, please replace it with a fuse of the same specification.
- If the fuse is blown, it indicates equipment fault, so please replace the fuse after such fault has been eliminated. See description on Page 30 for procedures of replacing the fuse.

12. Power input

- AC220V/50Hz/350W power input.

13. Grounding connection

- It is used to connect the conference host to the ground, to avoid electric shock or equipment damages caused by electric leakage.

14. Mix output of audio signals (Cannon balance output socket)
- This port is connected in parallel to output port as mentioned in ③ (LINE OUT) and is a balance output socket. The signals on the three pins are defined as below:
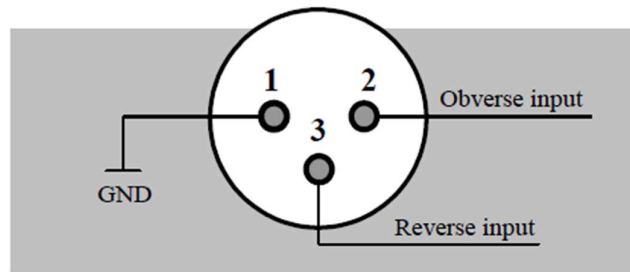
Three-wire XLR male plug

15. 6 common cameras connection ports

- Each port allows connection to one camera.
- All 6 cameras connected to this system must be of the same brand.
- Cameras are connected by coaxial cable.

16. HD video output interface

- Connect the projector and other video equipment, Input the camera content to the big screen.

17. Common Video output port

- The port is used for connection to projectors or other video equipment, with which the content captured by cameras will be output to a large screen.

18. 6 HD camera connection port

- Each port allows connection to one camera.
- All 6 cameras connected to this system must be of the same brand.
- Cameras are connected by coaxial cable.

19. These marks indicate that this machine can be safely working in areas under altitude of 2000 meters and no tropical regions.

Specifications

Item	Index Parameters
LINE input voltage	250 (±30) mV
ALARM input voltage	250 (±30) mV
LINE output voltage	1 (±0.1) V
BALANCE output voltage	1 (±0.1) V
Frequency Response	20Hz-20kHz (±3dB)
SNR	>80 dB
Harmonic Distortion	<0.3%
Output Power	≤110W/3-way, 24V
Maximum Power	350W
Static power consumption	15W
Quantity of maximum units	128 ps
Control interface	RJ45, RS232, RS422
Power source	AC220V~50Hz/320W
Package dimensions(L×W×H)	525×480×185mm
Equipment dimensions(L×W×H)	484×385×88 mm
Gross Weight	7.5kg
Net weight	6.9kg

This specification is subject to change without notice.

NVS-DC600083CE Conference System Extension Controller

Features

- It works with the conference host to extend the maximum number of conference units.
- In a conference system, it supports up to 32 extended hosts.
- 8P-DIN sockets: One for connection with conference host and three for connection with conference units.
- An extended host allows connection of up to 128 conference units.
- 2U luxurious cabinet design, with fashionable and artistic appearance.
- It may be installed on a 19-inch standard cabinet and is easy to install and space saving.
- The equipment casing is made from metal materials and all the lines and casing are properly grounded, so the system has an anti-static of 10kV in case of physical contact and 15kV in case of air contact.

Front Panel
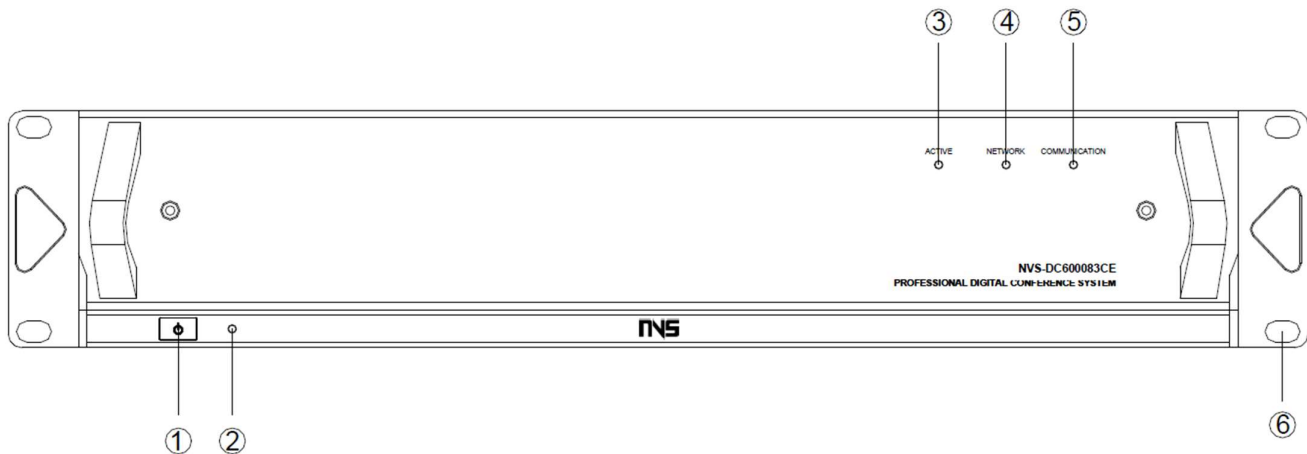
1. Power switch (POWER)

- Power is on when the button is pushed down and is off when the button is ejected.

2. Power indicating light on extended host (ON)

- The indicating light will be on,
- when the system is powered on, and it is
- off when the system is powered off.

3. Signal indicator (ACTIVE)

- This indicating light will flicker
- when the conference unit connected to
- the extended host sends signals to the conference host.
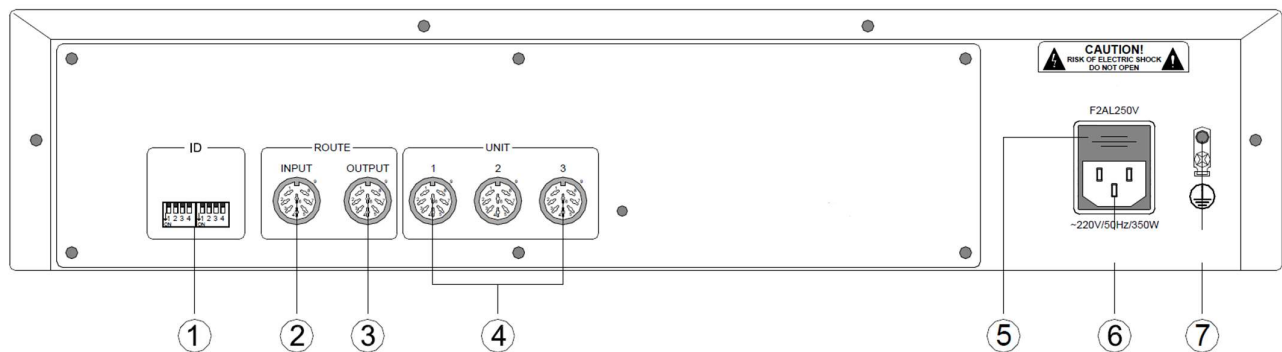
4. Signal indicator (NETWORK)

- This indicating light will flicker when there is communication between the conference host and the extended host.

5. Signal indicator (COMMUNICATION)

- This indicating light will flicker when the conference host sends signals to a conference unit connected to the extended host.

6. Screw holes for installation in cabinets

Rear Panel

1. DIP switch for address settings (ID)

- In order to tell the 31 extended hosts from one another, it is necessary to set a unique ID for each extended host. See description in Page 35 for procedures of setting up ID of an extended host.

2. Extended input port (ROUTE INPUT)

- This port on the first extended host is connected to the ROUTE extended port on the conference host, and such port on all other extended hosts will be connected to the ROUTE OUTPUT port of another host.

3. Extended output port (ROUTE INPUT)

- It is used for connection to the ROUTE INPUT of the next extended host.

4. Conference unit output port (UNIT)

- The three ports allow connection of up to 128 conference units.

5. Fuse in power supply of the system

- F2AL250V fuse socket.
- If the fuse is blown, please replace it with a fuse of the same specification.
- If the fuse is blown, it indicates equipment fault, so please replace the fuse after such fault has been eliminated.

6. Power input

- AC220V/50Hz/350W power input.

7. Grounding connection

- It is used to connect the extended host to the ground, to avoid electric shock or equipment damages caused by electric leakage.
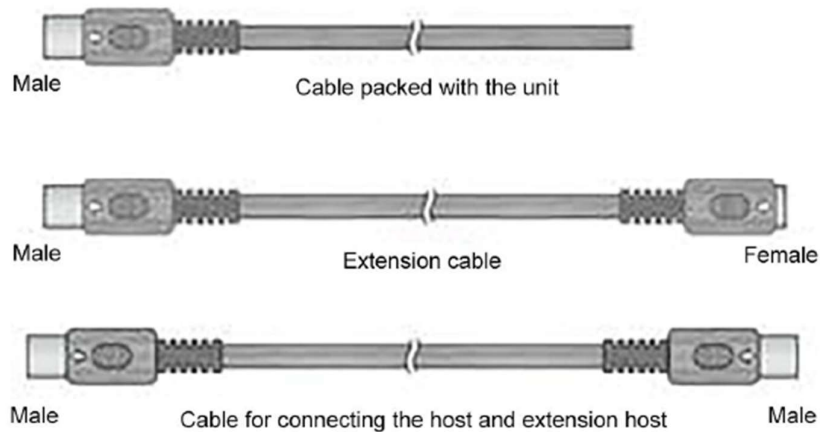
Specifications

Item	Index Parameters
Frequency response	20Hz-20kHz (±3dB)
SNR	>80dB
Harmonic distortion	<0.3%V
Static power consumption	10W
Max. power	350W
Output power	≤110W/3 way, 24V
Quantity of maximum units	128 ps
Power source	Switch Mode Power Supply 220V/50Hz/350W
Gross weight	6.9kg
Net weight	6.3 kg
Equipment dimensions (L×W×H)	484×385×88 (mm)
Package dimensions (L×W×H)	525×480×185 (mm)

This specification is subject to change without notice.

Connections

Connection between conference host and conference units

The series digital conference system has three conference unit outputs and all conference units for this series digital conference system are supplied with a 2m cable with plugs. A maximum number of 128 conference units can be connected to the system via the three output ports. Since the conference units are powered by the conference host, the 128 units should be connected barely equally to the three routes. If 128 conference units are connected to a single route, then a power supply extended equipment should be installed respectively at 1/3 and 2/3 positions of such units; if 128 conference units are connected to three routes, but there is very long extended cable in any route, a power supply extended equipment is also required. When the conference units are connected to the conference host, in addition to the cables provided with such conference units, additional extended cable and "+" adapters may be needed. The system connection is as follows.

Male — Cable packed with the unit

Male — Extension cable — Female

Male — Cable for connecting the host and extension host — Male

Female

Male — Female

Female
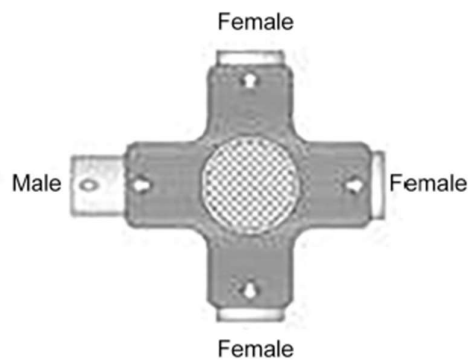
Crossed-shape connector

In the diagram above, One of the two ends of the cables are connected to the conference units, while the other end is connected to an adapter and there is little chance that such conference units are directly connected to the conference host.

20m, 50m or 100m in length. Extended cables with a plug on one end and a socket on the other end are used to connect such conference units, while extended cables with plugs on both ends are used to connect the conference host and extended hosts and to connect the conference units and extended hosts.

- "+" adapters are required for connection of all conference units.
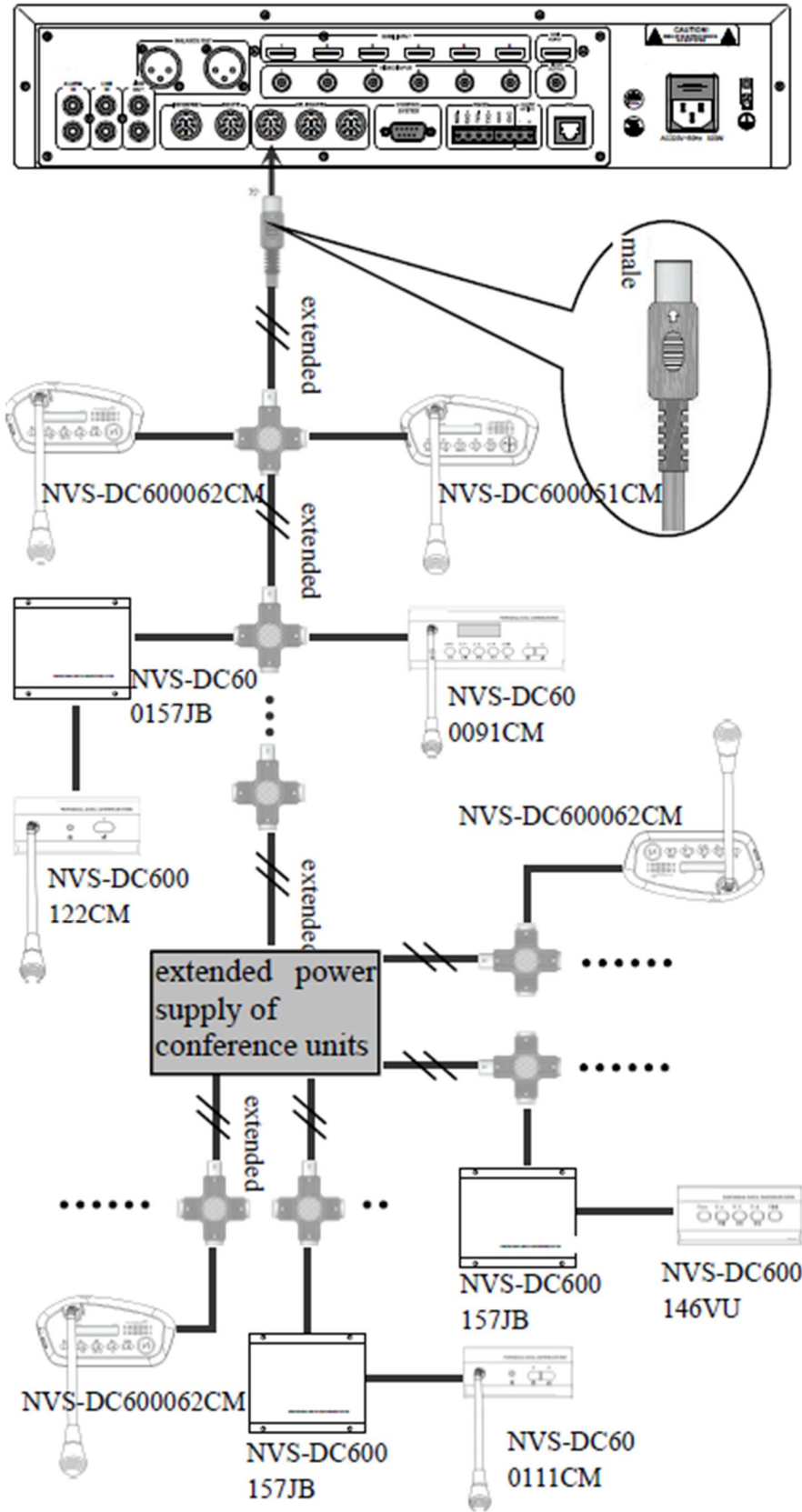
To connect the conference units, please connect the plug to the unit output port on the conference host first and then connect the socket on the other end to the plug of the "+" adapter, and then connect the plug to the socket on the "+" adapter. Connection of 128 conference units to the 3 route outputs are as shown below:
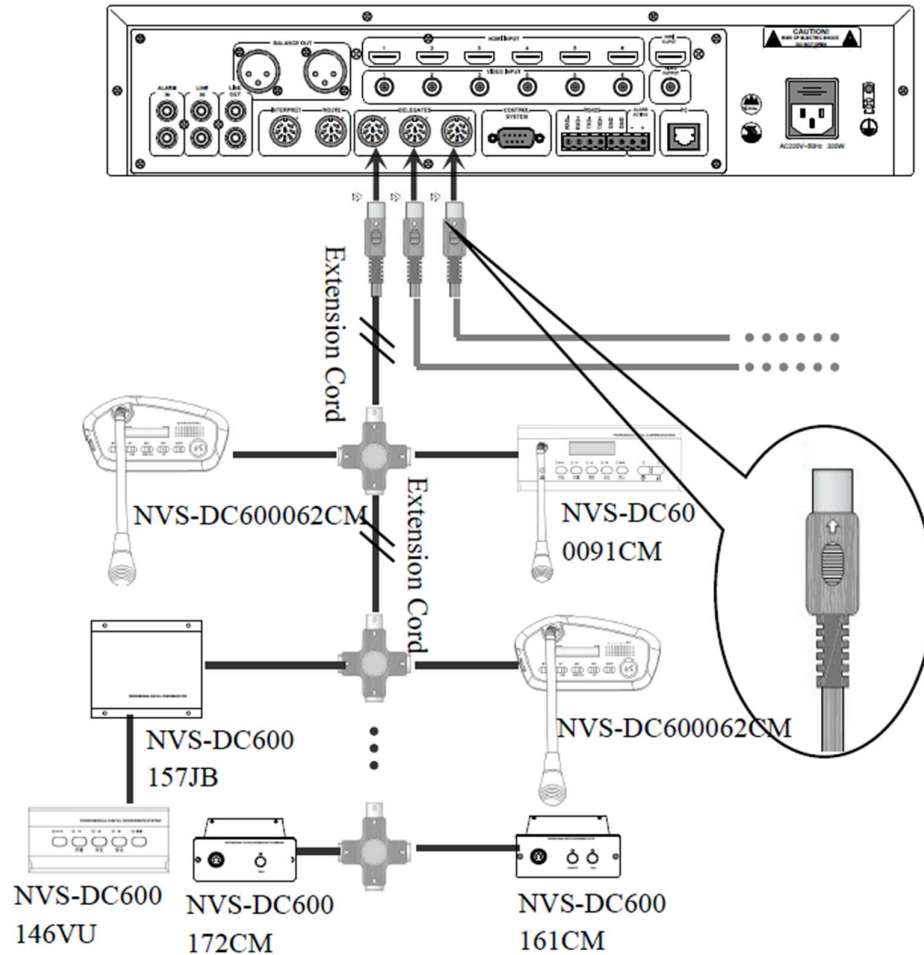
NVS-DC600051CM is the chairman unit and there may be several chairman units in a same conference system and two of them may be set to have control priority over the others.

NVS-DC600062CM is the conference speech unit and there may be maximally 20 speech units in a same conference system and the number of speech units may be controlled.

When 128 units are all connected to one route output, it is necessary to ensure that the total power consumption of all units on a route, plus the power loss of extended cables, is no greater than the overall power on such port otherwise, it may lead to system faults. When the number of conference units connected to a single route is more than 1/3 of 128, it is necessary to configure an extended power supply. It is as shown below.

male

NVS-DC600062CM

NVS-DC600051CM

NVS-DC60
0157JB

NVS-DC60
0091CM

NVS-DC600
122CM

NVS-DC600062CM

extended power
supply of
conference units

NVS-DC600062CM

NVS-DC600
157JB

NVS-DC60
0111CM

NVS-DC600
157JB

NVS-DC600
146VU

Connection of cameras

The series digital conference system provides 6 BNC camera interfaces, 6 HDMI camera interfaces, 1 video output interface and 1 camera control interface. When such cameras are connected, the control signals are connected in a serial manner. The 6 cameras will not work simultaneously and only 1 will be activated, so the control signal does not have to identify the cameras and it only needs to control the one selected and in use. The connection of cameras is as shown below:


Projector
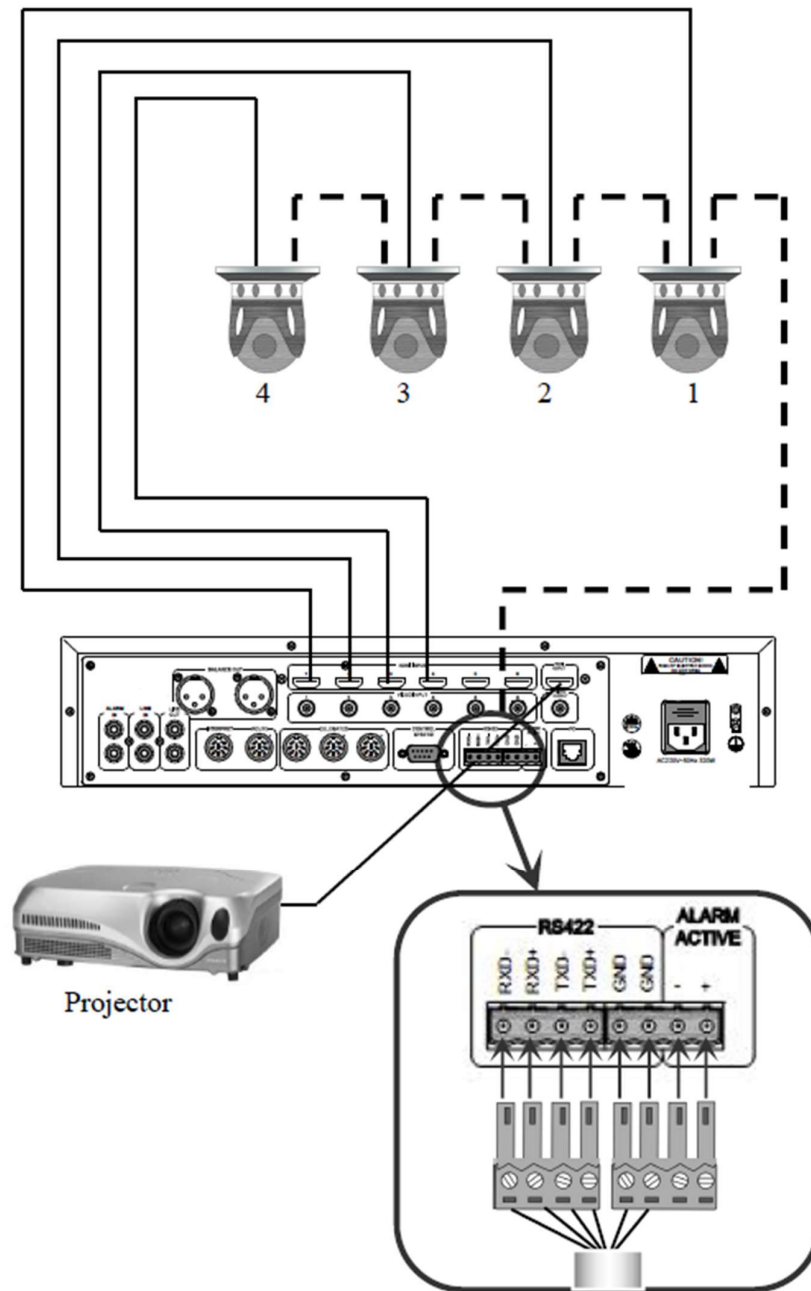
In the above figure, twisted pair cables are recommended to be used as control cable of the cameras, and one pair of the cables are used to connect the TXD+ and TXD- ports, another pair is used to connect the RXD+ and RXD- ports. Since the two GND ports are connected in parallel, the user only needs to connect any one of them. There are two methods for making the plugs for RS422 ports:

1) The procedures are as follows if Unidirectional transmission of signals is required (read-only)
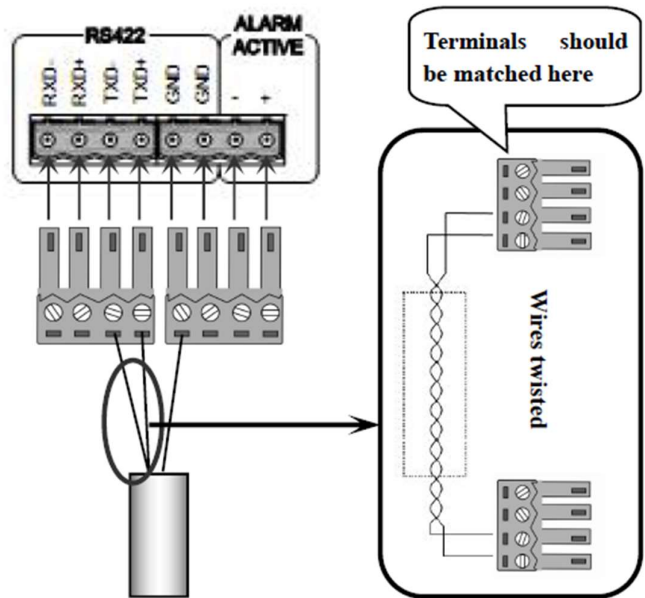
2) 2) The procedures are as follows if Bidirectional transmission of signals is required (read-write):
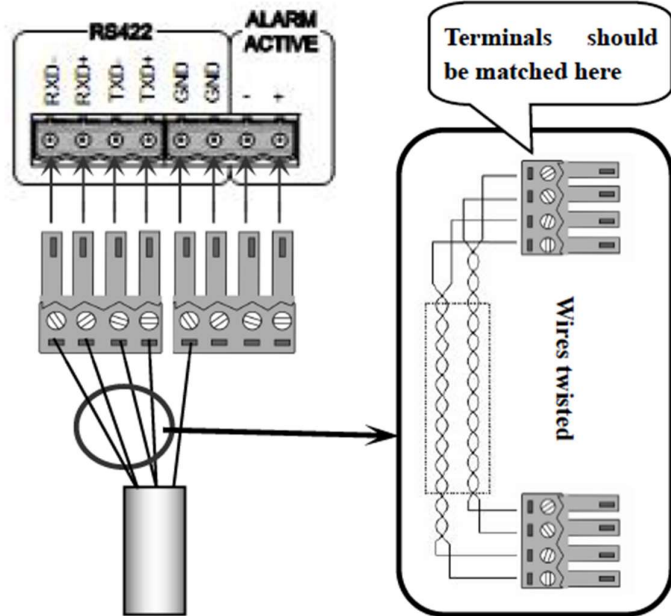
Connection of alarm and line in and line out

Alarm input is connected to the fire control centre, and LINE IN port is connected to the external audio equipment, while the LINE OUT is connected to amplifiers, which will amplify and output the alarm audio, secondary audio, and voices of the spokesman. Audio lines with RCA sockets on both ends are used for the connection.
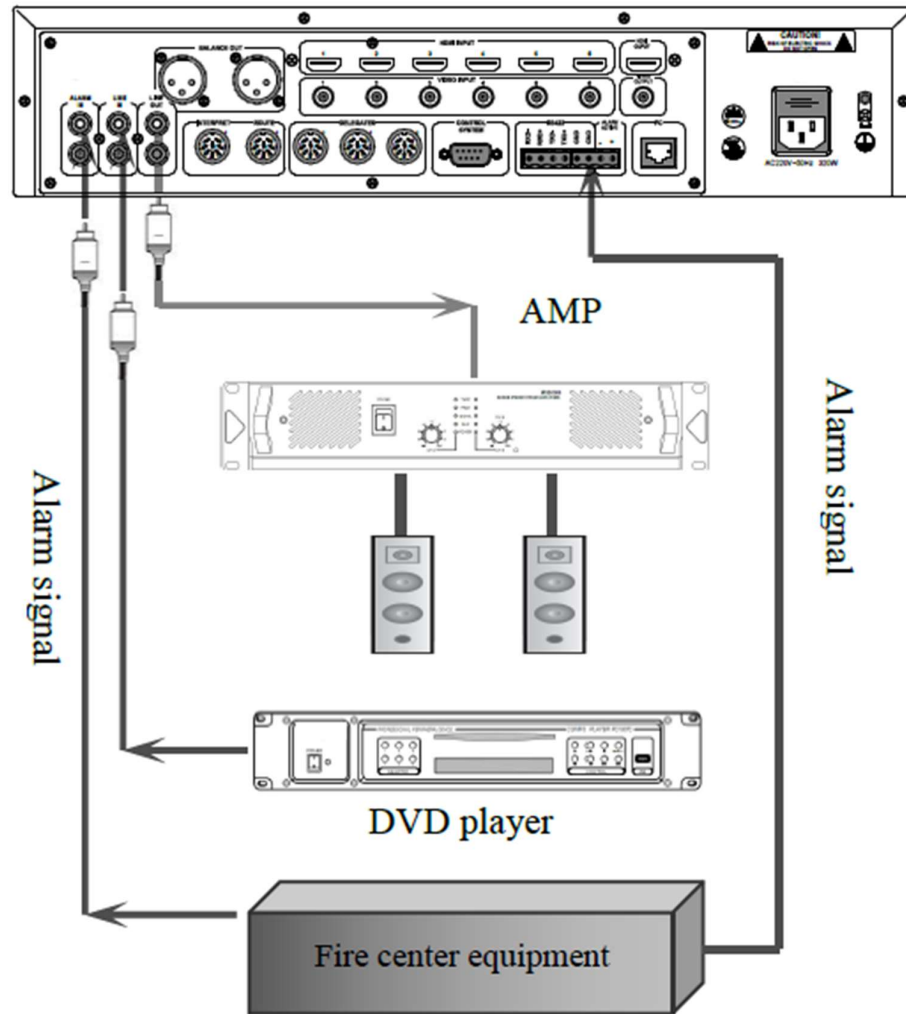
Control system and network connection

The series intelligent digital conference system may be connected to a central control room, to realize centralized control, or otherwise, it may also be connected via TCP/IP to realize remote control on PCs. Remote control may be realized by computers or Android tablet PCs, iPad, and tablet with Win8 OS.
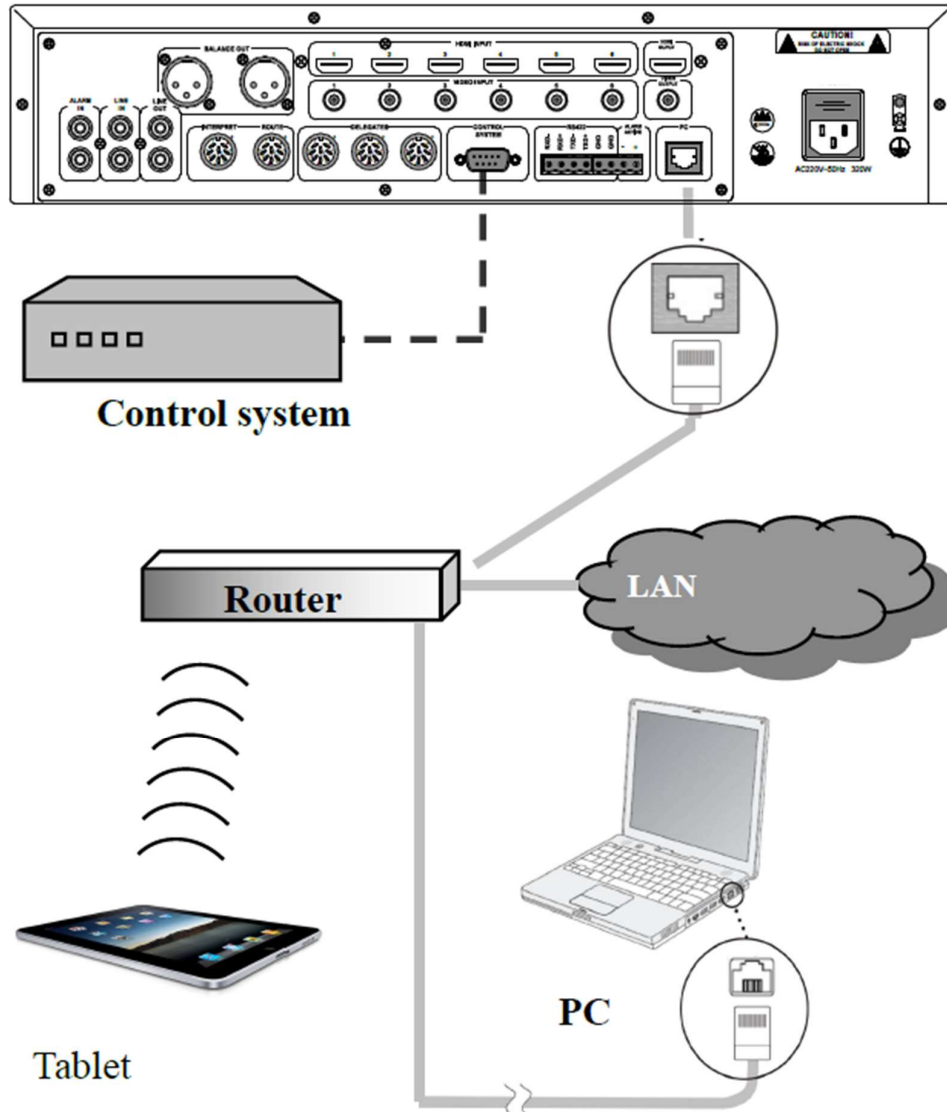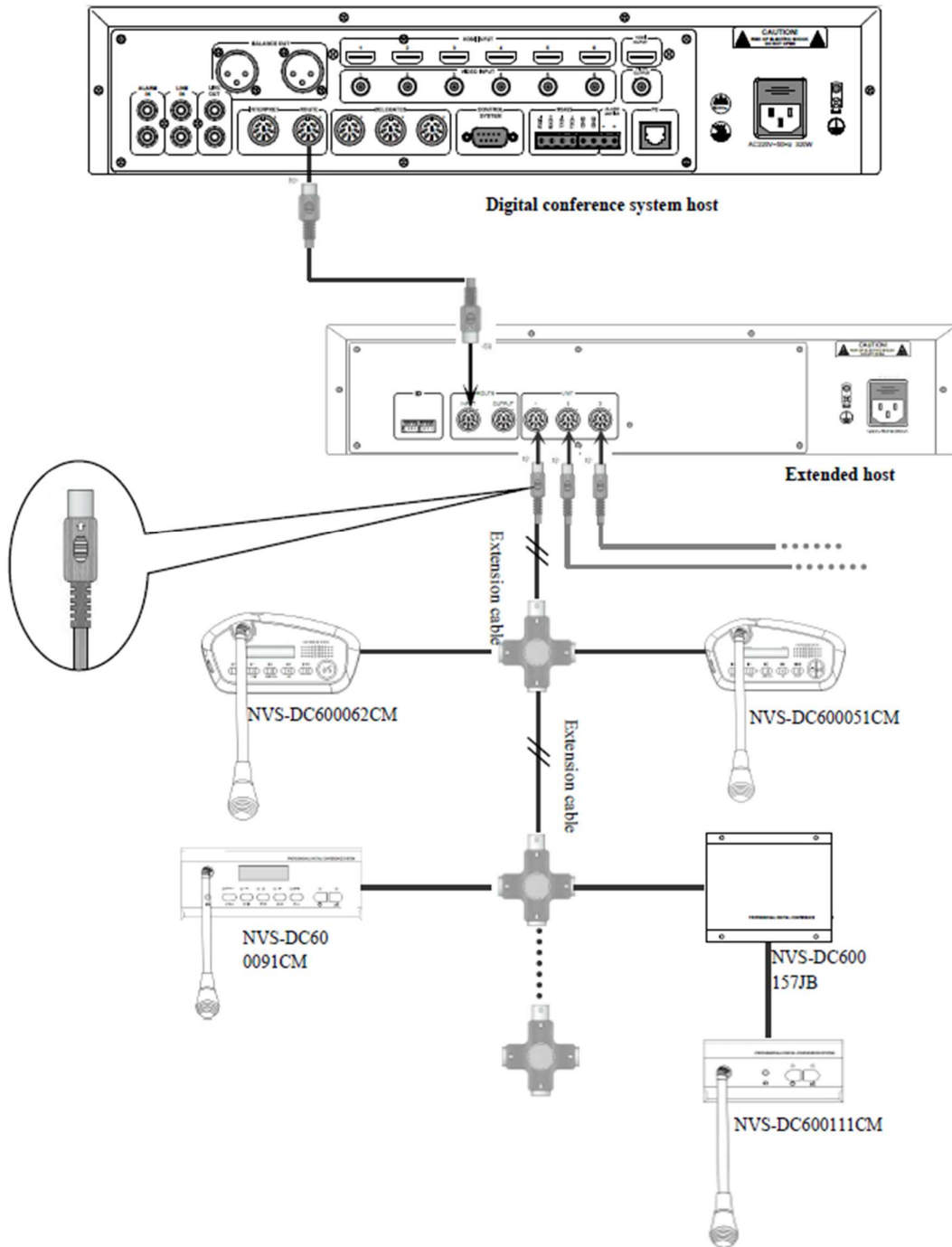

As shown above, if the conference system, PC or tablet PC are in a same network, remote control may be realized.

Connection between hosts and extended controllers
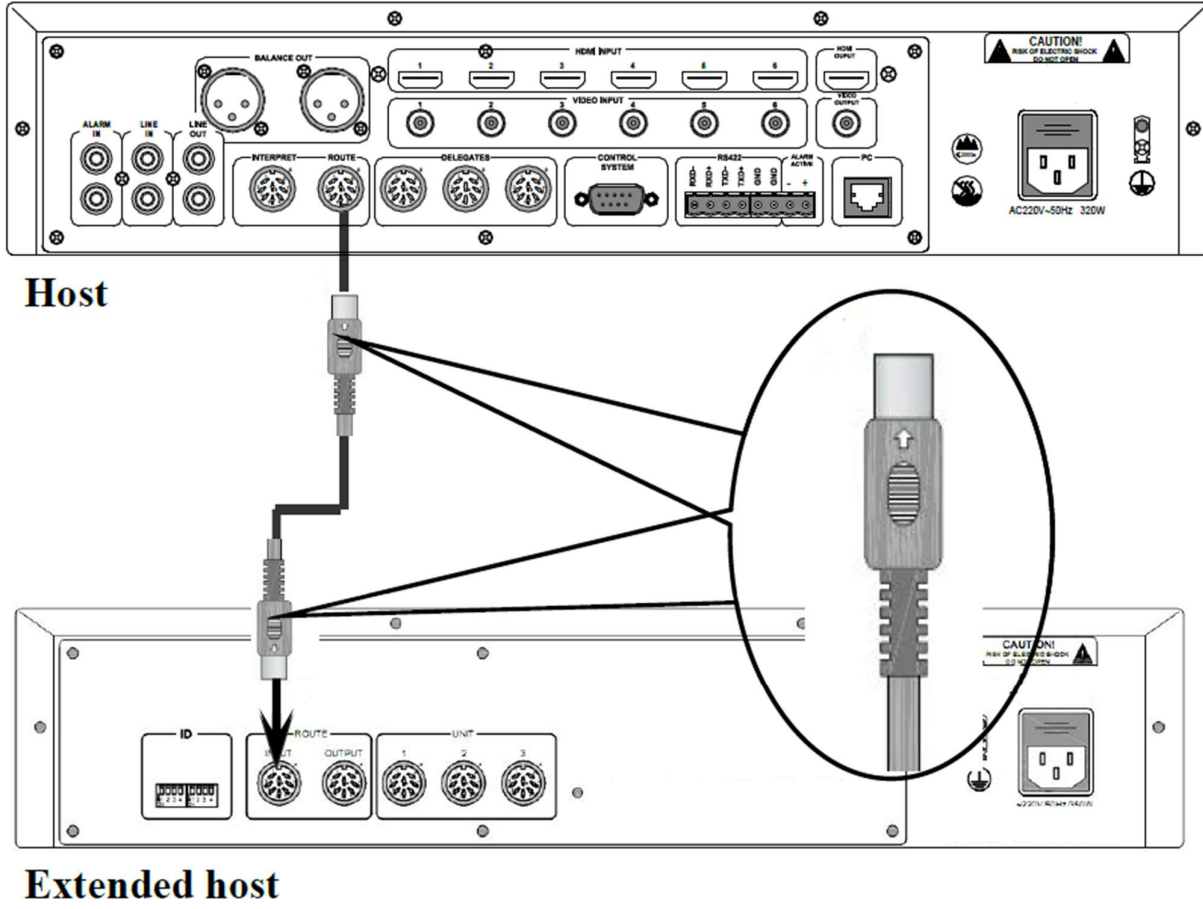
Host

Extended host

Connection of conference units to extended controllers

There are maximally 31 extended controllers in a same system and each extended host may be connected to 128 conference units.

Digital conference system host

Extended host

Extension cable

Extension cable

NVS-DC600062CM

NVS-DC600051CM

NVS-DC60 0091CM

NVS-DC600 157JB

NVS-DC600111CM

Operations

After all installation and connection operations are completed, the user needs to configure the functions of the conference system and these entire configurations must be completed before the conference commences.

Power on the equipment

Press the power switch (the blue indicating light will be on), and the equipment will start its operating system and then start the conference control software. After the system is started, the conference system will be initialized, which will take some time. After the initialization, the system will show the main interface (start interface).


Main functions displayed on the main interface, excluding system time displayed on the top, includes:

"Number of units connected to the system" "Speech settings" "Camera tracking" "Camera selection" "Conference mode" "EQ Control" "Recording operation" "System settings" Users can access the corresponding operating interface by touching these icons on the touch screen.

Music playback

Touch the "Song Play" icon on the main interface and enter the song play settings interface (it takes 30s - 2min to identify the U disk for the first time, depending on the size of the U disk memory, please wait patiently). Before playing a song, the users need to insert the U disk with recorded song as the sound source. The song playing and recording cannot be carried out at the same time. The interface is shown below:
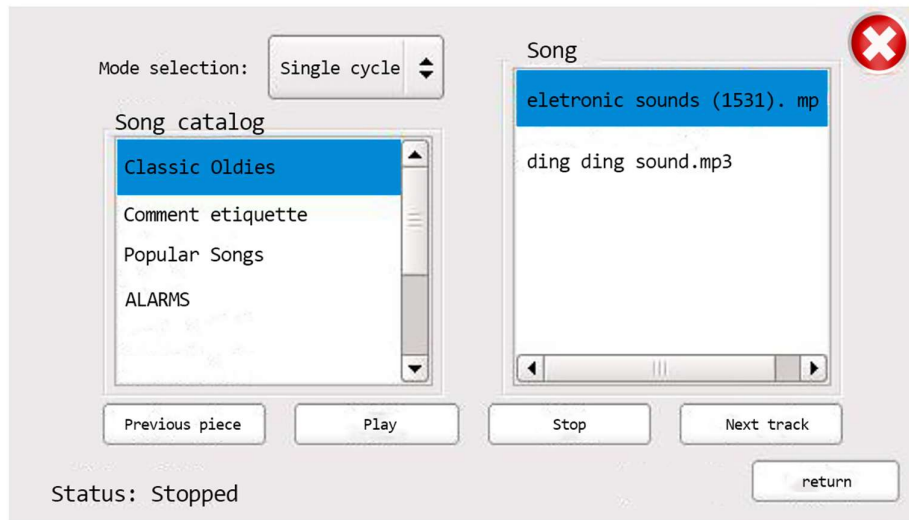
Number of speech units

The number of active speeches configured here is effective in an incompletely open conference mode.

Users can view the number of active speech by touching the icon of "Speech" on the main interface and enter the configuration interface of "maximum number of active speech". The interface is shown below:
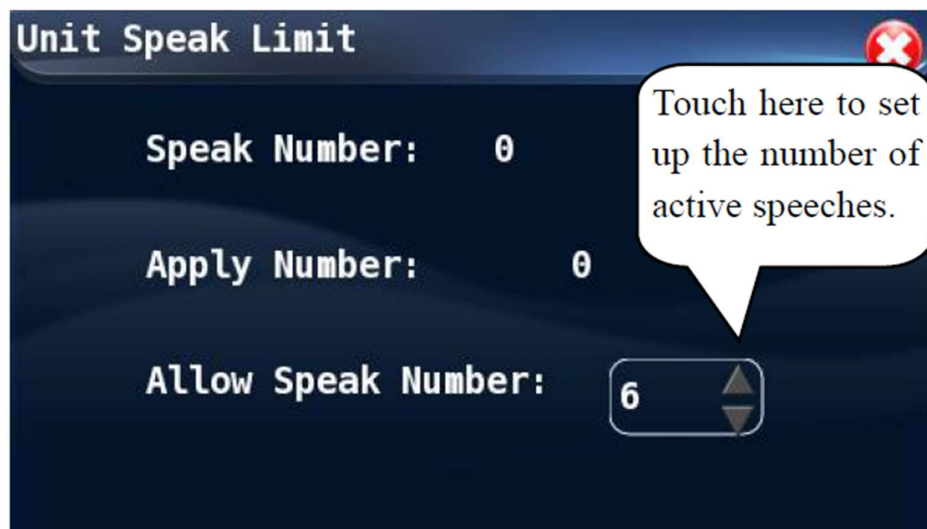
The interface indicates the number of currently active speeches, number of speech application and the maximum speech allowed of which the maximum speech allowed may be modified by pressing the small arrows in the value box:

1) Touch the UP arrow to increase such value by 1.
2) Touch the DOWN arrow to decrease such value by 1.
3) The maximum active speeches are 6
4) After configuration and viewing operations are completed, touch the ⊗ icon to close the unit limit interface and return to the main interface.

Camera tracking

On the main interface, touch the "Camera Tracking" icon to enter the configuration interface of camera tracking function. As shown below, the camera tracking function may be Enabled or Disabled on this interface. Touch the options, and if the icon before the option is green as shown below, it means that the camera tracking function has been set to the selected status. If the camera tracking is set as "Off",
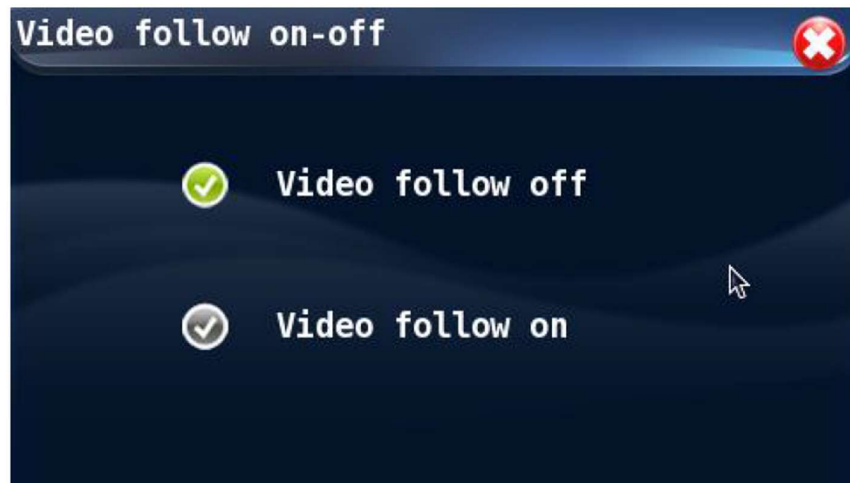
then the camera tracking function will be disabled for this conference, but the cameras are not shut. In such cases, if the camera is directed to a fix point, then it may be controlled by the PC software (See description of PC software control for detailed procedures) or central control system.

Camera selection

The camera may be selected on conditions that the camera tracking function is off, otherwise users will not be able to select the desired camera. On the main interface, touch the icon of "Camera Selection" to access the manual camera selection interface. The interface is as shown below:
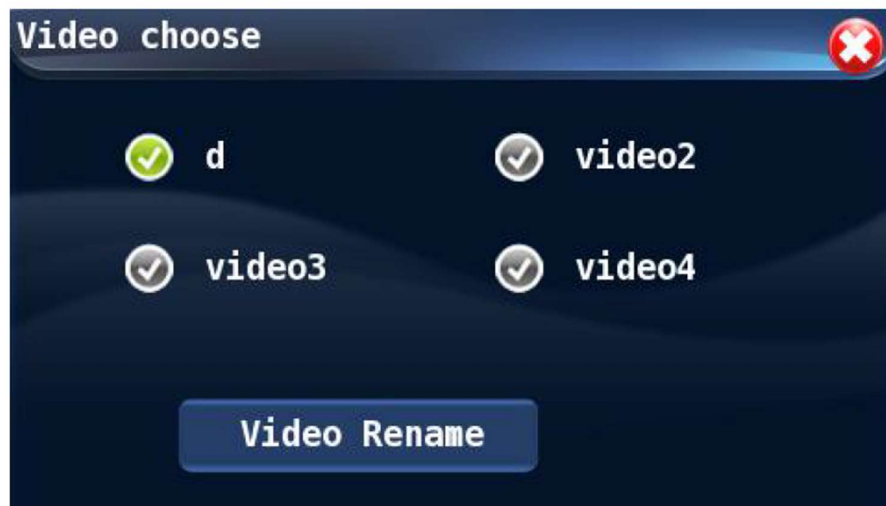
The operable function on the interface includes:

1) Camera selection: This system allows connection of up to 6 cameras, and only one of them will be selected and in use. If the user selects one camera on this interface (for example, Camera 1), then all settings on other cameras will be applied on the selected one, (For example, Camera 2 is selected), then the user may need to reset the selected camera, including the "ON/OFF setting of camera tracking function" and "camera tracking and positioning". To select a camera, the user may touch the icon before the desired camera, green colour indicates that the camera has been selected.

2) Camera naming: On the "Camera Selection" interface, the user may touch the "Camera Naming" icon to access the operation interface to name the camera. On this interface, the user may name the 6 cameras. The default names are as follows before such cameras are named. The user does not have to name the cameras unless he/she has special needs.

Procedures to name a camera:

- On the interface as shown above, touch the "Modify" button after the camera to be renamed, then a keyboard will show.
- Enter the new name of such camera and touch the "Ent" button to confirm and quit the keyboard.
- After the operation completes, touch the ⊗ on the upper right to exit the interface and return to the upper interface.

Conference mode

On the main interface, touch the "Conference mode" icon to enter the configuration interface of conference mode, which is as shown below:
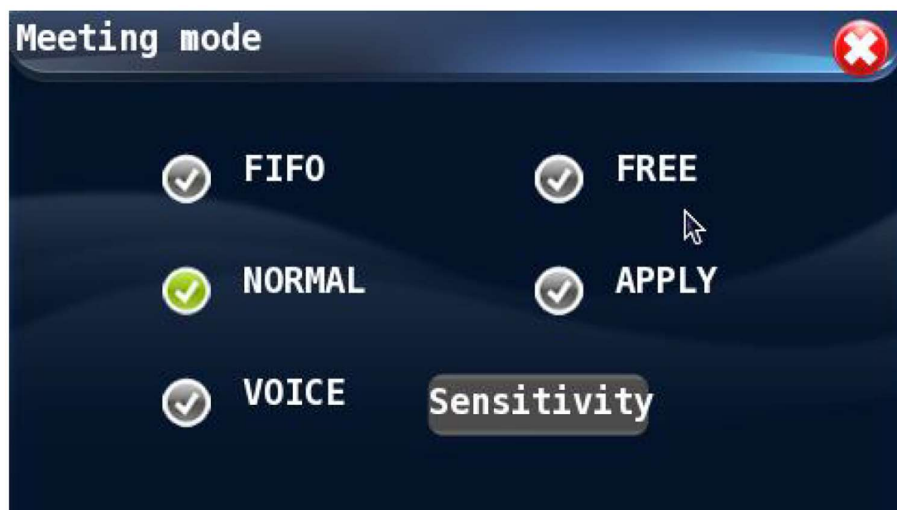
The alternative mode on the interface includes:

"FIFO"
"NORMAL"
"FREE"
"APPLY"
"VOICE"

1）a) FIFO mode: Speech is delivered in a first-in-first-out mode. After the activated delegate units reach the maximum limit, any newly activated units will deactivate the first activated one. The total number of normal units + VIP unit speeches is up to 10.

2）NORMAL mode: Speech will be delivered in queue. After the number of activated delegate units reaches the maximum limit, all newly activated units   may wait in a queue until a previously activated unit is off. The total number of normal unit + VIP unit speeches is up to 10.

3）FREE mode: The conference units are in a free mode, supporting 20 units to speak at the same time. When the number reaches 20, the subsequently activated units will wait in line. If the VIP unit is queued, the VIP unit will be activated first.

4）APPLY mode: The conference units are in a speech application mode. The delegate unit needs to apply for the approval of the chairman unit to speak. VIP unit does not need to apply, the total number of normal unit + VIP units can be up to 10.

5）VOICE mode: The conference units are in a voice control mode. The sensitivity of voice control should be set first. When the speaker is near the middle-head of the unit, the unit will be activated automatically. If the speaker does not speak within one minute, the unit microphone will be deactivated automatically.

- If the number of normal units is first activated to the set number, the total number of statements in the normal unit + VIP unit is up to 10.
- If the VIP unit is first activated to the number to the set number, and the normal unit can't be activated.

The steps for selecting the conference mode for the system on this interface are as follows:

1) Touch the desired conference mode to select (for example, touch NORMAL to select the NORMAL mode), the conference is selected when the   icon before such conference mode is in green colour.

3) If "VOICE" mode is selected as the conference mode, then the user needs to set up the sensitivity of the microphones on conference units. The procedures for setting up the sensitivity is as follows: When the icon before "VOICE" mode is in green colour, touch the "Sensitivity" button after it will call the sensitivity setting interface.

- When the icon before "VOICE" mode is in green colour, touch the "Sensitivity" button after it will call the sensitivity setting interface.
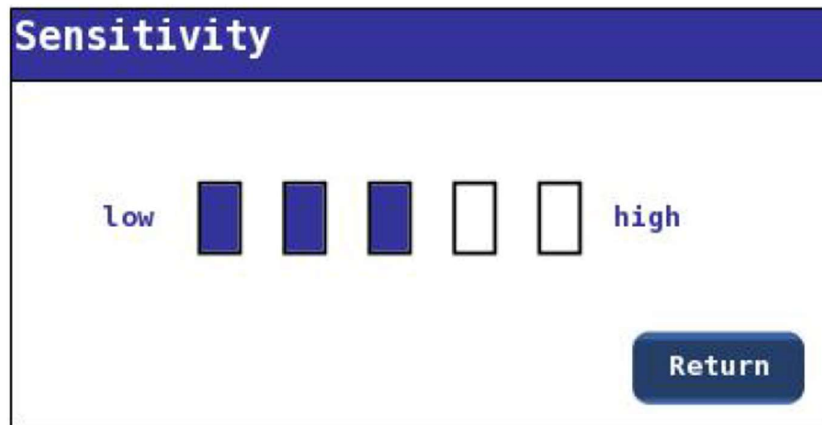
On such interface, touch the boxes which indicates the sensitivity, and the boxes becomes blue, it means that the adjustment has completed. After the configuration is complete, touch the "Return" button to exit the sensitivity configuration interface.

Sound control

On the main interface, touch the "EQ" icon to enter the EQ interface, which is as shown below:

On the interface, the user can control the AUX volume, main volume, low cut, and equalizer setting.

1) AUX volume: It is used to adjust the volume of secondary audio input.

2) Main volume: It is used to adjust the volume of secondary output, alarm output and the volume of all conference units.

3) Low cut: With this option, the user may decide if the low frequency under 80Hz will be cut or not. If this option is selected, (the ⊘ icon before the option is green) the low cut function will be activated, otherwise, it will be in active. If the low-cut function is required, the option must be properly set up before the conference. The low-cut function may also be configured on the PC control software.

4) Equalizer: With this option, the user may decide if the equalizer function will be activated. The system provides a 14-band graphic equalizer, which may be adjusted manually, and the results of manual adjustment will be saved for future user. If the equalizer function is activated, then the user may touch the "Settings" button after it to enter the settings interface of equalizer.
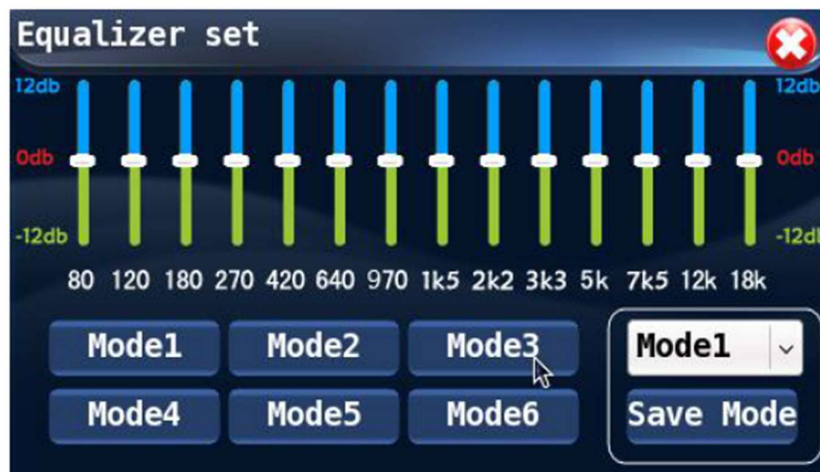
As shown in the picture, the 14-band graphic equalizer allows manual adjustment. Users may save the current value as mode 1 to mode 6.

- Users need to touch the mode button before making any adjustment to the equalizer (for example, "mode 1 is selected").
- After the adjustment is completed, touch the "Save mode" button to save the equalizer values to "mode 1", so in the future, the user may touch the "mode 1" button to call the equalizer values.

Recorder

On the main interface, touch the "Recorder" button to enter the recorder operation interface. The conference system can realize conference recording, and the audio file recorded may be saved on a USB flash disk. Before the recording is started, plug a USB flash disk to the front panel of the conference host, otherwise the recording function cannot be realized. The audio file generated by this conference system will be saved in wav format, which allows direct playing on most computers.

The system supports "Automatic recording" and "Manual recording" modes. On the recording interface as shown above, the user may touch the desired recording mode to select it.

- Automatic recording: If the automatic recording function is selected, the recording will start when any speech is delivered via any conference unit, and it will automatically stop when the last speaking unit is off. The recording may stop if there is not enough space on the USB flash disk.
- Manual recording: If manual recording is selected, the user may start recording by pressing the "Start" button and stop it by pressing the "Stop" button. Under manual recording mode, the recording will also automatically stop if there is not enough space on the USB flash disk.
- On the recording interface, the user may view the time length of recording, the file name of recorded files and the time left on the USB flash disk.
- Composition of file name: By default, the file is named by the starting date and time of the recording in wav format; for example, if the recording starts at 12:30:50 of August 1st, then the audio file will be named as 08_01_12.30.50.wav. A new audio file will be generated when the recording is longer than 1 hour.

System Settings

On the main interface, the user can press the "System settings" icon and then input the password (the default password is 111111 and may be changed by the user) and press the "OK" button to enter the "System settings" interface, which is as shown below:

The functions provided on the system settings

interfaces include:

"Network Settings"
"Camera Tracking and Positioning"
"Unit Testing"
"Unit ID"
"Unit Settings"
"Time Limit for Speeches"
"Microphone On/Off tone"
"System Time"
"Display"
"General"

Network settings

The Network settings includes "IP address", "Subnet mask" and "Gateway" settings of the host.

Assign a unique IP address to the conference host. Touch the boxes after the "IP Address" and the cursor starts to blink, at this time, the user may touch the "Modify" button to call the "IP Address modification" interface, to modify the IP address. The interface is as shown below:
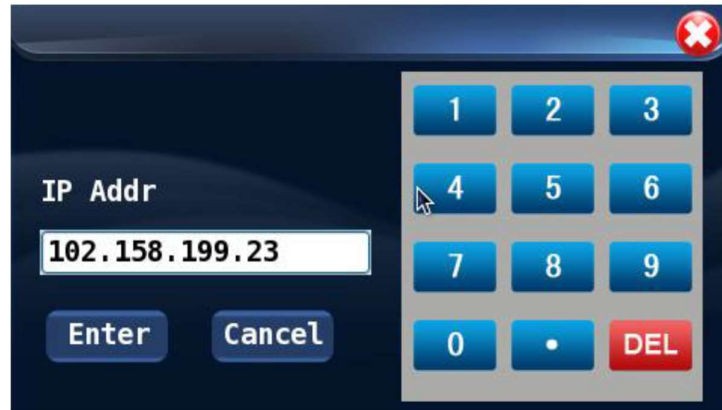
Then, move the cursor to the desired digit and touch the red "DEL" button to remove the existing digits, and then the user may enter the target values on the number keyboard, and press the "OK" button to confirm the modification and exit the input interface.

- The procedures for setting up the subnet mask is the same as those of IP address.
- After all the settings are completed, the interface will automatically pop up to prompt "the system needs to be restarted to take effect", and then restart the system.

Camera Tracking and Positioning

The user may touch the "Camera Positioning" icon on the "System settings" interface to enter the camera tracking and positioning settings interface, which is as shown below:

On this interface, the user may select the desired communication protocol of cameras and can set up the swing speed of cameras and can enter the camera positioning interface for further operation.

Tips: No speech will be delivered on the conference units during the settings period of camera tracking and positioning functions.

- Communication protocol: The series intelligent digital conference system provides three options: PELCO D -9600, PELCO P -9600 and VISCA -9600. In order to select the desired option, the user can touch the black arrow after the protocol box to open the drop-down list, and then touch the target communication protocol in the list to complete the whole operation. The communication protocol may vary from cameras of different brands, therefore, all the 6 cameras connected to the host must be products of the same brand.

- Swing speed of camera: With this option, the user can set up the step size when the camera swings. Larger step size means faster swing speed, and the swing range will be larger, otherwise smaller step size means slower swing speed, and the swing range will be smaller. But slower swing speed will result in better positioning precision. In order to set up the swing speed, the user may only need to slide the block to the desired position to complete the settings process.

- Camera positioning: The user may touch the "Camera Positioning" button on the graphic interface to enter the settings interface, which is as shown below:


On this interface, the user may point a camera to a particular conference unit, and the setting will be saved for future use. With this interface, the user may set up 32 conference units which will be tracked by the cameras and save 32 camera positioning plans. To set up the camera positioning, the user should select a camera (Camera 1# for example) and then modify the conference unit ID which will be tracked by the camera (The Unit ID should be the ID of conference unit to be tracked). The user may enter the desired unit ID (for example the unit

ID is 0001), via a number keyboard, on the interface shown below, and then the user may use the ⬚ button to adjust the position and focal length when the camera is pointed to such conference unit.
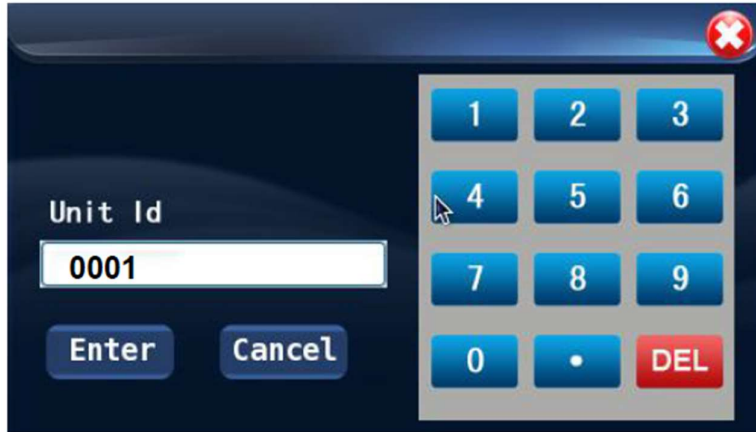
Finally, the user should save the position information of cameras. He/she can touch the "Modify" button after the "Save as preset point" to enter the modification interface. Then he/she can touch the preset points (for example "1") and then touch the "Select" button to complete the operation and exit the interface. If after the user selects a preset point, he/she touch the "DEL" button, then the position information saved on such preset point will be deleted and the preset point will be in an idle status. Preset points without position information are also in idle status.
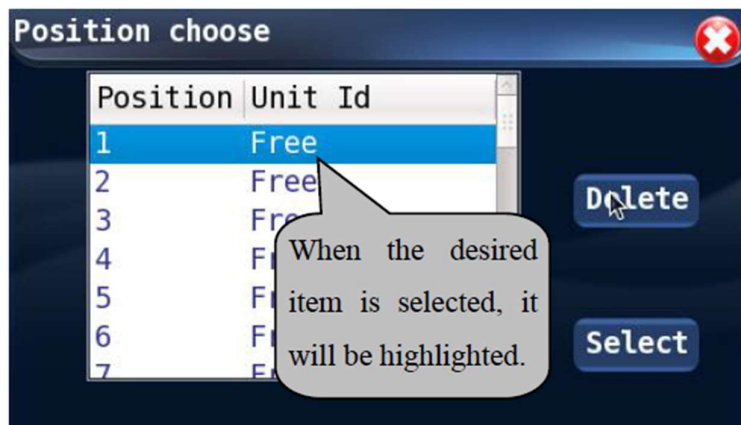
After modification to the preset points, the user can touch "Save" button to save the position information, and in future application, the user may touch the "Call" button to call the saved position plans. In each time, the system will call the preset point after the "saved preset point" (for example, the number box will display "2").

Unit Testing

On the "System settings" interface, the user can touch the "Unit Testing" icon to enter the unit testing interface. The interface is as shown below:

Before the conference commences, it is necessary to test every conference unit. The items to be tested include: "microphone, LCD screen, operation buttons, LED indicating lights and speaker". Testing may be done manually or automatically, and the testing time is also adjustable. The testing will be carried out on the conference units currently displayed, and the ID of such units will be displayed on the upper left corner of the interface.

Procedures for automatic testing

- Touch the "Automatic Testing" button and the button is selected if it is highlighted in light blue.
- Set the "Unit testing time", which will be effective in automatic testing. The time may be 20-100 seconds. Touch the small arrows ![30S] after the "Unit testing time" to adjust the time. After the testing time is set up, the system will automatically test all testing items of a conference unit, including "microphone, LCD Screen, buttons, LED lights and speaker". After the testing on one conference unit is completed, the system will automatically proceed with the next one.
- In order to stop the automatic testing, please touch the "Stop testing" button.

Tips: No speech will be delivered on the conference units during testing the conference units.

Procedures for manual testing

1. Testing microphone
- Touch the "Test the microphone" button (the button is selected when it is highlighted in light blue colour)

- Touch the "Start Testing" button to test if the microphone can be activated and deactivated normally. During the testing, the LED on power button and surrounding the microphone will be on and messages of "Testing" will be displayed on the testing interface and the "Start testing" button will change to "Stop testing". Message of "Microphone is being tested..." will be displayed on the LCD screen of the conference unit.
- After the selected conference unit is tested, the user can touch the "Stop testing" button to stop the testing and the LED lights on the conference unit tested will be off. Or otherwise, the user may touch the "Previous Unit" or "Next Unit" to test other conference units connected to the conference host and stop the testing after all conference units are tested.

2. Testing LCD screen
- Touch the "Testing LCD Screen" button and the button is selected if it is highlighted.
- Touch the "Start testing" button to test the LCD screen of the selected unit.
- Touch the "Previous Unit" or "Next Unit" to test other conference units connected to the host.

3. Testing buttons
- Touch the "Testing Buttons" button and the button is selected if it is highlighted.
- Touch the "Start testing" button to enter unit button testing status, and then the user should press the buttons on each conference unit to see if they work properly. When the user presses a function button, if the corresponding indicating light is on and then is automatically off, it means that the button can work properly.
- After testing all buttons, the user should touch the "Stop testing" button to stop the testing, or he/she can touch other testing item to continue with the testing.

4. Testing LED indicating light
- Touch the "Testing LED" button and the button is selected if it is highlighted.
- Touch the "Start testing" button to enter Unit LED testing status, and then all LED indicating lights on the conference units being tested will blink.
- The user may touch the "Stop testing" button to stop the testing, or he/she can touch other testing item to continue with the testing.

After testing all items are completed, the user should touch the ⊗ icon to exit the testing interface.
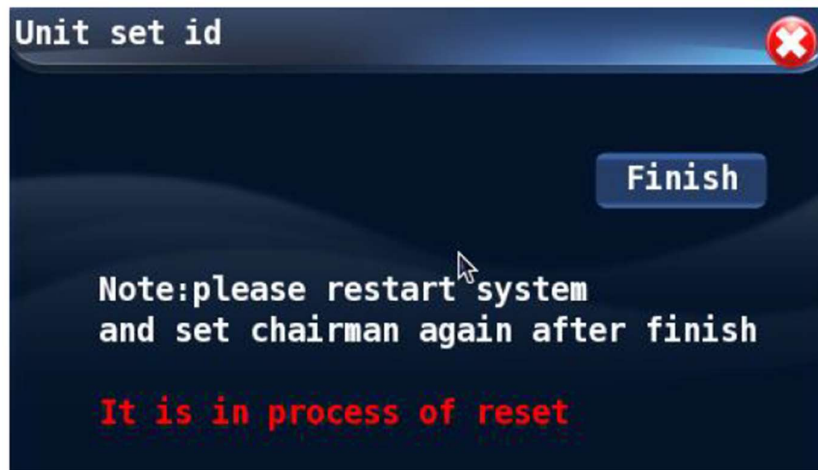
Numbering of conference units

Touch the "Unit numbering" button on the "System settings" interface to enter the unit numbering interface which is as shown below.
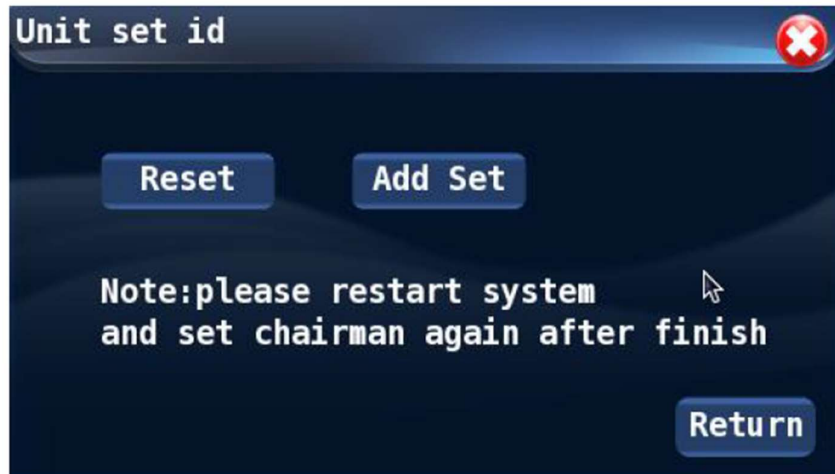
On this interface, the user can renumber all the existing conference units and number the newly connected units.

1. Re-numbering
- On the "Unit Numbering" interface, the user can touch the "Renumber" button to enter the renumbering interface which is as shown below.

- On the interface shown above, the user should set up the unit ID on the conference units to be renumbered (please refer to the description on conference settings section for information with respect to unit numbering operations). After the operation has completed, the user should touch the "End" button as shown above, to exit the interface.
- After all conference units are numbered, the unit IDs renumbered will take effect after the conference host is power off and restarted.

2. Add new ID
- On the "Unit Numbering" interface, the user can touch the "Add new ID" button to enter the operation interface which is as shown below:
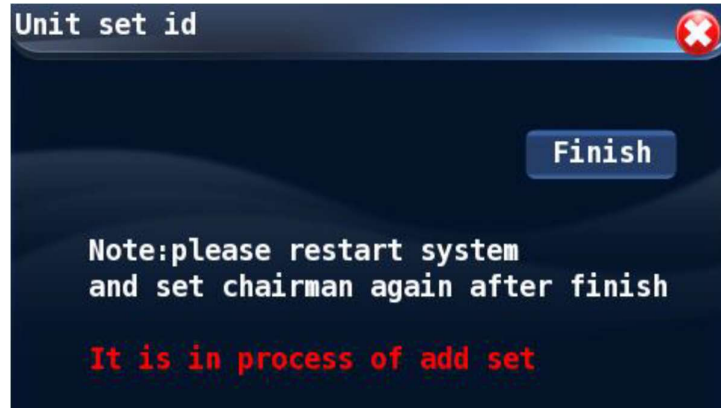
- The user should set up the IDs on newly added conference units and after the settings operation, he/she should touch the "END" button on the interface shown above to exit the interface.
- After all new conference units are numbered, the newly added unit IDs will take effect after the conference host is power off and restarted.

After the conference units are numbered, the user may touch the ⊗ icon on the upper right corner of the "Unit Numbering" interface to exit the numbering interface.

Tips: After the conference units are renumbered, the camera tracking information and the chairman unit assigned will be deleted, so the user needs to reset them.

Unit Settings

Touch the "Unit Settings" button on the "System settings" interface to enter the unit settings interface which is as shown below:

On the unit settings interface, the following settings operations are available:

"Chairman unit 1"

"Chairman unit 2"

"Platform mode"

"Priority"

"Vote result display"

"Setting of VIP units"

1) Chairman unit

The series intelligent digital conference system allows 2 chairman units which are given the priority to make speeches, and they can operate simultaneously. The settings procedures are as follows.

- On the "Unit Settings" interface, touch and select the "Chairman Unit" (for example, Chairman Unit 1 is selected). When an option is selected, the [✓] icon before such option will be displayed in green colour

- Touch the black arrow after the ID box of conference unit to unfold the drop-down list and select the ID from the menu for "Chairman Unit 1" or "Chairman Unit 2". After all conference units are numbered and the conference system is restarted, the Chairman Units will be automatically identified, and its ID will be displayed in the list on the operation interface.

- The ID of conference unit set as a chairman unit will be displayed on the following interface.
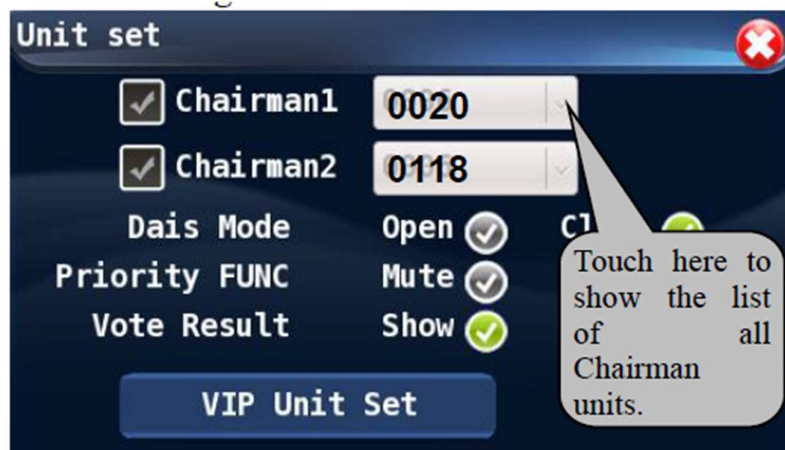
If ten chairman units are connected to the system, then after all conference units are renumbered, all the ten chairman units will be identified by the conference host and will be displayed on the list as shown above.

2) Platform mode

- To set up the platform on/off status of Chairman Unit 1 and Chairman Unit 2, the user may simply touch the desired option to complete the settings operation.

- If the Platform mode is "ON", then both the two chairman units will be always on and the ON/OFF button the chairmen unit will be ineffective; if the platform is "OFF", the chairman unit will be operated by the On/Off button on such units.

3) Priority
- The user may set the priority of Chairman Unit 1 and Chairman Unit 2 as "Mute" or "Off". The user may touch the options after "Priority" on this interface to complete the settings.
- If "Mute" is selected, then in the conference, when the chairman presses the priority button, then all activated delegate unit will be turned to mute status. After the activated delegate unit is mute, the On/Off LED light on the microphone will blink, and a sound off message will be displayed on LCD screens of the Chairman unit and the delegate units. Please refer to the description of conference unit settings section for detailed information as the content displayed and the operation instructions. If it is no longer necessary to turn off the microphones of delegate units, they chairman may press the priority button and cancel the sound off status by following the instructions on the LCD screen, the delegate unit will be able to deliver speeches.
- If "Off" is selected, then in the conference, when the chairman presses the priority button, then all activated delegate unit will be turned off.

4) Vote result display (Only effective on units with LCD screen)
- With this option, the user may decide if the vote result will be displayed on all conference units including the Chairman Unit 1 and Chairman Unit 2. The user may touch the options after "Vote Result Display" button to complete the settings.
- If "YES" is selected, then the vote result will be displayed on all conference units; of "NO" is selected, then the vote results will not be displayed on LCD screens of any conference unit other than the chairman unit 1 and 2.

5) Setting of VIP units
- The user may touch the "VIP Unit Settings" button on the "Unit Settings" interface to enter the VIP unit settings interface which is as shown below:
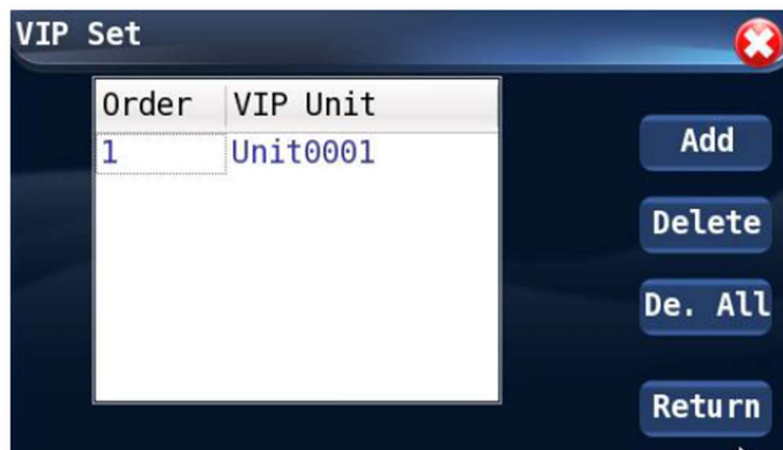
The series intelligent digital conference system allows a maximum number of 30 VIP units. The VIP unit may be a conference unit of whatever type. When the total activated conference unit is less than 20 under FREE mode and 10 under any other mode, the VIP unit is free from limitation of conference mode and may be turned on/off freely.

- On the interface shown above, the user may add new VIP units by touching the "ADD" button. The conference system allows a maximum number of 30 VIP units. Touch the "ADD" button to enter the VIP unit operation interface:
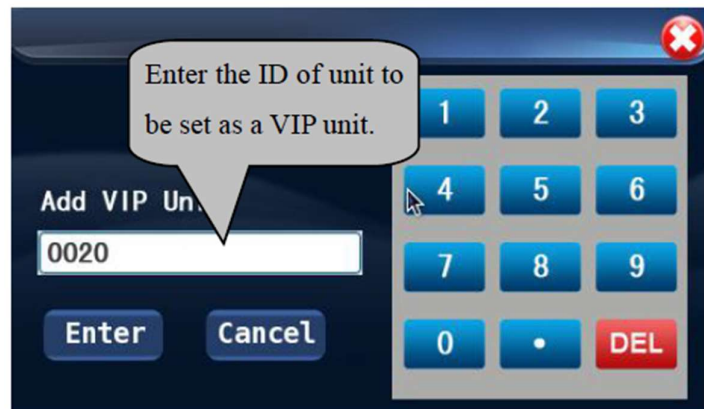
On the interface as shown above, they user may enter the ID of conference unit to be set as a VIP unit, and then touch the "OK" button to confirm and exit the interface.

- The user can touch the "DEL" button to delete the VIP unit selected.
- They user may touch the "DELETE ALL" button to delete all existing VIP units.
- With the "Return" button or by touching the ⊗ icon, the user can exit VIP settings interface and return to the unit settings interface.

After the unit settings is completed, the user may touch the icon on the upper right corner to exit the unit settings interface and return to the main interface of the system.

Speaking time settings

The user may touch the "Timing of Speeches" button on the "System settings" interface to enter the timing settings interface which is as shown below:

On this interface, the user can set up the time limit for speeches of delegates and the speech unit will be automatically shut off when the time is over. The time limit can be any value between 1 and 300 minutes. The series digital conference system provides a countdown warning function, and the user can set up the countdown time in this interface, which should be with the range between 1 and 60 seconds. The countdown will also be displayed on the speech unit. If the speech timing function is not needed in the conference, then it can be set as "OFF".

The user can adjust the values of time limit and countdown function to the desired value by touching the small gray arrows after the time indication ⬛30M⬛ ⬛30S⬛ After the time value settings is completed, the user may touch the ⊗ icon on the upper right corner to exit the settings interface and return to the main interface of the system.

Chime settings

The user may touch the "Chime" icon on the "System settings" interface to enter the chime settings interface which is as shown below:

Select the prompt tone when the microphone is turned on or off. The options available for settings includes:

"No chime"
"Chime 1"
"Chime 2"
"Chime 3"

1) "No chime" means that there is no indicating sound when the microphone of conference unit is powered on or off.

2) "Chime 1- Chime 3" indicates that one of the chimes will be played when the microphone on the conference unit is turned on/off.

System time settings

The user may touch the "Time" icon on the "System settings" interface to enter the system time settings interface which is as shown below:
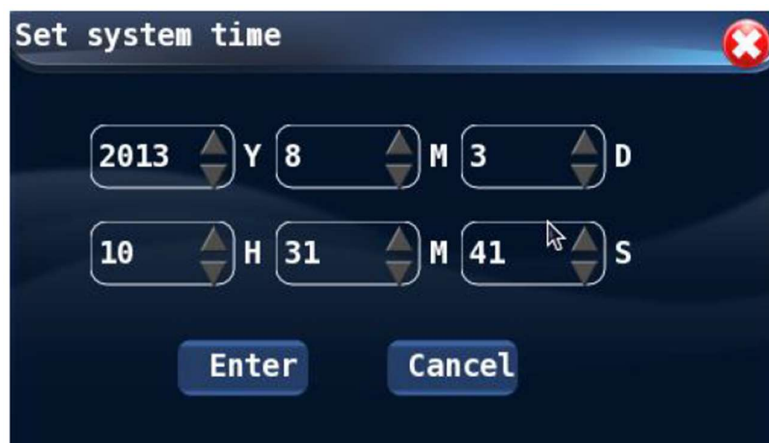
On this interface, the user may adjust the current system time which will be displayed on the main interface.

1) To set the system time, the user can touch the gray arrows respectively after the values of Year, Month, Data, Hour, Minute and Second to adjust the system time.
2) After the settings is completed, the user should touch the "OK" button to confirm and exit the system time settings interface.

Display settings

The user can touch the "Display" icon on the "System settings" interface to enter the conference host LCD screen settings interface. The options available for settings includes:

"Backlight on time"
"Touch screen calibration"

1) Backlight on time

This is the time or status set for the backlight of LCD screen on the conference host.

- After the user sets up the backlight times, if there is no operation on the equipment within such period of time, the back light of LCD screen will be off and it will be on again if any operation is made on the equipment, so that it helps to save energy and to extend the service life of LCD screen. The backlight time may be any value between 1 and 240 minutes.
- If the backlight is set as "Always On", then the backlight will be on for the period after the equipment is powered on and before it is powered off.
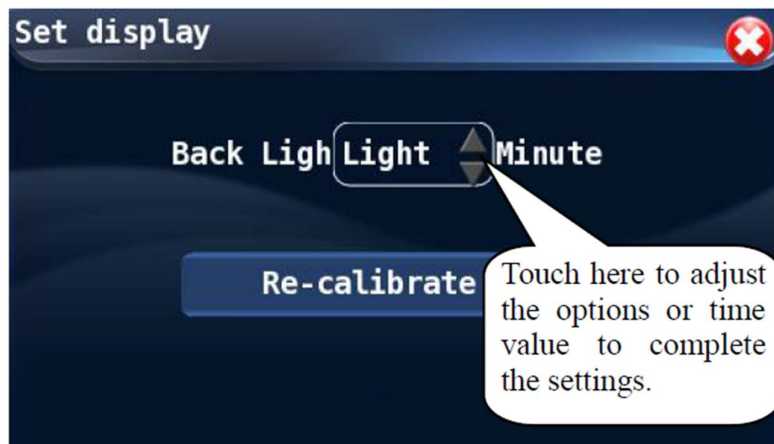
- The user can touch the gray arrows after the "Backlight time" to adjust the option or backlight time.

2) Touch screen calibration

After the equipment is used for a certain period, due to the rise of temperature or other factors, the touch point is not precise and it may be hard to move the touch point to the desired operation item, at such time, the user needs to calibrate the touch screen by following the procedures:

- Touch the "Screen Calibration" button on the "Display Settings" interface to enter the screen calibration interface.
- After the touch screen is in the calibration status, the system will automatically restart and enter the screen calibration interface after a while.
- On the calibration interface, the user should touch the centre of the small circle on the screen with the sharp end of the pen (Note: Touch the exact centre of the circle).

- Repeat the calibration on all four corners and the centre of the touch screen, otherwise, it will be hard to move the cursor to the desired option. In such cases, the user can connect a USB mouse to the system to enter the touch screen calibration interface, in order to restart the system and complete the calibration. Or otherwise, the user may also operate the system by using the mouse.

Important: During touch screen calibration, it is very important to point the pen to the centre of the "+", otherwise the user may not be able to operate the system. The touch pen should be used to operate the touch screen during the calibration, which helps to reduce the chances of mis-operation.

General settings

The user may touch the "General" icon on the "System settings" interface to enter the general settings interface which is as shown below

The options on the general settings interface includes:

"Language"
"Update the Software"
"Export configuration file to USB flash disk"
"Import configuration file to the system"

"Modify the Password on the Equipment"
"Machine Code of this Equipment"

1) Language selection
With this option, the user can settings the display language for the system. The conference system supports Chinese and English languages. Touch the small arrow after the language bar to open the drop-down menu, and then touch the desired option. Then close the settings interface and return to the main interface.

2) Software Update

- USB upgrade: Insert the upgraded files into the host USB interface with USB flash disk, select the device to be upgraded below the device type, and then touch the "USB Upgrade" button to enter the upgrade interface, and restart the system after the upgrade is completed.
- PC upgrade: Click PC Upgrade to upgrade the software on the PC terminal and restart the system after the upgrade is completed.
- Run program: After USB upgrade or PC upgrade, click "Run program" to use the upgraded system.

3) "Export configuration file to USB flash disk

- With this conference system, the user can back up the system to or restore the system from a USB flash disk. Before the export operation, please make sure that a USB flash disk has been connected to the USB port of the host, otherwise the system will prompt: "No USB flash disk found, please check".
- Touch the "Export configuration file to USB flash disk" to complete the exportation operation. A dialog will show in the interface, indicating that the exportation operation has been successfully completed.

4) Import configuration file to the system

- With this operation, the user can restore backup system parameters to the conference host system, in order to restore such parameters. Before the import operation, please make sure that a USB flash disk has been connected to the USB port of the host, otherwise the system will prompt: "No USB flash disk found, please check".
- Touch the "Import configuration file to the system", and then touch the "OK" button in the dialog box to copy the configuration file to the system. After the configuration file is copied to the system, the system will be restarted automatically in order to load the system parameters restored.

5) Modify the password on the equipment

The user can touch the "Modify the password "button on the "General Settings" interface to enter the password modification interface which is as shown below:
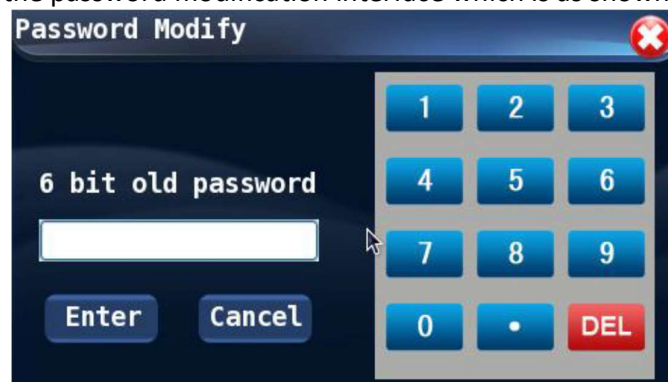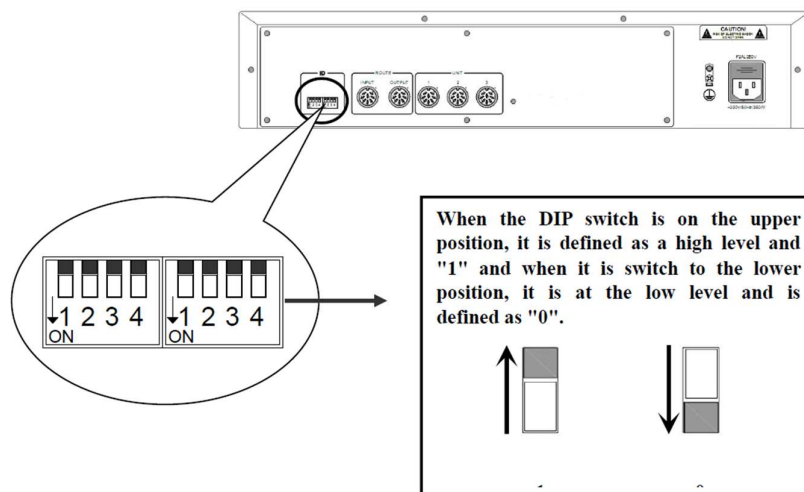
- The user may set a password for accessing the "System settings" interface.
- To modify the password, the user need to input the current password, which is 111111 by default, and then touch the "OK" button to enter the new password and confirm the password by input such new password again. The new password will take effect after the user reconfirms such password.
- Every time when the user attempts to enter the "System settings" interface, he/she should enter the password, so it is strongly recommended to remember the password.

6) Machine Code of this Equipment

On this interface, the user can view the machine code, which is set when the equipment is delivered from the manufacturing factory. Each equipment has a unique machine code.

Configuration of Address Coding on Extended Host

The series digital conference system has very good extensibility and scalability. In the system up to 31 extended controllers may be connected to the conference host, and with such extended controllers, the whole system may have 4096 conference units. In order to tell the controllers from one another, it is necessary to assign a unique address code (ID code) to each extended host. The address code of an extended host is on the rear panel of such host, which is realized by 8-bit ID DIP switches. The system connection is as follows:

When the DIP switch is on the upper position, it is defined as a high level and "1" and when it is switch to the lower position, it is at the low level and is defined as "0".

For example, the ID code of the first extended host is set as 0000 0000, then all such DIP are switched to the lower position; the ID code of the second host is 0000 0001, then the last DIP is at the high level while all others are at the lower position. The setting on the rear panel of extended host is as shown below. Please refer to the List of Extended host IDs for information with respect to the settings of other extended controllers.

ID of the first extended host

ID: 0000 0000

ID of the second extended host

Switch it to the upper position
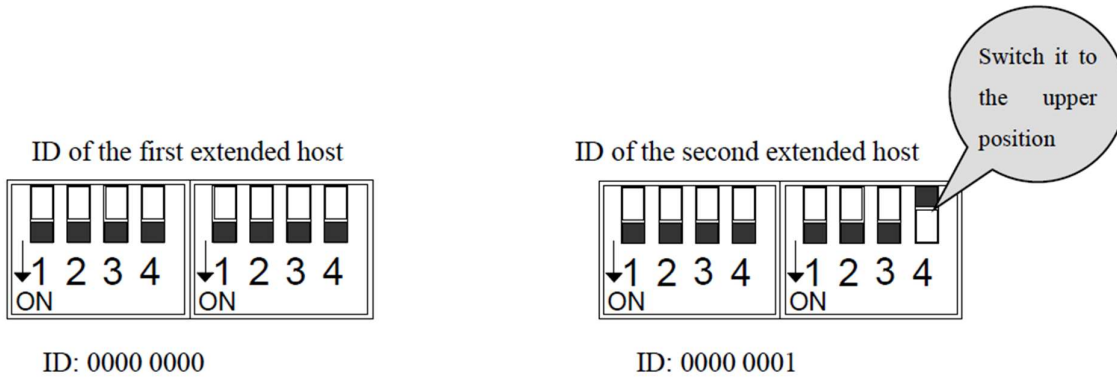
ID: 0000 0001

List of Extended host ID

Equipment ID	ID	Equipment ID	ID
1#	0000 0000	17#	0001 0000
2#	0000 0001	18#	0001 0001
3#	0000 0010	19#	0001 0010
4#	0000 0011	20#	0001 0011
5#	0000 0100	21#	0001 0100
6#	0000 0101	22#	0001 0101
7#	0000 0110	23#	0001 0110
8#	0000 0111	24#	0001 0111
9#	0000 1000	25#	0001 1000
10#	0000 1001	26#	0001 1001
11#	0000 1010	27#	0001 1010
12#	0000 1011	28#	0001 1011
13#	0000 1100	29#	0001 1100
14#	0000 1101	30#	0001 1101
15#	0000 1110	31#	0001 1110
16#	0000 1111	32#	0001 1111

Fuse Installation on the Host

If the fuse is blown, please replace it with fuse of the same specification. Please refer to the information printed under the power socket for information as to the specifications of fuse or the user may refer to the "Power supply protection" section of the "Performance and specification -- General" on the User's Manual for information; or otherwise, the user may remove the blown fuse to check its specification. The position of the fuses is as indicated on the picture below:
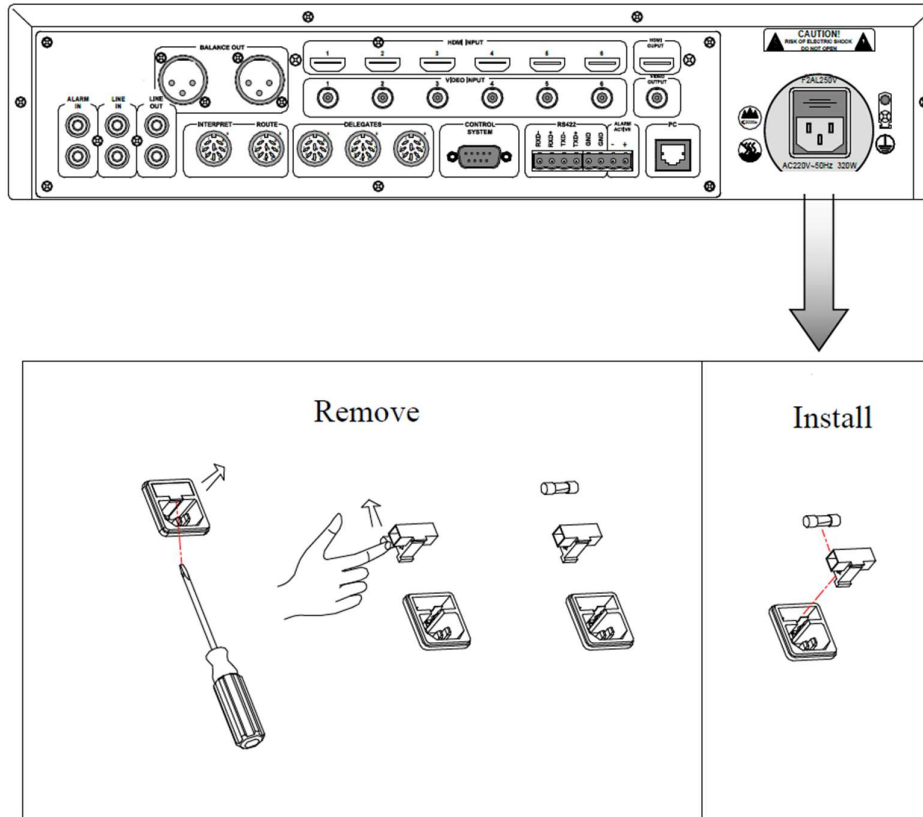
Procedures for replacement of fuses

1. Before the fuse is replaced, please cut off the power supply and unplug the equipment from the socket.
2. As shown by Fig. ①, a straight screwdriver should be used to remove the fuse.
3. Remove the fuse from the holder and check if it is blown and its specification.
4. Install a fuse of the same specification back to the holder in accordance with the instructions shown on Fig. ④.

Note: When the fuse is pushed into the holder, there is a clicking noise which indicates that the fuse is in its position.

Conference Units

General Introduction

The conference units provide functions such as speech, vote, check-in and self-checking. The exquisite design is humanized and has contemporary characteristics. The conference units adopt crossed-shape directive microphone, built-in magnetic loudspeaker, headphone jack, and provide power-on indicating light and button and light indicators. In VOICE mode, it can realize voice controller of/off function. It has high speed digital processors and Hi-fi audio circuits and can indicate the work status of LCD screen. It can work under several operation modes, and provides functions such as echo elimination, howl restraining, and background noise elimination. The conference units include chairman units, delegate units, speech-only units, voting-only units and interpretation units. By the functional features, conference units can be classified as integrated vote and speech unit, speech-only unit and vote-only unit; according to the design structure, they can be classified as desktop unit and embedded unit. Chairman unit has the priority to deliver speeches and the authority to approve speech application from delegate units. It can call for voting and is free from limitations on number of spokesman. It has the full authority to take control on the discipline at the conference site; in the series digital conference system, it allows 2 chairman units at a same time, and the position of chairman units are free from position restrictions. Conference units are passive equipment and are powered by the controllers. The input voltage is 24V; they are easy to use, has clear voice and is easy to install and has fashionable appearance.

The model numbers of the conference units are:

NVS-DC600051CM (Tabletop Chairman Microphone with Voting Function)
NVS-DC600062CM (Tabletop Delegate Microphone with Voting Function)
NVS-DC600021CM (Chairman Microphone Tabletop)
NVS-DC600032CM (Delegate Microphone Tabletop)
NVS-DC600091CM (Table Embedded Chairman Microphone with Voting Function)
NVS-DC600102CM (Table Embedded Delegate Microphone with Voting Function)
NVS-DC600111CM (Table Embedded Chairman Microphone)
NVS-DC600122CM (Table Embedded Delegate Microphone)
NVS-DC600136VU (Table Embedded Chairman Voting Unit)
NVS-DC600146VU (Table Embedded Delegate Voting Unit)
NVS-DC600157JB (Connecting Box for Embedded Units)
NVS-DC600161CM (Table Embedded Chairman Mic)
NVS-DC600172CM (Table Embedded Delegate Mic)

NVS-DC600051CM/NVS-DC600062CM Unit

NVS-DC600051CM (Tabletop Chairman Microphone with Voting Function)
NVS-DC600062CM (Tabletop Delegate Microphone with Voting Function)

Features

➢ Comply with IEC 60914 international standard.
➢ A conference unit integrating functions such as speeches and votes.
➢ The conference has 2m 8 core high-density DIN cable with an aviation plug.
➢ Electret, cross-shaped, directive, condenser type microphone, with double-colour ring type indicating lights (red/green). The indicating light is red when speech is made and in green when an application has been sent.
➢ The microphone rod has a number of lengths for selection: 315mm and 415mm, and they may be in black or silver, white colours
➢ The microphone rod is removable, so it is easy to maintain and store.
➢ Magnet Hi-fi speaker, which is muted when the microphone is one, and it is not easy to produce howl.
➢ 3.5mm stereo headphone jack for connection of headphones and the headphone volume is adjustable.
➢ Very strong anti-jamming capability from mobile phones.
➢ Microphone on/off switch, 5 vote buttons and chairman units has additional chairman priority button.
➢ Conference check-in function.
➢ Each conference unit has a unique ID code.
➢ High brightness LCD screen, when in working it can display in real time.

✓ The ID, number of delegates applying for speech, vote results, number of check-in participants and other operation messages.
✓ User can switch between simplified Chinese and English languages in message displaying.

➢ With cameras, after properly configured on the host or PC control software, it supports automatic camera tracking function.
➢ When used with a host, the conference can realize self-checking function. The check items include: buttons, microphone, LED indicating lights, LCD screen and built-in speaker.
➢ The unit is a passive equipment and is powered by the system controller, with input voltage being 24V.
➢ When the microphone is on, the speaker in the conference unit will be closed automatically to avoid sound echo.
➢ The conference unit has prompt tones when it is powered on, and the prompt tone may be deactivated.
➢ After settings on the host, the chairman unit has the priority (to turn off the sound or close the delegate unit), platform mode (the chairman unit is always on).

➢ With the chairman unit, the conference chairman can approve applications of delegate units for speeches.
➢ Chairman units are free from restrictions of speaking persons and may be activated freely.
➢ Chairman units has the priority to maintain order at the conference site.
➢ Chairman units are free from position limitations.
➢ Connection in "hand-in-hand" "T" and "+" modes.
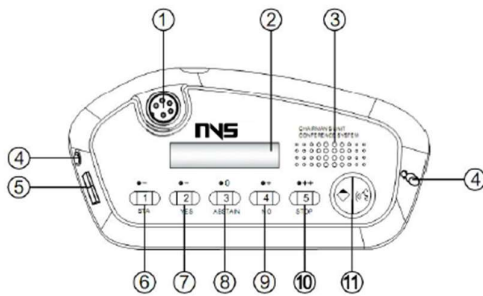
Chairman Unit – Top View   Delegate Unit – Top View
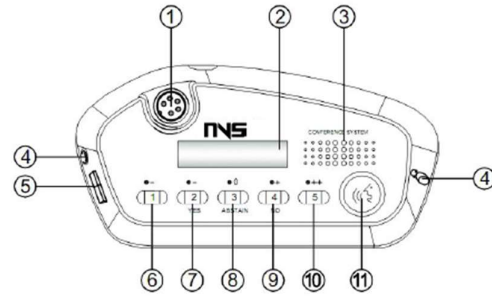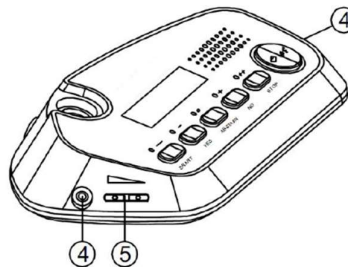
Chairman and Delegate unit – Side view

1. Microphone jack
- Removable 5-core spiral microphone jack.

2. LCD high-brightness screen
- Real-time display of the ID and working status of the conference unit as well as the vote results and operation information.

3. Built-in speaker
- It is used to output the sound from speeches of other units and the secondary input audio. The volume may be adjusted by the unit or by the host and remote control software.
- The speaker will be turned off when the microphone is powered on, or a headphone is plugged.

4. Headphone jack
- Headphone is connected to the unit via a 3.5mm connector.

5. Volume adjusting knob

- It is used to adjust the volume of headphone and speaker.

6. Button "1"

- It can work with the PC control software to realize rating operation. Please refer to the User's Manual of PC software for detailed operation procedures.

7. Button "2"

- It is used to select the display language and is also a functional button in voting.
- It can work with PC control software to realize rating operation.

8. Button "3"

- It is a functional button to view the status of microphone, to vote and to select the display language.
- It can work with PC control software to realize rating operation.
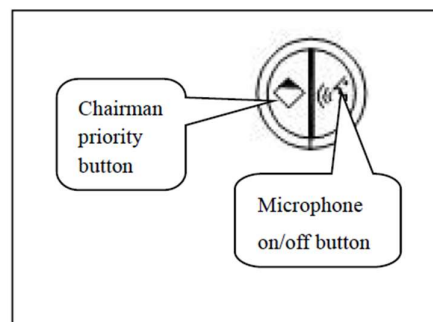
9. Button "4"

- It is used to select the display language, to vote and to return to the parent interface.
- It can work with PC control software to realize rating operation.

10. Button "5"

- It is a functional button to end the voting / return to the parent interface.
- It can work with PC control software to realize rating operation.

11. Microphone power on/off button and its indicating light

- Delegate unit microphone on/off button/speech application button and button indicating light. The indicating light is one when this button is pressed to power on the microphone; the indicating light blinks when this button is pressed to send a speech application, when the conference units are renumbered and when the camera tracks the spokesman.
- Chairman unit microphone on/off button and chairman priority button and indicating light.

- The indicating light blinks when the button is pressed to power on the microphone, when the conference units are renumbered and when the camera tracks the spokesman.
- When the Chairman priority button is pressed, the conference unit delivering a speech will be mute or closed.
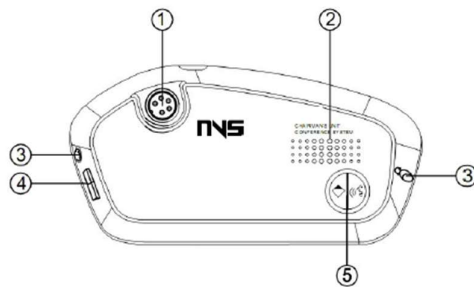
NVS-DC600021CM/NVS-DC600032CM Unit

NVS-DC600021CM (Chairman Microphone Tabletop)
NVS-DC600032CM (Delegate Microphone Tabletop)

Features

- ➢ Comply with IEC 60914 international standard.
- ➢ Speech-only conference unit.
- ➢ The conference has 2m 8 core high-density DIN cable with an aviation plug.
- ➢ Electret, cross-shaped, directive, condenser type microphone, with double-colour ring type indicating lights (red/green). The indicating light is red when speech is made and in green when an application has been sent.
- ➢ It adopts microphones with knob connectors, mini microphone with a wind shield. The microphone rod may be 315mm and 415mm long and may be black or white in colour.
- ➢ The microphone rod is removable, so it is easy to maintain and store.
- ➢ Magnet Hi-fi speaker, which is muted when the microphone is one, and it is not easy to produce howl.
- ➢ 3.5mm stereo headphone jack for connection of headphones and the headphone volume is adjustable.
- ➢ Very strong anti-jamming capability from mobile phones.
- ➢ It has an on/off button, and the chairman unit has a chairman priority button.
- ➢ Conference check-in function.
- ➢ Each conference unit has a unique ID code.
- ➢ With cameras, after properly configured on the host or PC control software, it supports automatic camera tracking function.
- ➢ When used with a host, the conference can realize self-checking function. The check items include buttons, microphone, LED indicating lights and built-in speaker.
- ➢ The unit is a passive equipment and is powered by the system controller, with input voltage being 24V.
- ➢ It has automatic EQ adjustment function, which helps to reduce howl. When the microphone is on, the
- ➢ speaker on the current conference unit will be automatically closed in order to avoid sound echo.
- ➢ The conference unit has prompt tones when it is powered on, and the prompt tone may be deactivated.
- ➢ After settings on the host, the chairman unit has the priority (to turn off the sound or close the delegate unit), platform mode (the chairman unit is always on).

- With the chairman unit, the conference chairman can approve applications of delegates for speeches.
- Chairman units are free from restrictions of speaking persons and may be activated freely.
- Chairman units has the priority to maintain order at the conference site.
- Chairman units are free from position limitations.

Chairman Unit – Top View   Delegate Unit – Top View
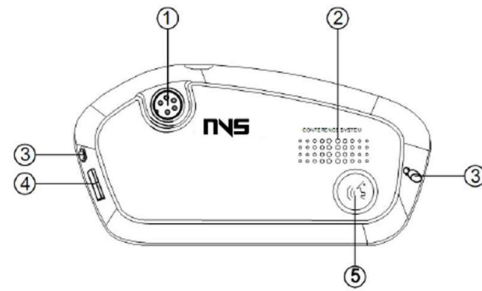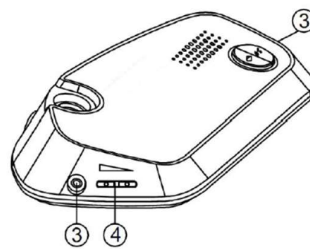
Chairman and Delegate unit – Side view

1. Microphone jack
- Removable 5-core spiral microphone jack.

2. Built-in speaker
- It is used to output the sound from speeches of other units and the secondary input audio. The volume may be adjusted by the unit or by the host and remote control software.
- The speaker will be turned off when the microphone is powered on or a headphone is plugged.

3. Headphone jack
- Headphone is connected to the unit via a 3.5mm connector.
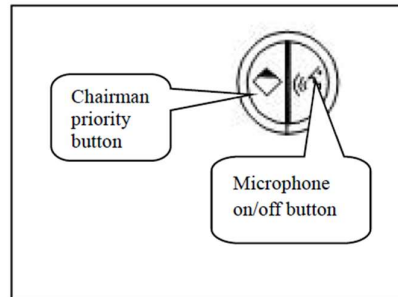
4. Volume adjusting knob
- It is used to adjust the output volume of headphone and speaker.

5. Microphone power on/off button and its indicating light
- Delegate unit microphone on/off button/speech application button and button indicating light. The indicating light is one when this button is pressed to power on the

microphone; the indicating light blinks when this button is pressed to send a speech application, when the conference units are renumbered and when the camera tracks the spokesman.

- Chairman unit microphone on/off button and chairman priority button and indicating light.

- The indicating light blinks when the button is pressed to power on the microphone, when the conference units are renumbered and when the camera tracks the spokesman.
- When the Chairman priority button is pressed, the conference unit delivering a speech will be mute or closed.

NVS-DC600091CM/NVS-DC600102CM Unit

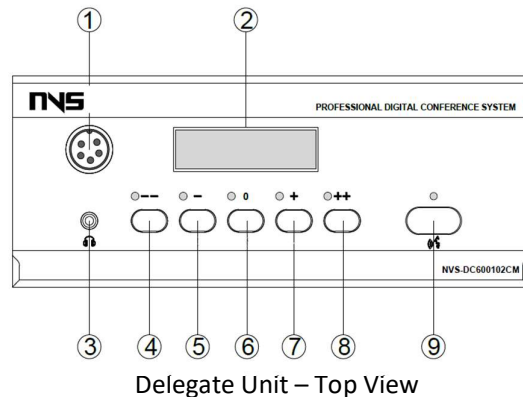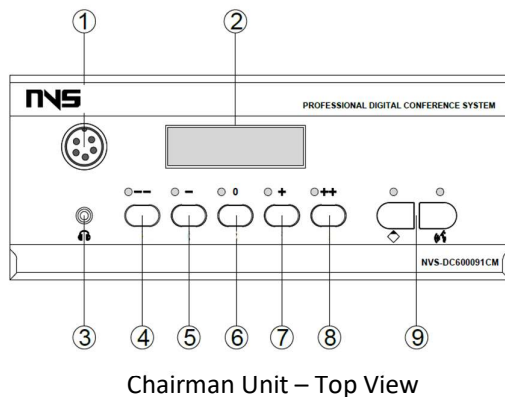NVS-DC600091CM (Table Embedded Chairman Microphone with Voting Function)
NVS-DC600102CM (Table Embedded Delegate Microphone with Voting Function)

Features

- ➢ Comply with IEC 60914 international standard.
- ➢ A conference unit integrating functions such as speeches and votes.
- ➢ The conference has 2m 8 core high-density DIN cable with an aviation plug.
- ➢ Electret, cross-shaped, directive, condenser type microphone, with double-colour ring type indicating lights (red/green). The indicating light is red when speech is made and in green when an application has been sent.
- ➢ It adopts microphones with knob connectors, mini microphone with a wind shield. The microphone rod may be 315mm and 415mm long and may be black or white in colour
- ➢ The microphone rod is removable, so it is easy to maintain and store.
- ➢ 3.5mm stereo headphone jack for connection of headphones and the headphone volume is adjustable.
- ➢ Very strong anti-jamming capability from mobile phones.
- ➢ It has an on/off button, and the chairman unit has a chairman priority button.
- ➢ Conference check-in function.
- ➢ Each conference unit has a unique ID code.
- ➢ With cameras, after properly configured on the host or PC control software, it supports automatic camera tracking function.

- When used with a host, the conference can realize self-checking function. The check items include buttons, microphone, LED indicating lights and built-in speaker. The unit is a passive equipment and is powered by the system controller, with input voltage being 24V. It has automatic EQ adjustment function, which helps to reduce howl. When the microphone is on, the speaker on the current conference unit will be automatically closed in order to avoid sound echo.
- The conference unit has prompt tones when it is powered on, and the prompt tone may be deactivated.
- After settings on the host, the chairman unit has the priority (to turn off the sound or close the delegate unit), platform mode (the chairman unit is always on). With the chairman unit, the conference chairman can approve applications of delegates for speeches.
- Chairman units are free from restrictions of speaking persons and may be activated freely.
- Chairman units has the priority to maintain order at the conference site.
- Chairman units are free from position limitations.

Front panel descriptions

Chairman Unit – Top View   Delegate Unit – Top View

1. Microphone jack
- Removable 5-core spiral microphone jack.

2. LCD high-brightness screen
- Real-time display of the ID and working status of the conference unit as well as the vote results and operation information.

3. Headphone jack
- Headphone is connected to the unit via a 3.5mm connector.

4. Button "- -"
- It can work with the PC control software to realize rating operation. Please refer to the User's Manual of PC software for detailed operation procedures.

5. Button "-"
- It is used to select the display language and is also a functional button in voting.
- It can work with PC control software to realize rating operation.

6. Button "0"
- It is a functional button to view the status of microphone, to vote and to select the display language.
- It can work with PC control software to realize rating operation.
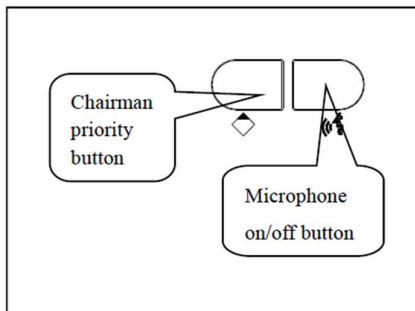
7. Button "+"
- It is used to select the display language, to vote and to return to the parent interface.
- It can work with PC control software to realize rating operation.

8. Button "+ +"
- It is a functional button to end the voting / return to the parent interface.
- It can work with PC control software to realize rating operation.

9. Microphone power on/off button and its indicating light
- Delegate unit microphone on/off button/speech application button and button indicating light. The indicating light is one when this button is pressed to power on the microphone; the indicating light blinks when this button is pressed to send a speech application, when the conference units are renumbered and when the camera tracks the spokesman.
- Chairman unit microphone on/off button and chairman priority button and indicating light.

- The indicating light blinks when the button is pressed to power on the microphone, when the conference units are renumbered and when the camera tracks the spokesman.
- When the Chairman priority button is pressed, the conference unit delivering a speech will be mute or closed.

Installation Diagram
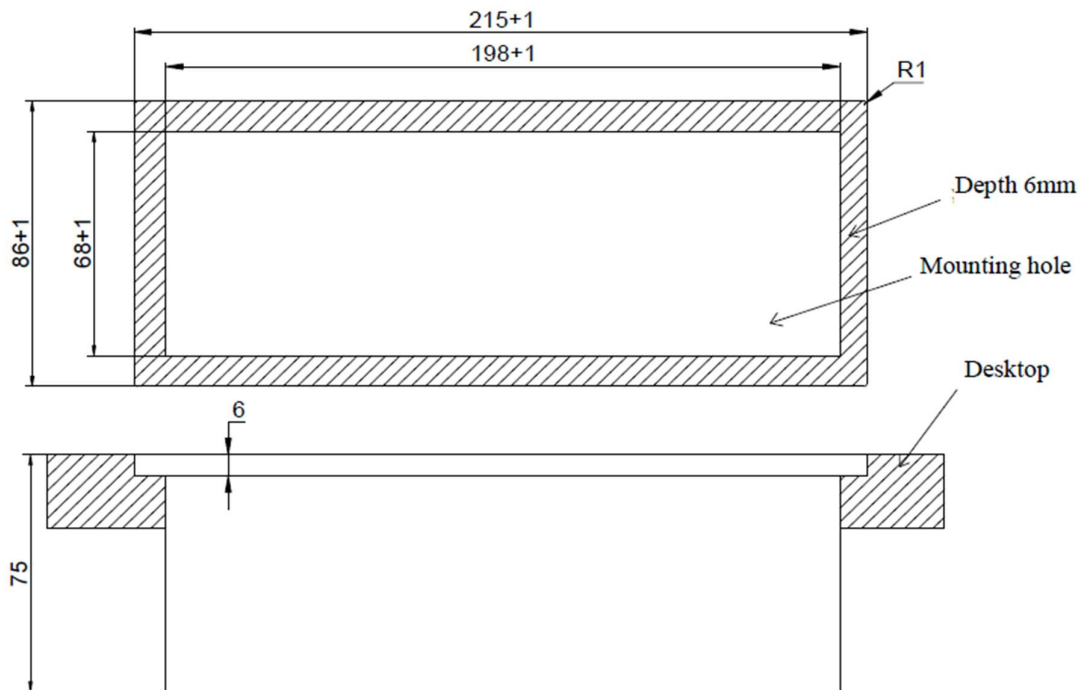
NVS-DC600111CM/NVS-DC600122CM Unit

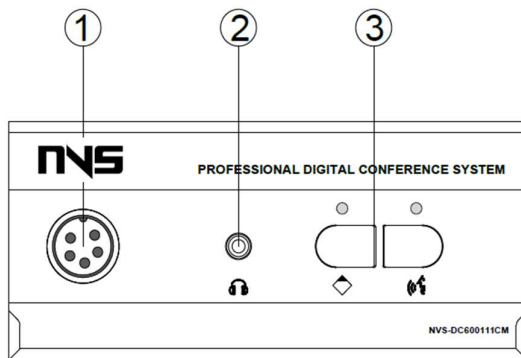NVS-DC600111CM (Table Embedded Chairman Microphone)
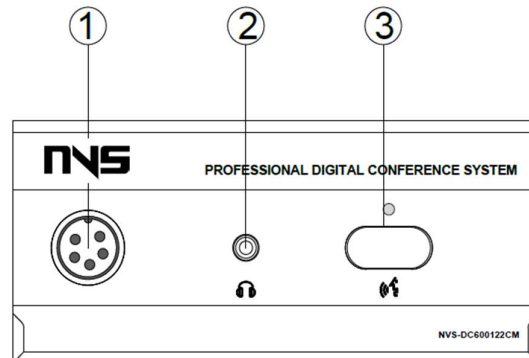NVS-DC600122CM (Table Embedded Delegate Microphone)

Features

➢ Comply with IEC 60914 international standard.
➢ Speech-only conference unit.
➢ Electret, cross-shaped, directive, condenser type microphone, with double-colour ring type indicating lights (red/green). The indicating light is red when speech is made and in green when an application has been sent.
➢ It adopts microphones with knob connectors, mini microphone with a wind shield. The microphone rod may be 315mm and 415mm long and may be black or white in colour.
➢ The microphone rod is removable, so it is easy to maintain and store.
➢ 3.5mm stereo headphone jack for connection of headphones and the headphone volume is adjustable.
➢ Very strong anti-jamming capability from mobile phones.
➢ It has an on/off button, and the chairman unit has a chairman priority button.
➢ Conference check-in function.
➢ Each conference unit has a unique ID code.

- With cameras, after properly configured on the host or PC control software, it supports automatic camera tracking function.
- When used with a host, the conference can realize self-checking function. The check items include buttons, microphone, LED indicating lights and built-in speaker.
- The unit is a passive equipment and is powered by the system controller, with input voltage being 24V.
- It has automatic EQ adjustment function, which helps to reduce howl. When the microphone is on, the speaker on the current conference unit will be automatically closed in order to avoid sound echo.
- The conference unit has prompt tones when it is powered on, and the prompt tone may be deactivated.
- After settings on the host, the chairman unit has the priority (to turn off the sound or close the delegate unit), platform mode (the chairman unit is always on).
- With the chairman unit, the conference chairman can approve applications of delegates for speeches.
- Chairman units are free from restrictions of speaking persons and may be activated freely.
- Chairman units has the priority to maintain order at the conference site.
- Chairman units are free from position limitations.

Front panel descriptions

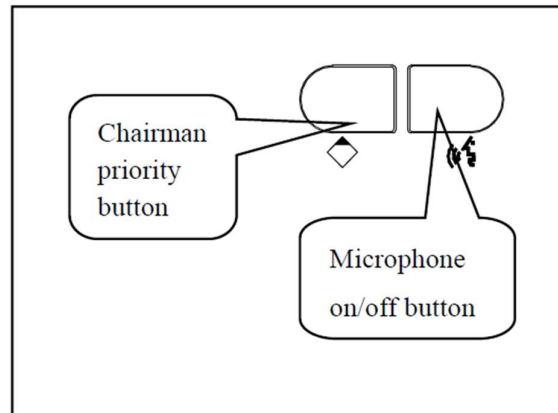Chairman Unit – Top View   Delegate Unit – Top View

1. Microphone jack
- Removable 5-core spiral microphone jack.

2. Headphone jack
- Headphone is connected to the unit via a 3.5mm connector.

3. Microphone power on/off button and its indicating light

- Delegate unit microphone on/off button/speech application button and button indicating light. The indicating light is one when this button is pressed to power on the microphone; the indicating light blinks when this button is pressed to send a speech application, when the conference units are renumbered and when the camera tracks the spokesman.
- Chairman unit microphone on/off button and chairman priority button and indicating light.

- The indicating light blinks when the button is pressed to power on the microphone, when the conference units are renumbered and when the camera tracks the spokesman.
- When the Chairman priority button is pressed, the conference unit delivering a speech will be mute or closed.
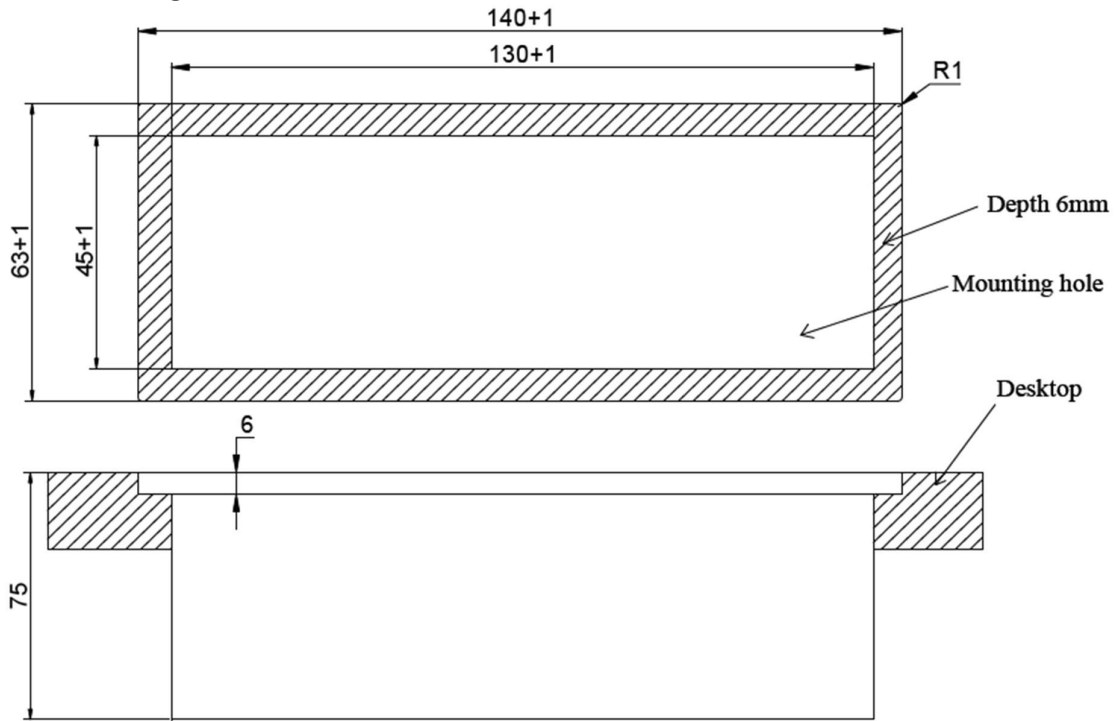
Rear panel
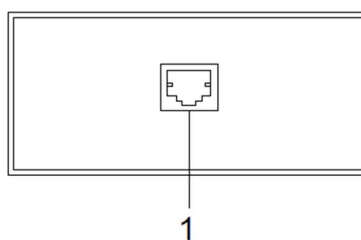
1. RJ45 interface

- Connect the channel B of audio interface CH1 or CH2 of NVS-DC600157JB.
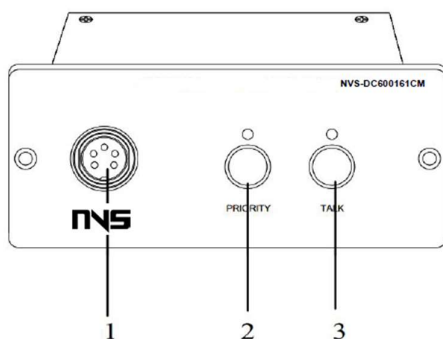
Installation diagram
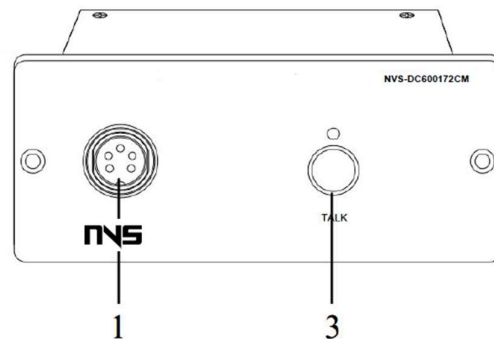

NVS-DC600161CM/NVS-DC600172CM Unit

NVS-DC600161CM (Table Embedded Chairman Mic)
NVS-DC600172CM (Table Embedded Delegate Mic)

Front panel description

Chairman Unit – Top View

Delegate Unit – Top View

1. Microphone jack
- Removable 5-core spiral microphone jack.

2. Chairman priority
- Chairman priority button and indicating light
- When the Chairman priority button is pressed, the conference unit delivering a speech will be mute or closed.

3. Microphone power on/off button and its indicating light
- Delegate unit microphone on/off button/speech application button and button indicating light. The indicating light is one when this button is pressed to power on the microphone; the indicating light blinks when this button is pressed to send a speech application, when the conference units are renumbered and when the camera tracks the spokesman.
- The indicating light blinks when the button is pressed to power on the microphone, when the conference units are renumbered and when the camera tracks the spokesman.

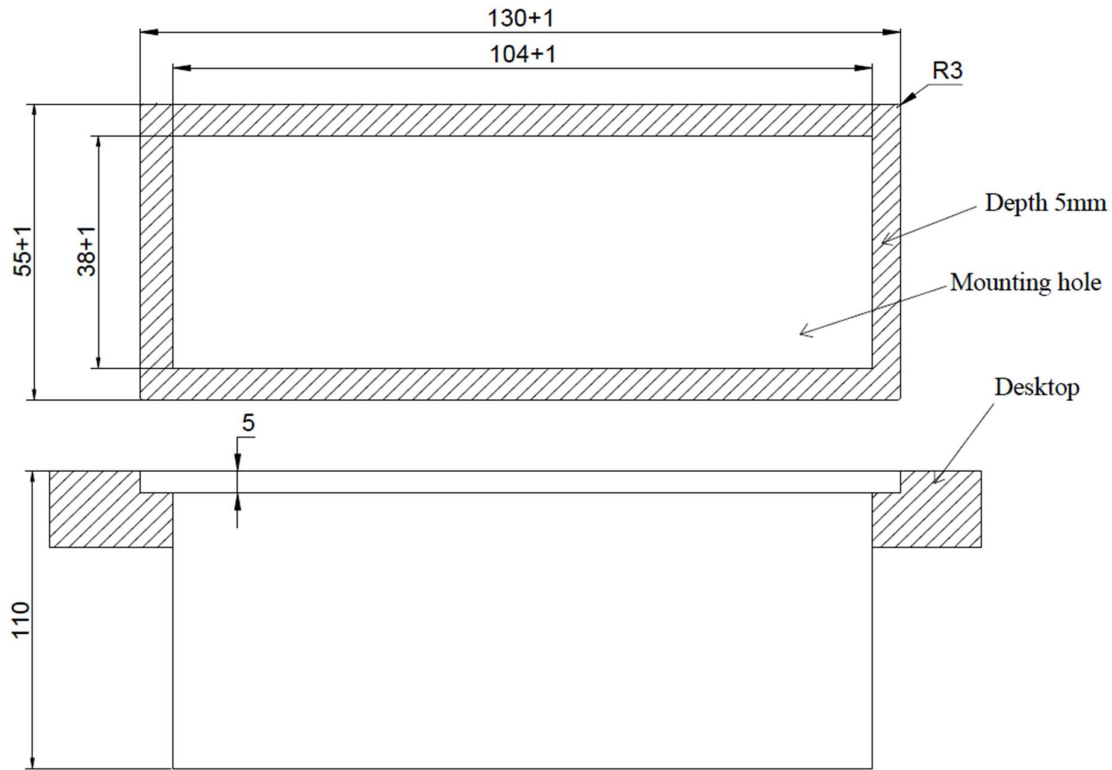### NVS-DC600161CM/NVS-DC600172CM Back panel
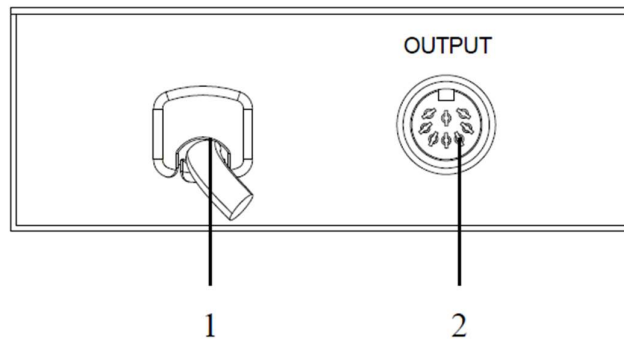
1. Input port
- When extended with multiple connecting boxes, this port is connected to the OUTPUT of the previous connecting box.
- When extended with other devices, one end of the extension cord can be connected to the connecting box, and the other end can be connected to the 8-core DCN standard plug. Generally, this port does not directly connect to the system host.

2. Output port
- When extended with multiple connecting boxes, this port is connected to the INPUT of the next connecting box.
- When extended with other devices, one end of the extension cord can be connected to the connecting box, and the other end can be connected to the 8-core DCN standard plug.

Installation diagram

NVS-DC600161CM/NVS-DC600172CM Mounting Dimension

NVS-DC600136VU/NVS-DC600146VU Unit

NVS-DC600136VU (Table Embedded Chairman Voting Unit)
NVS-DC600146VU (Table Embedded Delegate Voting Unit)

Features

➢ Comply with IEC 60914 international standard.
➢ Voting-only conference unit.
➢ Neat, embedded installation design.
➢ Very strong anti-jamming capability from mobile phones.
➢ Conference check-in function.
➢ Each conference unit has a unique ID code.
➢ The unit is a passive equipment and is powered by the system controller, with input voltage being 24V.
➢ After settings on the host, the chairman unit has the priority (to start a voting or stop a voting). Chairman units are free from position limitations.

Front panel description
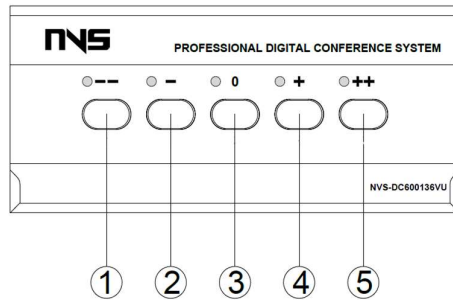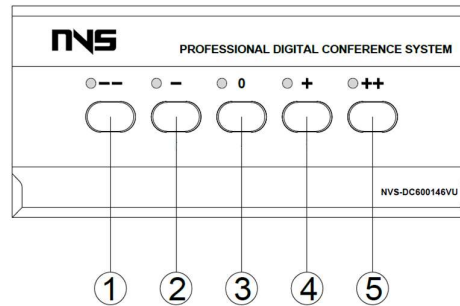
Chairman Unit – Top View   Delegate Unit – Top View

1. Button "- -"
- On chairman unit, this key is used to initiate a vote; on delegate unit, it is no function.
- When the unit is numbered, press this button to number the unit.
- It can work with the PC control software to realize rating operation. Please refer to the User's Manual of PC software for detailed operation procedures.

2. Button "-"
- It is a functional button in voting.
- It can work with PC control software to realize rating operation.

3. Button "0"
- It is a functional button in voting
- It can work with PC control software to realize rating operation.

4. Button "+"
- It is a functional button in voting.
- It can work with PC control software to realize rating operation.

5. Button "+ +"
- For chairman unit, it is a functional button to end the voting / return to the function interface; for delegate unit, it is no function.
- It can work with PC control software to realize rating operation.

Rear panel

1
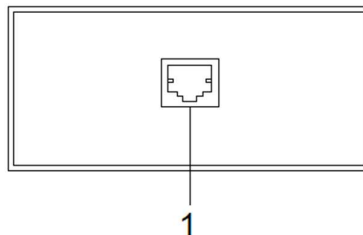
1. RJ45 interface
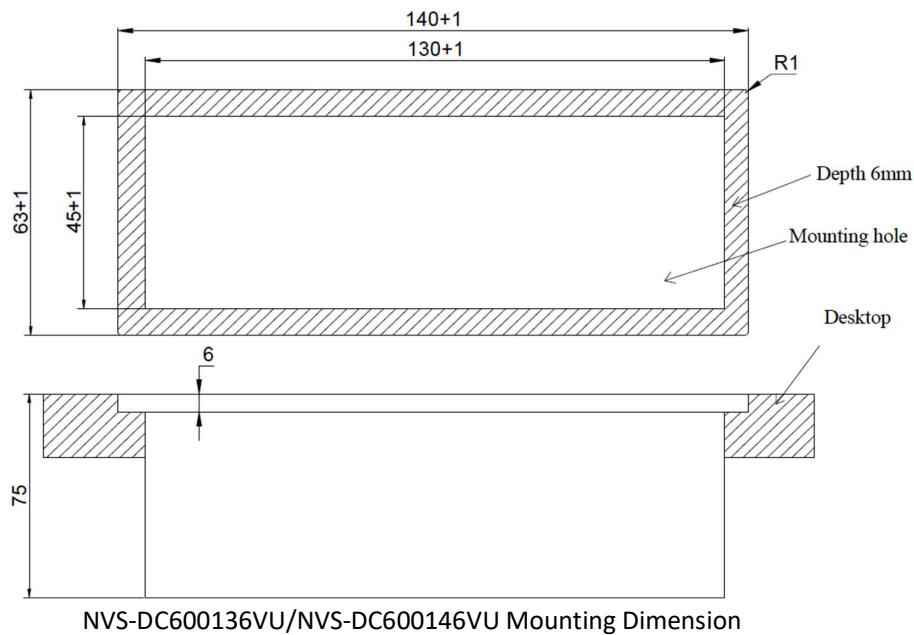- Connect the channel A of audio interface CH1 or CH2 of NVS-DC600157JB.

Installation diagram

NVS-DC600136VU/NVS-DC600146VU Mounting Dimension

NVS-DC600157JB Connecting Box

NVS-DC600157JB Connecting Box for Embedded Units

Features

➢ This device is for connecting the embedded speech units and embedded voting units.
➢ The device enables the embedded speech unit and voting unit to share an ID number, realizing the integration of voting, and speaking functions.
➢ One connecting box can contain two ID Numbers and can connect two pairs of speech unit and voting unit with common ID.
➢ "Hand in hand" connection mode, the failure or replacement of one extension will not affect the work of other extensions in the system, and the failure of a connection between extensions will not affect the work of the system, so that the system has higher reliability.
➢ With automatic repair function, support the line "hot plug"
➢ With 8-core DCN standard plug connection (with male plug)
➢ Working voltage: DC24V, powered by conference host.

Description on interfaces of both sides
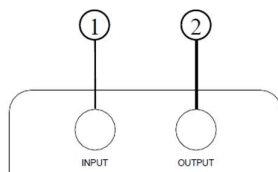
Right Side
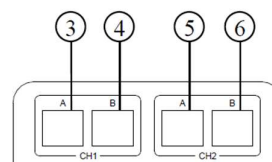
Left Side

1. INPUT port
- When extended with multiple connecting boxes, this port is connected to the OUTPUT of the previous connecting box.
- When extended with other devices, one end of the extension cord can be connected to the connecting box, and the other end can be connected to the 8-core DCN standard plug. Generally, this port does not directly connect to the system host.

2. OUTPUT port
- When extended with multiple connecting boxes, this port is connected to the INPUT of the next connecting box.
- When extended with other devices, one end of the extension cord can be connected to the connecting box, and the other end can be connected to the 8-core DCN standard plug.

3. CH1 channel A port
- Connect to NVS-DC600136VU and NVS-DC600146VU voting unit.

4. CH1 channel B port
- Connect to NVS-DC600111CM and NVS-DC600122CM conference unit

   Note: the CH1 channel is assigned another ID address number. In connection, NVS-DC600136VU (connected to port A) and NVS-DC600111CM (connected to port B) are used together; NVS-DC600146VU (connected to port A) and NVS-DC600122CM (connected to port B) are used together to realize the integration function of voting and speaking.

5. CH2 channel A port
- Connect to NVS-DC600136VU and NVS-DC600146VU voting unit.

6. CH2 channel B port
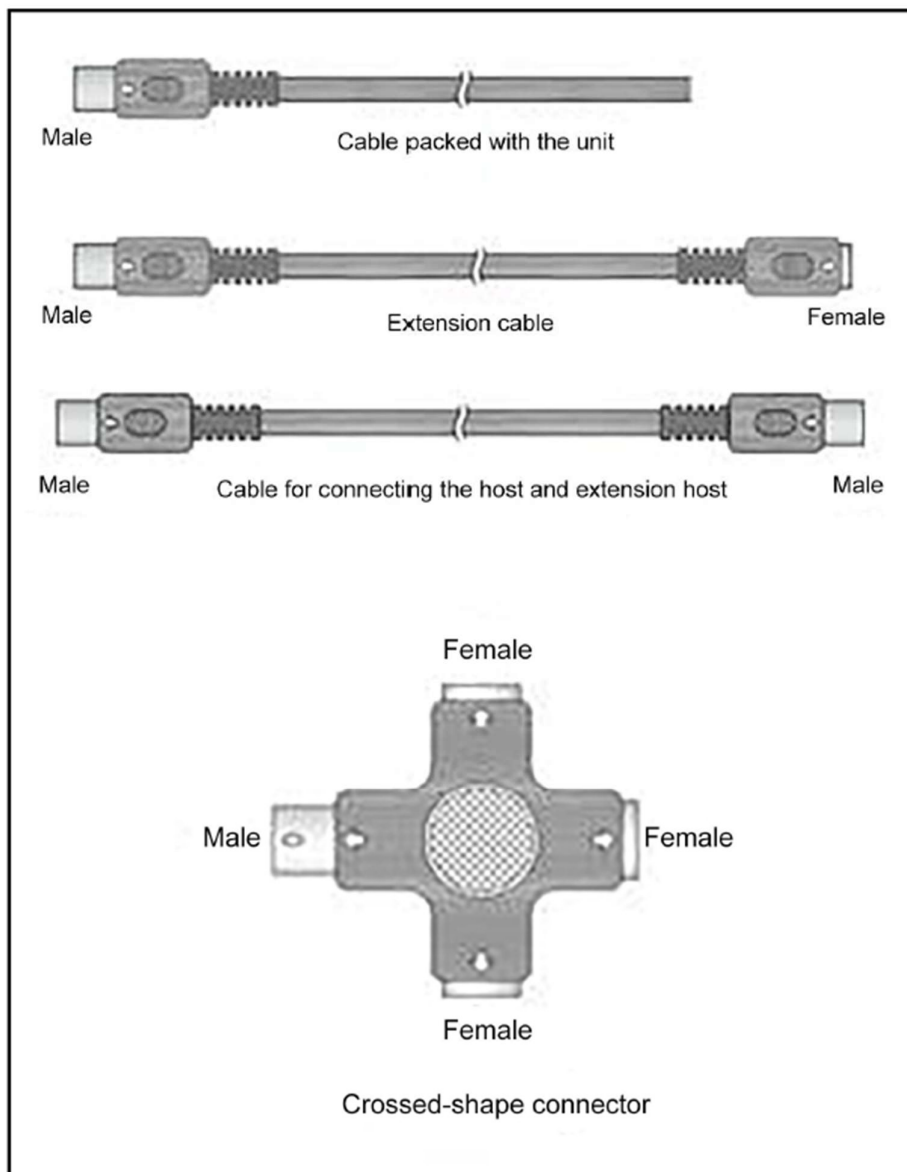- Connect to NVS-DC600111CM and NVS-DC600122CM conference unit

Note: the CH2 channel is assigned another ID address number. In connection, NVS-DC600136VU (connected to port A) and NVS-DC600111CM (connected to port B) are used together; NVS-DC600146VU (connected to port A) and NVS-DC600122CM (connected to port B) are used together to realize the integration function of voting and speaking.

Connections

Connection of conference units to hosts

All conference units for this series digital conference system have 2m cable with a male plug. The conference units are connected to the controllers as shown in the figure below. When the conference units are connected to the host, in addition to the cables provided with such conference units, additional extension cable and "+" adapters may be needed. The system connection is as follows:

Male Cable packed with the unit

Male Extension cable Female

Male Cable for connecting the host and extension host Male

Female

Male Female

Female

Crossed-shape connector

Cables

In the figure above:

- One of the two ends of the cables are connected to the conference units, while in most cases, the other end is connected to the socket on an adapter and there is little chance that such conference units are directly connected to the host.
- Standard extension cables may be 2m, 5m, 10m, 20m, 30m, 50m or 100m in length. Extension cables with a plug on one end and a socket on the other end are used to connect such conference units, while extension cables with plugs on both ends are used to connect the host and extension controllers and to connect the conference units and extension controllers.
- "+" adapters are required for connection of all conference units. In order to connect the conference units, please connect the plug to the unit output port on the host first and then connect the socket on the other end to the plug of the "+" adapter, and then connect the plug to the socket on the "+" adapter. Connection of 128 conference units to the 3 route outputs are as shown below:
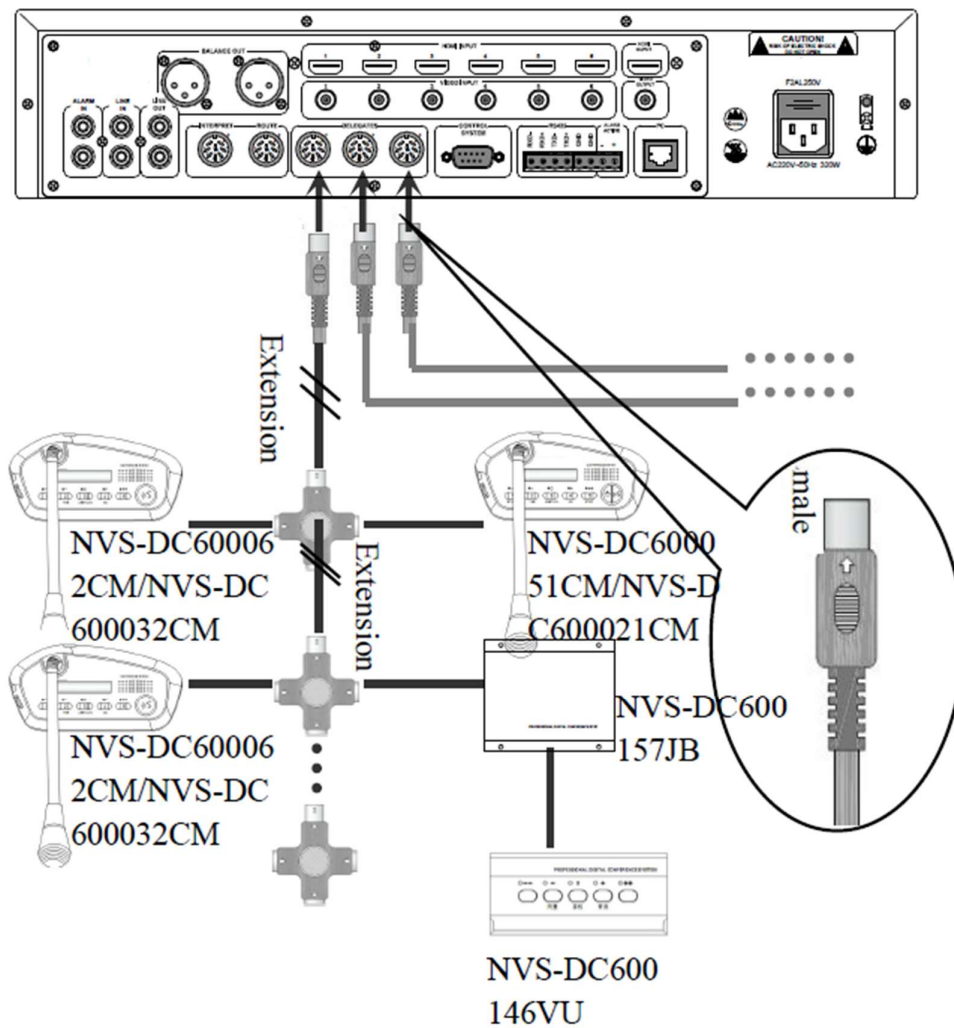
Connection between conference host and conference units

NVS-DC600051CM/NVS-DC600021CM are chairman units and there may be up to 2 chairman units in a conference sNyVstSem-D.C600062CM/NVS-DC600032CM is the conference speech unit and there may be maximum 20 speech units in a same conference system and the number of speech units may be controlled.

When 128 units are all connected to one route output, it is necessary to ensure that the total power consumption of all units on a route, plus the power loss of extension cables, is no greater than the overall power on such port. otherwise, it may lead to system faults. When the number of conference units connected to a single route is more than 1/3 of 128, it is necessary to configure an extension power supply. It is as shown below:
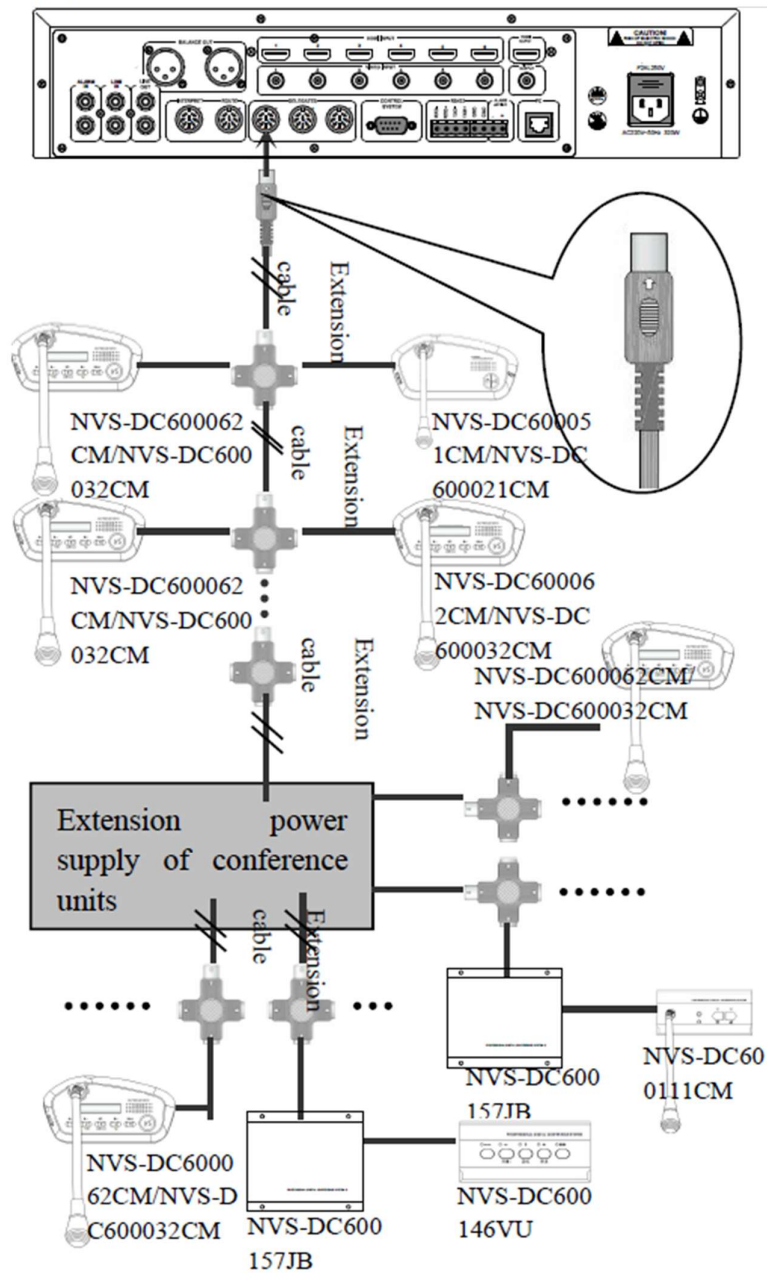
Connection between conference host and conference units

Headphone connection

A headphone can be connected to the conference unit via the headphone jack on the side of such conference unit and the headphone volume knob may be used to adjust the volume output. Headphone's area connected via 3.5mm jacks, which is as shown below.

1: Left channel signal

2: Right channel signal

3: Power supply/shielding layer
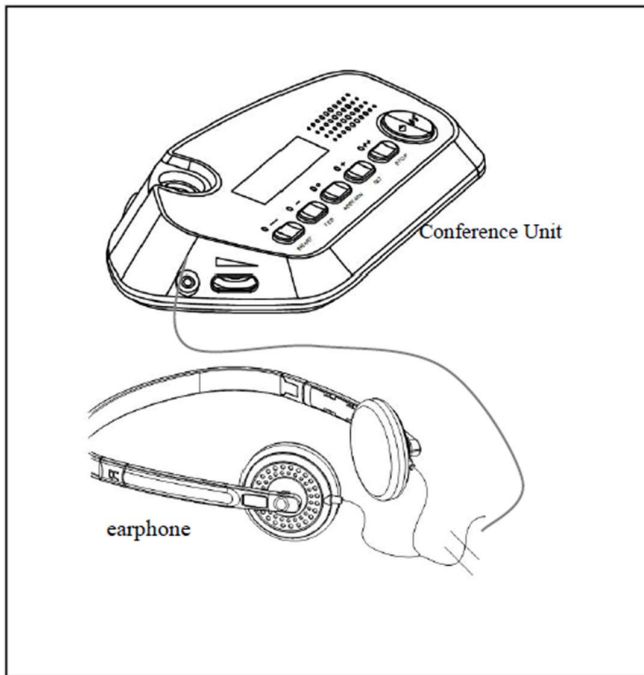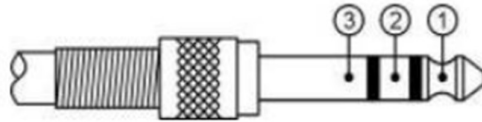
Connection of headphone to desktop
conference unit
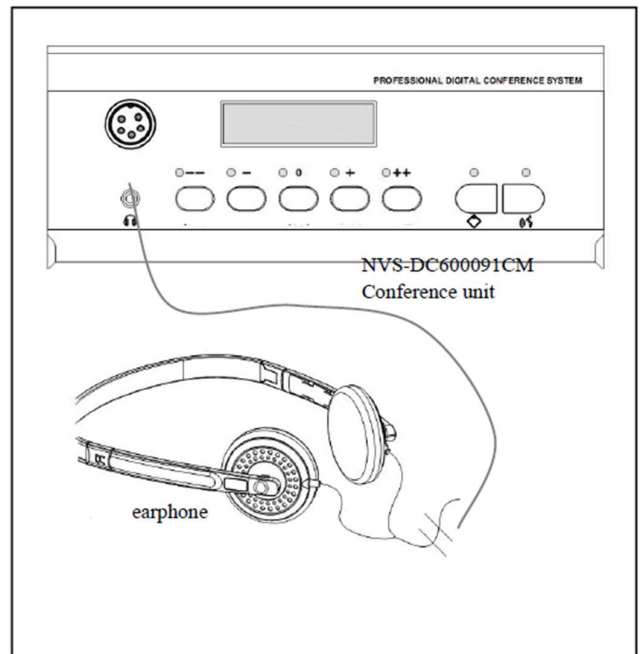
Connection of headphone to embedded
conference unit

Operations

Conference units are powered by the controllers, so no power on/off operation is required on the local conference units. As long the host is powered on, all conference units connected to the controller will be automatically powered on. However, before the conference starts, the conference site maintenance personnel need to settings and test all conference units of the conference system, such as conference unit numbering, unit testing and camera tracking and positioning, etc. After the conference commences, all conference units should provide such functions as the microphone on/off, speech, vote, display of messages on LCD screen, etc. Operation on the conference units should follow the following descriptions.

Numbering of conference units

Enter the "Unit numbering" interface on the "System settings" interface of the host (please refer to the settings description of host for detailed procedures), then the user will see the buttons to renumber the units and to number new units. When the renumbering button is pressed, all conference units will enter the renumbering status and the microphone on/off indicating lights on all conference units will blink and numbering messages will be displayed on the screen on such conference units.

Numbering interface on the host

1. Renumbering
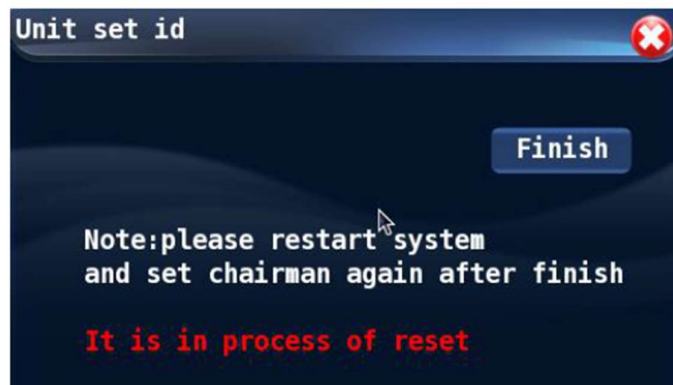
Renumbering interface on the host

Renumbering interface on conference units

When the above interface is shown on the conference unit, press the on/off button of microphone and the conference units will be given an ID code on basis of the order, in which such buttons are pressed (for example, the unit, on which the microphone on/off button is first pressed, will be numbered as 0001; the second unit will be numbered as 0002 so on and so forth). When the conference units are numbered, the same message will be displayed on the chairman unit and delegate units and the operations on such conference units are the same. The ID generated will not be affected by the types of conference units.

2. Add new ID

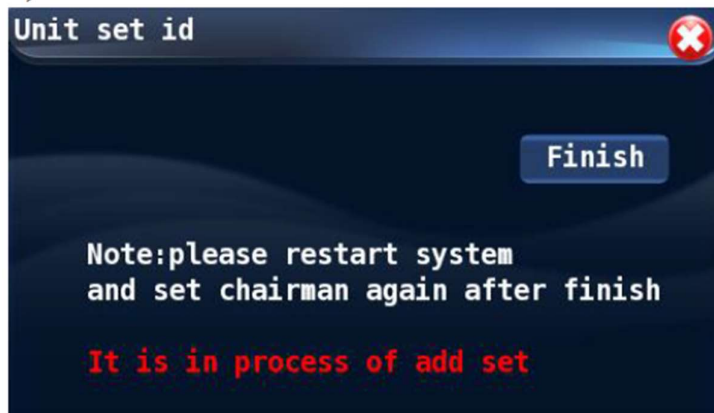Interface of "Add new ID" on the host

Interface of "Add new ID" on conference units When the above interface is shown in the conference units, press the microphone on/off button to automatically generate IDs for new conference units. The ID of new conference before it is renumbered is "0000". The numbering of new conference units is only effective on units with no ID. The ID of new conference units will make up the vacancy of existing units. If there is no vacancy in the existing units, then the conference unit will be numbered by an ID immediately after the existing largest one.

Caution
When conference units are numbered, they should be numbered in accordance with the conference order, and it is wise to press several numbering buttons (microphone on/off button) at a same time, otherwise, the ID codes of conference units will be in disorder, which is not good for conference site management and maintenance.

Speech

The speech unit is divided into units with displays and units without displays, and their functions are the same.

1) When the chairman is making a speech, he/she can power on the microphone and make the speech.

- Chairman speech is free from restrictions of conference mode and the conference unit may be powered on freely. In addition, chairman unit will not take up a quota of number of speech units.
- Chairman units have priority functions
  - ➢ During the conference period, if "Mute" is selected as the chairman priority mode, then three seconds after the priority button is pressed by the chairman, the following prompt message will be displayed on the unit.

If the button is pressed again for another 3 seconds, all conference units (including VIP units) delivering a speech will be turned mute.

- ➢ If the user releases the button immediately after the prompt interface is shown, then the conference units will not be turned mute, but the local unit will return to the main interface.
- ➢ When all conference units are mute, if the priority button is pressed down and held for 6 seconds, such mute conference units will regain the speech.
- ➢ For the embedded speech chairman unit, press the priority key for 3 seconds, and the indicator light above the priority key flashes, and all units that are speaking are silenced (the light rings on the microphone of the mute unit are all flashing green).
- ➢ The indicator light on the priority key of embedded speech chairman unit is off, the indicator light of microphone switch is on, and the chairman unit enters the speech state.
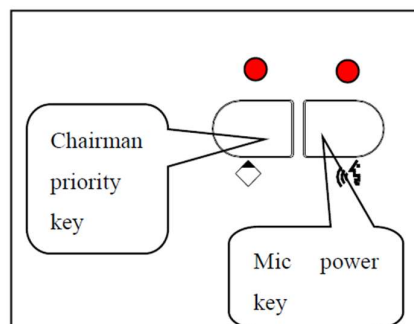
- ➢ For desktop chairman unit, long press the priority key for 3 seconds, the priority key indicator light flashes green, all units are speaking mute. (The lights on the microphone of the mute unit are all flashing green)

➢ The indicator light on the priority key of the desktop chairman unit is off, the indicator light on the microphone switch is on, and the chairman unit enters the speaking state.

- The chairman unit can take control over the status of microphones on the delegate units.

  ➢ Approve application of delegates for speech: when the host is in "APPLY" mode, when the microphone on/off button on the chairman unit is pressed, it will approve the application of delegates for speech; if the priority button is pressed, such application will be rejected. One application will be operated at one press.
  ➢ Close the microphone or turn it to mute status: Chairman unit may user the priority button to turn the delegate unit delivering a speech to the mute status or close the microphone of such delegate unit.

2) When a speech is being made via the delegate unit, its manner of speech is subject to the conference mode as set on the host (please refer to the description with respect to settings of host). This system allows a maximum number of 30 VIP units which, in comparison with normal conference units, has the priority to other conference units (please refer to description of controller operation and settings). For all delegate units which are set as VIP units, VIP is indicated on the LCD screen after the ID of such conference units, as shown below:

For the VIP unit of the conference units, the VIP number can be set in the host system to query. Query path is system settings -> input password -> unit settings ->VIP unit settings. However, it is still impossible to distinguish the specific ID of each unit without LCD display. If necessary, the corresponding unit can be labelled in the VIP code.

Note: the ID number of conference units cannot be viewed through the LCD screen. It is suggested that users can paste the ID number on the corresponding unit when setting the number.

a. When the conference mode is set as FIFO on the host
- When a normal delegate unit (not a VIP unit) is to deliver a speech, the total number of activated units in the system is the limit on speeches (1/2/3/4/5/6) as defined on the host.

  ➢ When the total number of activated units is less than the allowed number 1/2/3/4/5/6 (Chairman unit is free from such limitation) , then when the microphone is powered on by pressing the on/off button, if the on/off indicating light and the indicating light on the microphone head is normally on, it means that the conference unit is allowed to make a speech, and when a speech is made, the built-in speaker will be turned off; after the speech is over, the spokesman may press the on/off button again to turn off the microphone, and at such time, the indicating lights on the on/off button and the microphone head will be off and the speaker will be activated. If the speaker is activated, when a headphone is plugged, the speaker will be automatically turned off and it will be turned on again when the headphone is removed.

➢ If the activated units reach the upper limit on activated conference units (1/2/3/4/5/6), then when the on/off button on a delegate unit is pressed, the microphone is on, while the first activated one will be turned off automatically. In such a manner, the total number of activated delegate units will be kept within the limit.

- If a VIP Unit is configured and the total activated units is 10 (the limit defined on the controller + VIP unit), then there may be 10 activated VIP units.

➢ When the total number of activated units is more than 10, the VIP unit will remain on, while the newly activated unit will automatically turn off the firstly activated speech unit in a First in First Out mode, unless all 10 VIP units are activated, and all delegate units are off.

➢ If VIP unit is activated first, and the total number of activated units has reached the limit defined by the host, then the delegate unit will not be activated; if the activated VIP units does not reach the limit defined on the controller, then the currently available delegate units will be the number limit of the controller minus the number of activated VIP units. When total number of activated delegate units and VIP units reaches the upper limit defined on the host, any newly activated VIP unit will automatically turn off the earliest delegate unit, until all 10 VIP units are activated, and delegate units are all off.

b. When the conference mode is set as NORMAL on the host
- When the delegate units (not VIP units) are in NORMAL mode, the total number of activated units is the limit as defined on the host (1/2/3/4/5/6).

When the total number of activated units is less than the allowed number 1/2/3/4/5/6 (Chairman unit is free from such limitation) , then when the microphone is powered on by pressing the on/off button, if the on/off indicating light and the indicating light on the microphone head is normally on, it means that the conference unit is allowed to make a speech, and when a speech is made, the built-in speaker will be turned off; after the speech is over, the spokesman may press the on/off button again to turn off the microphone, and at such time, the indicating lights on the on/off button and the microphone head will be off and the speaker will be activated. If the speaker is activated, when a headphone is plugged, the speaker will be automatically turned off and it will be turned on again when the headphone is removed.

Note: there is no built-in speaker in the embedded units. Therefore, when the indicator light of the microphone and the light ring of the microphone are on, the user can give speech; the speaking function is turned off when the light is off.

➢ When the number of activated units reaches the upper limit defined on the host (1/2/3/4/5/6), the newly activated units will automatically enter queue for speech. When an activated unit is closed, the first unit in the queue will be automatically activated, so on and so forth. In such a manner, the total number of activated delegate units will be kept within the limit.

➢ If a VIP Unit is configured and the total activated units is 10 (the limit defined on the controller + VIP unit), then there may be 10 activated VIP units.

➢ When the total number of activated units is 10, newly activated units will enter the queue for speech until a previously activated unit is closed and the first unit in the queue will be

automatically activated. When the indicating light on the microphone head of the units waiting in queue turns green and blinks, the following message will be displayed on the LCD of such unit.

ID : 0019   APPLE...

                   MIC   LANG

When the microphone on/off indicating light and that on the microphone head turns red and remain normally on, it means that the unit is ready for the speech.

> If any VIP unit is waiting in the queue, then when the previously activated unit is closed, the VIP unit will have priority to get activated.
> Only 20 conference units may enter the queue, which include normal delegate units and VIP units.

c. When the conference mode is set as FREE on the host

Under the FREE mode, the system supports simultaneous speech on 20 conference units, which include normal delegate units and VIP units, another 20 conference units may enter the queue for speech, and VIP units have priority over delegate units to get activated.

- To deliver a speech, press the microphone on/off button, and when the indicating light on microphone on/off button and the microphone head turns red and normally on, it means that the unit is ready for a speech. After the speech is completed, the spokesman should press the microphone on/off button. When the on/off indicating light and that on the microphone head is off, the microphone is closed.
- When conference units activated for speech reach 20, the newly activated units will enter a queue and wait. The indicating light on the microphone head of the units waiting in queue turns green and blinks, and the following message will be displayed on the LCD of such unit.

ID : 0019   APPLE...

                   MIC   LANG

When the microphone on/off indicating light and that on the microphone head turns red and remain normally on, it means that the unit is ready for the speech. (Embedded speech unit and desktop units have no screens; the status is the same as above)

- If any VIP unit is waiting in the queue, then when the previously activated unit is closed, the VIP unit will have priority to get activated.

d. When the conference mode is set as APPLY on the host

- Application of delegate for speech

  ➢ If a delegate applies for speech, he/she may power on the microphone when such application has been approved by the Chairman unit. The delegate can press the microphone on/off button and the indicating light on the microphone head turns green and blink, the following message is displayed on the LCD screen.


Messages displayed on chairman unit:
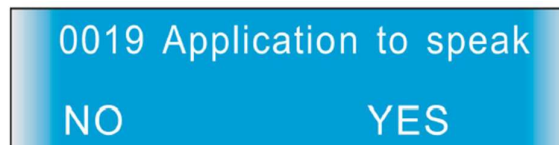
At such time, the chairman may press the ((⟨⟨ button to approve the application, and the applicant may deliver a speech. If the Chairman press ◇ button to cancel the application, the application is rejected, and the delegate will not be able to make the speech. The operation of the embedded speech chairman unit and the desktop speech chairman unit is the same, which is agreed and cancelled above. The key indicator flashes until a choice is made.

  ➢ After the total number of activated units reach the limit (1/2/3/4/5/6) defined on the host, the new application for speech will not be displayed on the LCD of chairman unit, until any previously activated unit is closed. And the indicator light of the YES and NO button on the embedded speech chairman unit and desktop speech chairman unit will be flashing, prompted to apply for speech unit.

- Speech application when VIP units are configured

  ➢ Under this conference mode, VIP unit can make speech without approval of the chairman unit. If the total number of normal delegate units and VIP units is 10, then units applying for speech thereafter (including normal units and VIP units) will be in waiting status. When a previously activated unit is closed, the units waiting for speech will be activated after approved by the chairman unit, but VIP units do not need approvals of the chairman to make the speech.

  ➢ If the number of activated VIP units reach the limit (1/2/3/4/5/6) defined on the host, the application of normal delegates will not be displayed on the Chairman unit, and the activated VIP units will take up all quotas, so delegate units will not be activated until a VIP unit is turned off.

e. When the conference mode is set as VOICE on the host

- Under the VOICE mode, when the number of activated units does not reach the limit (1/2/3/4/5/6) defined on the host:

  ➢ The microphone on/off indicating light is normally on, and when the delegate approaches the microphone to make a speech, the indicating light on the microphone head will be on, indicating that the microphone has been activated and is ready for speech.
  ➢ If the delegate does not make the speech within a period of 1 minute, the microphone will be automatically turned off and the indicating light on the microphone head will turn off.
  ➢ When the microphone is activated, the delegate may close the microphone by pressing the on/off button.

- When the number of activated delegate units has reached the limit (1/2/3/4/5/6) defined on the host, no other units will be activated, until a previously activated unit is closed.
- When normal conference units and VIP units are activated at a same time, the system allows a maximum number of 10 activated units (normal delegate units + VIP units).

  ➢ If VIP units are activated first and the number of VIP units has reached the limit (1/2/3/4/5/6) defined on the host, then normal delegate unit cannot be activated.
  ➢ If normal delegate units are activated first and their number has reached the limit (1/2/3/4/5/6) defined on the host, VIP can still be activated and the maximum number of activated VIP units is 10.

- If "VOICE" mode is selected as the conference mode, then the user needs to set up the sensitivity for this mode. The voice sensitivity refers to the sensitivity of voice-controlled microphone of/off button on the conference unit. The procedures for setting up the sensitivity is as follows.

  ➢ On the "Conference Mode" interface, when the icon before "VOICE" mode is in green colour, touch the "Sensitivity" button after it will call the sensitivity setting interface.
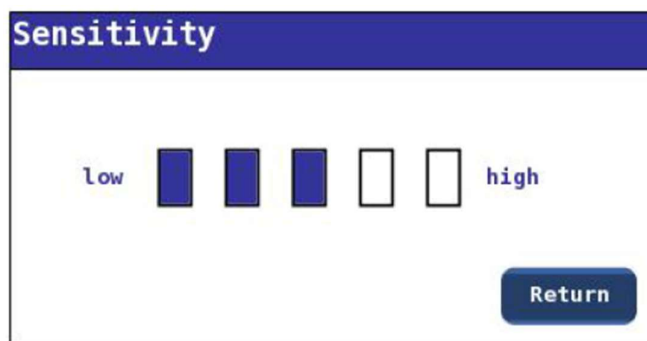
On such interface, touch the boxes which indicates the sensitivity, and the boxes becomes blue, it means that the adjustment has completed.

  ➢ After the configuration is complete, touch the "Return" button to exit the settings interface.

3) When a speech is delivered from a conference unit, if the camera tracking function is activated, then when the microphone is on, the cameras connected to the host will automatically turn to such delegate, and the video may be transmitted to a projector which projects such video on a large screen.

Voting

With the series smart digital conference system, the Chairman unit may call for vote which will be attended by all delegate units; or otherwise, the vote may be called for by the remote control software.


- The above figure shows the main interface of chairman unit, on which the chairman may press button "2" to enter the vote mode. At such time, the corresponding light on the chairmen unit and the delegate units will start to blink. Messages displayed on LCD screen on the chairman unit.
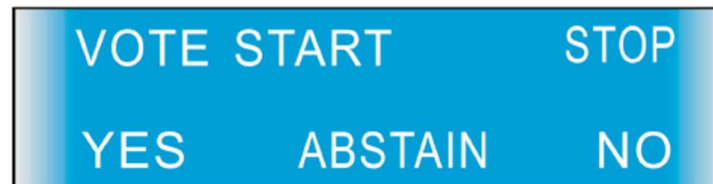
The corresponding button is

"2" Affirmative
"3" Abstention
"4" Negative
"5" "END"

Messages displayed on LCD screen on the delegate units:
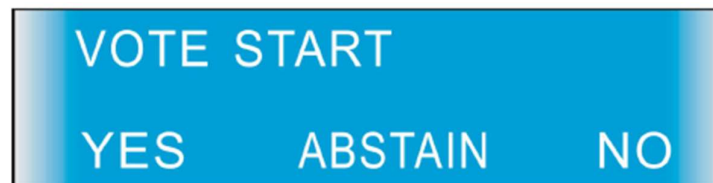
The corresponding button is

"2" Affirmative
"3" Abstention
"4" Negative

- After the delegate votes by pressing the corresponding buttons, Button "5" on the chairman unit begins to blink. The chairman can press Button "5" to end the voting activity, and if the user has set up the "Vote result display" (on Unit Settings interface), then the vote results will be displayed on both the chairman unit and delegate units, otherwise, the chairman press Button "5" to end the voting and return to the status before such voting activity. The LCD display is as shown below:

On the vote result display interface, press Button "5" to exit the vote result display interface and end the voting at the same time.

- Under the voting status, conference unit cannot be activated to deliver any speech.
- For embedded voting chairman unit, long press the "start" button for 3 seconds, at this time, the indicator lights of the "yes", "abstention" and "no" button of all voting units will flash, prompt has entered the voting state. On the chairman of the unit, press the "yes" button, the lights on "abstention" and "no" button will be off, the "yes" button light is lit up (press any key of the three options, the corresponding indicator light will light up, the other two off), the indicator lights on the "stop" button at the same time began to flicker, tip over a vote. When the voting is over, press the "stop" button and all the voting keys on the unit will be off. At this point, the indicator lights on the embedded voting chairman unit are all off. This indicates a vote was taken. The results can be viewed on a unit with an LCD screen
  attached to it or through PC software.

Unit Testing

Before the conference commences, it is necessary to test every conference unit. The items to be tested include: "microphone, LCD screen, operation buttons, LED indicating lights and speaker". Testing may be done manually or automatically, and the testing time is also adjustable. The testing will be carried out on the conference units currently displayed, and the ID of such units will be displayed on the upper left corner of the interface. On the "System settings" interface on the host, the user may select the "Unit Testing" function to enter the unit testing interface, the user may touch the

unit information manually to test it, or he/she may touch the "Automatic Testing" button and set up a time for automatic testing. After the user selects "Automatic Testing", he/she should set up the time for such testing and touch the "Start testing" button to start the testing. After the automatic testing started, the system will test all items of the unit within such time defined. After one unit is tested, if the user does not touch the "Stop testing" button on the host, the system will continue to test the next unit and will complete the testing all units until the user touches the "Stop testing" button.

Procedures for manual testing are as follows:

1) Testing microphone

This is to test the microphone before the conference commences. The following message will be displayed on the LCD screen during testing the microphone.
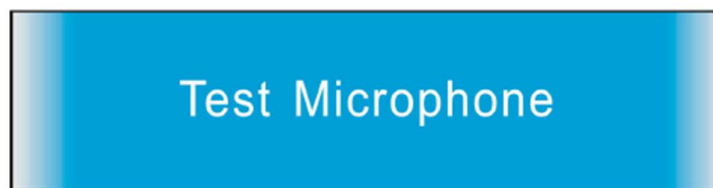
- When the user selects "Microphone testing" on the host and presses the "Start testing" button, the on/off button indicating light and the indicating light on the microphone head will be normally on, the tester may talk to the microphone to see if it works normally.
- During manual testing, the user needs to touch the "Stop testing" button on the testing interface of the host to stop testing the microphone.
- During the time defined for automatic testing, after the system finishes testing all items of one conference unit, it will continue to test the next one. The testing will not stop until it is stopped on the host.

- During testing microphones, the user cannot power on/off the microphone on the unit being tested.
- The above testing method is also applicable to embedded chairman unit or delegate unit, desktop chairman unit or delegate unit, the difference is that there is no display.

2) Testing LCD screen (this operation applies to the desktop units of the chairman or the delegate, and the embedded units of the chairman or the delegate)

The user may touch the "Testing LCD" button on the host and touch the "Start testing" button to test the LCD screen on such conference unit. During the testing, the following message will be displayed.

After the testing is completed, the user should touch the "Stop testing" button on the host.

3) Testing buttons

It is to test the buttons on each conference unit before the conference commences.

- The user may touch the "Testing Buttons" button on the host and touch the "Start testing" button to start the testing.
- In the button testing status, the following message will be displayed on LCD screen of the conference unit.

Test Button

- When the interface shown above is displayed on LCD of the conference unit, the user should press the buttons one by one as instructed by the system, including the microphone on/off button and the priority button on Chairman unit. If when the button is pressed, the corresponding light is one and when it is pressed again, such light is off, then it means that the buttons work properly.
- After all buttons are tested, the user may touch the "Stop testing" button on the host.

4) Testing LED

It is to test all LED indicating lights on the conference units.

- The user may touch the "Testing LED" button on the host and then touch the "Start testing" button. Then the LED indicating lights on the conference unit being tested, including the corresponding lights of 5 buttons, microphone on/off button, light on the microphone head (2 in total, one in bright green, the other in bright red), will be tested at a same time.
- In the LED testing status, the following message will be displayed on LCD screen of the conference unit.

Test LED
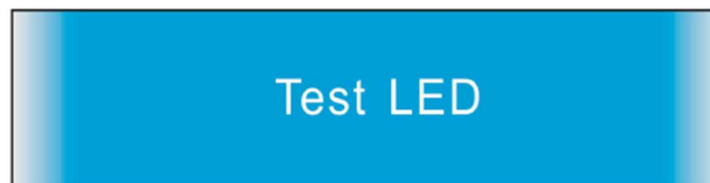
- When the interface shown above is displayed in the conference unit, all LED lights on the conference unit being tested will be on and blink, indicating that the LED lights are working properly.
- The user may touch the "Stop testing" button on the host to stop testing the LED lights.

5) Testing speaker

It is to test the speaker on each conference unit before the conference commences.

- The user may touch the "Testing Speaker" button on the host and touch the "Start testing" button to start the testing.
- In the speaker testing status, the following message will be displayed on LCD screen of the conference unit being tested.
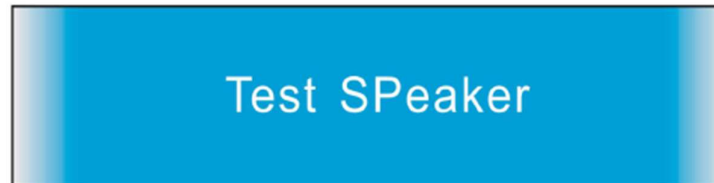
Test SPeaker

- When the interface shown above is displayed, the speaker will beep, indicating that the speaker is working properly.
- The user may touch the "Stop testing" button on the host to stop such testing the speakers.

View microphone status (for conference unit with screens)

On the main interface of conference units (as shown below), the user may press Button "3" to have all conference units connected to the system enter the microphone operation status.

ID:0018 VIP

MIC   LANG

UNIT 118   SPKE 3   Apply 6

MIC   LANG
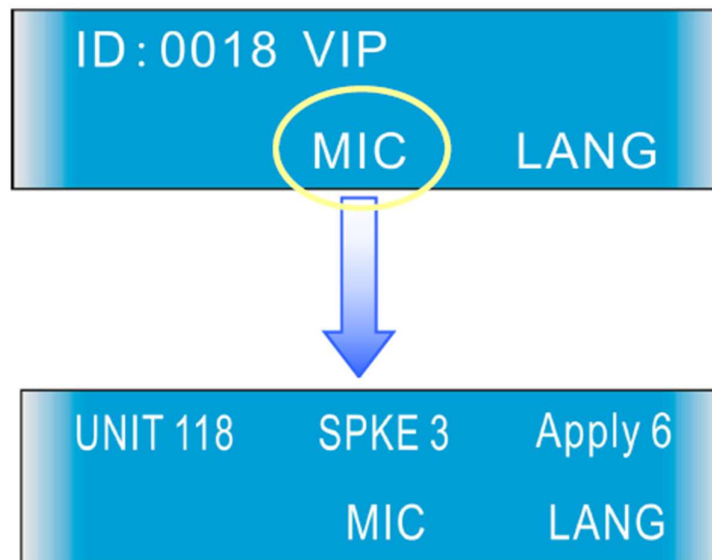
On the View Microphone Status interface, the user may view the following information:

1. Number of units connected to the system.
2. Number of units on speech.
3. Number of units in the current mode applying for A speech.

Language settings (for conference unit with screens)

It is to set up the display language on LCD screen on the conference units. Currently, the system supports two languages: simplified Chinese and "ENGLISH". To set up the language, the user can press Button "4" on the main interface, as shown below.

On the interface shown above, the user may press Button "2" or "3" on the conference unit to switch between the two languages, and then press "Return" button to exit the settings interface.
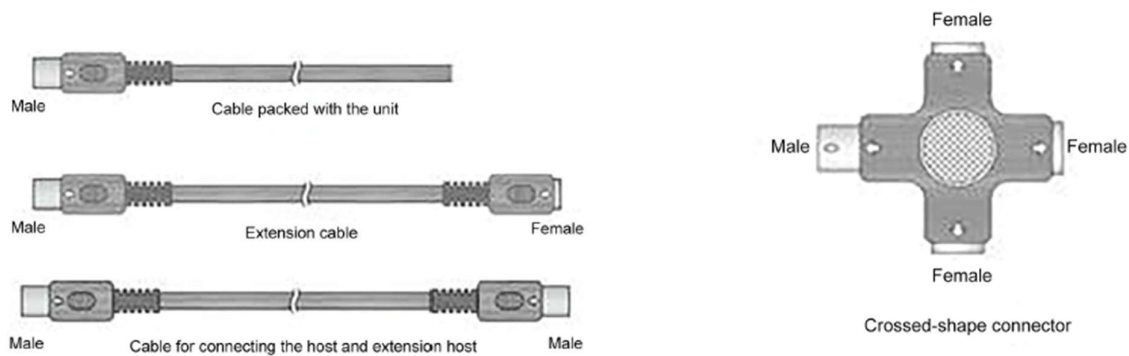
System Connections

Instructions

The series intelligent digital conference system consists of digital conference system host, extended host, conference unit, camera, and auxiliary audio equipment. The system is simple and easy to install. The basic wires required for system connection are 8-core cables, with specifications of 2 meters (with the unit), 5 meters, 10 meters, 20 meters, 50 meters and 100 meters respectively. According to the different requirements of the jack at both ends, it can be divided into
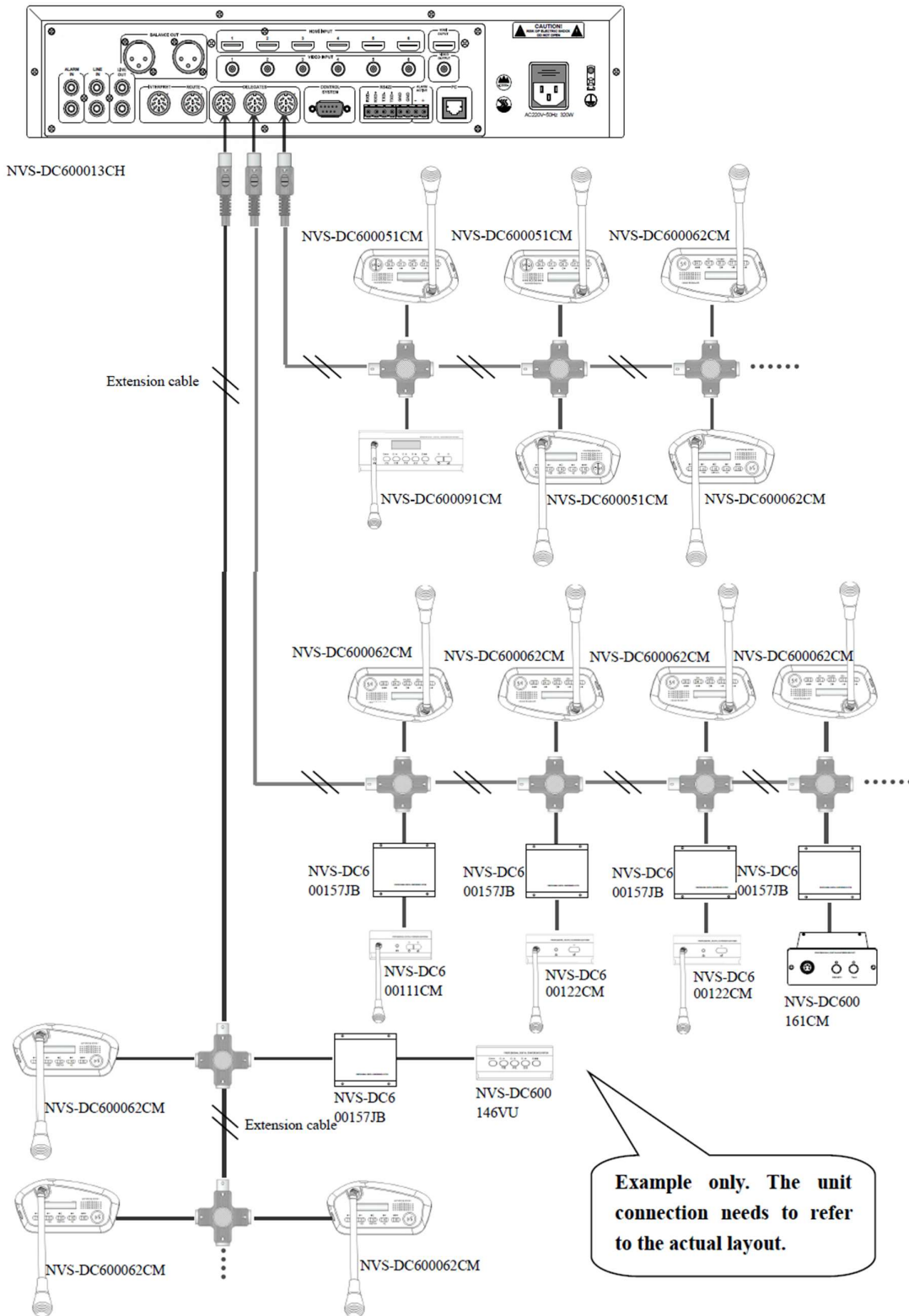
1. Cable packed with the unit.
2. Cable for connecting host of digital conference system and extension host.
3. Cable for connecting conference host and crossed-shape connector (also called extension cable).

The pictures are as below

In addition to the 8-core cable between the conference host and the unit, network cable, audio cable, coaxial line for connecting the camera (BNC plug to lotus plug) and data cable is required for the system connection.

Connection Diagram of the Conference Host and Units

NVS-DC600013CH

Extension cable

NVS-DC600051CM   NVS-DC600051CM   NVS-DC600062CM

NVS-DC600091CM   NVS-DC600051CM   NVS-DC600062CM

NVS-DC600062CM   NVS-DC600062CM   NVS-DC600062CM   NVS-DC600062CM

NVS-DC6
00157JB

NVS-DC6
00157JB

NVS-DC6
00157JB

NVS-DC6
00157JB

NVS-DC6
00111CM

NVS-DC6
00122CM

NVS-DC6
00122CM

NVS-DC600
161CM

NVS-DC600062CM

Extension cable

NVS-DC6
00157JB

NVS-DC600
146VU

NVS-DC600062CM

NVS-DC600062CM

Example only. The unit connection needs to refer to the actual layout.