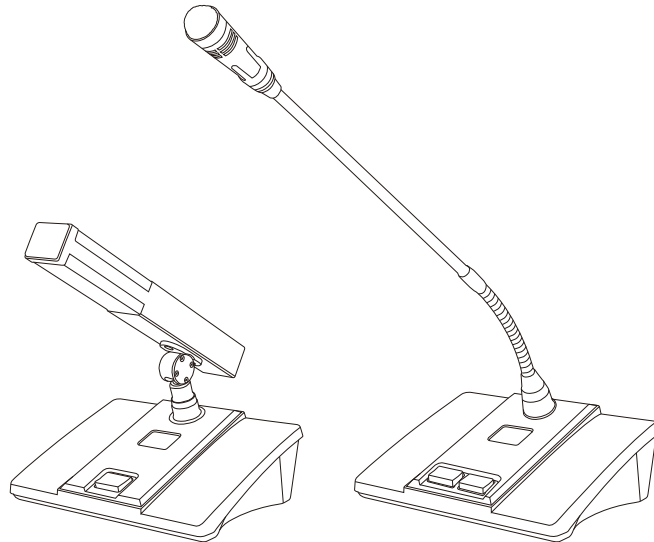


DCS-A2 Series

Digital Audio Conference System

Table of Contents

1.	Introduction	3
2.	Features	3
3.	Conference System Basic Components	3
4.	Units' Interfaces	4
4.1.1	aDCS-C2-MCU Front Panel	4
4.1.2	aDCS-C2-MCU Rear Panel	4
4.1.3	aDCS-C2-MCU Microphone Units' Interfaces	5
4.1.4	Microphone Unit's Interfaces	6
4.1.5	Front Panel Control	7
5.	Specification	11
6.	Conference System Connection Diagram	12
7.	Best Practice	13
8.	Safety Instructions	13
9.	Warranty Information	13

1. Introduction

Aberman aDCS-A2 Series are digital audio conference system. This is a new intelligent full-featured product, which perfectly introduces and integrates modern digital technology into the audio conference system to provide high quality sound for professional and commercial installations. The system may consist of a conference main unit, a set of conference microphone units. The "Hand in Hand" connection technology between the conference units in the system is a new intelligent full-featured digital bus connection architecture supporting the cascading functions. The system supports 48kHz audio sampling frequency to support high sound quality all-digital technology by the audio conference system. There are two types of conference unit supported by the system - chairman and delegate unit. The chairman unit has ability to control discussion process depending on the main unit settings for conference mode. Many additional features are supported by the system – optional PTZ camera control, additional audio recording interface and etc. The main unit can be connected to an intelligent third party central control system providing more functionality and gives complete and flexible solution for engineering. Local control is available using front panel with a LCD display while the remote control option uses RS232 interfaces. The main conference unit is housed in a compact 1RU high case for installation in a standard 19" rack.

2. Features

- Digital Audio Conference System
- Built in high-performance CPU, stable system and fast computing speed the host adopts LCD display and the menu operation is simple, intuitive and user-friendly
- Supports up to 100 units
- 3 speech modes: Automatic mode, Chairman mode and Full open mode
- The unique high-fidelity audio processing circuit improves the clarity of the entire system
- Additional audio output interface allows connecting main unit to an external amplifier
- Unique high fidelity audio processing circuit to improve the clarity of the whole system
- Meeting video tracking, which can be connected with an external camera to transmit the speaker's video to the display or recorder for storage
- Safety standards. The conference unit is powered by the system host, with the working voltage of DC 24V

3. Conference System Basic Components

aDCS-A2-MCU - Main Control Unit

aDCS-A2-CU – Chairman Microphone Desktop Unit

aDCS-A2-DU – Delegate Microphone Desktop Unit

aDCS-A2-CUL – Chairman Microphone Desktop Unit

aDCS-A2-DUL – Delegate Microphone Desktop Unit

aDCS-A2-FCU – Chairman Microphone Furniture Embedding Unit

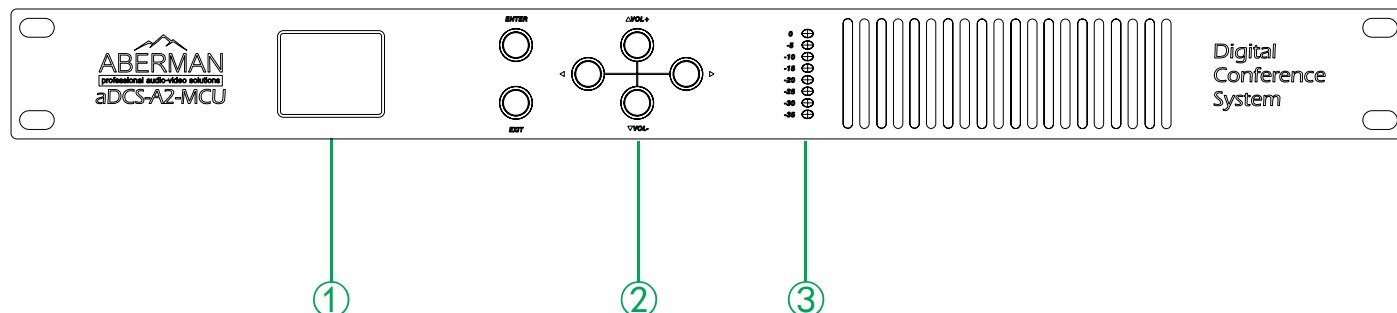
aDCS-A2-FDU – Delegate Microphone Furniture Embedding Unit

aDCS-A2-SCU – Chairman Microphone

aDCS-A2-SDU – Delegate Microphone

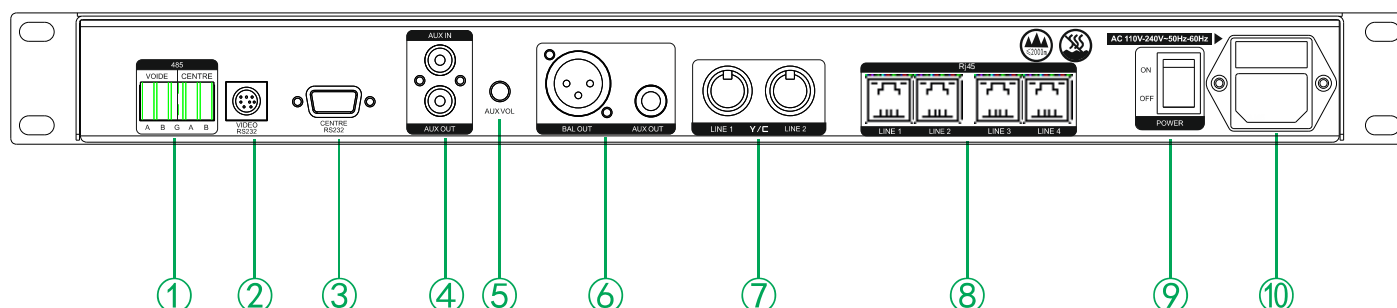
4. Units' Interfaces

4.1.1. aDCS-A2-MCU Front Panel



1. Display window: display system settings and working conditions
2. Buttons for setting and modifying system functions
3. Level display: display the strength of the audio signal

4.1.2. aDCS-C2-MCU Rear Panel



1. Terminal Connectors – RS485 programmable control interface, RS485 PTZ control port
2. DIN Connector – RS232 socket, PTZ control port
3. DB9 Connector – RS232 programmable control interface
4. Unbalanced Auxiliary Audio Input and Unbalanced Auxiliary Audio Output
5. Adjustment Knob – Unbalanced Auxiliary Audio Output Volume
6. Balanced and Unbalanced audio output interface, connected to the mixer input
7. 2x DIN Connectors – 1-2 System Connection Interface (supports maximum of 100 units)
8. 4x RJ45 Connectors – 1-4 System Connection Interface (supports maximum of 100 units)
9. Power switch
10. AC power input socket, connect AC 110V-240V power supply

4.1.3. aDCS-C2-MCU Microphone Units' Interfaces

The interconnections of the units in the aDCS-A2 Conference System are simple and easy for setting up. There are two types of connections for microphone units are supported. One type is using the DIN connectors, while the second one uses the RJ45. We do recommend using only one type of connection per time, since beside the audio and control signals transmission, conference units receive power over these lines. The maximum number of connected units is limited by the interface type and cables distances. The incorrect connection or overload may result in serious damage for the main conference unit or an active hub. Such situations are not covered by the warranty.

DIN Interface

The first connection interface of the Main Conference System unit has two identical DIN 8-pins ports. Each one of them represents one line for conference system microphones connection. Each microphone unit uses a "hand in hand" connection protocol and is connected to the conference system via a dedicated extension cable or T-type cable which splits signals for additional connections. Each conference microphone unit receives power from the Main Conference System unit, this way the number of conference units that the host can connect to is limited by the power supply capability of the host. Each line of DIN interfaces supports maximum of 100 microphone units. This way a totally up to 200 microphone units can be connected to a single aDCS-A2-MCU unit.

RJ45 Interface

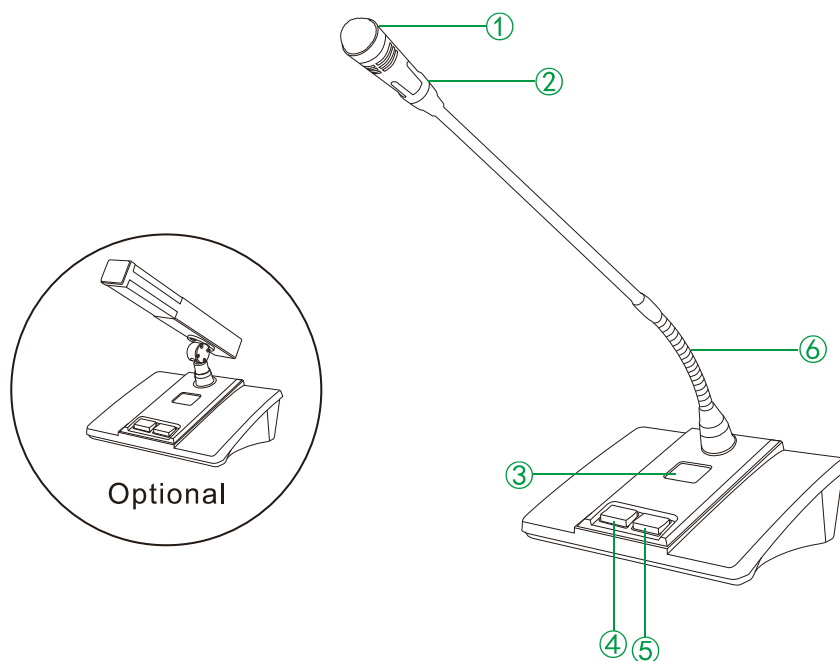
The second one interface for microphone units' connection enforced with four identical RJ45 ports. Each one of them represents one separate line for conference system microphones connection. Each microphone unit uses a "hand in hand" connection protocol and is connected to the conference system via a dedicated extension cable or Y-type cable adapter which splits signals for additional connections. Each conference microphone unit receives power from the Main Conference System unit, this way the number of conference units that the host can connect to is limited by the power supply capability of the host. Each line of RJ45 interfaces supports maximum of 20 microphone units. This way a totally up to 80 microphone units can be connected to a single aDCS-A2-MCU unit.

NOTE: regardless to Interface connector type the connection bus uses 8 wires type cables. We do recommend use only Aberman high quality cables. By default all the microphones units should be connected to the Main Unit by the short 2 meters cables. The first cable length (between the Main unit and first microphone unit in daisy chain) greatly affects on the whole system, because of dropping of the supplied power voltage. Use additional active hubs to go through these limitations.

Cable Length /Unit Quantity	
First Cable Length	Microphones Units Supported per Line
20 meters	Up to 25
40 meters	Up to 15
60 meters	Up to 10
80 meters	Up to 8

4.1.4. Microphone Unit's Interfaces

There are several types of compatible microphones units available for the aDCS-A2 series Conference System. These microphones could be desktop or embedding into furniture top versions. Two types of functionality are available delegate or chairman. The chairman version may have additional button for activating "Chairman Mode" or control the discussion process (see the Conference Mode setting for the Main Unit). Units may have DIN and/or RJ45 connector on the rear side. Use only one connection at the time. Refer to particular model for the details. Up to 6 chairman units supported by default for one Conference System.



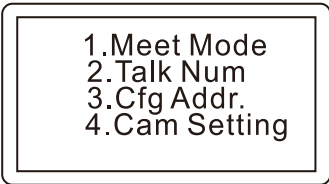
1. Microphone Capsule – High Sense Voice Microphone
2. Microphone light-ring– Shows Microphone Status
3. TFT Color screen – Shows Microphone Status Turns Microphone ON/OFF
4. Chairman priority button
5. Microphone switch/Microphone ID auxiliary functions
6. Microphone Rob

4.1.5. Front Panel Control

The front panel of the conference system main unit gives access to the settings using built-in LCD display and front panel buttons. Use navigation keys to move and select menu items and Cancel or Confirm keys to apply an action. Press any key to activate menu selection on LCD. The active item is highlighted by yellow. If no action made in 10 seconds unit will automatically returns to the main menu.

Choosing Conference System Mode

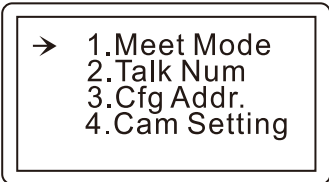
Press "Enter" to choose the meeting model. The cursor flashes at the "1" position.



```

1.Meet Mode
2.Talk Num
3.Cfg Addr.
4.Cam Setting
  
```

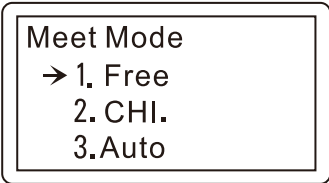
The cursor flashes at the "1" position when you enter this menu. It means that the flashing position can be setting.



```

→ 1.Meet Mode
2.Talk Num
3.Cfg Addr.
4.Cam Setting
  
```

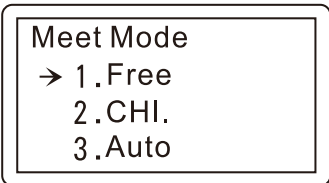
After enter the "Meet mode", you can select the model you need by "up" and "down" key.



```

Meet Mode
→ 1. Free
2. CHI.
3. Auto
  
```

After choosing the model you need, press "Enter" to save and exit the setting interface.



```

Meet Mode
→ 1. Free
2. CHI.
3. Auto
  
```

Modes Meanings

Free: Under this model, All the unit (include the chairman unit and delegate unit) are allow to speak at the same time.

CHI: Limit the number of speaking unit (not include the chairman)

Auto: Under this model, only the chairman can speak.

Choosing Number of Active Units

Choose the "Talk Num" menu and press "Enter" to preset.

1.Meet Mode
→ 2.Talk Num
3.Cfg Addr.
4.Cam Setting

The number of speeches can be adjusted according to you need by "up / down" key, and the speeches number can be selected from 1 to 6. Press "enter" to automatically save and return to the previous menu interface after selection.

Talk Num: 1
up,dowm Setting

Configuring the Units' Addresses

Choose the "Cfg Addr" menu and press "Enter" to preset.

1.Meet Mode
2.Talk Num
→ 3.Cfg Addr.
4.Cam Setting

After enter the "Cam Setting", Press the "up" / "down" key to enter the allocation unit number address, and the generation displayed on the screen.

Table number and chairman number are reset to zero at the factory. At this time, indicator lighters a of all microphone units are flashing, signing unit number address, press the microphone switch one by one, and press the microphone unit one by one.

UnitAddr: ---
up,dowm Start
enter Exit

UnitAddr: 001
up,dowm Start
enter Exit

Choosing the PTZ Camera Control Protocol

Choose the "Cam Setting" menu and press "Enter".

1.Meet Mode
2.Talk Num
3.Cfg Addr
→ 4.Cam Setting

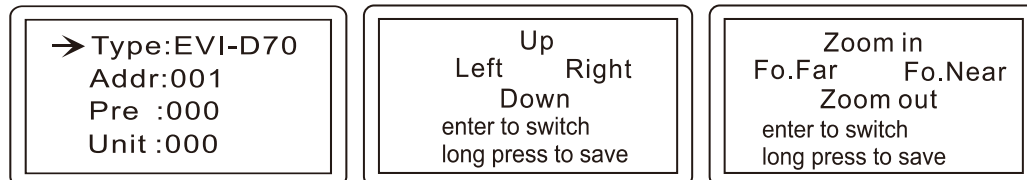
This function is to select the video setting displayed on the local display screen.

Press" enter" to preset and press "left" and "right" to select the camera types: **Pelco-D, Pelco-P, EVI-D70(VISCA)**.

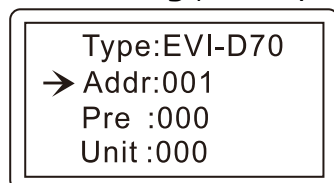
Camera Adjustments

As shown in the figure, press "enter" to enter the camera free setting, then press "up" "down" "L" "R" to set the camera direction, and press "Enter".

Switch to camera focus setting, press "up" "down" "L" "R" to set camera focus. Long press "Enter" to save, enter the next preset point setting automatically, after setting up, press "Exit" to exit.

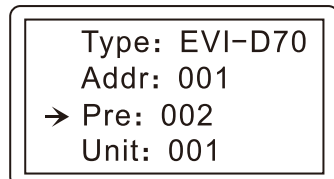


Return to the previous menu, press "down" to select the next menu "address", then press "L" or "R" to set the number of camera addresses (up to 7). Press "enter" to perform camera direction and focus setting (the steps are the same as camera setting in type setting).

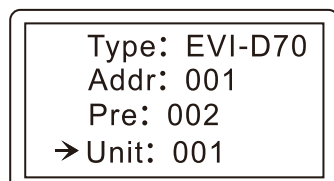


Press "down" to select the "preset" setting.

Press "L" or "R" to set the preset quantity (up to 64). Press "enter" to perform camera direction and focus setting (the steps are the same as camera setting).

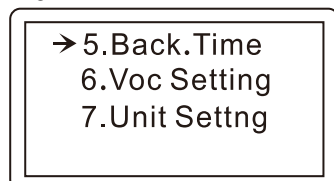


Press "down" to select the "Unit" setting. Press "L" or "R" to set the Unit quantity (up to 100). Press "enter" to perform camera direction and focus setting (the steps are the same as camera setting). Press "Exit" to return the main menu after setting.



Back time menu

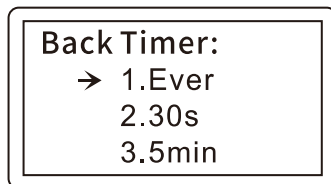
When the cursor is positioned in the "backing time" menu on the main menu, press the "enter" key to enter and the following interface will be.



Press "Enter" to setting (As shown on the right): press the up and down keys to select whether the backlight of the host display or not

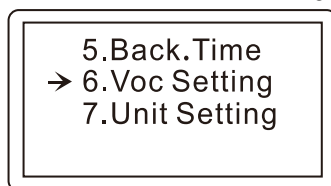
Audio Conference System

Preset the automatically turn off time setting without any key of the host. It has 3 timing can be chosen normally on, 30 seconds and 5 minutes. After selecting the timing, press "enter" to save and return to the previous menu.



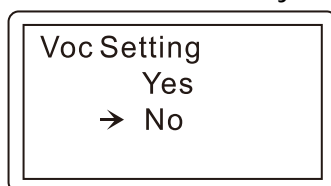
Voice Unit Activation

Choose "Voc Setting" (As shown on the right): press the "enter" key to enter and the following interface will be displayed.



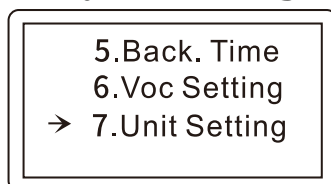
Enter the "Voc Setting" (As shown on the right): Press "up" "down" to set the voice control function permission (Yes/No).

The microphone will automatically turn on when you speak to the microphone even if the unit was turned off, when you choose "Yes".

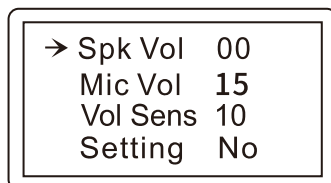


Unit settings

When the cursor is positioned on the 7 "Unit Setting" menu, press the "ENTER" key to enter and display the following interface:



Press "ENTER" to enter, the interface as shown on the right: for speaker volume, press "L" or "R" to adjust; then press "ENTER" and "L" or "R" to adjust the microphone volume; after setting, then press "ENTER" and "L" or "R" to adjust the sensitivity volume; press "ENTER" to set the unit settings, press "L" or "R" to select "prohibited" or "allowed".



After setting, press "EXIT" to return to the menu interface.

5. Specification

Host Specification

Parameter	Value
Input Voltage	AC110-240V~50-60Hz
Maximum Power Consumption	120W
Frequency Response	30Hz-18KHz
Gain	0dB
S/N Ratio	≥100dB
Bottom noise	-86dBu
Host Size(W×H×D)	483×205×45MM
Package(W×H×D)	520×370×80MM
N.W/G.W	2.85KG/4.35KG

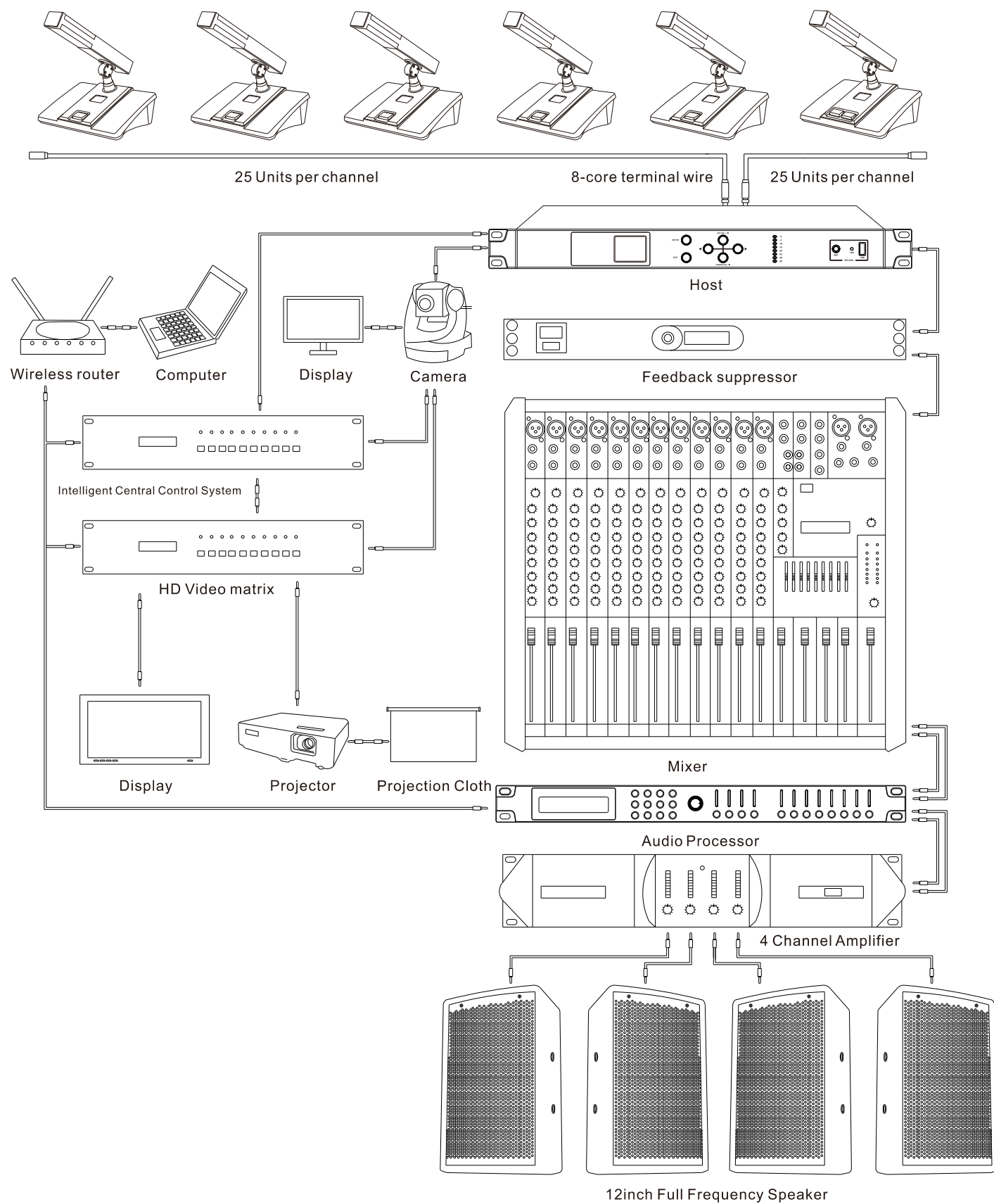
Unit Specification

Parameter	Value
Input Voltage	AC110-240V~50-60Hz
Power Consumption (Without Speakers)	120W
Power Consumption (Included Speakers)	30Hz-18KHz
Frequency Response	0dB
Gain	≥100dB
S/N Ratio	-86dBu
Bottom noise	483×205×45MM

Condenser Microphone Clip Specification

Parameter	Value
Sensitivity	-44dB ±3dB
Frequency Response	30Hz-18KHz
Polar Patten	Cardioid
Working	1-10V

6. Conference System Connection Diagram



7. Best Practice

Aberman engineers design products at the highest quality standards. To get the best results from our products, please read this manual carefully. We recommend using the best quality connectors, cables, and adapters. Consider the points below when you choose accessories and position equipment.

For best results with HDMI/DVI, use good quality cables up to 5 meters long for 4K and up to 15 meters for 1080p, or shorter if you are using any connection adapters. If you need to place your equipment more than 15 meters apart, we recommend using a signal extender. See Aberman Smart Extension product line of signal extenders to find correct one. Use only graded Speed HDMI cables.

In industrial environments, use shielded CAT cables (STP, FTP, F/UTP or S/FTP) with digital extenders. To achieve best performance and maximum distance use appropriate fiber optical types (Multi or Single Mode) and grades for optical extenders.

8. Safety Instructions

WARNING: To reduce the risk of fire or electric shock, do not expose this device to rain or moisture. Do not use this device near water. Clean only with a dry cloth.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the device. This unit must be connected to an earthed mains socket outlet with the supplied cable. The AC wall outlet should be installed near to the unit and be easily accessible.

If using extenders which run a long distance, the protective earth circuit of the socket should be verified by a skilled person to ensure equipotential earth bonding. Do not use unit on objects or installations where power lines have grounding and/or different phase issues.

Unplug units during lightning storms or when unused for long periods of time.

Do not install unit near any heat sources such as radiators, heat registers, stoves, or devices (including amplifiers) that produce heat. Do not block any ventilation openings. This unit uses active cooling with fans. Do not install unit in dusty and/or dirty places. Use professional equipment racks with air condition and filters.

9. Warranty Information

Aberman warrants all units to be free from defects in workmanship and materials, under normal use and service, for a period of one (1) year from the date of purchasing from authorized reseller. If a product does not work as it warranted during this period, Aberman will repair or replace the defective product or its part. Replacement products may be new or reconditioned.

Warranty ends if the product has been damaged due to abuse, misuse, neglect, accident, unusual physical or electrical stress, unauthorized modifications, tampering, alterations, or servicing other than by Aberman or its authorized centers, causes other than from ordinary use or failure to properly use the Product in the application for which said Product is intended.