PART 3 Main Controller

3.1 Introduction

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

Figure 3.1 Main Controller RX-M2703XP

3.1.1 Function and Feature

- ➢ Restmoment original conference technique, compliant to IEC60914.
- ➢ Control all the conference functions by navigation keyboard on front panel
- ➢ Adopt high speed RISC Embedded hardware structure, more reliable, faster.
- ➢ Adopt digital audio transmission technique, close to CD sound quality.
- ➢ 2.8 Inch LCD, Chinese and English menu, could order any language.
- ➢ Built-in input/out volume adjustment.
- ➢ Built-in 8X8 video matrix switcher, it can manage multipath video signs easily.
- ➢ Built-in 8X4 overall view video switching, time and order can setup freely.
- ➢ Original U disk and SD card recording function, can record the whole meeting in real-time.
- ➢ Users can control the starting and ending of recording, even change the setup of recording.
- ➢ MP3 recorder can record audio signal from external device automatically as soon as it coming.
- ➢ Exchanging function between MP3 recording and SD card. Users can change SD card during speaking. And it will not loose the content or audio.
- ➢ Recording will be kept on SD card
- ➢ After recording, user can choose listening or replay.
- ➢ It has monitoring earphone jack on front panel.
- ➢ System can support 80pcs chairman units simultaneously and appoint one as executive chairman.
- ➢ MIC management modes

- Limited mode: 1～6pcs units can be opened simultaneously
- FIFO mode: the last opened MIC covers the first opened MIC.
- Apply mode: executive chairman can approve or reject the speaking.
- Voice activating mode
- Free discussion mode: allow all the units to be opened simultaneously

➢ 6 channels output ports, which can connect 180pcs units.

➢ Many connecting modes, including "Hand in hand on one line", "Hand in hand by splitter" and " Hand in hand in ring form"

➢ Working with extension controller, the whole system can be extended to 4094pcs units.

➢ Turning off speaking unit, camera will track previous unit. Turning off all the speaking units, it will return to overall view.

➢ Protocols sharing, it can compatible with all the popular cameras. As the unit's positions being exchanged, camera always keeps the correct tracking position by edit ID automatically.

➢ Cooperating with conference management software, the system can have more functions with easier operation.

3.1.2 Technical Parameter of Main Controller

Model Parameter	RX-M2703XP series
Working power	Two models：AC100～120V, 8A / AC220～240V, 4A
Power consumption	Depends on the quantity of connecting units: Single unit 25W, Maximum 420W
Unit capacity	180pcs units, can be extended to 4096pcs
Audio input	RCA × 2 2V p－p 6.3mm ×1 －50dB XLR × 1 －50dB
Audio output	RCA × 2 2V p－p XLR × 1 －50dB
Output impedance	47KΩ
Frequency respond	20~20KHz
SNR	102dB
Dynamic range	106dB
Total harmonic distortion	＜0.05%
Channel separation	102dB
Control model	RS－232/RS－485
Connector	Big 8 pin DIN
Camera capacity	8pcs

Video output level	RCA×41.08V p－p
Video output impedance	75Ω
Band width of video（-3dB）	30MHz
Recording	U disk and SD card
Color	Dark grey
Net weight	8KG
Dimension	432×90×350 mm
Installation	Suitable for 19 inch normal stand

3.1.3 Schematic diagram of front panel
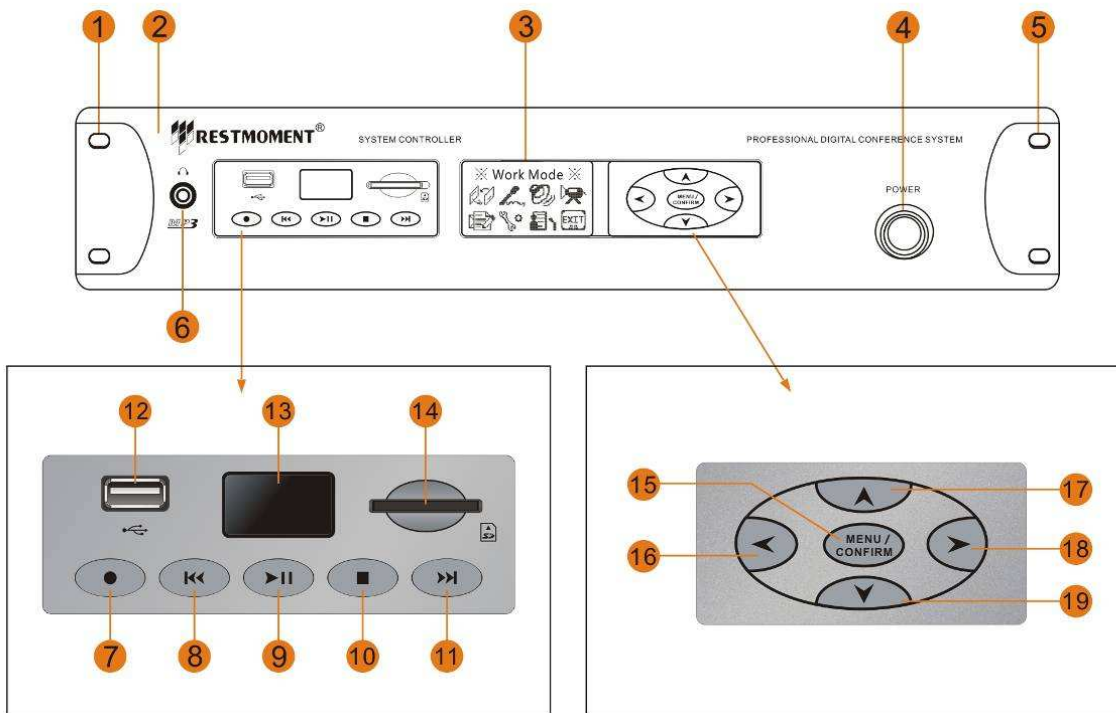
◆ **Front Panel：**

Figure 3.2 ·Front Panel

Mounting hole for 19 inch stand

1. Front panel of main controller. Aluminum Alloy

2. LCD screen, can adjust the brightness and contrast.

3. Switch, with electrifying indicator.

4. Mounting hole for 19 inch stand

5. Earphone jack for monitoring

6. Recording key: Press to record meeting; Press again to stop recording.

7. Switch to the last audio

8. PLAY and PAUSE

9. STOP

10. Switch to next audio

11. USB jack: for U disk

12. MP3 screen: display user's operation

13. SD CARD slot: for inserting SD card

14. MENU／CONFIRM

15. LEFT

16. UP

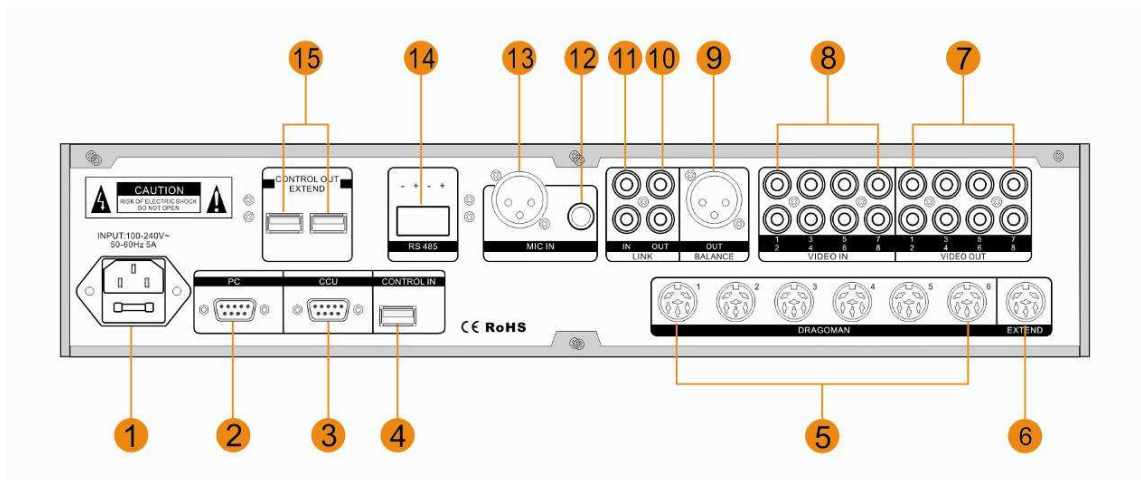**17.** RIGHT

18. DOWN

◆ **Back Panel：**

Figure 3.3   Back Panel

1. Power line port: Input AC100~120V，8A / AC220~240V,4A   50~60Hz

2. RS232 interface（PC）：Computer control system interface

3. RS232 interface（CCU）：Central control system interface

4. USB interface（CONTROLIN）：interface for function extension

5. 6pcs 8P DIN interface（DRAGOMAN）：6 channels units' output interface

6. 8P DIN interface（EXTEND）：interface for extension controller, connect to EXTEND IN

on extension controller.

7. Video signal output interface （VIDEO OUT）: Connect to TV or other external screen via 8 channels.

8. Video signal input interface （VIDEO IN）:8 channels input, connecting to camera.

9. Cannon balance audio output interface （BALANCE OUT）: Balance audio output.

10. RCA Audio interface（LINK OUT）：Audio output interface of system controller can connect peripheral amplifying system or recording system.

11. RCA Audio interface（LINK IN）：Sound input interface for the third party

12. 6.3mm MIC input socket

13. Cannon balance interface MIC: External MIC

14. RS485 interface：Connecting with camera

15. 2pcs USB interfaces（CONTROL OUT）：interface for function extension

PART 4 Conference units

4.1 Introduction

Figure 4.1 Table top conference unit RX-C/D2700XP

4.2 Function and Feature

- ➢ Adopt RESTMOMENT conference technology, compliant to IEC60194.
- ➢ Elegance desktop design, accord with ergonomics.
- ➢ Digital audio transfer technique, point to point connection mode. Remote transmission won't influence on sound quality. Distance between two units could reach to 100m
- ➢ Power supplied by main controller. Input voltage is 24V.
- ➢ Gooseneck pole and high directional electret MIC with red indicator light.
- ➢ Units have double colors & high light LED indicator light.
- ➢ Units are connected by 2M 8pin cable.
- ➢ Hand in hand connecting for units
- ➢ Support "PnP"
- ➢ Built-in high fidelity speaker. If users open the MIC or insert the earphone, it mutes automatically.
- ➢ Each unit has free distributed ID address, convenient for installation.
- ➢ Double stereo earphone output, could adjust volume.
- ➢ 5 MIC working modes
    - ● Limited mode
    - ● FIFO mode
    - ● Apply mode
    - ● Voice activating mode
    - ● Free discussion mode

6

- ➢ Co-operating with camera, it has video tracking function.
- ➢ Camera always tracks the last opened MIC, and system can display conference in real time.
- ➢ Chairman unit has priority, could switch off all the speaking units.
- ➢ System supports 80pcs chairman units simultaneously. And specify one as executive chairman unit.
- ➢ Except having all the functions of delegate unit, the chairman unit also has below functions:
  - ✧ Speaking priority
  - ✧ Can switch off speaking delegate unit
  - ✧ Can reject or approve speaking apply of delegate units
  - ✧ The position of chairman unit is free
  - ✧ There are many chairman units in a system

4.3 Technical Parameter

Model / Parameter	RX-C/D2700XP series
Model	Table top chairman unit, delegate unit
System capacity	Depends on controller，≤4096
Frequency respond	18—20KHz
MIC type	Capacitive
Sensitivity of MIC	－47dB
SNR	90dB
Dynamic Range	92dB
Total harmonic distortion	＜0.05%
Working power	24DC，-5％
Working current	40mA ±5％
Maximum consumption	1W
Control type	RS－485
Earphone output	16Ω，250mW / 32Ω，125mW
ID edit	Distributed by main controller
Connection mode	Hand in hand
Connector	Big 8 pin DIN
Video tracking function	Yes
Color	Dark blue
Installation	Table top

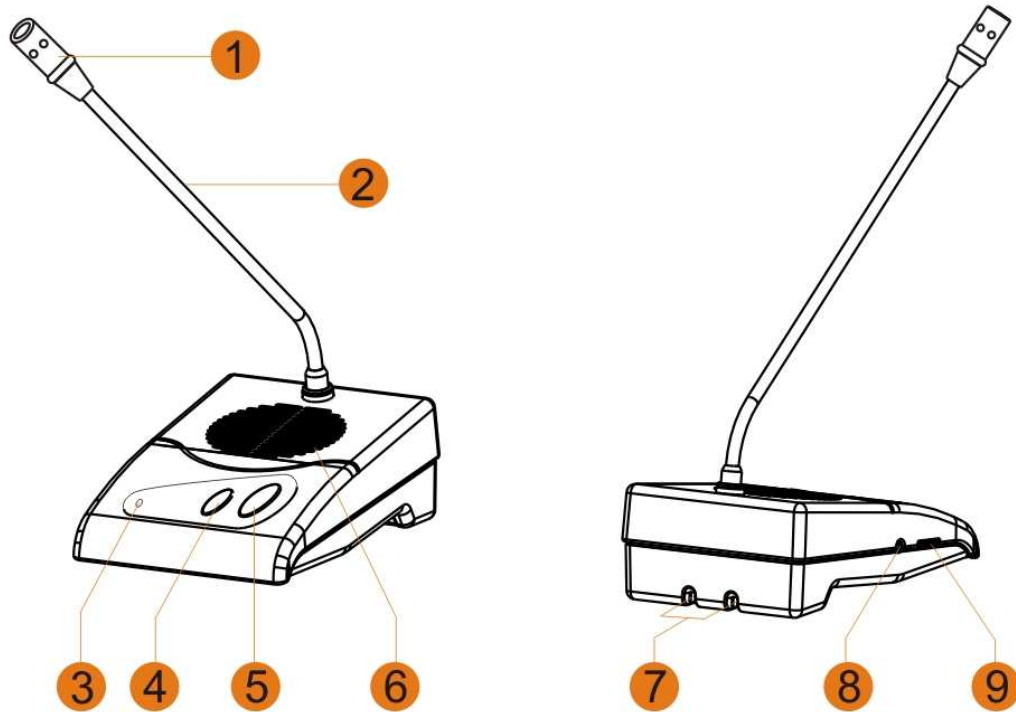## 4.4 Schematic diagram of function key on units

Figure 4.2 ·Schematic diagram of function key on unit

1. MIC: high sensitivity, red indicator light which lights during MIC opening.
2. Gooseneck pole: gooseneck pole with electret MIC and red indicator light.
3. MIC ON/OFF indicator light: Red means MIC ON; Green means delegate unit's speaking is controlled.
4. Cancel key: On chairman unit, it is used for switching off the speaking delegate unit.(only RX-C2700XP has it)
5. MIC：ON/OFF, chairman unit has speaking priority
6. Built-in high fidelity speaker. If users open the MIC, it mutes automatically.
7. Connector of unit: on the bottom of unit, it is connected to main controller or other units with hand in hand.
   a. Note: Each unit is sent with a 2M 8pin cable (male/male) as standard.
8. 3.5MM earphone jack. As soon as inserting the earphone, built-in speaker will be switching off automatically.
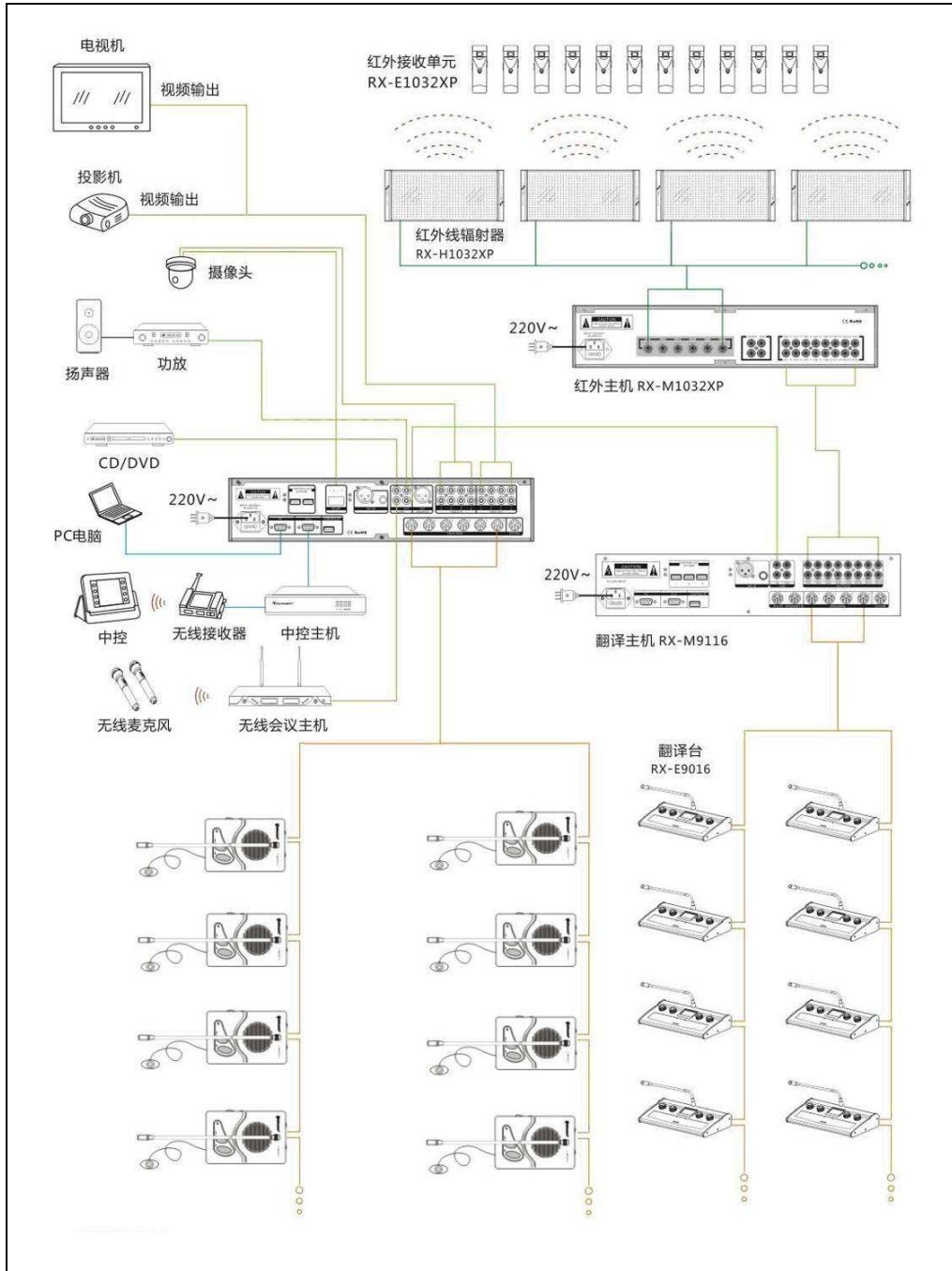9. Volume control for earphone or built-in speaker.

5.1 Connection Figure

Figure 5.1　Connection Figure