

# Digital Conference System User Manual

**TS-0600M, Master Controller**

**TS-0611, Chairman Unit**

**TS-0611A, Delegate Unit**

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**Please read and keep this manual carefully before using this product.**

**Notice:**

**Professional Digital Conference System**

TS-0600M Conference System Controller

TS-0611 Chairman Unit

TS-0611A Delegate Unit

TS-0616 Interpreter Unit

TS-0600F IR Generator

TS-0600FT IR Radiator

TS-0613 IR Receiver

TS-820 Earphone

TS-920 Headphone

## Safety Operation Guide



In order to ensure the credibility use of the product and the user's safety, please comply with the following items during installation and maintenance:

①

The system must be earthed properly. Please do not use two blades plugs and ensure the alternating power supply ranged from 100v to 240v and from 50Hz to 60Hz.

②

Do not put the machine in a place of too hot or too cold.

③

To avoid any damage by over heat, please keep the working environment good in ventilation to radiate the heat when running the machine.

④

The machine should be turned off when in rainy and humid days or nonuse for a long time.

⑤

The AC power supply line should be disconnected with the power socket during the following operation.

- A. Take out or reinstall any component of the machine.
- B. Disconnect or re-connect any connector of the machine.

⑥

Please do not attempt to maintain and uncover the machine for there is a high-voltage component inside and the risk of the electric shock.

⑦

Do not splash any chemical product or liquid on or near the equipment.

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# 1 Audio Conference System Introduction

## 1.1 About this system

ACS (Audio Conference System), central control system and matrix switcher system are 3 most important product lines. It consists of the function modules as contribution, simultaneous interpretation, IR language distribution, telephone conference, voting and video tracking.

We are always dedicated to integrated system solutions. Therefore, the ACS is not only a Hi-tech electronic system, but also a powerful conference control solution while cooperating with the central control system seamlessly.

## 1.2 Features of ACS

**Safety:** The safety of every delegate is the most important thing to each conference.

- The power of delegate unit and chairman unit are supplied by the central control unit with 24V safety current.
- To improve the antistatic performance, the parts are selected carefully to avoid point discharge current and the earth line is ensured to be enough thick. As a result, the antistatic performance is up to 8000V.

**Security and anti-jamming:** Everything discussed in a conference must be important and sensitive. To keep the signals and information securely and distortion-free is highly required.

- The discussion system is shielded-cable linked, which can prevent the radio disturbance and wiretapping effectively.

**Perfect audio quality:** The more clearly we “say”, the more clearly we get.

- The contribution equipment adopts condenser microphone with unidirectional response.
- The contribution equipment adopts built-in hi-fi loudspeaker.
- The lightweight earphone with a hanging design can reproduce the audio vividly and it is comfortable to wear. It is very suitable for a long time use without any feeling of oppressive or unhappy.

**Maneuverability:** Simple operation and control represent efficiency.

- Easy installation: the communication method of daisy-chaining the units simplifies the work of installation and saves the cost.
- Easy operation: every one can easily control the unit by press a button to address and turn the knob to adjust the volume of speaker or earphone.

**Maintainability:** An excellent system design leads to low maintenance cost, lesser upgrade expense, long life-span and high efficiency.

- The communication method of daisy-chain is easy to maintain and locate the problem unit.
- Even the end user technician can maintain the system well with a short-term training.
- All the equipments are produced and tested under ISO9001 strictly. They are international qualified.

**Expansibility:** The capability of expansible protects users’ benefit and makes the system more flexible and powerful.

- To cope with the increasing number of delegates, the only thing to do is just adding in the delegate units.

The modular system can be easily expanded by putting in the proper functional module. When adding in a voting unit, it becomes a voting conference system; when adding in the camera tracking module, it becomes a simultaneous A/V conference system.

## 1.3 Product list

Audio Conference System Product Models	
ACS Control Units	
TS-0600M	Master Controller
ACS Microphone Units	
TS-0601	Chairman Unit (Discussion)
TS-0601A	Delegate Unit (Discussion)
TS-0611	Chairman Unit (Discussion + Voting)
TS-0611A	Delegate Unit (Discussion + Voting)
ACS Simultaneous Interpreter Unit	
TS-0616	Interpreter Unit, support 6 channels
IR Language Distribution System	
TS-0600F	IR Generator
TS-0600FT	IR Radiator
TS-0613	IR Receiver
Accessories	
TS-820	Single earphone
TS-920	Headphone
TS-*L	13-pole extension cable with connectors

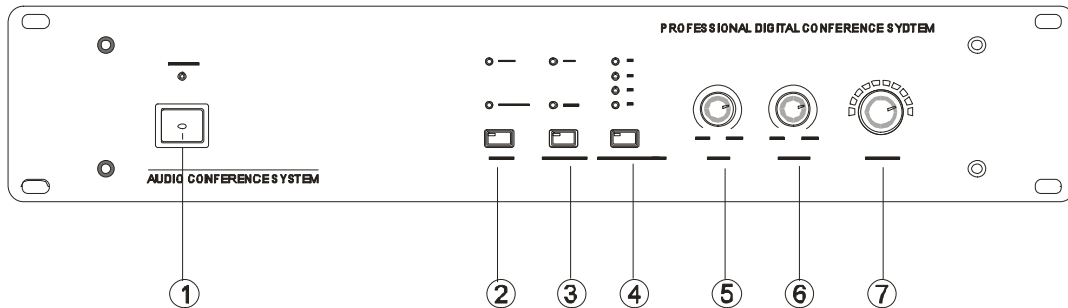
# 2 ACS Control Units

## 2.1 Introduction

- TS-0600M Master Controller

## 2.2 TS-0600M

### 2.2.1 Front Panel



1 POWER

2 MODE

Configure the working mode of active microphones. There are 2 modes to choose.

■ NORMAL

—The mode with a maximum number of active delegate units. The number of contribution units may be set to 1/2/4/6, except the chairman unit. When the active microphones reach the limitation, one delegate unit must be closed to leave the place for the other who wants to speak.

■ FIFO

—It is the first in first out mode with the configurable number of 1/2/4/6 speaking units, except the chairman unit.

3 EQUALIZER

Switch the audio frequency from one to another to restrain howling.

■ ON: Open the equalizer.

■ OFF: Close the equalizer.

4 ACTIVE MICRO'S

Configure the maximum number of active microphone to be use at a same time. Users can choose from 1, 2, 4 and 6.

5 BASS

Adjust bass up to eliminate the howling or squeal and adjust it down to get a more clear audio reproduction.

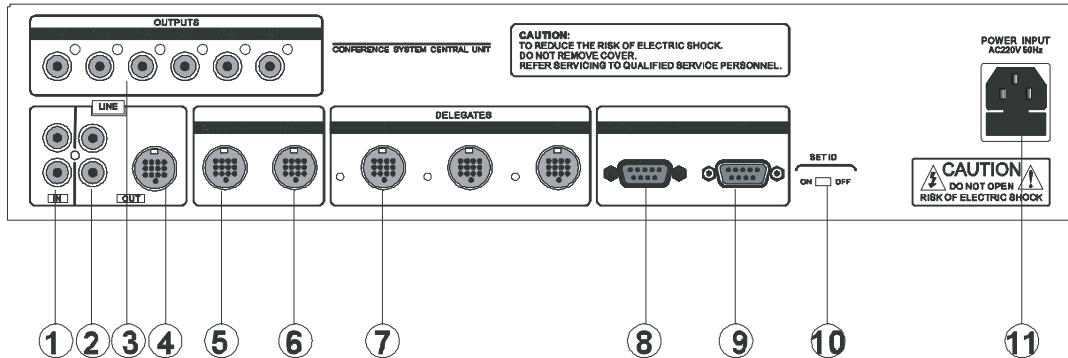
6 TREBLE

Adjust treble down to eliminate the howling or squeal and adjust it up to get a more clear audio reproduction.

7 LINE LEVEL

Adjust the master volume from 1, the minimum, to 6, the maximum.

## 2.2.2 Rear Panel



- 1) IN  
It is the audio-in connector to input the audio signal like background music.
- 2) OUT  
It is the audio-out connector to output the audio signal to amplifier or audio recorder.
- 3) OUTPUTS  
There are 6 channels of audio-out connectors to output the audio signal to amplifier or audio recorder etc.
- 4) IR PORT  
Interface to the IR language distribution system  
Connect to the TS-0600F IR Generator for expanded function.
- 5) INTERPRET  
It is the interface to the TS-0616 interpreter unit. Up to 5 interpreter units can be connected in the hand in hand daisy-chain.
- 6) ROUTE  
It is the expanded interface to the TS-0600ME expanded control host. Up to 4096 contribution units can access the system by daisy-chaining the expanded hosts hand in hand.
- 7) DELEGATE  
It is the interface to the contribution units TS-0611 and TS-0611A. There are 3 channels to access the system, and each can link to not more than 64 contribution units in hand in hand daisy-chain. There is no limitation for the chairman unit. It can be located anywhere in the chain.
- 8) CONTROL SYSTEM  
It is the interface to the central control system host.  
PC  
It is the serial control port to the console PC. With the application on the console pc, users can control the conference system remotely.
- 9) SET ID  
Set "ON" to code the contribution units for the host and set "OFF" to run normally. Please refer to the chapter **2.6 Coding Description** for the details of coding method.
- 10) POWER INPUT  
Power supply of 100V–240V AC.

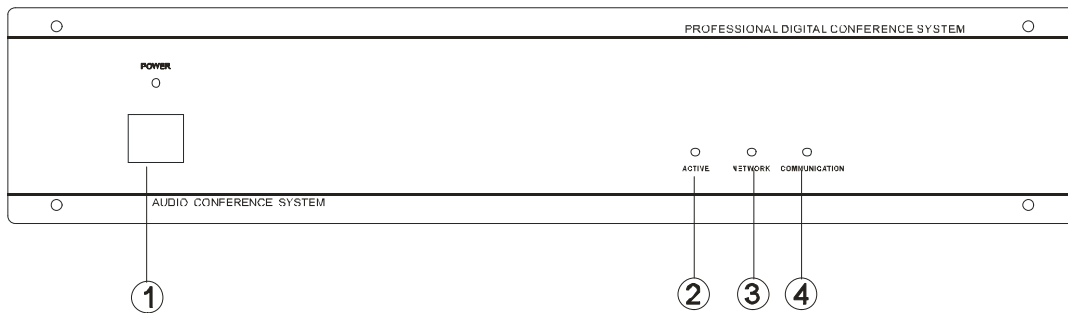


### 2.2.3 Features

1. The host itself can provide system accessing for up to 128 contribution units and can be expanded to 4096 at the most.
2. It supports 5 interpreter units and achieves 6 languages simultaneously interpretation at a same time including the original one.
3. Communicating in the hand in hand daisy-chain, it is easy to install and maintain.
4. Equipped with audio-in connector, it is able to have background music.
5. Equipped with enough audio-out connectors, it is able to output the audio signal to different audio devices.
6. The activity microphones can be limited in different numbers according to requirements.
7. FIFO mode can automatically control the active microphones.
8. Built-in equalizer can adjust and balance the audio signals as well as restrain the howling for excellent audio quality.
9. Cooperating with the central control system, it becomes a powerful conference controller and achieve the super function of camera auto-tracking.
10. Working with the telephone coupler, it can open a telephone conference with remote user.
11. Support voting and its data managing.
12. Cover with metal material and earth well to ensure the 8000V antistatic performance.
13. Rack-mountable enclosure. It can be installed in the standard 19" rack conveniently.

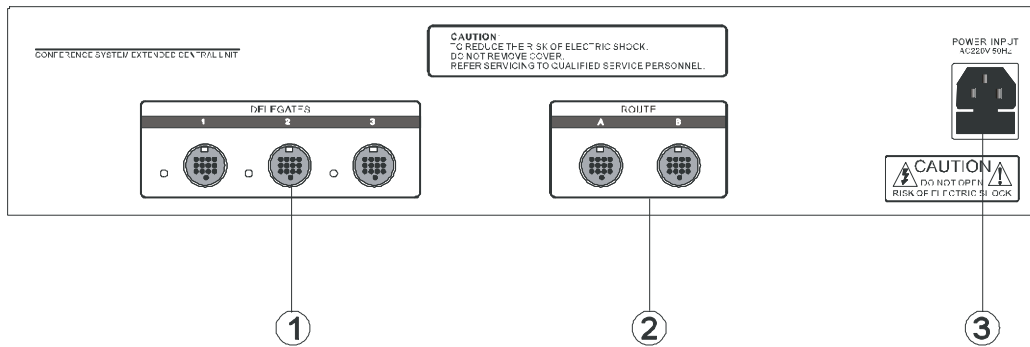
## 2.3 TS-0600ME Extension Controller

### 2.3.1 Front Panel



- 1) POWER and power indicator
- 2) ACTIVE indicator
- 3) NETWORK indicator
- 4) COMMUNICATION indicator

## 2.3.2 Rear Panel:



### 1. DELEGATE

It is the interface to the contribution units TS-0611 and TS-0611A. There are 3 channels to access the system, and each can link to not more than 64 contribution units in hand in hand daisy-chain. There is no limitation for the chairman unit. It can be located anywhere in the chain.

### 2. ROUTE

A is the interface to the TS-0600M master controller. B is the expanded interface to another expanded control host. When in a multilevel expansion, A is the interface to the front level, and B is the interface to the next level.

### 3. POWER INPUT

Power supply of 100V–240V AC.

## 2.3.3 Features

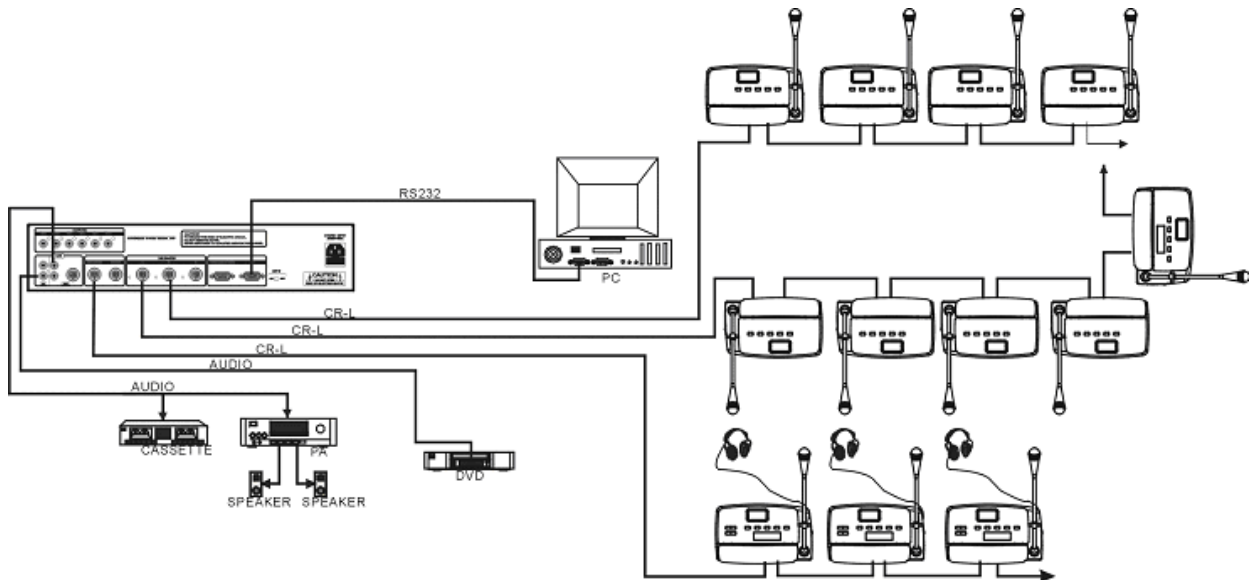
1. Working with TS-0600M master controller to expand the contribution units in system
2. Input voltage between 100–240V, it can endure 3500V high voltage.
3. Cover with metal material and earth well to ensure the 8000V antistatic performance.
4. Rack-mountable enclosure. It can be installed in the standard 19" rack conveniently.

## 2.4 Technical parameter

	TS-0600M	TS-0600ME
Power supply	100-240V	100-240V
Static consumption	10W	10W
Nominal power consumption	350W	350W
Output power	≤110W/24V	≤110W/24V
Audio output	Impedance: 600Ω unbalanced	Impedance: 600Ω unbalanced
Audio input	Impedance: 100kΩ Level: -60 dB Unbalanced	Impedance: 100kΩ Level: -60 dB Unbalanced
Frequency response	60–12kHz	60–12kHz
SNR	> 80dB	> 80dB
Harmonic distortion	< 0.5%	< 0.5%
Harmonic distortion at overload	<1%	<1%

Crosstalk attenuation at 1kHz	>50dB	>50dB
Weight	7.2KG	7.2KG
Dimension	430L x 275W x90H (mm)	430L x 275W x90H (mm)
Color	White/grey	Grey

## 2.5 System Diagram



## 2.6 Coding Description

### 2.6.1 Coding Method

1. After the system cabling and test, turn down the ACS control host. Then, connect the COM1 or COM2 of console PC to the CONTROL SYSTEM connector in the rear panel of control host. And configure the COM port in the serial port test application with 9600 baud rate, none parity bit, 8 data bit and 1 stop bit.
2. Switch the SET ID in the rear panel of control host to OFF. Then, turn on the control host and switch the SET ID back to ON.
3. If there are interpreter units in the system, set the id for them first, then the other contribution units one by one. Firstly, press the MIC button on the contribution unit to enter the set id status. Secondly, input the id for the unit from the serial port test application and send it to the unit. After receiving the id code, the contribution unit will light up. Thirdly, after lighting for 2 seconds, press the MIC button on the unit again to finish coding for it. Then, repeat the process to finish all the coding. When all the codings were done, all the contribution units will light up. We can test their id one by one by open it and watch its id displayed in the serial port test application.

Notice:

Please do not insert or pull out the equipment when the system turns on, or it will do harm to their connectors or modules.

### 2.6.2 Coding Format

**Format: A0 [XX] 10 00 07 [YY] FF FF FF AF [ZZ]**

**Directions:**

1. [XX], [YY] and [ZZ] are in Hex. [YY] is the ID code.
2.  $[ZZ]=FFFF-([XX]+10+00+07+[YY]+FF+FF+FF)$ . [ZZ] is the last two number of the result.
3. The contribution id begins with 1 and increasing by 1 in decimal as the list shown below.
4. The ID code begins with 1 and increasing by 2 in Hex as the list shown below.  
As shown below, every 128 ID code is a circle. Every circle [YY] carries 1 to [XX]. In each circle, the contribution unit id increased by 128 and ID code/[YY] by 7F. After each circle, [YY] returns to 0 again.

Contribution unit id in decimal	ID code in Hex/[YY]	Coding on serial port in Hex
0002	1	A0 10 10 00 07 01 FF FF FF AF DA
0003	2	A0 10 10 00 07 02 FF FF FF AF D9
0004	3	A0 10 10 00 07 03 FF FF FF AF D8
0005	4	A0 10 10 00 07 04 FF FF FF AF D7
...	...	...
0128	7F	A0 10 10 00 07 7F FF FF FF AF 5C
0129	100	A0 11 10 00 07 00 FF FF FF AF DA
0130	101	A0 11 10 00 07 01 FF FF FF AF D9
0131	102	A0 11 10 00 07 02 FF FF FF AF D8
0132	103	A0 11 10 00 07 03 FF FF FF AF D7
0133	104	A0 11 10 00 07 04 FF FF FF AF D6
...	...	...
0256	17F	A0 11 10 00 07 FF FF FF FF AF 5B
0257	200	A0 12 10 00 07 00 FF FF FF AF D9
0258	201	A0 12 10 00 07 01 FF FF FF AF D8
0259	202	A0 12 10 00 07 02 FF FF FF AF D7
0260	203	A0 12 10 00 07 03 FF FF FF AF D6
0261	204	A0 12 10 00 07 04 FF FF FF AF D5
...	...	...
0384	27F	A0 12 10 00 07 7F FF FF FF AF 5A
0385	300	A0 13 10 00 07 00 FF FF FF AF D8
0386	301	A0 13 10 00 07 01 FF FF FF AF D7
0387	302	A0 13 10 00 07 02 FF FF FF AF D6
0388	303	A0 13 10 00 07 03 FF FF FF AF D5
0389	304	A0 13 10 00 07 04 FF FF FF AF D4
...	...	...
0512	37F	A0 13 10 00 07 FF FF FF FF AF 59

...	...	...
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ID code list

※ Notice:

In the course of system installation it is forbidden to pull or insert with power on. It will risk of damaging the system module or system port.

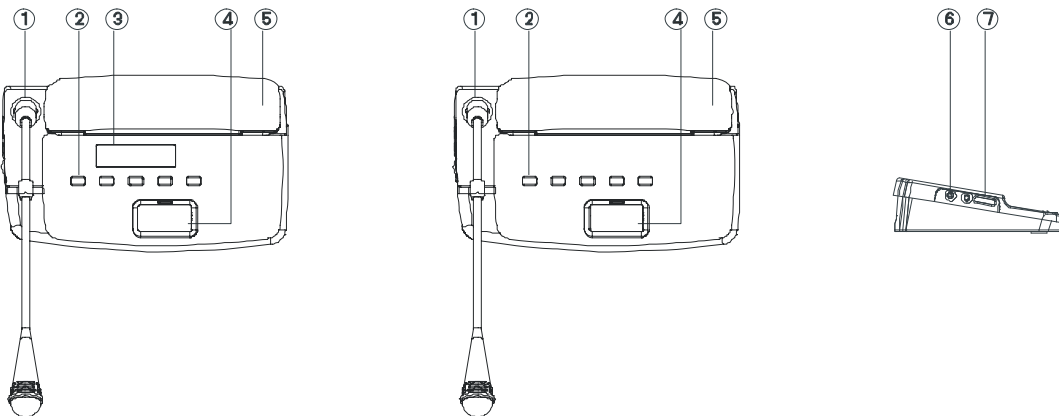
## 3 ACS Microphone Unit

### 3.1 Product introduction

Model	Description	Type	MIC button	Voting buttons	Channel selection	LCD
TS-0601	Delegate unit	Tabletop	√	×	×	×
TS-0601A	Chairman unit	Tabletop	√	×	×	×
TS-0611	Delegate unit	Fold-away	√	√	×	√
TS-0611A	Chairman unit	Fold-away	√	√	×	×

### 3.3 TS-0611/TS-0611A

#### 3.3.1 Function Directions



1) Microphone: pluggable, easy to transport and maintain

2) Multi voting buttons

“1, 2, 3, 4, 5”

——For/against: buttons 2/3/4 stand for For/Abstain/Against, respectively.

——Multiple election: buttons 1/2/3/4/5 can stand for different candidates, respectively.

——Evaluation Poll: buttons 1/2/3/4/5 stand for 5 level ——/—/0/+/+ +, from low to high.

Notice:

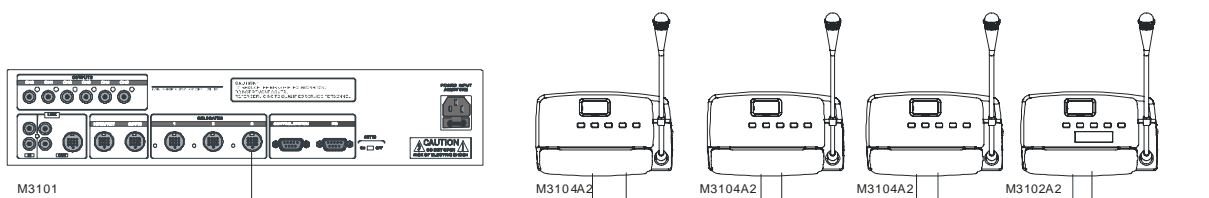
- Button 4 on the chairman unit has a special function of intermission. The chairman can press it to temporarily close all the microphones on delegate units and release it to resume the conference.

- The conference holder can press the START button on the chairman unit to start voting. At this time, all the contribution units will sound “Di” and the button 1 will flash to ask for confirmation. Then, the delegates should press the button 1 to confirm and start voting. Their last choice on the buttons will be considered as their final decision and will be indicated by the button indicator. When the conference holder press the STOP button on the chairman unit, the voting is finished and all the contribution units will sound “Du” in a same time. Pressing button 4 for 2 seconds, to return the normal discussion status.
- 3) LCD displayer
  - 4) MIC button: press it to open the microphone and repress it to close the microphone.
  - 5) Build-in flat panel loudspeaker: it will automatically mute while the microphone opens.
  - 6) Earphone jack: install and connect the earphone for ACS here.
  - 7) Volume adjustment: adjust the volume of the contribution unit.

### 3.3.2 Features

1. Voting function integrated.
2. Working with TS-0600M master controller.
3. Build-in flat panel loudspeaker and earphone jack with excellent audio quality and adjustable volume control.
4. Pluggable unidirectional microphone with red ring indicator.
5. Chairman unit has the function to approve or deny the talking request from delegate units.
6. Chairman unit is not limited by the active microphone limitation.
7. The flat panel loudspeaker will automatically mute to avoid howling when the microphone turns on.
8. Chairman unit can cut the microphone of delegate units at any time to manage and control the whole conference conveniently
9. With the LCD displayer, chairman unit can monitor the operation information from the interpreter units and check the result of voting.
10. The power of delegate unit and chairman unit are supplied by the central control unit with 24V safety current.
11. There is no limitation for the chairman unit. It can be located anywhere in the daisy chain. Communicating in the hand in hand daisy chain, it is easy to install and maintain.

### 3.3.3 Connection Diagram

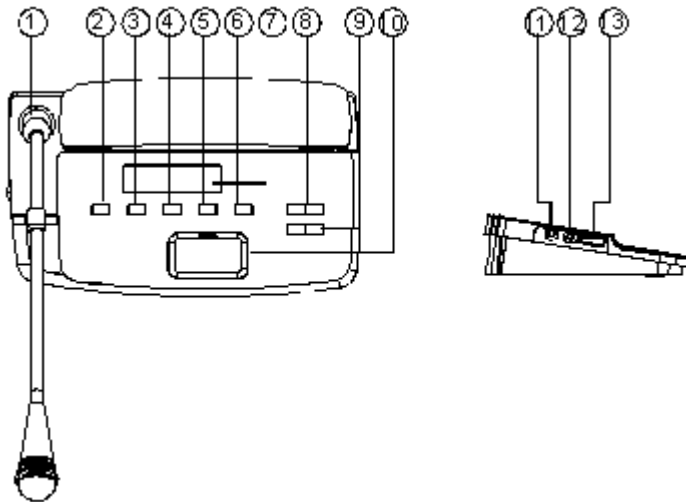


## 3 ACS Simultaneous Interpreter Unit

### 4.1 Introduction

TS-0616 interpreter unit

### 4.2 TS-0616



- 1) Microphone: pluggable, easy to transport and maintain
- 2) DIRECT button: press this button to select the original language channel and interpret it directly
- 3) INDIRECT button: press this button to select an interpretation channel to interpret it indirectly. Press CHANNEL IN buttons to select the interpretation channels.
- 4) SLOW button: press this button to request the addresser slow down the speaking speed. At this time, the conference holder can read this message "Please speak slowly" from the LCD displayer on the chairman unit. Then, require the addresser to slow down the speaking speed.
- 5) COUGH CUT button: when the interpreter can't help coughing, he/she can press this button to cut the voice of cough temporarily without closing the microphone.
- 6) LOCK button: press this button to lock the output channel and repress it to unlock the output channel.
- 7) The status of the output channel will be displayed on the LCD.
- 8) CHANNEL IN buttons: in the "INDIRECT" mode, interpreter can choose one of six input channels by these buttons.
- 9) CHANNEL OUT: press these buttons to choose the output channels.
- 10) MIC button: press it to open the microphone and repress it to close the microphone.
- 11) Earphone jack for channel in: use this connector to hear the original or interpreted language.
- 12) Earphone jack for self-monitor: use this connector to hear the interpretation language from the interpreter itself.
- 13) Volume adjustment: adjust the volume of the contribution unit.

### 4.3 Features

1. Listen with the special earphone covering the whole ear.
2. TS-0600M master controller supports 5 interpreter units and achieves 6 languages simultaneously interpretation at a same time including the original one.

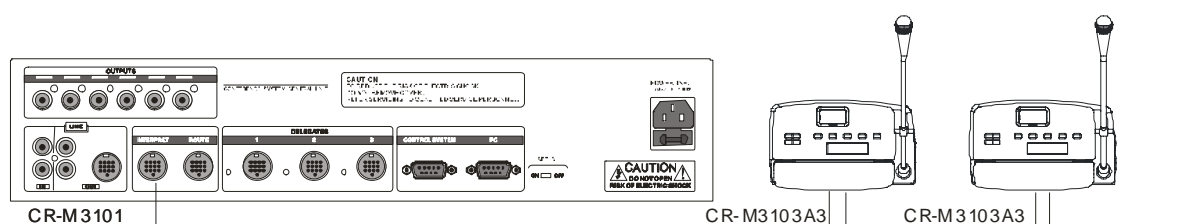
3. Direct or indirect interpretation mode.
4. Interlock channels ensures that each channel can carry only one language at one time.
5. Select the original channel or the interpretation channels through “DIRECT” or “INDIRECT” button.
6. SLOW button let the interpreter keep pace with the addresser well.
7. Build-in earphone jacks with excellent audio quality and adjustable volume control.
- 8.
9. The power of delegate unit and chairman unit are supplied by the central control unit with 24V safety current.
10. The contribution units are equipped with shielded 13-pole cable, which can prevent the radio disturbance well.
11. Easy operation. Wear the earphone and select the channel in, then press the MIC button to start interpretation.

COUGH CUT is a very thoughtful design for interpreter.

### 4.4 Technical Data

TS-0616	
Power supply	DC24V supplied by the control host
Intercommunication connector	DIN 13-pole
Power consumption	≤2.5W
Earphone output	9dBu, 8—32Ω, 3.5mm jack
Speaker wattage	≤2W
Transducer type	Electrets condenser
Directional pattern	Cardioids
SNR	> 80dB
Crosstalk attenuation	> 80dB
Distortion	<1%
Frequency response	60—12kHz
Equivalent noise	≈20dB SPL
Maximum SPL	105dB (3% threshold)
Sensitivity	—22dBv/Pa
Dimension	247L x 155W x 60H (mm)
Color	Grey

### 4.5 Connection Diagram





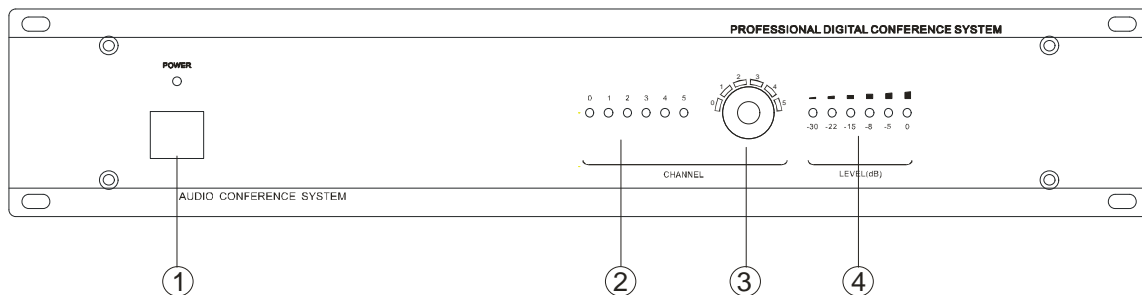
# 5 ACS IR Language Distribution System

## 5.1 Introduction

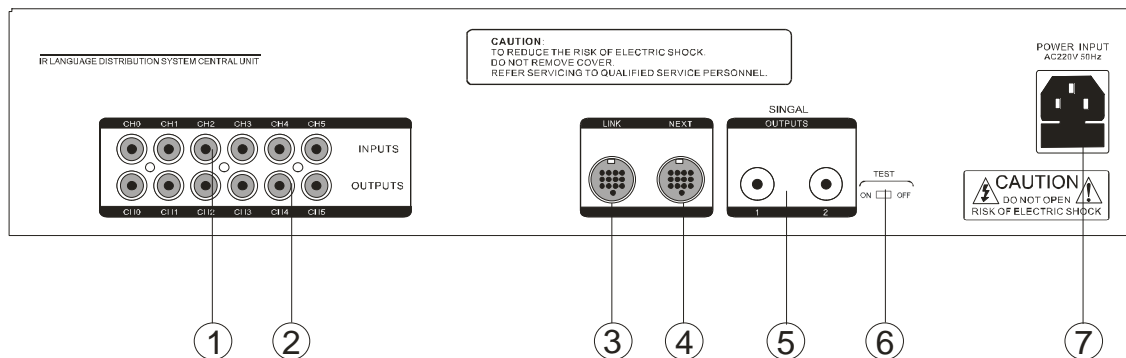
- TS-0600F IR Generator
- TS-0600FT IR Radiator
- TS-0613 IR Receiver

## 5.2 TS-0600F

### 5.2.1 Features



- 1) POWER
- 2) Input channel indicators: indicates the working channel from 1 to 6 in red and from 7 to 12 in green.
- 3) Channel selector: select a channel to display its status with the level indicators.
- 4) LEVEL indicators



- 1) INPUTS: input the audio signal like background music.
- 2) OUTPUTS: output the audio signal to amplifier or audio recorder.
- 3) LINK: the interface to the TS-0600M master controller.
- 4) NEXT: the expansion interface to the next TS-0600F IR generator.
- 5) SINGEL: the modulated signal output interfaces to the radiator unit.
- 6) Test button
- 7) POWER INPUT: power supply of 100V—240V AC.

### 5.2.2 Features

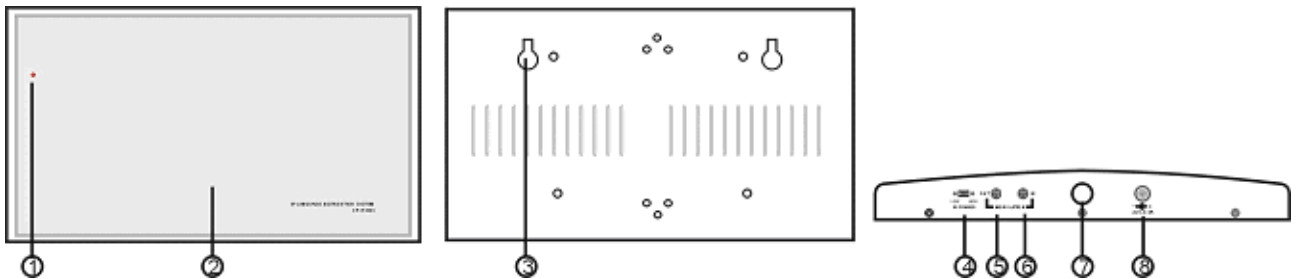
1. Wireless directional transmission avoided the radio disturbance and wiretapping.
2. Automatic Level Control (ALC)
3. Adopt high frequency (2M-6MHz) transmission to ensure anti-jamming from high frequency

lamp-house.

4. Adopt phase-locked loop (PLL) technique to achieve stable transmitting frequency.
5. Equipped with 12 input audio connectors, it is able to input external audio signals.
6. Equipped with 12 output audio connectors, it is able to output audio signals to different audio devices like amplifier and audio recorder.
7. The test function can create 12 various frequency audio signals for system test.
8. Level indicators can monitor the intensity of the input audio level directly.
9. Alarm function can automatically send out the warning message to all the audio channels.
10. 100-240V power supply. 3500V high current test.
11. Cover with metal material and earth well to ensure the 8000V antistatic performance.

## 5.3 TS-0600FT

### 5.3.1 Physical View



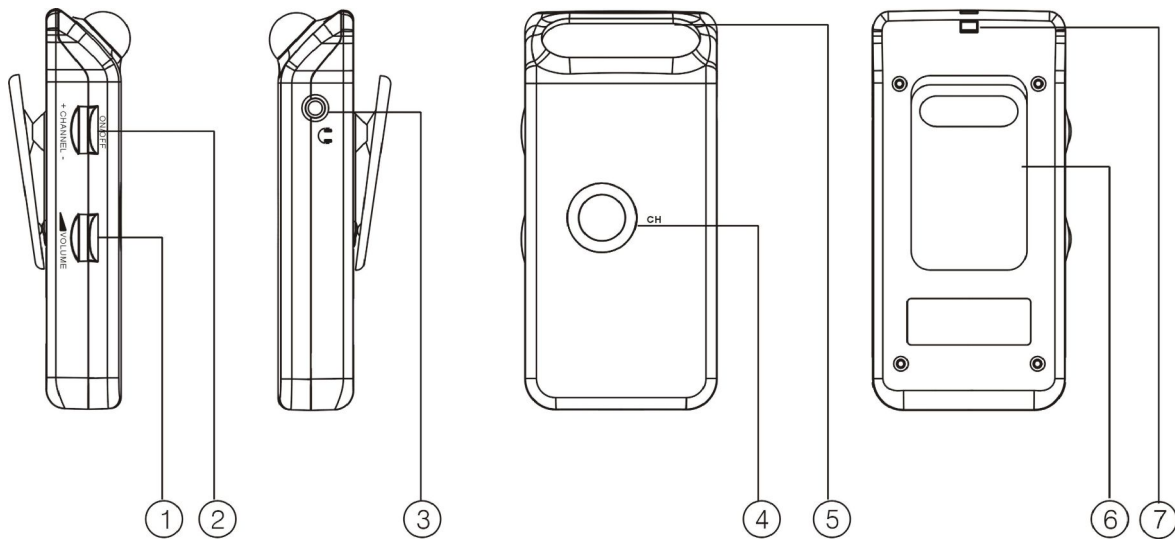
1. Power indicator: indicator lights when it turns on.
2. IR radiator area
3. LOW/HIGH: power magnitude selector for IR radiation.
4. MODULATION OUT: the interface to connect the MODULATION IN of another radiator unit.
5. MODULATION IN: the interface to connect the SINGAL OUTPUTS of the transmitter host or the MODULATION OUT of the front radiator unit.
6. Bracket installation hole.
7. DC input interface (24V/2-3A)

### 5.3.2 Features

1. Powerful ability of IR radiation (50 meters at 25W or 30 meters at 15W).
2. Synchronized with the transmitter host.
3. Adjustable IR radiation (15W/25W).
4. Communicating in the hand in hand daisy-chain, it is easy to install and maintain.
5. Easy installation with free attachable bracket or triangle bracket.
6. Half radiator angle:  $\pm 22^\circ$

## 5.4 TS-0613

### 5.4.1 Physical View



- 1) Battery box: AAA battery box
- 2) Belt clip
- 3) Strap hole
- 4) IR receiver module
- 5) Power indicator
- 6) LCD displayer: display the language channel.
- 7) Channel selector buttons.
- 8) Starter and volume adjustment.
- 9) Earphone jack (3.5mm)

### 5.4.2 Features

1. Ergonomically designed, modern, compact and beautiful.
2. Cooperate with TS-820 single earphone or TS-920 headphone.
3. Convenient to keep. Strap and hang it up on the neck or just put it in the pocket.
4. 12 selectable channel
5. Adjustable volume
6. The quantity of the receiver unit is not limited in the covered area of IR radiation.
7. The position of the receiver unit is not limited for the wireless characteristic.
8. LCD displayer can indicate the information of selected channel.
9. Adopt PLL technique for improving received stability to up to 10PPM
10. Integrated excellent charging circuit for long battery lifetime.

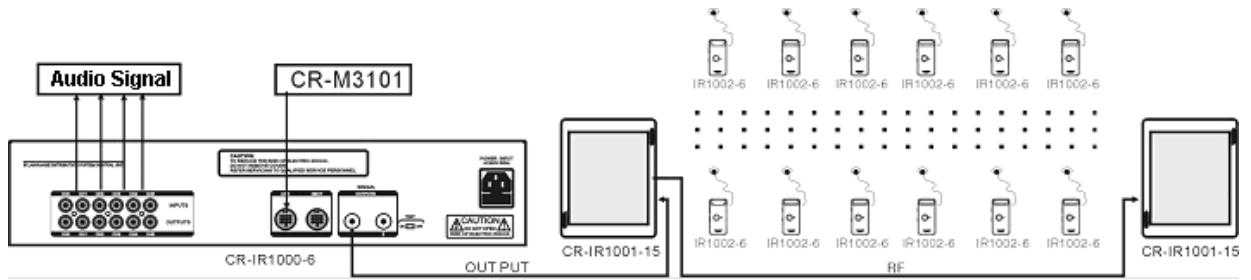
Use green environmentally-friendly NiMH rechargeable battery for up to 60 hours working time.

## 5.5 Technical Data

IR language distribution system	
Model	TS-0600F
Power supply	100-240V
Power consumption	25W (selectable)

Crystal	Crystal control
Modulation	PPL, narrow band
Carrier wave frequency	2M—20MHz (BAND4)
Pre-emphasis	100 $\mu$ s
Deviation	$\pm$ 6kHz (peak value $\pm$ 7kHz)
Total harmonic distortion	<1%
SNR	>80dB
Frequency response	60—12KHz
Input Sensitivity	50mV-1.5V
RF output	2 BNC, 100mV RMS
RF output impedance	50 $\Omega$
Dimension	430L x 275W x 90H (mm)
Weight	6.8KG
Color	Black
<b>Model</b>	<b>TS-0600FT</b>
Power supply	AC100-240V
Transmit power	25W (selectable)
Average transmit angle	$\pm$ 22 $^{\circ}$
RF input	Impedance: 5k $\Omega$ , voltage: 150mV—3V
Maximum covered distance	30M (15W)
Automatically opened threshold	50mV RF signal
Dimension	430L x 320W x 95H (mm)
Weight	7.8KG
Color	Purple
<b>Model</b>	<b>TS-0613</b>
Power supply	AAA NIMH rechargeable battery
Receiving frequency	2M-20MHz, 40KHz channel separated
Intermediate frequency	10.7MHz
Modulation	FM
Nominal frequency difference	$\pm$ 6kHz
Peak value deviation	$\pm$ 8kHz
Signal reversion	150ms
Total harmonic distortion	<1%
SNR	> 80dB
Am restraint	> 45dB
Maximum sound pressure level	110dB
Frequency response	608 kHz
Distortion	<1.5%
Dimension	108L x 62W x 28H (mm)
Weight	0.4KG
Color	Black

## 5.6 System Diagram



## 6 Accessories

### 6.1 TS-820 Single Earphone

#### 6.1.1 Features

- Working with interpreter units or TS-0613 IR receiver units.
- Avoid being interfered in conference.
- Build-in 1.5 meter cable.  
Hi-fi audio quality.



#### 6.1.2 Technical Data

	TS-820
Interface	3.5mm mono connector
Frequency response	80Hz – 2KHz
Sensitivity	90dB
SNR	> 80dB
Distortion	< 0.1dB
Impedance	32 Ω
Dynamic range	> 85 dB
Output power	80mW

### 6.2 TS-920 Headphone

#### 6.2.1 Features

- Working with interpreter units or TS-0613 IR receiver units.
- Avoid being interfered in conference.
- Build-in 1.5 meter cable.
- Hi-fi audio quality.



## 6.2.2 Technical Data

	TS-920
Interface	3.5mm stereo connector
Frequency response	80Hz – 2KHz
Sensitivity	90dB
SNR	> 80dB
Distortion	< 0.1dB
Impedance	32 Ω
Dynamic range	> 85 dB
Output power	100mW

## 6.3 Cable

### Introduction

- TS-5L 5 meters cable with connectors (male & female)
- TS-10L 10 meters cable with connectors (male & female)
- TS-20L 20 meters cable with connectors (male & female)
- TS-100L 100 meters cable with connectors (male & female)



### Features

- Use to connect the contribution units and the host.
- 13-pole cable with connectors (male & female)