



Fully Digital Congress System

User Manual

TS-0230/0230A

Before using this system, please read this manual carefully

Notification



To ensure the reliability of the equipment and the safety of personnel, please observe the following when installing, using and maintaining:

- If any of the following conditions are found, please immediately turn off the power, plug out and quickly contact your nearest dealer. Do not continue using this unit, which may cause a fire or electric shock.
 - If you find smoke or have a strange taste from the machine.
 - If water or metal falls into the machine.
 - If the unit is dropped or the case is damaged.
 - If the wire is damaged (wire core exposure, broken wire, etc.).
- If the machine contains high-pressure parts, in order to avoid the fire or electric shock, absolutely don't open the case, if any questions please inform your nearest dealer.
- Do not place cups, bowls, vases or metal and other water-filled substances on the unit. Serious spilled liquid may cause a fire or electric shock.
- Never expose the unit to rain and any moisture or water, which may cause electric shock or fire.
- Do not place metal objects or flammable materials from the vents on the machine cover, nor place coins, which may cause fire or electric shock.
- Do not place heavy objects on the unit to avoid personal injury or property damage when the unit is slipping.
- Make sure that the volume is turned on at the beginning of the boot, and the high volume of the boot may cause hearing problems.
- Make sure that the volume is turned on at the beginning of the boot, and the high volume of the boot may cause hearing problems.
- For long-term accumulation of dust to be cleaned, please inform your dealer to regularly clean the machine, so as to avoid damage to the machine or cause a fire.
- The battery must be replaced with the same type of product and the correct installation should be made in order to avoid electrical damage and explosion hazard.
- The product is a Class I device. The device must be well connected to ground. The power plug must be connected to a power outlet with a grounding device to ensure that the equipment is fully grounded.

- This product uses a power plug or appliance input socket as a disconnecting device with the power supply, and must be disconnected if necessary for safety reasons.



- This equipment is only suitable for safe use at altitudes above 2000 meters.

Precautions

1. The installation environment

When installing the unit, in order to ensure the normal cooling of the host, should avoid the poor ventilation of the place or high temperature environment, to avoid direct sunlight.

Recommend to install cabinet or other well-ventilated place indoor. If you use the machine in the outdoors, please pay attention to waterproof, moisture, lightning protection measures.

Avoid installing in a violent place of vibration; do not place other equipment on the machine.

Working temperature : -10°C~ 60°C.

Humidity is limited to 5% to 90% (non-condensing).

2. To avoid electric shock and fire

Do not touch the hands and the source with wet hands

Do not spill liquid on the machine, so as to avoid short-circuit or fire inside the machine.

Do not place other equipment directly on the top of the unit.

Non-professional service personnel Do not disassemble the unit yourself to avoid damage and electric shock.

3. Transport and handling

The packaging of the machine is designed and tested to ensure that the host will not be accidentally damaged during transport. It is best to use the original packaging when handling the unit.

Do not move the host device between the place or cold or over hot to avoid condensation inside the machine, affecting equipment life.

4. Please follow the warning instructions on this product, the warning signs on behalf of:

	Applicable to 2000 meters above sea level and below safe use
	Safe use only in non-tropical climates

5. Agreement

Please strictly follow the instructions in this manual. The software, hardware and appearance of this product will be upgraded and updated continually. The above changes will be made without notice.

Non-professional maintenance personnel, do not remove the product, to avoid damage and electric shock.

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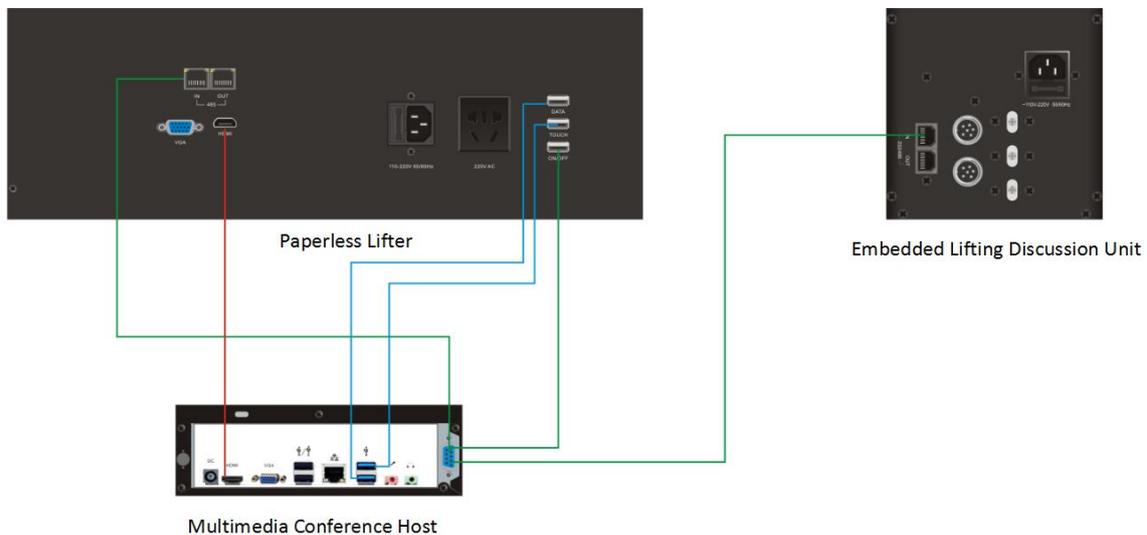
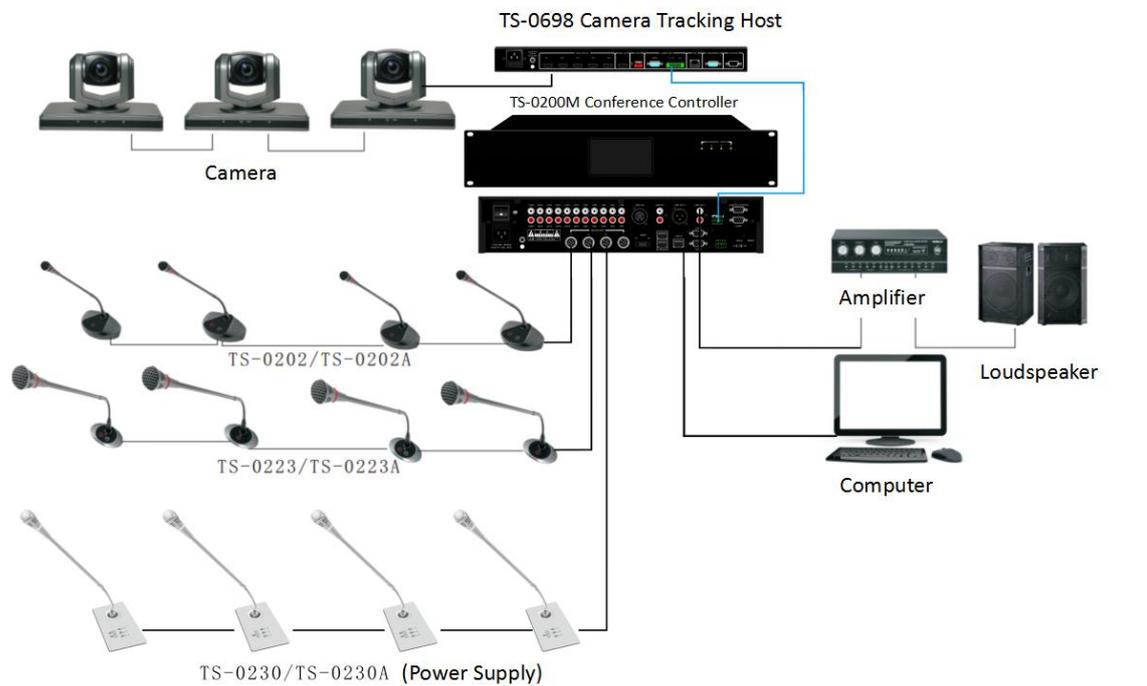
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1. System introduction

1.1 Brief description

TS-0200 series fully digital conference system adopts ITC's original network communication and digital transmission processing technology with completely independent intellectual property rights, and applies digital technology and network technology to conference system products, which makes the conference field have a new breakthrough.

1.2 System connection diagram



2. Product Description

2.1 Full digital lifting chairman/delegate discussion unit



TS-0230 Chairman unit



TS-0230A Delegate unit

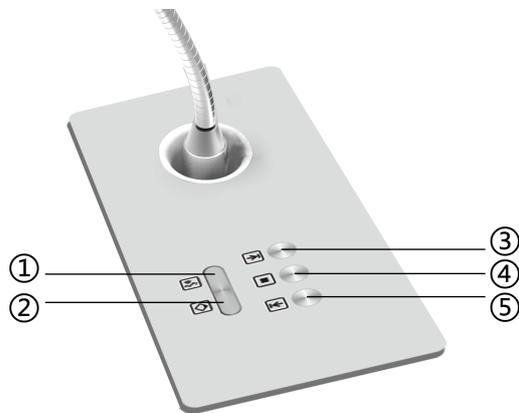
2.2 Features

1. The product adopts embedded lifting design, the overall simple and classy appearance, easy and intuitive operation, present strong sense of modern technology.
2. Winding condenser microphone rod, professional super-cardioid condenser microphone core, high sensitivity and sound intelligibility, with discussion ring-shaped red and green bi-color indicator lights.
3. The microphone adopts a sampling rate of 48KHz, which is higher than the sound quality of CD, clear and loud; there is no low-frequency impact “puff” sound with internal DSP audio processing.
4. It has discussion timekeeping and timed discussion function.
5. The delegate unit has discussion applying function; the chairman unit has the right of approval. (Chairman unit with the screen).
6. Internal feedback suppression function.
7. With 5-phase EQ adjustment function, it can adjust different sound effects for the speaker's sound characteristics until the perfect effect is achieved.
8. The chairman unit has the priority to turn off all delegate units that are speaking.
9. With voice control function, the voice sensitivity can be adjusted. In the voice control mode, the chairman unit and the delegate unit can voice-activate the microphone. After the microphone is turned on, the microphone will be automatically turned off if no one speaks for 30 seconds (default). The chairman unit is not subject to this restriction.

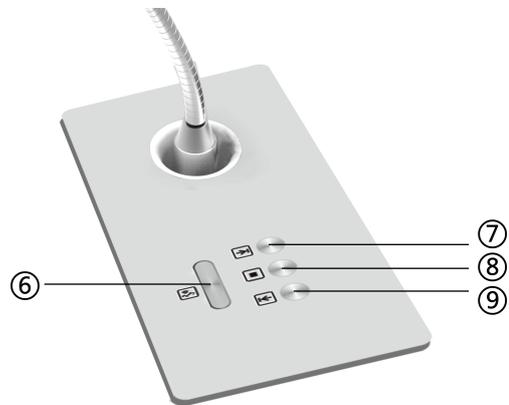
10. It can control multiple microphones to lifting by the central control through the RS485 interface.
11. With RS232 and RS485 dual serial port control connection method.
12. Adopts 100M network transmission to realize hand-in-hand cascading, there is not influence on sound quality due to long-distance transmission.
13. The intelligent control microphone can only turn on the microphone when it is lifted to the top, and automatically turn off the microphone when the microphone is lowered.

2.3 Product Function Introduction

TS-0230(Chairman unit):



TS-0230A(Delegate unit):



- ① Chairman unit microphone button
- ② Chairman unit microphone priority button
- ③ Lift button
- ④ Pause button
- ⑤ Lower button
- ⑥ Delegate unit microphone button
- ⑦ Lift button
- ⑧ Pause button
- ⑨ Lower button

2.4 Specification

Model	TS-0230/TS-0230A
Microphone Type	Heart-shaped oriented electrets
Frequency Response	80Hz-16KHz
Microphone Input Impedance	1K Ω
Sensitivity	-46dBV/Pa
Max SPL	125dB (THD>3%)
SNL	>80dB(A)
Dynamic Range	>80dB
THD	<0.1%
Power Consumption	3W
Compliant Norm	IEC60914
Connector	With 2M aviation extension cable of six-core
Power Supply	110~220V AC (50/60Hz)
Color	Silver
Check-in Function	Physical button press check-in
Weight	3.65Kg
Microphone Height	415mm
Size(L×W×H)	160×70×717mm
Installation Method	Embedded
Desktop Opening size (L×W×H)	147×62mm
Counterbore Size (L×W×D)	161×71×4mm, round 4xR4

3. Conference system units TS-0230/0230A operating introduction

3.1 Power On

A few seconds after turning on the power of conference system controller, if unit can be turn on/off successfully, the system is normal. Otherwise the solution shall be worked out.

3.2 The Unit type

The chairman unit has Mic button and priority button. Delegate unit has same functions as chairman unit except that it has no priority button.

3.3 ID setting test

Turn on the conference system controller TS-0200M, manual or automatic ID setting can be set in system setting -- ID setting.

When ID setting mode of TS-0200M controller is manual, dial ID setting switch or click ID setting icon on touch screen to enter manual ID setting mode and unit is in ID setting status. Press Mic button of unit to set ID. If indicator lights of Mic rod and Microphone flash and stay on, ID setting is successful. After set ID of all units in sequence, units will return to conference mode.

When ID setting mode of TS-0200M controller is automatic, dial ID setting switch or click ID setting icon on touch screen to enter automatic ID setting mode and units are in automatic ID setting status. When all Mic button indicators and light of Mic rod become red, ID setting of units is successful. When all red lights of Mics are on, separated ID can be set by press Mic key. Then ID setting shall be stopped by controller and units will return to conference mode.

When there is a repeated ID, the controller TS-0200M will prompt and any operation is invalid at that time. ID setting shall be restarted by clicking manual ID setting or automatic ID setting icon on touch screen of TS-0200M controller.

3.4 Conference management

The on/off status of Mic units are managed by conference controller. The using logic can be learned from explanation of controller conference modes.

The microphone can be turn on or off by pressing Mic button.

In NORMAL mode, delegate units that exceed specific amount will be in waiting status. A prompt will be informed to user when waiting unit amount has been up to maximum.

Press priority button of chairman unit to turn off all delegate units and turn the chairman unit.

3.5 Sign in

- (1) PC initiates sign-in.
- (2) PC enable and forbidden sign-in function.
- (3) Turn on/off microphone in sign-in mode.

3.6 Evacuation and alarming

After controller triggers alarming messages, red light of mic rod will flash until controller revocation the message after which units return to formal status.

3.7 Other functions

3.7.1 Timed speaking and timing speaking

The function is controlled and switched by conference PC software, detailed information please refer to PC software manual. The function is for turning on/off microphone. When unit is in timed speaking mode, PC issues the specified time limitation and unit counts down to show the rest time. Microphone will be off when time is up. When unit is in timing speaking mode, unit appointed by PC shows the duration of speaking.

3.7.2 Audio adjustment

The function is controlled and switched by conference PC software, detailed information please refer to PC software manual.

3.8 Serial port control commands of RS232 and RS485

RS232 interface:

Turn on/off microphone: 5A A5 06 83 00 0B 01 00 0B

Bite rate: 115200

Date bits: 8

Stop bits: 1

Parity bits: no

Stream control: no

RS485 interface :

Bite rate: 2400

Date bits: 8

Stop bits: 1

Parity bits: no

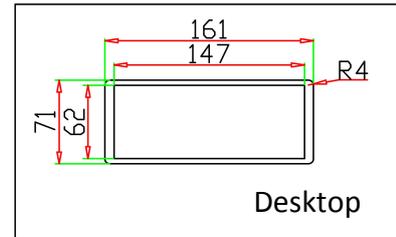
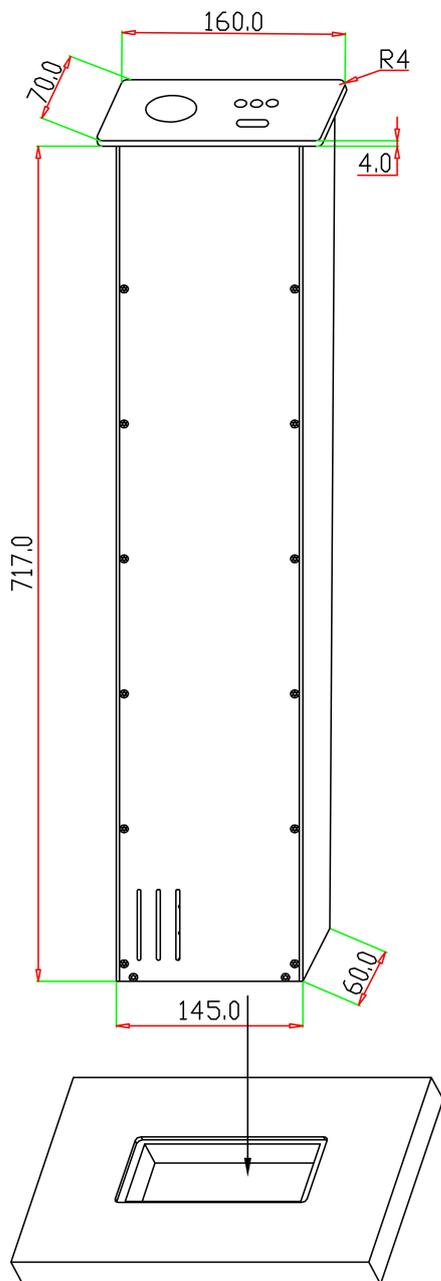
Stream control: no

Up code: FF EE EE EE DD

Down code: FF EE EE EE EE

Stop code: FF EE EE EE CC

4. Desktop opening drawing



Installation steps:

1. As shown in the drawing, first open the slot on the desktop with a size of 161x71x4mm and round the R4.
2. Then open a through hole with size of 147*62mm in the middle of the above slot.
3. Then place the chassis from top to bottom into the slot and fix it to the table.

Notice: If Mic rod is standard(415 mm), distance between the hole of microphone to desk side should be more than 29 cm.

(Unit: mm)

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