Safety Precautions

Safety Precautions

1.Please read the safety precautions carefully before installation and use of the equipment.
2.Please keep this Safety Precautions for future reference.
3.Please strictly adhere to the WARNINGs in the User Guide.
4.Please follow all the operation instructions in the User Guide.
5.Equipment cleaning: Make sure to turn off the power supply and disconnect the conference units before cleaning. Use a dry soft cloth to clean the equipment.
6.Do not use any accessory, which is not recommended by the manufacture to prevent any risk of hazards.
7.Do not expose the equipment to moisture or humidity to prevent any hazards.
8.Do not place the equipment on any uneven or unstable stand; original product package or appropriate package should be used to avoid damage caused by strong impacts during transportation.
9.Adequate ventilation is good for the maintenance of the equipment.
10.Power supply cords: America, Japan: AC 110V~120V 60Hz
Asia, Europe: AC 220V~240V 50Hz
11.Grounding : 3-wire grounding plug.
12. System extension cables should be discreetly routed to avoid being walked on or pinched by heavy items to maintain the normal operation of the system.
13.Do not remove the cover of the equipment at will, no hard conductor or liquid substance is left inside the products.
14.For service, please contact the nearest Taiden Service Center . Do not disassemble the equipment by unauthorized personnel.
15.All TAIDEN products are guaranteed for 3 years excluding the following cases caused by personal reasons :
A. Damage or malfunction caused by human negligence such as dropping, striking and so on;
B. Damage or malfunction caused by improper handling of the operator;
C. Parts damage or loss caused by disassembling the product by non-authorized Taiden personnel.
16. Use ONLY specified connection cable to connect the system equipment.
17.Turn off the power supply and unplug the equipment from the power supply in case the equipment is not in use for a long time.
18.Upon receipt of the product, please fill out the Warranty Card enclosed and post it to Taiden Service Center nearby in your region.

This User Guider is applicable to the following products:

HCS-4100MTB	Wireless Voting Main Unit
HCS-4390A	Wireless Voting Unit (3 voting keys, English faceplate)
HCS-4390AK	Wireless Voting Unit (3 voting keys, IC-Card, English faceplate)
HCS-4395A	Wireless Voting Unit (3 voting keys, English faceplate)
HCS-4395AK	Wireless Voting Unit (3 voting keys, IC-Card, English faceplate)
HCS-4391	Wireless Voting RF Transceiver

TO REDUCE THE RISK OF ELECTRIC SHOCK,DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

CAUTION: To reduce the risk of electric shock , DO NOT open covers, no useable serviceable parts inside. Refer servicing to qualified service personnel only

This label may appear on the bottom of the unit due to space limitations.

The lightning flash with an arrowhead symbol, with an equilateral triangle, is intended to alert the user to the presence of uninsulated dangerous voltage within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation mark within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: To prevent fire or shock hazard, do not expose units to rain or moisture

Attention: Installation should be performed by qualified service personnel only in accordance with the National Electrical or applicable local codes.

Power Disconnect: Units with or without ON - OFF switches have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON - OFF switch is in the ON position. The power cord is the main power disconnect for all units.

HCS-4100MT Series Wireless Voting System Operation Instructions

HCS-4100MTB is the control main unit of the fully digital wireless voting system, each main unit can control as many as 32 RF transceivers HCS-4391. The system can be expanded to support up to 10000 wireless voting units.
HCS-4391 RF transceiver communicates with wireless voting unit HCS-4390/4395 for wireless data transmission within the radiation coverage.
Not only can this system work alone as a wireless voting system, it can also carry out more functions in combination with the PC.
The system is widely used in government offices, hotels, convention centres, especially suitable for those conference venues where it is hard to route clusters of cables here and there.

System Features:

- Excellent immunity to interference: the status of frequency points in the available frequency band can be checked online, whether they are occupied or interfered, even whether a certain area is a signal blind area can be detected. Depending on the status, the working frequency points of HCS-4391, its optimum installing location and the number of it can be set. At most there are 24 frequency points available. Frequency range: 430.0MHz-434.6MHz

- High security, confidentiality and accuracy: in the process of data transmission, multilevel error correction and encrypted coding are performed to prevent the clandestine interception.. An exclusive and unique ID number is assigned to each voting unit before they go out of the factory. Before the meeting, the voting unit should be authenticated, or it is invalid for the meeting. This ensures the accuracy of the voting results, in the meanwhile, intentional cheating and mis operation by unauthorized personnel will be stopped effectively.

- Swift polling speed: Voting results can be evaluated instantly, for a system with 1000 units in use, approximately the calculation takes 20 seconds.

- Multi-Functionality: Diverse functions such as sign-in,voting, multi choices, audience response and rates are available.

- Time count down: an appropriate time can be set (1sec~23hours) for the voter to make the decision. Before the voting time is up (the set voting time is not at zero), the voter has a period of time to think and make the choice or change his mind. the final result is subject to thelast vote during the effective time, when the time is up, the voting results will be evaluated automatically via the PC software.

- Appending ballot feature : Voting right can be accredit ed at any time to those delegates who are late for the voting session to take part in it.

- Intuitionistic result display: Voting results can be presented in the form of diagrams or tabulation via the PC software.

- Conveniency: The attendance and the number of the delegates who have voted can be calculated automatically , more than one proposal can be voted on within the set time.

- Intuitive operation: The wireless voting unit is equipped with LCD display, corresponding text prompts will be displayed according to the agenda. The voting can be carried out intuitively with just a press of the corresponding button; Windows is the operating system with the simple and practical interface. The operator can manage the system handily.

- Real time battery capacity display: Battery capacity will be displayed real timeon the voting unit, it can also be checked via PC software to ensure adequate battery capacity for the meeting , When the battery is running low, automatic beep warning will be sent out via the PC software .

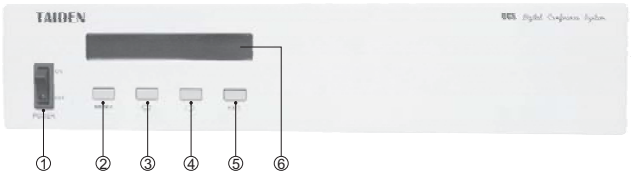
- When in recess, it is recommended to turn off the wireless voting unit HCS-4390/4395 so as to reduce the drain of the battery.

HCS - 4100MTB Wireless Voting Main Unit

1. Two outlets for connection with wireless voting units,at most 32 wireless control modules HCS-4391 can be connected to a main unit.
2. Highlighted graphic 256x32 LCD display, multi-language menus are available.
3. Communication with the PC via TCP/IP, remote control and remote update are accessible.

Function indications:

1. Power switch with indicator (Red).
2. “MENU”key:
   a. On the LCD initialized interface, press MENU button to enter the LCD setup menu;
   b. On the Menu interface, press MENU key to select the highlighted item or enter the sub-menu (equal to confirmation key).
3. Left cursor key.
4. Right cursor key.
5. “Exit ”menu key (Return to upper menu).
6. Graphic 256 x 32 LCD display
7. RF transceiver interface，for connection with HCS-4391.
8. Ethernet interface. The main unit communicates with PC via TCP/IP protocol. Remote control is available via Ethernet interface.
9. RS - 232 C port，for connection with PC to download programs.
10. R F transceiver interface, for connection with HCS-4391 for wireless voting.
11. Test port.
12. Power supply interface.



HCS - 4100MTB Wireless Voting Main Unit Front View

HCS - 4100MTB Wireless Voting Main Unit Rear View

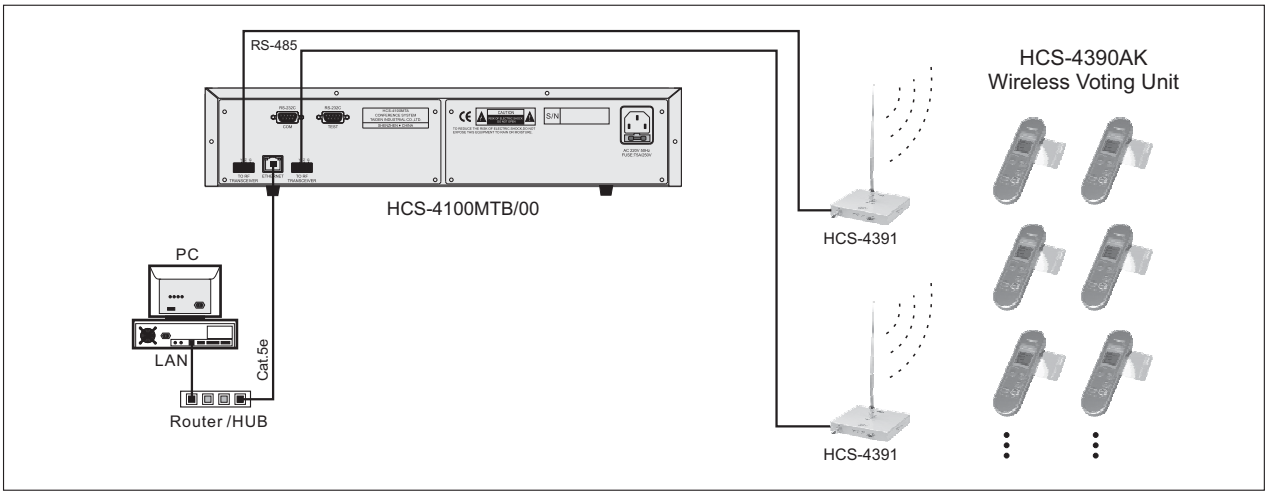
The connection of the wireless voting system (refer to the connection diagram of the voting system):

1.Built-in IP address in the main unit，communication with control PC via TCP/IP control protocol.
2.Connected with HCS - 4391 RF transceiver via RS-485 bus cable.As many as 10000 voting units can be accommodated in one system.
The radiation radius of the HCS - 4391 RF transceiver is 300 meters.(Open areas, without interfered frequency points)，the operator should choose the optimum location to install the RF transceiver according to the actual conditions (including area space, venue shape, the number of metal barriers)，each main unit controls as many as 32 HCS-4391 RF transceivers .

Before the meeting ,operator A should enter the sub-menu“RF transceiver signal test”of the software, choose a specified HCS-4390/4395 with its ID number known , then click “Start signal test”, while operator B should carry.

The specified HCS-4390/4395 to move throughout the conference venue. Operator A should examine the number of “failure number” on the PC, if the number of “failure” in a certain area keeps increasing ,it means this is probably a signal blind area or there exists interference , an extra HCS - 4391 should b e added to enlarge the radiation coverage.

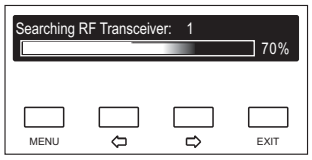
For large-scale conferences or conference venues with too many metal barriers , it is recommended at least twice tests be conducted before the meeting to ensure the smooth progress and reliability of the conference proceedings.

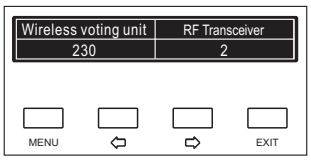


Connection of Wireless Voting System

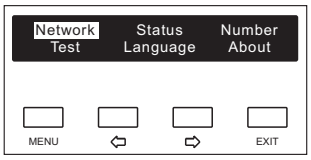
The LCD on the HCS - 4100MTB main unit is the operation interface for the man -machine conversation, supporting simplified Chinese , traditional Chinese and English menu display. The following descriptions are made under English mode, while the functions remain unchanged in different language modes.

After HCS - 4100MTB is powered, initialization is conducted and the main unit is searching for HCS-4391. After the search, the LCD initialized interface displays the number of HCS-4391. The interface is shown as follows:





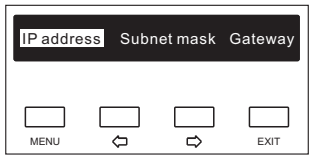
LCD menu setup is shown as follows:

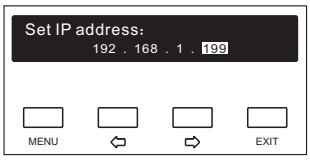


Press “MENU”button to enter the MENU setup interface, there are “Network Setup”, “System State”,“System Test”,“LanguageSetup” and “About”five items. The selected option is shown highlighted，press MENU button to enter the submenu of the selected item,use Left/Right key to traverse items in the submenu , press EXIT to exit from the menu and return to the upper menu.

1. Network Setup

“Network Setup ”sub-menu includes“IP Address”,“SubnetMask” and“Gateway” three items，which is shown as follows:





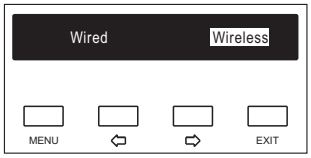
After selecting the IP address with MENU key, the interface of Setup IP Address will show up, the user can setup an unique IP address for each main unit.

Left/Right cursor key is used to choose the number high-lighted by the MENU key(keep pressing the L/R key for fast selection). Press MENU key to confirm the required address then EXIT to return.

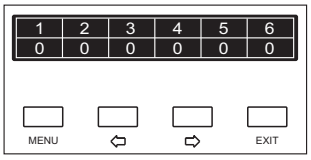
The Subnet Mask and Gateway can be setup in the same way. After the setup, press EXIT to quit. Be sure the content in “Network Setup” and the one configured by system software should be the same, otherwise, connection problemmay arise.

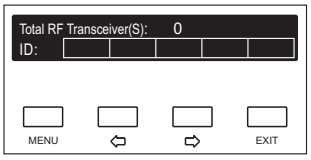
2. System Status

“System Status”submenu includes“Wired”and “Wireless” two items，the interface is shown as follows:



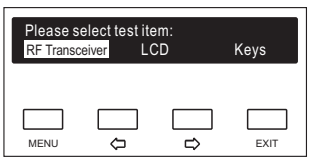
The number of wired voting units and valid wireless unit HCS-4391 in each line can be checked through the Menu operation, the interface is shown as follows:

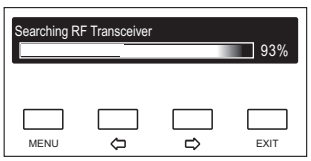




3.System Test

“System Test”submenu includes“RF transceiver”,“LCD” and“Button” three items.“RF Transceiver”is used to search for all the HCS - 4391modules, whose interface is shown as below:

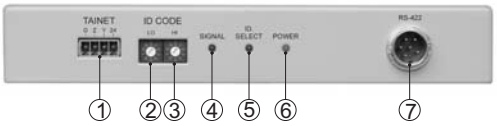




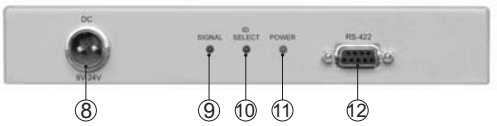
HCS - 4391Wireless RF Transceiver

HCS - 4391 Installation Diagram

HCS - 4391 antenna is a boom antenna, adjustable length:15CM --45CM, it can be adjusted to any angle freely.



HCS - 4391 Side View 1



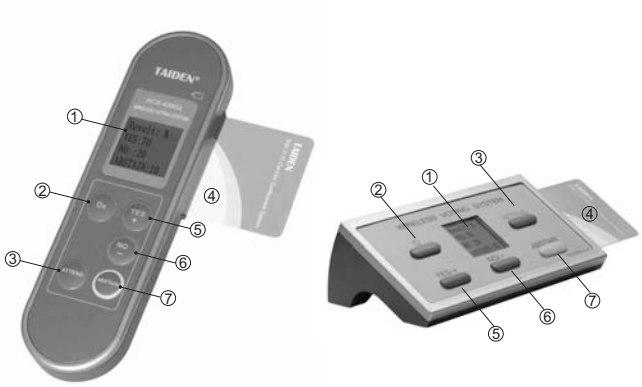
HCS - 4391 Side View 2

1. TAINET (RS - 485) Interface，for connection with HCS - 4100MTB .
2. ID setup switcher low position.
3. ID setup switcher high position.
4. SIGNAL (Red): wireless reception indicator.
5. ID SELECT (Red): Communication indicator.
6. POWER (Green): Power ON indicator.
7. RS - 422 interface, for connection with HCS - 4100MTB.
8. Power supply adaptor interface (DC 9V-24V).
9. SIGNAL(Red): Wireless reception indicator.
10. ID SELECT(Red): Communication indicator.
11. POWER(Green): Power indicator.
12. RS - 232 interface, for connection with the PC. This port is only available for small-sized wireless conferences where only one HCS-4391 is needed and no conference main unit is in need.

An unique ID number (from 0 to 99) should be assigned to each HCS-4391 before the meeting.

HCS - 4390/4395 Wireless Voting Unit

- Long lifetime and low consumption: ultra low power micro processor is adopted, Low battery will be indicated, then the unit will automatically turn itself off after the low battery indication. Take 2 AA size alkaline batteries as example, the continuous operating time is about 60 hours, in recess state (standby state) the batteries last about 120 hours, No power consumes when it is turned off.
- Auto frequency point selecting: auto search for the available frequency points when the unit is turned on; If no frequency points are available, the unit will turn itself off automatically.
- In case no signals are available, the unit will turn to standby mode and then automatically turn itself off.
- Immunity to interference: As many as 24 frequency points are available. Frequency range: 430.0MHz-434.6MHz.
- High security, confidentiality and accuracy.
- Swiftness: Fast polling speed with about 20 seconds for a system with 1000 units.
- Instant status display : Signal level, battery indication, conference proceedings, Voting information and voting results can be shown on the LCD real time.
- Functions: Voting , Multi choices, Audience response and Rates (0 - 100 scores) are available, Under Voting mode the LCD of the voting unit can show the voting results.
- Keypress sign-in available
- IC Card Sign-in : HCS - 4390AK/4395AK has built-in IC Card reader (HCS-4390A/4395A without IC Card reader).



We take HCS - 4390AK as an example to introduce the operationof HCS-4390/4395 series Wireless Voting Unit .

Keys and Silk-screen Indication:

1. 100x65 LCD Display
2. Power key (Blue ring), to turn if off , please remove the battery or control via the PC software .
3. Sign-in Key (Blue ring).
4. IC Card reader (HCS - 4390AK/4395AK).
5. YES/+ Key (Green ring).
6. NO/- Key (Red ring).
7. Abstain Key (Yellow ring).

Operation Instructions:

◇ Sign in / Authentication key

1. IN a Authentication state, LCD displays: Please Authenticate, which is shown as follows:

When the operator presses the key, HCS - 4390B/BK will send its own ID number to HCS - 4391, and then the voting main unit will pass it on to the PC for display; if there is no such ID displayed on the PC, please press the key again until the ID number is shown.

2. In key press sign-in state, LCD displays: sign-in Please, press this key to sign-in; LCD displays: Signed ; as follows:

◆ If IC cards are needed in this conference，LCD displays: Please insert IC Card if a valid card is inserted, the LCD displays : Signed; If an invalid card is inserted, it displays: Invalid card with a prompt: Please insert IC Card.

Only when the delegates have sign in, can the voting session start. when the key press sign-in is finished and someone hasn't pressed the key, the LCD displays: No sign in. In this state, the voting session is not available, the interface is shown as follows :

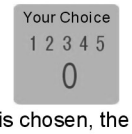
◆ Under Voting state，LCD displays：Please Choice：YES, NO, ABSTAIN；which is shown as follows：

◇ YES / + key:
Press this key to approve the proposal; LCD displays the choice in reverse mode: YES , as below:

◇ NO / - key:
Press this key to reject the proposal; LCD displays the choice in reverse mode: NO , as below:

◇ ABSTAIN key:
Press this key to abstain from the proposal; LCD displays the choice in reverse mode : ABSTAIN.

◆ Under Multi choice/Opinion poll state: LCD displays: Please Choice : 1、2、3…… N（it means to choose from candidates Number 1 to Number N ）If no choice is made, the LCD displays: 0; (The following takes 5 candidates as example)



When a candidate is chosen, the LCD will display the corresponding candidate number.

◇ YES / + Key:
Press this key to choose the candidate. The numbers are shown in a upward circulation.
◇ NO / - Key:
Press this key to choose the candidate . The number are shown in a downward circulation.

◆ Under Audience response/Rating state: LCD displays: Please Choice: 1,2,3,4,5（The number 1,2, 3,4 and 5 respectively stands for the scores given to the proposal: 0,25 ,50,75 and 100 scores).
When no choice is made, the LCD displays: 0;

When a choice is made，the LCD displays the number corresponding to the scores.

◇YES / + Key:
Press this key to choose the scores. The numbers are shown in a upward circulation.
◇NO / - Key:
Press this key to choose the scores. The numbers are shown in a downward circulation.

When the Voting session is finished and Display Result is chosen, the voting unit can show the voting results online as follows:

When exiting from the conference, the voting unit shows: Please Return, as below:

When the battery is running low, it shows: Power Exhaust, as below:

System Technical Data
HCS - 4100MTB Voting Main Unit + HCS - 4391 RF Transceiver：

Items	HCS - 4100MTB	HCS - 4391
Communications between HCS - 4391 and wireless voting unit	License-free ISM frequency band；GFSK data modulation；wireless transmission rate 100Kbps；confidential protocol	
Maximum capacity	Single frequency point supports 10000 wireless voting units	
Reliable wireless communication coverage （Radiation radius）	300m（open area，without interfered frequency points）	
Dimensions（Length×Width×Height）	430mm × 325mm × 99mm	200mm×200mm×33mm (Antenna length =450mm)
Weight	10.8 kg	1.1 kg (Excluding tripod stand)
Power supply	220V ± 10% / 110V ± 10%	DC 9V-24V
Maximum power	410W	1.5W
Operating temperature range	0 °C－50 °C	
Standards	IEC 60914	

HCS - 4390/4395 Wireless Voting Unit：

Type	**4390**	**4395**
Communications between HCS - 4391 and wireless voting unit	License-free ISM frequency band；GFSK data modulation；wireless transmission rate 100Kbps；confidential protocol	
Reliable wireless communication coverage （Radiation radius）	300m（open area，without interfered frequency points）	
Operating current	Power off：0mA,Standby state：4mA--6mA，normal working state：18mA--22mA	
Battery operation time（2 AA size Alkilain）	Continuous operating time（under voting）≥60 hours；In recess（Standby state）≥120 hours；The operator can check out the status of the voting units and the battery capacity online at any time.	
Dimensions（Length×Width×Height）	233mm ×× 50mm × 28mm	
Weight	0.2 kg	
Operating temperature	0 °C－50 °C	
Standards	IEC 60914	

FCC INFORMATION

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause
undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.