TAIDEN®

HCS-4390N Wireless Voting System

Excellent solutions for conferences

Installation and Operating Manual

V 1.7

Remark:

- All rights reserved for translation, reprint or reproduction

- Contents may change without prior announcement

- All technical specifications are guideline data and no guaranteed features

- We are not responsible for any damage caused by improper use of this manual

- The equipment must be connected to earth!

- This product conforms to the rules of the European directive 2014/30/EU.

- To protect your hearing avoid high pressure level on earphones. Adjust to a lower and convenient level.

- If any detailed information needed, please contact your local agent or **TAIDEN** service center in your region. Any feedback, advice and suggestion about the products is appreciated.

- In order to extend the life time of whole system, we strongly recommend that the conference system be scheduled to shut down every day in the evening when not in use.

- **TAIDEN** is the registered trademark of TAIDEN Co., Ltd.

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.
6. The MAINS plug serving as a disconnection device, should be easy to operate.
7. The apparatus should be connected to the MAINS socket-outlet with protective earth.
8. Clean only with dry cloth.
9. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
10. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
11. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade and the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
12. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
13. Only use attachments/accessories specified by the manufacturer.
14. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
15. Unplug this apparatus during lightning storms or when unused for long periods of time.
16. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
17. 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.
18. Power supply cords:
    AC 110 V-120 V 60 Hz or AC 220 V-240 V 50 Hz

19. For service, please contact the nearest TAIDEN Service Center.
20. All TAIDEN products are guaranteed for definite time (see the WARRANTY CARD for details) excluding the following cases:
    A. All damage or malfunction caused by human negligence;
    B. Damage or malfunction caused by improper operating by operator;
    C. Parts damage or loss caused by disassembling the product by non-authorized personnel.
21. Use ONLY specified connection cable to connect the system equipment.
22. Upon receipt of the product, please fill out the Warranty Card enclosed and post it to TAIDEN Service Center.

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

CAUTION: DO NOT use alcohol, ammonia or petroleum solvents or abrasive cleaners to clean the devices.

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 reduce the risk of fire or electric shock, DO NOT expose units to rain or moisture.

Important Safety Instructions

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

Contents

Installation & User Guide

About this manual

This manual is a comprehensive guide to the installation and operation of **TAIDEN** HCS-4390N wireless voting system. It includes the detailed description of the function and interface of the wireless voting system components, system connection and installation, system set-up and operation.

The manual is divided into the following chapters:

Chapter 1: Introduction

Introduction to the wireless voting system, as well as introducing the system features, technical principle and aspects of working procedure.

Chapter 2: Wireless Transceiver

Detailed description of functions, connection, configuration and operation of wireless transceiver.

Chapter 3: Wireless Voting Unit

Detailed description of functions, configuration and operation of wireless voting unit.

Chapter 4: Voting management software

Introduction to installation and running of HCS-4100 conference management software.

Chapter 5: Technical specifications

Main technical parameters of wireless voting system.

This manual is applicable to:

■ **Wireless Transceiver**

HCS-4391N   Wireless Transceiver

■ **Wireless Voting Unit**

HCS-4390NE/03 series
HCS-4390NE/03
Wireless Voting Unit (portable, 3 voting keys)
HCS-4390NKE/03
Wireless Voting Unit (portable, 3 voting keys, IC-card)

HCS-4390N/10 series
HCS-4390N/10
Wireless Voting Unit (portable, 10 voting keys)
HCS-4390NK/10
Wireless Voting Unit (portable, 10 voting keys, IC-card)

HCS-4395NA series
HCS-4395NAE
Wireless Voting Unit (tabletop, 3 voting keys)
HCS-4395NAKE
Wireless Voting Unit (tabletop, 3 voting keys, IC-card)

Chapter 1: System introduction

1.1 Overview

HCS-4391N is a fully digital bi-directional wireless transceiver, each of which recommended control no more than 600 HCS-4390N/4395NA wireless voting units. At most 3 transceivers（2 master transceivers and 1 backup transceiver, which are set up by PC software.） can be connected in one system, then the system has the capacity of 1200 wireless voting units. HCS-4391N Wireless transceiver can communicate with HCS-4390N/4395NA wireless voting unit within its radiation area.

This system can be widely used in government agency, hotel and conference hall/room of convention center, especially suitable for large conference hall/room where it's difficult for wiring.
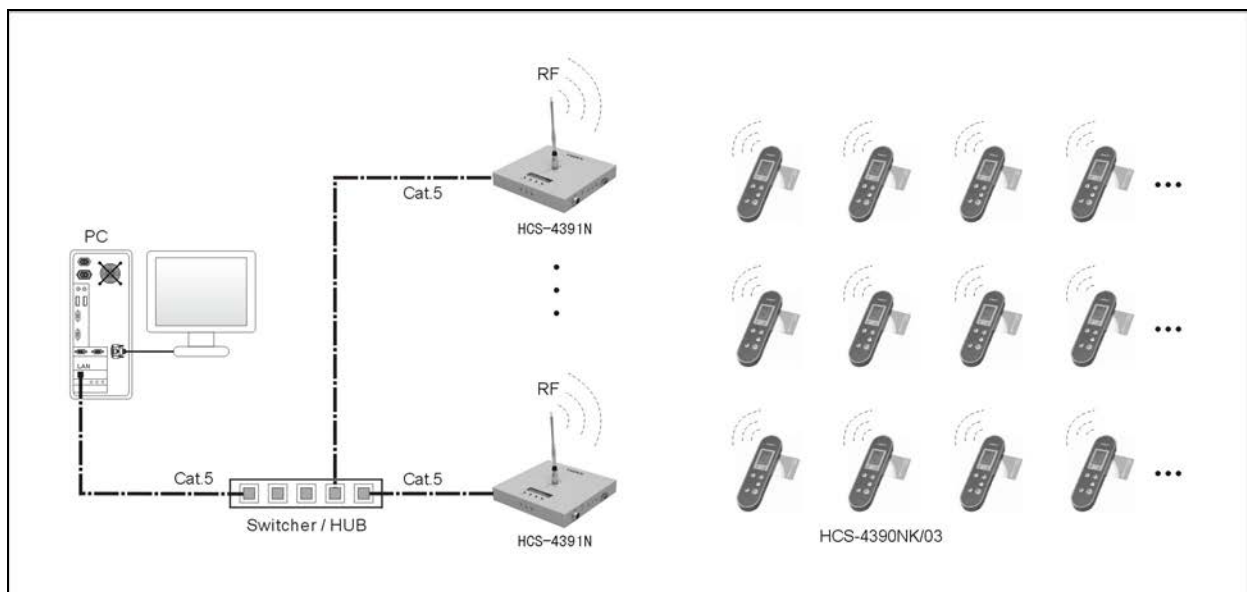
Figure 1.1　System overview

1.2 System planning

Wireless transceiver connects to PC via TCP/IP. More than one transceiver can connect to PC either through Ethernet switcher or cascade connecting one by one through its built-in dual network interface, to cover more wireless voting units for large conferencing occasions, or to increase data uploading speed by multiple transceivers.

At present, at most 3 transceivers can be connected in one system: 2 master transceivers and 1 backup transceiver, which are set up by PC software. The backup transceiver will take over automatically if any master transceiver fails. Each transceiver is classified by identical RF channel. The quantity of wireless voting units that the transceiver can control is related with RF status in the meeting room. If RF status in the meeting room is good (there are not too much metal objects, large obstacles and porous material, etc.), each transceiver can control no more than 600 wireless voting units.

When using a small number of voting units (such as 100 to 200 units), control them with one transceiver as possible. If more than one transceiver are used, ID range should be automatically assigned equally when assigning ID. Such as: you have voting units with ID from 1 to 86, you want to use two transceivers, you should assign voting units with ID from 1 to 44 to the first transceiver and the others to another transceiver.

Note:
- ☞ If there are more than one transceiver, the distance between each other should be larger than 10 meters to avoid interference.
- ☞ If RF status in the meeting room is not so good, please equip one more transceiver or select high gain antenna.
- ☞ Make sure that there is no large metal object or obstacle within 1-meter near the transceiver, and the antenna of the transceiver should be placed as higher as you can.

Note:
- ☞ Please make sure that the power supply is connected to the ground! Or connect the cover of the transceiver to the ground (grounding terminal is equipped on the transceiver).
- ☞ When battery is not full, the communication between transceiver and voting unit will have a subtle impact.

Matters needing attention in ID setup

Before meeting, the operator should set up ID range for voting units. The operator can set ID range larger than exact used voting units (for example: there are 300 participators, you can set ID range as 1-310), it is for adding more voting units when needed in the meeting.

Try not to modify ID range during meeting. If ID range is modified during meeting, all voting units in this frequency channel will go to searching signal status to synchronize with the transceiver, and it takes times.

The ID range of voting units managed by one transceiver should be sequential

All voting units you've got will have a unique factory-set ID starting from 1 with continuous increment. You can modify ID, but make sure that there is no repeated ID.

Note:
- ☞ Before start meeting, ID range can be modified by PC software.
- ☞ After start meeting, you should execute start meeting and then end meeting, or disconnect and then re-connect main unit in PC software, when all voting units display "Return" on the LCD, then you can modify frequency channel or modify ID range.

- **Strong anti-interference ability**: Frequency channel being occupied or interfered, as well as blind area can be detected on-line. Refer to the detection result, optimal working frequency channel, installation place and needed transceiver quantity can be decided. 12 frequency channels to choose from. Frequency range: 430.0 MHz - 434.4 MHz with 400 kHz band space.

- **High security, confidentiality, accuracy**: Multilevel error checking and encryption processing is applied in the process of information transmitting to prevent stealing of data. All voting units require authorization before meeting to guarantee the accuracy of voting result and eliminate the possibility of artificially cheating and non-voting staff misuse. When power on, all voting units can automatically search frequency broadcasting and join in eligible frequency. Several systems with different frequencies can work at the same time.

- **High speed**: Voting unit will upload data at its time slot. It is faster than polling mode. If RF status is good, 100 voting units can finish uploading data in 1 second.

- **Powerful**: Multiform sign-in and voting function.

- **Countdown voting function**: A countdown time can be set from 1 second to 12 hours. Before time is up, the participators can vote and change his/her voting. When time is up, PC software will calculate the voting result automatically.

- **Voting supplement function**: For latecomers, voting units can be added to supplement voting.

- **Intuitive voting result**: Voting result can be displayed in list, bar or pie.

- **Convenience**: System can automatically calculate sign-in result and voting result.

- **Simplicity of operation**: All voting units are equipped with LCD. Corresponding hint will prompt according to meeting progress. The participators can just follow the hint and finish voting easily. Windows operating environment, interface is simple and practical and handy.

- **Real-time battery power query**: The battery power can be real-time displayed on the LCD of all voting units and the operator can check the battery power of all voting units by PC software. When the battery power is low, it will automatically alarm on PC software.

- When exit meeting, all voting units can be power off by PC software to save power.

Chapter 2: Wireless Transceiver

2.1 Overview

The wireless transceiver is the kernel of wireless voting system, it is responsible for communication between wireless voting units and control PC. It sends start/stop voting command to wireless voting units and report voting result to application software.

Each transceiver recommended control no more than 600 wireless voting units and most 3 transceivers（2 master transceivers and 1 backup transceiver, which are set up by PC software.）can be connected in one system to support 1200 wireless voting units in total.

Each transceiver can be assign a unique IP address to communicate with control PC via TCP/IP connection and then remote control and remote diagnosis can be realized.

Product type:

HCS-4391N   Wireless Transceiver

2.2 Functions and indications
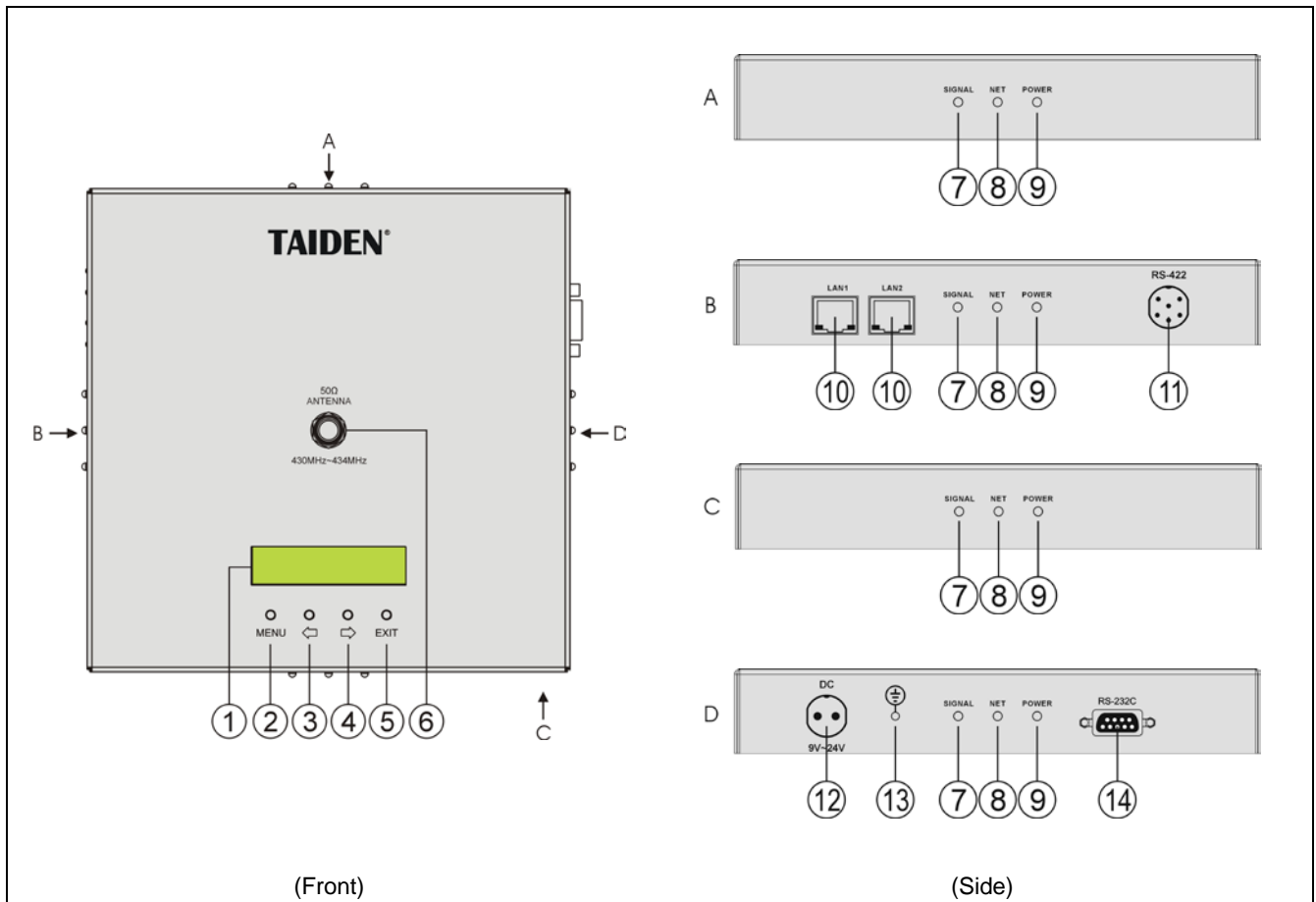
Figure 2.1   HCS-4391N wireless transceiver

Functions and indications:

1. Menu display
- 16×2 segment LCD displays transceiver status and configuration menu.

2. "MENU" button
- a. Under current state, press "MENU" button go to the main menu;
- b. Under the main menu, press "MENU" go to the sub menu;
- c. Select/Deselect in network configuration.

3. "⇦" (Left) button

4. "⇨" (Right) button

5. "Exit" button

6. Antenna interface

7. SIGNAL (Red): wireless signal receiving indicator

8. NET (Red): communication indicator

9. POWER (Green): power indicator

10. RJ45
- To connect HCS-4391N wireless transceivers cascadable.

11. Reserved

12. Power supply adaptor interface

13. Grounding point

14. RS-232
- Connecting to PC for upgrade;
- Connecting to a central control system for central controlling.
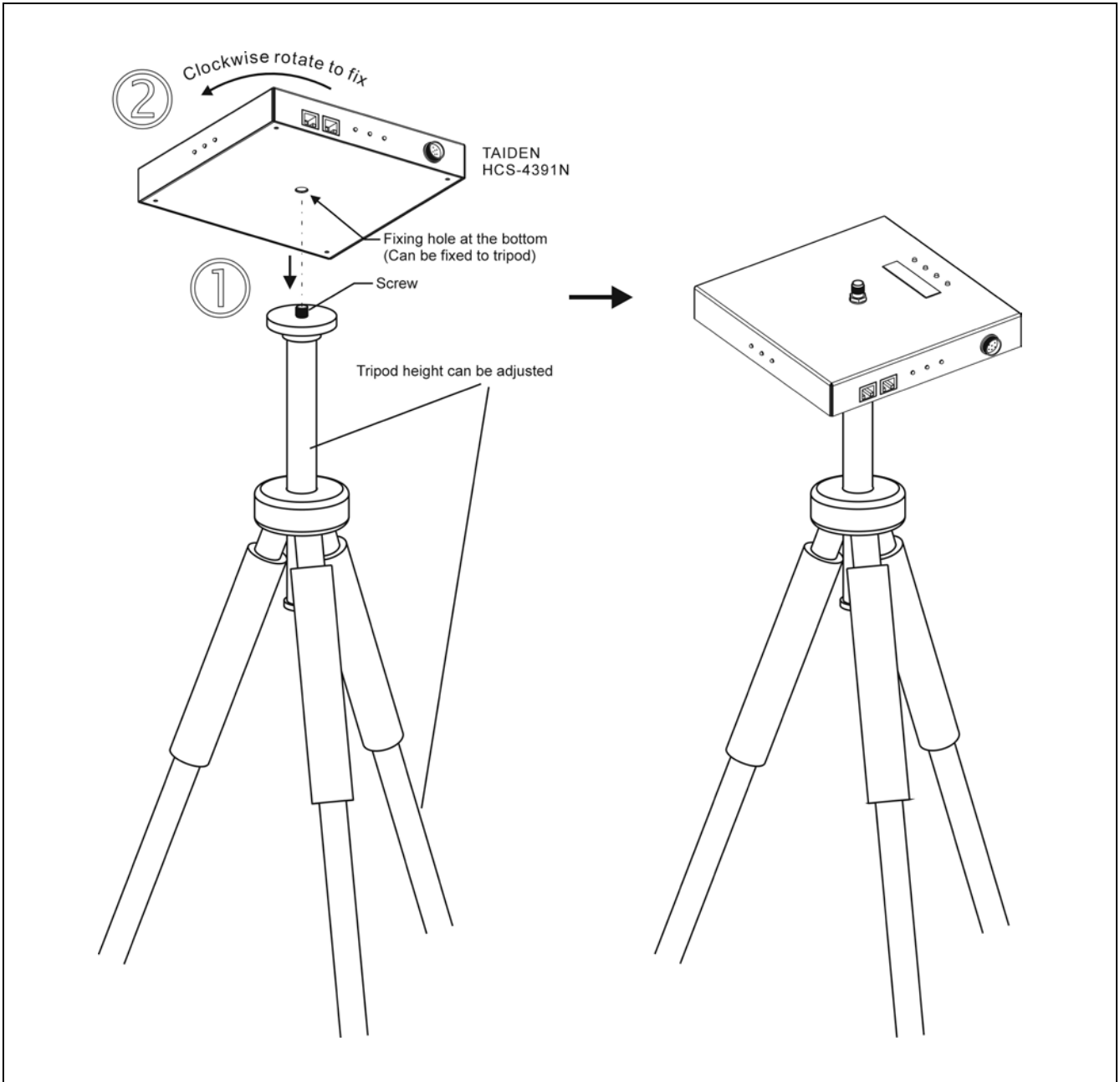
Figure 2.2   Installation diagram of wireless transceiver

Mounting steps:

Step 1: Aim the mounting hole at the bottom of HCS-4391N wireless transceiver to M10 screw on the tripod;

Step 2: Fix it with clockwise rotation.

Note:

☞ HCS-5300TZJ tripod should be ordered separately.

2.4 Configuration and operation

All setting of the transceiver can be configured by conversational menu and 4 operation buttons.

A）Starting initialization:

When power on, the transceiver HCS-4391N will start initialization. Press the "EXIT" button to display firmware version and serial number.
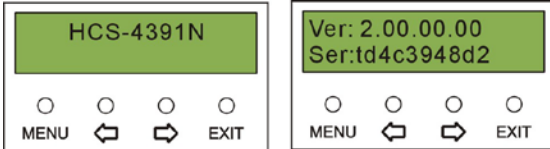
B）Accessing "Main" menu:

Press the "MENU" button to enter main menu, including the following menu items:

"IP Address"	"RF Channel"
"Subnet Mask"	"Maximum Slave ID"
"Gate Way"	"Minimum Slave ID"
"Uart Baudrate"	"Machine Rename"
"Reset To Default"	
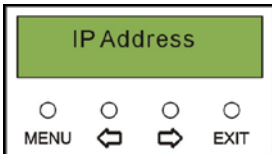
- Press the "MENU" button to go to the corresponding submenus;
- To switch from term to term use the "⇦/⇨" button;
- To exit the current menu and to return to the upper level menu use the "EXIT" button.

Under the main menu, press the "EXIT" button to exit the main menu.

2.4.1 IP address

Set up IP address for the transceiver.
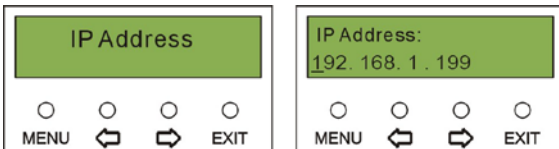
- Select "IP address" and press the "Menu" button to go to set up IP address interface;
- Use the "⇦/⇨" button to switch between the four numbers;
- Use the "MENU" button to edit selected number;
- Use the "⇦/⇨" button to decrease/increase the

number. Press and hold the "⇦/⇨" button will adjust the numeric value quickly;
- Press the "MENU" button to save and use the "EXIT" button to return to the upper level menu.

> **Note:**
> ☞ "IP address", "Subnet Mask" and "Gateway" of the system software should correspond with the above transmitter settings, else connection error will occur.
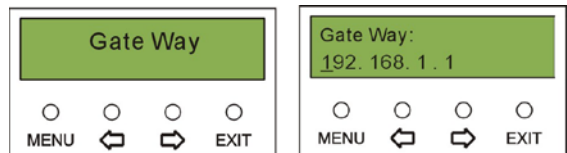
2.4.2 Subnet mask

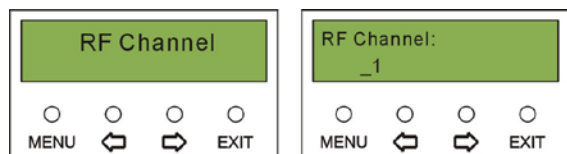Same chronological order as for the "IP address" set up.
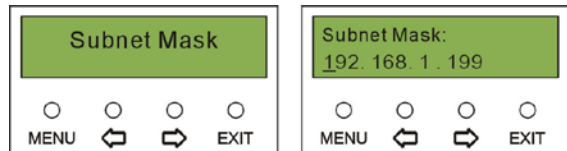
2.4.3 Gate way

Same chronological order as for the "IP address" set up.
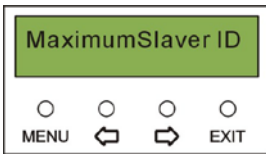

2.4.4 RF channel

Select RF channel from 0-11. The RF channel interval between any two transceivers must be equal to or greater than six.
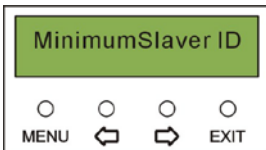
2.4.5 Maximum slave ID

Set up the maximum ID of wireless voting unit, this value can only be configured by PC software.
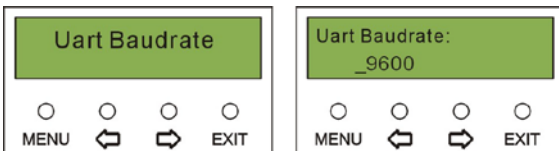

2.4.6 Minimum slave ID

Set up the minimum ID of wireless voting unit, this value can only be configured by PC software.


2.4.7 Uart baudrate

If control by the central control main unit, set up baud rate of the transceiver. This value should correspond with the serial interface setting of the central control main unit. There are 4 types of baud rate: 9600/19200/57600/115200.

- Select "Uart BaudRate" and press the "Menu" button to go to Uart BaudRate setup interface;
- Use the "⇦/⇨" button to switch between the four numbers;
- Use the "MENU" button to select number;
- Press the "EXIT" button to return to the upper level menu.
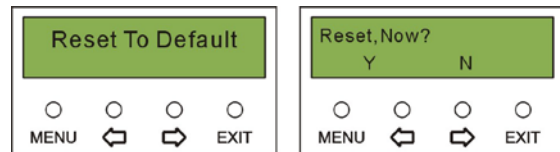
2.4.8 Machine rename

Set alias for the transceiver with a maximum length of 16 characters or less.
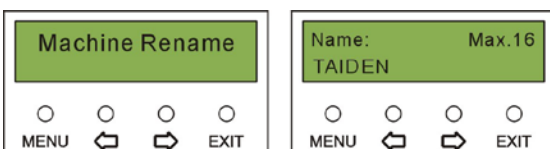
2.4.9 Reset to default

Reset the transceiver to the default setting.
Select "Y" to reset to default, or select "N" to return to the upper level menu

Chapter 3: Wireless Voting Unit

3.1 Overview

Wireless voting unit is the basic device of the wireless voting system. Under the control of the HCS-4391N wireless transceiver and the PC software, multiform voting can be realized.

Equipped with an LCD, signal intensity, battery power, voting status and voting result can be displayed intuitively. Some voting units are equipped with an IC card reader. In this case IC card sign-in function is integrated.

In the meeting, the backlight can be turned on/off by the PC software.

Product type:

HCS-4390NE/03 series

HCS-4390NE/03

Wireless Voting Unit (portable, 3 voting keys)

HCS-4390NKE/03

Wireless Voting Unit (portable, 3 voting keys, IC-card)

HCS-4390N/10 series

HCS-4390N/10

Wireless Voting Unit (portable, 10 voting keys)

HCS-4390NK/10

Wireless Voting Unit (portable, 10 voting keys, IC-card)

HCS-4395NA series

HCS-4395NAE

Wireless Voting Unit (tabletop, 3 voting keys)

HCS-4395NAKE

Wireless Voting Unit (tabletop, 3 voting keys, IC-card)

3.2 HCS-4390NE/03 wireless voting unit
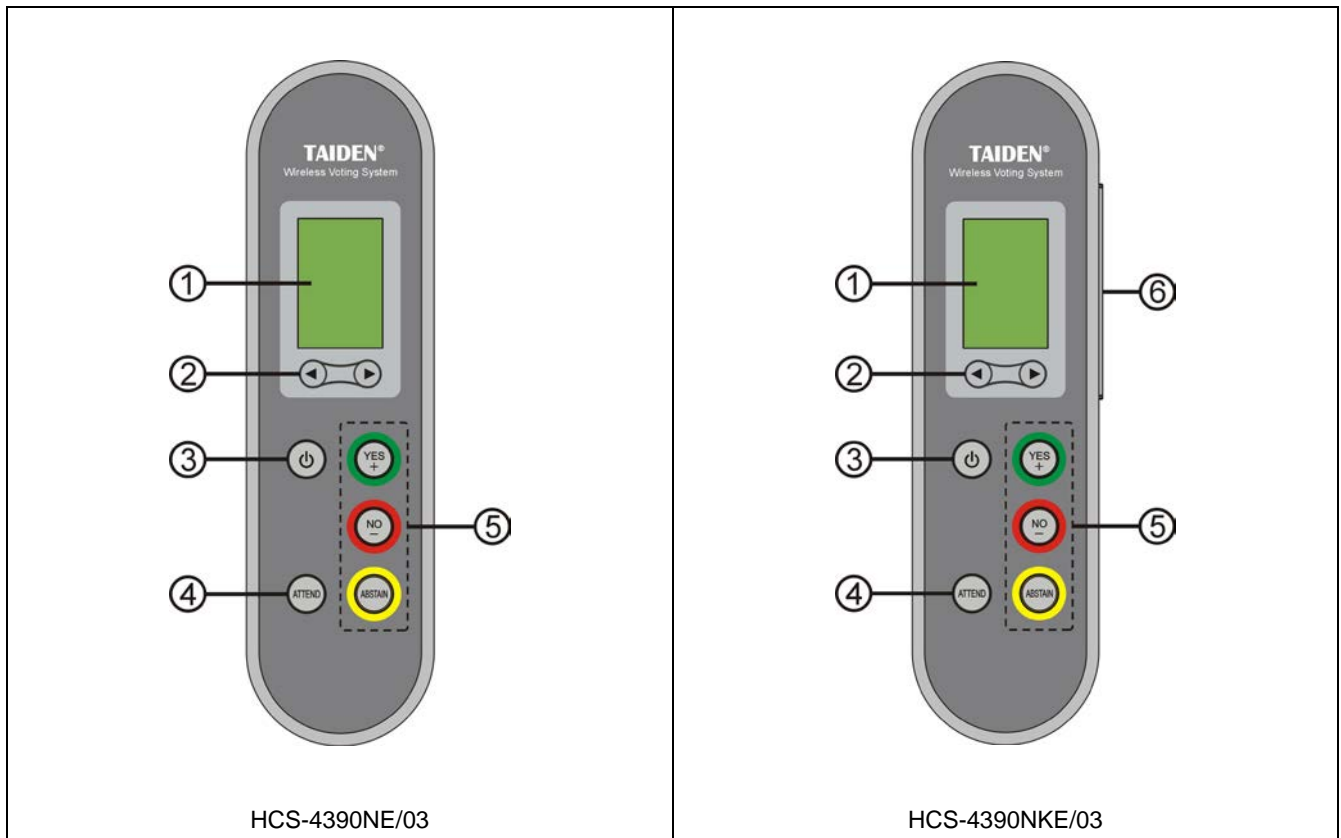
3.2.1 Functions and indications

Figure 3.1　HCS-4390NE/03 wireless voting unit

1. **LCD**
2. **"◄/►" button**
3. **Power button**

   ·Press and hold for 6 seconds to go to the primary
   menu.
4. **Sign-in button**
5. **Voting buttons**
6. **IC card reader**
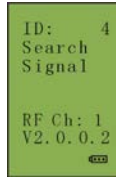
Table 3.1　Operation list of voting buttons

Button / Mode	◄	►	Yes/+	No/-	Abstain
For/ Against			For	Against	
Parliamentary			Yes	No	Abstain
Questionnaire	Last item	Next item	Affirm		Vote again
Audience response					
Appraisal					
Score	Add 1 score	Subtract 1 score	Affirm		Score again

3.2.2 Operation

3.2.2.1 Searching RF

When the voting unit powers on,

- If the RF channel used in the previous meeting is found and its ID is in the range of this RF channel, it will go to meeting status immediately;
- If an eligible RF channel was found, the voting unit will join in and go to meeting status;
- If the RF channel or ID range has been modified after the previous meeting, the voting unit will poll all RF channels to find an eligible RF channel to join in and go to meeting status.

During the meeting, if the voting unit cannot find an RF channel within 20 seconds, it will search again. If no eligible RF channel can be found within 1 minutes, the voting unit will power off.

3.2.2.2 ID setting

When powered on, press and hold "Attend" +" Abstain" buttons simultaneously and then press "Power" button to go to ID setting..

a). Press the "◄/►" button to set ID in the range 1-2000;

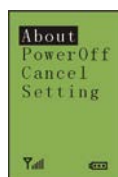b). Press the "Yes" button to save and return to the upper level menu.

> **Note:**
> ☞ An ID has already been set up before leaving the factory, you can keep this and do not need to set up a new one;
> ☞ DO NOT repeat an ID in the same RF channel;
> ☞ Please read section 1.2.1 carefully to learn

3.2.2.3 Primary menu

Before starting the meeting, press and hold the power button for 6 seconds to can go to the primary menu, including:

    →**"About"**
    →**"Power Off"**
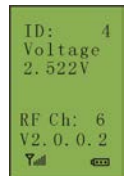   →**"Cancel"**
    →**"Setting"**

Under the primary menu,

- Press the "◄/►" button to browse all menu items, the selected menu item will be highlighted;
- Press the "Yes" button to go to the selected menu item;
- Press the "No" button to exit and return to the upper level menu.

At the primary menu, press the "No" button to exit the primary menu.

1. About

ID, battery voltage, RF channel and firmware version will be displayed on the LCD.
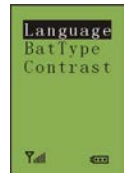
2. Power off

Power off the voting unit.

3. Cancel

Exit the primary menu.

4. Setting

Set up language, battery type and contrast:

    →**"Language"**
    →**"Battery type"**
    →**"Contrast"**

■ Language

By now, Simplified Chinese, Traditional Chinese and English are supported.

a). Press the "◄/►" button to browse languages;

b). Press the "Yes" button to confirm selection and return to the upper level menu.

■ Battery type

Select battery type between Alkaline and Ni-MH.

a). Press the "◄/►" button to browse battery types;

b). Press the "Yes" button to confirm selection and return to upper level menu.

■ **Contrast**

Adjust the contrast of the LCD, range:20 to 40.

a). Press the "◄/►" button to adjust the contrast;

b). Press the "Yes" button to confirm and return to the upper level menu.

3.2.2.4 Sign-in

All voting units need to sign-in (key press sign-in or IC card sign-in) before voting. The operator can use "Seat Sign-in" from the wireless voting system software to start sign-in.

■ **Key press sign-in**

If the meeting does not use IC card: when the PC software starts sign-in, An icon and words "Please Sign-in" will be displayed on the LCD of all voting units. Press the "Attend" button to sign-in and "√" will be displayed behind the icon on the LCD.

■ **IC card sign-in**

If the meeting uses IC card: when the PC software starts sign-in, "Insert Card" will be displayed on the LCD of all voting units. Insert IC card in correct direction to go to the Voting System interface. If the IC card is invalid or not inserted correctly, "Invalid" will prompt. Please retry or contact technical support.

Only after sign-in, it will go to meeting status. If you do not sign-in before sign-in ended, "X" will prompt on the LCD and you cannot vote.
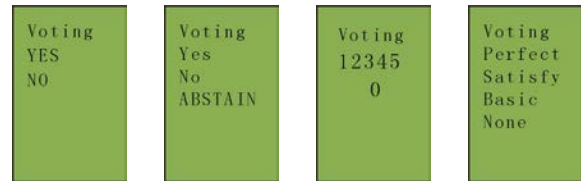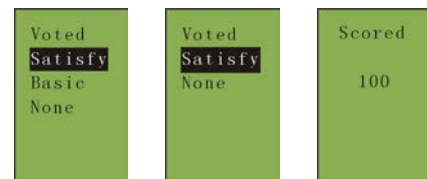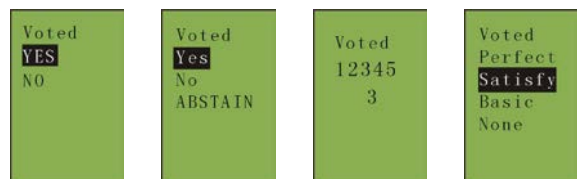
3.2.2.5 Vote

◆ Voting start/stop is controlled by the conference management software.

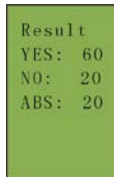◆ When the PC software starts voting, voting options will be displayed on the LCD of all voting units.

◆ After selection (see table 3.1), selected item will be highlighted for 0.5 second.

◆ When voting stopped and when the PC software sends the command to display the voting result, the voting result of parliamentary will be displayed on the LCD of all voting units, and the others will not be displayed.
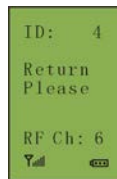
```
Result
YES:  60
NO:   20
ABS:  20
```

Note:

☞ For "Yes/No/Abstain" and "Yes/No" votings, first key press valid or last key press valid can be set by the PC software. For other type of voting, only last key press valid is applicable.
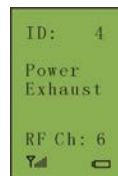
3.2.2.6 Exit meeting

When exiting from the meeting, "Return" will be displayed on the LCD of all voting units.

```
ID:    4

Return
Please


RF Ch: 6
Y..l    
```

3.2.2.7 Low battery

When the battery is low, "Exhaust Power" will be displayed on the LCD and the voting unit will automatically power off in 1 minute.

```
ID:    4

Power
Exhaust


RF Ch: 6
Y..l    
```

3.3 HCS-4390N/10 wireless voting unit
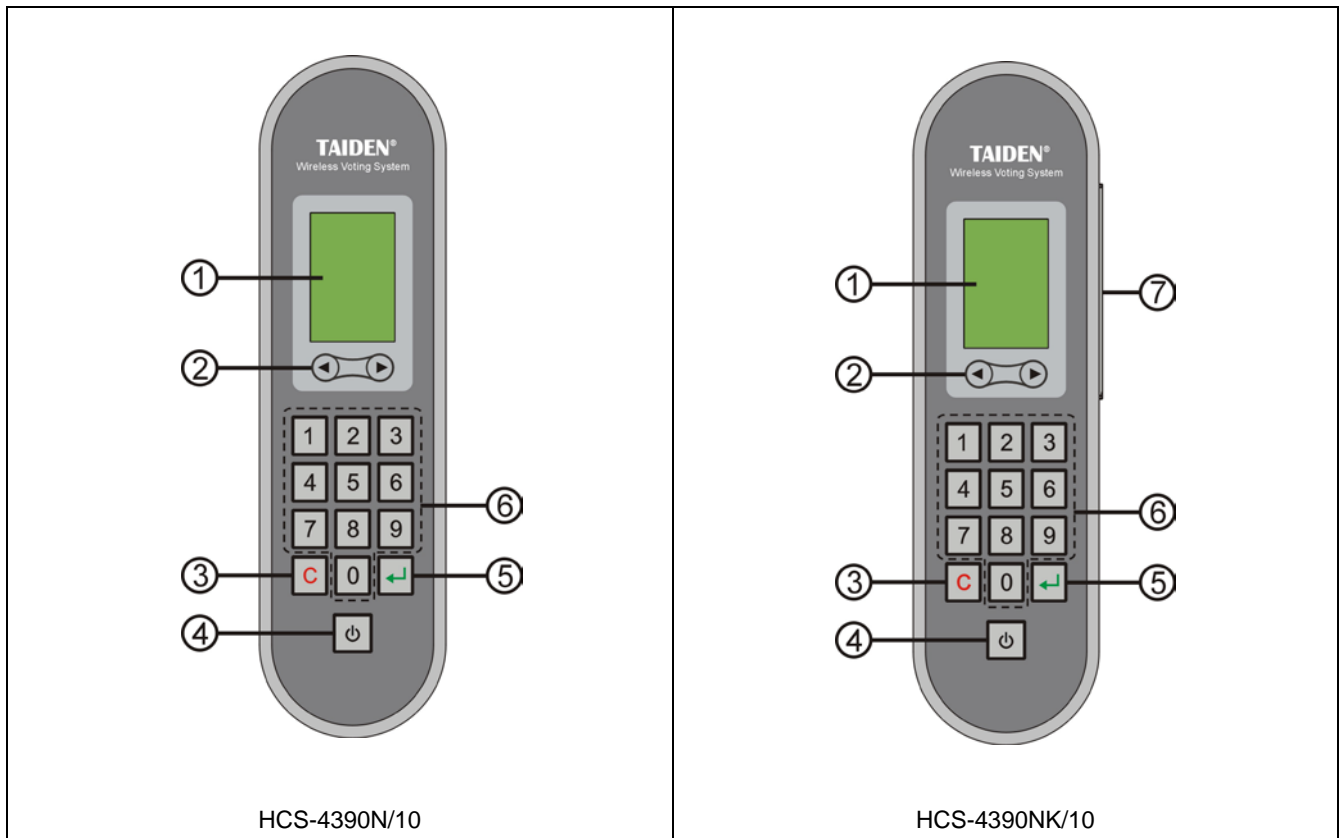
3.3.1 Functions and indications

Figure 3.2   HCS-4390N/10 wireless voting unit
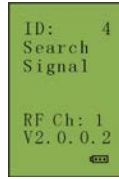

1. **LCD**
2. **◄/► button**
3. **"C" (cancel) button**
4. **Power button**
   ·Press and hold for 6 seconds to go to primary
     interface.
5. **"↵" (confirm) button**
6. **Voting buttons（0-9）**
7. **IC card reader**

3.3.2 Operation

3.3.2.1 Searching RF

When the voting unit powers on,

⬦ If the RF channel used in the previous meeting is found and its ID is in the range of this RF channel, it will go to meeting status immediately;

⬦ If an eligible RF channel was found, the voting unit will join in and go to meeting status;

⬦ If the RF channel or ID range has been modified after the previous meeting, the voting unit will poll all RF channels to find an eligible RF channel to join in and go to meeting status.

During the meeting, if the voting unit cannot find an RF channel within 20 seconds, it will search again. If no eligible RF channel can be found within 1 minutes, the voting unit will power off.

3.3.2.2 ID setting

When powered on, press and hold "3" + " 8" buttons simultaneously and then press "Power" button to go to ID setting.

a). Press the "◄/►" button to set ID in range 1-2000;

b). Press the "↵" button to save and return to the upper level menu;
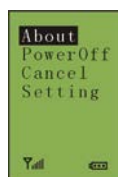
> **Note:**
> ☞ An ID has already been set up before leaving the factory, you may keep this and do not need to set up a new one.
> ☞ DO NOT repeat an ID in the same RF channel;
> ☞ Please read section 1.2.1 carefully to learn

3.3.2.3 Primary menu

Before starting the meeting, press and hold the power button for 6 seconds to go to the primary menu, including:

→ **"About"**
→ **"PowerOff"**
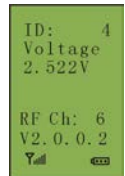→ **"Cancel"**
→ **"Setting"**

Under the primary menu,

• Press the "◄/►" button to browse all menu items, the selected menu item will be highlighted;

• Press the "↵" button to go to the selected menu item;

• Press the "C" button to exit and return to the upper level menu.

At the primary menu, press the "C" button to exit the primary menu.

1. About

ID, battery voltage, RF channel number and firmware version will be displayed on the LCD.
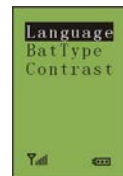
2. Power off

Power off the voting unit.

3. Cancel

Exit the primary menu.

4. Setting

Set up language, battery type and contrast:

→ **"Language"**
→ **"Battery type"**
→ **"Contrast"**

■ Language

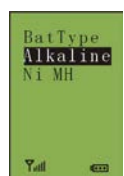By now, Simplified Chinese, Traditional Chinese and English are supported.

a). Press the "◄/►" button to browse languages;

b). Press the "↵" button to confirm selection and return to the upper level menu.

■ Battery type

Select battery type between Alkaline and Ni MH.

a). Press the "◄/►" button to browse battery types;

b). Press "↵" to confirm selection and return to the upper level menu.

Note:

☞ If the battery type has been set up by the PC software, this menu item is not accessible.

■ **Contrast**

Adjust the contrast of the LCD, range:20 to 40.

a). Press the "◄/►" button to adjust the contrast;

b). Press the "↵" button to confirm and return to the upper level menu.

3.3.2.4 Sign-in

All voting units need to sign-in (key press sign-in or IC card sign-in) before voting. The operator can use "Seat Sign-in" from the wireless voting system software to start sign-in.

■ **Key press sign-in**

If the meeting does not use IC card: when the PC software starts sign-in, An icon and words "Please Sign-in" will be displayed on the LCD of all voting units. Press the "Attend" button to sign-in and "√" will be displayed behind the icon on the LCD.

■ **IC card sign-in**

If the meeting uses IC card: when the PC software starts sign-in, "Insert Card" will be displayed on the LCD of all voting units. Insert IC card in correct direction to go to the voting system interface. If the IC card is invalid or not inserted correctly, "Invalid" will prompt. Please retry or contact technical support.
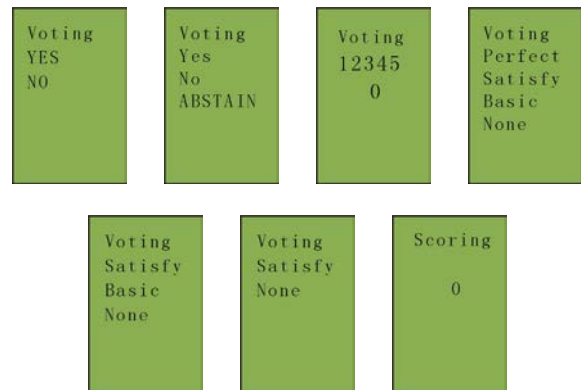
Only after sign-in, it will go to meeting status. If you do not sign-in before sign-in ended, "X" will prompt on the LCD and you cannot vote.

3.3.2.5 Vote

■ Voting start/stop is controlled by the conference management software.

■ When the PC software starts voting, voting options will be displayed on the LCD of all voting units.

A. Option poll

Options will be displayed from left to right or from top to bottom:

‧Press the "1" button to select option 1 (two/three/four/five keys voting);

‧Press the "2" button to select option 2 (two/three/four/five keys voting);

‧Press the "3" button to select option 3 (three/four/five keys voting);

‧Press the "4" button to select option 4 (four/five keys voting);

‧Press the "5" button to select option 5 (five keys voting);

B. Rating

‧Press 0-9 button to rate in range 0-100;

‧Press the "C" button to rate again;

‧Press the "↵" button to confirm.

■ After selection, the selected item will be highlighted for 0.5 second.

> **Note:**
> ☞ Select the same option again, it will not be highlighted.

■ When voting stopped and when the PC software sends the commend to display the voting result, the voting result of parliamentary will be displayed on the LCD of all voting units, and the others will not be displayed.
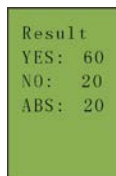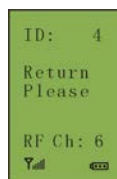

> **Note:**
> ☞ For "Yes/No/Abstain" and "Yes/No" votings, first key press valid or last key press valid can be set by the PC software. For other type of voting, only last key press valid is applicable.
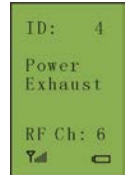
3.3.2.6 Exit meeting

When exiting from the meeting, "Return" will be displayed on the LCD of all voting units.

3.3.2.7 Low battery

When the battery is low, "Exhaust Power" will be displayed on the LCD and the voting unit will automatically power off in 1 minute.

3.4 HCS-4395NA wireless voting unit
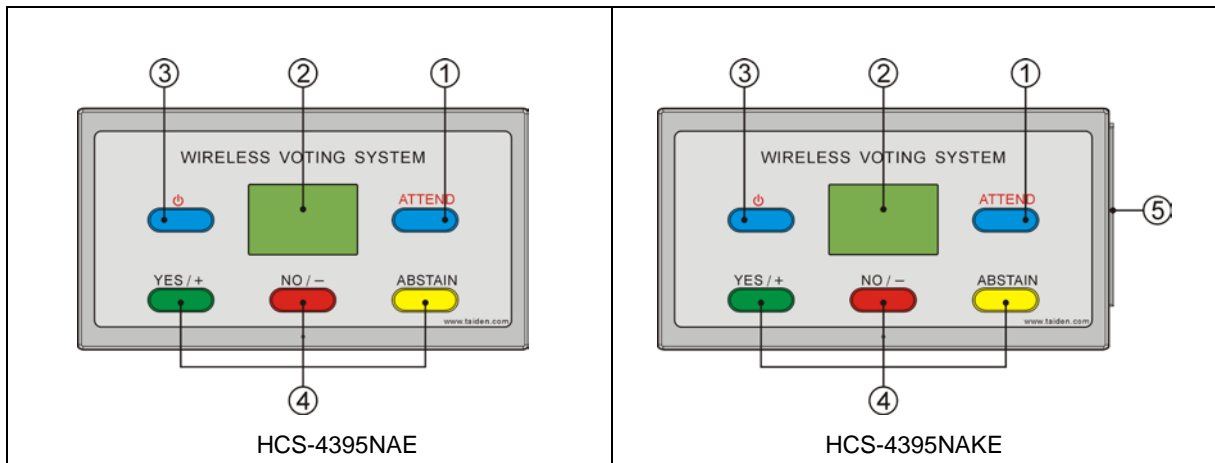
3.4.1 Functions and indications

Figure 3.3　HCS-4395NA wireless voting unit

1. **Sign-in button**
2. **LCD**
3. **Power button**
   ‧ Press and hold for 6 seconds to go to the primary interface.
4. **Voting buttons**
5. **IC card reader**

Table 3.2　Operation list of voting buttons
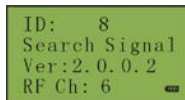
Button ＼ Modes	YES/+	NO/-	ABSTAIN
For/ Against	For	Against	
Parliamentary	Yes	No	Abstain
Questionnaire	Last item	Next item	Voting again
Audience response			
Appraisal	Satisfy	Basic	None
Score	Add 1 score	Subtract 1 score	Score again

3.4.2 Operation

3.4.2.1 Searching RF

When the voting unit powers on,

⬥ If the RF channel used in the previous meeting is found and its ID is in the range of this RF channel, it will go to meeting status immediately;

⬥ If an eligible RF channel was found, the voting unit will join in and go to meeting status;

⬥ If the RF channel or ID range has been modified after the previous meeting, the voting unit will poll all RF channels to find an eligible RF channel to join in and go to meeting status.
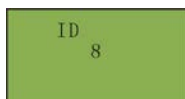
```
ID:    8
Search Signal
Ver:2.0.0.2
RF Ch: 6      ▭
```

During the meeting, if the voting unit cannot find an RF channel within 20 seconds, it will search again. If no eligible RF channel can be found within 1 minutes, the voting unit will power off.

3.4.2.2 ID setting

When powered on, press and hold "Attend" +"Abstain" buttons simultaneously and then press "Power" button to go to ID setting.

a). Press the "Yes/+" button or the "No/-" button to set ID in the range 1-2000;

b). Press the "Attend" button to save and return to upper level menu;
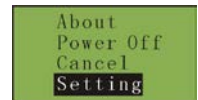
```
    ID
     8
```

Note:

☞ An ID has already been set up before leaving the factory, you may keep this and do not need to set up a new one;

☞ DO NOT repeat an ID in the same RF channel;

☞ Please read section 1.2.1 carefully to learn

3.4.2.3 Primary menu

Press and hold power button for 6 seconds to go to primary menu, including:

→**"About"**
→**"Power Off"**
→**"Cancel"**
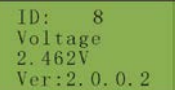→**"Setting"**

```
About
Power Off
Cancel
Setting
```

Under the primary menu,

• Press the "Yes/+" button or the "No/-" button to browse all menu items, selected menu item will be highlighted;

• Press the "Attend" button to go to selected menu item;

• Press the "Abstain" button to exit and return to the upper level menu.

At the primary menu, press the "Abstain" button to exit the primary menu.

1. About

ID, battery voltage, and firmware version will be displayed on the LCD.

```
ID:    8
Voltage
2.462V
Ver:2.0.0.2
```

2. Power off

Power off the voting unit.

During the meeting, if the voting unit can not find an RF channel within 15 minutes, it will power off.

3. Cancel

Exit the primary menu.

4. Setting

Set up language, battery type and contrast:

```
Language
BatteryType
Contrast
```

→**"Language"**
→**"Battery type"**
→**"Contrast"**

■ Language

By now, Simplified Chinese, Traditional Chinese, English are supported.

```
Language
简体
繁体
English
```

a). Press the "Yes/+" button or the "No/-" button to browse languages;

b). Press the "Attend" button to confirm selection and return to the upper level menu.

■ **Battery type**

Select battery type between Alkaline and Ni MH.

a). Press the "Yes/+" button or the "No/-" button to browse battery types;

b). Press the "Attend" button to confirm selection and return to the upper level menu.

Note:

☞ If the battery type has been set up by the PC software, this menu item is not accessible.

■ **Contrast**

Adjust the contrast of the LCD, range: 20 to 40.

a). Press the "Yes/+" button or the "No/-" button to adjust the contrast;

b). Press the "Attend" button to confirm and return to the upper level menu.

3.4.2.4 Sign-in

All voting units need to sign-in (key press sign-in or IC card sign-in) before voting. The operator can use "Seat Sign-in" from the conference management software to start sign-in.

■ **Key press sign-in**

If the meeting does not use IC card: when the PC software starts sign-in, An icon and words "Please Sign-in" will be displayed on the LCD of all voting units. Press the "Attend" button to sign-in and "✓" will be displayed behind the icon on the LCD.

■ **IC card sign-in**

If the meeting uses IC card: when the PC software starts sign-in, "Insert Card" will be displayed on the LCD of all

voting units. Insert IC card in correct direction to go to the voting system interface. If the IC card is invalid or not inserted correctly, "Invalid Card" will prompt. Please retry or contact technical support.
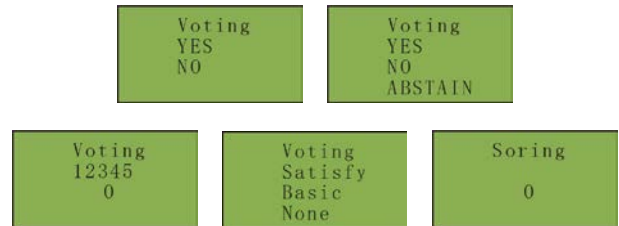
Only after sign-in, it will go to meeting status. If you do not sign-in before sign-in ended, "X" will prompt on the LCD and you can not vote.

3.4.2.5 Vote

■ Voting start/stop is controlled by the conference management software.

■ When the PC software starts voting, voting options will be displayed on the LCD of all voting units.

■ After selection (see table 3.2), the selected item will be highlighted for 0.5 second.

Note:

☞ Select the same option again, it will not be highlighted.

■ When voting stopped and when the PC software sends the command to display voting result, the voting result of parliamentary will be displayed on the LCD of all voting units, and the others will not be displayed.
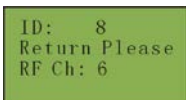
```
Result
YES:      62
NO:       12
ABS:      11
```

> **Note:**
> ☞ HCS-4395NA can only support voting mode of For/Against, Yes/No/Abstain, score, and single proposal of Questionnaire. Voting result of Yes/No/Abstain can be displayed.

3.4.2.6 Exit meeting

When exiting the meeting, "Return" will be displayed on the LCD of all voting units.

```
ID:     8
Return Please
RF Ch: 6
```

3.4.2.7 Low battery

When the battery is low, "Exhaust Power" will be displayed on the LCD and the voting unit will automatically power off in 1 minute.

```
ID:     8
Power Exhaust
```
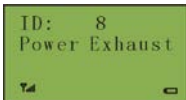
Chapter 4: Voting management software

HCS-4390N Wireless Voting System Application Software has plenty of functions with features of easy operation, safe, reliable and easy to maintain. Through system connection, The HCS-4390N Wireless Voting System Application Software and all conference devices are set as a whole, and then the operator can centrally control the process of the meeting with high efficiency. The system can be widely used in government agency, hotel, convention and exhibition center hall/room, wireless voting is particularly useful for difficult to wiring in large conference hall/room.

Detailed operation instruction of wireless voting system software please refer to user's manual on CD.

Please read user's manual carefully before running conference management software.

In the primary interface of conference management software, clicking "Help" button or "F1" on the keyboard can open help file on-line.

Installation and running

Running environment

CPU: Pentium4 2.0G or higher

Memory: 1G or higher

OS: WindowXP or higher

Installation

Contents on CD: HCS-4390N Wireless Voting System Application Software.

Installation guide: double click and run "Install.exe".

Software running

Once installation is completed, a shortcut named "Wireless Voting System.exe" will appear on Windows desktop. Double click it to run application, and the below login dialog shows:

Some interfaces are shown as the following figures:

Chapter 5: Technical data

5.1 Wireless transceiver

Capacity of wireless voting units	1200 pieces or less is recommendable
Wireless emission power	9 dBm ± 1.5 dBm
Wireless receiving sensitivity	-99 dBm ± 2 dBm
Power	9-24 V DC
Maximum power consumption	4 W
RJ45	2 × RJ45
RS-232	9 pin Sub-D standard socket (female)
Color	White
Dimension (L × W × H) (mm)	200×200×33 (antenna length=450)
Weight	1.1 kg

5.2 Wireless voting unit

Type	HCS-4390N	HCS-4395NA
Communication between HCS-4391N and wireless voting unit	Free ISM frequency band; GFSK modulation; Speed: 100 Kbps; NDA	
Reliable wireless communication distance (radiation radius)	300 m (open area without interference)	
Wireless emission power & receiving sensitivity	Emission power: 9 dBm ± 1.5 dBm / Receiving sensitivity: -99 dBm ± 2 dBm	
Working current	Shutdown: 0 mA Standby: 4 mA-6 mA; Working: 12 mA-24 mA (backlight off)	
Battery working-hours (AA)	Continuously working: ≥60 hours Standby ≥120 hours The operator can check the status and battery voltage of voting unit.	
Dimension (L × W × H) (mm)	183×51×29	142×75×48
Weight	0.2 kg	0.2 kg
Operating ambient temperature	0℃-50℃	
Standard	IEC 60914	