

Base Station Unit
ZJ-W5

用户手册



Important Instructions of Safety

1. Before installing and using the device, please read this carefully for safe operation.
2. Please keep this safety operation guide for later reference
3. Please observe the matter of 'warning' mentioned in this operation guide for all equipment
4. must comply with the principles and regulation of this operation guide
5. Equipments cleaning: before cleaning the devices, please turn the power off, and get all connections of the system components disconnected , wipe with a dry soft cloth when cleaning
6. Strongly recommend that don't use any mismatched accessories , Risks or problems might be caused by this
- 7., keep the devices far away from water or heat source to avoid potential damages.
8. Do not place the equipment on an unstable surface; Please select suitable packaging or use the original packaging before shipping to avoid equipment damage caused by strong vibration
9. A good air condition is need to extend the life of equipment.
10. voltage supply:
Americas, Japan: AC 110V~120 V 60 Hz
Eurasia: AC 220V~240 v 50 Hz
11. power supply plug: three pin earthed plug
12. the extension cables are essential to connect the devices, do not squeeze heavily, please find another layout When needed to keep systems running healthy.
13. In a system , the Connection of Conference units have to be according to the requirements of this system, otherwise may cause the entire system not working properly. if you have special requests ,please get in touch with GONSIN after-sales service center, The technical support phone: 0757-22360959.
14. without our permission, do not open the device body, or permeate any substances into the body such as rigid conductors or liquid residues.
15. if the equipments need maintenance, do not disassemble at once, please get in touch with Gonsin after-sales service center, hotline: 400-883-1138.
16. all GONSIN Products are maintenance guaranteed with the warranty card by system categories, but for the Force majeure or deliberate damage are not

including , such as:

- A. broken caused by human being ;
 - B. damage due to improper operation from the operator;
 - C. parts damage or lost by self disassemble
 - D. broken because of natural disasters .
17. use specified cables to connect devices.
 18. turn off the power when the system is not in use for a long time, even better to unplug the power .
 19. After you receive the goods, please keep the attached warranty card ,in order to provide a basis for the warranty issue later.



WARNING: To avoid an electrical shock, do not open the machine cover. Before connecting , operating, or testing products, please read this manual.

Due to space limitation, this tag appears in the rear side of the device.



The lightning mark is a reminder for users there un-insulated voltages are dangerous to lead electric shocks at inner devices.



The exclamation point within these equilateral triangle, is to remind users to be with the device operation guide and maintenance instructions for operating and maintenance.

WARNING: To avoid fire and electric shock, do not expose equipments to rain or humid Environment.



Note: A qualified electrical service personnel of operating is needed for equipments installation.



Unplug the power: Regardless of whether the device has a power switch, when the power cord plugs into the socket of power supply. However, only when the switch button to hit the 'open' position, the device can be operated. The power cord is the main wire. to

cut off all units

Precautions of Lithium battery using

When you find uncommon signs such as following during battery using, please turn off the power switch immediately, remove the battery and let it away from sources of fire, or may cause fire disaster or explosion.

- there are signs of leakage, discoloration, deformation or damage about the battery
- smoke or odor from Battery .

Do not weld, reform batteries or make it deformed, by doing this may break the battery protection circuit, leading the battery to fire, leak or explode.

Do not use wire or other metal objects to connect the positive pole and the negative pole of a battery , Do not store or ship the batteries with metal objects (such as necklaces or key), otherwise these may cause the batteries to fire, explode, leak, or overheat .

Do not heat batteries or drop the batteries into fire, otherwise The gas safety valve or protecting electrical circuits, may be ruined causing the battery to fire or explode.

Do not place the batteries in water or make the batteries poles wet , otherwise the batteries might be corrosion, and my cause to fire, explode, leak, or overheat..

When Charging the battery, make sue to match the proper charging case , and to avoid the reverse of battery positive and negative poles, if so, fire, explosion, leakage or overheating may happen .

Do not place the battery near a fire source, or place it in an environment that over 60 °C (such as inner space of vehicle with direct sunlight), otherwise it may break the battery protection circuit, causing the battery to fire, explode, leak or overheat. Keep the battery used to specify model(s), Otherwise it may cause the battery to fire, explode, leak, or overheat.

Do not let battery drop or vibrate severely , Otherwise it may cause the battery to fire, explose, leak, or overheat.

If the liquid of battery leakage splashes into the eyes accidentally, it may cause sights blurred , please rinse with clean water and seek for medical attention immediately.

If the liquid of battery leakage splashes on clothes or skin, it may damage the skin, Please rinse with clean water.

Long-term idle of Lithium battery and low level of battery will damage the battery, Please remove and store the lithium battery separately, and ensure to charge the battery to saturation at least three months.

Remarks:

GONSIN Company reserves all rights to adjust data and without prior notice.

To obtain more information in details, Please contact with your local GONSIN after-sales service center. At the same time, we welcome more users to feedback us your comments, thank you!

Chapter I System Introduction

GONSIN digital wireless voting system with his excellent performance, is suitable equipment of Wireless Voting for a variety of large, medium and small modern conference events. It is easy to operate Wireless Voting Unit, and participants will be able to register and voting by a slight touch of the relative button with the software supports., Needless much professional skill to maintain the system ,an ordinary technical personnel will be able to implement after short-term training..

1.1 Wireless voting system W5

1.1.1 system technologies:

- 1,A unique integrated computing technology of bi-directional estimates checksum with automatic tracking and checksum diversified is utilized to ensure the accurate results ;
- 2, the functions of wireless signal online detection and frequency selection create unique environments to ensure that the system undisturbed;
- 3,The data correction of multi-stage checking and the processing of encryption scrambling ensure the security of data;

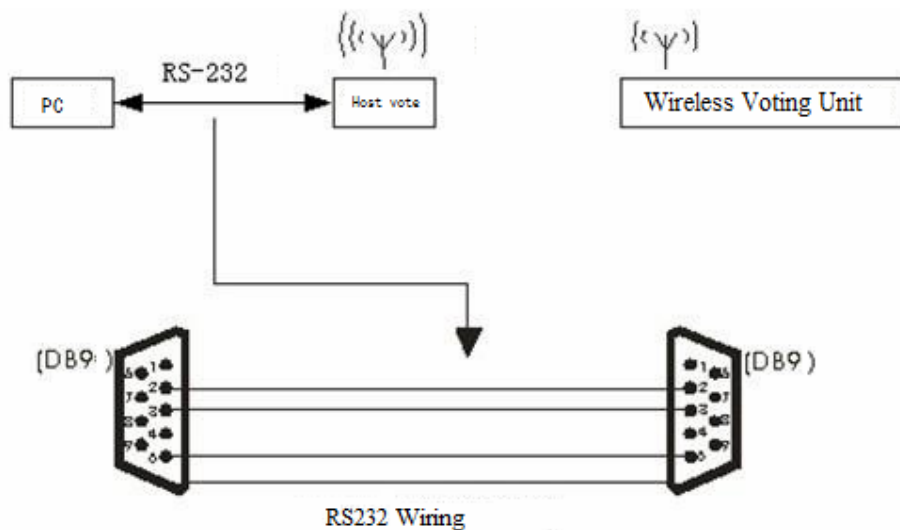
1.1.2 system components

Wireless voting system W5 is mainly composed by wireless base station unit , wireless voting unit, central controller (optional), conference management software voting module , conference host computer, display devices and printers, etc.. The entire voting process is controlled by computer software, to vote on the voting unit, voting results displayed on display terminal such as the big screen, projector , the results can be printed ,archived and burned to disk for later queries.

1.2 the introduction of wireless voting system W5

1.2.1 system technology

wireless voting system W5 uses the wireless communication frequency range as 428~439.5MHz



1.2.2 System components

The system W5 is consisted of: Control Unit, Wireless Voting Unit , the conference management software voting module , conference host computer, display devices and printers, etc.. The entire voting process is controlled by computer software, to vote on the voting unit, voting results displayed on display terminal such as the big screen, projector , the results can be printed ,archived and burned to disk for later queries.

1.3 Factors to influence wireless voting system W5

1. Barriers

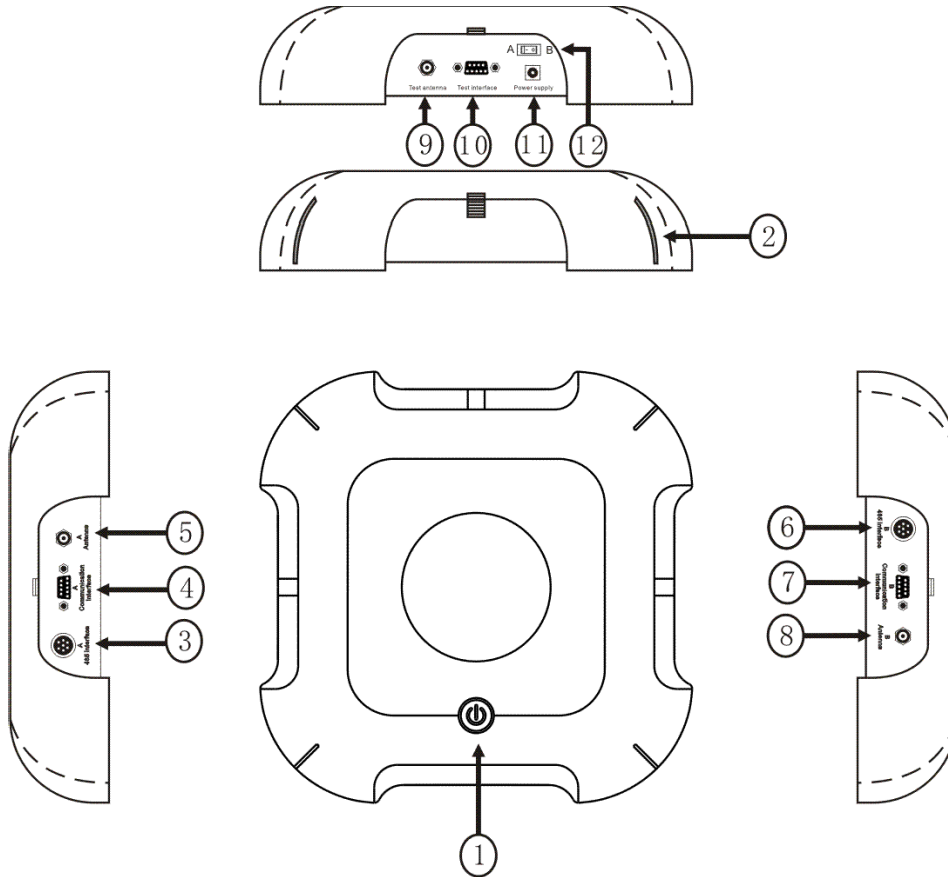
The W5 working with shorter wavelength, so their ability of diffraction is not strong, and fiber may absorb signal, the more barriers between the transmitter and receiver, the less effect on the quality of signal transmission, the metal may interfere the signal too, to avoid too many obstacles when using the system

2. The Environment Requirement

To avoid the same frequency or similar frequency when use same type products. Doing this will lead to the same the abnormal signal reception, 3-5 band frequencies should be open to avoid adverse signal when debugging the system.

Chapter II Wireless Voting System W5

functions



(Antenna)

Right side:

3, channel B for the port of RS-485 communication connection (485 interface)

4, channel B for the port of RS-232 communication connection (Communication interface)

5,channel B for the port of antenna connector
(Antenna)

9, the detection port of antenna interface (Test antenna)

10, the detection port of RS-232 interface
communication (Test interface)

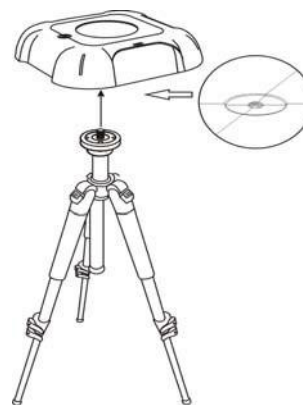
11, 9V power input (Power supply)

2, the switch of channel A / B operation selector (to select channel A or B for communication)

2.2 The Installation and connection of Base Station Unit ZJ-W5

2.2.1 The installation of Base Station Unit ZJ-W5

Firstly open package, and get the Tripod Stand (Mounting Bracket), then unfold it keeping flat; later come up with the Base Station Unit, install it to the crew hole of Tripod Stand. Figure:



(The installation of Base Station Unit ZJ-W5)

2.2.3 The connection of Base Station Unit ZJ-W5

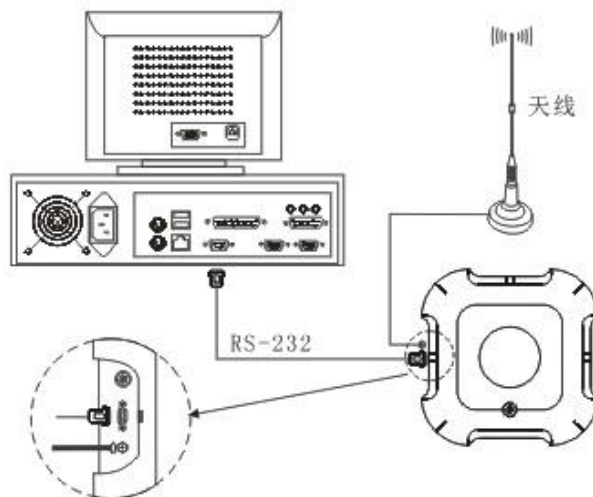
2.2.3.1 The requirements of computer configuration

- 1, the computer coming with 9-pin serial port (the number of ports agree with PC);
- 2, the computer with a dual graphics cards output (a general configuration of discrete graphics, a VGA connector, a DVI interface);
- 3, the system should have XP or WIN7 32-bit operating system pre-installed.

2.2.3.2 The connection from PC to the antenna

If the distance between base station unit and the host computer is within 15 meters, using RS-232

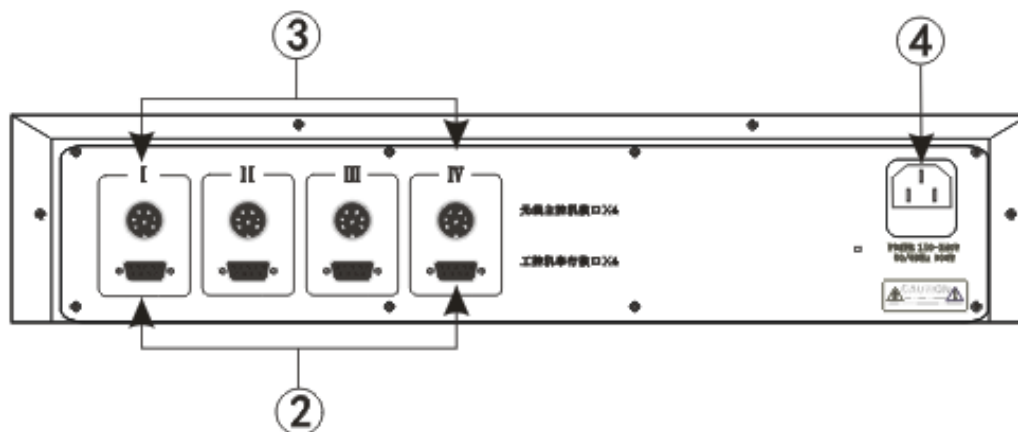
communication. Let the serial cable RS-232 connect to the COM port of PC (usually connected to the COM1). then you can extend the functionality of the system by system software. Note: The base station has two ports, (A and B), Only one ports is available at a time, when using a serial cable and antenna power supply connected to the port A, You have to turn the switch to the Position A shown as '12' as shown in the figure, On the other way, if serial cable and antenna power supply connected to the B port, You have to turn the switch to the Position B shown as '12' below:



2.3 Introduction of functions of Central Controller



Front view



Rear Panel

Front:

(DB9), to connect with PC

1, power switch (Power ON / OFF)

3, 4 RS-485 serial ports for communication interface

Rear:

2, 4 RS-232 serial ports for communication interface unit.

(7 pin Aero interface), the Central Controller can provide 12V power when connected with base station

4, power connector, AC220V \pm 10%

2.4 Installation and connection of wireless central controller

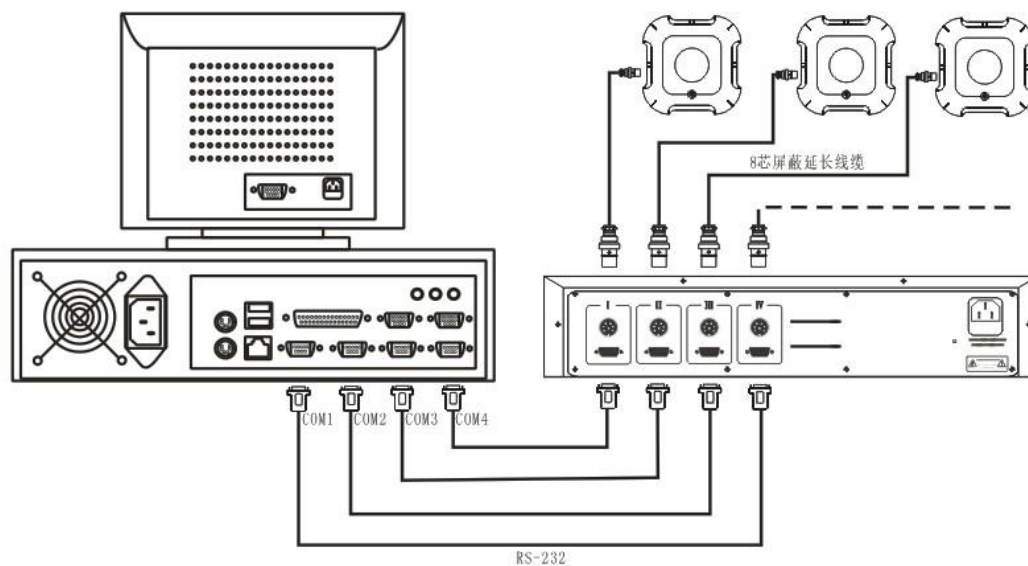
Wireless central controller can be installed in standard 19-inch rack, putting wireless central controller in the cabinet, then fixed it with four screws



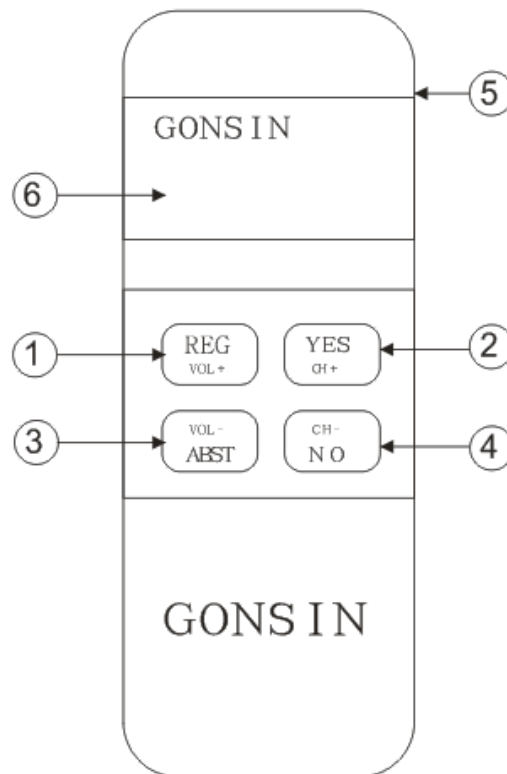
2.4.1 the connection of between central controller, PC and Base Station Unit

This cable length of Central wireless controller and computer is up to 15 meters, the distance of wireless

central controller and base station unit is up to 1200 M , the reliable communication distance of wireless voting unit to the base station unit is up to 100 meters. By RS-485 connection ,the base station unit does not need external power supply . the central controller, supplies the power directly.



2.5 The Introduction of functions of BJ-W5



Front

1、 the key of Registration and number.

a. When you enter the status of registration , press the key 1 (Sign In) to register .

b. When you enter the status of number, press the Key 1(Sign In) to determine the number written.

2, the key of yes to vote/ satisfaction to evaluate ,Plus(+) to rate

a. When you enter the status of voting or election, press the Key 2(Yes+) to show yes or satisfaction for the motion.

b. When you enter the status of evaluation , press the Key 2(Yes) to show the satisfaction for the motion.

c. When you enter the status of rating, press the key 2(Yes+) one time to add one point.

3, The key to of abstain to vote/ basic satisfaction to evaluate.

a. When you enter the status of voting or election , press the Key3(abstain) to show the abstain for the motion .

b. When you enter the status of evaluation, press the Key3(abstain) to show to show the basic satisfaction for the motion.

4, the key of no to vote / not satisfied to evaluate /minus to rating.

a. When you enter the status of voting or election , press the Key 4(No) to show N for the motion.

b. When you enter the status of evaluation , press the Key 4(No-) to show the not satisfied for the motion.

- c. When you enter the status of rating, press the key
4(NO-) one time minus one point.
5, the power switch (Power ON)
6, the LCD display area for message;
7, dynamic signal strength for communication
8, the number of voting unit and the channel of voting
unit(when in standby mode, press the registration
button to display the channel number of voting unit)
9, dynamic display for power status

side:

Rear

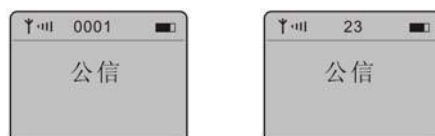
10, the IC card slot

11, the battery compartment (powered by 3 AAA
batteries)

2.6 The Operation of BJ-W5

2.6.1 Power On

Firstly come up with the voting unit ,then install with 3 AAA batteries (into he battery compartment) , Pleaee
note to hold the correct poles of batteries, he battery, not against, and then long press the power button ⑤ ,two
seconds later , the interface will appear shown as left.



- the icon of antenna on Upper left corner shows the signal strength of wireless voting unit.
- the '0001' Above the line
indicating the number of voting unit is 0001, each voting unit is set to an unique number.
- The battery icon on upper right corner shows the battery status .

When the battery is less than one-third remaining, Please replace the battery with new ones..

- Press the registration Key and hold it, then Numbers '23' will display above the line
It is Said that the voting unit is working on the band 23 (24 bands available as 0-23)

2.6.2 Registration:

The registration can be done by key pressing and IC card inserting, the mode can be set in the softwar
preference, please refer the software manual.

- Key pressing to register shown on the LCD as below:



When the software sends a command to registration by key pressing, ‘Please register’ and ‘Please press key to register’ displayed under the line:, then operators need to press ① registration key, after pressing, ‘Please wait ‘and’ in registration’ are displayed bellow the LCD line, that means the voting unit has registered, The base station unit is gathering to data , after a few seconds ,’registered’ would display on the LCD screen , it says the current registration has got done , the base station unit has collected the data of this votingunit..

b IC card inserting to register shown on the LCD as below:



When the software sends a command to registration by IC card inserting. ‘Please register’ and ‘Please insert Card’ displayed under the line:, then operators need to insert IC card into slot’10’ with the proper direction , after being inserted, ‘Please wait ‘and’ in registration’ are displayed bellow the LCD line, that means the voting unit has registered, The base station unit is gathering to data , after a few seconds ,’registered’ would display on the LCD screen , it says the current registration has got done , the base station unit has collected the data of this voting unit..

2.5.1 voting, evaluation ,election, Rating

In the software ,the motion of voting, evaluation ,election and Rating can be set as well . you can refer to the software set.

a. the LCD showing when voting as below:



When the software sends a command, ‘Please vote’ and ‘Please press key to vote’ displayed under the line:, then operators only need to press one of key ②③④, after pressing, ‘Yes ‘,’ abstain’ or ‘ NO’ are displayed bellow the LCD line, after a few seconds ,’voted ‘ would display on the LCD screen , it says the current voting has got done , the base station unit has collected the data of this voting unit

b the LCD showing when evaluating as below:



When the software sends a command, 'Please vote' and 'Please press key to evaluate' displayed under the line:, then operators only need to press one of key ②③④, after pressing, 'Satisfied', 'basic Satisfied' or 'Not satisfied' are displayed bellow the LCD line, after a few seconds, 'voted' would display on the LCD screen, it says the current evaluation has got done, the base station unit has collected the data of this voting unit

c. the LCD showing when electing as below:



When the software sends a command, 'Please elect' and '00N person available to elect' displayed under the line:, then operators only need to press one of key ②③④, after pressing, When $N > 0$, It says you can still press key to elect, then press key ② to show yes for this candidate, press Key ③ or ④ to show abstain or no for this candidate, after a few seconds, 'voted' would display on the LCD screen, it says the current evaluation has got done, the base station unit has collected the data of this voting unit

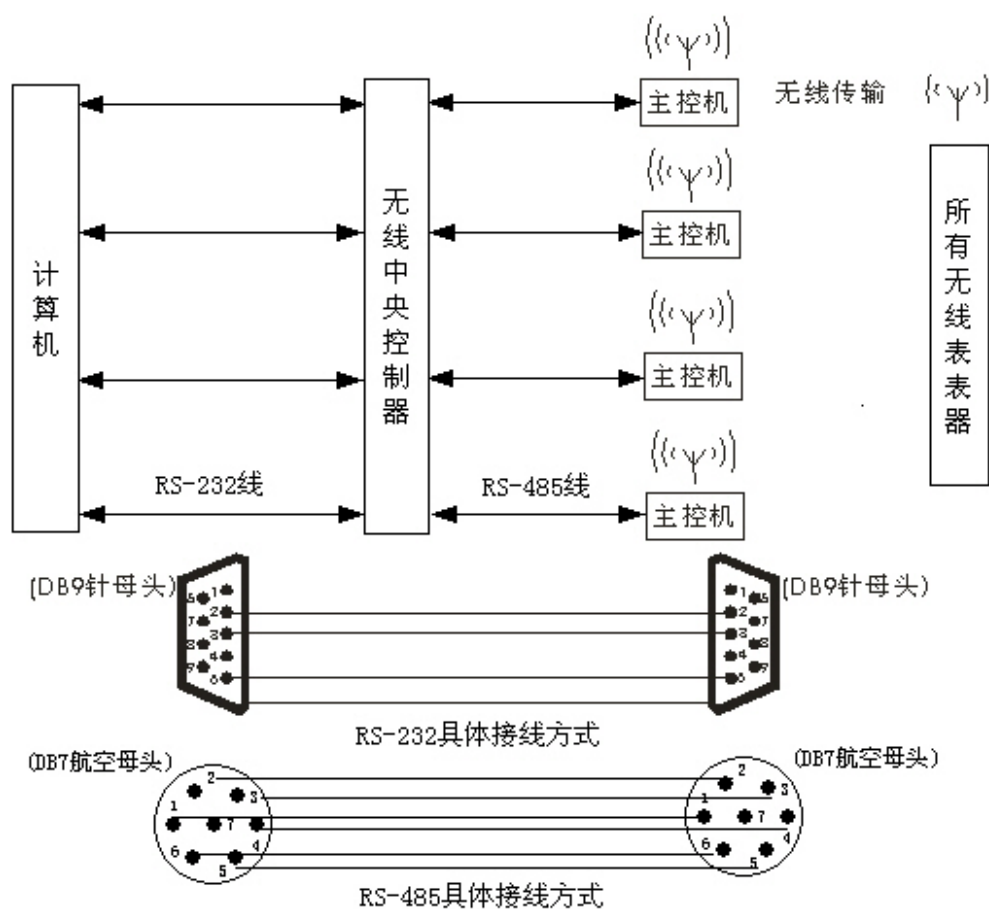
d the LCD showing when rating as below ::



When the software sends a command, '080' and 'press +/- to rate' displayed under the line,, this is a reminder to press key, You can start to rate now, the initial value is 80 points to begin, you can press the key ② 'Yes' or key ④ 'NO' to adjust the points highest to 100 points, lowest to 0. When the LCD screen shows 'rated' bellow the line: It means the time for rating is expired, The last points showed on LCD screen will be counted, The process of rating is over..

2.7 System Connection

2.7.1 the connection of 232 serial ports/COM cable and 7 PIN 485 communication cables.



The connection of female DB9-pin serial port with terminal pin wiring: 2-2, 3-3, 5-5, the shell to ground, using the three core (or above) shielded cable to connect ,or using the network cable to connect.

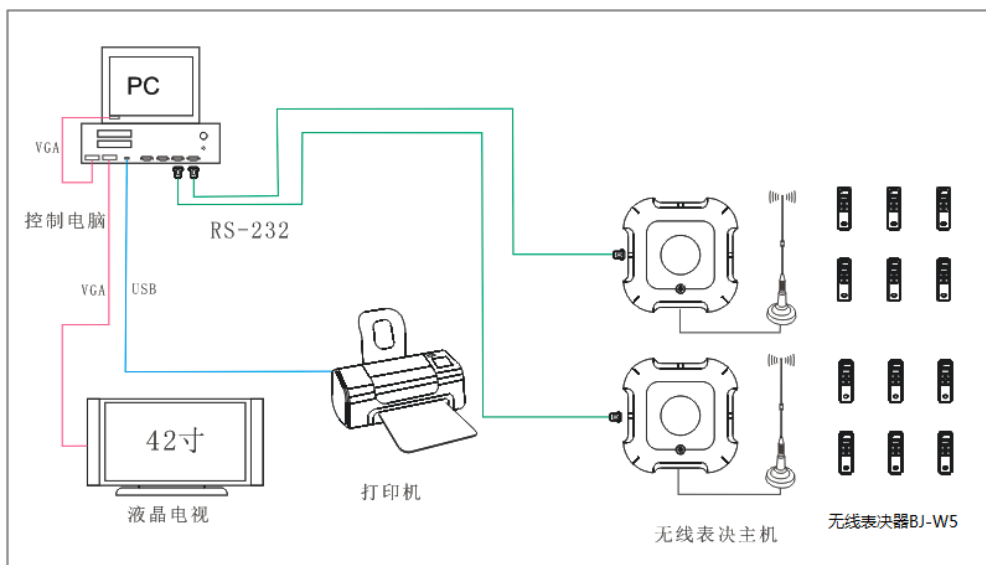
The connection of female DB7 pin aviation terminal pin wiring: 1-1 (link shielded ground, white and green line match to the ground wire), 2-2 (link white and brown lines correspond to the power supply), 3 - (pick white orange corresponds to 485A), 4-4 (then orange corresponding to 485B), 5-5 (then white, and blue corresponding to 485X), 6-6 (pick blue corresponding to 485Y), one end of a foot 7 feet short, is used to connect wireless to vote on the host computer; the other end of the first seven feet vacant, used to connect to

the central controller; use 8-pin shielded cable to connect more than Ø 0.2, another 3, 4 and 5, 6, respectively is a set of shielded cable to connect.

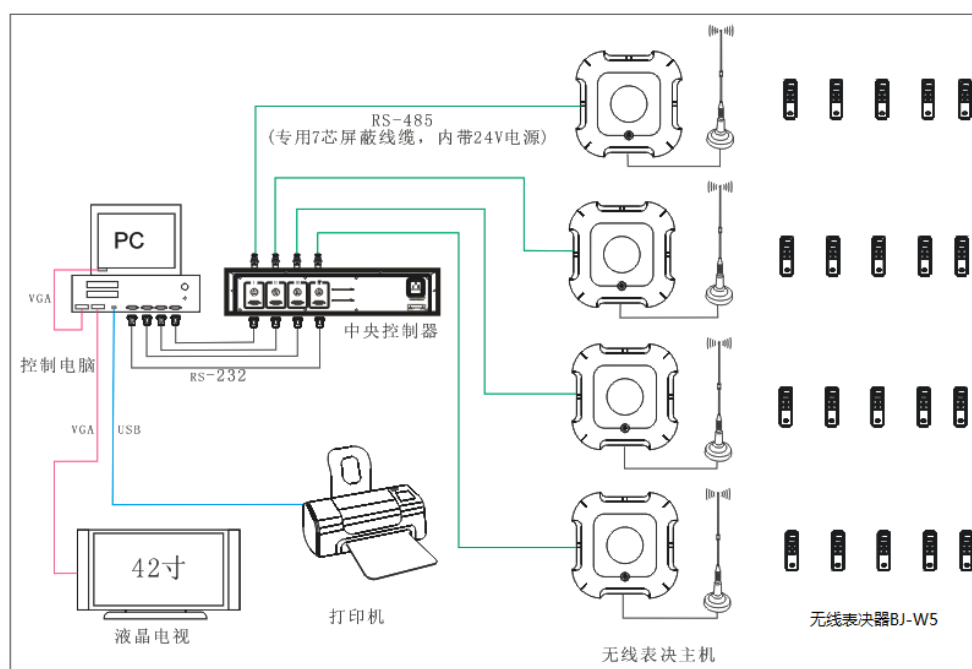
Note: The length of the line of wireless central controller connected to the computer most grow up to 15 m; wireless central controller and wireless voting for the Host of cable length is not greater than 1200 m; wireless voting machine to the wireless voting Master machine as far as reliable communication distance of not less than 100 meters. RS-485 connection to connect wireless to vote on the host computer does not need external power supply, connect power supply directly from the central controller.

2.7.2 The diagram of W5 wireless voting system connection

a. RS-232 connection (the distance of computer and base station unit is not greater than 15 m) as shown below:



b, RS-485 connection (Using the central controller converts the communication into RS 485, the distance of central controller and base station unit is up to 1200 m) as shown below:



2.8 Accessories

2.8.1 9V Power Adapter EI-57



Items Description

Color Black

Voltage input 220V-50Hz

Voltage input 9V-2500mA

Note: one adapter with one wireless base station unit

2.8.2 tripod GX-315



Items Description

Specification Floor installation

Height 60-150cm

Angle Level

Note: one tripod with one wireless base station unit

2.8.3 carriage case GX-48



Items Description

Type Portable aluminum boxes

Loading capacity 48/case

Size 50 × 33 × 20cm

2.8.4 signal detection antenna

HAC-LX



Items Description

Color Black

Height 120mm

Note: one piece with one wireless base station unit

2.8.5 The antenna of Base Station

Unit GX-88



Items Description

Color Black

Height 880mm

Cable length 4 m

Note: one piece with one wireless base station unit

2 8.6 serial ports/COM cable

RS-232-5



Items Description

Color	Black
Type	DB9
Connector	Two female
Length	5 m
Note: two pieces with one wireless base station unit	

2.8.7 The extension cable of central controller 7P-20



Items Description

Color	Black
Specification	6 * Ø 0.2
Connector	7 pin aviation
connector two	
Cable length	20 m
Note: Four pieces with one wireless base station unit 4	

2.8.8 IC Card Encoder GX-770 (IC))



Items Description

Color	White
Interface	USB
Installation	Desktop

Recognition speed: <0.2 seconds

The IC card can read and write data of Meeting , and set a password. for security.

Note: Optional

2. 8. 9 IC Card BL7442



There is a separate password and access control for a card, you can set a different password in the software, so that card can only be used for specific meeting .

Items Description

Size	85.6 × 54 × 0.8mm
Material	PVC
Operating Temperature	-20 °C to 50 °C

Data retention 10 years, can be rewritten 100,000 times

Note: Optional, applied only to the products of BJ-W5

2.9 The parameters of Base Station Unit ZJ-W5

Item	Product Name	ZJ-W5
		Parameter
Power supply		DC 9V 0.5A
Transmit power		10 mW, 5-200mW Standard 10 mW ,5-200mW adjustable
modulation mode of Carrier frequency		FSK
the speed with Pc communication		19.2Kbps
Operating Temperature		0~45℃
method of communication		Wireless half-duplex communication, confidentiality agreements + multiple parity
Connection		Standard RS-232 or RS-485
Dimensions (L × W × H)		285 mm×285mm×65 mm
Package		Portable packing in aluminum
unit Maximum capacity		250 voting units, standard with a 200 unit
Safety performance		With communication ports and signal testport
Antenna		Low: 120mm ; medium: High 880 mm
Weight		1.7Kg
Wireless communication frequency		300-800MHz FM adjustable
frequency conversion		24-channel system conversion
Farthest communication distance with voting unit		150m

2.10 Parameters of Wireless Voting Unit BJ-W5

Product Name	BJ-W5
Item	Parameter
frequency transfer	24-channel system conversion
Wireless communication frequency	428-439.5MHz
Battery parameters	three 1.5V alkaline AAA batteries in good quality
Battery	39 hours of continuous using
method of communication	Wireless half-duplex, 19.2K Kbps, (24 frequency points), confidentiality protocol, multiple checksum , unencrypted sending
Number of keys	4, as 'registration' , 'yes' , 'Abstain' , 'no'
Power switch	ON
Battery indicator	Dynamic display
automatic alarm when lower power	Yes
Liquid crystal matrix	96 × 64 dot matrix display
Shutdown mode	Software shutdown
method of registration	Key pressing or IC card inserting
Weight	0.13Kg(without battery)
Dimensions (L × W × H)	160mm×51mm×27.5mm
Operating Temperature	0~45℃

2.11 The Frequently Asked Questions of Wireless Voting

System W5

1. There is no response to power on Wireless base station : Check if the power cable is connected, and check if the power cord is good, use tool to check the outlet of power (some make sure the switch of socket panel turned on), the connection of sockets and plug is good. Check the central controller switch is turned on. If all the connections and switches are fine ,still no response (LED not bright), then It might be the trouble of the circuit failure in side , Cause There may be 220V high-voltage inside, please Do not attempt to open the body, do contact with us as soon as possible
2. Communication problems (unsearchable to the voting units): If the power supply is normal, check the connection Interface is connected properly for the computer, the central controller, wireless base station unit, If so , launching the software, turn on the wireless voting unit with beginning number sequence. Search the voting units in the software setting , and make sure the wireless base station unit and wireless voting units are at the same band, then enter valid voting numbers of voting unit (eg, 1-3,10-13, etc.),to start the search, then the target wireless voting units should be searched, if you still can not detect the voting units, please contact us as soon as possible.
3. To ensure the quality of communication for the voting units: Do not block the position of antenna (above the voting unit) by hands or other objects .
4. Location choosing of Wireless base station unit installing : the wireless base station should be installed where is near to the venue and 1.5M high above the ground , and there is no objects as barriers within 1M around the unit , especially metal objects.
- 5 About the Grouping of wireless voting units: if the quantity of voting units over 200 in a system , then you need to put the voting units into groups. For example There are 500 voting units, then you should divide all units into three groups, Group 1 with 170 ,Wireless voting unit from No.1 to No. 170 ,Group 2 with 170 from 171 to 340; Group 3 with 160 from 341 to No. 500. The system will be most efficient by doing this , the principles of Grouping: the max quantity of each group is no more than 200, to distribute the quantity as average for each group, The wireless voting unit in different group should be in a different channel.
6. The automatically shutting down of wireless voting unit W5: if there are no operating with in 5 hours ,The voting unit will turn off the power automatically. If the voting unit is no in use for a long time, then please remove the battery the end of the meeting, to avoid battery leakage to damage to the voting unit. When putting back the voting units after meeting, if the voting unit still keep batteries, please use the system software to re-search on the voting units to check if there are voting units left with power on ,or send the turn off command to all the wireless voting units by system software .
7. About voting units distributing: The voting units should be distributed on the table of every delegates before 30 minutes when the meeting starts formally., and the power of voting units should be turned on and checked themselves by the system software to ensure that every voting units are able to communicate properly for use. After meeting all voting units should be returned in time to prevent loss.
8. no LCD display or display 'Lock error': Check if the poles of battery in the voting unit is correct, check if battery shrapnel is oxidation or if the power switch of voting unit is at the ON place. If there is LCD lock error, please remove the battery and re-insert ,then restart the unit , if the problem remains ,that means there is a error of internal software failed to initialize, please contact us to replace a

new one.

9. If the voting units can work normally in the short distance communication, but can not receive the signal at long-distance sometimes: Please use the sytem software to correct offsets, the frequency offset range should be between ± 1 , which is normal. Or use the system software to detect the environment whether there is signal interference, through the frequency conversion , let the voting units and wireless base station unit select the best communication channel.

10. The port Channel A or Channel B of the wireless base station unit can not communicate: Please check if the Channel A or B channel switch is adjusted correctly, if it can not solve, please use the other channel to test. Wireless base station unit has a main and a backup communication interface, and they both are independent, It is impossible to damage two ports under normal circumstances.

11. The status of blue lights: if ,bright, that says the power has been switched on; if flashing, the power is switched on and the system is under the working process.

12. RS-485 communication without external 9V power supply: Using the RS-485 connection, wireless base station unit are powered directly by the central controller, no external power supply needed.

13. System computer must with at least two COM ports: In order to ensure that the system uses normally, the computer must have at least two COM ports, if there is only one COM port , then you will not be able to use the function of frequency measurement; It is better to install screen/graphic card on system computer , then you can show the background operation and the front display separately.

14. how many batteries should be prepared for a 5-7 days meeting: Each voting unit should be equipped with at least two sets of batteries, including testing, system debugging, , when the meeting is in process, there is not many batteries needed, the main cost is to test and debug Once the meeting starts, Please let the indicator of battery keep over 1/3(one third) to ensure the normal using of each wireless voting unit .

15. In order to ensure the normal using of voting units: please do not turn off the power of voting unit or disassemble the battery of the voting unit.

16. The voting unit can not be pressed to vote: Registration unsuccessful or not registered The voting unit can vote only after registration. The voting unit with late or unsuccessful registration can vote after supplemental registration .

17. the Voting unit power can not be shut down: The power of the voting unit W5 can only be shut down by the software or battery removed.

FCC Warning:

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

This device complies with Part 15 C 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.