

# Wireless Conference System



## VZ 6200 User Manual V1.0.0



## **Conference System – VZ 6200 - User Manual**

May. 2015

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## Contents

<b>Contents</b> .....	3
<b>SAFETY INSTRUCTIONS AND READER'S INFORMATION</b> .....	5
<b>General Safety Instructions</b> .....	6
<b>Warning Symbols on Equipment</b> .....	9
1 Precautions – VZ 6200CU Central Controller .....	10
1.1 General Handling .....	10
1.2 Ventilation System .....	11
2 VZ 6200 Conference System Introduction.....	12
2.1 Applications .....	14
3 Overview of All VZ 6200 System Components.....	15
3.1 Central Controller .....	15
3.2 Conference Unit.....	15
3.3 Extension Unit.....	15
4 VZ 6200CU Central Controller .....	16
4.1 Front Panel.....	16
4.2 Rear Panel.....	17
4.3 Specification of VZ 6200CU.....	18
5 VZ 6210CM/6220DM Portable Microphone Units.....	19
5.1 Schematic Diagram of Microphone Units.....	19
5.2 Specification of Microphone Units .....	20
6 VZ 81x0GM Gooseneck Microphone .....	21
6.1 VZ 81x0GM Gooseneck Microphone Features .....	21
7 VZ 6230SA Receiver Antenna Signal Amplifier.....	22
7.1 Front Panel.....	22
7.2 Rear Panel.....	22
7.3 Directional Antenna.....	23
7.4 Specification of VZ 6230SA .....	23
8 VZ 6231BK Antenna Bracket .....	23
8.1 Schematic Diagram of Antenna Bracket .....	23
9 VZ 6251BP Lithium Battery .....	24
9.1 Features of Lithium Battery .....	24
9.2 Schematic Diagram of Lithium Battery .....	24
9.3 Specification of Lithium Battery .....	25
10 VZ 6250CT Battery Charger .....	26
10.1 Schematic Diagram of Battery Charger.....	26
10.2 Specification of Battery Charger .....	27
11 Installation Instruction .....	28
11.1 System Installation Precautions.....	28
11.2 Design The Meeting Room .....	29
11.2.1 Check Coverage Area .....	29
11.3 Installation Central Controller .....	29
11.3.1 Installed Environment of Central Controller .....	29

11.3.2	Connect Antenna .....	30
11.3.3	Connect Audio Device.....	30
11.3.4	Connect Camera Tracking Device.....	31
11.3.5	Connect External Antenna .....	31
11.3.6	Connect Receiver Antenna Signal Amplifier .....	31
11.3.7	Installation Diagram of 50Ω Coaxial Cable Plug (BNC).....	32
11.4	Installation Microphone .....	33
11.4.1	Mounting the Battery .....	33
11.4.2	Mounting the Gooseneck Microphone.....	34
11.5	Installation Antenna Amplifier.....	35
11.5.1	Connect Antenna .....	35
11.5.2	Connect Power to Controller .....	35
11.5.3	Precautions .....	36
12	System Operation and Function Description .....	37
12.1	Central Controller .....	37
12.1.1	Power On/Power Off .....	37
12.1.2	Conference Mode Set .....	37
12.1.3	System Audio Channel Setting.....	39
12.1.4	System Setting Lock/Unlock.....	40
12.1.5	Check System Audio and Data Channel .....	40
12.1.6	Conference System Setting and Function Description.....	40
12.1.6.1	Controller Data (room) Channel Setting .....	40
12.1.6.2	Controller Audio Channel D1 Setting.....	41
12.1.6.3	Controller Audio Channel D2 Setting.....	41
12.1.6.4	Controller Data (room) Channel Setting .....	41
12.1.6.5	System Test Mode.....	41
12.1.6.6	Exit the System Setting .....	43
12.2	Microphone Unit .....	43
12.2.1	Power On/Power Off .....	43
12.2.2	Open Microphone.....	44
12.2.3	Close Microphone.....	45
12.2.4	Microphone Volume Control .....	45
12.2.5	Microphone Setting and Function Description.....	45
12.2.5.1	Microphone Control Channel (Room Number) Setting .....	45
12.2.5.2	Microphone ID Number Setting.....	46
12.2.5.3	Exclusive Beep of Chairman Unit .....	46
12.2.5.4	Exit Setting Menu .....	47
13	Troubleshooting .....	47
14	System Components Description and Order No. ....	48

**PLEASE MAKE SURE TO READ THIS  
MANUAL CAREFULLY BEFORE TAKING  
VZ 6200CU CONTROLLER INTO OPERATION**

## SAFETY INSTRUCTIONS AND READER'S INFORMATION

There is a certain **hierarchy of warnings** in **this manual**. The warnings are printed in **bold letters** and are marked by a warning sign at the margin.

1. WARNING
2. CAUTION
3. NOTE



The term **WARNING** will be used wherever **danger is imminent**. The possible consequences may be death or severe injury (personal injury).



The term **CAUTION** will be used wherever a **dangerous situation is possible**. The possible consequences include death, severe or light injury (personal injury), damage to property (destruction of modules) or environmental hazards (fire damage). In any case, the failure to observe/comply with these instructions will result in the loss of guarantee.



The term **NOTE** will be used for marking **recommendations on the use**. These sections contain additional information, recommendations, hints and tips. Non-compliance with these recommendations may result in damage to property, e.g. to the system or the software.

## General Safety Instructions

**1. Read all instructions.** Read all safety and operating instructions before operating the product.

**2. Retain all instructions.** Retain all safety and operating instructions for future reference.

**3. Heed all warnings.** You must adhere to all warnings on the product and those listed in the operating instructions.

**4. Follow all instructions.** Follow all operating and product usage instructions.

**5. Heat.** This product must be situated away from any heat sources such as radiators, heat registers, stoves, or other products (including power amplifiers) that produce heat.

**6. Ventilation.** Slots and openings in the product are provided for ventilation. They ensure reliable operation of the product and keep it from overheating. Do not block or cover these openings during operation. Do not place this product into a rack or studio furniture unless proper ventilation is provided and the manufacturer's recommended installation procedures are followed.

**7. Water and moisture.** Do not operate this product in the presence of rain, water or condensing moisture. Failures due to moisture entering the enclosure will not be covered under the warranty.

**8. Debris.** Do not allow any conductive objects of debris to enter through vents. Conductive debris entering the vents is likely to cause failure or performance degradation. Failures due to foreign objects entering the enclosure will not be covered under the warranty.

**9. Attachments.** Do not use any attachments not recommended by the product manufacturer as they may cause hazards.

**10. Power sources.** You must operate this product using the type of power source indicated on the marking label and in the installation instructions. If you are not sure of the type of power

supplied to your facility, consult your local power company.

**11. Voltage select switch.** Ensure that the voltage select switch for the power supply of the product is in the correct position for the type of voltage you use in your country (e. g. 115 V AC or 230 V AC).

**12. Grounding and polarization.** Precautions should be taken so that the grounding or polarization is not defeated.

**13. Power cord protection.** Power supply cords must be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to the cords at plugs, convenience receptacles, and at the point where they exit from the unit. Do not defeat the earth grounding connection in the AC power cord.

**14. Power cord.** If you have not been provided with a power cord you're your product or for any AC-powered option intended to be used with your system, you should purchase a power cord that is approved for use in your country. The power cord must be rated for the product and for the voltage/current marked on the product's electrical ratings label defined in the user manual. The voltage/current rating of the power cord should be greater than the voltage/current rating marked on the product.

**15. Lightning.** For added protection for this product, unplug it from the AC wall outlet during a lightning storm or when it is left unattended and unused for long periods of time. This will prevent damage to the product due to lightning and power line surges.

**16. Overloading.** Do not overload AC wall outlets, extension cords, or integral convenience outlets as this can result in a fire or electric shock hazard.

**17. Object and liquid entry.** Never

push objects of any kind into this product through openings as they may touch dangerous voltage points or short out parts, which could result in a fire or electric shock. Never spill liquid of any kind on the product.

**18. Mounting accessories.** Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury and serious damage to the product. Any mounting of the product must follow manufacturer's installation instructions.

**19. Product and cart combination.** Move this product with care. Quick stops, excessive force, and uneven surfaces may cause the product and the cart combination to overturn.

**20. Servicing.** Refer all servicing to qualified servicing personnel.

**21. Damage requiring service.** Unplug this product from the wall AC outlet and refer servicing to qualified service personnel under the following conditions:

- a. When the power supply cord or plug is damaged.
- b. If liquid has been spilled or objects have fallen into the product.
- c. If the product has been exposed to rain or water.
- d. If the product does not operate normally (following operating instructions).
- e. If the product has been dropped or damaged in any way.

f. When the product exhibits a distinct change in performance. This indicates a need for service.

**22. Replacement parts.** When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or that have the same characteristics as the original parts. Unauthorized substitutions may result in fire, electric shock, or other hazards and will void warranty.

**23. Options and upgrades.** Use only the options and upgrades recommended by the manufacturer.

**24. Safety check.** Upon completion of any repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

**25. Hot surfaces and electric discharge.**

Allow the equipment's internal components (e.g. heat sinks) and hot pluggable system units to cool and/or discharge before touching them in case of any further handling.

**26. Cleaning. Do not use liquid or aerosol cleaners. Use only a damp cloth for cleaning.**



This product with the CE marking complies with the following standards and directives of the Commission of the European Community:

**73/23/EEC Low voltage directive**  
**IEC 950/EN60950 Electrical safety**

**89/336/EEC EMC directive**  
**EN 55103-1 Electromagnetic interference - emission**  
**EN 55103-2 Electromagnetic susceptibility - immunity**

This product is intended for use in the following electromagnetic environments:

- **E1 (residential)**
- **E2 (commercial and light industrial)**
- **E3 (urban outdoors)**
- **E4 (controlled EMC environment, e.g. broadcast studio)**

All KLOTZ products have been developed, produced and tested accurately and according to the above named directives.

#### **NOTE!**

Improper handling of HF equipment like radio transceivers and mobiles can cause radio interferences on KLOTZ devices. For working reliability reasons it is strongly recommended not to use radio transceivers and mobiles near the devices!

## Warning Symbols on Equipment

The following table contains safety icons that may appear on KLOTZ equipment. Refer to this table for an explanation of the icons and heed the warnings that accompany them.



This symbol, when used alone or in conjunction with any of the following triangle icons, indicates the need to consult the operating instructions provided with the product. **WARNING!** A potential risk exists if the operating instructions are not followed.



This symbol indicates the presence of electric shock hazards. Enclosures marked with these symbols should only be opened by a KLOTZ DIGITAL authorized service provider. **WARNING!** To avoid risk of injury from electric shock, do not open this enclosure.



This symbol indicates the presence of a hot surface or component. Touching this surface could result in bodily injury. **WARNING!** To reduce the risk of injury from a hot component, allow the surface to cool before touching.



This symbol indicates the presence of a laser beam. **WARNING!** Failure to observe this warning could result in bodily injury, fire or damage to the equipment.



This symbol indicates an electrostatic sensitive device that is susceptible to ESD discharge. **CAUTION!** Failure to observe this warning could result in damage of the device/component.



This symbol indicates the need to turn off the main plug of the equipment before open the enclosure. **WARNING!** To avoid risk from electric shock, the equipment must be disconnected from mains.



This symbol defines the terminal for protective conductor (protective earth) only!

This symbol indicates the presence of mechanical parts that can result in pinching, crushing or other bodily injury. **WARNING!** To avoid risk of bodily injury keep away from moving parts.



**CAUTION! To prevent electric shock, do not disconnect earth! To reduce the risk of electric shock do not remove any cover or panel. No user serviceable parts inside. Refer to qualified service personnel only.**

# 1 Precautions – VZ 6200CU Central Controller

## 1.1 General Handling

In order to prevent injuries to persons and damage to the system consider the following directions:

- ◆ The assembly, disassembly and handling of control surface components must be carried out exclusively by qualified personnel.
- ◆ Service and repair must only be carried out by authorized service personnel. These directions are part of the warranty agreement.



### CAUTION!

Turn off the VZ 6200CU Controller immediately under the following conditions:

- ◆ The power cord is damaged or frayed
- ◆ Liquid spills on or into the equipment
- ◆ Someone drops the control surface or damages the casing



### CAUTION!

Do not:

- ◆ Push any foreign objects into the VZ 6200CU connectors
- ◆ Clean the VZ 6200CU before it is disconnected from the power supply system
- ◆ Eat or drink while operating the VZ 6200CU to avoid that crumbs or liquid enter the control surface cabinet

Take care of the following precautions:

- ◆ Avoid exposing the VZ 6200CU Controller to extreme changes in temperature or humidity. If it is unavoidable, allow your VZ 6200CU Controller to adjust to room temperature before use
- ◆ Avoid using the VZ 6200CU Controller for extended periods in direct sunlight
- ◆ Do not use the VZ 6200CU Controller in humid or dusty environments
- ◆ If the temperature of the VZ 6200CU Controller suddenly rises or falls (for example, when you move it from a cold place to a warm one), water vapour condenses inside the control surface. Turning on the VZ 6200CU Controller under this condition can damage the internal components. Before turning on the VZ 6200CU Controller, wait until the units internal temperature acclimatizes to the new environment and the inside of the control surface is dry again
- ◆ Maintain storage temperature between  $-20^{\circ}\text{C}$  and  $40^{\circ}\text{C}$
- ◆ Keep the storage area free from vibration
- ◆ Keep the VZ 6200CU Controller and its components away from organic solvents or corrosive gases
- ◆ Avoid leaving the VZ 6200CU Controller and its components in direct sunlight or near heat sources

If there are heat sinks inside or outside the VZ 6200CU Controller, they can reach a temperature of more than 60°C, which might cause a fire on the device.

Each VZ 6200CU Controller must be properly grounded according to your local specifications and regulations.



### **Electrostatic sensitive devices**

Boards with electrostatic sensitive devices (ESD) are mostly marked with this symbol.



### **CAUTION!**

If you handle boards assembled with electrostatic sensitive devices you must necessarily consider the following points:

- ◆ Always discharge yourself before you start working (e.g. by touching a grounded object)
- ◆ Make sure that the equipment and tools are free of static charges
- ◆ Pull out the power plug before you insert or remove boards containing electrostatic sensitive devices
- ◆ Always hold boards with ESDs by their edges
- ◆ Never touch pins or conductors on boards assembled with electrostatic sensitive devices
- ◆ Store and transport boards/components only in electrostatic protective wrapping

## **1.2 Ventilation System**

For maximum efficiency of the VZ 6200CU Controller and its power supply's ventilation system a properly balanced airflow must be provided.



### **CAUTION!**

To prevent the unit from being exposed to an over temperature condition, do not block air intakes or exhausts.

## 2 VZ 6200 Conference System Introduction

VZ 6200 wireless conference system is worked in the UHF frequency band, all digital control, with the chairman only, LIMIT, FIFO and other conference mode. Standard controller can access to 255 microphone units, enhanced controller can access to 1000 microphone units. With control interface, it can be connected with the video host to achieve camera tracking function. The microphone unit can use ordinary AA battery, and it can also use rechargeable lithium battery, both convenient and environmentally friendly.

With high flexibility and reliability, VZ 6200 wireless conference system is an ideal choice for mobile conference systems. It offers simple operation, compact structures. The wireless conference system can be perfectly integrated into any meeting rooms, without additional wiring. It's the best wireless conference solutions for small-scale conferences.

The main features:

- ◆ Wireless transmission of audio signals and control signals, transmit and receive modules are placed inside the host and microphone unit, without additional laying any cable;
- ◆ Unique communication algorithm, no delay to transmit high-fidelity audio signal;
- ◆ Standard host can access 255 delegate microphones, enhanced host can access up to 1000 delegate microphones;
- ◆ a variety of speaking mode and chairman of the dedicated function, it can support up to 5 microphones to speak at the same time;
- ◆ within the signal coverage, the microphone unit can move according to the change of the conference form, the layout of meeting place is convenient and flexible;
- ◆ microphone unit using large-screen LCD, intelligently display menu and system status, including power, frequency and signal strength instructions;
- ◆ unique shock-proof and anti-noise structure which can avoid environmental noise interference;
- ◆ 8 hours of continuous speaking time and more than 20 hours of standby time;
- ◆ KLOTZ can be used with the original lithium battery, and equipped with intelligent charging box, it can also use the standard No. 5 battery which it's more convenient for customers to use;

- ◆ It can be connected to the camera to achieve camera tracking function with a control interface;
- ◆ It's easy to be installed, plug and play, user-friendly, without professional maintenance personnel;
- ◆ It can be used in conjunction with other KLOTZ audio systems to meet the various needs from small to large conferences.

The installation of VZ 6200 system is very easy. Without any cable, just turn on the power to work.

## 2.1 Applications

The VZ 6200 system is one of the latest and most compact conference systems for commercial applications. By using the state-of-the-art technologies and numerous groundbreaking developments the VZ 6200 system can be used everywhere where flexibility and, above all, operational safety play an important role.

Therefore the VZ 6200 system fulfills the most important criteria which are expected from a modern conference system.

Typical locations are:

- School & Campus
- Hotel
- Conference Room
- Congress Center
- Expo Center
- Enterprise
- Government office
- Convention Center
- Stadium
- Shopping Park

Etc...

### **3 Overview of All VZ 6200 System Components**

#### **3.1 Central Controller**

- ◆ Available for 19-inch frame mounting

#### **3.2 Conference Unit**

- ◆ Portable Chairman Microphone with LCD display
- ◆ Portable Delegate Microphone with LCD display
- ◆ Gooseneck microphones

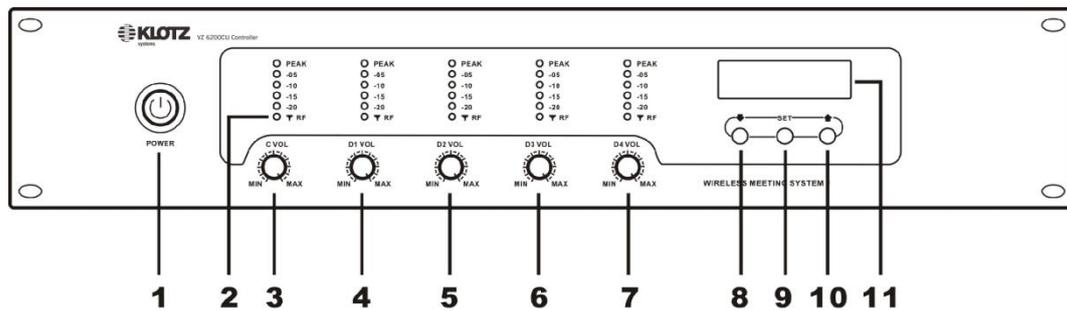
#### **3.3 Extension Unit**

- ◆ Receive antenna signal amplifier
- ◆ Charging box
- ◆ Battery
- ◆ Antenna mounting bracket

## 4 VZ 6200CU Central Controller

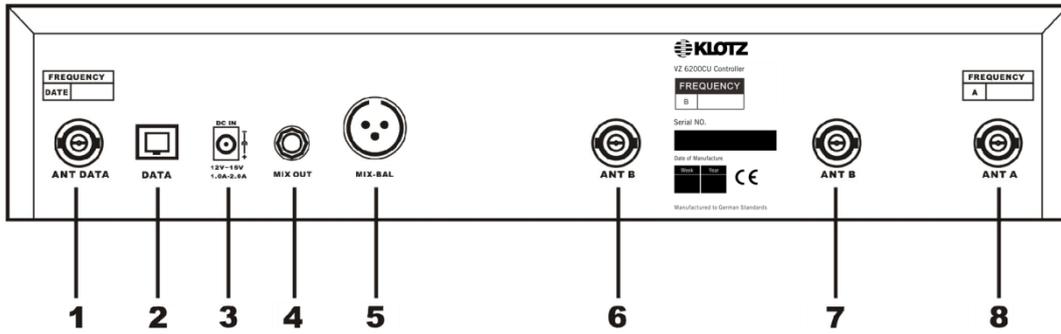


### 4.1 Front Panel



1. POWER: Power switch.
2. RF/Audio Level indicator (First channel only for chairman mic, the last four channels for delegate mic)
3. Volume knob of chairman microphone
4. Volume knob of delegate microphone
5. Volume knob of delegate microphone
6. Volume knob of delegate microphone
7. Volume knob of delegate microphone
8. Setting key/check channel frequency (▼)
9. Menu selection setting button (SET)
10. Setting key/check channel frequency (▲)
11. LCD (Display current mode, frequency point of each channel, etc.)

## 4.2 Rear Panel



1. System data control antenna interface
2. Data interface (external video host)
3. DC power socket
4. Audio Mixed Output
5. Audio Mixed Balance Output
6. Delegate mic RF antenna interface
7. Delegate mic RF antenna interface
8. Chairman mic RF antenna interface

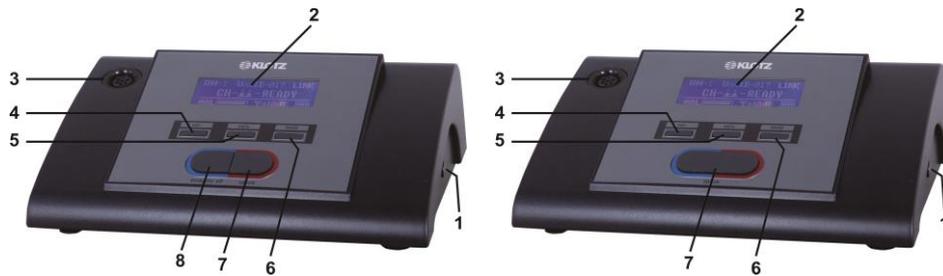
### 4.3 Specification of VZ 6200CU

	Items	Parameter
<b>Audio channel</b>	Transmission method	UHF Wireless
	Audio channel	5 (1 chairman, 4 delegate)
	Carrier frequency band	500MHz~950MHz, adjustable
	Modulation method	FM
	Receiving sensitivity	-100dBm
	Frequency response	50Hz~15kHz
	S/N Ratio	>85dB
	T.H.D.	≤0.8%
	Signal covering range	Radius 60m (not including the use of antenna extender or antenna amplifier)
<b>Data control channel</b>	Transmission method	Wireless
	Data channel	16
	Carrier frequency band	422.4MHz~438.4MHz
	Modulation method	FSK
	Receiving sensitivity	-100dBm
	Transmission consumption	≤6dBm
	Frequency deviation	<0.002
	Communication rate	100Kbps
<b>System</b>	Power supply	12V~15V DC, ≥1A
	Consumption rating	<7W
	Operating temperature range	-10°C~40°C
	Dimensions (W*D*H)	485x355x84mm
	N.W.	7.2kg

## 5 VZ 6210CM/6220DM Portable Microphone Units



### 5.1 Schematic Diagram of Microphone Units



1. Microphone power switch
2. LCD
3. Gooseneck microphone socket
4. Mic volume -/down key
5. Mic volume +/up key
6. Mute/Set key
7. Speak key
8. Delegate off key

## 5.2 Specification of Microphone Units

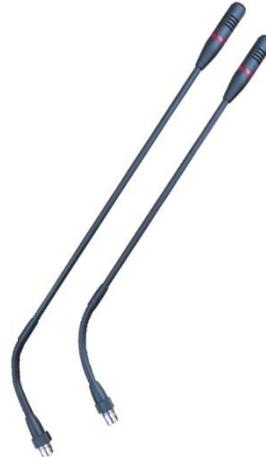
	Items	Parameter
<b>Audio channel</b>	Transmission method	UHF Wireless
	Audio channel	5 (1 chairman, 4 delegate)
	Carrier frequency band	500MHz~950MHz, adjustable
	Modulation method	FM
	Max. modulation range	60kHz
	Radiation power	≤9dBm
	Frequency deviation	<0.002
	Speaking distance	10cm~30cm
<b>Data control channel</b>	Transmission method	Wireless
	Data channel	16
	Carrier frequency band	422.4MHz~438.4MHz
	Modulation method	FSK
	Receiving sensitivity	-100dBm
	Transmission consumption	≤6dBm
	Frequency deviation	0.002
	Communication rate	100Kbps
<b>System</b>	Power supply	3.7V~4.5VDC
	Consumption rating	Standby: ≤360mW Speaking: ≤630mW
	Operating temperature range	-10°C ~40°C
	Microphone length	40/50cm
	Dimensions (W*D*H)	170*110*50mm(without microphone)
	N.W.	600g(without battery)

## 6 VZ 81x0GM Gooseneck Microphone

VZ 81x0GM Gooseneck Microphone can be connected to all KLOTZ conference discussion units.

### 6.1 VZ 81x0GM Gooseneck Microphone Features

- High fidelity microphone cartridges
- Cardioid pattern\*
- Shockproof & noise proof construction
- Illuminated ring on microphone head
- Special high quality plug
- Metal shell
- Flexible gooseneck
- High close talk SPL level
- Low noise level



\*The conference microphones feature a cardioid sensitivity pattern in the entire speech frequency spectrum to ensure minimum risk of an acoustical feedback arising from the sound reinforcement system.

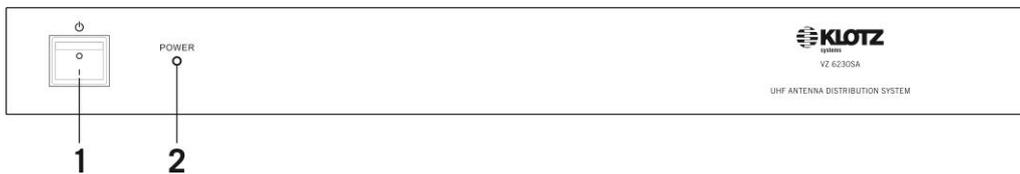
The Gooseneck Microphone is available in two different lengths, which are VZ 8140GM of 40 cm and the VZ 8150GM of 50 cm.

## 7 VZ 6230SA Receiver Antenna Signal Amplifier



Antenna amplifier consists of an antenna distributor and two directional antenna, can be accessed by multiple conference controller, so that the received signal to obtain better signal noise ratio, to extend the receiving distance and enhance system stability, providing four sets of power output to the conference controller, easy to install.

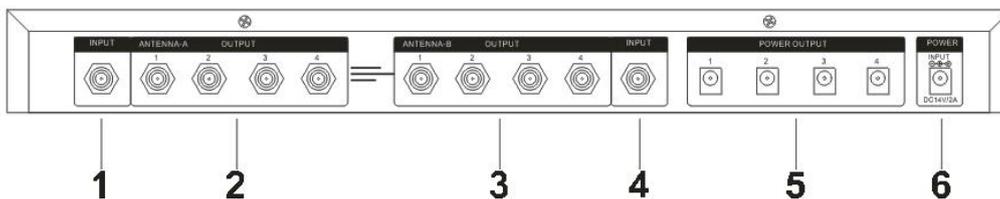
### 7.1 Front Panel



1. Power switch

2. Power indicator LED

### 7.2 Rear Panel



1. Antenna A input connector

2. Antenna A output connector

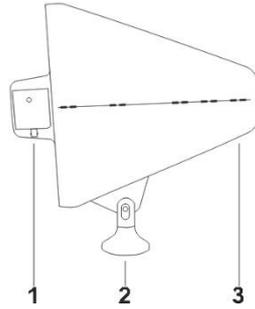
3. Antenna B output connector

4. Antenna B input connector

5. 12V DC power output connector

6. 12V DC power input connector

### 7.3 Directional Antenna



1. Antenna signal output connector
2. Permanent seat
3. Antenna

### 7.4 Specification of VZ 6320SA

	Items	Parameter
<b>System</b>	Frequency Range	500MHz~900MHz
	Output/Input gain	0dB
	Output insulativity degree	20dB
	Output/Input impedance	50Ω
	Gain	13dBm
	Bandwidth	400MHz
	Connector	BNC
	Power supply	12~15VDC, 2A
	Current consumption	170mA
	Load current consumption	<1700mA

## 8 VZ 6231BK Antenna Bracket

### 8.1 Schematic Diagram of Antenna Bracket



1. BNC plug, connect to controller antenna output connector
2. BNC socket, connect to antenna

Base with 50Ω coaxial cable, standard length 15m, the maximum length 20 m.

## 9 VZ 6251BP Lithium Battery

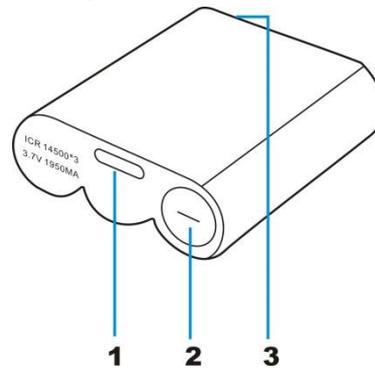


### 9.1 Features of Lithium Battery

- Excellent safety performance, small size, light weight & high capacity ratio.
- The battery life is usually approximately 300 charge cycles.
- Easy to install.

### 9.2 Schematic Diagram of Lithium Battery

1. Battery detach/lock button
2. Negative
3. Positive



### 9.3 Specification of Lithium Battery

	Items	Parameter
<b>System</b>	Battery capacity	1950mA
	Rated voltage	3.7VDC
	Discharge current	<500mA
	Charging current	<700mA
	Speaking time	>8 hours
	Standby time	>24 hours
	Charging voltage	5VDC
	Dimensions (W*D*H)	47×40×12mm
	N.W.	54g

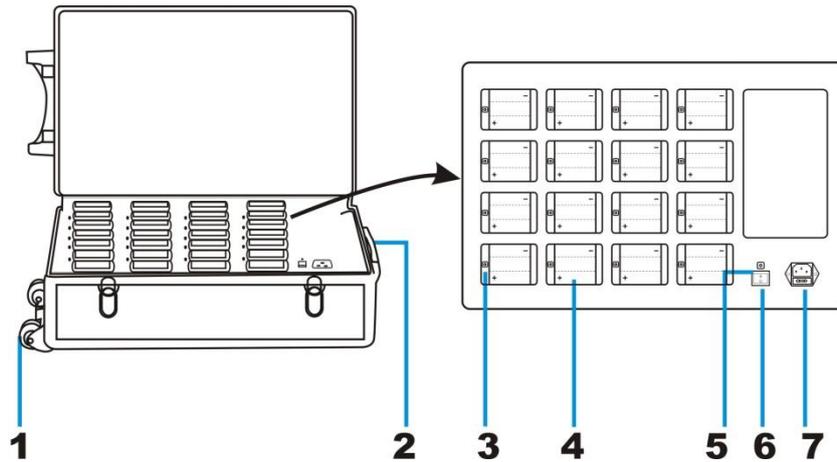
#### Notice:

- Do not impact, disassemble or short-circuit the battery and incineration;
- Need to use a dedicated charger, charging current must not exceed 1A;
- The battery must be fully charged after the preservation;
- The battery must be maintained regularly, at least charge or discharge within three months;
- Keep the using environment ventilated and dry and avoid high temperatures.

## 10 VZ 6250CT Battery Charger



### 10.1 Schematic Diagram of Battery Charger



1. Pulley
2. Extendable handle
3. Charging status indicator LED
4. Battery holder
5. Power indicator
6. Power on/off switch
7. AC adapter socket (110V-220VAC, 60Hz/50Hz)

## 10.2 Specification of Battery Charger

	Items	Parameter
<b>System</b>	Power supply	110V~220VAC, 60Hz/50Hz
	Consumption rating	200W
	Charge quantity	16
	Max. charging current	700mA
	Charging time	8 hours
	Charging status	Red LED flashing –Charging, Green LED lighting –Full Charged
	Operating temperature range	0°C ~40°C
	Dimensions (W*D*H)	620×370×175mm (Rod can be extended 380mm)
	N.W.	9kg

## 11 Installation Instruction

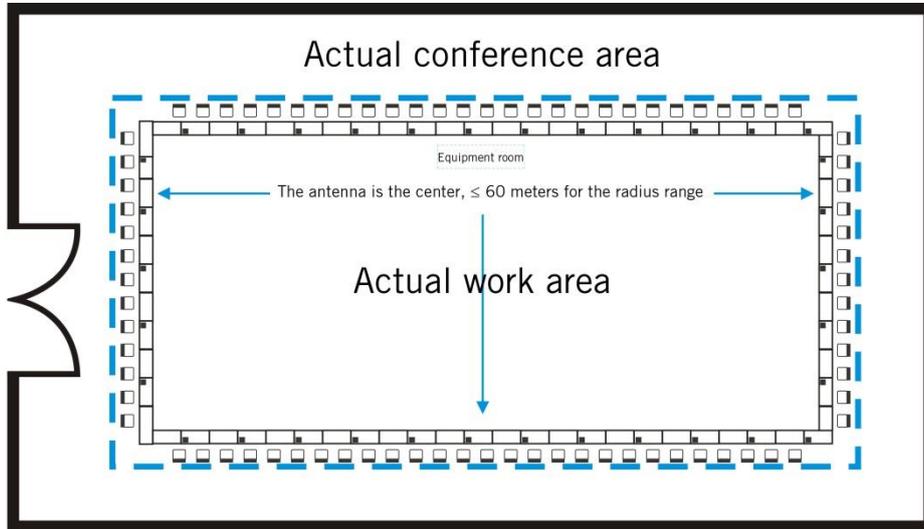
### 11.1 System Installation Precautions

- This is a wireless communication system, use UHF band carrier frequency. We recommend that users consult local radio management committee to choose the appropriate and legally available frequency, in order to avoid RF interference.
- The microphone unit uses built-in antenna, please try not to place metal objects or radio frequency electronic equipments in front of the microphone which are easy to block the signal.
- The system host has three different frequency segments in total, corresponding to three different frequency band with the receiving antenna, which the chairman unit and the data link using a separate antenna to receive, delegate unit using two antennas to receive, a total of four antennas. The user must be in strict accordance with the instructions or the rear panel screen instructions to install the antenna.
- 4-way delegate unit can't use the same frequency. The frequency has been adjusted when the system left the factory, the user can firstly do the venue test according to the system default frequency in the installation of the project. If frequency interference occurs, you can manually adjust the conference host frequency or use the system auto search function, select the clean channel. The specific operation refers to the conference host menu function setting.
- The transmission distance of the wireless system will be changed by the impact of the environment to a certain extent. Please try to place the conference host in an open location. The following conditions may require the manufacturer to configure the RF signal extension cable or external antenna amplifier.
  - ✧ The conference host must be installed in a metal cabinet.
  - ✧ Conference host work room and conference room distance is longer than the normal use of distance.
  - ✧ High-power radio equipment and the host in the equipment room work at the same time.

## 11.2 Design The Meeting Room

### 11.2.1 Check Coverage Area

Check the real coverage area of conference room at first. Usually the coverage area of conference room is smaller than the conference room area.



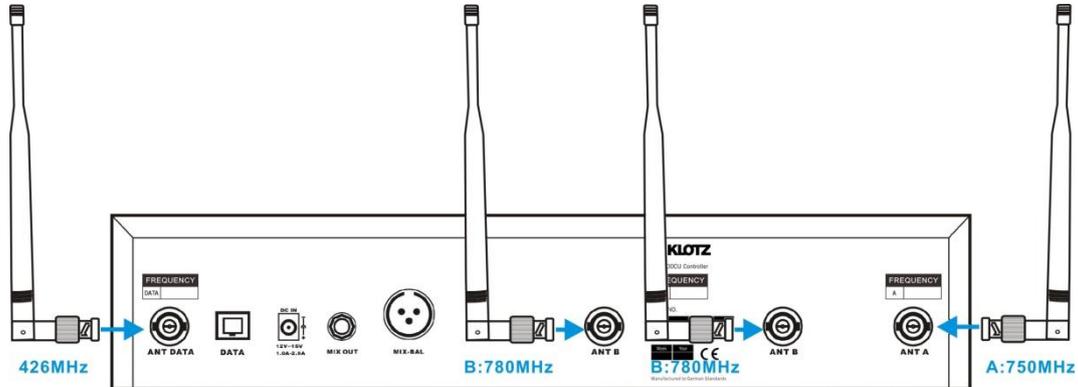
## 11.3 Installation Central Controller

### 11.3.1 Installed Environment of Central Controller

- Put on the table or install in 19 inch frame.
- Please keep away from high-power and strong radiation equipments, or it may influence the equipment performance.
- Use it in a well-ventilated area.
- Dry and ventilated environment conducive to the cooling of the system equipment, equipment can extend the life of the system and ensure its safety.

### 11.3.2 Connect Antenna

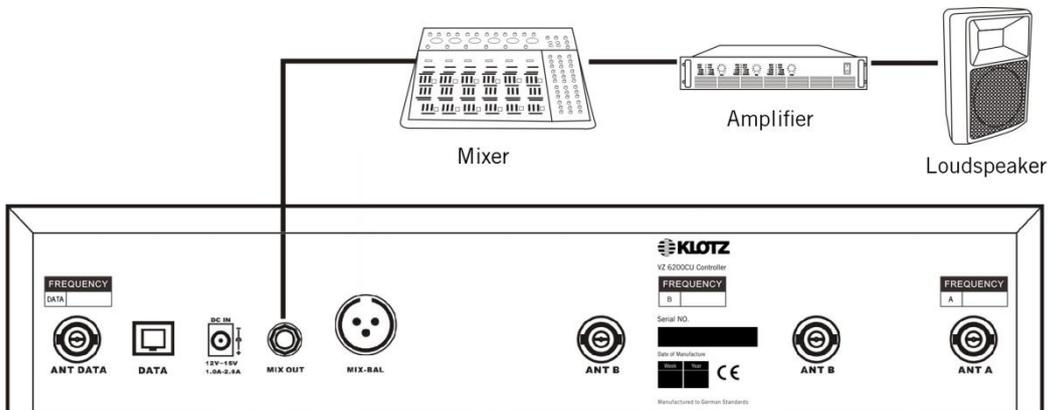
There are 4 antennas of controller unit. 1 piece data control antenna (426MHz), 1 piece chairman microphone audio control/RF antenna (A: 750MHz) and 2 pieces delegate microphone audio control/RF antenna (B: 780MHz)



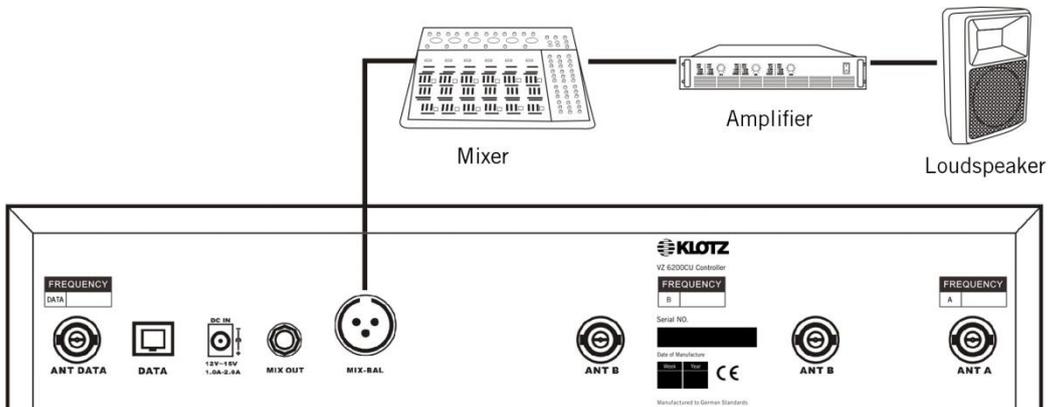
Please note: controller antennas should be connected correct position, or system can't work properly.

### 11.3.3 Connect Audio Device

A: Mono output: Please connect MIX OUT interface of controller unit to input interface of sound equipment by  $\Phi 6.3$  audio cable (for short distance)

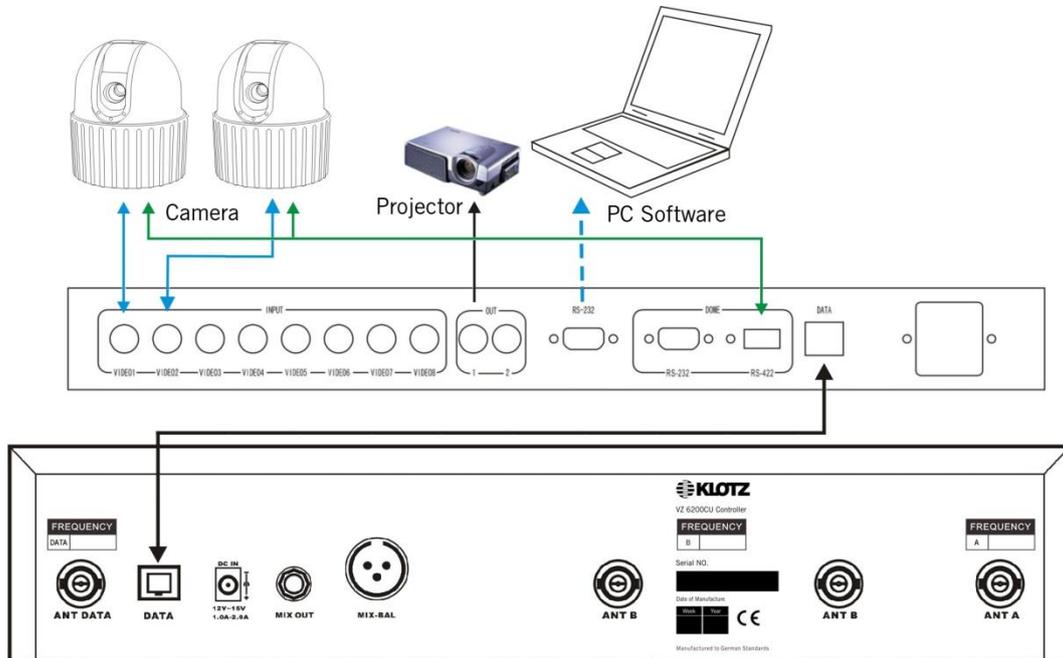


B. Balance output: Please connect MIX-BAL interface of controller unit to input interface of sound equipment by XLR-M balance audio cable (for long distance)



### 11.3.4 Connect Camera Tracking Device

Please connect DATA interface of controller unit to DATA interface of video processor by RJ45 network cable. Please read the user manual of video processor.



### 11.3.5 Connect External Antenna

If the distance between controller and microphone is not far, and there does not have any obstruct, antenna can be connect to the “ANT” interface of controller unit rear panel directly. If the distance is far or have some obstruct between them, please connect external antenna to controller unit.

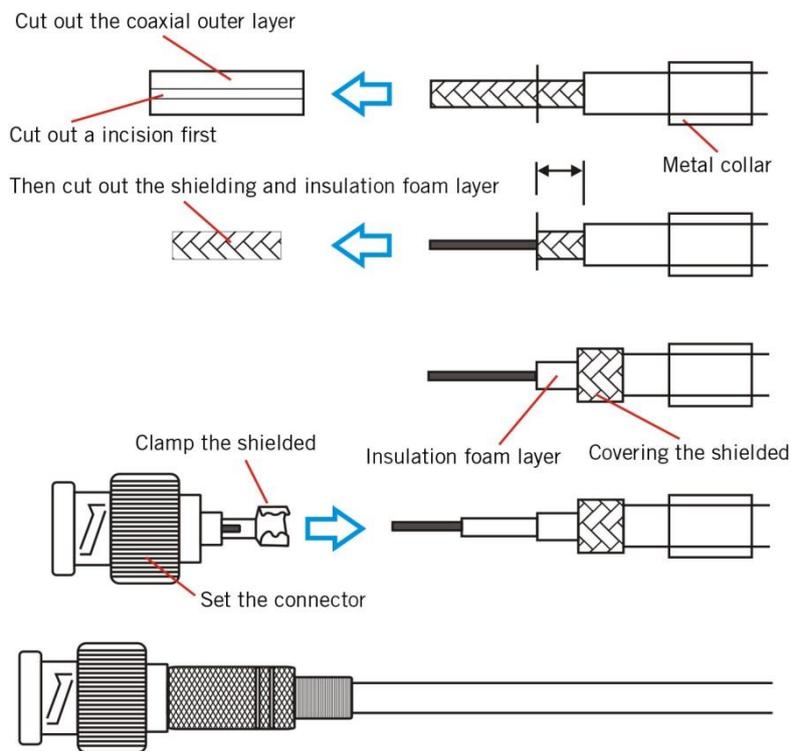
### 11.3.6 Connect Receiver Antenna Signal Amplifier

If the antenna extension can't meet the users' needs, we can choose antenna signal amplifier to achieve the signal amplification. Use the chairman microphone audio channel antenna A or the delegate microphone audio channel antenna B to extend to the venue, the receiving antenna signal amplifier is placed between the antenna extender and the host and installed near the host.

### 11.3.7 Installation Diagram of 50Ω Coaxial Cable Plug (BNC)

**Note:** When installation 50Ω coaxial cable, be careful not to short circuit the shield and the core.

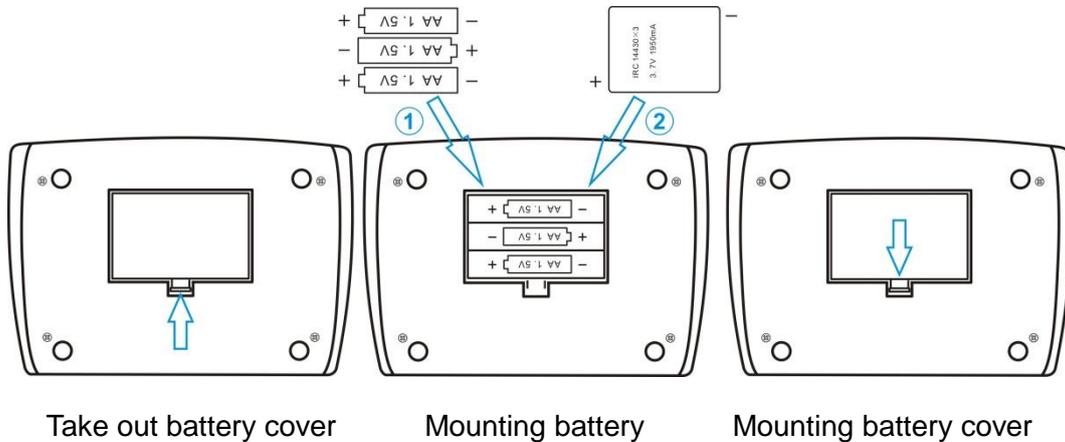
1. The 50Ω coaxial cable outer layer, shielding net and isolation layer according to the appropriate length of the next cut
2. The 50Ω coaxial cable wire into the central needle, with solder paste
3. The connector into the insulating layer and shielding between the network
4. The metal ring to the joints of the anti-off groove position
5. With the pliers to clamp the metal ring fixed



**Note:** Be sure to use a standard 50Ω coaxial cable that complies with this specification as a signal transmission line.

## 11.4 Installation Microphone

### 11.4.1 Mounting the Battery



Mounting battery: Take out the battery cover on the bottom side of the microphone unit; ① are the AA batteries, you need insert 3 pieces AA battery in the direction of the arrow to fasten it; ② is the rechargeable battery (optional), you need insert 1 piece battery in the direction of the arrow to fasten it, then mounting the battery cover(just choose of one of the above installation supplying battery), then listen for the click sound and make sure the battery cover is securely fixed.

Microphone unit power supply batteries have two types:

- ✧ One of them is the ordinary No.5 battery;
- ✧ The other is the rechargeable battery (optional, need to configure the charging box to charge).

## 11.4.2 Mounting the Gooseneck Microphone



Mounting microphone

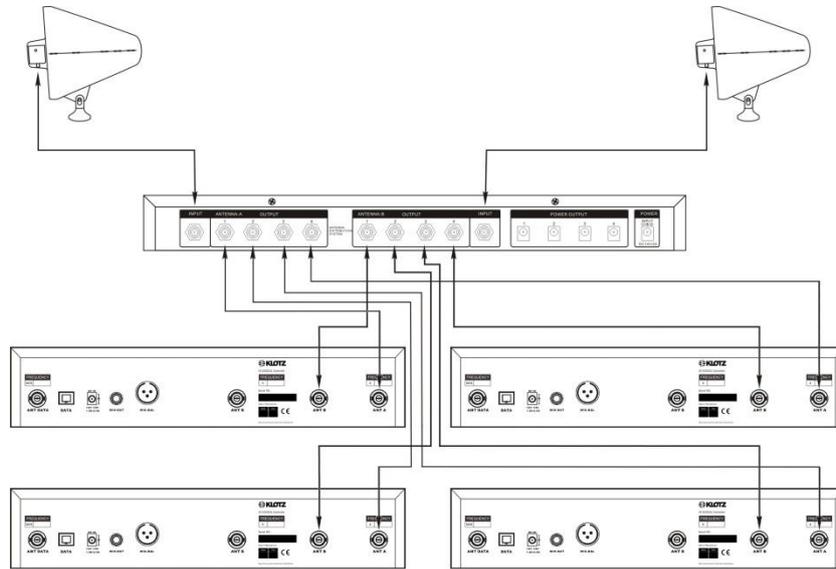
Take out microphone

Mounting microphone: Insert the microphone into the microphone mounting socket in a straight line, and then rotate the microphone clockwise to fasten it securely.

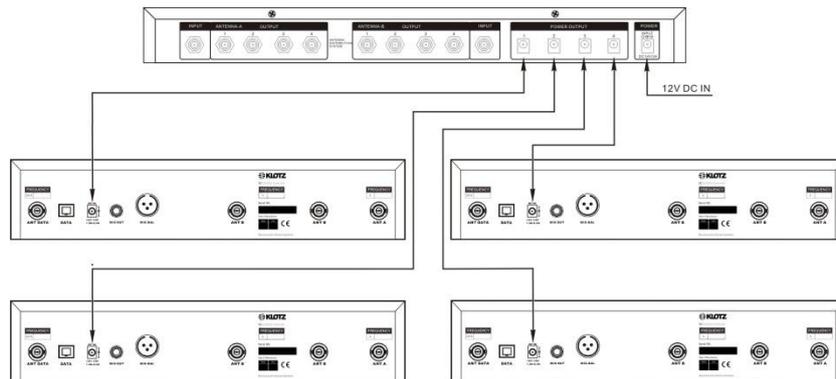
Dismounting microphone: Rotate the microphone counterclockwise, then pull the microphone upward to dismounting.

## 11.5 Installation Antenna Amplifier

### 11.5.1 Connect Antenna



### 11.5.2 Connect Power to Controller



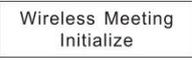
### 11.5.3 Precautions

1. The antenna placed in the wall or other metal surface, such as: in front of metal grille and metal scaffold at least 10 cm, side range of 50 cm.
2. Make sure the antenna is at least 15 cm from the ground or 50 cm from the ceiling.
3. The antenna placed in the venue to ensure that the antenna from the conference controller does not exceed 15 meters, the distance between the two antennas at least 20 cm.
4. To keep the conference controller and antenna in the visual range into a straight line.
5. The distance of conference controller placed at large metal objects, walls, scaffolding or ceiling, etc. at least 1.5 meters.
6. Don't put the antenna in the wall of the concave.
7. The antenna is located at least 1.5 meters away from any device capable of emitting RF radiation, such as lights, fluorescent lamps, digital effects and PCS, and so on.
8. If the two antennas assembled into side by side, such as diversity reception, the distance between the two antennas at least 20 cm.

## 12 System Operation and Function Description

### 12.1 Central Controller

#### 12.1.1 Power On/Power Off

- Power On: hold the “POWER” button on the left front panel of controller till LCD display “” and then release it LCD will display “”, after system self-detecting LCD will display “”.
- Power Off: hold the “POWER” button on the left front panel of controller till LCD display “”, controller unit will powered off and all microphones in standby status when released the button. If still hold the button, LCD will display “”, both controller and microphones are powered off at the same time.

#### 12.1.2 Conference Mode Set

System default mode: CFREE-4MAX-FIFO

- ONLY

Mode setting method: press “**SET**” key one or several times till “CFREE” character flashing, press DOWN, the flashing character will change to ONLY (press UP the flashing character will change to CFREE), and then press “**SET**” to save it or wait about 3 seconds the system will save the mode automatically, characters will stop flashing.

Function description: when chairman microphone priority button was press on, the chairman microphone is turn on while the delegate microphone being turn off until the priority button is released, or delegate microphone can't turn on again.

- CFREE

Mode setting method: please refer to ONLY setting method.

Function description: when chairman microphone priority button was press on, the chairman microphone is turn on while the delegate microphone being turn off, but delegate microphone can be turned on again even chairman microphone not released priority button.

- 1MAX-LIMIT

Number setting method: press “**SET**” key one or several times till “4MAX” character flashing, press DOWN or UP key till the flashing character change to 1MAX, and then press “**SET**” to save it or wait about 3 seconds the system will save the setting automatically, characters will stop flashing.

Mode setting method: press “**SET**” key one or several times till “FIFO” character flashing, press UP key, the flashing character change to LIMIT (press DOWN the flashing character will change back to FIFO), and then press “**SET**” to save it or wait about 3 seconds the system will save the setting automatically, characters will stop flashing.

Function description: system only allowed 1 piece delegate microphone turned on at the same time, if other delegate microphones want turn on, user should turn off that microphone first.

- 2MAX-LIMIT

Setting method: please refer to 1MAX-LIMIT setting method.

Function description: system only allowed 2 pieces delegate microphones turned on at the same time, if other delegate microphones want turn on, user should turn off 1 or 2 microphones first.

- 3MAX-LIMIT

Setting method: please refer to 1MAX-LIMIT setting method.

Function description: system only allowed 3 pieces delegate microphones turned on at the same time, if other delegate microphones want turn on, user should turn off 1, 2 or 3 microphones first.

- 4MAX-LIMIT

Setting method: please refer to 1MAX-LIMIT setting method.

Function description: system only allowed 4 pieces delegate microphones turned on at the same time, if other delegate microphones want turn on, user should turn off 1, 2, 3 or 4 microphones first.

- 1MAX-FIFO

Setting method: please refer to 1MAX-LIMIT setting method.

Function description: system only allowed 1 piece delegate microphones turned on at the same time, if other delegate microphone turns on, system will turn off the first on microphone automatically. First in, first out, first indicate, first offer.

- 2MAX-FIFO

Setting method: please refer to 1MAX-LIMIT setting method.

Function description: system only allowed 2 piece delegate microphones turned on at the same time, if other delegate microphone turns on, system will turn off the first on microphone automatically.

- 3MAX-FIFO

Setting method: please refer to 1MAX-LIMIT setting method.

Function description: system only allowed 3 piece delegate microphones turned on at the same time, if other delegate microphone turns on, system will turn off the first on microphone automatically.

- 4MAX-FIFO

Setting method: please refer to 1MAX-LIMIT setting method.

Function description: system only allowed 4 piece delegate microphones turned on at the same time, if other delegate microphone turns on, system will turn off the first on microphone automatically.

Please note: Chairman Microphone is not limit in these mode, chairman microphone can be turned on and off independently.

### 12.1.3 System Audio Channel Setting

System default audio channel: **40[05-35-65-95]**

- Chairman microphone (C) audio channel

Manual setting: Press “**SET**” key one or several times till “**40**” character flashing, press **DOWN** or **UP** key to select the channel, and then press “**SET**” to save it or wait about 3 seconds the system will save the setting automatically, characters will stop flashing

Auto-scan setting: Press “**SET**” key one or several times till “**40**” character flashing, and then press and hold the “**SET**” key till LCD display symbol “-”, release the key, system will scan all audio channel (00-99) automatically and select the best one to save it.

Function description: bandwidth of chairman microphone is 25M; default setting is 740MHz~764.75MHz (Please contact us or agent to get more information if user want choose other frequency for chairman microphone). There are 100 channels for option in this bandwidth, frequency interval is 250kHz.

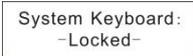
- Delegate microphone (D1, D2, D3, D4) audio channel

Channel setting method: please refer to chairman microphone audio channel setting method.

Function description: bandwidth of delegate microphone is 25M, default setting is 765MHz~789.75MHz (Please contact us or agent to get more information if user want choose other frequency for delegate microphone). There are 100 channels for option in this bandwidth, frequency interval is 250kHz.

Please note there are 4 audio channel of the delegate microphone in the system, so the channel number can't be same.

### 12.1.4 System Setting Lock/Unlock

- Lock setting method: press and hold the “**SET**” key first, and press **UP** key at the same time, system LCD will display “  ”.

- Unlock setting method: press and hold the “**SET**” key first, and press **DOWN** key at the same time, system LCD will display “  ”.

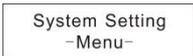
Function description: if the system locked, the function keys on the controller panel are not available for setting.

### 12.1.5 Check System Audio and Data Channel

User can check the system audio and data (Room) channel by **UP** and **DOWN** key. User can check the chairman microphone (C) and delegate microphones (D1, D2, D3, D4) audio channel, data (Room) channel, frequency point even the system locked.

- ◇ We recommend user to use auto-scan function if any interference in each channels.
- ◇ System will shut off all microphones (include chairman microphone) if user save the setting.
- ◇ If the system can working properly after testing, we strongly recommend user to lock the system setting.

### 12.1.6 Conference System Setting and Function Description

Press “**SET**” key and turn on the power of the controller at the same time, controller LCD will display “  ”, there are 4 setting menus in this part. The first menu is controller data channel setting.

#### 12.1.6.1 Controller Data (room) Channel Setting

Default channel is **ROOM 0**, there are 16 data (room) channel for option (0~F).

- User can select the channel by UP and DOWN key.
- User can press “**SET**” to save the setting and switch to next setting menu automatically.

Function description: this system use room number to show the data control channel, if there are more than 1 system used in the same place or building, we suggest user to set different room number (data channel) in order to avoid interference. If other equipments has same frequency of the data channel, use also can change it.

#### 12.1.6.2 Controller Audio Channel D1 Setting

The system uses D1 by default.

0---Audio channel not available

1---Audio channel not available.

- Press “▼” key to disabled this channel.
- Press “▲” key to enabled this channel.
- Press “**SET**” key to save the setting and switch to next setting menu automatically.

Function description: controller use 4 channels LNB to support 4 delegate microphones' FM high frequency signals. Default sequence is D1, D2, D3, D4. If there is some problem of D1, then system microphone can't turn on/off properly, user can set this channel not available, then controller LNB default sequence is D2, D3, D4, and only support 3 delegate microphones working at the same time maximum.

**Please note:** this setting just for urgently situation, please contact local agent or us to get the solution.

#### 12.1.6.3 Controller Audio Channel D2 Setting

The system uses D2 by default.

Please refer to the setting of channel D1 (12.1.6.2).

#### 12.1.6.4 Controller Data (room) Channel Setting

The system uses D3 by default.

Please refer to the setting of channel D1 (12.1.6.2).

There are several sets of equipment at the same venue working at the same (or exists other radio frequency interference source), if turning on the 4 system delegate microphone can't avoid interference, without affecting the normal meeting, the user can compromise to forbid the delegate unit one or more of the channels (D1, D2, D3) using and correspondingly to set the maximum number of speakers under the conference mode.

**Note:** the system uses D4 by default, but it does not display in system.

#### 12.1.6.5 System Test Mode

**Test 0** - Normal use mode

**Test 1** - One key to set the microphone unit room number

The project installer can use this feature to reset the room number of all the microphone units in the current meeting place.

Unify changing the room number of the microphone unit, provided that the conference host is in the same room number as all the units themselves.

After entering this mode, the upper left corner of the LCD shows the room number of the current system of the conference controller. The user can press the “**SET**” key to set the target room number of the microphone unit. Press “▲” or “▼” to start setting. At this time, the lamp rings of all the online microphone units will be light at the same time. After about 1 second, the room number of all the microphone units will be changed to be the target room number (TARGET RM) which is set by the conference host. Press the “**SET**” key to exit the room number setting status.

**Note:** After the microphone unit room number being changed, the microphone unit will not be able to communicate with current conference host. The user needs to set the conference host’s own room number to be the same with the microphone unit room number, the entire system can be back to normal communication. Please refer to conference host control channel settings for conference host room number settings (12.1.6.1).

### **Test 2 - Automatically set the ID number of delegate unit**

The project installer can use this feature to re-encode the ID number of the current conference delegate unit.

At the beginning of the coding, all on-line delegate units’ gooseneck lights flash, the conference host and the delegate unit LCD flashing shows the current ID number which is to be encoded. The delegate unit can press the speak key to confirm the current code as its own ID number. After confirming, the unit ID number will stop flashing and the lamp ring will be always on and the system code will be incremented or decremented.

After entering the auto-coding mode, the user can press the “**SET**” button to set the minimum and maximum ID number of the system, press “▲” or “▼” key to start encoding (“▼”for decreasing mode, “▲” for incremental mode). When the final code is confirmed by the delegate unit, the system will automatically exit the coding state, all delegate units’ light ring extinguished. The user can also press the “**SET**” key to manually exit the encoding state.

**Note:** The chair unit does not participate in coding.

### **Test 3 - Delegate unit auto-scan mode**

Project installers can use this feature to detect the current communication signal of the wireless system whether it is normal.

We suggest that the user place the delegate unit in ID order.

When the communication signal is normal, the lamp ring of the microphone delegate unit will be like the running light, the response time of each unit is about 1S. When the communication signal is not good or wrong, the scanning speed will be greatly reduced, the delegate units will give response slowly or have no response (if lamp ring is not lighted, the conference host LCD won't display unit ID number).

After entering this scan mode, the user can press the "SET" button to set the start and end of the scan unit ID number, short press "▲" or "▼" key to scan a round. Press and hold on the "▲" or "▼" key until it appears R, automatically cycle-scan, the host LCD antenna flashes when scanning, the user can press the "SET" button to exit the scan.

**Note:** The chairman unit does not participate in the scan.

**Remark:** conference host unplug the power, then re-power, it will enter into the normal use mode by default: TEST 0.

#### 12.1.6.6 Exit the System Setting

In TEST0 mode, hold and press "SET" key or press POWER key lightly till LCD display "  ", the conference host will automatically save the setting parameter and exit the setting menu.

## 12.2 Microphone Unit

### 12.2.1 Power On/Power Off

- Power on: press and hold the "POWER" power button which is on the right side of the microphone unit (for about 1S) until the LCD display of the microphone unit lighted, then release it and the microphone unit will be switched on to standby state.

- Power off: press the "POWER" key on the right side of the microphone unit (for about 1S) until the LCD display of the microphone unit turned off, then release it , the microphone unit will be turned off and the power will be off.

Skills for power off: when the conference host is power off, you can press the power button to enter and shut down the system power state, this time, the microphone unit will automatically shut down.

### 12.2.2 Open Microphone

When the delegate microphone is in standby mode, press the “speak” key:

#### 1. In the FIFO mode

If the number of opened delegate microphone in the current system does not reach the number of speaking units which the system allowed speaking at the same time, the current delegate microphones can normally open the speaking state; if the number of the opened delegate microphone in the current system reach the number of speaking units which the system allowed speaking at the same time, the system will turn off the first opened delegate microphone automatically, then turn on the current delegate microphone.

#### 2. In the LIMIT mode

If the number of opened delegate microphone in the current system does not reach the number of speaking units which the system allowed speaking at the same time, the current delegate microphones can normally open the speaking state ; if the number of the opened delegate microphone in the current system reach the number of speaking units which the system allowed speaking at the same time, the action of opening the microphone is invalid, and the current state of the delegate microphone is unchanged.

#### 3. In the CONLY mode

If the chairman unit is already in the speaking state, no matter which mode of speech, the action of opening microphone is invalid. The current state of the delegate microphone is unchanged.

- ◇ Whether the chairman microphone is turned on or turned off, it is not limited by the conference mode. The chairman unit can also turn on the microphone by using the delegate priority “delegate off”. At the same time, all the delegate unit microphones will be forcibly closed.
- ◇ When the communication signal is interrupted with the host, the microphone unit will not be able to open.

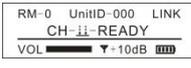
When the microphone is successfully opening, the LCD display will show

“” and the light ring of the microphone gooseneck will be lighted.

### 12.2.3 Close Microphone

The delegate microphone is already in speaking status, you can make the microphone out of the speaking state as the following ways, then get into the standby state.

1. Press the “speak” key to turn off the microphone unit.
2. Through the operation of the chairman unit microphone “ONLY” function (press the “delegate off” button), can be forced to close all the delegate microphones which has been opened, while the chairman will open the microphone into the state of speech.
3. Through the operation of the conference host (close the conference host or set the conference host system parameters), can be forced to turn off all the microphones that has been turned on (including the chairman unit). See the Host Menu function for details.
4. The battery is low and the microphone unit is turned off automatically. When the battery is run out, the microphone unit will automatically turn off the speaking state, and then automatically turn off the power.

When the speaking state is closed, the LCD display shows “” and the ring of microphone gooseneck will be off.

### 12.2.4 Microphone Volume Control

1. **vol+**: Increase the volume level of microphone.
2. **vol-**: Decrease the volume level of microphone.
3. **mute**: When the microphone is in speaking, press the “mute” key, the microphone is muted. Users can use this button to prevent cough. Release the “mute” key, the microphone speaks normally. If the microphone is in standby mode, this button is invalid.

### 12.2.5 Microphone Setting and Function Description

Press “**mute**” key and turn on the microphone with “**POWER**” key at the same time, until the left corner of the LCD displays the parameter setting column flashing, microphone will enter setting menu.

#### 12.2.5.1 Microphone Control Channel (Room Number) Setting

The system default control channel is RM-0.

The control channel of the microphone unit is 0~F, total of 16 channels are optional.

1. Press the “**vol+**” key, the microphone unit control channel increments.
2. Press the “**vol-**” key, the microphone unit control channel is decreasing.
3. Press the “**mute**” key to confirm the parameter setting and switch to the next parameter setting menu.

Refer to the description of the conference host control channel (room number) setting. Users can also enter the Test 1, one key to change all the attendant room number.

#### 12.2.5.2 Microphone ID Number Setting

The ID number of the delegate microphone unit is 0~999, total of 1000.

The ID number of the chairman microphone unit is 0~F, total of 16.

**Note:** The ID number of both the chairman microphone and delegate microphone can't be set to 0 when the video tracking function is used.

1. Press the “**vol+**” key, the microphone unit ID number increase.
2. Press the “**vol-**” key, the microphone unit ID number decrease.
3. Press the “**mute**” key to confirm the parameter setting and switch to the next parameter setting menu at the same time.

Function description: The chairman unit with ID number 1 in the system has the highest priority. When the chairman unit 1 is turned on, the other chairman (hereinafter referred to as the vice chairman) units can't be opened. When the chairman unit 1 is closed, the vice chairman units are used according to FIFO mode 1. The user can change the chairman's priority by changing the chairman unit ID number. In general, there is no conflict (which may be the same) between the delegate unit ID number and the chairman unit ID number. However, when the user wants to connect the system with the company's camera controller to achieve video tracking, the ID number of the delegate unit and the chairman unit can't be set to 0, the maximum ID number can't exceed 250, and the chairman unit and the delegate unit ID number can't be the same. If the user wants to add the microphone unit on the basis of the original conference system, be sure to set the ID number correctly by referring to the instructions.

User can also encode ID for all delegate units automatically by entering the conference host Test 2.

#### 12.2.5.3 Exclusive Beep of Chairman Unit

The beep is factory default.

1. Press the “**vol-**” key to turn off the beep.
2. Press “**vol+**” to turn on the beep.
3. Press the “**mute**” key to confirm the parameter setting and switch to the next parameter setting menu.

Function description: This is a unique parameter setting menu for the chairman unit. The beep is lasts for about 3 seconds, it will be sounded when the chairman unit press the “delegate off” button at the same time, the prompt will force to close all speaking delegate microphones and open the chairman unit.

#### 12.2.5.4 Exit Setting Menu

Touch the “speak” key or the “Power” button, or wait for the 3S delay, the microphone unit will save the parameter settings and exit the setup menu.

## 13 Troubleshooting

Situation	Check	Solutions
The microphone unit shut off automatically	Check the battery capacity	Charged batteries
Controller can't power on	Is power plug inserted into the outlet?	Insert power plug into the outlet
Microphone can't turned on properly	<ol style="list-style-type: none"> <li>1. Is the correct data channel number set?</li> <li>2. Is the receiver antenna installed correct?</li> <li>3. Is there any obstruction between the microphone unit and receiver, or the distance between the microphone and receiver is too far</li> <li>4. Is any inference of the frequency?</li> </ol>	<ol style="list-style-type: none"> <li>1. Controller and microphone data channel should be same</li> <li>2. Install the antenna in correct position</li> <li>3. Install extended antenna or antenna amplifier</li> <li>4. Set the new data channel and audio channel</li> </ol>
More than 1 microphone turned on/off at the same time	Is the microphone ID number same?	Set the ID number again

## 14 System Components Description and Order No.

Model No.	Description	Products No.
VZ 6200CU	Wireless digital conference discussion system, RF technology.	15 620 6200
VZ 6210CM	Wireless Portable Chairman discussion unit, w/o gooseneck microphone.	15 620 6210
VZ 6220DM	Wireless Portable Delegate discussion unit, w/o gooseneck microphone.	15 620 6220
VZ 8140GM	Gooseneck microphone, 40cm length, w/ high intensity light ring, w/ round head.	15 800 8140
VZ 8150GM	Gooseneck microphone, 50cm length, w/ high intensity light ring, w/ round head.	15 800 8150
VZ 6230SA	Effectively amplify the signal power, broaden the signal coverage. (Optional)	15 620 6230
VZ 6231BK	Antenna Bracket for the installation of antenna extension. (Optional)	15 620 6231
VZ 6250CT	Battery charger, 16 rechargeable slots.	15 620 6250
VZ 6251BP	Lithium battery.	15 620 6251