

# MAG6301 MAG63PL

# **Network Wireless Zone Explanation System**



MAG6301 Network Wireless Zone Explanation Terminal



MAG63PL Positioning Tag

# **Description**

The system provides wireless zone explanation function to meet the needs for amplification of live explanation, and shares the broadcasting speakers for sound reinforcement without being affected by the broadcasting, enabling seamless and smooth switching among the explanation areas, allowing the on-site docent to switch his explanation freely while walking from one area to another, and truly realizing the explanation effect of "sound starts from the arrival of people and stops at their departure; sound moves along with people, as if shadowing them".

The system features a variety of functions such as broadcasting, timing playback, paging and fire alarm of the network public address system, as well as automatic zone explanation.

#### **Features**

- With all functions of the network system such as background music playback, timing broadcast, paging and fire alarm.
- The system shares the broadcasting speakers for sound reinforcement of live explanation without being
  affected by the broadcasting, enabling seamless and smooth switching among the explanation areas,
  allowing free switching of explanations of the on-site docent while walking from one area to another.
- Adopt UWB technology for accurate detection, and calculate the distance from the people to the base station through the flight time of the electromagnetic wave from the tag to the base station, with an

- error accuracy of up to about 10cm.
- Work with the system host for multi-zone timed explanation and cycle explanation.
- Support priority settings for audio sources of the terminal, with the highest priority given to the wireless microphone, and provide three priority modes, including local priority, network priority and mixed.
- Support mixed output when more than one docent speaks in the same zone, and allow up to 4 different docents to speak in turn.
- In the same system, up to 200 docents can speak simultaneously without interfering with each other.
- The live explanation is not affected in an offline state.
- With explanation zone grouping function. When there is a docent in the grouped zone, a certain channel will be activated, and all the channels corresponding to the grouped zone will be activated.
- All areas are centrally managed and controlled by the server.

## **Network Wireless Zone Explanation Terminal Features**

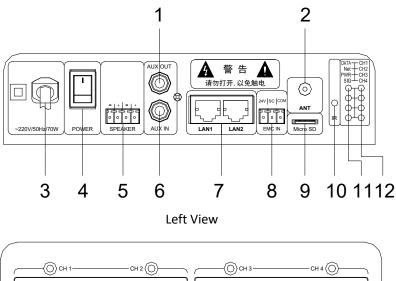
- With a built-in industrial-grade special network audio decoding chip to broadcast background music, emergency paging, alarm signals, etc. from the system host. With more than 7 levels of priority level management function for network program sources, including background broadcast, service broadcast and emergency broadcast.
- Support up to 48kHz sampling rate 16-bit digital audio stream decoding.
- With a built-in 2×20W digital amplifier to connect two 20W/4 $\Omega$  passive speakers for live sound reinforcement.
- Compatible with DHCP, TCP, UDP, ICMP, IGMP, ARP and other standard network protocols.
- With a built-in centimeter-level high-precision UWB module, with an error accuracy of up to about 10cm.
- With a built-in 2/4-channel U-band wireless microphone receiver module, allowing the modification and adjustment of the receiving frequency band on the host and web side, with a wireless transmission distance of about 100m in the unobstructed state.
- With plug-in design, one zone can support 2 or 4 explanation modules.
- Come with 1 AUX IN and 1 AUX OUT to expand the local audio source and local power.
- Support remote access to the web page of the terminal device through the network and remote modification of the IP address and related parameters of the device.
- Support linkage control for automatic explanation function. When the linkage input signal is triggered, the device can automatically play the pre-produced audio file.
- Come with dual network ports, and support hand-in-hand connection.

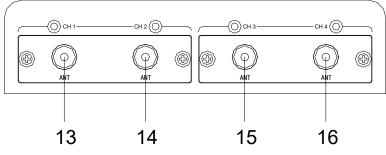
# **Specifications**

System Indicators	Parameters
Frequency Range	632-695.25MHz
Adjustable Range	60MHz
Channel Spacing	250KHz
Frequency Stability	Within ±0.005%
Dynamic Range	88dB
<b>Maximum Frequency Deviation</b>	±45 KHz
Audio Response	140Hz-12KHz(±3dB)
Comprehensive S/N Ratio	>70dB
Comprehensive Distortion	≤1%
Operating Temperature	-10°C −+40°C

Effective Service Range   S100m (in open environment)				
Sensitivity Spurious Rejection ≥75dB Terminal Indicators Parameters  AUX IN Input Sensitivity 350 mV±50mV Frequency Response 40Hz-16kHz(±3dB) Distortion ≤1% S/N Ratio ≥70dB  AUX OUT Output Sensitivity 1000 mV±100mV Frequency Response 40Hz-16kHz(±3dB) Distortion ≤1% S/N Ratio ≥70dB  Maximum Output Power of Built-in Amplifier (Independent Channel Mode) MIC IN Input Sensitivity 10 mV±2mV Frequency Response 140Hz-12kHz(±3dB) Distortion ≤1% Frequency Response 140Hz-12kHz(±3dB) Distortion ≤1% S/N Ratio ≥70dB  SD/NET/MP3 Output Sensitivity ≥9V Playback Frequency Response 40Hz-16kHz(±3dB) Distortion ≤1% S/N Ratio ≥70dB  SD/NET/MP3 Output Sensitivity ≥9V Playback Frequency Response 40Hz-16kHz(±3dB) Distortion ≤1% S/N Ratio ≥70dB  Power Supply AC220V/50Hz Overcurrent, overheat, overvoltage, Satisfied undervoltage protection Package Dimensions (L×W×H) 375×280×110mm Machine Dimensions (L×W×H) 375×280×50.5mm Net Weight 1.85kg Gross Weight 2.6kg Position 218GHz Backge Timensions (L×W×H) 375×280×50.5mm Net Weight 2.6kg Position 3-8GHz Battery Power 3-8GHz Storage Temperature 0°C~85°C Operating Temperature 0°C~85°C Storage Temperature 0°C~85°C Operating Temperature 0°C~85°C Operati	Effective Service Range		≤100m (in open environment)	
Spurious Rejection   Z=75dB   Parameters	Wireless Interface		BNC/50Ω	
Natio	Sensitivity		≤-95dBm	
AUX IN   Input Sensitivity   350 mV±50mV   Frequency Response   401½-16kHz(±3dB)	Spurious Rejection		≥75dB	
Frequency Response   A0Hz-16kHz(±3dB)   21%	Te	erminal Indicators	Parameters	
AUX OUT	AUX IN	Input Sensitivity	350 mV±50mV	
AUX OUT		Frequency Response	40Hz-16kHz(±3dB)	
AUX OUT   Prequency Response   40Hz-16KHz(±3dB)   1000 mV±100mV   1000 mV ±100mV   1000 mV ±100		Distortion	≤1%	
Frequency Response   Distortion   SIN   SIN   Ratio   Power Supply   Prevention   SIN   SIN   Prevention   SIN		S/N Ratio	≥70dB	
Distortion   S/N Ratio   270dB	AUX OUT	Output Sensitivity	1000 mV±100mV	
S/N Ratio   ≥70dB   20W/4Ω		Frequency Response	40Hz-16KHz(±3dB)	
Maximum Output Power of Built-in Amplifier (Independent Chan-I Mode)         20W/4Ω           MIC IN Prequency Response Distortion S/N Ratio S/N R		Distortion	≤1%	
(Independent Chanul Mode)         MIC IN       Input Sensitivity Frequency Response 140Hz-12kHz(±3dB)         Distortion       ≤1%         S/N Ratio       ≥70dB         SD/NET/MP3 Output Sensitivity Prequency Response 40Hz-16kHz(±3dB)         Playback       Frequency Response Prequency Response 21%         Power Supply       AC220V/50Hz         Overcurrent, Overheat, Overvoltage, undervoltage protection       Satisfied         Package Dimensions (L×W×H)       375×280×110mm         Machine Dimensions (L×W×H)       253×228×50.5mm         Net Weight       1.85kg         Gross Weight       2.6kg         Parameters         Operating Frequency       3-8GHz         Battery Power       500MAH         Antenna Gain       ≥2dbi         Operating Temperature       0°C~85°C         Storage Temperature       0°C~70°C         Operating Humidity       0 to 95%, no condensation         Product Dimensions       110×65×10mm         Net Weight       30g		S/N Ratio	≥70dB	
MIC IN	Maximum Output	Power of Built-in Amplifier	20W/4Ω	
Frequency Response Distortion S/N Ratio S/N Ratio SONET/MP3 Playback Playback Position S/N Ratio S/N Rati	(Independent Chann	nel Mode)		
Distortion ≤1% S/N Ratio ≥70dB  SD/NET/MP3 Playback Frequency Response 40Hz-16kHz(±3dB) Distortion ≤1% S/N Ratio ≥70dB  Power Supply AC220V/50Hz  Overcurrent, overheat, overvoltage, undervoltage protection Package Dimensions (L×W×H) 375×280×110mm  Machine Dimensions (L×W×H) 253×228×50.5mm  Net Weight 1.85kg Gross Weight 2.6kg  Positioning Tag Indicators Parameters  Operating Frequency 3-8GHz  Battery Power 500MAH  Antenna Gain ≥2dbi Operating Temperature 0°C~85°C Storage Temperature 0°C~70°C Operating Humidity 0 to 95%, no condensation Protection Level ip67 Product Dimensions Net Weight 30g	MIC IN	Input Sensitivity	10 mV±2mV	
S/N Ratio ≥70dB  SD/NET/MP3 Output Sensitivity ≥9V  Playback Frequency Response 40Hz-16kHz(±3dB)  Distortion ≤1%  S/N Ratio ≥70dB  Power Supply AC220V/50Hz  Overcurrent, overheat, overvoltage, undervoltage protection  Package Dimensions (L×W×H) 375×280×110mm  Machine Dimensions (L×W×H) 253×228×50.5mm  Net Weight 1.85kg  Gross Weight 2.6kg  Positioning Tag Indicators Parameters  Operating Frequency 3-8GHz  Battery Power 500MAH  Antenna Gain ≥2dbi  Operating Temperature 0°C~85°C  Storage Temperature 0°C~70°C  Operating Humidity 0 to 95%, no condensation  Protection Level ip67  Product Dimensions  Net Weight 30g		Frequency Response	140Hz-12kHz(±3dB)	
SD/NET/MP3 Playback Playback Prequency Response Distortion S/N Ratio S/N Ra		Distortion	≤1%	
Playback Distortion S/N Ratio S/N Ratio S/N Ratio S/N Ratio  Power Supply Overcurrent, overheat, overvoltage, undervoltage protection Package Dimensions (L×W×H) Machine Dimensions (L×W×H) Net Weight Gross Weight Positioning Tag Indicators Operating Frequency Battery Power Antenna Gain Operating Temperature Storage Temperature O°C~85°C Storage Temperature O°C~70°C Operating Humidity Product Dimensions Net Weight Over Syn no condensation Product Dimensions Net Weight Over Syn no condensation Net Weight Operating Indicators Over Syn no condensation Net Weight Over Syn Net Weight Ov		S/N Ratio	≥70dB	
Distortion ≤1% S/N Ratio ≥70dB  Power Supply AC220V/50Hz  Overcurrent, overheat, overvoltage, undervoltage protection  Package Dimensions (L×W×H) 375×280×110mm  Machine Dimensions (L×W×H) 253×228×50.5mm  Net Weight 1.85kg  Gross Weight 2.6kg  Positioning Tag Indicators Parameters  Operating Frequency 3-8GHz  Battery Power 500MAH  Antenna Gain ≥2dbi  Operating Temperature 0°C~85°C  Storage Temperature 0°C~70°C  Operating Humidity 0 to 95%, no condensation  Protection Level ip67  Product Dimensions 110×65×10mm  Net Weight 30g	SD/NET/MP3	Output Sensitivity	≥9V	
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Overcurrent, overheat, overvoltage, undervoltage protection  Package Dimensions (L×W×H)  Machine Dimensions (L×W×H)  Net Weight  Gross Weight  Positioning Tag Indicators  Operating Frequency  Battery Power  Antenna Gain  Operating Temperature  Storage Temperature  Operating Humidity  Operating Humidity  Protection Level  Product Dimensions  Satisfied  375×280×110mm  375×280×110m		S/N Ratio	≥70dB	
undervoltage protection  Package Dimensions (L×W×H) 375×280×110mm  Machine Dimensions (L×W×H) 253×228×50.5mm  Net Weight 1.85kg  Gross Weight 2.6kg  Positioning Tag Indicators Parameters  Operating Frequency 3-8GHz  Battery Power 500MAH  Antenna Gain ≥2dbi  Operating Temperature 0°C~85°C  Storage Temperature 0°C~70°C  Operating Humidity 0 to 95%, no condensation  Protection Level ip67  Product Dimensions 110×65×10mm  Net Weight 30g	Power Supply		AC220V/50Hz	
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Gross Weight2.6kgPositioning Tag IndicatorsParametersOperating Frequency3-8GHzBattery Power500MAHAntenna Gain≥2dbiOperating Temperature0°C~85°CStorage Temperature0°C~70°COperating Humidity0 to 95%, no condensationProtection Levelip67Product Dimensions110×65×10mmNet Weight30g	Machine Dimensions (L×W×H)		253×228×50.5mm	
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Operating Temperature $0^{\circ}$ C^*85°CStorage Temperature $0^{\circ}$ C^*70°COperating Humidity0 to 95%, no condensationProtection Levelip67Product Dimensions $110 \times 65 \times 10 \text{mm}$ Net Weight30g	Battery Power		500MAH	
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Operating Humidity 0 to 95%, no condensation  Protection Level ip67  Product Dimensions 110×65×10mm  Net Weight 30g	Operating Temperature		0°C~85°C	
Protection Level ip67 Product Dimensions 110×65×10mm Net Weight 30g	Storage Temperature		0°C~70°C	
Product Dimensions 110×65×10mm  Net Weight 30g	Operating Humidity		0 to 95%, no condensation	
Net Weight 30g	Protection Level		ip67	
-	Product Dimensions		110×65×10mm	
Charging Voltage 5V	Net Weight		30g	
	Charging Voltage		5V	

# **Wireless Zone Explanation Terminal Side Panel**





**Right View** 

## 1 Auxiliary Output Port (AUX OUT)

Connected to an amplifier to expand the power of the terminal.

#### 2 UWB Positioning Antenna Connector

Used to connect the antenna.

#### 3 AC220V Power Cord

Supply the working power to the machine.

#### 4 Power Switch (POWER)

Press the "I" position to turn on the machine, while press the "O" position to turn off the machine.

### 5 Local Amplifier Output Port

The unit has a built-in 2×20W digital amplifier, with 20W for each output port.

Connected to two constant resistance ( $4\Omega$ ) speakers respectively.

## 6 Auxiliary Input Port (AUX IN)

Connected to an audio equipment (e.g. DVD) to expand the program source for this unit.

#### 7 Network Interface (LAN1/LAN2)

This machine is designed with dual network ports and supports hand-in-hand connection to the network switch.

### 8 Linkage Playback Input Port

Support high-level trigger (5-24V) and short-circuit trigger. When the linkage input signal is triggered, the device can automatically play the pre-produced audio file.

#### 9 SD Card Slot (Micro SD)

Insert an SD card with the host timing points into this slot. When the terminal is offline, it can provide audio sources to the host for timing broadcast.

#### 10 Infrared Frequency Pairing Window (IR)

Used for infrared frequency pairing with the handheld microphone.

## 11 Working Indicator

#### Audio Stream Data Indicator (DATA)

This indicator light lights up when audio data is received.

#### Network Indicator (NET)

This indicator light lights up when the machine is successfully connected to the host via the network.

#### Power Indicator (PWR)

This indicator light lights up when the machine is powered on.

### Amplifier Output Level Indicator (SIG)

This indicator light lights up when there is a signal output from the terminal amplifier. This indicator light gradually gets brighter when the amplifier becomes louder; this indicator light gradually gets dimmer when the amplifier becomes quieter.

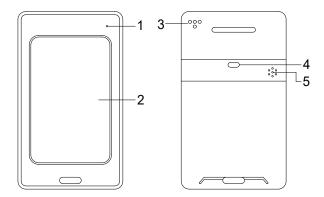
#### 12 CH1-CH4 Wireless Microphone Channel Indicator

When CH1-CH4 indicators are normally on, it indicates that the four channels are online; when off, it indicates that the channels are offline; when flashing, it indicates that the channels are open and working normally.

- 13 Channel 1 U-Band Antenna Connector (632-644.25MHz)
- 14 Channel 2 U-Band Antenna Connector (649-661.25MHz)
- 15 Channel 3 U-Band Antenna Connector (666-678.25MHz)

Channel 4 U-Band Antenna Connector (683-695.25MHz)

# **Positioning Tag Appearance**



#### 1. Working Indicator

- The indicator light flashes green when the tag is successfully connected to the terminal;
- the indicator stop flashing and turns off when the tag is powered off.

#### 2. Badge Holder

Used for the docent to put in his own work badge.

### 3. 5V Charging Port

#### 4. Ranging Tag Power Switch

Press and hold the button to power it on/off.

#### 5. Buzzer

There will be a beeping sound for power-on/off.