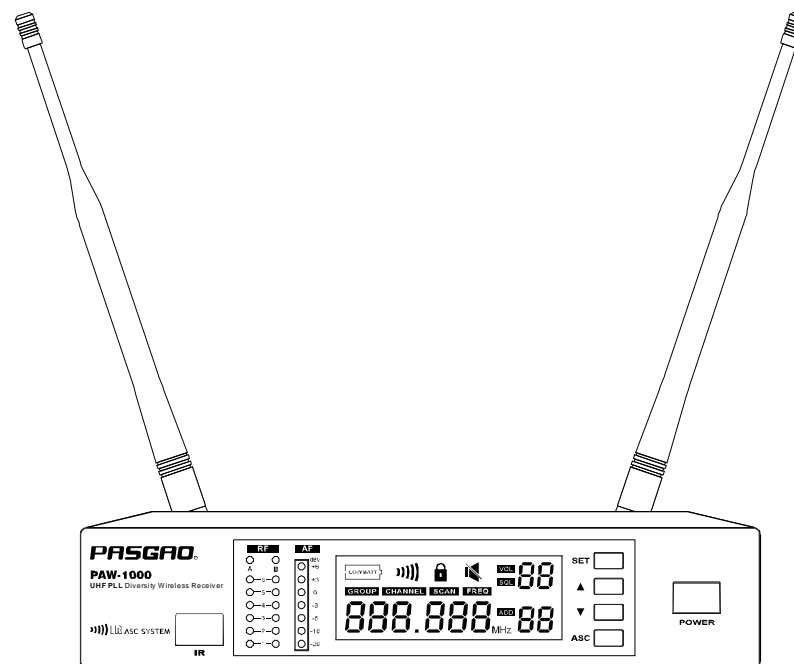


**WWW.PASGAO.COM**

**PAW-1000**

## Wireless Microphone Systems User Guide



## PAW-1000 System

Congratulations! Welcome to the PAW-1000 wireless system. To users who need to build an advanced UHF radio system, PAW-1000 provides an excellent solution. With 160 frequency bands, PAW-1000 is applicable for various occasions of radio-cast such as live shows, broadcast, meetings, instrument pickups etc. Touch buttons and liquid crystal displays are equipped within all the components for fast and simple system setup.

## Frequency Band Selection

Most countries closely regulate the radio frequencies used in the transmission of wireless information. These regulations state which devices can use which frequencies, and help to limit the amount of RF (radio frequency) interference in all wireless communications.

To be flexible enough to operate worldwide, PAW-1000 system offers a number of frequency ranges. You can choose an appreciate one according to the wireless regulation in your area. Available bands are:

UA: 518-548MHz  
UB: 630-660MHz  
UC: 740-770MHz  
UD: 800-822MHz  
UE: 838-865MHz

To facilitate system setup and protect against RF interference, each system comes with multiple predefined frequency groups and channels.

When using a single PAW-1000 system, the operating frequency will generally not have to be changed. In an installation with multiple receiver/transmitter systems, each system must operate on a separate channel. The group and channel system provides an optimum frequency spread when using multiple receiver/transmitter systems.

Within a single frequency band, up to 16 individual receiver/transmitter systems may be used in a single installation.

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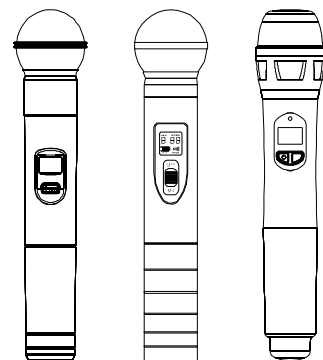
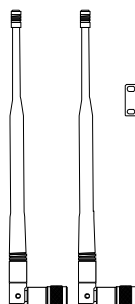
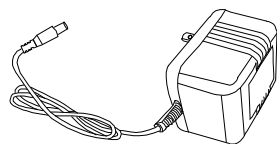
## System Components

### All systems include:

PAW-1000 receiver  
2 “AA” batteries  
A 1/4” RF connector  
Power supply  
Two antennas  
PA-D40  
User guide

### Vocalist system includes:

PAH-1000 / PAH-720 / PAH-813 handheld transmitter



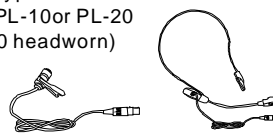
PAH-1000 PAH-720 PAH-813

### Lavalier/ Headworn system includes:

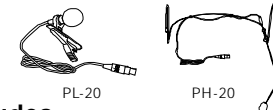
PBT-1000/PBT-900 bodypack transmitter  
Microphone (choice of PL-10 or PL-20 lavalier, PH-10 or PH-20 headworn)



PBT-1000 PBT-900



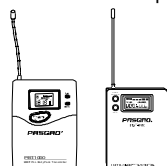
PL-10 PH-10



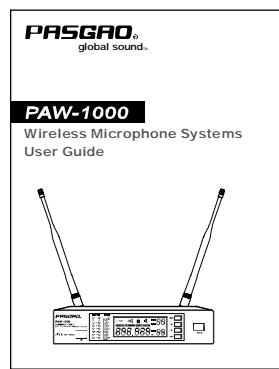
PL-20 PH-20

### Guitar system includes

bodypack transmitter  
1/4” to mini 3-pin guitar cable

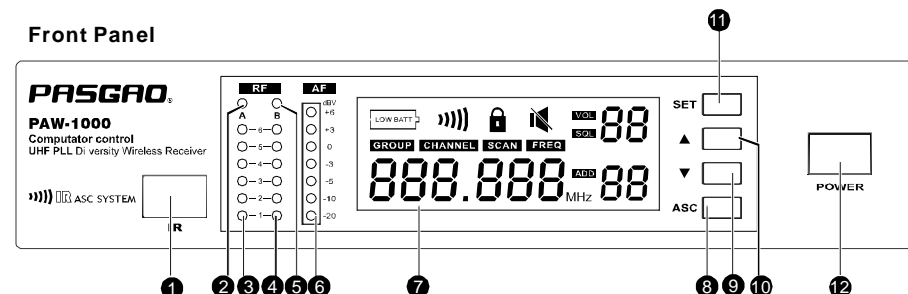


PBT-1000 PBT-900



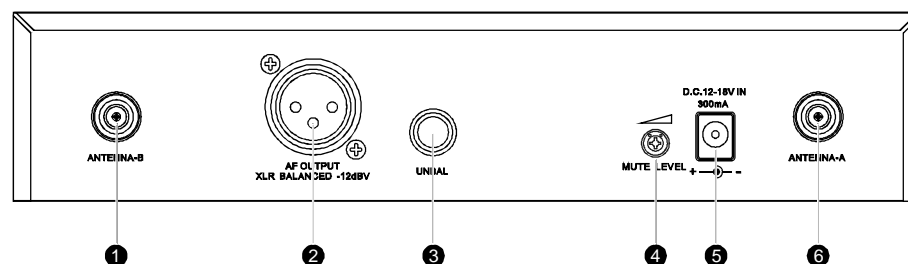
## PAW-1000 Receiver Features

### Front Panel



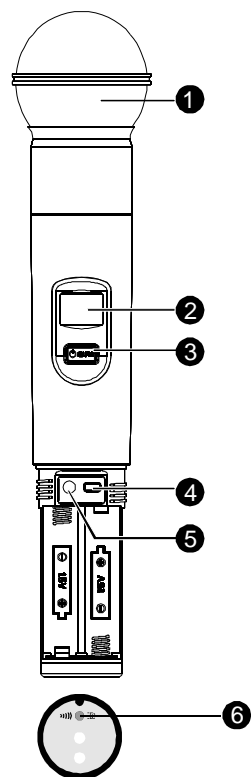
- 1 Infrared (IR) window
- 2 Antenna A receiver indicator light  
Light glows when Antenna A is on .
- 3 Antenna A RF indicator light
- 4 Antenna B RF indicator light
- 5 Antenna B receiver indicator light  
Light glows when Antenna B is on .
- 6 Channel 1 audio indicator light
- 7 Channel 1 LCD panel  
Please see “System Setup” on Page 10
- 8 Sync Button  
Press to initiate IR connection between receiver and transmitter.
- 9 System menu downward button  
Please see “System Setup” on Page 10
- 10 System menu upward button  
Please see “System Setup” on Page 10
- 11 System setup button  
Please see “System Setup” on Page 10
- 12 On/Off switch

### Rear Panel



- 1 Antenna Jack B  
50 ohm
- 2 XLR output socket
- 3 1/4in output socket
- 4 Fine adjustment of mute threshold level  
It is the mute enabling threshold value, which is factory setting and usually does not need to be adjusted. If there are any interference signals, this threshold value can be increased by turning the knob clockwise until RF signal lamp goes out.
- 5 DC power adapter socket
- 6 Antenna Jack A  
50 ohm.

## PAH-1000 Handheld Transmitter

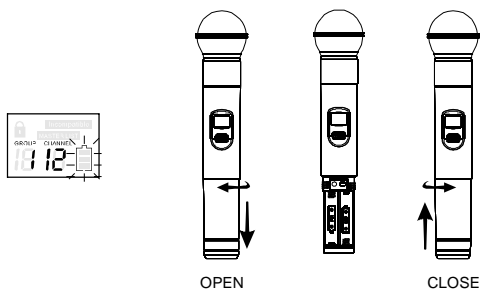


### Functions:

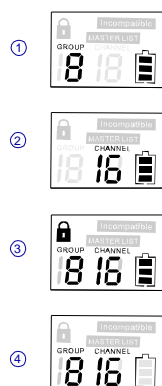
- ① Interchangeable microphone head.
- ② LCD screen
- ③ Power/Mute Control switch  
Middle position is Mute.
- ④ Select button
- ⑤ Microphone input sensitivity adjustment
- ⑥ IR Window  
This window receives infrared signal so as to keep frequency synchronization.

### Battery Replacement

- The life expectancy of two alkaline batteries is about 10 hours.
- When the power indication symbol on the display screen keeps flashing as shown in the left diagram, the batteries should be replaced immediately, as shown in the above.



### Handheld Transmitter



### Transmitter Status Display

Push the MUTE/ON button 2 second, the display will skip to the group and channel selection. Continuously push two times on the MUTE/ON button to turn on MUTE/ON function, to turn off the MUTE/ON function with the same operation.

### Manually selecting the group and channel: select

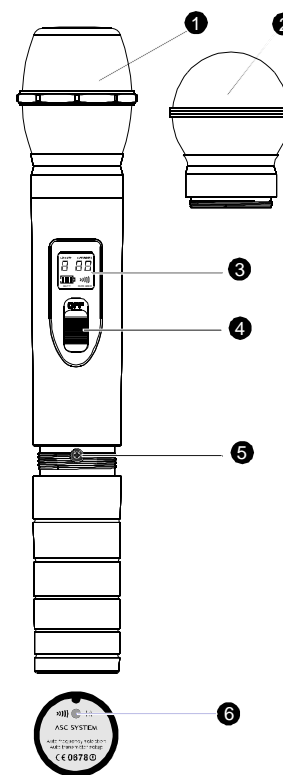
Pushing on the select button until the group and channel display alternately, push the select button while the group on the display to change on the group, push the select button while the channel on display to change the channel.

### Transmitter data lock and unlock: select + ON

Push the mute and select bottom at the same time can lock and unlock the transmitter data. On the lock working condition, you can not change the setting on the transmitter, but it will not lock the infrared synchronizer.

**Battery display:** Display the transmitter battery level.

## PAH-720 Handheld Transmitter

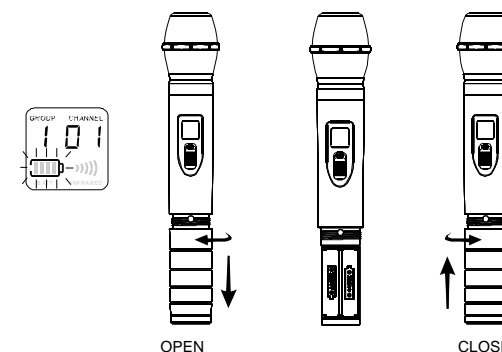


### Functions:

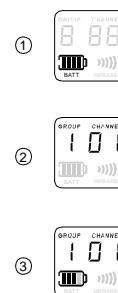
- ① Condensor mic
- ② Dynamic mic
- ③ LCD screen
- ④ Power source controlling switch
- ⑤ Microphone input sensitivity adjustment.  
Left turn for output level decrease, right turn for output level increase.
- ⑥ IR port  
Receives infrared beam to synchronize frequencies.

### Changing Batteries:

Expected life for two alkaline batteries is about 10 hours. As the battery indicator on the screen keeps glowing, the batteries should be changed immediately (as shown below).



### Handheld Transmitter



### Transmitter Status Display

#### Battery Status:

The handheld transmitter had five levels as ① shown on the left.

#### Group and Channel Display:

After the finishing the connection of the receiver and the transmitter, the transmitters receiver keeps displaying the numbers of the group and channel for 5 seconds, as ② shown on the left, then back to the normal status display.

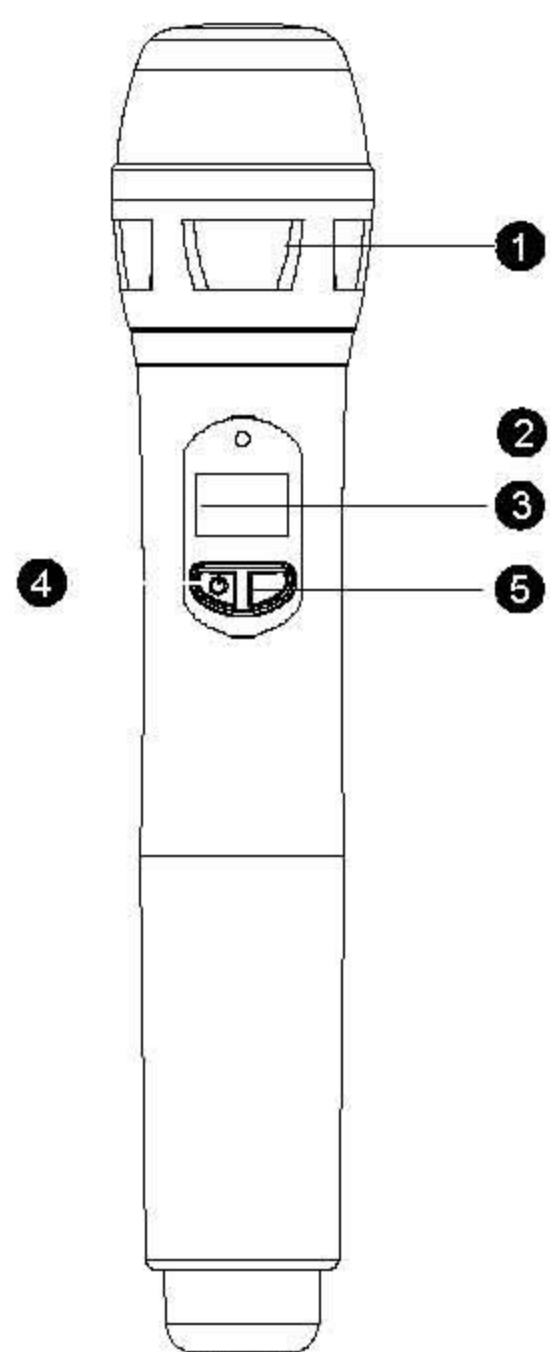
#### Normal Display:

The transmitters shows battery power and working frequency, as ③ shown on the left.

## PAH-813 Handheld Transmitter

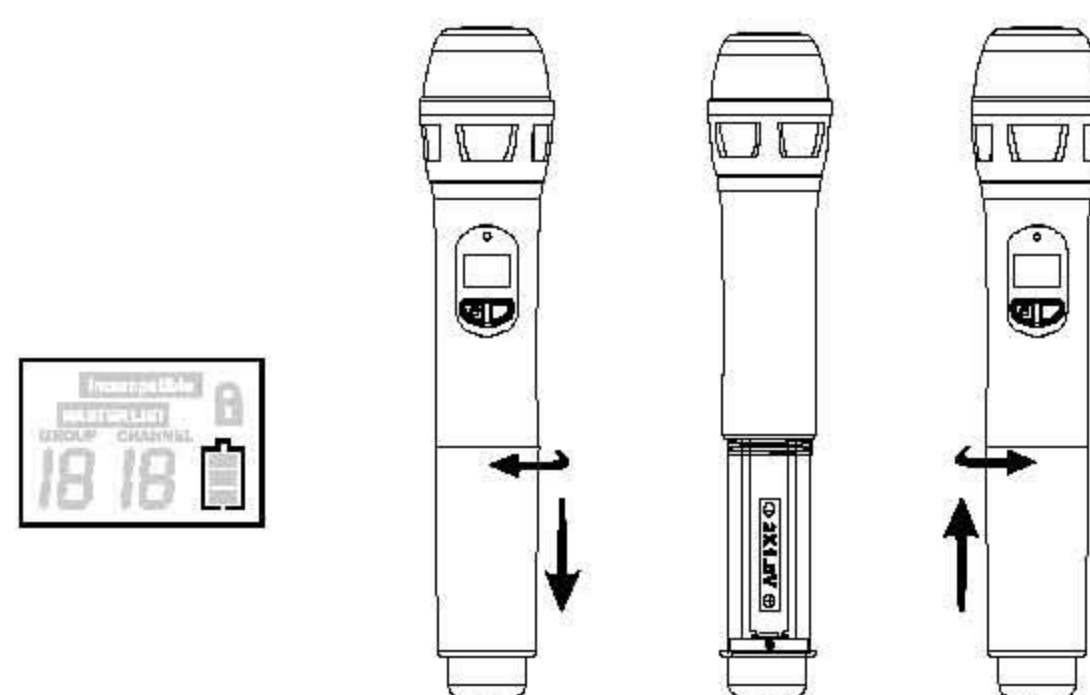
### Functions:

- ① Interchangeable microphone head.
- ② IR Window  
This window receives infrared signal so as to keep frequency synchronization.
- ③ LCD screen
- ④ Power switch
- ⑤ Select button



### Battery Replacement

- The life expectancy of two alkaline batteries is about 10 hours.
- When the power indication symbol on the display screen keeps flashing as shown in the left diagram, the batteries should be replaced immediately, as shown in the diagram below.



### Handheld Transmitter



### Transmitter Status Display

Push the MUTE/⏏ button 2 second, the display will skip to the group and channel selection. Continuously push two times on the MUTE/⏏ button to turn on MUTE/⏏ function, to turn off the MUTE/⏏ function with the same operation.

### Manually selecting the group and channel: [select]

Pushing on the select button until the group and channel display alternately, push the [select] button while the group on the display to change on the group, push the [select] button while the channel on display to change the channel.

### Transmitter data lock and unlock: [select] + ⏏

Push the mute and select bottom at the same time can lock and unlock the transmitter data. On the lock working condition, you can not change the setting on the transmitter, but it will not lock the infrared synchronizer.

**Battery displayer:** Display the transmitter battery level.

## Trips for improving System Performance

- Maintain a line of sight between transmitter and antenna.
- Avoid placing the receiver near metal surfaces or any digital equipment (CD players, computes, etc)
- Keep the receiver away from the wall and over 1m to the ground
- Cellular telephones and two-way radio and so on can interfering the transmitting frequencies, maintain a distance from the interfering equipments or any cause interfering.

## Troubles Shooting

Issue	Indicator Status	Solution
No sound or faint sound	Transmitter LCD off	Turn on transmitter Make sure the +/- indicator on battery match the transmitter terminals
	Receiver LCD off	Make sure AC adapter is securely plugged into electrical outlet and into DC input connector on rear panel of receiver.
	Receiver RF indicator glows	Turn the receiver up Turn up the Gain adjustment switch in the transmitter Check the power connection of the receiver and amplifier or mixer
	Receiver RF indicator off, transmitter LCD on	Take the receiver away from the metal objects Check whether there is hamper between receiver and transmitter Move the transmitter near the receiver Check the receiver and transmitter whether use the same frequency
	The battery power indicator light on LCD flashes	Change the batteries in transmitter
Distortion or unwanted noise bursts	Receiver display indicators antenna activity	Remove nearby sources of RF interference (CD players, computers, digital effects, in-ear monitor systems, etc.)
Distortion level increases gradually	Transmitter power indicator light flashing on the LCD	Replace transmitter batteries
Sound level different from cabled guitar or microphone, or when using different guitars		Adjust transmitter again and receiver volume as necessary

## Specifications

### System

Frequency Range and Transmitter Output level

Band	Range	Transmitter RF level
UA	584-607 MHz	13dBm
UB	655-679 MHz	13dBm
UC	740-770 MHz	10dBm
UD	800-822 MHz	10dBm
UE	838-865 MHz	10dBm

Operating Range under Typical Condition

80m (240 ft.)

Note: actual range depends on RF signals absorption, reflection, and interference.

Audio Frequency Response (+/-3 dB)

60Hz~16KHz

Total Harmonic Distortion

( +/- 30 KHz deviation, 1 KHz tone)

<1%

Dynamic Range

>90 dB (A - weighted)

Operating Temperature Range

-10°C to +50°C

Note: battery characteristics may limit the range

### PAH-1000 Handheld Transmitter

Audio Input Level maximum

0 dBV

Dimensions (including the microphone)

242mm × 54mm Diameter

Weight

240 grams

Battery Requirements

2 “AA” alkaline batteries or rechargeable

batteries Battery Life

>10 hours (Alkaline)

### PAH-720 Handheld Transmitter

Audio Input Level maximum

0 dBV

Dimensions (including the microphone)

243mm × 50mm Diameter

Weight

300 grams

Battery Requirements

2 “AA” alkaline batteries or rechargeable

batteries Battery Life

>10 hours (Alkaline)

### PAH-813 Handheld Transmitter

Audio Input Level maximum

0 dBV

Dimensions (including the microphone)

230mm × 45mm Diameter

Weight

250 grams

Battery Requirements

2 “AA” alkaline batteries or rechargeable

batteries Battery Life

>10 hours (Alkaline)

### PBT-900 Body pack Transmitter

Audio Input Level Maximum

0 dBV maximum at mic again position

+10 dBV maximum at 0 dB gain position

+20 dBV maximum at - 10 dB gain position

Gain adjustment Range

30 dB

Input Impedance

470 kilohm

85mm H × 65mm W × 24mm D

Weight

85 grams without batteries

Power Requirement

Two “AA” size alkaline or rechargeable batteries

Battery life

>8 hours (Alkaline)

### PBT-1000 Body pack Transmitter

Audio Input Level Maximum

0 dBV maximum at mic again position

+10 dBV maximum at 0 dB gain position

+20 dBV maximum at - 10 dB gain position

Gain adjustment Range

30 dB

Input Impedance

470 kilohm

90mm H × 65mm W × 24mm D

Weight

85 grams without batteries

Power Requirement

Two “AA” size alkaline or rechargeable batteries

Battery life

>10 hours (Alkaline)

### Receiver

Audio Output Level Maximum (ref. +/-30 KHz, 1 KHz)

XLR connector (into 600Ω load): -12 dBV

1/4inch connector (into 3000 Ω load): -18 dBV

Output Impedance

XLRconnector 200ohm

1/4inch connector 1kilohm

XLR Output

Impedance balanced

Pin 1: Ground

Pin 2: (+)

Pin 3: (-)

Sensitivity (intermediate frequency adjustment

audio noise output <-93 dBm)

Image Rejection

> 90 dB

Dimensions

44mm H × 212mm W × 160mm D

Weight

900 grams

Power Requirements

12-18 Vdc at 300 mA , supplied by external power supply