

5.8 GHz Digital Wireless Microphone Speaker System

User Manual

Description	Product Name	Brand Name	Series Model
Wireless Speaker	PentaClass G2	PentaClass	PTCG2
Wireless Microphone	Runa M	PentaClass	RM1

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2019/07

I Introduction

PentaClass G2 and Runa M is a high-fidelity, anti-interference and professional digital wireless microphone speaker system, developed and made by A4Schools SIA. using SOYO-WM58G01 digital wireless audio transceiver modules. Based on a large number of customer feedback and suggestions and the strategic research of the market and R&D team, We launch the new 2nd-generation digital high-fidelity wireless microphone speaker system, having all the outstanding performances of the previous generation products. High integration, strong anti-interference, generous input connectors, and the sound quality is good, as its sound quality reaches to the lever of HDCD, having a good reputation of the highest sampling rate at present and the best sound quality in the industry. At the same time, the following features have been added:

- i. The speaker itself has energy-saving features, reflecting the company's green environmental awareness.
- ii. After booting, it automatically enters the pairing state, and the pairing time is less than 3 seconds. With our customized USB dongle, the microphone has a PowerPoint page remote control function, so that can work with a projector or computer display for the purpose of the speech and presentation.
- iii. The microphone is powered by a lithium battery, and the charging, data transfer, and updates are realized through the Micro-USB cable. Practical and user-friendly.
- iv. The speaker has an RS232 serial port, which can be connected to the central control device. Via the control panel and serial port, we can control the speaker, such as power on/off, volume control, Bluetooth on/off, etc. Having 3.5mm audio input, one-way broadcast emergency signal input, one way Bluetooth 4.0 input, two 5.8GHz wireless input.
- v. The wireless speaker is equipped with 2 wireless microphones. Two people holding a microphone can talk and the human voices can be increased at the same time without disturbing each other.
- vi. Perfect structural design to achieve 360 degrees omnidirectional sound field dispersion effect.
- vii. The system operates at 5.8 GHz, which is an ISM international free band so that it is suitable for the global market.
- viii. The system has 30 optional channels, equipped with 2 wireless microphones with master/slave mode. the master one can also control the slave one. The purpose of modes is to make the teacher can mute the slave microphone so that he or she manages the classroom freely.

II Applications

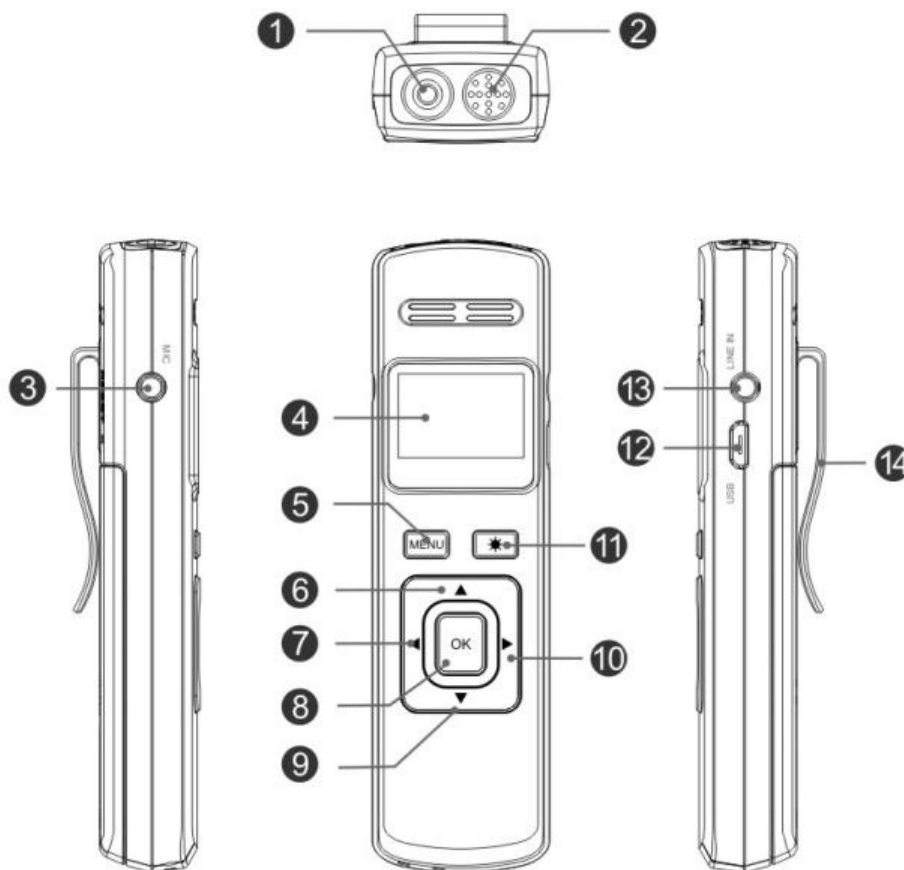
They are widely used in houses of worship, schools, auditoriums, conference and meeting rooms, stadiums, clubs and a variety of similar situations. Virtually any public gathering where sound-system coverage is advantageous offers the opportunity for effective use of a wireless microphone speaker system.

III Electrical Parameters

No.	Description	Speaker	Microphone
1	Voltage	AC 19V	DC 3.3 - 4.3V
2	Electric Current	Depending on the audio source	Max 280mA
3	Operating Temperature	-15 -65°C	-15 -65°C
4	Frequency Range	5725-5850MHz	5725-5850MHz
5	Modulation Mode	GFSK	GFSK
6	Baud Rate	2M bps	2M bps
7	Channel Spacing	4MHz	4MHz
8	Frequency Stability	± 100KHz	± 100KHz
9	Channel selection	Manual	Manual
10	Channel Quantity	30 Channels	30 Channels
11	Range	Up to 10 meters	
12	Receiver Sensitivity	-90dBm	-90dBm
13	Input/output	1*3.5mm audio input 1*3.5mm audio output, 1*broadcast signal input, 1*Bluetooth 4.0 input, 2*5.8GHz wireless input, 1*RS232 serial port	1*3.5mm audio line-in, 1*3.5mm microphone input
14	Frequency Response	20 - 20000Hz	
15	Latency	<15ms	
16	Sample Rate	64kHz 16 bit	
17	SNR	95 dB	
18	THD	0.3 % @ 1kHz	
19	Dynamic Range	90dB	
20	Stereo Isolation	85dB	

IV User Guide

i. Function Parts



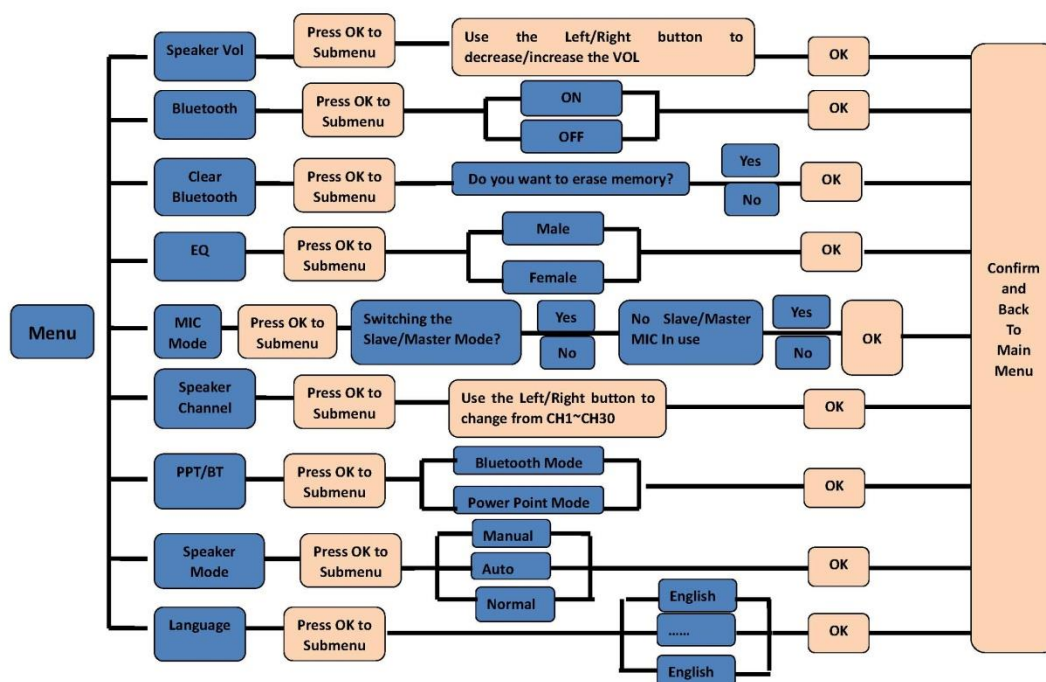
- ❶ Unspecified function.
- ❷ **The microphone:** Capture sound from a 90 degree angle.
- ❸ **3.5mm Microphone Input:** Connect the included headset microphone.
- ❹ **LCD Screen:** Displays channel, volume, power and charging status.
- ❺ **MENU Key:** Press it to enter the main menu of the microphone. to exit MENU, just press MENU key shortly
- ❻ **Up Arrow Key:** Volume up (*), and Move up in the navigation menu.
- ❼ **Left Arrow Key:** Move left in the navigation menu, and Page up in the PowerPoint slide when use the supplied USB dongle.
- ❽ **OK Key:** Keep pressing the key for 3~5 seconds to turn on or off, a short press the key to enter a choice you have made.
- ❾ **Down Arrow Key:** Volume down (**), and Move down in the navigation menu.
- ❿ **Right Arrow Key:** Move right in the navigation menu, and Page down in the PowerPoint slide.
- ⓫ **Mute Key:** Mute the wireless microphone.
- ⓬ **USB Interface:** To charge the wireless microphone.

13 Line In: For 3.5mm audio line in.

14 Belt Clip: Use this to clip the microphone unit to your belt while wearing the headset microphone if desired.

Remark-*&*: The volume adjustment only for the volume control of the microphone itself.

ii. The Wireless Microphone Main Menu Diagram



iii Wireless Speaker Indicator Introduction

It has 4 indicators(red, blue, yellow and green), one of which is a bi-color (red, green) light.

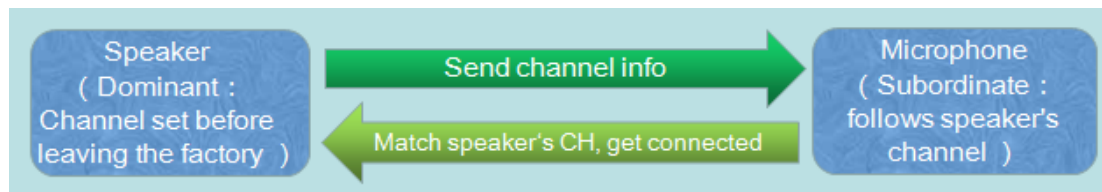
1. No Light –The speaker is OFF
2. Green Light – The speaker is ON. the speaker may turn ON if Aux input has been detected (In this case, the speaker shows that it is ON, but no Microphones or BT devices are connected)
3. Flashing Yellow Light – The microphone pairing mode is being activated and speaker is pairing to the microphone
4. Yellow Light – The speaker is connected to the microphone – it can be Master, Slave or both of them
5. Flashing Blue Light –The Bluetooth pairing mode is activated
6. Blue Light– The speaker is connected to the BT device
7. Red – Emergency announcement
- 8.

Remark:

1. There is a setting input priority, the green light will be lit when there isn't Bluetooth and broadcast signal input, the microphone and cable can be input at the same time.

2. The broadcast signal is the first input priority. When the broadcast signal is input, the other LED lights are off, and meanwhile, the Bluetooth, 5.8GHz wireless and line-in cannot all can't input; Resume the current signal input when the broadcast signal stops for 3-5 seconds.

iv Pairing Mode between the Speaker and Microphone



Power the speaker up, and then press “OK” Key of the microphone for 3 seconds to initiate the pairing process between the microphone and the speaker.

v Wireless Operation Instructions

When using the speaker for the first time, you need to perform a system installation.

Step1. Cable Connect

Install the power cable to the speaker.

Step 2: Turn on the wireless speaker

Flip the on/off switch to power the unit up.

Step 3: Turn on microphone & pairing automatically

Press OK key for 3 seconds to initiate the pairing process between the microphone and the speaker.

Step 4: The volume of the system can be adjusted by Up& Down Arrow Key.

Step 5: Turn off the microphone and the speaker when not in use.

V Declaration

i. Intellectual property right statement: the hardware and software of the product are protected by copyright law and the international convention. Without any written authorization of our company, any copy of the product and of the specifications, parts or all, will bear the corresponding legal responsibility. the brochures are copyright based on our company. Without the consent of our company, a part or all of the manual should not be released.

ii. The manual is only for reference and the ultimate practical features are depending on the products which ordered and received by users.

iii. All pictures illustrate only, and product as real assessment. If the product is upgraded or changed, please forgive us will not further notice.

FCC Warning

a、 § 15.19 Labeling requirements.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

b、 § 15.21 Changes or modification warning.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

c、 § 15.105 Information to the user.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ▶ -Reorient or relocate the receiving antenna.
 - ▶ -Increase the separation between the equipment and receiver.
 - ▶ -Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.