



# PTU-1U/2U Series

Premium True Diversity  
Single / Dual Wireless Microphone System



## OWNER'S MANUAL

*Thank you for purchasing the Phenyx Pro PTU-1U/2U Series. For the best results and the utmost satisfaction for your new unit, please read this manual carefully to ensure proper operation, and keep it for future reference. For more information, please visit our store: [www.phenyxpro.com](http://www.phenyxpro.com)*

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# System Description

## System overview

The Phenyx Pro PTU-1U/2U Series was born to empower everyone to enjoy the ongoing supreme sound quality without any interference and dropouts. True diversity design delivers rock-firm audio performance with up to 1000 selectable UHF frequencies. Automatic frequency management with the state-of-the-art AutoScan circuitry navigates the complex RF environment and quickly locates the best frequency for promising wireless performance without cutoffs and dropouts. This series can impress any large-scale venues and extreme conditions with supreme audio quality.

## System features

- The true diversity circuit design effectively eliminates feedback and cutoff for flawless sound transmission.
- Unimpeded and stable wireless coverage extends to 328ft/100m without interference, dropouts, and cutoffs.
- Professional-grade capsule utilizes a cardioid polar pattern to isolate unwanted ambient sound and reproduce the pristine, sensational, and high-fidelity sound.
- Simple-to-use bodypack transmitter with sturdy metal construction and reliable transmission free from interference.
- This series features 1000 selectable frequency groups in 555-580MHz for multiset operation and sufficient room to avoid frequency crowdedness.
- The smooth IR synchronization enables the hassle-free setup process within seconds.
- The auto-scan function serves as the automatic frequency management by precisely scanning the entire RF environment and locating the best available frequency for interference-free and dropout-free use.
- The squelch level function enables adjusting the squelch level according to the local environment to decrease white noises.
- The lock function secures your setting and avoids accidental touch.
- The whole system is built like a tank with heavy-duty all-metal housing for both receiver and handheld microphone, capable of withstanding rigorous drop tests.
- Comes with a rackmount kit with antenna extension cables to facilitate more professional use.

## System components

Your system comes with a combination of the following components.

### Receiver

PWR-1U	Single-channel Wireless Receiver
PWR-2U	Dual-channel Wireless Receiver

### Accessories

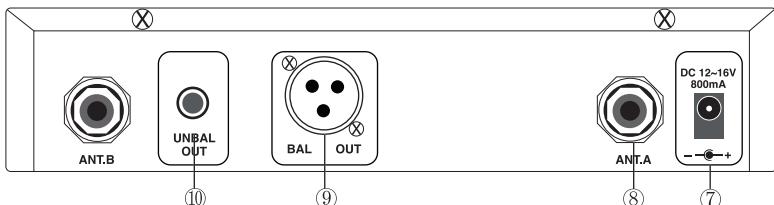
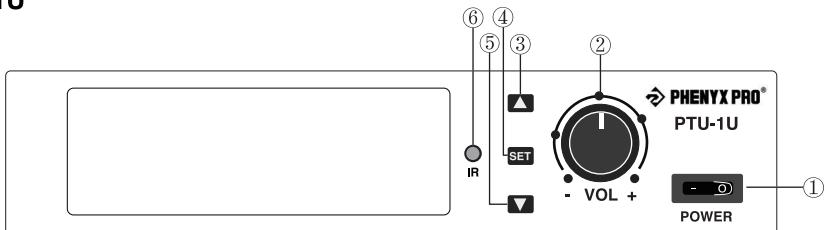
1HM1LM-BLK	Black Headset & Lapel Mic Combo
ANTB-500	Antennas for 500 UHF Band
PTA-ADP1	Power Adapter
PTA-CBL	1/4" Audio Cable
	6.35MM to 3.5MM Adapter
	Rackmount Kit
	AA Batteries
	Anti-rolling Rings
	User's Manual



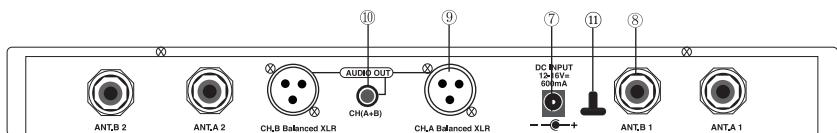
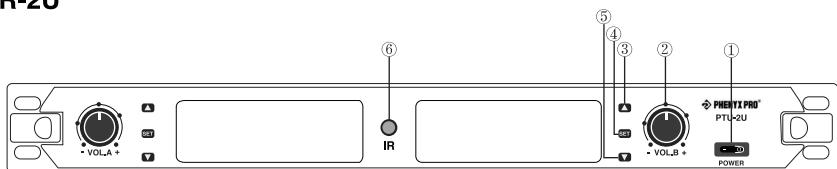
# Functions of Parts

## Receiver

### PWR-1U



### PWR-2U



- ① **Power switch:** Powers the unit on and off. When it is on, the LCD screen lights up, and the up, down and SET buttons emit white light.
- ② **Volume control:** Twist the knob clockwise/counterclockwise to increase/decrease the volume.
- ③ **Up button:** Short press (tap) this button for frequency increment. Long press for 2 seconds to lock or unlock the system.
- ④ **Down button:** Short press (tap) this button for frequency decrement.
- ⑤ **SET button:** Short press (tap) this button for infrared synchronization and the menu setup among the auto-scan, squelch level and lock functions.
- ⑥ **IR window:** For infrared synchronization setup.

**\*NOTE:** Please short press (tap) the SET button to initiate IR synchronization (LCD shows "F---"). Then vertically aim the IR window of the transmitter to that of the receiver for pairing them up.

⑦ **Power jack**

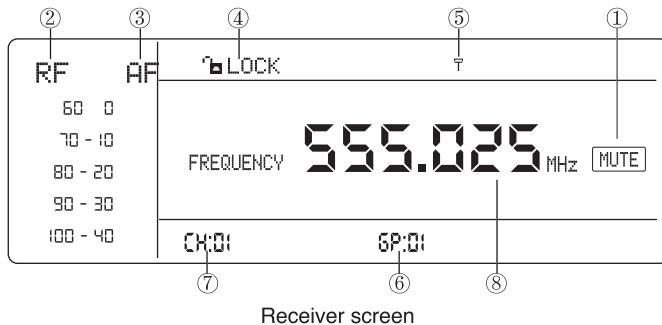
⑧ **Antenna jacks:** For connecting detachable antennas and picking up signals from transmitters.

\*NOTE: The PWR-1U has two antennas, while the PWR-2U has four.

⑨ **XLR audio output jack:** Accepts a balanced XLR connector. Each channel has its corresponding XLR output jack.

⑩ **1/4" mixed output jack:** Accepts an unbalanced 6.35mm or 1/4" TS phone-type connector.

⑪ **Adapter cord tie-off:** For managing cable.



① **RF signal indicator:** The “MUTE” signal disappears when the transmitter is successfully paired up with the receiver. When it appears, the receiver accepts no signal or the signal is cut off.

② **RF signal progress bar:** It appears and flashes to indicate the corresponding RF signal level. When it disappears, the receiver receives no RF signal.

③ **AF signal progress bar:** It appears and flashes to indicate the audio signal level. When it disappears, the receiver receives no audio signal.

④ **LOCK indicator:** Indicates that the setting is locked or unlocked.

⑤ **Antenna indicator:** True diversity design utilizes two antennas to receive the same RF signal for stable transmission. The antenna indicator “AT” indicates antenna A is receiving the channel signal, while “TB” indicates antenna B is receiving the channel signal. When the antenna indicator shows “T”, the channel of the receiver receives no signal or no antenna is installed.

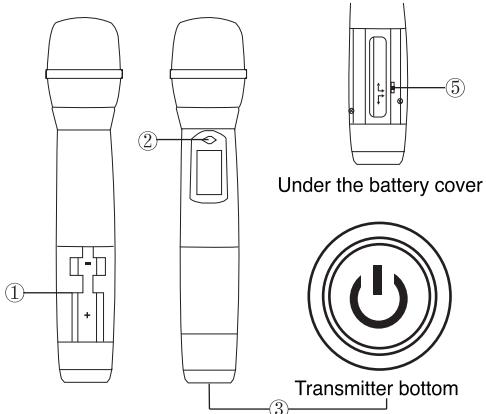
⑥ **Group number**

⑦ **Channel number**

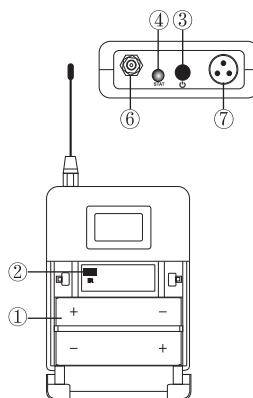
⑧ **Frequency number**

## Transmitters

Handheld transmitter  
PWH-12



Bodypack transmitter  
PWB-12



① **Battery compartment:** Install batteries with the correct polarity.

② **IR window:** For infrared synchronization setup.

\*NOTE: Please vertically aim the IR window on the transmitter to that on the receiver for pairing them up.

③ **ON/MUTE/OFF power button:** Long press the power button for 2 seconds to turn the transmitter on/off. Short press (tap) to mute the transmitter.

④ **Battery light:** It remains green light when the battery is sufficient and remains red light when the bodypack is muted. A flashing red light warns of a low battery, with the bodypack shutting off automatically after eight flashes.

⑤ **Radio frequency power switch:** Turn this switch up or down to switch the high power mode “” or low power mode “”, and the RF signal progress bar will show the chosen mode. The high power mode “” (default setting) indicates the high signal level for stabler signal transmission, while the low power mode “” indicates the low signal level for power saving.

⑥ **Antenna**

⑦ **3-pin mini XLR jack:** Connect a headset/lapel microphone.

① **Group number**

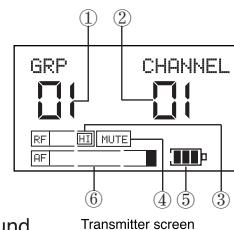
② **Channel number**

③ **RF signal progress bar:** It shows the chosen mode “” (default setting) or “” which can be adjusted by the signal level button ⑤.

④ **Mute indicator:** The mute icon appears on the screen to indicate the transmitter is muted.

⑤ **Battery indicator:** Indicates the real-time battery status.

⑥ **AF signal progress bar:** It flashes to indicate audio signal level (even if the transmitter isn't paired up). When it is blank, the transmitter receives no sound.

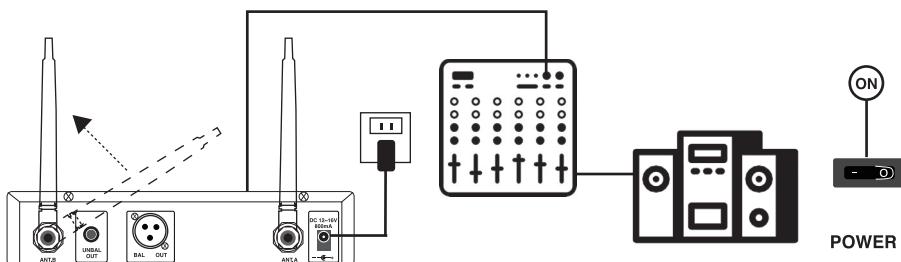


# Operation Guidance

## Single system setup

### Step 1: Connect and power up the receiver

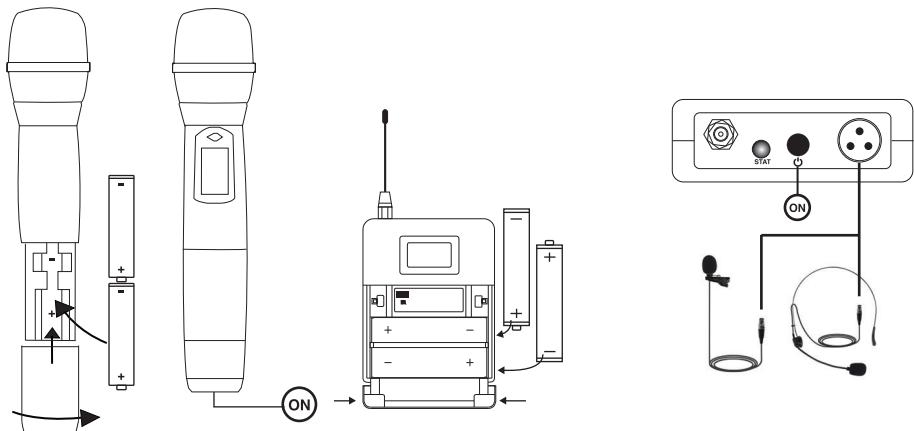
- ① Connect antennas to the receiver via ANT jacks.
- ② Connect the power supply to the receiver via the power jack.
- ③ Connect the audio output to an amplifier/speaker or mixer via the 1/4" mixed output jack or XLR audio output jacks.
- ④ Turn on the power switch “” of the receiver to turn it on.



### Step 2: Turn on transmitters

- ① Install fresh batteries with the correct polarity.
- ② Long press power buttons to turn on transmitters.

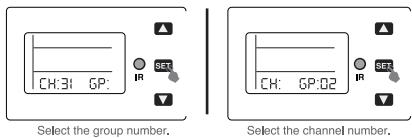
\*NOTE: The LCD screen of a handheld transmitter turns dim in standby mode.



### Step 3: Manual setup

- ① Short press (tap) the SET button several times and see the group number or channel number flash on the screen.
- ② Short press (tap) the “▲”up and “▼”down buttons to select the desired frequency.
- ③ Short press (tap) the SET to confirm your setting.

#### Manual setup



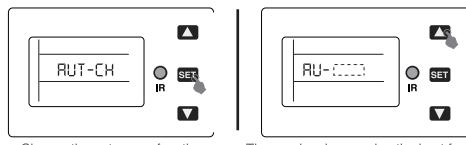
Select the group number.

Select the channel number.

### Step 3: AutoScan setup

- ① Short press (tap) the SET button several times until the “AUT-CH” flashes on the screen.
- ② Short press (tap) the “▲”up button to initiate the auto-scan progress, which searches for the best frequency in the RF environment.
- ③ Wait until the new frequency appears on the screen.

#### AutoScan setup

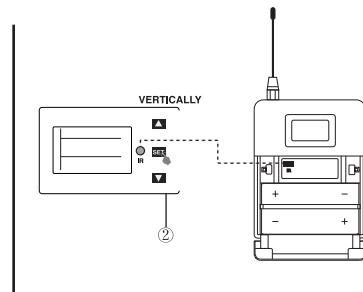
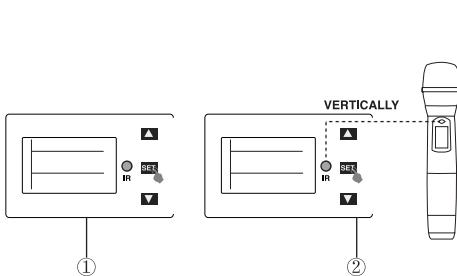


Choose the auto-scan function.

The receiver is scanning the best frequency.

### Step 4: Pair up the receiver and transmitters

- ① One short press of the SET button again to initiate the IR synchronization and see “IR- ---” flashing on the screen.
- ② Vertically aim the IR window of a transmitter to that of the receiver.
- ③ If they are paired up successfully, the group and channel number will appear the same on both receiver and transmitter. The “MUTE” on the receiver screen disappears, while the RF signal progress bar and antenna indicator flashes.



## Multiple system setup

You can use no more than 3 systems simultaneously (band and RF environment depend).

Turn on any other equipment that could cause interference during the performance so it will be detected during the group and channel scans in the following steps.

Before you begin system set up, turn all receivers ON and all transmitters OFF.

- ① Initiate the auto-scan function for a channel of a receiver.
- ② Turn on the first transmitter and pair it up with the receiver.
- ③ Repeat the above two steps until set up all channels.
- ④ Leave transmitters on and continue with additional systems according to the above three steps.

## Receiver Menu

Short press (tap) the SET button to scan the receiver menu and select the desired function, including the IR synchronization, Squelch level function, auto-scan function, and lock function.

### 1. IR synchronization

This function is for pairing up the transmitter and receiver.

- ① Short press (tap) the SET button until “IR ---” flashing on the screen.
- ② Vertically aim the IR window of a transmitter to that of the receiver to pair them up.

### 2. Squelch level function

This function is for adjusting the squelch level according to the local environment to decrease white noise.

- ① Short press (tap) the SET button until “SGL--” flashing on the screen.
- ② Short press (tap) the “▲”up and “▼”down buttons to select the desired level (in total of three levels).
- ③ Short press (tap) the SET button again to confirm your setting.

### 3. AutoScan function

This function is for automatically scanning the best available frequency for your convenient and stable use.

- ① Short press (tap) the SET button several times until the “AUT-CH” flashes on the screen.
- ② Short press (tap) the “▲”up button to initiate the auto-scan progress.
- ③ Wait until the new frequency which has been found appears on the screen.

### 4. Lock function

This function automatically scans the best available frequency for convenient and stable use.

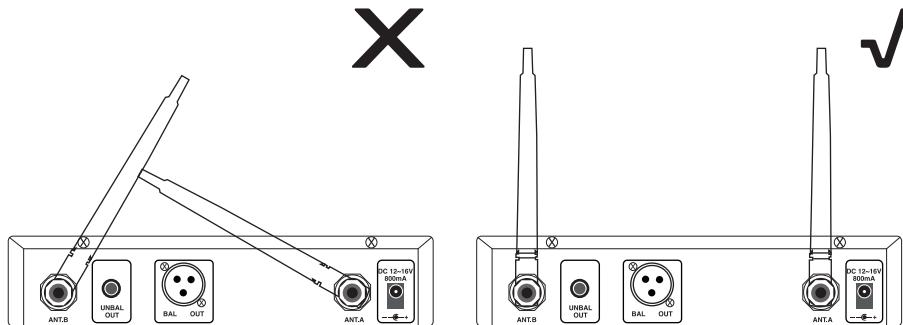
- ① Short press (tap) the SET button until the “LOC OFF” or “LOC ON” flashes on the screen.
- ② Short press (tap) the “▲”up button to lock or unlock your setting.

Short press (tap) the SET button again to confirm your setting. You can check the lock indicator for the lock (LOCK ) or unlock (UNLOCK ) status.

## Wireless Tips

If you encounter wireless interference or dropouts, try the following suggestions:

- Replace the transmitter batteries.
- Choose a different frequency channel.
- Avoid approaching the receiver and transmitters with metal or other dense materials.
- Place the receiver as high as possible on the equipment rack.
- Remove any devices causing possible signal interference, such as cellphones, computers, media players, two-way radios, and digital signal processors.
- Keep transmitters more than 6 feet (two meters) apart.
- Mark trouble spots during soundcheck and inform performers to avoid those areas.
- Place antennas away from each other.



# Troubleshooting

ISSUE	INDICATOR STATUS	CORRESPONDING SOLUTION
No sound or faint sound	Receiver LCD screen off	<ul style="list-style-type: none"> <li>• Make sure the DC adapter is securely plugged into an electrical outlet.</li> <li>• Make sure the receiver is powered on.</li> </ul>
	Receiver LCD screen on	<ul style="list-style-type: none"> <li>• Make sure the transmitter isn't muted (the mute indicator is absent).</li> <li>• Make sure the transmitter is successfully paired up with the receiver. You can see RF signal progress bar and antenna indicator "RF" or "TB" on the receiver screen.</li> <li>• Make sure the transmitter successfully transmits audio signals. You can see AF signal progress bar flashes on the receiver screen. Otherwise, replace batteries for the transmitter. If it does not work, replace the transmitter.</li> <li>• Adjust volume controls of the receiver and speaker to proper levels.</li> </ul>
Low battery	The battery indicator shows low battery status	<ul style="list-style-type: none"> <li>• Replace fresh batteries for the transmitter.</li> </ul>
A howling noise (also "feedback") from the speaker		<ul style="list-style-type: none"> <li>• Do not point the microphone directly to the speaker. And increase their distance.</li> </ul>
Flashing mute icon on the receiver	The signal cuts off sometimes.	<ul style="list-style-type: none"> <li>• Initiate the auto-scan function to find the best frequency and pair up the transmitter and receiver again.</li> </ul>
Can not select frequency	The setting may be locked	<ul style="list-style-type: none"> <li>• Check if the lock indicator "LOCK" is on the screen, which indicates the setting has been locked. Unlock your setting (page 10) and try again.</li> </ul>

# Specification

- Wireless Receiver (PWR-1U & PWR-2U)

Frequency range	470.2-607.8MHz
Frequency stability	<±30ppm
Operation mode	True diversity
Number of frequencies	1000 frequencies
Frequency response	50Hz~18KHz±3dB
RF sensitivity	≥-99dbm
SNR	≥105dB
Audio output	Balanced XLR output, 1/4" mixed output
Power requirement	DC13.5V, 500mA
Working distance	300ft - 328ft

- Handheld & Bodypack Transmitters (PWH-12/PWB-12)

Frequency range	470.2-607.8MHz
Output power	<10mW
Modulation mode	FM
Power requirement size	2 AA size alkaline batteries
Battery life	8 hours

# Technical Support & Warranty Information

## Our warranty to you:

Phenyx Technology ("Phenyx") warrants Phenyx products against evident defects in material and workmanship for a period of one year from the date of original purchase for use. This warranty is valid exclusively in the US and applies only to the original owner. If you discover a defect covered by this warranty, Phenyx will repair or replace the product at our sole discretion using new or refurbished components. Performance of repairs or replacements under this Warranty is subject to registration of your product at [www.phenyxusa.com/registerproduct](http://www.phenyxusa.com/registerproduct).

## Product failures not covered by this warranty:

This warranty covers defects in manufacturing that arise from the correct use of the device. It is limited to defects in materials or workmanship and does not cover electrical or mechanical damage resulting from abuse, misuse, unauthorized modification, lack of reasonable care, extreme heat, cold, damage due to natural forces, or corrosive environments. This warranty does not cover the normal wear and tear on covers, housing, connectors, and accessories.

## Limits of liability:

If your Phenyx product fails or does not perform as warranted, your sole recourse shall be to replace or repair it as described above. Phenyx will not be liable to you or anyone else for any damages that result from the failure of this product. These damages include, but are not limited to, the following: lost profits, lost savings, lost data, damage to other equipment, and incidental or consequential damages arising from the use of or inability to use this product. IN NO EVENT PHENYX SHALL BE LIABLE FOR MORE THAN THE AMOUNT OF YOUR PURCHASE PRICE, NOT TO EXCEED THE CURRENT LIST PRICE OF THE PRODUCT.

## How to obtain service under this warranty:

If you are receiving a system that is defective or you have any questions regarding operation or warranty cover, please contact us at [support@phenyxpro.com](mailto:support@phenyxpro.com) with any questions or concerns and a Phenyx Pro representative will contact you to provide assistance. You can also reach out to us through Facebook page: [www.facebook.com/phenyxusa/](http://www.facebook.com/phenyxusa/) or our official website: [www.phenyxpro.com](http://www.phenyxpro.com)

FCC Warning:

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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 0cm between the radiator and your body.