PHENYX PRO®

PAS-227X

Antenna Combiner System

USER MANUAL

IMPORTANT SAFETY INSTRUCTIONS

1. Read and follow these instructions carefully.
2. Only use attachments, accessories, and spare parts specified by the manufacturer.
3. Avoid exposing the product and its connections to liquids and electrically conductive objects that are not essential for its operation.
4. Do not operate near any heat sources, such as open flames, radiators, or other apparatus that produce heat.
5. Keep the power cord safe by preventing it from being walked on or pinched, especially at the plugs.
6. Do not use the apparatus during lightning storms, and unplug it when unused for a long period of time.
7. Any modifications not approved by the manufacturer for the product could result in personal injury or product failure.
8. Operate this product within its proper operating temperature range.

Caution: This symbol indicates the unit might have a risk of electric shock.

Caution: This symbol is used to alert you to potential personal injury hazards. Obey all safety messages with this symbol to avoid possible injury or death.

Caution: This symbol indicates possible risk of electric shock within the unit.

Caution: This symbol means the product must not be discarded as household waste, and should be delivered to an appropriate collection facility for recycling. Proper disposal and recycling helps protect natural resources, human health and environment. For more information on disposal and recycling of this product, contact your local municipality, disposal service, or shop where you bought this product.

IMPORTANT PRODUCT INFORMATION

Licensing: A ministerial license may be required to operate this equipment in certain areas. Consult your national authority for possible requirements. Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment. Licensing of PHENYX PRO wireless microphone equipment is the user's responsibility, and licensability depends on the user's classification and application, and on the selected frequency. PHENYX PRO strongly urges the user to contact the appropriate telecommunications authority concerning proper licensing, and before choosing and ordering frequencies.

FCC Information

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.

*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 does not 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

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

IC Statement

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:
(1) This device may not cause interference, and
(2) This device must accept any interference, including interference that may cause undesired operation of the device.
The term "IC" before the certification/registration number only signifies that the Industry Canada technical specifications were met. This product meets the aplicable Industry Canada technical specifications.

Cet appareil contient des émetteurs/récepteurs exemptés de licence conformes aux RSS (RSS) d'Innovation, Sciences et Développement économique Canada. L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body
Cet équipement est conforme aux limites d' exposition aux rayonnements ISED établies pour un environnement non contrôlé.
Cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et votre corps

Industry Canada ICES-003 Compliance Label: CAN ICES-3 (B)/NMB-3(B)

EU Directives

CE This product meets the Essential Requirement of all relevant European directives and is eligible for CE marking.

Meets essential requirements of the following European Directives:
WEEE Directive 2019/19/EU
RoHS Directive EU 2015/863
Note: Please follow your regional recycling scheme for batteries and electronic waste

Authorized European Representative

UK REP

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7 Bell Yard London WC2A 2JR, UK
United Kingdom
Email: uk-crossborder@outlook.com

EU REP

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Table of Contents

System Description

System overview

The PAS-227X active Antenna Combiner System streamlines the simultaneous operation of multiple IEM systems and significantly maximize their wireless performance. It efficiently merges up to four in-ear monitor transmitter signals into a single antenna, reducing unwanted intermodulation distortion. The freedom to position the antenna paddle allows for clear line-of-sight, improving reception quality. With 16-level gain adjustment up to +6dB, the PAS-227X provides precise control over signal strength to suit different performance environments. Its compact half-rack design conserves valuable rack space, allowing users to configure more devices and optimize their setup.

System features

- Supports up to 4 wireless IEM transmitter signals using one shared antenna, reducing intermodulation distortion and multipath interference for a cleaner RF environment.
- Provides 16-level gain adjustment with a maximum boost of +6dB to increase gain for signal loss compensation or reduce gain to prevent overload.
- Offers LED indicators for real-time signal presence monitoring.
- A wide frequency range of 460-970MHz allows compatibility with transmitters from all major brands.
- Features a half-rack design to save rack space, removable feet for flexible setup, and an adapter cord tie-off for organized cable management.
- Includes antenna mounting rod and plate for instant setup and a sturdy carrying case to safeguard your system.

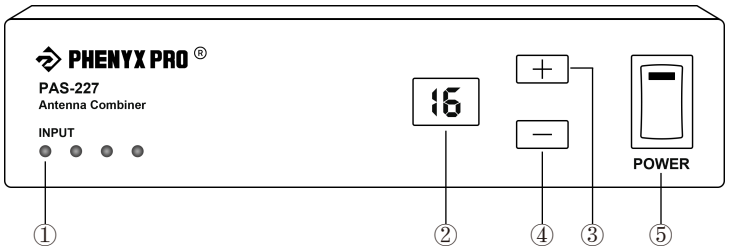
System components

1 x Antenna Combiner
1 x Paddle Antenna
1 x Antenna Mounting Rod
1 x Antenna Mounting Plate
4 x BNC Jumper Cables
1 x BNC Coaxial Cable
1 x Power Adapter
1 x Carrying Case
1 x User Manual

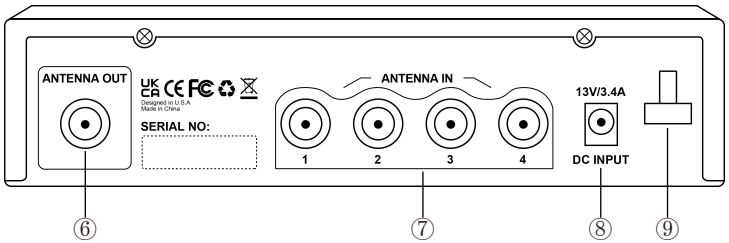
Function of parts

Antenna Combiner

Front panel



Rear panel



① **RF LED Indicators:** Displays the RF signal status for connected devices.

② **Gain Level Display:** Shows the current gain level of the output signal, adjustable in 16 increments.

③ **Up Button:** Increases the gain level by one increment.

④ **Down Button:** Decreases the gain level by one increment.

⑤ **Power Switch**

⑥ **RF Output Antenna Connector(BNC):** Connect to the paddle antenna for transmitting the combined RF signal.

⑦ **RF Inputs(BNC):** Connect to transmitter RF outputs.

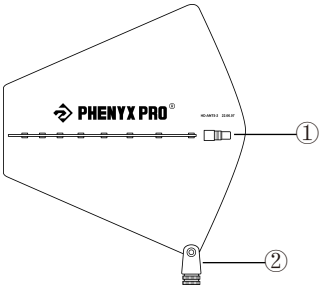
⑧ **Power Input**

⑨ **Adapter Cord Tie-off:** For cable management.

Paddle Antenna

① **Antenna Input (BNC):** For receiving the RF signal from the combiner's output.

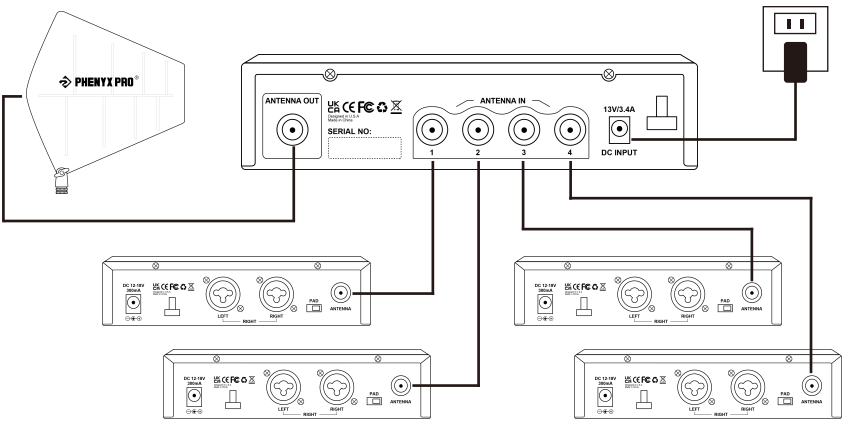
② **Mounting Hole:** For securely mounting the antenna on a stand.



Operation Guidance

Multi-system setup

1. Place the antenna stand on a stable surface or rack as needed.
2. Use the BNC coaxial cable to link the combiner's RF output to the antenna's input.
3. Use BNC jumper cables to connect each IEM transmitter's RF output to the combiner's RF inputs.
4. Plug in each IEM transmitter's power adapter.
5. Plug in the combiner's power adapter and switch it on.
6. Switch on each IEM transmitter and check if the RF signal indicators on the combiner light up.



Troubleshooting

Problem	Solution
The RF signal indicators on the combiner are not lighting up.	• Ensure all IEM transmitters are powered on and set to the correct frequency range. • Check that each transmitter is connected to the combiner's RF inputs using compatible BNC cables. • Confirm that the combiner is properly powered. • Inspect each BNC cable for loose connections or physical damage; replace if necessary.
Static noise or interference is present in the audio signal.	• Check if any nearby devices are operating on the same or overlapping frequency range and adjust frequencies accordingly. • Use the combiner's gain adjustment feature to reduce noise. • Make sure the antenna is securely connected and positioned away from metal surfaces or other RF sources.
Only some IEM transmitters show RF signal on the combiner.	• Check each transmitter's frequency and ensure it is within the combiner's frequency range. • Verify that each transmitter is correctly connected to the combiner using a working BNC cable. • If one transmitter is consistently problematic, test it on a different input to rule out issues with specific inputs on the combiner.

Additional Tips

- Periodically check all BNC cables for signs of wear or damage to prevent signal degradation.
- For best performance, position the antenna at an elevated point and away from potential sources of interference, such as Wi-Fi routers or large metal objects.
- If applicable, check for firmware updates for your IEM system or combiner and follow maintenance recommendations from the manufacturer.

Specifications

- Combiner

Frequency Range	450-970 MHz
Input Connector	BNC x 4
Output Connector	BNC x 1
Gain	0-6 dB
Maximum Input Power	20 dBm (100 mW)
Dimensions	212 x 168 x 43 mm
Power Input	DC 12V/2A

- Antenna

Input Connector	BNC x 1
Gain	3 dB

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.phenyxpro.com

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 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/ or our official website: www.phenyxpro.com.

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