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XTUGA GA816

XTUGA GA816 UHF Wireless Antenna Distribution System

USER MANUAL

Model: GA816 | Brand: XTUGA

1. Introduction

The XTUGA GA816 is a professional UHF wireless antenna distribution system designed to optimize the performance of multiple wireless microphone receivers. It allows up to four wireless receivers to share a single pair of antennas, reducing antenna clutter and improving signal reception stability. This system is compatible with a wide range of UHF microphones operating within the 400-950MHz frequency band, making it suitable for various professional audio applications.

This manual provides essential information for the proper setup, operation, and maintenance of your GA816 system. Please read it thoroughly before use to ensure optimal performance and longevity of the product.

2. Safety Information

- **Power Supply:** Use only the provided power adapter. Ensure the voltage matches the requirements of the device.
- **Environment:** Avoid exposing the unit to water, moisture, extreme temperatures, or direct sunlight. Operate in a well-ventilated area.
- **Handling:** Do not drop or subject the unit to severe impacts. Do not attempt to open or service the unit yourself; refer all servicing to qualified personnel.
- **Cables:** Ensure all cables are securely connected and not pinched or damaged.
- **Cleaning:** Disconnect power before cleaning. Use a soft, dry cloth. Do not use liquid cleaners or aerosols.

3. Package Contents

Verify that all items listed below are included in your package:

- XTUGA GA816 Antenna Distribution Amplifier Unit
- UHF Paddle Antennas (x2)

- Power Adapter
- Power Cable (for adapter)
- DC Power Cables (x4, for receivers)
- BNC to BNC Coaxial Cables (x10, for antenna connections)
- User Manual (this document)



Image: Contents of the XTUGA GA816 package, including the main distribution unit, two paddle antennas, power cables, DC power cables, and BNC cables.

4. Product Overview

The XTUGA GA816 system consists of a central antenna distribution amplifier unit and two high-gain paddle antennas. The distribution unit manages signal reception and distribution to multiple wireless receivers, while the paddle antennas are designed for enhanced signal capture over long distances.



Image: The XTUGA GA816 system, showing the main distribution unit and two paddle antennas.

4.1. Main Distribution Unit

The main unit features a robust metal chassis suitable for rack mounting. It includes inputs for the two paddle antennas, multiple outputs for connecting wireless receivers, and DC power outputs to power compatible receivers directly. The front panel displays the operating frequency range (UHF 450-950 MHz) and a power indicator.

4.2. Paddle Antennas

The two included paddle antennas are omnidirectional, designed to capture signals across a 360-degree range. Each antenna features an integrated low-noise re-amplifier with adjustable gain settings (displayed in dB) to compensate for coaxial cable signal loss and optimize reception. They are constructed from durable, anti-oxidation and anti-corrosion materials.

UHF FREQUENCY BAND FULLY COMPATIBLE

Receiving frequency band covers UHF channel (400-950MHz)
Compatible with various U-segment wireless microphones



Image: Diagram illustrating the UHF frequency band compatibility (400-950MHz) of the GA816 system, showing signal reception by the paddle antennas.

5. Setup

Follow these steps to set up your XTUGA GA816 antenna distribution system:

1. Antenna Placement:

- Position the paddle antennas in a clear line of sight to the wireless transmitters.
- The installation height of the antenna should ideally be greater than 1.8 meters (approximately 6 feet).
- Ensure the antennas are placed within the effective range of the signal transmitter and away from large metal objects or other sources of signal interference.
- When used outdoors, place the antennas in a dry, protected position.

ANTENNA RECEIVE

Equipment Placement Precautions

- The installation height of the antenna should be higher than 1.8 meters.
- The antenna needs to be placed within the range of the signal transmitter and the periphery is greater than 1.5 meters, and there is an obstructable block.
- The antenna should be allowed to stay away from large metal objects and various signal interference sources.
- When used outdoors, place the antenna in a dry position.



Image: Visual guide for correct antenna placement, showing optimal height and avoiding obstructions for better signal reception.

2. **Connect Antennas to Distribution Unit:** Use the provided BNC coaxial cables to connect each paddle antenna to the 'ANTENNA IN' ports on the rear of the GA816 distribution unit.
3. **Connect Receivers to Distribution Unit:** Use the remaining BNC coaxial cables to connect the antenna inputs of your wireless microphone receivers to the 'RECEIVER OUT' ports on the GA816 unit. The system supports up to four receivers directly.
4. **Power Receivers (Optional):** If your wireless receivers support 12V DC power via a barrel connector, use the provided DC power cables to connect the 'DC OUT' ports on the GA816 to your receivers. This can simplify power management.
5. **Power the GA816 Unit:** Connect the power adapter to the 'DC IN' port on the GA816 unit and then plug the power adapter into a suitable electrical outlet. Turn on the power switch on the front panel.

6. Operating

Once the system is set up, follow these guidelines for operation:

6.1. Gain Adjustment

Each paddle antenna has an adjustable gain setting, indicated by a digital display in dB. This allows you to compensate for signal loss over long coaxial cable runs. Adjust the gain using the up/down buttons on each

antenna until you achieve optimal signal strength on your receivers without introducing excessive noise. Start with a lower gain setting and increase it gradually if needed.



Anti-oxidation



Anti-corrosion



GAIN SETTING

There are two gain settings to compensate for different levels of coaxial cable signal loss.

Image: Close-up of a paddle antenna showing the digital display for gain setting (in dB) and adjustment buttons.

6.2. Signal Range and Stability

The GA816 system is designed to provide stable signal reception over long distances, up to 2600 feet (approximately 800 meters) under ideal conditions. Proper antenna placement and gain adjustment are crucial for maximizing this range and maintaining signal integrity.

LONG-DISTANCE SIGNAL TRANSMISSION

800M



(Antenna bracket not included)



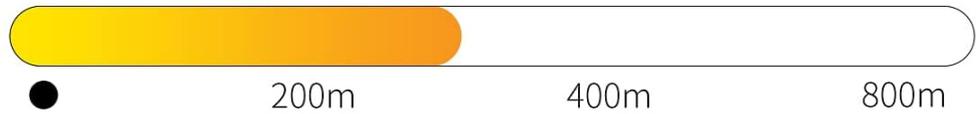
Image: Graphic illustrating the long-distance signal transmission capability of the GA816 system, indicating a range of 800 meters.

3 TIMES STABLE



Other

Use distance in the range of 200-300m



VS



GA816

Use distance in the range of 800m



Image: Comparison graphic showing the extended and more stable signal reception range of the GA816 (800m) compared to other systems (200-300m).

6.3. Cascading Multiple Units

The GA816 unit includes a cascade port, allowing you to connect a fifth receiver or link to a second antenna distribution system for expanding the number of wireless channels. Refer to the specific connection diagrams for cascading in advanced setup guides or contact XTUGA support for detailed instructions.

7. Maintenance

- **Cleaning:** Regularly wipe the unit and antennas with a soft, dry, lint-free cloth. Do not use abrasive cleaners, solvents, or chemical sprays.
- **Storage:** When not in use for extended periods, store the system in its original packaging or a protective case in a cool, dry place.
- **Cable Inspection:** Periodically check all cables for signs of wear, cuts, or damage. Replace any damaged cables immediately.

8. Troubleshooting

If you encounter issues with your GA816 system, refer to the following common problems and solutions:

- **No Power:**

- Ensure the power adapter is securely connected to the unit and a working power outlet.
- Check the power switch on the front panel is in the 'ON' position.

- **Poor Signal Reception / Dropouts:**

- Verify antenna placement: Ensure clear line of sight, proper height, and distance from obstructions or interference sources.
- Adjust antenna gain: Increase the gain on the paddle antennas if using long coaxial cables, but avoid excessive gain which can introduce noise.
- Check all BNC cable connections between antennas, distribution unit, and receivers for tightness.
- Ensure the wireless microphone frequencies are within the 400-950MHz range supported by the GA816.
- Test with shorter cables if possible to rule out cable issues.

- **Receivers Not Powering On (via GA816 DC Out):**

- Confirm your receivers are compatible with 12V DC input via a barrel connector.
- Ensure the DC power cables are correctly connected.
- Verify the GA816 unit itself is powered on.

If problems persist after attempting these solutions, please contact XTUGA customer support for further assistance.

9. Specifications

Feature	Specification
Model Number	GA816
Frequency Range	UHF 400-950MHz
Number of Channels	10 (Antenna groups)
Antenna Type	360° Active Omnidirectional Paddle
Antenna Gain	Adjustable (dB)
Impedance	50 Ohm
Maximum Range	2600 Feet (approx. 800 meters)
DC Power Output	12V (x4 ports)
Power Source	Corded Electric
Voltage	110V
Product Dimensions	21.65 x 15.75 x 5.9 inches
Item Weight	14.22 pounds
Color	Black

10. Warranty and Support

For warranty information and customer support, please refer to the documentation provided with your purchase or visit the official XTUGA website. Keep your proof of purchase for any warranty claims.

You can find more information about XTUGA products and support at the [XTUGA Brand Store](#).

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