

## YCZHI 1500W FM Broadcast Transmitter

# YCZHI 1500W FM Broadcast Transmitter User Manual

Model: 1500W FM Broadcast Transmitter

## 1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your YCZHI 1500W FM Broadcast Transmitter. Designed for professional radio broadcasting, this unit incorporates advanced digital technologies to deliver high-quality audio transmission over long distances. Please read this manual thoroughly before installation, setup, and operation to ensure optimal performance and longevity of your equipment.

## 2. SAFETY INFORMATION

Your YCZHI FM Broadcast Transmitter is equipped with multiple safety features to protect the device and ensure reliable operation. Adhere to the following safety guidelines:

- **Power Supply:** Use only the specified AC power (100-240V) and the provided power line. Ensure the power source is stable and properly grounded.
- **Ventilation:** Maintain adequate airflow around the transmitter. Do not block ventilation openings. The unit features an internal fan for cooling; ensure it operates freely.
- **Overheat Protection:** The transmitter will automatically switch to auto-protection with an alarm message and a beep sound if the working temperature exceeds the normal range. If this occurs, immediately check ventilation and ambient temperature.
- **Over SWR Protection:** The system includes protection against high Standing Wave Ratio (SWR). An alarm will be displayed if the SWR is too high, indicating a potential issue with the antenna or cable connection.
- **Fan Error Alarm:** If the cooling fan stops running, an alarm message will be displayed on the screen.

Address fan issues promptly to prevent overheating.

- **Lightning and Over-voltage Protection:** While built-in protections are present, it is recommended to use external surge protectors and disconnect the unit during lightning storms.
- **Short Circuit Protection:** The unit is designed with short circuit protection. Avoid any actions that could lead to short circuits.
- **Environment:** Operate the transmitter in a dry, dust-free environment. Avoid exposure to moisture or extreme temperatures.

### 3. PACKAGE CONTENTS

Upon unpacking, please verify that all the following items are included in your package:

- 1 x YCZHI FM Broadcast Transmitter Unit
- 1 x Audio Line
- 1 x Power Line
- 1 x English User Manual



- Package Included:**
- (1) FM transmitter
  - (2) 1\* English used manual
  - (3) 1\* Audio line
  - (4) 1\* Power line

The package includes the YCZHI FM Transmitter unit, an English user manual, an audio line, and a power line, ensuring

## 4. PRODUCT OVERVIEW

### 4.1 Key Features

- **All-Digital Technologies:** Utilizes DSP+PLL for superior sound quality and stability.
- **Real-time LCD Display:** A large LCD screen displays all critical parameters in real-time, including working frequency, volume, FETMOS temperature, forward power, and SWR.
- **Enhanced Audio Quality:** DSP (Digital Sound Processing) technology minimizes noise and distortion, providing a clear broadcasting experience.
- **Adjustable Power Output:** RF output is continuously adjustable from 0 to 1500 watts, with a precise stepping of 0.1 watt, allowing fine-tuning for various broadcasting needs.
- **Long Range Transmission:** Capable of covering a radius of approximately 25-38 km (15.53-23.61 miles) depending on environmental factors and antenna setup.
- **Multiple Security Protections:** Includes overheat protection, over SWR protection, fan error alarm, lightning protection, over-voltage protection, and short circuit protection.
- **Durable Construction:** Made from matte aluminum alloy, offering high heat dissipation performance and corrosion resistance. The panel features wire drawing technology for an aesthetic finish, and buttons are cylindrically designed for comfortable operation.

### 4.2 Components and Controls



The front panel of the YCZHI FM Broadcast Transmitter features a clear LCD display that shows real-time operational parameters, along with control buttons and indicators.



This image illustrates the key components and connections of the transmitter. The front panel includes the power ON/OFF button, rotating button for navigation, and the LCD display. The rear panel provides the AC power input (100-240V), RF output, fan, RF test port, AES/EBU and XLR audio inputs (Left/Right), MPX/RDS/AUX input, RS-232 port, and LAN port.

## ALL-DIGITAL TECHNOLOGIES DSP+DDS FIVE KINDS PROTECTIONS FOR SECURITY

The DSP(Digital Sound Processing) technology makes the YXHT FM transmitter an enjoyable sound broadcasting device for all music lovers.



The transmitter incorporates ALL-DIGITAL TECHNOLOGIES DSP+DDS, ensuring superior sound quality and offering five kinds of protections for enhanced security. The graphic also shows the FM frequency range from 87 MHz to 108 MHz.



### MATTE ALUMINUM ALLOY MATERIAL

- High heat dissipation performance, Corrosion resistance
- The panel adopts wire drawing technology, Exquisite and Beautiful
- The button is cylindrical design and feels comfortable

Constructed from matte aluminum alloy, the transmitter boasts high heat dissipation performance and corrosion resistance. The panel features wire drawing technology for an exquisite appearance, and the cylindrical design of the buttons ensures comfortable operation.

## 5. SPECIFICATIONS

Parameter	Value
Frequency Setting Step	10KHz
Carrier Frequency Precision	±200Hz
Residual Wave Radiation	≥65dBc
Audio Input Impedance	600Ω, Balance
Separation (Pilot Signal Modulation)	60dB (8%~10%)
Sub-carrier Suppression	≥65dB
Audio Input Level	±10dBm, step 0.01dB
Signal-to-Noise Ratio (S/N)	≥75dB (30Hz~15kHz, 100%)
Audio Harmonic Distortion	<0.05%

Parameter	Value
Audio Response	±0.05dB (30Hz~15KHz)
Output Load Impedance	50Ω
Pre-emphasis	0μS, 50μS, 75μS
Output Power	0~1500W
Deviation	±75kHz
Product Dimensions (L x W x H)	19 x 18.5 x 3.5 inches
Weight	30 lb
Tuner Technology	FM
Power Source	Corded Electric
Radio Bands Supported	1-Band

## 6. SETUP

Follow these steps to set up your YCZHI FM Broadcast Transmitter:

- Placement:** Place the transmitter on a stable, flat surface in a well-ventilated area. Ensure there is sufficient space around the unit for proper airflow, especially around the fan at the rear.
- Connect Antenna:** Connect your FM broadcast antenna to the RF Output port on the rear panel. Ensure a secure and proper connection to prevent SWR issues.
- Connect Audio Input:** Connect your audio source to the XLR Audio Input (Left/Right) or the MPX/RDS/AUX Input on the rear panel using the provided audio line or your own compatible cables.
- Connect Power:** Plug the provided power line into the AC Power input (100-240V) on the rear panel of the transmitter, then plug the other end into a grounded electrical outlet.
- Initial Check:** Before powering on, double-check all connections to ensure they are firm and correct.

## 7. OPERATING INSTRUCTIONS

Once the transmitter is set up, follow these instructions for operation:

- Power On:** Press the Power ON/OFF button on the front panel to turn on the transmitter. The LCD display will illuminate and show initial parameters.
- Set Frequency:** Use the Rotating button on the front panel to navigate through the menu options and set your desired broadcasting frequency. The frequency setting step is 10KHz.
- Adjust Output Power:** Navigate to the power output setting using the Rotating button. Adjust the RF output power from 0 to 1500 watts in 0.1-watt increments according to your requirements and local regulations.

4. **Monitor Parameters:** Continuously monitor the LCD display for real-time information on working frequency, audio volume, FETMOS temperature, forward power, and SWR.
5. **Set Pre-emphasis:** Adjust the pre-emphasis setting (0 $\mu$ S, 50 $\mu$ S, or 75 $\mu$ S) to match your audio source and broadcasting standards.
6. **Audio Input Level:** Ensure your audio input level is within the recommended range of  $\pm 10$ dBm. The system allows for fine adjustment in 0.01dB steps.
7. **Broadcasting:** Once all settings are configured and verified, you can begin your FM broadcast.

## 8. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your transmitter:

- **Cleaning:** Keep the exterior of the unit clean and free of dust. Use a soft, dry cloth. Do not use liquid cleaners or solvents.
- **Ventilation:** Periodically check that the ventilation openings and the cooling fan are free from dust and obstructions. Ensure proper airflow is maintained at all times.
- **Fan Operation:** If a fan error alarm is displayed, inspect the fan for any blockages. If the fan is faulty, contact customer support for assistance.
- **Cable Connections:** Periodically inspect all cable connections (power, audio, RF) for wear, damage, or looseness. Ensure they are securely fastened.

## 9. TROUBLESHOOTING

This section provides solutions to common issues you might encounter:

- **Overheat Alarm:**
  - **Symptom:** Transmitter switches to auto-protection, alarm message and beep sound.
  - **Cause:** High internal temperature.
  - **Solution:** Check for blocked ventilation openings. Ensure adequate space around the unit for airflow. Reduce ambient room temperature if necessary. Allow the unit to cool down before restarting.
- **Over SWR Alarm:**
  - **Symptom:** Alarm message displayed indicating high SWR.
  - **Cause:** Mismatch between transmitter and antenna, faulty antenna, or damaged RF cable.
  - **Solution:** Inspect the antenna and RF cable for any damage or loose connections. Ensure the antenna is properly tuned for the operating frequency.
- **Fan Error Alarm:**
  - **Symptom:** Alarm message displayed, fan stops running.
  - **Cause:** Fan malfunction or obstruction.
  - **Solution:** Power off the unit and carefully check the fan for any visible obstructions. If the fan is not spinning freely or appears damaged, contact customer support.

- **No Audio Output:**

- **Symptom:** Transmitter is on, but no audio is being broadcast.
- **Cause:** Incorrect audio input connection, low audio input level, or incorrect audio settings.
- **Solution:** Verify audio cable connections. Check the audio input level setting on the transmitter and ensure your audio source is active and providing a signal.

If you encounter issues not covered in this section or if problems persist, please refer to the warranty and support information.

## 10. WARRANTY AND SUPPORT

The YCZHI 1500W FM Broadcast Transmitter comes with a **6-year warranty**, demonstrating our commitment to quality and reliability. For warranty claims, technical support, or any inquiries regarding your product, please contact the seller or manufacturer directly through your purchase platform or the contact information provided with your product documentation.

Please retain your proof of purchase for warranty validation.