

BTECH AMPLIFIER USER MANUAL

【READ FIRST】 :

- **The BTECH Series Amplifiers are available in different frequency bands and frequency modulation modes (D Series covers both FDMA/TDMA).**
- **Transmitting Out of Band (Example: Transmitting VHF on UHF):**
 - **FDMA Amplifier:** Transmitting out of band on the FDMA Amplifiers will pass through the direct HT power through. Ensure the connected antenna is matched and you can transmit out of band without amplification
 - **TDMA Amplifier (D Series):** Amplifier will not transmit out of band (example: it will not transmit a VHF signal on the UHF amplifier (vice versa)). Do not transmit out of band on the *TDMA (D Series) Amplifier*
- **Transmitting on a different Modulation Mode:**
 - **FDMA Amplifier:** The FDMA amplifier will not properly transmit another other modulation mode (such as DMR which is TDMA)
 - **TDMA Amplifier (D Series):** The TDMA Amplifier is compatible with both FDMA and TDMA signals. It will automatically transmit the proper signal
- **Use a Proper External Antenna to the Amplifier**

Antenna Basics

Your BTECH Amplifier does not include an Antenna. It is very Important to not transmit without an antenna or dummy load attached to the amplifier. Doing so, may cause harm to the radio equipment.

You will want to choose a suitable antenna for the bands you plan on transmitting and receiving on.

Example: If you plan on transmitting on 145MHz you will want to ensure you have picked an antenna that states it is capable of working with 145MHz.

If an antenna is not properly tuned for the frequency you transmit on – it can cause damage with the reflected power going back into the radio. Pick an antenna with SWR of less than 1.5:1 to safely transmit.

Magnetically Mounted Antennas:

These antennas must be grounded to a metal surface, such as a vehicle body. Magnetic base antennas do not properly operate unless they are fully magnetically grounded first.

【Product Highlights】 :

- The BTECH Amplifier series are portable, lightweight, wide coverage RF power amplifiers for Handheld Radio equipment.
- Dual mode Amplifier for both Digital and Analog Radio Automatic recognition of digital and analog systems.
 - Use the FDMA Amplifier for: Analog, P25 Phase 1, C4FM (System Fusion), NXDN, IDAS, dPMR, MPT1327
 - Use the D Series TDMA Amplifier for **all FDMA Modes Plus** DMR and P25 Phase 2
 - TDMA Amplifier Signified by “D” on Model Number*
- High output power up from 20-30 watts (Input: 2-6 watts)
- Small size: This amplifier's size makes it the perfect companion for field operation without the added weight.
- Includes Voltage Spike Suppression, Over Temperature Protection, RF sensing, Automatic Power Control (APC), Harmonic Filters.
- Harmonic Filters: Purifies the input signal and transmits a cleaner signal
- Built-in large speaker and microphone socket.
- Status indicators: Shows on the amplifier the current status.

【Three Basic Options to Operate your Amplifier】 :



Option 1:

Only connect to the Antenna Jacks on the Radio and Amplifier – Use the radio itself to operate the amplifier



Option 2:

Only connect to the Antenna Jacks on the Radio and Amplifier – Use the accessory jack on the radio to an external mic or earpiece to operate the amplifier



Option 3:

Connect both to the Antenna Jacks and Audio jacks on the Radio and Amplifier – Use the supplied microphone and built in speaker to operate the amplifier without using the radio itself.

The kit includes a KPG-22 to KPG-22 (Kenwood 2 Pin) Control Cable. You may need to use an accessory adaptor if your radio does not use the KPG-22 2 Pin Standard.

FCC Statement

This equipment has been tested and found to comply with the limits for part 90 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. Verification of harmful interference by this equipment to radio or television reception can be determined by turning it off and then 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 different circuit to that of the receiver's outlet.

Consult the dealer or an experienced radio/TV technician for help.

Operation is subject to the following two conditions:

This device may not cause harmful interference.

This device must accept any interference received, including interference that may cause undesired operation.

Note: Changes or modifications to this unit not expressly approved by the party responsible for

compliance could void the user's authority to operate the equipment.

Compliance with RF Exposure Standards

United States Federal Communications Commission, Code of Federal Regulations; 47 CFR § 1.1307, 1.1310 and 2.1091

American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) C95.1:2005; Canada RSS102 Issue 5 March 2015.

Institute of Electrical and Electronic Engineers (IEEE) C95.1:2005 Edition

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

RF Exposure Compliance and Control Guidelines and Operating Instructions

To control your exposure and ensure compliance with the occupational/controlled environment exposure limits always adhere to the following procedures.

Guidelines:

Do not remove the RF Exposure Label from the device.

User awareness instructions should accompany device when transferred to other users.

Do not use this device if the operational requirements described herein are not met.

Operating Instructions:

Keep the device at least 40 cm away from the body. Keeping the device at the proper distance is important as RF exposure decreases with distance from the antenna. The antenna should be kept away from the face and eyes.

Use of non-approved accessories may result in exposure levels which exceed the FCC's occupational/controlled environmental RF exposure limits.

Use of non-approved antennas, batteries, and accessories cause the repeater to exceed the FCC RF exposure guidelines.

Contact your local dealer for the product's optional accessories.

【Supplied Accessories】

Body	1pc
Mobile Mounting Bracket & Screw set	1pc
Radio to Amplifier RF cable	1pc
Radio to Amplifier Accessory Control Cable (KPG-22)	1pc
User Manual	1pc
Speaker Microphone & Hanger	For Power Amplifier

【Specifications】 :

- Frequency range:
400MHz-480MHz **AMP-U25 & AMP-U25D**
- Power supply: DC 13.8V (±15%)
- Input RF power: 2 - 6W (±10%)
- Output RF power: 20 - 30W
- Current: 4.0-5.5A
- Size: 135*115*35mm
- Net weight: 800g