Go Beyond Normal Limits...℠

RITRON®
WIRELESS SOLUTIONS

# PBS-446D SPECIFICATIONS

07/08

## GENERAL

| | |
|---|---|
| **FCC ID:** | AIERIT16-446 |
| **Industry Canada ID:** | 1084A-RIT16446 |
| **FCC Rule Parts:** | 22, 74, 90, 95A |
| **Frequency Range:** | 450 - 470 MHz |
| **Max. Freq. Separation:** | 20 MHz |
| **RF Channels:** | Up to 10 Channels, Independent TX/RX frequencies. |
| **Synthesizer Step Size:** | 12.5 kHz |
| **Frequency Stability:** | ± 2.5 PPM (-30 C to +60 C) TX/RX |
| **Tone/Code Signaling:** | CTCSS (Quiet Call)<br>Digital Coded Squelch (Digital Quiet Call)<br>2-Tone Paging Decode<br>DTMF ANI Encode |
| **Dimensions:** | 1.5” H x 3.75” W x 6.0” D |
| **Weight:** | 1 lb. 5 oz. with antenna |
| **Enclosure Material:** | Steel with e-coat finish |
| **Earphone Jack:** | 3.5 mm, disconnects the internal speaker for external earphone, speaker / microphone, or headset. Also provides cable connection for PC programming. |
| **Microphone/PTT:** | 2.5 mm, disconnects the internal microphone for external Speaker / microphone or headset. |
| **Antenna Fitting:** | BNC |

## RECEIVER

| | Wide Mode | Narrow Mode |
|---|---|---|
| **Modulation Acceptance:** | ± 5.0 kHz | ± 3.75 kHz |
| **Sensitivity (12 dB SINAD):** | 0.20 µV | 0.20 µV |
| **Adjacent Channel (EIA):** | - 65 dB | - 50 dB |
| **Spurious Rejection:** | - 60 dB | - 60 dB |
| **Image Rejection (EIA):** | - 65 dB | - 65 dB |
| **Intermodulation (EIA):** | - 65 dB | - 65 dB |
| **Noise Squelch Sensitivity:** | Programmable per channel, factory set for 12 dB SINAD | |
| **Frequency Response:** | 300 - 3000 Hz, de-emphasized | |
| **Audio Output:** | 1 Watt into 8 Ω, with less than 5 % THD @ the earphone jack | |
| **Receiving System:** | Dual conversion superheterodyne | |
| **I.F. System:** | 1st-43.65 MHz, 2nd - 450 kHz | |
| **L.O. Injection:** | Low side | |
| **QC/DQC Decode Time:** | per EIA Standards | |

**www.ritron.com**

**Ritron, Inc. • P. O. Box 1998 • Carmel, Indiana 46082-1998 • Ph: 317-846-1201 • Fx: 317-846-1978 • Email: sales_info@ritron.com**

## TRANSMITTER

| | Wide Mode | Narrow Mode |
|---|---|---|
| **Emission Designator:** | 16K0F3E | 11K0F3E |
| **Deviation:** | ± 5.00 KHz | ± 2.50 KHz |
| **FM Hum and Noise:** | - 40 dB | - 37 dB |
| **Audio Distortion:** | < 2 % | < 6 % |
| **RF Power Output:** | 2.5 Watts @ +13 VDC | |
| **Spurious & Harmonics:** | - 55 dBc | |
| **Audio Response:** | Meets FCC and EIA requirements | |
| **Time-out Timer:** | 60 seconds, programmable | |

## POWER REQUIREMENTS @12VDC

| | |
|---|---|
| **Standby:** | 71 mA |
| **Sleep:** | 25 mA |
| **Avg. Standby with Power Saver:** | 28.5 mA |
| **Receive:** | 250 mA |
| **Transmit:** | 750 mA @ 2.5 Watts |

## CONTROLS

**On/Volume Up:**

Radio emits the Channel Beep when turned on, followed by increasing volume as indicated on the Channel Display.

**Volume Down/Off:**

Decreasing volume as indicated on the Channel Display, with two tones when turned off.

**Both Volume Buttons:**

Alternates between Tone Squelch (single beep) and Carrier Squelch (two beeps). On channels programmed for 2-tone paging decode, three beeps indicates 2-tone paging is set.

If both buttons are held down until the radio beeps repeatedly, squelch will be disabled.

**"Z" Button:**

The Special Function "Z" button can be programmed for one of the following features:

- **Scan** – The radio emits the Scan Beep and the display will rapidly flash the channels as they are scanned, and will stop when a channel is received.
- **Send DTMF ANI** – The radio transmits the pre-programmed DTMF ANI string, and the ANI string is heard on the speaker.
- **Monitor** – Alternates the receiver between Tone squelch (single beep), carrier squelch (two beeps), and 2-tone paging decode (three beeps).
- **Call Tone** –The radio transmits a Call Alert Tone that is also heard on the speaker.

**PTT:**

Activates the transmitter, and is programmable for a single "transmit beep".

**Channel:**

The Channel Beep will sound whenever channel 1 is selected.

When the scan channel is selected the radio emits the Scan Beep.

**Channel Display:**

The 7-segment LED display indicates current operating channel.

When the scan channel is selected the display will rapidly flash the channels as they are scanned, and will stop when a channel is received.

The channel display also indicates volume level whenever a volume control is pressed.

**Transmit/Monitor Lamp:**

A single light in the lower right corner of the channel display is lit continuously when the transmitter is active and blinks when the receiver detects a carrier.