

ATW-R3100b

audio-technica

Frequency-agile True Diversity UHF Receiver

3000 series wireless systems



Features

- **Automatic frequency scanning**
- **High sensitivity dual IF receiving design for dropout-free performance**
- **High-efficiency compander for flawless audio**
- **Three compatible frequency bands with 996 - 1001 selectable UHF frequencies per band**
- **25 kHz frequency spacing makes it easier to find a clear, open frequency in crowded RF environments**
- **Nine pre-coordinated frequency scan groups simplify selection of usable frequencies in a multi-channel wireless system**
- **Receiver internal function menu with soft-touch controls**
- **Digital Tone Lock™ squelch**
- **Adjustable receiver squelch**
- **Transmitter battery-life fuel gauge on the front panel**
- **Operator alert indicators**
- **True diversity receiver with silent, automatic switching**
- **AC or 12–18V DC operation**
- **Rear panel antenna mount options**
- **Antenna power available for powered antennas & other in-line RF devices**
- **Balanced and unbalanced outputs**
- **Output level control on the rear panel**
- **Ground lift switch on balanced output**
- **Receiver mounts in a single rack space (1 or 2 units)**

Description

The ATW-R3100b frequency-agile true diversity UHF wireless receiver sets a new standard for audio and RF performance. With a large operating range and superb noise specifications, the 3000 Series provides the audio quality and reliability necessary for the high quality sound systems of today.

Automatic frequency scanning eliminates the need for searching for clear channels and automatically selects the most appropriate frequency for the area in which the wireless is operating. 25 kHz frequency spacing enables the system to easily find an open frequency in crowded RF environments, while nine pre-coordinated frequency scan groups simplify selection of usable frequencies in a multi-channel wireless system. The flexibility in programming both the receiver and transmitter allows the customizing ability for this wireless system to meet virtually any application. Features not often found in other receivers include high-pass filter, meter hold function, adjustable squelch, selectable power/mute on transmitters, lock functions for operational safety, and control of input sensitivity.

Designed to operate from AC or 12–18V DC, the receiver incorporates rear-panel connections for balanced XLR and unbalanced 1/4" outputs with

adjustable gain along detachable BNC 1/4" wave antennas are also included. Switchable 12V DC antenna power is available on the BNC-type connectors for powered antenna accessories. The receiver is half-width for a standard 1U 19" rack-mount and includes rack-mount adapters.

Architect's and Engineer's Specifications

The frequency-agile FM wireless receiver shall be part of a wireless microphone system operating in the bands of 482.000–507.000 MHz, 541.500–566.375 MHz, or 655.500–680.375 MHz. It shall be capable of operating on any of 996–1001 PLL-synthesized frequencies per band. The all-metal receiver shall provide an automatic scanning function to select appropriate local usable channels for proper wireless system operation. All configuration functions of the receiver shall be controlled by soft-touch controls on the receiver front panel. It shall be a True Diversity receiver with two independent internal receiver sections, automatically selecting the highest quality signal for the receiver's output. The system will be equipped with an advanced Tone Lock™ digital identification system to ensure that only the desired wireless microphone transmitter allows the receiver to be un-muted. The receiver shall have an alert LED on the front panel that indicates transmitter low battery warning, signal loss and input overload. The receiver shall continuously monitor and display the battery life indicator of the wireless transmitter, the RF signal strength and the diversity selection of internal dual tuner sections (A&B). The receiver shall have a rear panel selector to lift the ground connection from pin 1 of the XLR-type output connector to prevent ground loops. The receiver shall be able to be powered by 120V AC 60 Hz or 12–18V DC at 500 mA. Antennas shall be located on the rear of the receiver and shall incorporate standard BNC-type connectors to allow them to be detached from the receiver to facilitate the receiver being used with external antennas or antenna distribution devices. Switchable 12V DC power shall be provided on the BNC-type connectors. An accessory bracket should allow for the antennas to be located at the front of the receiver. The receiver can be rack-mounted singly or in pairs in a single rack space. The receiver's design shall provide totally silent audio output mute when the wireless transmitter is turned off or signal is lost. The wireless receiver and the supplied metal rack-mounting brackets shall be industrial black.

The FM wireless receiver shall be an Audio-Technica ATW-R3100b or equivalent.

ATW-R3100b

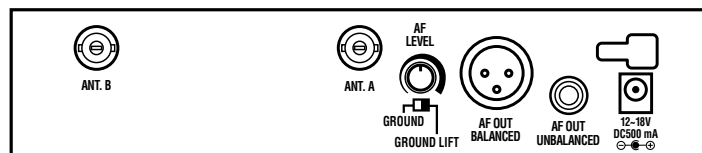
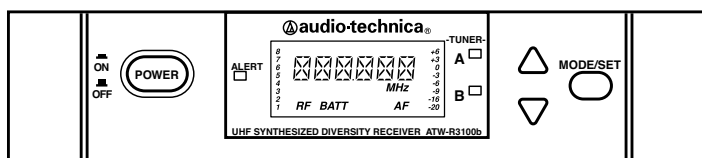
Specifications

| Specifications | Overall system |
|-----------------------------|--|
| UHF operating frequencies | Band C: 541.500–566.375 MHz (996 frequencies, 25 kHz increments) Band D: 655.500–680.375 MHz (996 frequencies, 25 kHz increments) Band I: 482.000–507.000 MHz (1001 frequencies, 25 kHz increments) |
| Minimum frequency step | 25 kHz |
| Modulation mode | FM |
| Maximum Deviation | ±35 kHz |
| Dynamic Range | >110 dB (A-weighted), typical |
| Total harmonic distortion | <1% (at 1 kHz, ±17.5 kHz deviation) |
| Operating range | 100 m (300') typical (open range environment with no interfering signals) |
| Operating temperature range | –5° C (23° F) to +45° C (113° F) (battery and LCD performance may be reduced at very low temperatures) |
| Frequency response | 70 Hz to 15 kHz (+1 dB, -3 dB) |

ATW-R3100b receiver

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|----------------------|--|
| Receiving system | True Diversity |
| Image rejection | 60 dB nominal, 55 dB minimum |
| RF sensitivity | 24 dBuV at 60 dB S/N ratio (50 ohms termination) |
| Maximum output level | Balanced: +9 dBV; Unbalanced: +7 dBV |
| Output connector(s) | Unbalanced: 6.3 mm (1/4") Balanced: XLR-type |
| Antenna input | BNC-type, 50 ohms Bias voltage 12V DC, 60 mA, each |
| Power requirements | 12-18V DC, 500 mA |
| Dimensions | 210.0 mm (8.27") W x 164.4 mm (6.47") D x 44.0 mm (1.73") H (not including BNC connectors or feet) |
| Net weight | 1.1 kg (38.8 oz) |
| Accessories included | Two flexible UHF antennas (country dependent); AC adapter; rack-mount adapters |

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