AEW-R4100

audio-technica

Frequency-agile True Diversity UHF Receiver

4000 Series artist elite® wireless systems

Features

- **IntelliScan™ automatic frequency scanning and selection on all linked receivers**
- **Two compatible frequency bands with 996 selectable channels each**
- **25 kHz frequency spacing makes it easier to find a clear, open frequency in crowded RF environments**
- **True diversity receiver with dual IF design for dropout free and silent, automatic switching**
- **Up to 40 systems compatible using both bands**
- **High efficiency dual companding system for flawless audio**
- **Digital Tone Lock™ squelch that communicates transmitter data to the receiver**
- **Adjustable receiver squelch**
- **Receiver internal function menu with soft-touch controls**
- **High visibility white-on-blue LCD receiver status display**
- **All components store up to five preset configurations including names**
- **Rear panel, front panel or external antenna mount options with 12-volt antenna power**
- **Balanced and unbalanced outputs with three-position attenuator**
- **Ground lift switch on balanced output**
- **Headphone output**
- **Flexible 1/2 wave antennas supplied for superior range**
- **Receiver mounts in a single rack space (1 or 2 units)**

Description

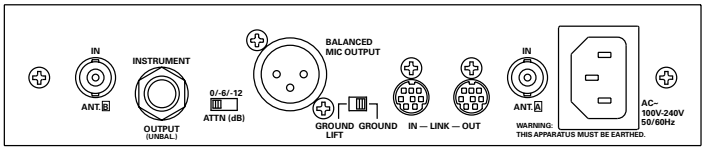
The AEW-R4100 receiver operates on one of two UHF bands with 996 selectable frequencies. 25 kHz frequency spacing enables the systems to easily find an open frequency in crowded RF environments. It is equipped with IntelliScan® automatic channel assignment system, which greatly simplifies the selection of usable frequencies in a multi-channel wireless system and eliminates the need for searching for clear channels. The receiver features true diversity reception with two antennas feeding two completely independent RF sections. Automatic logic circuitry continuously compares and selects the superior received signal providing better sound quality and reducing the potential for dropouts. A unique dual compander design extends the audio bandwidth of the system and an advanced digital Tone Lock™ squelch helps minimize interference. In addition, the Tone Lock signal from the transmitter also conveys information on the transmitter's battery condition, mute status, and transmitter name back to the receiver for display. All receiver functions are accessed via front panel soft-touch controls with lockout capability to prevent unauthorized access. The receiver's front panel display provides continuous indication of RF signal strength along with the audio modulation level of the received signal. Features not often found on other receivers include high pass filter, meter hold function, adjustable squelch, alert indicators on the front panel and 12V DC power on the antenna connections for powered RF accessories. A front panel headphone connection with level control is provided for audio confidence monitoring. Four user selectable, namable presets allow the ability to store and recall commonly used settings increasing the flexibility of the receiver in multi-use venues. Designed to operate from mains AC, the receiver incorporates a universal self selecting internal power supply with standard IEC power connector eliminating the need for a wall wart. Each receiver incorporates rear-panel connections for balanced XLR and unbalanced 1/4" outputs with adjustable gain along with detachable BNC 1/2 wave antennas. The receiver is halfwidth for a standard 1U 19" rack space and includes rack-mount adapters.

Architect's and Engineer's Specifications

The frequency-agile automatic scanning FM wireless receiver shall be designed to operate in UHF bands of either 541.500–566.375 MHz or 655.500–680.375 MHz and shall be capable of operating on any of 996 PLL-synthesized channels per band. The all-metal receiver shall provide an intelligent automatic scanning and frequency plan building function to select and coordinate appropriate local usable channels for proper wireless system operation for all linked receivers. All receiver functions shall be controlled by soft-touch controls on the receiver front panel. It shall be a true diversity receiver with two independent internal tuner sections, automatically selecting the highest quality signal for the receiver's output. The receiver shall incorporate a dual compander system for processing high and low audio frequencies separately. 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 four operator indicators on the front panel: transmitter low battery warning, signal loss, input overload and transmitter power setting. The receiver shall continuously monitor and display the battery life indicator of the associated wireless transmitter, the RF signal strength and the selection of internal dual tuner sections (A&B). A high-visibility white-on-blue receiver display shall be provided to visually monitor receiver functions and shall be visible in both bright and low light conditions. The display in conjunction with front panel soft-touch controls shall be used to configure and set up the receiver's operating parameters. It shall be possible to show the receiver or transmitter name on the display in alphanumeric characters. Four selectable, namable user presets shall be provided to store and recall receiver parameters. It shall be possible to lock out all receiver front panel controls to prevent unauthorized operation. A front panel headphone connection with independent output level control shall be provided for audio confidence monitoring. 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. A three-position audio output attenuator shall be located on the rear panel to match the receiver output to ancillary equipment. The receiver shall be powered by 100–240V AC 50–60 Hz and incorporate a detachable power cable assembly using standard IEC connections. Antennas shall be located on the rear of the receiver and shall utilize 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 antenna power shall be provided to power external active antenna system devices. The receiver's design shall provide totally silent audio output muting 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 receiver shall be rackmountable singly or in pairs in a single rack space.

The wireless receiver shall be an Audio-Technica AEW-R4100 or equivalent.

front



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Specifications

	Overall system
UHF operating frequencies	Band C: 541.500–566.375 MHz; Band D: 655.500–680.375 MHz
Number of frequencies	996 total per band (25 kHz increments)
Frequency stability	±0.005%, Phase Lock Loop frequency control
Modulation mode	FM
Normal deviation	±5 kHz
Operating range	300' typical
Operating temperature range	5° C (41° F) to 45° C (113° F)
Frequency response	70 Hz to 15 kHz
	AEW-R4100 receiver
Receiving system	Dual independent RF sections, automatic-switching diversity
Image rejection	60 dB typical
Signal-to-noise ratio	115 dB at 40 kHz deviation (IEC-weighted), 75 kHz maximum modulation
Total harmonic distortion	≤1% (10 kHz deviation at 1 kHz)
Sensitivity	20 dBµV (S/N 70 dB at 5 kHz deviation, IEC-weighted)
Intermediate frequency	65.75 MHz, 10.7 MHz
Audio output (attn switch at "0")	Microphone: 25 mV (at 1 kHz, ±5 kHz deviation, 10k ohm load), Instrument: 50 mV (at 1 kHz, ±5 kHz deviation, 10k ohm load)
Audio output attenuator (ATTN)	Three-position switch: 0 / –6 / –12 dB
Output connectors	Microphone: XLRM-type, (balanced); Instrument: 6.3 mm (1/4") TS unbalanced phone jack
Headphone output	Connector: 6.3 mm (1/4") TRS ("stereo") phone jack; Power output: 10 mW + 10 mW at 1 kHz, ±5 kHz deviation into 32 ohms; maximum output, 220 mW + 220 mW into 32 ohms
Antenna power	DC 10V-12V, 20 mA (BNC-type jack)
Power supply	100-240V AC 50/60 Hz, 8W
Dimensions	211.0 mm (8.31") W x 44.0 mm (1.74") H x 235.0 mm (9.26") D
Net weight	1.7 kg (3.8 lbs) (without accessories)
Accessories included	Detachable IEC-type AC power cable; two flexible UHF half-wave antennas; link cable; rack-mount adapters

In the interest of standards development, A.T.U.S. offers full details on its test methods to other industry professionals on request.

Specifications are subject to change without notice.

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