SYSTEM 10 PRO

2.4 GHz digital high-fidelity wireless system

Audio-Technica's **System 10 PRO** rack-mount digital wireless system provides wireless that's so simple to use, so dependable, and so automatic, you never have to think about it. Set it up anywhere, turn it on and it's good to go.

System 10 PRO delivers interference-free operation in the 2.4 GHz range (i.e., outside TV bands) with many innovative features for ultimate versatility. The durable half-rack chassis houses two receiver units that can be operated locally or released from the chassis and mounted remotely (up to 328 feet away) via Ethernet cable. Up to five chassis (10 receiver units) can be linked using the RJ12 cable included with each system, creating a stable, multichannel system with the simultaneous use of up to 10 channels.

Like all the products in the **System 10** wireless family, the **System 10 PRO** rack-mount features 24-bit/48kHz operation, easy setup, clear, natural sound quality, and three levels of diversity assurance: frequency, time and space.

Recommended Retail Price:
ATW-1301 – Body-pack System €€
449,00€ (ex VAT) / £**449.00** (ex VAT)
ATW-RC13, ATW-RU13, ATW-T1001
EAN Code: TBC

ATW-1302 – Handheld System €€
469,00€ (ex VAT) / £**469.00** (ex VAT)
ATW-RC13, ATW-RU13, ATW-T1002
EAN Code: TBC

ATW-1311 – Dual Body-pack System €€
759,00€ (ex VAT) / £**759.00** (ex VAT)
ATW-RC13, ATW-RU13 x2, ATW-T1001 x2
EAN Code: TBC

ATW-1312 – Body-pack / Handheld System €€
779,00€ (ex VAT) / £**779.00** (ex VAT)
ATW-RC13, ATW-RU13 x2, ATW-T1001, ATW-T1002
EAN Code: TBC

ATW-1322 – Dual Handheld System €€
799,00€ (ex VAT) / £**799.00** (ex VAT)
ATW-RC13, ATW-RU13 x2, ATW-T1002 x2
EAN Code: TBC

Specifications*:

OVERALL SYSTEM SPECIFICATIONS	
Operating Frequencies	2.4 GHz ISM band
Dynamic Range	> 109 dB (A-weighted), typical
Total Harmonic Distortion	< 0.05% typical
Operating Range	60 m *Open range environment with no interfering signals*
Operating Temperature Range	0° C to +40° C *Battery performance may be reduced at very low temperatures*
Frequency Response	20 Hz to 20 kHz *Depending on microphone type*
Audio Sampling	24 bit / 48 kHz
Latency	3.8 ms

* Specifications are subject to change without notice.

ATW-RC13 RECEIVER CHASSIS	
Maximum Output Level	XLR, balanced: 0 dBV 1/4" (6.3 mm), unbalanced: +6 dBV
Power Supply	100-240V AC (50/60 Hz) to 12V DC 0.5A power supply switched mode external
Dimensions	209.8 mm W x 44 mm Hx 169.3 mm D
Net Weight	940 grams
Remote Receiver Connector	RJ45
Link Connector	RJ12
Accessories Included	AC adapter, Link cable, Rack-mount adapters, Joining plate, Rubber feet

ATW-RU13 RECEIVER UNIT	
Receiving System	Diversity (frequency/time/space)
Dimensions	57 mm W x 19 mm Hx 77.6 mm D
Net Weight	64 grams
Remote Receiver Connector	RJ45
Mounting Thread Insert	1/4" x 20
Accessories Included	Antennas, AT8690 RU13 holder

UNIPAK® TRANSMITTER	
RF Output Power	10 mW
Spurious Emissions	Following federal and national regulations
Input Connection	Four-pin Locking Connector Pin 1: GND, Pin 2: INST INPUT, Pin 3: MIC INPUT, Pin 4: DC BIAS +9V
Batteries (not included)	Two 1.5V AA
Battery Life	>7 hours (alkaline) *Depending on batt. type & use pattern*
Dimensions	70.2 mm W x 107.0 mm H x 24.9 mm D
Net Weight (w/o batteries)	100 grams

HANDHELD TRANSMITTER	
RF Output Power	10 mW
Spurious Emissions	Following federal and national regulations
Batteries (not included)	Two 1.5V AA
Battery Life	>7 hours (alkaline) *Depending on batt. type & use pattern*
Dimensions	254.8 mm long, 50.0 mm diameter
Net Weight (w/o batteries)	280 grams
Accessory Included	AT8456a Quiet-Flex™ stand clamp

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Operating Outside TV Bands

Are you aware that the FCC is scheduled to hold an incentive auction, expected to start in early 2016, to reclaim additional TV-band spectrum from current license holders? The FCC will then "repack" channels to free contiguous space (a process that may force some broadcasters to move to different channels or go off the air) and finally auction off the freed space to the highest bidder. This process will likely lead to even greater congestion in a spectrum that is already very crowded. One of the reasons we designed System 10 to operate within the 2.4 GHz range was to avoid the congestion and regulatory uncertainty associated with the TV bands. Still, this is hardly a sudden pivot for us. Our innovative SpectraPulse ultra wideband digital wireless system, for example, released in 2007, operates well outside the TV bands in the 6-10 GHz range. And System 10's immediate predecessors, System 8 and System 9, both operate in the VHF traveling bands. So we've been focusing on these solutions for a while.

Why is 2.4 GHz WiFi Band OK?

While it is certainly true that there's a lot of activity within the 2.4 GHz range – WiFi, microwave ovens, etc. – System 10 is a frequency-agile system capable of continually detecting and adjusting its frequency to operate without interference. Both the receiver units and transmitters in System 10 are actually transceivers that are constantly communicating with one another. These transceivers allow System 10 to remain always aware of other 2.4 GHz usage in a given area, automatically changing frequencies to avoid interference.

3 Levels of Diversity Assurance

Like all System 10 products, System 10 PRO provides three levels of diversity assurance: frequency, time, and space. Frequency Diversity sends the signal on two dynamically allocated frequencies for interference-free communication. The system is continuously monitoring the spectrum and can change one or both of the frequencies on the fly if interference is encountered. Time Diversity sends the signal in two time slots to maximize immunity to multipath interference. Space Diversity uses two antennas on each transmitter and receiver unit to compensate for the inherently shorter wavelengths of a 2.4 GHz system, thereby maximizing signal integrity.

Transceivers

All of the System 10 PRO receiver units and transmitters are actually transceivers – each sends and receives signals – that stay in constant communication with one another. This allows the system to change frequencies whenever needed.

Easy To Use

Although the System 10 PRO is a powerful, professional wireless system, the user doesn't need any kind of technical training to operate it. It is ready to go right out of the box. Adding transmitters or receiver units to the system is also very simple and is covered by easy-to-follow instructions in the user manual. System 10 PRO automatically assigns and changes frequencies, so the user doesn't need to know anything about available frequencies or how to set them. This is also beneficial for someone intending to travel with their system, since they won't need to worry about where in the U.S. the system will be used – it will work perfectly fine anywhere.

No Analog Audio Compander

System 10 PRO offers full-bandwidth, high-fidelity audio. There is no analog companding during transmission and reception. System 10 PRO is capable of full-frequency response (20 Hz to 20 kHz), and better-than-CD audio quality of 24-bit/48 kHz.

Pairing Multiple Transmitters to One Receiver Unit

System 10 PRO allows users to pair each receiver unit with multiple transmitters (up to 10). This can be useful for guitarists and other musicians who play multiple instruments – they can affix a paired body-pack transmitter to each instrument, then simply turn the transmitters off and on to switch instruments. This feature might also be beneficial for venues, such as houses of worship, where multiple microphones are used in different locations and/or for different applications: even with one receiver unit the user can employ multiple mics simply by turning one paired mic off and turning another one on.

Plays Well With Existing Systems

As previously mentioned, the System 10 PRO continually monitors activity in the 2.4 GHz range and automatically adjusts its own frequencies to avoid interference. Thus it works perfectly well, straight from the box, in environments with a WiFi network. It is also ideal for adding additional channels on top of an existing TV-band wireless setup, since System 10 will not cause any intermod or interference issues when used in tandem with TV-band systems. Nor will the existing setup need to be reconfigured, as would be the case if adding additional TV-band wireless.

Rack Space Efficiency

System 10 PRO lets you fit up to four channels in a single (19») rack space. Each System 10 PRO dual-channel chassis takes up half a rack space and can be mounted alone using the included mounting brackets and screws. But two chassis can also be fastened together with the joining plate that comes with each system and mounted together into a single rack space, providing very efficient multichannel installation.

Link Function

Up to five chassis (10 receiver units) can be linked using the RJ12 cable included with each system. The RJ12 cable runs from the OUT connector of the first chassis to the IN connector of the second chassis, and so on. (The IN connector of the first chassis and the OUT connector of the last chassis in the chain will remain unused.) While multiple System 10 PRO chassis will work together without linking, this is not recommended. Linking creates a much more stable environment in which receiver units work together, with all receiving, transmitting and frequency allocation coordinated to prevent audio dropouts and enable simultaneous use of up to 10 channels.

Latency

All digital wireless systems have some latency – it's unavoidable. The important thing is that the gap between the original audio presentation (e.g., voice or instrument) and the reception and broadcast of that audio be so slight as to be imperceptible. With 3.8 ms of latency, System 10 PRO performs far better than accepted standards.

System Components

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