

# 1200 Series Professional VHF Wireless Systems

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**ATW-1235** UniPak™ Transmitter System

**ATW-1236** Handheld Dynamic Microphone System

**ATW-1237** Handheld Condenser Microphone System

## *Installation and Operation*



**audio·technica®**

# Professional VHF Wireless Systems

## Installation and Operation

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

This device complies with INDUSTRY CANADA R.S.S. 210, en conformité avec IC: RSS-210/CNR210. Operation is subject to the following conditions: 1) This device may not cause harmful interference and 2) this device must accept any interference received, including interference which may cause undesired operation.

**Individuals with implanted cardiac pacemakers or AICD devices:** Please see notice on back cover.

**CAUTION!** The circuits inside the receiver and transmitter have been precisely adjusted for optimum performance and compliance with federal regulations. Do not attempt to open the receiver or transmitter. To do so will void the warranty, and may cause improper operation.

### Introduction

Thank you for choosing an Audio-Technica professional wireless system. You have joined thousands of other satisfied customers who have chosen our products because of their quality, performance and reliability. This Audio-Technica wireless microphone system is the successful result of years of design and manufacturing experience.

Each professional wireless system includes a receiver and either a body-pack or handheld transmitter on specific crystal-controlled frequency.

The receiver features true diversity reception. Two antennas feed two completely independent RF sections on the same frequency; automatic logic circuitry continuously compares and selects the superior received signal, providing better sound quality and reducing the possibility of interference and dropouts. The receiver is half-width for a standard 19" (1U) rack mount. Two receivers (on different frequencies) can be mounted side by side, using an AT8628 joining plate kit.

The versatile UniPak™ body-pack transmitter has both low- and high-impedance inputs plus a bias connection, for use with dynamic and electret condenser microphones, as well as Hi-Z instrument pickups. The UniPak and handheld transmitters use internal 9-volt batteries and have Off/Standby/On switches and battery condition indicators.

Please note that in multiple-system applications there must be a transmitter-receiver combination on a *separate* frequency for each input desired (only one transmitter for each receiver). Because the wireless frequencies are in or near VHF TV frequencies, only certain wireless frequencies are useable in a particular geographic area. Also, only certain of the available operating frequencies may be used together. (Frequency selection information will be found on page 7.)



**Warning:** To prevent fire or shock hazard, do not expose this appliance to rain or moisture.  
**Attention:** Pour prévenir feu ou choc électrique, ne pas exposer l'appareil à la pluie ou à l'humidité.

**CAUTION  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN**

**AVIS  
RISQUE DE CHOC ÉLECTRIQUE  
NE PAS OUVRIR**



To prevent electric shock, do not remove the cover. There are no user-serviceable parts inside. Internal adjustments are for qualified professionals only. Refer all servicing to qualified service personnel.



Pour prévenir un choc électrique, ne pas ouvrir le couvercle. Il n'y a aucune pièces de rechanges à l'intérieur. Tout ajustement interne doit être fait par une personne qualifiée seulement. Référez tout réparation au personnel qualifié.

### Receiver Installation

#### Location

For best operation the receiver should be at least 3 ft. above the ground and at least 3 ft. away from a wall or metal surface to minimize reflections. The transmitter should be at least 3 ft. from the receiver, as shown in Figure A.

Keep antennas away from noise sources such as digital equipment, motors, automobiles and neon lights, as well as large metal objects.

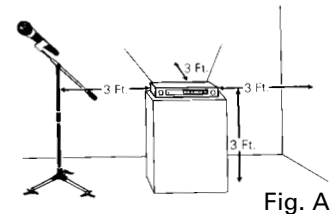


Fig. A

#### Output Connections

There are two audio outputs on the back of the receiver: balanced (31.6 mV) and unbalanced (100 mV). Use shielded audio cable for the connection between the receiver and the mixer. If the input of the mixer is a 1/4" jack, connect a cable from the 1/4" unbalanced audio output on the back of the receiver to the mixer. If the input of the mixer is an XLR-type input, connect a cable from the balanced XLR-type audio output on the back of the receiver to the mixer.

The two isolated audio outputs permit simultaneous feeds to both unbalanced and balanced inputs. For example, both a guitar amp and a mixer can be driven by the receiver.

#### Antennas

Assemble the two whip antennas to the special connectors provided. Screw the whips into the threaded side holes at the rear of the connector (Fig. B).

Install the included yellow vinyl caps over the antenna tips to increase their visibility when the antenna location may permit contact with people or animals.

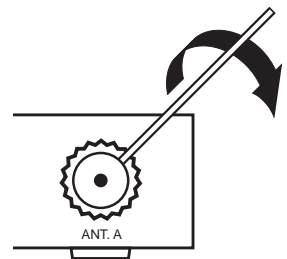


Fig. B  
Antenna Assembly

## Receiver Controls And Functions

Fig. C Receiver Front Panel

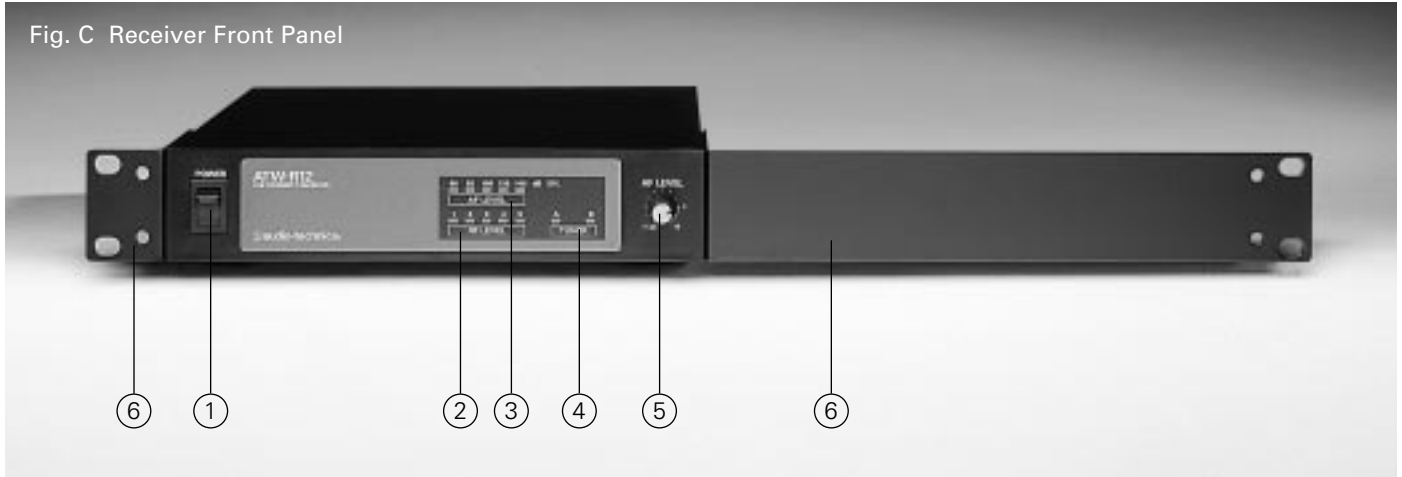
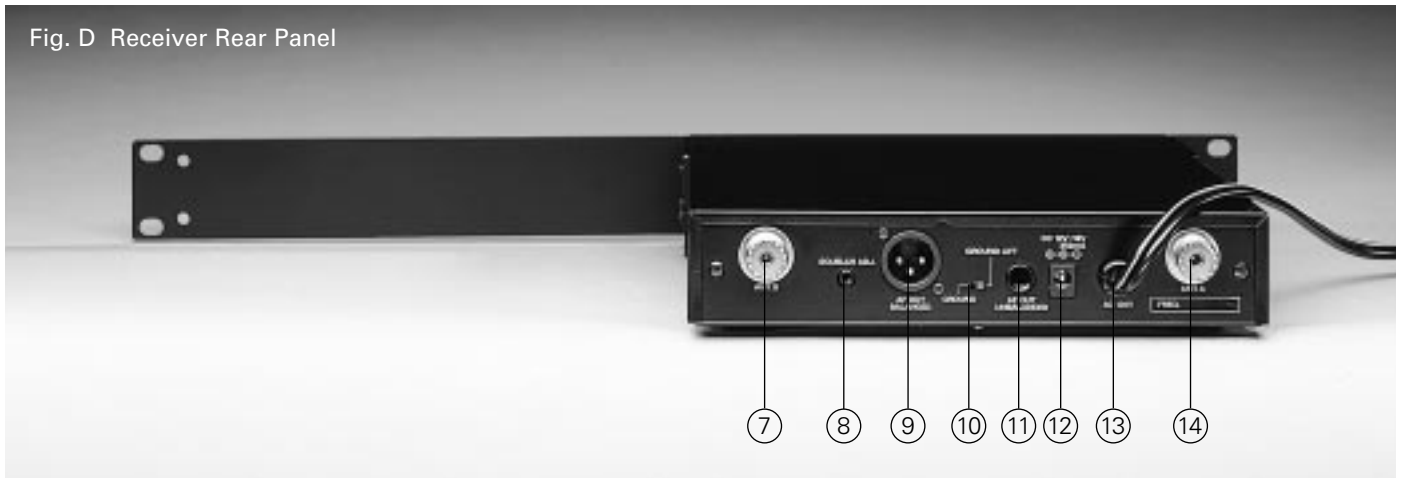


Fig. D Receiver Rear Panel



### Front Panel Controls and Functions (Fig. C)

- ① POWER SWITCH/INDICATOR: Press switch on, and the "power" indicator will light.
- ② RF SIGNAL LEVEL INDICATOR: Indicates the strength of the RF signal received from the transmitter. The LEDs will light up from left to right.
- ③ AF LEVEL INDICATOR: Indicates the audio modulation level of the received signal. (Not affected by the setting of the AF Level control.)
- ④ TUNER OPERATION INDICATOR: Indicates which tuner has the better reception and is in operation.
- ⑤ AF LEVEL CONTROL: Adjusts the level at both audio output jacks.
- ⑥ MOUNTING ADAPTERS: For mounting the receiver in any standard 19" rack. Attach to receiver with screws supplied. (Use optional AT8628 joining plate kit to mount two receivers side-by-side.)

### Rear Panel Controls and Functions (Fig. D)

- ⑦ TUNER "B" ANTENNA JACK: Antenna connector for tuner "B." Attach the antenna directly, or extend it with an antenna cable.
- ⑧ SQUELCH CONTROL: Adjusts level of noise-muting circuit (preset at factory but can be adjusted as circumstances warrant).
- ⑨ BALANCED AUDIO OUTPUT JACK: XLRM-type connector. A standard 2-conductor shielded cable can be used to connect the receiver output to a balanced microphone level input on a mixer.
- ⑩ GROUND LIFT SWITCH: Disconnects the ground pin of the balanced output (9) from ground. Normally, the switch should be to the left (ground connected). If hum caused by a ground loop occurs, slide switch to the right.
- ⑪ UNBALANCED AUDIO OUTPUT JACK: ¼" phone jack. Can be connected to an unbalanced aux-level input of a mixer or tape recorder.
- ⑫ DC POWER INPUT: For an external 12-18V DC source (requires 350 mA).
- ⑬ AC POWER: Power cord for 120V AC power input.
- ⑭ TUNER "A" ANTENNA JACK: Antenna connector for tuner "A." Attach the antenna directly, or extend it with an antenna cable.

(Cont. from pg. 2)

Attach the antennas to the antenna input jacks. The antennas are normally positioned in the shape of a "V" (45° from vertical) for best reception.

**Do not try to move the antenna rod after the connector shell has been tightened down. Always loosen the connector shell completely before repositioning the rod.**

If there is not sufficient space above the receiver and/or if the receiver is installed in a metal cabinet, the antennas can be mounted in the threaded holes in the back of the connectors so the antennas will stick straight out from the back of the receiver. Use one set of threaded holes or the other; do not attempt to bend the antenna rods. The optional accessory ATW-RA1 rack-mount antenna kit brings antenna inputs to the front of the receiver. When two receivers are mounted side-by-side in single 19" rack space, one ATW-RA1 is required for each receiver.

### Power Connections

Connect to a standard 120 volt 60 Hz AC power outlet. If there is no AC power available, the back panel is equipped with a jack for an external 12-18 volt DC source. The jack takes a standard 2.5 mm I.D. coaxial DC power plug, center **negative**. Power from the DC input jack is switched by the front-panel Power switch.

## Transmitter Setup

### Battery Selection and Installation

An alkaline 9-volt battery is recommended. Make certain the transmitter power switch is Off before installing or changing batteries.

When inserting the battery, **observe correct polarity as marked inside the battery compartment**. The transmitter housings are designed to prevent incorrect installation of the battery; **do not force the battery in**. Reversed batteries may cause damage to the transmitter.

### UniPak™ Transmitter Battery Installation

1. Slide off the battery cover as shown in Figure E.
2. Insert a 9V battery, observing correct polarity as marked inside the battery compartment.
3. Replace the battery cover. Set the cover in place on the transmitter as shown in Figure F, so it rests fully on the case, then slide it forward firmly until it clicks closed.



Fig. E



Fig. F

### Handheld Transmitter Battery Installation

1. While holding the middle of the microphone body normally, unscrew the battery cover (bottom 3" section) as shown in Figure G.
2. Lift the white "battery keeper" arm and carefully insert a fresh 9V alkaline battery, observing polarity markings (Fig. H).
3. Replace the battery cover. **Do not overtighten.**



Fig. G



Fig. H

### Battery Condition Indicator

After the battery is installed, turn the power on. The battery condition indicator LED (Fig. I/J) should flash momentarily. If it does not, the battery is installed incorrectly or it is dead.

If the indicator LED **stays** on (does not flash), the battery voltage is low and the battery should be replaced. If this happens during use, replace the battery immediately to ensure continued operation.

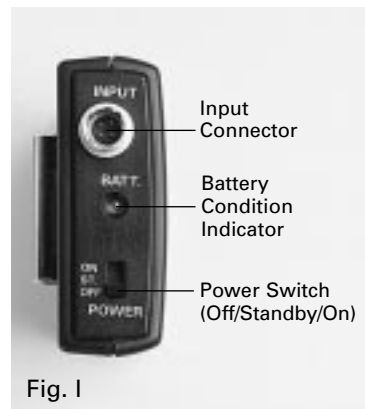


Fig. I

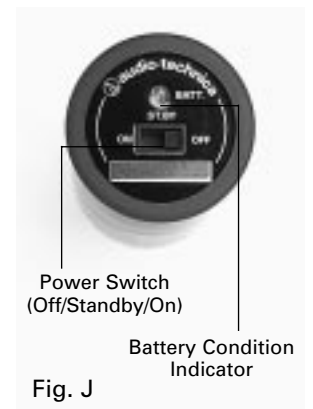


Fig. J

### UniPak Transmitter Input Connection

Connect an audio input device (microphone or guitar cable) to the audio input connector on the bottom of the transmitter. A number of Audio-Technica professional microphones and cables are available separately, pre-terminated with a UniPak input connector (see "Optional System Accessories" on page 6).

## System Operation

Turn down the AF Level of the receiver as well as the mixer. Switch on the receiver. Do **not** switch on the transmitter yet.

### Receiver On...

The power indicator will light up and one of the tuner operation indicator LEDs (A or B) will light, even though the transmitter is not on. If any of the RF LEDs light up at this point, there may be RF interference in the area, or a nearby TV station is on the same frequency. Check the frequency of the system against the chart on page 7 to ensure you have the proper frequency for your area. The frequency is marked on the back panel of the receiver.

### Transmitter On...

When the transmitter is switched on and in normal operation, the receiver's RF signal level indicators will light up from left to right. For optimum performance at least four, and preferably five, of the signal strength indicators should light up when the transmitter is switched on. The transmitters have a three-position power switch. When the switch is set to "Standby," the transmitter produces RF with no audio signal. When the switch is "On," the transmitter produces both RF and audio.

### Setting Levels

Correct adjustment of transmitter audio input, receiver audio output, and mixer/amplifier input and output levels is important for optimum system performance.

#### • ATW-T35 UniPak Transmitter

Trimmer adjustments in the UniPak transmitter (Fig. K) will enable you to use microphones or instruments with different output levels.

1. Set both the transmitter Mic Level (M) and Guitar Level (G) controls to their full counter-clockwise position (minimum). (The level control not being used should be set to minimum.)
2. Set the receiver's AF Level control to "0."
3. Plug the mic or instrument into the transmitter and power up the system.
4. **For MIC:** Make an initial adjustment of the mixer's level controls that will allow audio through the system as you increase the transmitter's Mic Level.

**For INSTRUMENT:** Make an initial adjustment of the instrument amplifier input level control that will allow audio through the system as you increase the transmitter's Guitar Level.

5. **For MIC:** While speaking/singing into the microphone at typically-loud levels, turn up the transmitter's Mic Level (M) control until the maximum audio output of the mic lights about three or four green LED segments on the receiver's AF Level indicator.

**For INSTRUMENT:** While playing the instrument at typically-loud levels, turn up the transmitter's Guitar Level (G) control until the maximum audio output of the instrument lights about three or four green LED segments on the receiver's AF Level indicator. **NOTE:** Do not set the transmitter level too high (as indicated by lighting of the red LED) – doing so will cause the system to overload and distort.

6. **For MIC:** Next, while again speaking/singing into the microphone at typically-loud levels, adjust the mixer's input trim control so the highest sound pressure level going into the microphone causes no input overload in the mixer, and yet permits the mixer's channel and output level controls to operate in their "normal" range (not set too high or too low).

**NOTE:** With the receiver's AF Level control set at "0," the balanced output voltage will be similar to that of a typical wired microphone. However, the AF Level control may be adjusted to accommodate some microphone inputs – for example, those with limited-range or no input trim controls.

**For INSTRUMENT:** Next, while again playing the instrument at typically-loud levels, adjust the receiver's AF Level control so the highest signal level causes no input overload in the instrument amplifier, and yet permits the amplifier's input level controls to operate in their "normal" range (not set too high or too low).

**NOTE:** With some instrument amplifiers, the receiver's AF Level control may need to be adjusted to between "0" and "+6" to better drive the amplifier.

**CAUTION!** The small trimmer controls are *delicate*; use only a small screwdriver or alignment tool with a maximum  $\frac{3}{32}$ "-wide blade. Do **not** force the trimmers beyond their normal 210° range of rotation.

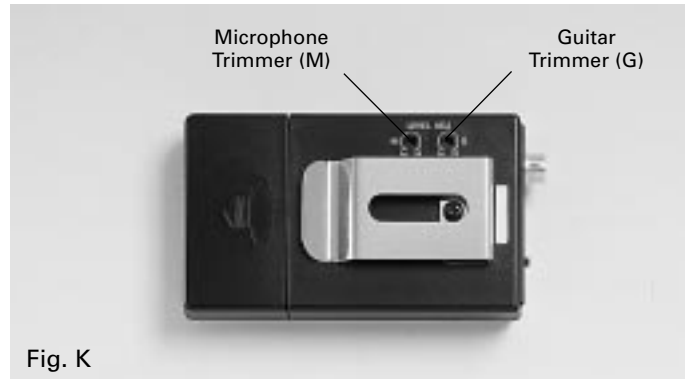


Fig. K

#### • ATW-T36HE and ATW-T37C Handheld Transmitters

The 1200 Series handheld transmitters have factory pre-set audio input levels.

1. Set the receiver's AF Level control to "0."
2. Turn the transmitter on and power up the system.
3. Turn down the mixer's input trim control (if provided) on the selected channel; make an initial adjustment of the mixer channel and output level controls that will allow audio through the system.
4. While speaking/singing into the microphone at typically-loud levels, adjust the mixer's input trim control so the highest sound pressure level going into the microphone causes no input overload in the mixer, and yet permits the mixer's level controls to operate in their "normal" range (not set too high or too low). **NOTE:** With the receiver's AF Level set at "0," its balanced output voltage will be similar to that of a typical wired microphone. However, the AF Level may need to be adjusted to accommodate some microphone inputs.

#### Receiver Squelch

The squelch control on the back panel of the receiver is preset at the factory, but can be adjusted if you must use the system in an area with considerable RF interference. If there is interference in the receiver's audio, adjust the squelch control so the system will receive the signal from *your* transmitter but will "squelch" or eliminate the unwanted background RF noise. This adjustment can cause a reduction in useable range of the wireless transmitter, so set the control to the **lowest** position that reliably mutes the unwanted RF signals.



## Specifications†

### OVERALL SYSTEM

Operating Frequency	VHF high band, 169.505 to 213.800 MHz
Frequency Stability	±0.005%, single-frequency crystal-controlled
Modulation Mode	FM
Maximum Deviation Range	±30 kHz, traveling frequencies ±15 kHz
Operating Range	200' minimum
Operating Temperature Range	41° F (5° C) to 113° F (45° C)
Frequency Response	100 Hz to 15 kHz

### RECEIVER

Receiving System	Dual independent receivers, automatic switching diversity reception
Image Rejection	≥ 60 dB
Signal-to-noise Ratio	112 dB at 30 kHz deviation (IEC-weighted), maximum modulation 75 kHz
Total Harmonic Distortion	≤1% (10 kHz deviation @ 1 kHz)
Sensitivity	5.6 µV for 60 dB S/N (IEC-weighted)
Intermediate Frequency	10.7 MHz
Audio Output	
Unbalanced:	100 mV (at 1 kHz, ±5 kHz deviation, 10k ohm load)
Balanced:	31.6 mV (at 1 kHz, ±5 kHz deviation, 10k ohm load)
Output Connectors	Unbalanced: 1/4" phone jack Balanced: XLRM-type
Power Supply	120V AC 60 Hz; or 12-18V DC, 350 mA, with external supply
Dimensions	8.27" (210.0 mm) W x 1.93" (49.0 mm) H x 8.86" (225.0 mm) D
Weight	3.9 lbs (1.8 kgs)
Accessories Included	Two whip antennas, rack mount adapters

### UNIPAK™ TRANSMITTER

RF Power Output	50 mW Max
Spurious Emissions	Under federal regulations
Dynamic Range	≥90 dB
Input Connections	High impedance, low impedance, bias
Battery	9V (NEDA type 1604) alkaline, not included
Current Consumption	35 mA typical
Battery Life	Approximately 10 hours (depending on battery type and use pattern)
Dimensions	2.40" (61.0 mm) W x 4.23" (107.4 mm) H x 1.08" (27.5 mm) D
Net Weight (without battery)	2.8 oz (78 grams)

### HANDHELD TRANSMITTER

RF Power Output	50 mW Max
Spurious Emissions	Under federal regulations
Dynamic Range	≥90 dB
Microphone Element	
ATW-T36HE	A-T Hi-ENERGY® dynamic hypercardioid
ATW-T37C	A-T condenser hypercardioid
Battery	9V (NEDA type 1604) alkaline, not included
Current Consumption	35 mA typical
Battery Life	Approximately 10 hours (depending on battery type and use pattern)
Dimensions	
ATW-T36HE	9.27" (235.5 mm) long, 1.49" (37.9 mm) body dia.
ATW-T37C	9.38" (238.3 mm) long, 1.46" (37.1 mm) body dia.
Net Weight (without battery)	
ATW-T36HE	8.6 oz (245 grams)
ATW-T37C	7.2 oz (204 grams)
Accessory Included	Stand clamp

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

## Optional System Accessories

### MICROPHONES AND CABLES

AT829cW	AT829 miniature cardioid condenser microphone only, terminated for use with UniPak transmitter. Includes clothing clip and windscreen.
MT830cW	MT830R subminiature omnidirectional condenser microphone only, terminated for use with UniPak transmitter. Includes clothing clip and windscreen.
MT830cW-TH	"Theater" model, same as MT830cW except beige color mic and cable for concealment.
AT831cW	AT831b miniature cardioid condenser microphone only, terminated for use with UniPak transmitter. Includes clothing clip and windscreen.
AT851cW	AT851a surface-mount wide-range hemi-cardioid condenser microphone only, terminated for use with UniPak transmitter.
AT857AMLcW	AT857AMLa 19" gooseneck cardioid microphone only, terminated for use with UniPak transmitter. Mounts to 5/8"-27 thread. Includes windscreen.
AT889cW	Headworn noise-canceling condenser microphone only, terminated for use with UniPak transmitter. Includes windscreen and cable clip.
ATM35cW	ATM35 high-intensity miniature cardioid condenser microphone only, terminated for use with UniPak transmitter. Includes AT8418 clip-on instrument mount.
ATM73cW	ATM73a headworn cardioid condenser microphone only, terminated for use with UniPak transmitter.
ATM75cW	ATM75 headworn cardioid condenser microphone only, terminated for use with UniPak transmitter. Includes windscreens and cable clip.
PRO 8HEcW	PRO 8HEX headworn hypercardioid dynamic microphone, terminated for use with UniPak transmitter. Includes windscreen and cable clip.
PRO 35xcW	PRO 35x cardioid condenser microphone only, terminated for use with the UniPak transmitter. Includes AT8418 clip-on instrument mount.
AT-GCW	Hi-Z instrument/guitar cable with 1/4" phone plug, terminated for use with UniPak transmitter.
XLRW	Connecting cable for UniPak transmitter with an XLR-type input connector, for Lo-Z microphones with XLRM-type output terminations.

### TRANSMITTER ACCESSORIES

ATW-VP10	Vinyl pouch with belt clip to hold UniPak transmitter.
AT8114	Foam windscreen for handheld transmitter.
AT8141	Water-resistant pouch for UniPak transmitter.
AT8431	Stand clamp for handheld transmitter, 5/8"-27 threads.
AT8456	Stand clamp for handheld transmitter, 5/8"-27 threads.

### INTERCHANGEABLE ELEMENTS (for use with ATW-T37C transmitter)

AT853C-ELE	Cardioid element.
AT853H-ELE	Hypercardioid element (included).
AT853O-ELE	Omnidirectional element.
AT853SC-ELE	Subcardioid element.

### RECEIVER ACCESSORIES

AT8628	Mounting plate adapter allows rack-mounting two ATW-R12 receivers side-by-side in a single 19" rack space.
ATW-A10	Pair of VHF ground-plane antennas with 5/8"-27 thread for mounting to microphone stands, etc. Takes RF cables with PL259 connectors, not included.
ATW-D12a	Active, unity-gain VHF antenna distribution system provides two "1-in, 4-out" amplifier/splitters; connects a pair of antennas to as many as four diversity receivers. Includes two antennas, two input cable adapters and eight output cables.
ATW-RA1	Rack-mount antenna kit brings antenna inputs to the front of receiver for ease of setup, or when receiver is enclosed in a metal rack. Includes a pair of extendible antennas. NOTE: Two adapter kits are required when mounting two receivers side-by-side in a single 19" rack space.

## Wireless Operating Frequencies

### Frequency Selection

Each transmitter/receiver system operates on a single factory-aligned, crystal-controlled frequency. Available frequencies are shown in the chart below.

Operating frequency is specified by a two- or three-character code, such as "T2" or "11G," in addition to the actual frequency in MHz. The frequency of each transmitter appears on a label on the outside of the unit. The frequency of each receiver appears on a label on the back of the unit and the frequency of each system appears on the outer carton. For future reference, please record them in the space provided.

Because most of these authorized frequencies are shared with TV broadcasting, frequency selection is largely dependent upon which TV broadcast channels are in operation *where the wireless system is to be used.*

### RF Interference

If you encounter receiving interference (from other than an operating TV station), often it can be eliminated by adjusting the receiver's squelch control, as described on page 5.

Please note that wireless frequencies are shared with other radio services. According to Federal Communications Commission regulations, "Wireless microphone operations are unprotected from interference from other licensed operations within the band. If any interference is received by any Government or non-Government operation, the wireless microphone must cease operation..."

If you need assistance with operation or frequency selection, please contact your dealer or the A-T professional division. Extensive wireless information also is available on the A-T Web site at [www.audio-technica.com](http://www.audio-technica.com).

### System Operating Frequencies

Application	Freq. Code	Freq. (MHz)
• Traveling frequencies: (Normally work anywhere in the U.S.A. and Canada, but as a result tend to be crowded.)	T2	169.505
	T3	170.245
	T8	171.905
• For use only where there is <u>no</u> TV Channel 7:	7G	175.800
	7I	176.200
• For use only where there is <u>no</u> TV Channel 8:	8D	181.200
	8M	183.200
	8S	184.200
• For use only where there is <u>no</u> TV Channel 9:	9F	187.600
	9Q	189.800
• For use only where there is <u>no</u> TV Channel 10:	10C	193.000
	10J	194.400
	10W	196.800
• For use only where there is <u>no</u> TV Channel 11:	11G	199.800
	11S	202.200
• For use only where there is <u>no</u> TV Channel 12:	12L	207.000
	12S	208.200
	12V	208.600
• For use only where there is <u>no</u> TV Channel 13:	13B	210.800
	13Q	213.800
<b>Multi-channel Systems</b>		
Following are groupings of frequencies suggested for multi-channel wireless systems.		
• For use where TV channels 7, 9, 11 and/or 13 are operating: 8D-8M-8S-10C-10J-10W-12L-12S-12V Traveling frequencies T2, T3 and/or T8 may be used with any of the above frequencies except for: 8D, 8M and 10C. Interference may result from the use of these frequency combinations.		
• For use where TV channels 8, 10 and/or 12 are operating: 7G-7I-9F-9Q-11G-11S-13Q or 7G-7I-9F-11G-11S-13B-13Q		
Traveling frequencies T2, T3 and/or T8 may be used with any of the above frequencies with no interference problems.		

For future reference, please record your system information here (the serial numbers appear inside the battery compartment of each transmitter, and on the bottom of each receiver):

#### Operating Frequency

Freq. Code \_\_\_\_\_ Frequency \_\_\_\_\_ ● \_\_\_\_\_ MHz

#### Receiver

Model \_\_\_\_\_ Serial Number \_\_\_\_\_

#### Transmitter

Model \_\_\_\_\_ Serial Number \_\_\_\_\_

## Ten Tips To Obtain The Best Results

1. Use only fresh alkaline batteries. Do not use "general purpose" (carbon-zinc) batteries.
2. Position the receiver so that it has the fewest possible obstructions between it and the normal location of the transmitter. Line-of-sight is best.
3. The transmitter and the receiver should be as close together as conveniently possible, but no closer together than three feet.
4. The receiver antennas should be in the open and away from any metal. If mounted in a rack, have the unit on top, or angle antennas outward away from the metal rack.
5. A receiver cannot receive signals from two transmitters at the same time.
6. The power switch on the transmitter has three positions: "Off," "Standby" and "On." In the middle "Standby" position, the transmitter sends only RF to the receiver; the audio source is turned off.
7. For best operation, all the RF Level LEDs should be lit (maximize RF input); but only the first two or three AF Level LEDs should be lit (don't overmodulate).
8. If the AF Level control of the receiver is set too high, it may over-drive the input of the mixer or clip the output of the receiver, causing distortion. Conversely, if the receiver output is set too low, the overall signal-to-noise ratio of the system may be reduced.  
Adjust the output level of the receiver so the highest sound pressure level going into the microphone causes no input overload in the mixer, and yet permits the mixer level controls to operate in their "normal" range (not set too high or too low). This provides the optimum signal-to-noise for the entire system.
9. In the UniPak transmitter, the "M" or "G" input control not in use should be set to minimum.
10. Turn the transmitter off when not in use. Remove the battery if the transmitter is not to be used for a period of time.

### Notice to individuals *with implanted cardiac pacemakers or AICD devices:*

Any source of RF (radio frequency) energy *may* interfere with normal functioning of the implanted device. All wireless microphones have low-power transmitters (less than 0.05 watts output) which are unlikely to cause difficulty, especially if they are at least a few inches away. However, since a "body-pack" mic transmitter typically is placed against the body, we suggest attaching it at the belt, rather than in a shirt pocket where it may be immediately adjacent to the medical device. Note also that *any medical-device disruption will cease when the RF transmitting source is turned off.* Please contact your physician or medical-device provider if you have any questions, or experience any problems with the use of this or any other RF equipment.

### One-Year Limited Warranty

Audio-Technica professional wireless systems purchased in the U.S.A. are warranted for one year from date of purchase by Audio-Technica U.S., Inc. (A.T.U.S.) to be free of defects in materials and workmanship. In event of such defect, product will be repaired promptly without charge or, at our option, replaced with a new product of equal or superior value if delivered to A.T.U.S. or an Authorized Service Center, prepaid, together with the sales slip or other proof of purchase date. **Prior approval from A.T.U.S. is required for return.** This warranty excludes defects due to normal wear, abuse, shipping damage, or failure to use product in accordance with the instructions. This warranty is void in the event of unauthorized repair or modification, or removal or defacing of the product labeling.

**For return approval and shipping information,** contact the Service Dept., Audio-Technica U.S., Inc., 1221 Commerce Drive, Stow, Ohio 44224.

Except to the extent precluded by applicable state law, **A.T.U.S. will have no liability for any consequential, incidental, or special damages; any warranty of merchantability or fitness for particular purpose expires when this warranty expires.**

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Outside the U.S.A., please contact your local dealer for warranty details.



Audio-Technica U.S., Inc., 1221 Commerce Drive, Stow, Ohio 44224 330/686-2600 [www.audio-technica.com](http://www.audio-technica.com)

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