



# The Professional Audio

SourceBook

# Section 10

## Wireless Microphones

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# WIRELESS MICS

## INTRODUCTION TO WIRELESS MICROPHONES

The decision to go wireless represents both a commitment to your craft as well as the faith that technology will deliver the results you have in mind. To glean the most of both of those ideals, a clear understanding of the possibilities and limitations of wireless operation should be established.

Wireless systems afford freedom of movement that isn't possible with a traditional hard-wired signal interface. However, in order for this mobility to occur, a specialized radio link is required. Thus, not only do the operational requirements of standard microphone capsule apply, but also the laws of radio, both legal and electrical, apply as well.

Wireless microphones must meet legal requirements—they must have a FCC license number—as well as the electrical laws of radio. The #1 rule of radio is that two signals cannot successfully operate on the same frequency simultaneously within the transmission range of the system. Should this occur, drastic performance problems will arise. A wireless receiver “listens to” any signal that is being transmitted on the frequency it is tuned to, and if more than one signal is being “heard” by the receiver, neither one will be usable.

Given this most essential rule, it is impossible to operate more than one wireless transmitter on any given frequency, and to operate on a frequency that is being used by any other signal source such as television or nearby wireless communications. When specifying a wireless mic system with more than one transmitter, the number of receivers must match the number of transmitters and a plan for multiple frequency occupation must be established where each system operates on their own discrete frequency. The #2 rule of radio is that there is no limitation on the number of simultaneously operated receivers. Just as in radio or TV where any local receiver can pick up a broadcast, the receiver-to-transmitter ratio is unlimited. This aspect is especially convenient in wireless mic systems when there may be more than one destination of the transmitted signal.

Since contemporary wireless microphone systems are designed to operate in either the VHF or the UHF radio spectrum, an understanding of those terms is important. TV broadcast requirements have greatly influenced the development of radio frequency spectrum usages. The portion of the frequency spectrum determined as suitable for TV signals is relatively wide and is broken down into two general areas. VHF (very high frequency) is defined as frequencies between 54 MHz and 216 MHz, with a large gap between 88 MHz and 174 MHz that is used for signals other than television. UHF (ultra high frequency) is currently defined as frequencies between 470 MHz and 806 MHz. These two major bandwidth sections (VHF and UHF) are divided up into smaller segments commonly known as TV channels. In order to accommodate the complex signal information required for color television broadcast, a TV channel is actually 6 MHz wide. The VHF bandwidth is dedicated to TV channels 2 – 13; UHF to TV channels 14 – 69. Since the UHF spectrum is far wider than VHF, it is more desirable for wireless microphone usage due to reduced congestion. Each TV channel has an assigned bandwidth, and knowing the frequencies that are affected by these signals is very important when choosing wireless microphone system tuning bandwidths and operating frequencies.

Because wireless microphone systems share the RF (radio frequency) spectrum with television, and due to the fact that attempting to operate a wireless microphone system within the bandwidth of a local TV broadcast signal will render poor results, it is advisable that you research your local RF environment to determine what bandwidths are being used by TV broadcasters, which will in turn identify which bandwidths are clear for wireless system operation. The web makes this information readily available. The FCC regulates TV broadcasters and they publish information at <http://www.fcc.gov/mb> that may help you find sources of local interference. Manufacturers also offer similar information. Check out the manufacturer's web site for information on local TV broadcasts and tuning recommendations.

### SYSTEM CONSIDERATIONS

The typical wireless system consists of a transmitter (with accompanying input device), a receiver, and associated antennas. Variables lie in the type of transmitter and receiver required to meet the application needs.

### Handheld Transmitters:

The most visible transmitter is the handheld. This device resembles a standard handheld microphone with the distinction that it also contains the transmitter circuitry and antenna. Handheld transmitters employ an integrated microphone capsule that is electrically connected to the input stage of the transmitter. These capsules are usually available in a variety of polar patterns and transducer types. Typical polar pattern choices are cardioid or super-cardioid. Cardioids are most popular and are chosen for vocal performance and interview applications. They allow for good off axis pickup for working the microphone in-close and then away from the mouth, for situations where more than one voice is addressing the capsule, or where close proximity to the capsule is not possible. Super-cardioid polar patterns provide superb off-axis rejection, and are generally chosen in high gain-before-feedback situations such as high volume stage performances.

Another consideration in capsules is whether a dynamic or condenser type is appropriate. Dynamic capsules employ a moving coil within a magnetic field to produce voltage. A large percentage of microphone capsules are dynamic and are generally chosen for their high sound pressure level handling capabilities. The other choice is the condenser capsule, which requires an external voltage applied to elements within the capsule to produce voltage. Condenser capsules produce a sharper, more articulate image. Because of their accuracy in measuring and conveying changes in transient impulses, condenser capsules are often regarded as sensitive, snappy and bright. Care should be used in choosing a condenser element as they are far less forgiving of input overload compared to dynamic capsules. Handheld transmitters require some type of DC battery as a power supply, and AA or 9 volt are the general sources.

*Wireless microphone introduction courtesy of Sennheiser USA.*



**EQUIPMENT LEASING AVAILABLE**

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### Bodypack Transmitters:

Bodypack transmitters are far less visible and are often chosen for that reason. Popular in video/film production, theater, and general presentation situations, bodypacks require an input source and an antenna. Bodypack transmitter systems are available in four basic varieties that are defined by the desired input source:

- 1, 2) Lavalier mics are the most common as they apply to general hands-free presentation, and are used for close body-miking in theatrical performance, and in video/film production. Lavaliers are available in either an omnidirectional or cardioid version.
- 3) Bodypack systems can also contain a headworn microphone, which is ideal for hands-free operation in vocal stage performance, athletic and aerobic instruction, and often in on-camera situations. The headworn microphone element is attached to a flexible boom that extends down the cheek and in front of the mouth, making them ideal for close miking of the mouth in active situations.
- 4) Instrument systems use the same bodypack transmitter as the lavalier and headworn systems, but employ a standard instrument cable with a 1/4" plug on one end, and a transmitter input plug on the other. Very popular with guitar and bass players, this system allows the performer the mobility to roam the stage and/or venue without the fear of coming unplugged.

Bodypack transmitters require some type of DC battery as a power supply, generally AA and 9-volt batteries.

### Plug-on Transmitters:

Plug-on transmitter modules convert a wired mic into a wireless one. Popular in broadcast interview and ENG applications, the plug-on transmitter module attaches directly into the XLR output jack of a low-impedance mic (usually adding 3-4" to the overall length). They are also used in video & film production to convert the overhead boom or shotgun mic to wireless, allowing the boom operator freedom of movement. Plug-on transmitter modules are available in models with or without a 48v phantom power feed required for condenser mic powering. Models without 48v phantom power can only be used with dynamic mic elements. Note, that these plug-on modules use pin 1 of the XLR (ground) as the antenna, and the grounding network of what it is attached to becomes the antenna. Plug-on transmitters require some type of DC battery as a power supply, generally AA or 9v batteries.

Wireless mic systems use FM (frequency modulation) as the method of signal transfer. This means that the audio source signal (output of your input source) modulates a carrier signal that is transmitted through the air. It is important to note that the strength of the source signal determines how strong of a transmitted audio signal is present at the receiver. Transmitters usually have some sort of input gain setting that must be set properly for optimum system performance. Typically, this is known as input sensitivity and setting it properly involves viewing the receiver's audio meter while performing a sound check. While addressing the microphone (or other input source), adjust the transmitter input sensitivity until the receiver's audio meter displays an optimum level. This optimum level is found in the owner's manual.



### Lavalier Microphones:

#### Choosing Between an Omnidirectional or Cardioid

*Wireless lavalier systems are unquestionably the most popular for the presentation of the spoken word. These inconspicuous little microphones consistently accomplish the task of concealment quite well, however there are variables that influence how successfully they perform with a sound reinforcement system. Lavaliers are available in a variety of polar patterns, and understanding how these pickup characteristics incorporate into the environmental elements of a room will help guide you in choosing the right lavalier for your application.*

**OMNIDIRECTIONAL:** An omnidirectional pattern microphone has a fairly unlimited field of vision. Their width of panorama is spherical allowing them equal sensitivity to sounds arriving from any direction, and their depth of field is extended due to their liberal sensitivity to sound sources. Delivering a natural openness due to the perceived low ratio of close to distant sounds, omnidirectional lavaliers have a reputation of sounding true-to-life even when attached to clothing very near the mouth.

**CARDIOID:** A cardioid pattern microphone has a limited field of vision. Their width of panorama is generous at the front of the diaphragm, limited at the sides, non-existent at the rear, and their depth of field is somewhat shallow and is dependent on the angular orientation of the sound source to the diaphragm. Delivering an up-close sound due to the perceived high ratio of close to distant sounds, cardioid lavaliers have a reputation of sounding dry due to the lack of ambience. Due to the nature of the pattern, there's a low frequency boost when the microphone is positioned very close to the sound source. This proximity effect is an attractive characteristic of a handheld vocal microphone but it can be problematic with lavaliers.

The next element to consider when evaluating a wireless lavalier is the nature of the performance. Wireless lavaliers afford the speaker the freedom to roam about a venue and to perform with all of the animation required. Consider the amount of gestures, head turns and overall body movements a performer makes during a performance, and how the different polar pattern characteristics will react to these changes in sound pressure. Lavaliers are generally clipped to the tie or lapel at a distance of 5 - 7 inches below the chin and aimed upward towards the mouth. The omnidirectional lavalier will respond favorably to head turns as its field of vision is quite broad, and changes in vocal amplitude are relatively unnoticeable. Conversely, head turns will be quite noticeable with cardioid lavaliers. As the position of the mouth enters and leaves the microphone's zone of highest sensitivity, the changes in vocal amplitude and tone will be pronounced. This can be distracting to the listener, especially if the presentation is being recorded either on audio or video tape. The general rule of thumb is that if a performance is for broadcast, video or audio recording, omnidirectional lavaliers will render the best results.

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Room geometry, cubic area and loud-speaker positions are unique in any venue, and their relationship to any microphone plays a great role in overall system performance. Sound reinforcement systems are designed to lend amplification to sound sources and provide even distribution to the listeners. The amount of sound reinforcement required for even distribution is dependent on two factors; the cubic area of the room, and the positioning of the loudspeakers. Lower cubic areas require less gain, and larger cubic areas require higher gain. The objective of any sound system is to amplify microphone signals to adequate levels without feedback.

Feedback is caused when the input to a microphone is heavily weighted with the output from a loudspeaker that is amplifying that microphone's signal. The number-one cause of feedback is a speaker placement that is directed towards the microphone diaphragm. The second most common cause is poor microphone choice or placement that requires abnormally high gain for the desired sound level to be achieved. Suffice it to say that any microphone/sound system combination will feedback if the gain of the microphone is raised too high. Positioning the microphone closer to the sound source and away from the radiating pattern of a loudspeaker generally improves gain before feedback problems.

Choosing the right lavalier involves understanding the aforementioned sound reinforcement criteria, as well as the gain before feedback characteristics of the different polar patterns. Because of their limited field of vision, cardioid lavaliers have a high gain feedback characteristic and are generally chosen when high levels of sound reinforcement in a large space are required or when the speaker placement is problematic in medium and smaller spaces with high sound level requirements. Conversely, due to their unlimited field of vision, omnidirectional lavaliers have a lower gain before feedback characteristic and are generally chosen when lower levels of sound reinforcement are required, or when the performance is being recorded for broadcast or reproduction.



### Receivers

The proper receiver for your system is determined by your needs.

Receivers are separated into two general categories: Rack-mountable (for fixed applications where AC powering is present) or portable (battery powered for

field work where AC power isn't available). These two categories can be further defined by either non-diversity, or true diversity.

The receiver's job is quite simple. It completes the wireless link by tuning into the transmitter's radio signal, processing it back into an audio signal, and outputting it for connection to a chosen destination. Determined by the application, the destination is usually a sound system mixing board, powered speaker system, field audio mixer, or the audio inputs on a video camera.

Receiver performance is critical to overall system performance. A receiver's ability to seek out and capture the transmitted signal is essential and can be adversely affected by several variables. The distance between transmitter and receiver should be logical, and mistakes are often made in system design when relying on the wireless nature of the signal to travel too far. Wireless systems have a rated effective transmission range (ETR) indicating the maximum distance a signal travels. Bear in mind that the farther a signal travels, the weaker it becomes, and while it is airborne it is volatile. The best plan is to mount your receiver antenna(s) so that the distance does not push the system's ETR limits. The ETR is also rated in direct line of sight. A radio signal weakens drastically with each wall it goes through. The type of material a wall is made of also plays a role; the harder the surface, the more dampening may occur. An ETR of 500 feet is easily reduced to 100 feet or less after it passes through 3 or 4 walls. Because of these aspects, it is advisable that you plan to locate your receiver antenna(s) within the same room as your transmitter and mount them so they are out in the open. Mounting receiver antennas so that they are enclosed inside of a rack can prove problematic and should be prevented if possible. Many manufacturers make racking accessories that provide the hardware to accomplish this important task.

A system's ETR may also be affected by the setting of the receiver's squelch control. Squelch functions much like an audio noise gate, where the audio signal path will close (mute) when certain conditions no longer exist. The squelch setting establishes the threshold of RF voltage required to open the audio signal path. When the RF signal strength weakens to the point determined by the threshold, the audio output of the receiver mutes. This prevents unwanted noise from going through your sound system. If the squelch is set too tight (a high level of voltage required to keep the audio path open), the receiver may mute the audio prematurely causing dropouts in the transmission and decreasing the ETR.



### True Diversity

Diversity receivers compensate for dropouts. Just as sound reflects within an acoustical environment, radio signals behave in the same manner, bouncing from surface to surface. Direct signals from a transmitter arrive at the receiver antenna ahead (in time) of the reflected signals, and it is physically and electrically possible for the combination of these signals to occasionally be 180° out of phase in single-antenna, non-diversity receivers. When this happens a dropout occurs. It cannot be prevented and it happens all of the time.



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High-quality receivers employ a “true diversity” design to compensate for the inevitable dropouts. “True diversity” receivers employ two antennas that feed two independent receiver circuits (within the unit) whose voltages are measured at all times. A comparator circuit identifies the stronger of the two incoming signals and allows it to pass through to the output stage. The shifting from antenna A signal to antenna B signal (and vice versa) happens in microseconds and there is never audible evidence that it is taking place. Care should be taken in choosing a two-antenna system because not all are “true diversity”. Some models on the market display two antennas that merely sum together and feed a single receiver circuit. To insure that you are choosing the most reliable receiver, look for the term “true diversity”.

Multi-system operation is common, and when using “true diversity” receivers for the best system performance, the number of antennas is twice that of the number of receivers. As discussed earlier, antennas enclosed within a rack should be avoided, as are excesses in the physical distance between transmitters and receiver antennas. Many manufacturers offer antenna splitters that accomplish several necessary tasks. Splitters are designed to deliver minimum quantities of antenna signals to maximum quantities of receivers. Common designs are 2 x 4 (two antennas feeding four receivers) and 2 x 8 (two antennas feeding eight receivers). Combined with front-mounting antenna hardware, splitters allow one pair of antennas to be exposed (best idea) and feed multiple receivers. System performance will be drastically improved by getting receiver antennas closer to the transmitter, as in an auditorium or situations where the receivers are located in a sound booth or another room. Splitters combined with antennas that are specifically designed for remote use will maximize the potential of a wireless microphone system. When using remote antennas, high-grade coaxial cable specified by the wireless manufacturer will allow greater distances to be achieved.

Many manufacturers package transmitters and receivers in kits that provide the ideal pairing of components to meet customer needs. For example, a bodypack transmitter, omnidirectional lavalier and rack-mountable receiver may be available in a kit for presentation purposes, whereas the same transmitter and lavalier paired with a portable receiver is an available kit for ENG field production. The variable is the receiver type.

### Multiple System Compatibility

The typical contemporary wireless system consists of several systems operating simultaneously. This is due in part to advancements in technology that have provided higher quality frequency agile systems, in wider tuning bandwidths, with highly selective receivers at affordable prices. Manufacturers of high-quality wireless systems should publish a maximum number of simultaneously operated systems per bandwidth spec in their specifications. This number will identify how many systems can operate together, under ideal RF conditions, by following the manufacturer’s frequency-planning scheme. The compromising element here is that you must subtract frequencies from that total that fall inside of local active TV signal bandwidths. Having access to local TV activity information will aid you in choosing bandwidths with the fewest number of TV broadcast signals.

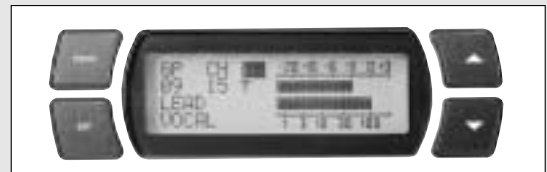
Operating multiple systems requires that precise system tunings take place. Frequency compatibility is basically a set of numbers (frequency tunings), that when used together will not produce interference amongst members of the system. When precisely calculated frequencies are not observed, and random numbers are chosen for multiple system operation, drastically unacceptable results are likely. Manufacturers of quality wireless systems publish recommended frequency selections. Many products have some or all of these numbers programmed into memory registers at the factory. It is not recommended that you get creative with multi system tunings. Refer to your manufacturer’s web site or published documentation for their recommendations. Frequency agile systems with flexible tuning capabilities will render effective multiple system compatibility.

Understanding the capabilities of wireless systems is the key to met expectations, and identifying the type of system that best suits the needs of your craft will guide you in making the right decision.

### Frequency Agility

*Frequency agility is a term indicating that a system can be tuned to a variety of frequencies. This feature is far superior to fixed-frequency systems that could not be tuned. In today’s “RF economy”, where more and more TV signals take to the air, it is advisable that the user be equipped with wireless systems that can compensate for the changing RF environment. TV stations vary from city-to-city, and if your plans are to tour or use your system in a variety of cities, it is imperative to have the means to find open frequencies, and frequency agile systems are the only tools for the job.*

*How frequency agile is it? There are degrees of frequency agility that the specs of a wireless system should identify. The first is tuning bandwidth, or the lower and upper limits of its tuning capabilities. Tuning bandwidths are identified in overall MHz width, and should cite from and to frequencies. Obviously, the wider the bandwidth, the better, but to further quantify the frequency agility, the manufacturer should also identify how many frequencies there are at your disposal. Once again, the greater the number, the better the spec. For example, an ideal spec would be: Tuning bandwidth = 32 MHz, from 518 – 530 MHz, 1280 user selectable frequencies. Manufacturers of high-quality wireless systems will offer their products in a variety of tuning bandwidths, giving the user the opportunity to choose the most ideal bandwidth for their area. Knowing your local RF environment will help in making this an informed decision.*



## WMS40

### UHF Wireless Mic System

The WMS40 is an entry-level wireless system for applications requiring quality audio on a limited budget. It is ideal for small stages, clubs, houses of worship and hotels. The system operates in the UHF range and uses advanced circuitry and SAW (Surface Acoustic Wave) filtering for trouble-free operation under difficult operating conditions. Up to two channels may be used simultaneously. The utter simplicity of the system and its preset operating frequencies allow the user to "plug and play" the system immediately. Beltpack and handheld transmitters feature extended bandwidth for optimum transmission of vocal and instrument signals, On/Off/Mute Switch and battery status LED.



#### SR40 Receiver

The SR40 receiver may be rack-mounted with the optional RMU60 kit. Indicators on the SR40 include RF status, power and mute status. A squelch control ensures noise-free reception. A front panel output level control varies the output signal from microphone to line level; both professional XLR and unbalanced 1/4" jacks are provided.

- ◆ Adjustable squelch for noise-free reception
- ◆ Clear status display including RF, power, and mute indicators
- ◆ Output adjustable from mic to line level
- ◆ Special strain relief prevents power cable from being unplugged unintentionally
- ◆ 1/4" and XLR-balanced output
- ◆ Easily mounts into any 19" rack using the optional RMU60 rackmount kit

#### HT40 Handheld Transmitter

The HT40 handheld transmitter uses the AKG D880 microphone element to provides wide range and linear response for all applications. Delivers brilliant, uncolored vocal reproduction. Operates in a choice of frequencies: 710.400 MHz (TV channel 54), and 734.600 MHz (TV channel 58). The transmitter provides On/Mute/Off switching and battery status indication.

- ◆ Integrated antenna for optimized RF output and perfect transmission quality
- ◆ Controls include on/off and mute switches, and a battery status indicator
- ◆ Replaceable color code clip for channel identification
- ◆ Runs 30 hours on 1.5 V AA alkaline or rechargeable batteries

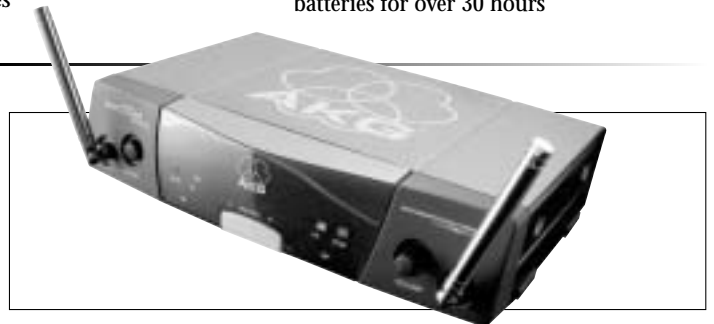
#### PT40 Bodypack

The PT40 is made of rugged plastic and can be used with a wide variety of mics, along with direct instrument pickup via the MK/GL instrument cable. Sophisticated audio and RF circuitry ensures that audio quality is identical to that of the equivalent hardwire mic. Same frequency assignments, operating controls and features as the HT40.

- ◆ Professional mini XLR connector allows use with all AKG "L" type microphones
- ◆ Extended audio bandwidth makes it well suited for use with guitar and bass as well
- ◆ Controls include on/off and mute switches, and a battery status indicator. Also has an input level control and mic/line switch for exceptional flexibility
- ◆ Runs on 1.5v AA alkaline or rechargeable batteries for over 30 hours

### SR40/DIV Diversity Receiver

Slightly more expensive than the standard version, the SR 40 Diversity is a sophisticated receiver designed to be very rugged and more reliable in environments hostile to RF transmission to meet professional requirements.



- ◆ The SR40/DIV comes with an all-metal case, and can be installed in any 19" rack with the optional rack kit.
- ◆ Front panel is finished in soft-touch enamel. Readouts are protected by an impact, scratch resistant clear Lexan window. Indicators include three RF and two audio level LEDs that include one peak and two diversity LEDs indicating which antenna is active.
- ◆ Rear panel provides two outputs; one balanced XLR and one unbalanced jack output. Each output can be adjusted from mic to line level with the output level control.
- ◆ A cable strain relief next to the supply cord input prevents unintentional interruptions of the supply voltage.
- ◆ Fully compatible with all current WMS 40 series transmitters.
- ◆ Available in all standard frequencies, a large front-panel color code label indicates the permanently programmed carrier frequency. The color code makes it easy to identify the various channels in a multichannel system.
- ◆ Preset squelch mutes the receiver if the received signal is too weak so the self-noise of the receiver, will not become audible when the transmitter is switched OFF.

## WMS40/MICROTOOLS

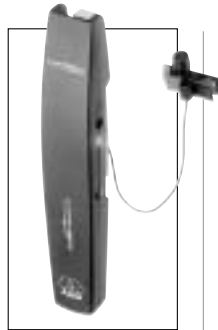
*The ultimate modular wireless system, the WMS 40 Series and microtools make everything possible. Combining small size, superior quality, and great looks, the WMS 40 microtools make the totally wireless show a reality. Whatever the application, from vocals to instruments, they provide more flexibility and versatility than any other system. Microtools are compatible with the ultra-compact PR40 receiver as well as either SR 40 receiver and have integrated charging contacts.*

- ◆ They operate on a single AAA alkaline or rechargeable battery
- ◆ Integrated charging contacts and optional charger for using rechargeable batteries
- ◆ Integrated antenna for optimum transmission
- ◆ On/Mute/Off switch and battery status indicator
- ◆ Replaceable color code element
- ◆ Input gain control for optimum modulation
- ◆ DC/DC converter for constant, transmission quality throughout battery life

### MP 40 micropen

Small but packed with innovative technology, the MP-40 Micropen provides the most inconspicuous and professional way to transmit a speech signal to the sound system. Just put the miniature transmitter in a convenient pocket or use the supplied cord to hang it round your neck. The mic is nested in the transmitter. You can also detach the mic from the transmitter to get a stronger signal.

- ◆ Integrated, detachable C 407 lavalier microphone with cable and attachment clip



### PR 40 UHF Pocket Receiver

Ideal for many applications, guitarists can use the PR 40 in their pedal board in conjunction with the GB 40 guitarbug, allowing complete freedom on stage. Or, use with the MP 40 transmitter in camera mount applications for broadcast use, or with headsets and headphones in tour guide and small conference systems. A belt clip attaches the PR 40 to the user's clothes.



- ◆ Ultra durable glass-fiber plastic case plus heavy-duty swivel joints on the antennas add to the reliability of the receiver.
- ◆ Powered by 2 AAA alkaline or rechargeable batteries. Integrated charging contacts let you to charge the batteries by simply placing the receiver in the CU 40 charger. The battery compartment also accepts a special adapter for powering the receiver from a camera or DC power supply.
- ◆ Fixed-line level and adjustable headphone level outputs
- ◆ Metering includes RF, audio level and battery status LEDs
- ◆ A preset squelch mutes the receiver if the received signal is too weak so the self-noise of the receiver won't be audible when the transmitter is switched OFF.
- ◆ Supplied Velcro fastener allows mounting on a mixer, pedal board, or a video camera.



### SO 40 snapon

Use professional wireless technology with your existing equipment. The SO-40 Snap-on transmitter turns every dynamic microphone or mixer into a wireless one. Professional features include an input gain control for optimum matching to microphone output level and a DC/DC converter for constant, transmission quality throughout battery life. To convert your mic to wireless, simply plug the SO-40 Snaupon transmitter into the XLR connector on the mic.

- ◆ Glass fiber reinforced miniature case
- ◆ XLR connector matches all dynamic mics

### GB 40 guitarbug

The GB-40 gives you the freedom of unlimited guitar sounds without the cable mess—all you need to do is plug it into your instrument. Features include an input gain control, battery status indicator, replaceable frequency color code element, and a DC/DC converter. But the best thing about the guitarbug is its "FlexJack" swiveling swivel jack that connects the GB-40 to any guitar jack, oblique, on the top, or on the side. Mates with all guitars from the Stratocaster or Telecaster to a Les Paul.



*The "FlexJack" connects the GB 40 to any guitar jack, oblique, on the top, or on the side.*

### CU 40 charging station

The perfect accessory for the Microtools. Simply set the PR 40, MP-40, GB-40 or SO-40 into the CU-40 Charging Station, and the internal battery is automatically and gently recharged.





## WMS61/WMS81

### VHF and UHF Wireless Mic Systems

With their modular system architecture, the WMS 61 (VHF) and WMS 81 (UHF) provide a custom solution for every application. They are multi-channel systems (up to 20 channels simultaneously), and they both feature SAW (Surface Acoustic Wave) filters and 15 selectable frequencies to ensure interference-free operation. An intelligent battery management system monitors the transmitter battery voltage and computes residual capacity. A pilot tone system transmits battery data to the receiver and to control the Tone Code Squelch and Auto muting functions. WMS61 and WMS81 bodypack and handheld transmitters have the same transmission characteristics (10 mW output) and via signal companding (compression and expansion), a dynamic range greater than 100 dB is attained at the receiver's output. Audio bandwidth extends from 50 Hz to 20 kHz. Through diversity reception, their performance is uniform over a wide range—up to 330'. Handheld microphone and bodypack transmitters are factory matched to a given receiver. Ideal for vocals, instruments and speech in theaters, conference centers, small sound systems, places of worship, and A/V productions.



### WMS80

#### UHF Wireless Mic System



The WMS80 is an ideal choice for any application when performance and multi-channel operation (simultaneous use of up to 19 channels) is required at an exceptionally affordable price. All the features of the WMS81 (SAW filters and 15 selectable frequencies) except there is no intelligent battery management system to monitor voltage, no inputs for external boosters or antennas, and no pilot tone system to control the Tone Code Squelch and Automuting functions. Ideal for small and medium size stages, clubs, theaters, places of worship as well as conference centers, open-air performances and sports facilities.

#### SR 80 Receiver

- ◆ 15 selectable carrier frequencies make it easy to set up multichannel systems and avoid interference frequencies
- ◆ Microprocessor controlled, digital "Four Level Diversity" antenna management system and SAW (Surface Acoustic Wave) filters provide reliable and noise-free reception.
- ◆ Adjustable squelch
- ◆ Clear status display including RF and audio level, diversity, and mute indicators
- ◆ Professional outputs include balanced XLR (mic/line switchable) and unbalanced 1/4" jack
- ◆ Output level control
- ◆ Strain relief prevents power cable from being unintentionally unplugged
- ◆ Supplied with 19" rackmount kit for easy rack mounting. (Half-rack size)

#### SR 61/SR 81 Receivers (STEP-UP FEATURES)

- ◆ Tone Code Squelch function (TCSQ) for automatic noise suppression
- ◆ Transmitter battery status indicator
- ◆ Inputs for external boosters or directional antennas for ranges longer than 100m (330')

## WMS61/WMS81

### PT 61/PT 81

#### Bodypack Transmitters

- ◆ Miniature bodypack transmitter with rugged plastic case and mini XLR input
- ◆ Extended audio bandwidth makes them perfect for use with guitar and bass
- ◆ They work with the C417L, C419L, C420L, C 444L, CK77L, and MKG/L instrument cable



#### All Transmitters Feature

- ◆ 15 selectable carrier frequencies make it easy to set up multi-channel systems and avoid interference frequencies.
- ◆ Pilot tone for battery status data transmission
- ◆ Controls include frequency selector, on/off, and mute switches, input level control, audio overload and battery status indicators
- ◆ Security covers for all controls prevent unintentional readjustment.
- ◆ They use one 1.5 V AA or rechargeable battery to keep operating costs low
- ◆ Intelligent battery management system computes transmitter battery capacity
- ◆ DC/DC converter maintains constant transmission quality throughout battery life

### PR 81

#### Bodypack Receiver

*The PR 81 UHF camera mount receiver offers unbeatable performance for the price. This portable miniature receiver with its rugged plastic case and mini-XLR output has been primarily designed for use in video and TV camera mount applications. However, the portable receiver can also be used as a distribution system for multiple language translations, in houses of worship, conferences and guided tours.*



- ◆ Miniature bodypack receiver with rugged plastic case and mini XLR output
- ◆ 15 selectable carrier frequencies make it easy to set up multi-channel systems and avoid interference frequencies
- ◆ Microprocessor controlled "Four Level Diversity" antenna management system for reliable reception with no dropouts
- ◆ Clear status display including RF and audio levels, diversity, and mute indicators
- ◆ Fixed line level and adjustable headphones outputs on mini XLR connector
- ◆ Battery status indicator
- ◆ Volume control for headphones output
- ◆ Security covers protect the channel selector, squelch control, and on/off switch from unintentional readjustment
- ◆ Complete with versatile camera mount kit and belt clip
- ◆ An optional camera power adapter allows the receiver to be powered from the camera
- ◆ Uses AA alkaline or rechargeable batteries
- ◆ Designed for use with WMS 80/WMS 81 handheld and body-pack transmitters

### HT 61/HT 81

#### Handheld Transmitters



- ◆ Three mic elements for different applications are available
- ◆ Integrated dipole antenna for optimized RF output and perfect transmission
- ◆ Available in various colors for channel identification in multi-channel setups

#### PSU Central Power Supply

Switched power supply for powering four SR61/SR81 receivers or three PS61/81 antenna splitters with up to ten SR61/81 receivers



PSU Central Power Supply

#### UAM1

Universal Antenna Mount  
Blank panel with BNC connectors for mounting receiving antennas on the front of a 19" rack



Color Coding Kit



Universal Antenna Mount

#### Color Coding Kit

Identifies the individual channels of a multi-channel system by different colors. Includes 8 rotatable security covers for the HT61/81 and 8 color coded clips for the PT 61/81 bodypack transmitters and SR61/81 receivers.

## WMS61/WMS81

### PS 61/81 Antenna Splitter

The PS61 or PS81 is an active wide-band antenna splitter for up to four SR61/SR81 receivers or three receivers and one additional antenna splitter.



- ◆ Stackable four-way antenna splitter
- ◆ Compatible with all system components for easy configuration
- ◆ Powers remote booster antennas directly through the antenna cables to eliminate cable noise
- ◆ Direct receiver powering through antenna cables (using a PSU) saves another AC adapter
- ◆ Integrated line terminals for ease of handling
- ◆ Cable attenuation
- ◆ Status display

### RA61B/RA81B External Antenna



Remote receiving antennas with integrated booster, the RA61B or RA81B can be powered from a PS61 or PS81 Antenna Splitter (respectively) through antenna cable. Includes a stand adapter.

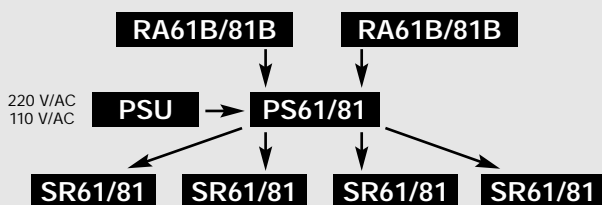
- ◆ Omnidirectional wideband antenna, compatible to all system components
- ◆ Integrated booster
- ◆ Remote powering through antenna cable
- ◆ Status indicator
- ◆ Capable of cable runs up to 330'

### SRA1 External Directional Antenna

The SRA1 is a remote wideband directional antenna compatible with all UHF wireless receivers. Includes a stand adapter.

### TYPICAL CONFIGURATION

Four-channel system with antenna splitter and central power supply



SR receivers are powered through the antenna cables

### WMS80

#### UHF Wireless Systems

- WMS80/\*\*\*** Handheld system with D880WL/1, D3800WL/1, or C535WL/1 head
- WMS80/\*\*** Bodypack system with C417/L omnidirectional lavalier or CK55L cardioid lavalier mics
- WMS80/\*\*** Bodypack system with C419/L wind/brass instrument mic, C420/L headset, C444L headset or MK/GL guitar cable

### WMS61

#### VHF Wireless Systems

- WMS61/\*\*\*** Handheld system with D880WL/1, D3800WL/1, or C535WL/1 head
- WMS61/\*\*** Bodypack system with C417/L omnidirectional lavalier, CK55L cardioid lavalier, CK97C/L cardioid lavalier, or CK77WR-L premium omnidirectional lavalier mics
- WMS61/\*\*** Bodypack system with C419/L wind/brass instrument mic, C420/L headset, or MK/GL guitar cable

### WMS81

#### UHF Wireless Systems

- WMS81/\*\*\*** Handheld system with D880WL/1, D3800WL/1, or C535WL/1 head
- WMS81/\*\*** Bodypack system with C417/L omnidirectional lavalier, CK55L cardioid lavalier, CK97C/L cardioid lavalier, or CK77WR-L premium omnidirectional lavalier mics
- WMS81/\*\*** Bodypack system with C419/L wind/brass instrument mic, C420/L headset, or MK/GL guitar cable

### WMS61/WMS81

#### Combination VHF or UHF Wireless Systems

Combination systems include one handheld transmitter + mic capsule, one bodypack transmitter + lavalier mic, and one receiver + rack mount kit.

- WMS\*\*/880/17** With D880WL/1 head and C417/L lavalier
- WMS\*\*/880/55** With D880WL/1 head and CK55L lavalier
- WMS\*\*/880/97** With D880WL/1 head and CK97C/L lavalier
- WMS\*\*/880/77** With D880WL/1 head and CK77WR-L lavalier
- WMS\*\*/3800/17** With D3800WL/1 head and C417/L lavalier
- WMS\*\*/3800/55** With D3800WL/1 head and CK55L lavalier
- WMS\*\*/3800/97** With D3800WL/1 head and CK97/L lavalier
- WMS\*\*/3800/77** With D3800WL/1 head and CK77WR-L lavalier
- WMS\*\*/535/17** With C535WL/1 head and C417/L lavalier
- WMS\*\*/535/55** With C535WL/1 head and CK55L lavalier
- WMS\*\*/535/97** With C535WL/1 head and CK97C/L lavalier
- WMS\*\*/535/77** With C535WL/1 head and CK77/L lavalier

## WMS80/61/81

### MICS FOR ALL OCCASIONS

#### D880

Dynamic performance mic with a frequency response specifically designed for lead and backing vocals. AKG Varimotion diaphragm for brilliant sound and frequency independent supercardioid polar response for high gain before feedback. (Not for the WMS300).



#### D3700

Rugged construction, attractive Tri-Power styling and superior sound for vocalists. The D3700 features an extended frequency response with a slight boost between 3kHz and 15kHz that places vocals up front. A hypercardioid pattern allows close-in usage with maximum gain before feedback right next to monitor speakers. (Not for the WM61/80/81).



#### D3800

Unlike other dynamic mics, the D3800 provides a unique combination of high output and an exceptionally tight hypercardioid pickup pattern for very high gain before feedback. Easily handles limit-pushing SPLs. Moving Magnet Suspension system dramatically reduces mechanical and handling noise.



#### C5900

Combines the detailed transparency of an AKG studio condenser mic with the road-tough construction and high gain before feedback required of a true stage performance mic. InterSpider 3-point internal shock mount effectively suppresses handling noise. (Not for the WM61/80/81).



#### C535

Provides the clean, open sound of AKG studio condenser mics, with a gentle 2dB rise between 7 and 12 kHz that makes voices cut through the mix.



#### CK77 Lavalier *From Opera to Movies*

The CK77 is the world's smallest twin-diaphragm lavalier. It is ultra-light (1 oz.) and only 0.56" long. Acoustically optimized for vocal performances, the mic can be discretely attached to clothing or covered with make-up.

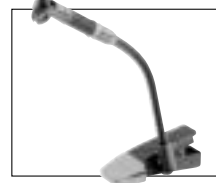


#### CK97 Lavalier *From Newscasting to Talkshows*

Designed mainly for TV and radio work, CK97 provides high feedback rejection and a cardioid pattern. Very unobtrusive and easy to handle.

#### C417 Lavalier *From Public Address to Conference*

For inconspicuous miking of lecturers, emcees, vocalists, etc. Fix the C417 to the lapel and hide the cable beneath the jacket.



#### C419 Instrument Mic

Brass and wind instruments can now go wireless. The C419 sounds natural without any loss of quality in the instrument's acoustics. Attaching the mic is quick and easy. Just clamp the C419 on the bell, aim at the rim, and find the optimum position.



#### C420 Headset Microphone

The C420 is a condenser design with a full bandwidth 20 - 20 kHz frequency response. It captures the voice with a detailed, brilliant sound quality, providing the performer with a pure, powerful sound that carries the punch and presence to cut through to the audience.



#### MK/GL Guitar Cable

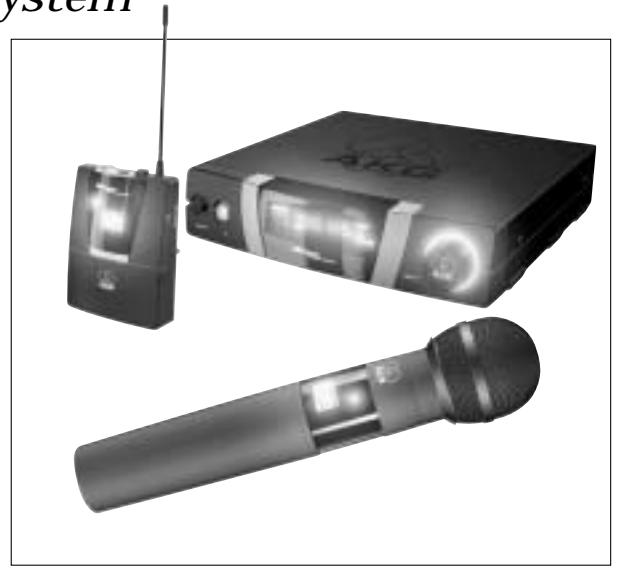
Eliminate endless instrument cable connections. This 32" cable with an WMS61/80/81 system offers total mobility. Just plug it and play, and get great sound.

## WMS-4000

### UHF True Diversity Wireless Mic System

The WMS 4000 is one of the most advanced and innovative wireless systems for professional use available today. It offers an inspiring combination of sophisticated engineering, exceptional flexibility, surprising versatility, and maximum ease of use. The application range of the WMS 4000 is almost unlimited, from fixed installations or mobile systems in architecturally difficult environments to motion picture and broadcast work. In large-scale projects including worship center sound systems, theatrical productions, or stadium concerts, the WMS 4000 shows off its professional qualities.

The advanced backlit display on the transmitters as well as on the receiver indicates the selected Preset, remaining transmitter battery life, gain setting, or intermodulation-free frequencies. Transmitters provide a silent mode and a "hidden" pilot tone system for status monitoring. An Environment Scan function on the SR 4000 receiver finds interference frequencies within the RF environment. The Rehearsal function lets you track important system parameters during the soundcheck to avoid potential problems before the show. The CU/BP 4000 battery powering system is controlled by the SBMS Smart Battery Management System. A unique innovation, it permanently monitors battery status and prevents overcharging, while Charge Balance Management provides maximum safety and reliability. The antennas available for the WMS 4000 use future oriented technologies, too. Choose from directional and omnidirectional antennas for every application.



### SR 4000 True-Diversity Frequency-Agile UHF Receiver



The SR 4000 is a state-of-the-art, true diversity receiver that provides maximum ease of use and the most useful functions in its class. Many features of the SR 4000 were never before available or limited to extremely expensive systems. The accurate battery life readout is an invaluable advantage in live sound applications. The transmitter uses a pilot tone to transmit battery status data to the receiver that displays the remaining battery capacity in hours. The pilot tone decoder also detects and displays other important information including the current position of the MUTE switch on the transmitter. The integrated software not only permits automatic setup and frequency scanning but remote control and monitoring from a PC via a dedicated interface as well. Optional MCS 4000 Mission Control Software makes setting up and monitoring

highly complex systems incredibly easy. A logic output allows remote control of specific functions on an external device, e.g., an automatic microphone mixer. Naturally, the SR 4000 operates in an extremely wide UHF band (30 MHz) and each frequency preset provides up to 24 intermodulation-free subchannels. Housed in a half-rack, all-metal case, the SR 4000 is the most compact, reliable, and powerful UHF receiver in its price bracket.

- ◆ Operates on a 30 MHz-wide UHF wide bandwidth containing preset inter-modulation-free frequencies and access to up to 1,200 switchable frequencies. Three separate 30 MHz channels may be selected for use in the U.S., offering a maximum of approximately 50 usable channels that are limited only to other external RF interference.
- ◆ Unique signal compression and expansion circuits provide a dynamic range greater than 112 dB.
- ◆ An output level switch allows the selection of three output levels at -30, 0, +6 dB for optimum system gain structure.
- ◆ Internal software features AutoSetup for inter-modulation free channel selection, Environment Scan for scanning of the unit's RF range, and Rehearsal Mode selection for saving system data during rehearsal set-up. Settings like squelch threshold, carrier frequency selection and user's name can be edited and stored in an easy menu structure.
- ◆ Programmable status indicators on the SR 4000 receiver include mute, audio level bar graph, RF level bar graph, and a 6 x 14 segment alphanumeric display and menu control. The unique, programmable Status Control Ring can display the most important system data at a glance.
- ◆ The large, backlit color display and a jog wheel make the SR 4000 easy to use and a programmable warning light indicates selectable critical conditions within the system.



## WMS-4000

### PT 4000 Bodypack and HT 4000 Handheld UHF Transmitters

The PT 4000 bodypack and the HT 4000 handheld UHF transmitters incorporate programmed, pre-matched, optimized frequency groups that allow for quick, easy frequency selection. Other features include backlit LCD displays for system status monitoring and a jog wheel for quick system setup and navigation. These transmitters are encased in magnesium metal chassis for rugged on-stage use, and have a usable operation distance of up to 330 ft., with a system audio bandwidth from 35 Hz to 20 kHz.



- ◆ The HT 4000 handheld transmitter allows for interchangeable microphone modules with three dynamic models D880, D 3700, D 3800 and three condenser models C 900, C 5900, and the C 535.
- ◆ The PT 4000 bodypack accepts both microphone and line-level input signals and has an adjustable input sensitivity. A lockable TA-3F Mini-XLR connector is used for easy connection of a broad range of AKG headsets, lavaliers, instrument microphones and instrument cables. The PT 4000 bodypack transmitter also has a 2.5-mm jack connector for the optional RMS 4000 remote switch device.
- ◆ Both HT 4000 handheld and PT 4000 bodypack transmitters can be powered either by 2 AA batteries or a BP 4000 rechargeable battery pack and incorporate integrated charging contacts for easy use with the optional CU 4000 charging unit.



### CU 4000 Charger

The CU 4000 charging unit features two charging bays that are designed to hold two separate HT 4000 handheld, PT 4000 transmitters or BP 4000 battery packs. The CU 4000 can charge two battery packs simultaneously in one hour. A three-step LED display on the CU 4000 displays the charging status. The unit is based on a trickle charge system with inflection point switch-off automation to preventing the battery pack from overcharging. The CU 4000

identifies possible battery memory problems and suggests starting an optional recovery cycle via a recovery button on the CU 4000's front panel. This function refreshes the BP 4000 battery pack by charging and discharging cycles to determine the actual capacity of the battery.

- ◆ The CU 4000 has a lockable DC connector on its rear panel that allows it to be powered by either an external DC adapter or by the optional PSU 4000 central power supply.

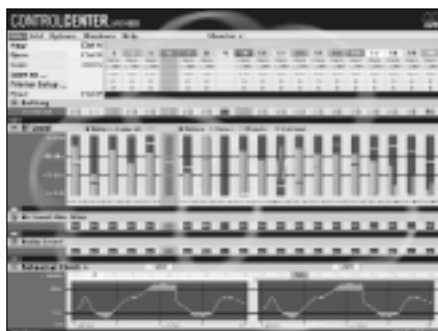
### PS 4000 Multi-Coupler

The PS 4000 multi-coupler provides an antenna signal and DC power for up to our diversity wireless receivers. It has a wide-band antenna signal amplifier/divider with a 220 MHz-wide UHF bandwidth custom-tuned to all available WMS 4000 channels. Two additional BNC outputs are also available on the rear panel for cascading the diversity antenna signal to another multi-coupler. Up to three multi-couplers can be cascaded to supply antenna signal to 12 receivers from a single pair of antennas.



- ◆ The PS 4000 has several operation and failure status LED's that allow monitoring of correct cable and antenna signal operation. A 10-position switch on the front panel of the PS 4000 will adjust for signal loss caused by cable length, thus providing reception optimization.
- ◆ Either a single DC adapter or an ASU 4000 central power supply unit can power the PS 4000. The PS 4000 is encased in all-metal chassis and is one standard rack unit high and one-half rack unit wide. When mounted it can be placed side-by-side with an SR 4000 receiver, another PS 4000 multi-coupler, an ASU 4000 and other WMS 4000 rack-mountable accessories.
- ◆ The PS 4000 uses three different external antenna options, SRA1 passive directional, SRA2 active directional and the RA 4000B active omnidirectional. When cable length between external antennas and PS 4000 exceed the maximum compensation setting an AB 4000 in line amplifier can be added to gain an additional 17 dB of amplification.

### Additional Accessories:



An expansive line of additional accessories include the ASU 4000, an in-line power supply unit for use in large antenna networks, HPA 4000 Headphone Amplifier with eight line inputs, HUB 4000 Network Interface (designed for multi-complex systems) that features an ID switch, status display and 8 x SR in, an Ethernet out and the MCS 4000 PC Software that provides additional programming and monitoring of connected receivers, detailed RF and AF functions, a graphical scanner and enhanced auto setup mode.

# AUDIO TECHNICA

## FREEWAY WIRELESS SYSTEMS

WIRELESS MICS

716



### 200 Series (VHF)

With the Freeway 200 Series, Audio Technica again sets the standard for a comprehensive, cost-effective and dependable VHF wireless miking solution. Designed for musicians, live performance, houses of worship, PA and aerobic instruction, the 200 Series is a single-channel, fixed-frequency systems available in three VHF frequencies (169.505, 170.245, and 171.905 MHz) and in multiple configurations.

### 600 Series (UHF)

An exciting range of frequency-agile UHF wireless, the Freeway 600 Series provides interference-free performance and exceptional audio quality in a wide variety of applications such as live performance, houses of worship, PA and aerobic instruction. Available in multiple configurations, the Series 600 features 10 selectable UHF channels, a removable docking power supply, and an advanced dipole antenna design. Two independent frequency bands allow operation for up to eight simultaneous channels: Band A: 470-480 MHz (TV channels 14-15) and Band B: 482-492 MHz (TV channels 16-17).



#### ATW-R200 (VHF) and ATW-R600 (UHF) Receivers

The ATW-R200 (non-diversity, single-channel receiver) and ATW-R600 (10-channel frequency-agile receiver) both feature an advanced dipole antenna design (improves operation by providing adjustable ground element in addition to the usual "signal" element) and a unique removable docking power supply that slides into the receiver. For further flexibility, the power adapter can easily be removed from the receiver case and be used as a conventional in-line AC adapter. They also offer squelch and volume controls along with AF Peak, RF and power indicator lights.

- ◆ Can also be operated from external 12V DC source for portable applications.
- ◆ Front panel channel selector switch (ATW-R600 only) and output level control
- ◆ High impact molded case with storage for antennas and docking power supply
- ◆ 1/4" output jack

#### ATW-201/ATW-601 Bodypack Transmitters

Bodypack's professional 4-pin locking HRS-type connector provides solid secure connections and works with a wide variety of mics and cables. Dual-impedance input for instruments and mics (high and low impedance audio connections) plus a bias voltage to allow use with dynamic and condenser mics as well as Hi-Z instrument pickups.

#### Bodypack and Handheld Transmitters Both Feature

Both transmitters operate on a single 9-volt battery with a battery-condition indicator light, easily-accessible, recessed three position Off/Standby/On switch, internal channel selector (600 Series only) and a variable trim control to provide for maximum RF modulation with minimum distortion.

#### ATW-202/ATW-602 Handheld Mic/Transmitter

Handheld transmitter has rugged unidirectional dynamic element with internal shock mount to minimize handling noise.

ATW-201/G Guitar System .....	Call	ATW-201/L Lavalier Mic System .....	Call
ATW-201/H Headworn Mic System .....	Call	ATW-201/H Handheld Mic System .....	Call
ATW-601/G Guitar System .....	Call	ATW-601/L Lavalier Mic System .....	Call
ATW-601/H Headworn Mic System .....	Call	ATW-601/H Handheld Mic System .....	Call



# AUDIO TECHNICA

## UNIPAK BODY-PACK TRANSMITTERS

WIRELESS MICS

717

### Wireless Essentials for A-T UniPak Body-Pack Transmitters

Wireless Essentials are a collection of microphones and cable assemblies pre-terminated with a HRS-type type connector for use with Audio-Technica wireless bodypacks. Included are omnidirectional and cardioid lavalier mics, headworn mics, clip-on instrument mics, and instrument cables along with a boundary mic and a podium gooseneck mic for wireless installations. By providing this wide variety of choices, Audio Technica allows you to "personalize" your wireless system for a specific application. Plus, you can interchange the Essential without having to purchase another wireless system or transmitter. Essentials are properly terminated so that they connect to the appropriate input on the transmitter. This enables the Essential to take advantage of the individual transmitter gain control so that plugging in an instrument cable will not affect the mic trim level and vice versa. The result is maximum flexibility.

#### AT829cW

Miniature cardioid condenser mic 29.5" cable terminated with locking 4-pin connector.....**49.95**



#### AT831cW

Miniature cardioid condenser mic; 29.5" cable terminated with locking 4-pin connector. Includes clothing clip and windscreen.....**79.95**



AT851cW  
Unidirectional condenser boundary mic; 29.5" cable terminated with locking 4-pin connector .....**119.95**

#### AT857AMLcW

Cardioid condenser 19" gooseneck mic; mounts to 5/8"-27 thread; 29.5" cable terminated with locking 4-pin connector Includes wind-screen .....**174.95**



AT889cW  
Headworn noise-canceling condenser mic; 55" cable terminated with locking 4-pin connector. Rugged, moisture-resistant construction

designed for aerobics instruction and other demanding applications. Includes windscreen and cable clip.....**159.95**

#### AT899cW

Subminiature omnidirectional condenser mic; 55" cable terminated with locking 4-pin connector. Includes AT899AK accessory kit .....**159.95**

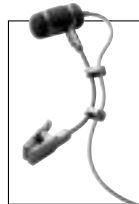
#### AT899cW-TH

"Theater" model, same as AT899cW except beige color mic and cable for concealment. Includes AT899AK-TH (beige) accessory kit.....**159.95**



#### AT-GCW

Hi-Z instrument/guitar cable with 1/4" phone plug, terminated for use with UniPak body-pack transmitters .....**23.95**



#### ATM35cW

High-intensity cardioid condenser mic; 55" cable terminated with locking 4-pin connector. Includes AT8418 instrument mount for brass, reeds, drums, etc .....**114.95**

#### ATM73cW

Headworn cardioid condenser mic; 55" cable terminated with locking 4-pin connector. Includes windscreen .....**119.95**



#### ATM75cW

Headworn cardioid condenser mic; 55" cable terminated with locking 4-pin connector. Includes windscreen and cable clip .....**79.95**

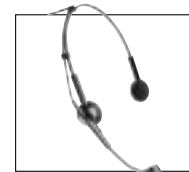


#### MT830cW

Subminiature omnidirectional condenser mic; 55" cable terminates with locking 4-pin connector. Includes clothing clip and windscreen.....**74.95**

#### MT830cW-TH

"Theater" model, same as MT830cW except beige color mic and cable for concealment.....**74.95**

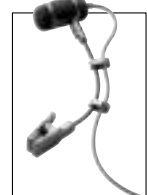


#### PRO 8HEcW

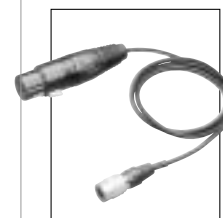
Headworn hypercardioid dynamic mic; 55" cable terminates with locking 4-pin connector. Includes windscreen and cable clip.....**79.95**

#### PRO 35xcW

Cardioid condenser mic; 55" cable terminates with locking 4-pin connector. Includes AT8418 instrument mount for brass, reeds, drums, etc .....**99.95**



#### XLRW



Input cable for UniPak body-pack transmitters with XLR to 4-pin connectors. For Lo-Z mics with XLRM-type output terminations...**23.95**

# AUDIO TECHNICA

## 1100/1200 SERIES

WIRELESS MICS

718

### True Diversity VHF Systems

Ideal for schools, garage bands and small clubs, the 1100 and 1200 series are affordable crystal-controlled, true-diversity wireless mic systems. Their receivers are equipped with two antennas that feed two completely independent RF sections on the same frequency, while automatic logic circuitry continuously compares and selects the superior signal, providing better sound quality and reducing interference and dropouts. The versatile UniPak body-pack transmitter has both low- and high-impedance inputs plus a bias connection, for use with dynamic and condenser microphones, as well as Hi-Z instrument pickups. Both the handheld and UniPak transmitters use 9-volt batteries and have Off/Standby/On switches, battery condition indicators, and battery-save switches. The 1100 Series receiver is made to be mounted in a standard 19" rack (1U), while two 1200 Series receivers can be mounted side-by-side in a single 19" rack space.

#### System Features

- ◆ VHF Band operation (169.505 - 213.800 MHz TV channel 7-13) crystal controlled for interference resistant operation
- ◆ Robust VHF operation minimizes dropouts caused by spurious reflections and is less dependent on "line-of-sight" operation
- ◆ True Diversity reception with two independent RF sections in the receiver automatically selects the better signal for highest reliability
- ◆ Full FM deviation improves signal/noise ratio for greater headroom and dynamic range
- ◆ Choice of 20 VHF frequencies available for minimum interference, including US and Canadian traveling frequencies

#### Transmitters

- ◆ Battery condition indicators alert you when battery needs replacing
- ◆ Locking HRS-type connector on the bodypack provides a secure connection and works with a wide variety of mics and cables
- ◆ Bodypack features both high and low impedance audio connections plus a bias voltage to allow use with dynamic and electret condenser microphones as well as Hi-Z instrument pickups
- ◆ Handheld Dynamic Transmitter incorporates Hi-Energy element and internal shock mounting to minimize handling noise
- ◆ Dual power output switches extend battery life and minimize receiver input stage overload when transmitters are used next to the receiver
- ◆ They operate on a single 9V Battery with 15-20 hours of battery life

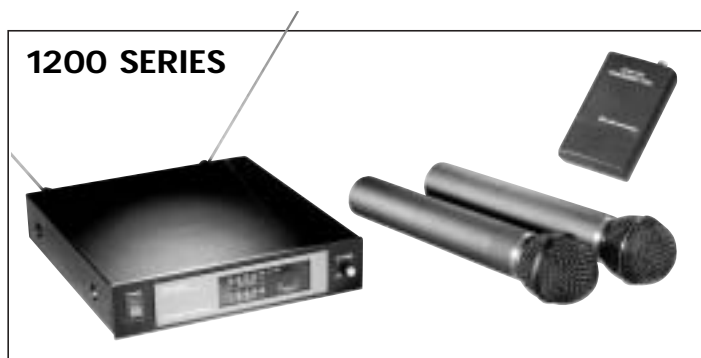
#### Receiver

- ◆ Heavy-duty metal construction reduces interference and shields receiver from other components
- ◆ Mounts in a single 19" rack space (with included rack mount ears) for fixed installations
- ◆ Front panel LEDs show power, AF peak and diversity tuner operation
- ◆ Balanced (with ground lift switch) and unbalanced audio outputs simplify use with a variety of mixers, amplifiers, and sound systems
- ◆ Removable rear mounted antennas enable the receivers to be used in a rack with remote antennas and antenna distribution accessories



**ATW-1127 Bodypack System**  
with ATW-T27 UniPak transmitter.....**274.95**

**ATW-1128 Handheld System**  
with ATW-T28 handheld unidirectional dynamic mic/transmitter.....**329.95**



**ATW-1235 Body-pack System**  
with ATW-T35 UniPak transmitter.....**329.95**

**ATW-1236 Handheld Microphone System**  
with ATW-T36HE handheld hypercardioid dynamic mic/transmitter...**299.95**

**ATW-1237 Handheld System**  
with ATW-T37C handheld hypercardioid condenser microphone/transmitter (accepts interchangeable elements for a variety of polar patterns).....**499.95**



**EQUIPMENT LEASING AVAILABLE**

# AUDIO TECHNICA

## 1400 SERIES

### True Diversity UHF Systems

The 1400 Series is very similar to the 1200 Series except it works in the UHF bandwidth (728.125 - 740.500 TV channel 57 - 59) crystal controlled for interference resistant operation.

#### — Same features as the 1200 Series PLUS—

- ◆ UHF Band operation (728.125 - 740.500 TV channel 57 - 59) crystal controlled for interference resistant operation
- ◆ Factory pre-selected frequencies enable up to 10 systems to operate simultaneously
- ◆ Available in single transmitter (bodypack or handheld) or dual transmitter "combo" configurations depending on your application
- ◆ Removable front mounted antennas enable the receiver to be used in a rack for portable applications

#### ATW-1451 UniPak Body-pack System

ATW-R14 receiver and ATW-T51 UniPak transmitter (with Super Hi-Z input for optimum load for guitar pickups)

#### ATW-1452 Handheld Microphone System

ATW-R14 receiver and ATW-T52 handheld unidirectional dynamic mic/transmitter (with Hi-ENERGY dynamic element)

#### ATW-1453 Dual Transmitter System

ATW-R14 diversity receiver, ATW-T52 handheld and ATW-T51 UniPak transmitters, and AT831cW lavalier microphone



- ◆ Adjustable squelch control allows system to be optimized for specific use location to minimize interference
- ◆ Locking HRS-type connector on Bodypack provides solid secure connections and works with a wide variety of mics and cables

WIRELESS MICS

719



## 7000 SERIES

### Frequency Agile True Diversity UHF Systems

The 7000 Series features UHF operation with two separate bands (656.125 - 668.500 MHz (TV channel 45-47) and 728.125 - 740.500 (TV channel 57 - 59) for maximum flexibility and to increase the number of simultaneous operating systems. In addition, 100 phase locked loop (PLL) synthesized channels per band with selectable switches on receiver and transmitter provide ease of setup.

#### — Same features as the 1400 Series PLUS—

- ◆ Available in two frequency ranges:  
656 - 668 MHz (TV channels 45 - 47) and  
728 - 740 MHz (TV channels 57 - 59)
- ◆ 100 PLL-synthesized channels selectable via switches on receiver and transmitter
- ◆ Removable rear mounted antennas enable the receiver to be used in a rack with remote antennas and antenna distribution accessories
- ◆ Condenser handheld transmitter with the legendary AT4033 studio condenser element for discriminating applications
- ◆ AC power uses standard line cord—no wall warts and line lumps

#### ATW-7375 UniPak Body-Pack System

ATW-R73 receiver and ATW-T75 UniPak transmitter (includes Super Hi-Z input that provides optimum load for guitar pickups)

#### ATW-7373 Handheld Microphone System

ATW-R73 receiver and ATW-T73 handheld unidirectional condenser mic/transmitter (featuring the same condenser element used in the AT4033 studio mic)

#### ATW-7376 Handheld Microphone System

ATW-R73 receiver and ATW-T76 handheld unidirectional dynamic mic/transmitter (featuring a Hi-ENERGY dynamic element with superior internal shock mounting)

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# AUDIO TECHNICA

## 3000 SERIES

WIRELESS MICS

720

### 200-Channel Frequency-Agile UHF True Diversity System

Designed for a wide range of applications including live performance, regional touring companies, fixed installation, public address and places of worship, the 3000 Series operates in the UHF 600 MHz frequency band (655-680 MHz, TV channels 44-49) with 200 selectable frequencies and true diversity wireless technology. All components have soft-touch controls for quick, easy access to the most important functions during set-up and operation. An easy-to-read LCD information display in each unit provides convenient visual indications of settings and operation status.



#### FEATURES

##### ATW-R310

###### True Diversity Receiver

The ATW-R310 offers 200 PLL-synthesized UHF frequencies, true diversity operation, advanced Digital Tone Lock Squelch, soft-touch controls with LCD information display and step-through menus to minimize set-up time

- ◆ Adjustable-slope high-pass filter (Off, 6dB, 12dB, or 18dB)
- ◆ Meter hold setting function permits the AF bar graph in the LCD window to capture and display the highest level audio modulation received from the transmitter - very useful during setup or sound check.
- ◆ Transmitter battery-life fuel gauge
- ◆ XLR-balanced and 1/4" unbalanced outputs
- ◆ All-metal housing for superior shielding, and a ground-lift switch
- ◆ Includes two flexible UHF antennas and rack-mount adapters
- ◆ Two receivers can be mounted side-by-side in a single 19" rack space

##### ATW-T310

###### UniPak Transmitter

- ◆ The versatile ATW-T310 offers a multi-function LCD display and soft-touch controls for easy set-up and operation.
- ◆ Low- and high-impedance inputs (with a bias connection) permit use with dynamic and condenser mics as well as Hi-Z instrument pickups.
- ◆ In addition to its programmable functions, the ATW-T310 has a three-position sliding cover to limit access to controls as appropriate for the application and user.

##### ATW-T341

###### Handheld Mic/Transmitter

- ◆ Using the same cardioid dynamic capsule (specifically tailored for a more aggressive sound quality that keeps the vocals up-front in the mix) as ATs acclaimed Artist Elite AE4100 microphone, the ATW-T341 provides a focused vocal pickup while offering superior gain-before-feedback.
- ◆ Features rugged metal construction, soft-touch controls and a multi-function LCD display.

Both transmitters have dual-power setting: select high for maximum range or low for extended battery life and are powered by two 1.5V AA batteries for 6-10 hours of operation.

#### 3000 Series Systems

##### ATW-3110 UniPak Body-Pack System:

Includes the ATW-R310D receiver and ATW-T310D UniPak transmitter (655 - 680 MHz range). Requires a Wireless Essentials microphone or cable to complete the system.

##### ATW-3141D Handheld Microphone System:

Includes the ATW-R310D receiver and ATW-T341D handheld cardioid dynamic microphone/transmitter (655 - 680 MHz range)

#### 3000 SERIES SPECIFICATIONS

Operating Frequency	UHF band "D" system: 655.500 MHz to 680.375 MHz	Normal Deviation	±10 kHz
Number of Channels	200 total	Operating Range	300' typical
Frequency Stability	±0.005%, Phase Lock Loop frequency control	Operating Temperature Range	41° F (5° C) to 113° F (45° C)
Modulation Mode	FM	Frequency Response	70 Hz to 15 kHz



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# AUDIO TECHNICA

## 4000/5000 SERIES

### Frequency-Agile True Diversity UHF System

Building on the 3000 Series, the 4000 and 5000 Series wireless systems can suit the most demanding performance applications. Multiple receivers of both series can be linked, and both systems feature IntelliScan frequency selection and dual compansion. All components can store up to five preset configurations, with customized "names" if desired. The heart of the 4000 and 5000 Series is their true diversity frequency-agile receivers. The half-rack AEW-R4100 and full-rack, dual-receiver AEW-R5200 offer two hundred selectable UHF channels in the range of 655.500 to 680.375 MHz (TV channels 44-49), with an operational range in excess of 300 feet.

- ◆ Receivers may be linked to form a complete system in which the built-in IntelliScan capability can automatically determine and set the best available frequencies on all linked receivers, minimizing interference and intermodulation. An AC pass-through system allows multiple receivers to be powered using only one outlet.
- ◆ Dual-band compander circuitry compresses and expands low- and high-frequency audio signals separately, minimizing artifacts such as pumping and breathing and maximizing audio quality.
- ◆ Digital Tone Lock squelch system ignores RF that does not carry the wanted signal's unique signature. Concurrently, the digitally encoded tone also communicates transmitter data for receiver display
- ◆ External mute switch jack to mute the system quickly and easily.
- ◆ The AEW-R5200 also includes Ethernet ports, enabling monitoring of system parameters via the supplied Mac or Windows software.
- ◆ To complement both the 4000 and 5000 Series receivers, five wireless transmitter options are available. All feature rugged, ergonomic metal bodies, programmable on/off/mute switching, and 10 mW/35 mW switchable RF power, and are compatible with both systems. Five user-programmable settings, plus a default setting, make these transmitters extremely versatile.
- ◆ The AEW-T1000 UniPak transmitter offers advanced features such as a recessed dual-impedance 4-pin locking connector, durable metal body, soft-touch controls with sliding cover, and an input level that is adjustable in 2 dB increments.
- ◆ Developed from AT's Artist Elite line of wired mics, the handheld transmitters are specially optimized for wireless operation. Options include two condenser and two dynamic types:
- ◆ The AEW-T5400 and AEW-T3300 cardioid condenser mics boast superior clarity and realism, very low handling noise, and sturdy, die-cast construction. The cardioid AEW-T4100 and hypercardioid AEW-T6100 dynamic mics offer assertive sound, outstanding pop protection, and rugged construction.



WIRELESS MICS

721

### 4000 Series System Configurations

#### UniPak Transmitter System (Including AEW-R4100 Receiver)

AEW-4110: With AEW-T1000 UniPak transmitter ..... Call

#### 4000 Series Handheld Systems (Including AEW-R4100 Receiver)

AEW-4230: With AEW-T3300 cardioid condenser mic/transmitter ..... Call

AEW-4240: With AEW-T4100 cardioid dynamic mic/transmitter ..... Call

AEW-4250: With AEW-T5400 cardioid condenser mic/transmitter ..... Call

AEW-4260: With AEW-T6100 hypercardioid dynamic mic/transmitter ..... Call

#### 4000 Series Dual Transmitter Systems (Including AEW-R4100 Receiver)

AEW-4313: AEW-T1000 and AEW-T3300 ..... Call

AEW-4314: AEW-T1000 and AEW-T4100 ..... Call

AEW-4315: AEW-T1000 and AEW-T5400 ..... Call

AEW-4316: AEW-T1000 and AEW-T6100 ..... Call

### 5000 Series System Configurations

#### Dual UniPak Transmitter System (Including AEW-R5200 Dual Receiver)

AEW-5110: With two AEW-T1000 UniPak transmitters ..... Call

#### Dual Handheld Systems (Including AEW-R5200 Dual Receiver)

AEW-5230: 2 AEW-T3300 cardioid condenser mic/transmitter ..... Call

AEW-5240: 2 AEW-T3300 cardioid condenser mic/transmitter ..... Call

AEW-5250: 2 AEW-T3300 cardioid condenser mic/transmitter ..... Call

AEW-5260: 2 AEW-T3300 cardioid condenser mic/transmitter ..... Call

#### 5000 Series Dual Transmitter Systems (Including AEW-R5200 Receiver)

AEW-5313: AEW-T1000 and AEW-T3300 ..... Call

AEW-5314: AEW-T1000 and AEW-T4100 ..... Call

AEW-5315: AEW-T1000 and AEW-T5400 ..... Call

AEW-5316: AEW-T1000 and AEW-T6100 ..... Call

# AUDIO TECHNICA

## U100 SERIES

WIRELESS MICS

722

### UHF Multi-Channel Wireless Mic System

UHF camera mountable with a rock-solid RF design and rugged metal construction, the U100 system is available with either a body-pack or plug-on transmitter. Each system features the ATW-R100 true diversity receiver and operates in the channel 57 to 59 TV range avoiding upcoming DTV stations in the channel 67 to 69 range. The ATW-U101 system includes the ATW-T101 body-pack transmitter with standard Switchcraft TA5F input connector that is compatible with several lavalier and headworn mics. The ATW-U102 system includes the ATW-T102 XLR plug-on transmitter compatible with all dynamic and most self powered microphones.



### System Features:

- ◆ 100 Phase Lock Looped (PLL) -synthesized channels selectable via switches on receiver and transmitter
- ◆ 300' operating range typical
- ◆ Frequency-agility allows operation in both analog and DTV operating environments
- ◆ 100 Hz to 15 kHz frequency response
- ◆ Operates in the less crowded 728.125 - 740.500 MHz UHF frequency band or TV channels 57-59
- ◆ Hinged battery doors on receiver and transmitters

#### ATW-R100 Receiver

- ◆ True diversity operation automatically selects the better signal from two independent receivers, reducing dropouts
- ◆ LEDs indicate A or B antenna status, AF peak, and power status
- ◆ XLR balanced output with level control
- ◆ Removable antennas (BNC) connectors
- ◆ Operates on two internal 9 v batteries (for approx 6 hours) or on external 12 v DC
- ◆ Headphone jack with volume control
- ◆ Helical filter design improves rejection of unwanted signals
- ◆ Measures 3.35 x 4.53 x 1.42" (WHD) and weighs 12.0 oz.

#### ATW-T101 Body-pack Transmitter

- ◆ Features industry-standard Switchcraft 5-pin mic input connector
- ◆ Runs on a single 9V battery with approximately 8-10 hours battery life
- ◆ Measures 2.52 x 3.78 x 0.91" (WHD) and weighs 5 oz.

#### ATW-T102 Plug-on Transmitter

- ◆ 3-pin XLR-type input connector compatible with all dynamic and most self powered mics
- ◆ Runs on a single 9 volt battery with approximately 7-9 hours battery life
- ◆ Measure 1.57 x 4.32 x 1.57" (WHD) and weighs 6.2 oz.

### U100 Wireless Systems

#### ATWU101

Includes ATW101 belt-pack transmitter and ATW-R100 receiver (no mic)

#### ATWU101830

Includes ATW101 transmitter, AT831cT5 lavalier mic and ATW-R100 receiver

#### ATWU101831

Includes ATW101 transmitter, MT830cT5 lavalier mic and ATW-R100 receiver

#### ATWU102

Includes ATW102 plug-on transmitter and ATW-R100 receiver

### U100 Components

**ATWT101** Belt-pack transmitter

**ATWT102** Plug-on transmitter

**ATW-R100** True Diversity receiver

**AT831cT5**

Miniature cardioid lavalier mic

**MT830cT5**

Subminiature omni-directional condenser lavalier mic

**MT830cT5TH**

"Theater" model (same as above except in beige)



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# AUDIO TECHNICA

## UHF COMPARISON CHART

Receiver	AE 5000 Series AEW-R5200	AE 4000 Series AEW-R4100	3000 Series ATW-R310	1400 Series ATW-R14	Freeway 600 ATW-R600	U100 Series ATW-R100
Fixed Frequency / Agile	Agile	Agile	Agile	Fixed	Agile	Agile
Band Frequencies	TV 44 - 49	TV 44 - 49	TV 44 - 49	TV 57 - 59	TV 16 - 17, TV 14 - 15	TV 57 - 59, TV 45 - 47
Number Channels / System	200	200	200	1	10	100
Number of Simultaneous Channels	20 per band	20 per band	20 per band	10	8 (using both bands)	18
Intelliscan (Automatic System Channel Plan)	■	■				
True Diversity with Indicators (Tuner LEDs)	■	■	■	■		■
RF Level	Bargraph	Bargraph	Bargraph	Bargraph	Peak LED	Peak LED
TX Mute Indicator	■	■	■			
AF Level	Bargraph	Bargraph	Bargraph	Bargraph	Peak LED	Peak LED
Digital Tone Lock Squelch	■	■	■			
Adjustable Squelch	■	■	■	■	■	
TX Battery Status & System Alert Indicators	■	■	■			
Channel Selector Switch					■	■
Channel Selector (Soft Touch Control)	■	■	■			
Output	XLR, 1/4" TRS	XLR, 1/4" TS	XLR, 1/4" TS	XLR, 1/4" TS	1/4" TS	XLR
Ground Lift Switch	■	■	■	■		
External Mute Contact Closure	■					
Power Supply Type	IEC	IEC	12v DC In-Line	12v DC WW	Docking IEC	2 x 9v
Headphone Monitor Output	■	■	■			■
Rack Mount	■	■	■	■	Optional	
Half-rack Case		■	■	■		
Metal Case Construction	■	■	■	■		■
Antenna Location	Rear/Front	Rear/Front *	Rear	Front	Front	Top
BNC Antenna Connections	■	■	■	■		■
Antenna Power (12V DC)	■	■				
Optional Antenna Splitter (DA)	■	■	■	■		■
Optional Ground Plane & Directional Antennas	■	■	■	■		■
Optional Powered Antennas	■	■				
Battery Status LED	Bargraph	Bargraph	Bargraph	LED	LED	LED
Batteries	2 x 1.5v	2 x 1.5v	2 x 1.5v	1 x 9v	1 x 9v	1 x 9v
Frequency Display/Mute Indication	■	■	■			
Configurable/Defeatable Power/Mute Switch	■	■	■			
Channel Selector Switch					■	■
Soft Touch Configuration	■	■	■			
Control Cover (Bodypack Transmitter)	■	■	■			
HRS-type 4-pin Connector (Bodypack)	■	■	■	■	■	TB5M
Interchangeable Mic Elements (Handheld)	■	■				
Metal Case Construction (Handheld/Bodypack)	■	■	Handheld Only			
Digital Tone Lock Squelch	■	■	■			
Plug-on Transmitter						■

\* Needs to be done at factory

receiver

transmitter

WIRELESS MICS

723

# AZDEN

## PRO SERIES

WIRELESS MICS

724

### VHF Wireless Mic Systems

The Azden Pro Series brings you high performance VHF wireless at a price you can afford. Built around a two-channel design that allows selection of the frequency that provides the cleanest signal — for reliable RF performance up to 250 feet away. They all feature two switchable frequencies — 169.445 and 170.245 MHz for a range of 250 feet, high performance VHF transmitters and receivers incorporating SMD (surface mount device) technology. The compact receivers connect to the camera's external mic jack with the attached mini cable and attach to the camera with a supplied shoe mount or Velcro, and have LED indicators for battery condition, transmit and receive operation.

### COMPLETE SYSTEMS

#### WHX-PRO

##### Handheld Mic System

- ◆ Completely self-contained VHF wireless handheld microphone/transmitter
- ◆ Has two switchable frequencies for selecting the cleanest sound
- ◆ Delivers crystal-clear sound at a range of more than 200 feet
- ◆ On/off switch with standby position for quiet switching
- ◆ Includes shoe mount and Velcro for mounting the receiver to the camera, and an earphone for monitoring
- ◆ Both microphone and receiver have LEDs for operating verification



WHX-Pro.....149.95

#### WLX-PRO

##### Lavalier Mic System

- ◆ Compact, lightweight, transmitter clips to subject's belt
- ◆ Sensitive electret condenser lavalier mic with attached tie clip
- ◆ Two switchable frequencies for selecting the cleanest sound
- ◆ Delivers crystal-clear sound at a range of more than 200 feet
- ◆ Receiver includes shoe mount and Velcro for mounting to the camera, and an earphone for monitoring



WLX-Pro.....134.95

#### CAM-3

##### Miniature Mic Mixer

This miniature 3-channel microphone-mixer allows you to add and mix sound from three microphone sources simultaneously. Only 3 1/4" x 1/4" x 2 1/2", it weighs only 3 ounces, uses no batteries, and attaches to the camcorder or the hand strap.



CAM-3 Mixer .....44.95

#### WMS-PRO

##### Two Mic System

- ◆ Complete wireless mic system with two microphones (one lavalier, one handheld)
- ◆ Delivers crystal-clear sound at a range of more than 200 feet
- ◆ Two switchable frequencies for selecting the cleanest sound
- ◆ Miniature transmitter attaches to a belt or fits into a pocket
- ◆ Receiver includes belt-clip, Velcro, shoe mount for added versatility.



WMS-Pro.....143.95



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### COMPONENTS (RECEIVERS)

#### WR22-PRO

##### *Discrete 2-Channel VHF Receiver*

- ◆ Unique VHF receiver allows use of two wireless microphones simultaneously.
- ◆ Captures the voices of two people at the same time, with each on a separate channel.
- ◆ Each transmitter can be from 10 to more than 250 feet from the WR22-PRO receiver.
- ◆ Smaller than a pack of cigarettes, the WR22-PRO mounts on a camera with supplied shoe mount or Velcro.
- ◆ Operates on 9 volt battery and can be powered (with optional adapters) by 12 volt DC or 120 volt AC.



**WR22-Pro** .....154.95

#### WDR-PRO

##### *On-Camera True-Diversity Receiver*

A VHF, true diversity receiver that incorporates two complete 2-channel receivers inside the case and two separate antennas to eliminate dropouts and help you create the highest quality audio. Both receivers are set to the same frequency, and the WDR-PRO's circuitry selects the receiver receiving the stronger signal from the microphone and accepts this signal. The LEDs on the WDR-PRO turn from red to green as one receiver, and then the other receives a stronger signal. Unlike the WR22-PRO, you can only use one microphone at a time.



- ◆ Diversity circuit avoids sudden dropouts and loss of signal
- ◆ Compatible with all Azden "PRO" series microphones
- ◆ Two selectable VHF frequencies
- ◆ Range of over 300 feet
- ◆ Attaches to your camera with supplied shoe mount or Velcro
- ◆ Balanced output
- ◆ 9-volt battery or 12-volt DC operation

**WDR-PRO** .....169.95

The incredible success of the "PRO" Series among videographers has prompted Azden to add two more frequencies, 171.105 and 171.845, to the WR-22-PRO and WDR-PRO receivers and the WL/T-PRO, WM/T-PRO and WX/T-PRO transmitters. These new frequencies will not interfere with Azden's long-established 169.445 and 170.245 MHz frequencies. (When ordering the new frequencies, specify "S" models.)

### COMPONENTS (TRANSMITTERS)

#### WM/T-PRO

##### *Handheld Mic/Transmitter*

Same self-contained, handheld microphone as used in the WHX-PRO, it can also be used with WLX-PRO, WDR-PRO or WR22-PRO receivers .....104.95



#### WL/T-PRO

##### *Beltpack Transmitter*

Same lapel microphone and beltpack transmitter as used in the WLX-PRO, it can also be used with WHX-PRO, WR22-PRO, or WDR-PRO receivers .....77.95

#### WX/T-PRO

##### *XLR Plug-in Wireless Transmitter*

The WX/T-PRO converts any dynamic microphone with an XLR connector to wireless operation when combined with the WR-22 PRO or WDR-PRO receiver. Adjustable audio level accommodates a variety of microphones. Superb frequency response allow the true sound of your mic to come through. Power on/off, audio mute and status LED complete the full array of on-board controls needed for operational ease. It has a sleek ergonomic design in a durable ABS housing, and can operate for up to 10 hours on a single AA battery



**WX/T-PRO** .....119.95

# AZDEN

## VHF PERFORMANCE SERIES

WIRELESS MICS

726

### VHF Wireless Systems

Designed for professional use, the Performance Series offers six receivers including a portable receiver, four transmitters, and is available in a choice of 25 frequencies in the VHF band (174-216 MHz), for the ultimate in flexibility and versatility. With the ability to use up to 10 mics simultaneously, these systems are ideal for schools, bands and house of worship. Working range is 300' under average conditions.

### COMPONENTS (TRANSMITTERS)

#### 31 HT Handheld Transmitter



\$116<sup>50</sup>

- ◆ High quality uni-directional dynamic element
- ◆ Unique rubber-coated durable ABS housing for comfortable feel and low handling noise
- ◆ Has 3-position power switch with standby for muting the audio

#### 31 XT Plug-In Transmitter

- ◆ Unique plug-in transmitter turns any dynamic "wired" microphone with XLR output into a wireless handheld microphone
- ◆ Input level control for maximum flexibility
- ◆ Controls include power on/off, audio mute and status LED



\$129<sup>95</sup>

#### 31 LT

##### Lavalier Bodypack Transmitter

- ◆ Choice of high quality plug-in omni or uni-directional electret condenser microphone
- ◆ Input level control for maximum flexibility
- ◆ Constructed of durable ABS housing
- ◆ 3-position power switch with standby for muting audio



31LT  
\$72<sup>50</sup>

31IT  
\$63<sup>95</sup>

#### 31 IT Instrument Transmitter

- ◆ Fixed 1/4" cable for electric guitars and basses
- ◆ Durable ABS housing
- ◆ Input level control for maximum flexibility
- ◆ 3-position power switch with standby for muting audio

#### 32 BT Bodypack Transmitter

For use with all Performance Series and Producer Series receivers. It has the same features as the 31LT plus-

- ◆ On-off-standby switch
- ◆ Mini locking 3.5mm jack
- ◆ Power LED
- ◆ Metal belt clip
- ◆ The lavalier microphone is designated EX-503L (locking) .....**84.95**



### VHF FREQUENCY CHART

Channel	MHz	TV
A1	169.505	None
A3	171.045	None
A4	171.905	None
B1	175.400	7
B2	178.225	7
B3	179.200	7
B4	176.425	7
B5	177.650	7
C1	181.400	8
C2	184.025	8
C3	185.125	8
C4	181.850	8
C5	182.550	8
D1	187.800	9
D2	188.200	9
D3	190.600	9
D4	191.300	9
D5	189.325	9
D6	190.075	9
E1	194.400	10
E2	195.425	10
E3	196.800	10
E4	197.325	10
E5	193.825	10
E6	195.975	10



EQUIPMENT LEASING AVAILABLE

## VHF PERFORMANCE SERIES

### COMPONENTS (RECEIVERS)

#### 200R

##### *Single Channel Receiver*

The result of Azden's design and experience, the 200R Receiver is their newest "value" leader. Housed in a durable ABS case, with power on/off, volume control, and available in 25 frequencies, it gives you excellent RF performance at an attractive price. With Power (red) to Receiving (green) LEDs, and 1/4" output jack with volume adjustment .....**74.95**

#### 211R

##### *Single Channel Receiver*

Same features as the 200R except the 211R is housed in a metal case for better RF shielding. This results in excellent RF performance even under adverse conditions, and audio quality formerly associated with much more expensive equipment.....**114.95**

#### 221R

##### *Discrete 2-Channel Receiver*

Designed to allow the use of two mics simultaneously, the 221R receiver has 2 complete receiver sets built into one case. With Power (red) to receiving (green) A & B LEDs, and two 1/4" output jacks with independent volume adjustments. Housed in a metal case for better RF shielding and excellent RF performance .....**185.00**



#### 311DR

##### *True Diversity Receiver*

For the professional who needs "rock-steady" RF signal strength, less chance of drop-outs, and exceptional audio performance. With Power and A/B true diversity reception LEDs, 1/4" output jack, and volume adjustment .....**149.95**

#### 311DRH

##### *Half-Rack True Diversity Receiver*

The half-rack version of the popular 311DR, the 311DRH adds RF/Audio displays, On/Off switch, external squelch and rear mounted detachable antennas. One of two units can be rack mounted with either the HR-1 or HR-2 adapter kits, respectively .....**219.95**

#### 111R

##### *Portable Receiver*

Designed for professional videographers who need excellent audio reproduction, the 111R delivers excellent RF performance and wide frequency response - even under adverse conditions. The 111R features output volume adjustment, balanced or unbalanced output capability and adjustable mute/squelch. It also has headphone output with volume adjustment, removable rubber ducky antenna and 9-volt battery or DC 12-volt power input. Includes a mini-mini output cable, with mini-XLR and mini-phone plug, available as options .....**194.50**

## FMX-2 2-Input Field Mixer

*A portable, all-metal 2-channel low-noise field mixer, the ultra-compact (5 x 3.75 x 1.625" WDH) and ultra lightweight (8 oz.) FMX-2 runs on a single 9-volt battery for up to 12 hours making it almost a requirement for any videographer's camera bag.*



- ◆ Two balanced XLR mic/line switchable outputs plus a stereo mini-jack output for high-quality DV cameras.
- ◆ One mic can be mixed to both outputs as well as either single output while two mics can be mixed to either single output or mixed together to both outputs.
- ◆ Two balanced XLR inputs with individual level controls
- ◆ Twin "PEAK" level input indicators, a "MONITOR" output (stereo or mono) with level control and a POWER On/Off/Low Battery LED indicator.
- ◆ Can be attached directly to a camera with provided velcro or belt-worn using the included 3-position belt clip.....**269.95**

# AZDEN

## UHF SERIES

WIRELESS MICS

728

### 51BT

#### *Bodypack Transmitter*

Housed in a sleek modern case, the 51BT has 63 user-selectable channels, input level control, standby switch, Hirose 4-pin connector and metal belt clip. Available with a variety of lavalier and headset mics, or as instrument transmitter .....**114.95**

### 41HT

#### *Handheld Mic Transmitter*

Handheld with super-cardioid uni-directional mic element and 63 user-selectable channels. Uses 2 AA alkaline batteries .....**179.95**



### 51XT *Plug-in Transmitter with Phantom Power*

63 user-selectable UHF channels. Special "lockdown XLR connector for secure grip allows you to use your favorite microphone with an XLR output. Features phantom power, adjustable input level control, power on/off and audio mute switches. LED AF Peak and Power indicators .....**199.95**

### *UHF Broadcast Quality Wireless System*

*In today's crowded RF world you need the ability to find clear channels and at the same time, to deliver rock-solid performance without interference. Available with 63 "onboard" user-selectable channels, Azden's UHF Series transmitters and receivers let you quickly and easily find the clearest channels for superb performance at a very reasonable price. Consisting of three transmitters and three receivers, the UHF Series works in the 794-806 MHz band and incorporates crystal-controlled PLL-synthesized circuitry for drift-free reception. The receivers are all housed in heavy-duty die-cast chassis' for better RF shielding and durability.*



### 411 DRH *UHF Half-Rack Receiver*

A half-space rackmount crystal-controlled, PLL synthesized UHF receiver with 63 user-selectable channels in the 794-806 MHz band. Up to 9 systems can be used simultaneously. It has detachable antennas mounted on BNC connectors, and both 1/4" and XLR outputs with volume adjustment. Has LED indicators for RF and AF levels ....**329.95**

### 411 UDR *UHF Receiver*

A crystal-controlled, PLL synthesized UHF receiver with 63 user-selectable channels in the 794-806MHz band. Up to 9 systems may be used simultaneously. It has both 1/4" and XLR output jacks and volume adjustment.

### 500UDR *Portable True Diversity UHF Receiver*

Redefining the parameters of cost-effective, high-band portable wireless technology, the 500UDR is a PLL synthesized UHF receiver with 63 user-selectable frequencies in the 794-806 MHz range. True diversity design houses two separate receivers with twin removable antennas in a ultra lightweight, all-metal chassis that is only 4.1" square and 1.37" thick.

- ◆ Tone-code squelch
- ◆ Dual antennas with BNC connectors
- ◆ Ideal for camera mounting, can run over 8 hours on 6 AA batteries, or from your camcorder's battery via a 4-pin XLR 12v DC input
- ◆ XLR and headphone output with volume control
- ◆ LED indicators for AF peak level, A or B antenna reception, and battery condition
- ◆ Compatible with the 41BT bodypack, 41HT handheld mic and 41XT plug-in mic transmitter, the 500UDR easily attaches to your camcorder with the supplied velcro. Monitor the action via the ear phone jack with separate volume control.....**356.95**



**ONE HOUR FREE PARKING**  
AT 349 W. 34th STREET (with purchase of \$100 or more)

## 100LT SYSTEM

### Event Series UHF Wireless Mic System

Introducing a new standard of performance for entry level on-camera UHF. Consisting of the 100UPR Receiver and the 10BT Transmitter, the Event Series 100LT system is small, lightweight and has 63 user-selectable (794-806MHz) crystal-controlled and PLL synthesized channels.

The 100UPR is a true antenna-diversity receiver with 1/8" mini-jack output, head-phone output with volume control, and Power On/Receiving Signal (Red to Green) LED. Powered by 9-volt battery (not supplied), it includes a shoe mount, metal belt clip and velcro. Also includes mini to mini output cable, but can be used with balanced XLR inputs using optional MX-1 cable.

The 10BT Transmitter includes a metal belt clip and the EX-503 omni lapel mic with optional lapel and headset mics available. Features power switch with On LED and separate Standby switch for muting audio. Uses 9V battery (not supplied)



WIRELESS MICS

## UHF 1000 BROADCAST SERIES

### Digitally-Selectable UHF Wireless Mic System

Designed for broadcast professionals, the 1000 Series UHF offers 121 digitally selectable UHF frequencies (723 to 735MHz) in a very compact and lightweight package. Offers performance levels previously attained only with systems costing twice as much.

#### 1000URX • 1000URX/AB • 1000URX-Si

The 9.9 oz. 1000URX receiver features true diversity electronics in conjunction with removable twin high-gain antennas and Azden's proprietary DLC (Diversity Logic Control) circuitry for superior, noise-free reception. In addition, the receivers use state-of-the-art dielectric filters for improved image rejection and 5th order filters for an improved S/N ratio. It also features a multi-function LCD readout, XLR mic/line output and a 3.5mm headphone output with level control. The rugged, black metal case measures a mere 3.3 x 3.9 x 1.2" (WHD).

Exactly the same model, the 1000URX/AB is a 1000URX integrated with the Anton Bauer "Gold Mount" system which allows the receiver to be powered by the camera battery.

The 1000URX-Si is the drop-in version of the 1000 series receiver, designed for Ikegami and Panasonic "Slot-in" video cameras.

#### 1000BT

1000BT Bodypack with LCD readout, digital frequency selection and various microphone options. To ensure a long working life (up to 8 hours) the 1000BT draws less than 60mA from a single 9V alkaline battery. Available with the Azden EX-503H, Sony ECM-44H or ECM-55H lavalier mics.

#### 1000XT

The 1000XT XLR Plug-in converts both dynamic and phantom powered mics to wireless. To ensure a long working life (up to 8 hours), the 1000URX draws less than 60mA from a single 9V alkaline battery.



729

# ELECTRO-VOICE

## RE-1

WIRELESS MICS

730

### Professional Wireless Mic System

*The loudspeaker arrays have gone up. The stage design is finished. The pyrotechnics have been coordinated. The FOH engineer has everything tweaked to his liking. Yet, he takes the time to test and retest the wireless several times. Why? Because like most engineers worth their weight, this guy knows that poor wireless can ruin a show. It is absolutely essential that everything work 100% — with no drop-outs or interference. With over 25 years of experience in wireless behind them, EV's RE-1 system takes frequency agility to a whole new level... touring market power with unmatched simplicity. The clear channels have always been there, but it took EV to bring them to your fingertips. Now you can feel secure that even the most crowded RF environments — places like New York or the San Francisco — are fully manageable.*



#### CSR-1000 Receiver

- ◆ Optimized channel groups allow up to 16 systems to operate simultaneously in one frequency band.
- ◆ Programmable in 25 kHz steps across 24 MHz operating bandwidth, there are over 950 possible channels so you'll always find a clear channel.
- ◆ Advanced ClearScan, automatic group and channel selections, allows quick and simple setup.
- ◆ Backlit LCD display shows Group/Channel, transmitter battery status, diversity operation, RF & audio level meters, and space for a name (2 lines, 10 characters each).
- ◆ Specially designed "Sound Check" mode lets a person walk test the mic in the performance space with tangible results.
- ◆ DSP Posi-Phase Diversity System for maximum range and audio quality.
- ◆ Balanced XLR mic output and 1/4-inch unbalanced adjustable line-level output
- ◆ Includes rackmount hardware and Three-Year Limited Warranty.

#### CDR-1000 Dual Receiver

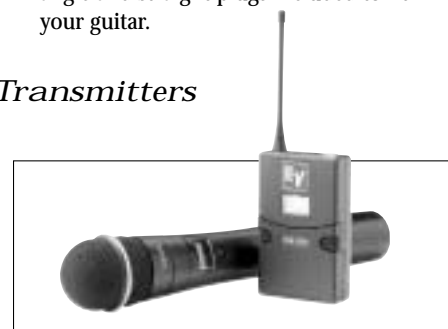
All the features as the CSR-1000 (Advanced Clear Scan, Auto Channel Select, Sound Check and 950-channel frequency agility), the CDR-1000 includes internal power supply, headphone monitoring jack, balanced line-level output, antenna pass through, DC power on antenna jacks for optional RF amplifier, and RE-OneLink PC software for remote monitoring and control.

#### CSB-100 Bodypack Transmitter

- ◆ Cast magnesium housing weighs only ounces but is durable enough to take the pounding on tour.
- ◆ Detachable 1/4-wave antenna allows use of different antenna options.
- ◆ Cell phone style beltclip included for quick and easy attachment. Optional pouches also available for wearing under costumes or for more vigorous applications.
- ◆ Wide selection of lapel and headworn mics and mic accessories for the bodypack
- ◆ Unique features for guitar applications:
  - Dual band compander circuit provides the audio bandwidth required to cover the lows of a bass guitar to the highs of a solid body.
  - Mic/Instrument switch adds a 20 dB pad in the transmit path so the standard bodypack can be used for microphone and guitars.
  - Guitar patch cord featuring George L's cable with solderless, interchangeable right angle and straight plugs included to fit your guitar.

#### Bodypack and Handheld Transmitters Both Feature

- ◆ Unique "smart" battery circuit means there is no way to put the battery in wrong.
- ◆ On/off button can be disabled to prevent accidental turnoffs during a performance. Also acts as a mute, great for pauses in presentations and worship services.
- ◆ Low battery LED will light when the battery needs a replacement.
- ◆ LCD display and the same four control buttons as the receiver so programming a channel or frequency is quick and easy.



- ◆ Normal and High power transmit means you use just enough power for the application, which maximizes the number of simultaneous systems and limits RF spill over into adjacent buildings/theaters.

#### CSH-100 Handheld Transmitter

- ◆ Interchangeable head allows a choice of elements to fit vocal style and environment.
  - N/DYM 767a premium dynamic vocal microphone with VOB, excellent gain-before-feedback for high SPL stages.
  - RE-510 premium condenser vocal mic for vocalists, spoken word and quieter stages.
- ◆ Internal 1/2-wave antenna for excellent range; stays out of harms way.
- ◆ An over-molded Warm-Grip handle reduces handling noise and encourages proper microphone technique for better performances.



For Any Inquiries Regarding Your Order, Call Our Customer Service:  
(800) 221-5743 • (212) 239-7765 • FAX: (800) 947-2215 • (212) 239-7549



# LECTROSONICS

## 100 SERIES

### Camera Mountable Wideband UHF Synthesized Systems

Ideal for corporate and event videography, the Lectrosonics 100 System is designed for field production with compact DV camcorders or portable mixers. The system offers 256 selectable UHF frequencies to alleviate interference problems. The tiny UCR100 receiver provides an adjustable output from -50dBv to 0dBv to match mic or line level requirements. Each transmitter offers a full 100mW of output power to deliver a fail-safe system with an exceptional operating range, free from dropouts. The audio processing includes the Lectrosonics exclusive dual-band compander, which lowers distortion and improves the signal to noise ratio over conventional companders. Machined aluminum housings, door and panel provides the ruggedness required to withstand the rigors of daily use.



WIRELESS MICS

731



### TRAM Inc.

#### TR50 Lavalier Microphone

The market leader for many years, the miniature TR50 has established itself as the most universal microphone of it's kind with a combination of features not offered by any other mic. The TR50 is a miniature professional electret-condenser microphone designed to provide high sound quality with low, or even no-visibility. The tiny omni capsule features minimum sound coloration and is therefore easily combined with boom-mics during post production. A variety of accessories makes mounting the mic on or under clothing easy and reliable. The TR50 is available with the TR79 power supply for direct connection to a mixer, or with any of a large range of connectors for direct connection to virtually any wireless transmitter including Beyerdynamics, Sennheiser, Lectrosonic and many more.

- ◆ Available in Black, Grey, White and Flesh
- ◆ External or internal battery powered
- ◆ Minimum sound coloration for universal use
- ◆ Easily combined with boom microphones
- ◆ Available with TR79 for direct XLR connection to audio mixer. The TR79 provides powering and balanced XLR output to the TR50. Connection between the TR50 and TR79 is through a connector of choice, matching the connector used by an accompanying wireless microphone set if required.

#### TR50 Configurations (Black or Gray):

Each includes Cable Holder (CH), Clip On Holder (COH), Tie Bar (TB), Windscreen (WS), Carrying Case (CC), Tape Down (TD), Tie Tack (TT).

**TR50:** TR50 with XLR connector.....**294.95**

**TR50S:** TR50 with Sony 4-pin Hirose **254.95**

**TR50SQ:** TR50 for use with Sennheiser's EW Series Transmitters.....**216.95**

**TR50TA5:** TR50 with TA5F connector **216.95**

add \$25 for White or Flesh (Tan) colored versions

#### Optional Accessories

**MC (MIC CAGE:)** Makes it easy to mount the TR50 under clothing. The mic is protected from contact noise by two "rails" which keep fabric away from the capsule.

**MC-1** Plain Black.....**19.95**

**MC-2** Clip-on Black.....**24.95**

**TIEBAR:** Holds the TR50 while securing itself through the springloaded clamps.

**BDTB** Tie Bar (Black only).....**18.00**

# SAMSON

## VM-1/UM-1 SYSTEMS

WIRELESS MICS

732



### VHF and UHF On-Camera Micro Diversity Wireless Microphone Systems

With their compact, lightweight, and streamlined design, Samson's VM-1 (VHF) and UM-1 (UHF) wireless systems are ideal for professional videography. They offer great performance along with a host of smart, practical features. Up to six systems can be used simultaneously in either VHF or UHF bandwidths. Designed for camera mounting, they offer a wide variety of lavalier, handheld and headset microphones to suit any application from video deposition and wedding videography to corporate and broadcast video.

Virtually identical (except bandwidth) the VM-1 has unbalanced mini-plug output, the UM-1 features balanced-XLR output.

#### FEATURES

#### VH-3 and UH-1 Handheld Transmitters

- ◆ Transmitters offer a 14 hour typical battery life and three multi-color LEDs indicate relative battery power (low, medium and high)
- ◆ External audio On/Off switch allows the audio signal to be muted without inducing a thud or popping sound when disabling the transmitter
- ◆ Battery compartment conceals On/Off switch and an audio input trim pot, controlled with a supplied plastic screwdriver lets you optimize audio level performance when using different microphone elements

#### VT3L and UT1L Beltpack Transmitters

- ◆ A number of lavalier and headset microphones can be connected to the beltpack transmitters using a 3-pin Switchcraft mini-XLR jack
- ◆ Permanently attached pig tail antenna on the bodypacks maximize RF transmission
- ◆ Beltpack transmitters have a belt clip that can be rotated to any desired position or removed



VM-1 System

### VM-1 Micro Series Systems (Includes VM-1 Receiver)

#### VM-1 Lavalier Systems with VT-3L Beltpack Transmitter, Mini Cable, Mic Clip and Carrying Case

- VML: Without microphone .....**199.95**
- VML-350: With Audio Technica MT350 Lavalier Mic.....**199.95**
- VML-831: With Audio Technica AT831 Lavalier Mic .....**249.95**

#### VM-1 Handheld Systems

- VMH-HQ: Includes VH3 handheld transmitter with Samson QMic, mini cable and two 9-volt batteries .....**209.95**

#### VM-1 Headset Systems with VT-3L Beltpack Transmitter, Samson Headset Mic, Mini Cable and Carrying Case

- VMH-SQE: With QE headset mic.....**229.95**
- VMH-SQV: With QV headset mic .....**229.95**

#### VM-1 System Components Only

- VM-1 Receiver.....**169.95**
- VT-3 Instrument transmitter .....**112.50**
- VT-3L Beltpack transmitter with P3 connector .....**124.95**
- VH-3Q Handheld transmitter with Samson QMic mic capsule....**119.95**



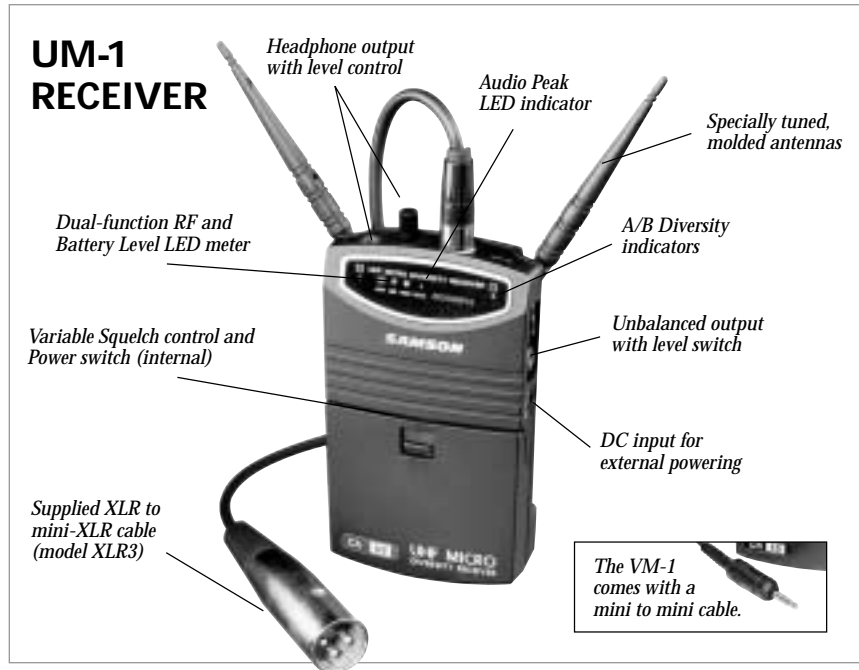
EQUIPMENT LEASING AVAILABLE

## VM-1/UM-1 SYSTEMS

### VM-1/UM-1 Micro Diversity Receivers

- ◆ Two discrete receiver circuits are housed in each VM-1 and UM-1 receiver while a processor decides which of the two receiver circuits has the better signal
- ◆ They run 12 hours on a single 9v battery
- ◆ Both offer 1/8" stereo headphone output with level control
- ◆ A/B LEDs indicate whether the left or the right receiver channel is currently in use
- ◆ 3 multi-color LEDs (low, medium and high) are switchable to indicate either battery power or RF signal strength and can be disabled to conserve battery power
- ◆ Peak LED indicator lights red when approaching clipping which may cause audible distortion
- ◆ Battery compartment houses the on/off switch and a Variable Squelch control (with plastic screwdriver) that sets the maximum system range before drop out
- ◆ Both antenna mountings allow full rotation for flexibility in placement and can be folded inward for transporting
- ◆ Attaches to camera using supplied Velcro

#### UM-1 RECEIVER



- ◆ DC input can accept voltage between 6 and 13 volts from a video camera
- ◆ VM-1 has an unbalanced 3.5mm mini stereo phone jack, the UM-1 has a balanced-XLR output (as well as an unbalanced mini). Both include output cable

### UM-1 Micro Series Systems and Components

#### UM-1 Lavalier and Headset Systems

*They all include:*

**UT-1L Beltpack Transmitter, UM-1 Receiver, Balanced mini XLR-to-XLR output cable, Mic Clip and Carrying Case**

UM-LP3 Without microphone.....	359.95
UM-L350 With Audio Technica MT350 .....	319.95
UM-L831 With Audio Technica AT831 lavalier mic .....	364.95
UM-L44 With Sony ECM-44 lavalier mic .....	409.95
UM-L55 With Sony ECM-55 lavalier mic .....	514.95
UM-L77 With Sony ECM-77 lavalier mic .....	574.95
UM-LMKE With Sennheiser MKE-2 lavalier mic .....	629.95
UM-HSQE With Samson QE headset microphone .....	399.95
UM-HSQV With Samson QV headset microphone .....	399.95
UM-HS75 With Audio Technica ATM75 headset mic .....	429.95
UM-HS311 With Crown CM311E headset mic .....	529.95
UM-HSI With Crown Isomax headset mic .....	561.95

#### UM-1 Handheld Systems

*They all include:*

**UH-1 Handheld Transmitter with UM-1 Receiver, Balanced mini XLR-to- standard XLR Cable and Carrying Case**

UM-HHQ With Samson QMic mic capsule.....	324.95
UM-HH757 With Electro Voice 757A mic capsule .....	Call
UM-HH857 With Electro Voice 857A mic capsule .....	Call

#### UM-1 System Components

UM-1 Receiver .....	299.95
UT-1L Beltpack transmitter.....	178.95
UH-1Q UH-1 handheld transmitter with QMic mic capsule .....	189.95
UH-1757 UH-1 handheld transmitter with EV 757A mic capsule .....	Call
UH-1857 UH-1 handheld transmitter with EV 857A mic capsule .....	Call

# SAMSON

## UHF MICRO 32

WIRELESS MICS

734

### 32-Channel UHF On-Camera Micro Diversity Wireless Mic Systems

*UHF Micro 32 is a versatile frequency-selectable diversity system offering the highest level of performance for broadcast ENG/field work, corporate video and professional videographers. This remarkable system features 32 channels in both the receiver and transmitter. Sophisticated Diversity circuitry ensures optimum RF performance. The system features sophisticated SAW (Surface Acoustic Wave) filters in the receiver that focuses exclusively on the incoming signal to maximize reception and transmission quality. PLL-synthesized VCO circuitry in the transmitters reduces RF interference from spurious emissions in multi-user applications. The "system of choice" for demanding video professionals.*



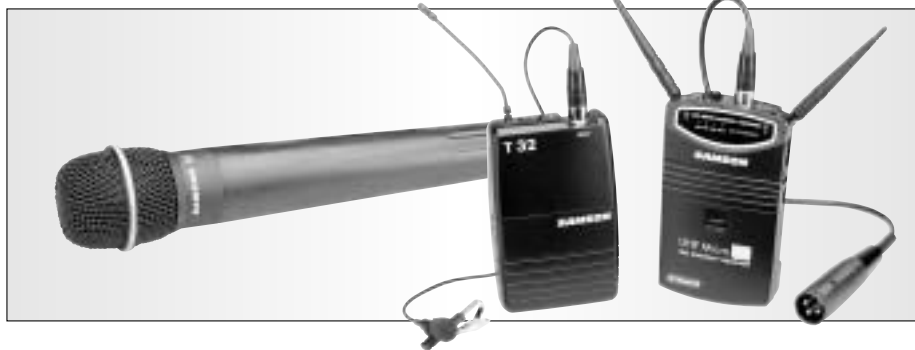
#### FEATURES

##### System

- ◆ Three bands of operation (low, medium and high), with 32 different available channels per band, all operating UHF bandwidth. Up to six Micro 32 systems (each tuned to a different frequency within the same band) can be used in the same location without interference
- ◆ Uses SAW (Surface Acoustic Wave) filters like the one used in high-end television receivers for extremely precise and stable tuning. Ensures that the receiver focuses only on the incoming signal, not extraneous noise or overlapping signals.
- ◆ True Diversity technology maximizes active range (up to 300 feet) and reduces potential interference problems through automatic switching between two independent receivers
- ◆ Channel and group selectors
- ◆ Optimized for use in videography applications, the Micro 32 system is highly customizable, combining a UHF "walkaround" receiver with your choice of beltpack or handheld microphone transmitters, as well as headset systems
- ◆ Built-in companding noise reduction in all components for crystal-clear sound with minimal background noise and hiss
- ◆ 3-year limited warranty

##### Transmitters

- ◆ Transmitters utilize PLL synthesized VCO technology to absolutely minimize spurious emissions such as RF interference in multi-system applications
- ◆ Turning off the audio signal while leaving the carrier signal on, allows audio to be muted without "pop" or "thumps"
- ◆ Convenient three-segment multi-color battery strength LED meter for monitoring remaining power in the installed battery
- ◆ They run on 9-volt batteries for 8 hours
- ◆ 3-pin mini-XLR jack offers connection to guitar cables or a variety of popular headsets and lavalier microphones
- ◆ Controls include Power On/Off switch, Audio Frequency Level adjustment, and Group/Channel selectors for 32 channels
- ◆ Compact "beeper-sized" belt-pack transmitter is extremely lightweight (less than 4 ounces with a 9-volt battery installed)



##### M32 Receiver

- ◆ Using the supplied velcro strip, the compact, lightweight M32 receiver easily attaches to any video camera
- ◆ 3-pin mini-XLR receiver output with supplied XLR to mini-XLR cable
- ◆ Includes a pair of tuned antennas and provides balanced and unbalanced outputs (with a three-position output level switch) and a headphone monitor output with adjustable level. Also includes an audio peak LED, dual receiver indicators, and an RF strength meter.



### *32-Channel Frequency-Selectable UHF True Diversity Wireless Systems*

*Designed for use in both live sound and sound contracting applications, the UHF Synth 32 system utilizes state-of-the-art technology to provide a high performance, cost effective wireless solution. Frequency-agile, it is capable of operating over any of a number of selectable frequencies, making it ideal for touring setups or where multiple wireless systems need to be used simultaneously. The system features three bands of operation with 32 different available channels per band. Up to 6 Synth 32 systems can be used in the same location without interference. Designed for world-wide use, Synth 32 features a compact half-rack receiver with a large, amber-colored LCD display on the front panel. The system includes PLL synthesized VCO circuitry in the transmitters to optimize use in multi-user situations and SAW filters in the receiver for optimum RF performance. Built-in Noise Squelch circuitry is available to reduce wide band noise.*



#### *R32 Receiver*

The R32 receiver is a half-rack unit that can be used freestanding or mounted in any standard 19" rack, making it easy to integrate into any traveling or fixed installation audio system. It includes a pair of tuned, molded antennas for better reception. It provides both balanced and unbalanced outputs, line/mic output level switch, and continuously adjustable Volume and Mute (noise squelch) controls.



- ◆ Large, easy-to-read, backlit, front-panel LCD display indicates the status of key functions such as band/group/channel information, dual receiver indicators, audio and RF level strength meters, and Mute status.
- ◆ Intelligent Noise Squelch circuitry automatically mutes wide band noise in the receiver whenever it rises above the threshold level of the carrier signal.
- ◆ Two R32 receivers can be mounted in a 1U rack space with the optional DR2 Rack Adapter.

#### *Micro 32 and Synth 32 UHF Systems*

##### **With T32 Beltpack Transmitter and M32 or R32 True Diversity Receiver**

- Transmitter only with detachable P3 connector (no mic)
- With Audio Technica MT350 Omnidirectional Mic with detachable P3 connector
- With Samson QL1 Uni-directional Mic with detachable P3 connector
- With Audio Technica AT831 Cardioid Mic with detachable P3 connector
- With Sony ECM-44 Omnidirectional Mic with detachable P3 connector
- With Sony ECM-55 Omnidirectional Mic with detachable P3 connector
- With Sony ECM-77 Omnidirectional Mic with detachable P3 connector
- With Sennheiser MKE-2 miniature Omnidirectional Mic with detachable P3 connector
- With Samson QE aerobics mic with detachable P3 connector
- With Samson QV vocal mic with detachable P3 connector
- With Audio Technica ATM-75 headset condenser mic with detachable P3 connector
- With Countryman Isomax mic with detachable P3 connector
- With Audio Technica Pro 35X uni-directional mic with detachable P3 connector
- With Samson HM40 Brass/Woodwind Mic
- With GC32 Guitar Cable

##### **With H32 Handheld Transmitter and M32 or R32 True Diversity Receiver**

- With Samson QMic Hypercardioid element
- With Audix OM-5 Cardioid element

# SAMSON

## AIRLINE SERIES

WIRELESS MICS

736

### *The Revolution in Wireless*

The whole point of wireless microphone and instrument systems is to eliminate cables for complete freedom of movement. AirLine Systems takes this idea to the next level with miniaturized transmitters that eliminate conventional body pack transmitters and connecting cables so vocalists, musicians, fitness trainers, public speakers, on air talent and more can cut ALL the cables for the first time! A revolution in wireless technology, Samson's transmitters are so small, lightweight and aerodynamic, they are nearly invisible, providing a completely "hassle-free" user experience. To create the world's smallest wireless transmitters, Samson developed new proprietary technology. Featuring miniaturized circuitry and the ability to operate on a single tiny AAA battery (14 hours typical battery life), these transmitters also feature significantly improved wireless reception and sound quality.



### AH1

#### *Fitness and Performance Headset Transmitter*

The AH1 Headset Transmitter mounts right on to Samson's comfortable and lightweight headset. Incredibly small, the AH1 still features an easy-to-reach Power On/Off switch; an Input Sensitivity control to adjust the mic level; a Mute (Audio on/off) switch and a multi-function LED that indicates when the transmitter is on and when your battery's running low. And the AH1 comes equipped with either the Samson QE fitness microphone which is ideal for vocal reproduction or the QV vocal mic with a balanced response for performance. Samson's breakthrough micro circuitry allows the AH1 to operate on a tiny triple-A battery for 14-hours while giving you great sound and reliable wireless transmission over long ranges, wherever you use it.



### AL1

#### *Presentation Transmitter*

A revolutionary idea in lavalier wireless, the AL1 is an all-in-one miniaturized presentation transmitter with a built-in electret condenser mic! Tiny, the AL1 still has all Power and Mute switches, an input level control and a two-function red LED that indicates when the transmitter is on and transmitting. Highly flexible, it lets you use the transmitter's built-in unidirectional electret condenser mic or plug your favorite lavalier mic into the mini input jack. Phantom power is provided for condenser microphones. An alligator clip allows it to be mounted on a lapel, pocket or belt. Or you can use the convenient lanyard to wear it around your neck. Operates on a tiny triple-A battery with 14-hours of life while giving you great sound and reliable wireless transmission over long ranges.



### AX1

#### *Handheld Microphone Transmitter*

The super-compact AX1 Handheld Transmitter lets you convert any dynamic microphone into a wireless mic. Just plug in the AX1 and you're good to go! And, because it's a little smaller than an XLR connector, you won't even know it's there. Like all AirLine transmitters, the AX1 operates on a triple-A battery with 14-hour battery life and delivers reliable reception and transparent sound over long ranges.



For Any Inquiries Regarding Your Order, Call Our Customer Service:  
(800) 221-5743 • (212) 239-7765 • FAX: (800) 947-2215 • (212) 239-7549



### AH1/35x and AH1/Model One Wind Instrument Transmitters

The first wireless system for wind instruments without a bodypack or microphone cables to limit your movement on stage. The AH1 Headset Transmitter clips right onto your horn. Super compact, the AH1 still has every control you need: Power

On/Off switch, input sensitivity control, a Mute (audio on/off) switch and a multi-function LED that indicates when the transmitter is on and the battery is running low. The AH-1 operates on a tiny triple-A battery with 14-hours of life while giving you great sound and reliable wireless transmission over long ranges.

The AH1 is available either with Audio-Technica's popular Pro 35X or AMT's (Applied Microphone Technology) Model One microphones to capture the full range of your instrument.



#### *About the AMT Model One*

The ability to securely clamp a microphone to an instrument has always been problematic. The mic either interferes with performance or cannot be properly placed for accurate sonic quality. Due to the irregular shapes of instruments a conventional pinch type clip simply will not hold. Handling noise is another troublesome issue associated with attaching a microphone to an instrument.

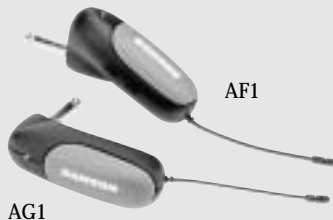
AMT solves these problems by implementing a unique vibration suppression mount into Model One. The four point suspension reduces handling noise as much as 15dB, allowing for much less annoying transients, such as key noise made by touching the instrument. The result is high-quality audio reproduction and an ease of use that is superior to any other microphone in its category.

#### *About the AT 35x*

The Audio Technica Pro 35x high-intensity cardioid condenser mic clips on to brass, reeds, piano, acoustic bass, snare and toms, and handles high-intensity sound without distortion. The UniMount clip permits accurate positioning while protecting the element.

### AF1 and AG1 Guitar Transmitters

The revolutionary AirLine "plug-in" guitar transmitters come in two versions: the AF1 for Strat(R)-style inputs and the AG1 for traditional Gibson(R)-style end-mount inputs and all others. Less than half the size of conventional body packs, these miniaturized transmitters run on a tiny triple-A battery with 14-hour battery life. Both feature an array of on-board controls: A Power On/Off and Mute switch, red/green LED for Power On/Off, a Peak LED and an input level control for different pickups.



### AP1 Guitar Pedal Receiver

Designed for use with your compact effect pedals, the AP1 diversity receiver gives you reception you can always depend on. It features a 1/4" output jack, Power switch, Peak LED and a Volume control. You can use a 9v battery or an AC adapter to power the receiver. When you unplug your the unit, the battery is disabled to conserve power.



# SAMSON

## AIRLINE SERIES

WIRELESS MICS

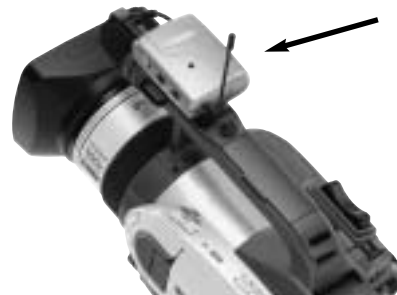
738

### R E C E I V E R S

#### *AM1 Miniature On-Camera UHF Receiver*

The AM1 is camera-mounted micro receiver developed especially for the AirLine system. Even smaller than the typical wireless transmitter, the AM1 uses the same miniaturized circuitry and 800–805 MHz UHF frequency band as the AirLine Series transmitters.

The AM1 is perfect for all video applications requiring outstanding audio and RF performance. Mounting on the hot shoe of your camera or utilizing the belt clip, the AM1 features an audio out, a headphone out with level control for monitoring, a Mic/Line switch for optimized output, a Power Switch and a multi function LED displaying RF, Low Battery and Power. The AM1 receiver can operate 5-8 hours on a single AAA battery. Measures just 2" x 1-5/8"—making it Samson's smallest receiver ever.



#### *AR1 UHF Micro Receiver*



AR1 Micro Receiver is small and lightweight—smaller than even the typical wireless transmitter, yet operates in the 800–805 MHz “clear sky” UHF bandwidth, and comes equipped with a full complement of controls. These include: Output (volume) level control; power on/off switch; LEDs that tell you if the AR1 is receiving a signal (RF LED), and that audio level is okay (Peak LED); Squelch control to eliminate noise; and balanced XLR and unbalanced 1/4" outputs for connecting to different sound systems. Swivel mounting allows full rotation for optimum

placement of the antenna. A special holder is also included, so the receiver can be easily wall mounted to stay out of the way.

#### *UM1 UHF On-Camera Receiver*

Compact and lightweight, the UM-1 is a camera mountable receiver ideal for any application from video deposition and wedding videography to corporate and broadcast video. It features A/B LEDs for channel usage as well as LEDs for battery or RF strength and peak LEDs. Battery compartment houses a Variable Squelch control. Both antenna mountings allow full rotation for flexibility in placement and can be folded inward for transporting. DC input accepts voltage between 6 and 13v from a camera. Runs 12 hours on a 9v battery and has a balanced-XLR output as well as an unbalanced mini.



#### *UR1 Rackmount Receiver*

Fully professional, the UR1 operates in the 800–805 MHz UHF bandwidth, and features a True Diversity design with two independent receivers, S.A.W. (Surface Acoustic Wave) technology and built-in tuned, molded antennas for the most stable RF reception possible. Housed in a sleek one space, half rack package, it has a front-panel with RF level meter, squelch control and peak audio LED. It also has a balanced XLR (mic/line switchable) and unbalanced 1/4" output. Two UR1s can be mounted side by side with the optional DR2 Rack Adapter.

- ◆ True Diversity system switches to the strongest available signal so you get less dropouts and interference
- ◆ 3-color RF level meter indicates signal strength being received
- ◆ Built-in noise reduction system accurately tracks the signal for clear sound with minimal noise and hiss
- ◆ Squelch control sets minimum threshold level for carrier signal to eliminate unwanted noises and RF interference
- ◆ Receiver A/B LEDs indicates which receiver is currently operating
- ◆ AF level control adjusts the signal level for both balanced and unbalanced outputs on rear panel
- ◆ Audio Peak LED shows when incoming signal is clipping
- ◆ Power On/Off switch with status LED
- ◆ Tuned molded antennas for best reception
- ◆ Rear-panel balanced XLR and unbalanced 1/4" outputs with a mic/line output level switch



**ONE HOUR FREE PARKING**

AT 349 W. 34th STREET (with purchase of \$100 or more)

### AirLine Series Systems

#### ELECTRIC GUITAR/BASS SYSTEMS:

- SWQSGF:** AF1 Transmitter (Fender style) and AP1 Pedal receiver  
**SWQSGG:** AG1 Transmitter (Gibson style) and AP1 Pedal receiver  
**SWQSBG:** AG1 Transmitter (Flat End Mount style) and AP1B Pedal Bass receiver with shape circuitry  
**SWPSGF:** AF1 Transmitter (Fender style) with UR1 receiver  
**SWPSGG:** AG1 Transmitter (Gibson style) with UR1 receiver

#### HANDHELD SYSTEMS:

- SWQSHX:** AX1 Plug-in Handheld Transmitter with AR1 receiver  
**SWPSHX:** AX1 Plug-in Handheld Transmitter with UR1 receiver  
**SWPSHX:** AX1 Plug-in Handheld Transmitter with AM1 receiver

#### PRESENTATION SYSTEMS:

- SWQSHX:** AX1 Plug-in Handheld Transmitter with AR1 receiver  
**SWQPHX:** AX1 Plug-in Handheld Transmitter with UR1 receiver  
**SWQPHX:** AX1 Plug-in Handheld Transmitter with UR1 receiver

#### WIND INSTRUMENT SYSTEMS:

- SWQSWX:** AH1/35X Transmitter with Audio Technica Pro 35X Mic and AR1 Receiver  
**SWQSWA:** AH1/AMT1 Transmitter with AMT Model One Mic and AR1 Receiver  
**SWPSWX:** AH1/35X Transmitter with Audio Technica Pro 35X Mic and UR1 Receiver  
**SWPSWA:** AH1/AMT1 Transmitter with AMT Model One Mic and UR1 Receiver

#### AEROBICS AND VOCAL HEADSET SYSTEMS:

- SWQSCE:** AH1/QE Transmitter with Samson QE aerobics Mic and AR1 receiver  
**SWQSCV:** AH1/QV Transmitter with Samson QV vocal Mic and AR1 receiver  
**SWPSCE:** AH1/QE Transmitter with Samson QE aerobics Mic and UR1 receiver  
**SWPSCV:** AH1/QV Transmitter with Samson QV vocal Mic and UR1 receiver

#### COMBINATION SYSTEM

- SWQSWX:** AX1 Plug-in Handheld Transmitter, AL1 Transmitter with built-in electret condenser mic, AM1 Receiver, R11 and MT350 microphones

## Stage 5 and Stage 55 VHF Wireless Systems

### STAGE 5

The Stage 5 system is based on the VR5 receiver. The Super Heterodyne VHF receiver has great RF reception for interference-free performance. Front-mounted, tuned antenna, Tone Squelch control, half-rack VHF receiver design with XLR and 1/4" outputs and easy to read battery, audio and signal level meters. Available in a guitar, hand-held and headset mic configurations.

**Instrument System:** ST5 beltpack, SR5 receiver, GC5 instrument cable

**Handheld Microphone System:** HT5 handheld transmitter with Q7 cardioid element, SR5 receiver

**Lavalier System:** ST5 beltpack, Samson LM5 lavalier mic, SR5 receiver

**Headset System:** ST5 beltpack, Samson HS5 headset mic, SR5 receiver

*All Stage 5 systems come with an AC power supply and a carry case.*



### STAGE 55

Dual antenna True Diversity system at a price never seen before. Super Heterodyne VHF receiver has great RF reception for interference-free performance. Front-mounted, tuned antennas, Tone Squelch control, half-rack VHF receiver design with XLR and 1/4" outputs and easy to read battery, audio and signal level meters. Available in a guitar, hand-held and headset mic configurations.

**Instrument System:** ST5 beltpack, SR55 receiver, GC5 instrument cable

**Handheld Microphone System:** HT5 handheld transmitter with Q7 cardioid element, SR55 receiver

**Lavalier System:** ST5 beltpack, Samson LM5 lavalier mic, SR55 receiver

**Headset System:** ST5L beltpack, Samson HS5 headset mic, SR55 receiver

*All Stage 55 systems come with an AC power supply and a carry case.*

# SAMSON

## UHF SERIES ONE

WIRELESS MICS

740

### UHF True Diversity Wireless Mic Systems

*Designed to bring high performance UHF wireless within everyone's reach, the truly affordable, UHF Series One operates in the 800-806 MHz band and employs patented PLL (Phase-Lock Loop) transmitter technology to ensure reliable transmission. Built-in companding noise reduction in all components delivers crystal-clear sound with minimized background noise and hiss.*

*Series One also features S.A.W. (Surface Acoustic Wave) receiver circuitry and True Diversity technology for extremely precise tuning and*

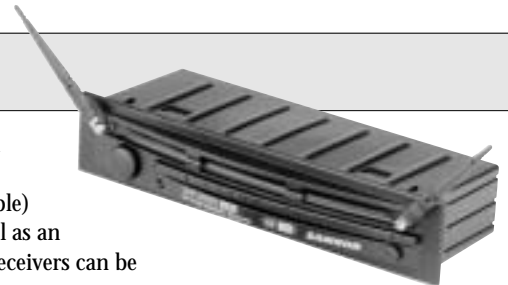
*maximum stability of signal reception for extended periods of time. Both the extremely compact "beeper-sized" UT1 beltpack transmitter and sleek, lightweight UH1 handheld transmitter feature a 3-segment LED "battery-life" level meter. Exceptionally compact, the single-space half-rack receiver is equipped with built-in tuned, molded antennas. An optional 19" rackmount adapter allows two receivers to be mounted in one rack space. Ideal for the performer, public speaker or fitness instructor who wants to take their wireless to the next level, or sound contractors looking for "performance critical" wireless that fits into their budget.*



### UR1 True Diversity Receiver

The UR1 receiver is a half-rack unit that can be used freestanding or can be mounted in any standard 19" rack, making it easy to integrate into any traveling or fixed installation audio system. It includes a pair of tuned antennas, both balanced XLR (mic/line switchable) and unbalanced 1/4" output, continuously adjustable AF level and mute controls, as well as an audio peak LED, dual receiver indicators, and a five-segment RF level meter. Two UR1 receivers can be mounted in a 1U rack space with the optional DR2 Rack Adapter.

- ◆ True Diversity system switches to the strongest available signal so you get less dropouts and interference
- ◆ Multi-segment, 3-color RF level meter indicates strength of signal being received
- ◆ Built-in noise reduction system accurately tracks the signal for clear sound with minimal noise and hiss
- ◆ Receiver A/B LEDs indicates which receiver is currently operating
- ◆ Audio Peak LED shows when incoming signal is clipping
- ◆ Power On/Off switch with status LED
- ◆ Squelch control sets minimum threshold level for carrier signal to eliminate unwanted noises and RF interference
- ◆ Tuned molded antennas for better reception
- ◆ Rear-panel balanced XLR and unbalanced 1/4" outputs with a mic/line output level switch
- ◆ AF level control adjusts the signal level for both balanced and unbalanced outputs on rear panel



*Two UR1 receivers mounted in the optional DR2 19" Dual Rackmount kit*



EQUIPMENT LEASING AVAILABLE

## UHF SERIES ONE



### UT1 Beltpack Transmitter

Incredibly compact, the "beeper-sized" UT1L and UT1G belt-pack transmitters weigh less than 4 ounces with a 9-volt battery installed, and incorporate PLL technology to lock in the signal for more stable transmission. The UT1G comes prewired with a permanently attached 1/4" plug for electronic instruments such as electric guitar or bass, while the UT1L provides a mini-XLR connector for connection to a variety of popular headsets and lavalier microphones including Samson's Qe (fitness) and Qv (vocal performance) headset mics. Rotating belt clip lets you position the transmitter any way you want. Permanently attached "pigtail" antenna enables optimum reception.

- ◆ Patented PLL (Phase-Lock Loop) and dielectric resonance transmitter technology lock in the signal to ensure stable transmission
- ◆ External audio On/Off switch instantly mutes the audio signal without "pops" or thumps while leaving the carrier signal on)
- ◆ They use 9-volt batteries with a battery life of at least 12 hours
- ◆ Convenient three-segment multi-color "Battery-Life" LED meter tells you when your battery is low
- ◆ Audio Input Control optimizes the UT1 and UH1 for use with different lavalier and headset mic models, or different mic elements

### UH1 Handheld Transmitter



Comfortable and lightweight, the UH1 handheld transmitter also features PLL technology to ensure stable signal transmission. The UH1 is available with the Samson Qmic and a variety of other mic elements. The Qmic is a high performance wireless dynamic mic design with a modern neodymium element and hypercardioid polar pattern for maximum gain before feedback.

## UHF Series One Mic Systems

### LAVALIER SYSTEM

- SWLSL3:** UT1L Beltpack Transmitter, Audio Technica MT350 omnidirectional mic with detachable P3 connector, and UR1 True Diversity Receiver
- SWLSL1:** UT1L Beltpack Transmitter, Samson QL1 uni-directional Mic with detachable P3 connector, and UR1 True Diversity Receiver
- SWLSL8:** UT1L Beltpack Transmitter, Audio Technica AT-831 cardioid mic with detachable P3 connector, and UR1 True Diversity Receiver
- SWLSP3:** UT1L Beltpack Transmitter, detachable P3 connector (no mic included) and UR1 True Diversity Receiver
- SWLSL4:** UT1L Beltpack Transmitter, Sony ECM-44 Omnidirectional Lavalier Mic with detachable P3 connector and UR1 True Diversity Receiver
- SWLSL5:** UT1L Beltpack Transmitter, Sony ECM-55 Omnidirectional Lavalier Mic with detachable P3 connector and UR1 True Diversity Receiver
- SWLSL7:** UT1L Beltpack Transmitter, Sony ECM-77 Omnidirectional Lavalier Mic with detachable P3 connector and UR1 True Diversity Receiver
- SWLSLM:** UT1L Beltpack Transmitter, Sennheiser MKE-2 Omnidirectional Lavalier Mic with detachable P3 connector and UR1 True Diversity Receiver

### HANDHELD MICROPHONE SYSTEM

- SWLSHQ:** UH1 Handheld transmitter with Samson Qmic Hypercardioid element and UR1 True Diversity Receiver
- SWLSH5:** UH1 Handheld transmitter with Shure SM58 cardioid element and UR1 True Diversity Receiver
- SWLSHO:** UH1 Handheld transmitter with Audix OM-5 cardioid element and UR1 True Diversity Receiver

### HEADSET SYSTEM

- SWLSCE:** UT1L Beltpack Transmitter, Samson QE aerobics mic with detachable P3 connector, and UR1 True Diversity Receiver
- SWLSCV:** UT1L Beltpack Transmitter, Samson QV vocal mic with detachable P3 connector, and UR1 True Diversity Receiver
- SWLSC2:** UT1L Beltpack Transmitter, Audio Technica ATM-75 condenser mic with detachable P3 connector, and UR1 True Diversity Receiver
- SWLSH7:** UH1 Handheld Transmitter with Shure SM87 condenser mic element and UR1 True Diversity Receiver
- SWLSC3:** UT1L Beltpack Transmitter, Crown CM-311E Cardioid Mic with detachable P3 connector and UR1 True Diversity Receiver
- SWLSCI:** UT1L Beltpack Transmitter, Countryman Isomax Mic with detachable P3 connector and UR1 True Diversity Receiver

### INSTRUMENT SYSTEM

- SWLSGT:** UT1G Beltpack and UR1 True Diversity Receiver
- SWLSWX:** UT1L Beltpack Transmitter, Audio Technica Pro 35X uni-directional mic with detachable P3 connector and UR1 True Diversity Receiver

# SENNHEISER

## UHF WIRELESS

WIRELESS MICS

742

*The Evolution Series Wireless brings Sennheiser's philosophy of affordable performance to the realm of compact wireless systems. Designed from the ground up to give performers, producers and engineers the highest standard of wireless microphone technology, they are ruggedly constructed to survive the toughest performances—night after night. Available in four interchangeable series—the 100, 300, 500 and 550 Series—each system can be configured to fit the requirements of virtually every artist, band, sound system or any other application. Each system is based on a compact, high performance, steel-construction UHF receiver, and comes with your choice of Evolution wireless handheld and bodypack transmitters. The 100 Series is an excellent choice for adding UHF wireless capabilities without sacrificing sound quality or ease of use, and is extraordinarily affordable. The 300 Series offers enhanced performance and is available as an in-ear monitoring system for the ultimate in listening quality and freedom. The 500 and 550 (dual-channel) Series provide utterly professional performance, and are as comfortable on the stage of a national touring act as they are the conference table.*

- ▶ System operates using switchable UHF frequency technology—previously available only on systems costing several thousand dollars. 1,280 digitally synthesized frequencies are instantly selectable in 25 kHz increments, so it's easy to pick a wireless channel that's free of interference.
- ▶ Guarantees interference-free operation with the highest transmission reliability. Advanced diversity techniques receive the clearest signal at all times, as every receiver contains dual receiver circuits picking up signals independently as the performers move around the stage. Constantly comparing the two signals, the receivers select the stronger one at any instant for an audio output that's solid and free of interference.
- ▶ Utilizing Sennheiser's unique HDX compander technology, they deliver crystal-clear sound. A noise suppression system specifically developed for stage applications, HDX compander optimizes the mic's dynamic range while minimizing unwanted modulation and transmission noise. The result is powerful, dynamic sound quality, equal to a good wired microphone.
- ▶ All transmitters feature a flashing low battery warning LED. 300 Series also provide a real-time battery level display on the transmitter body, while on 5000 Series this information is transmitted to and displayed on the off-stage receiver, so the sound engineer can keep an eye on power levels without interrupting the performance.
- ▶ Designed by Sennheiser's engineers to take hard knocks, each transmitter and receiver is protected by a rugged metal housing, built to stand up to the grind of regular stage work.
- ▶ High pressure on-stage situations require that a wireless mic system is simple to set-up and use—no go is no show. Evolution Wireless incorporates easy-to-read LED and LCD displays and user-friendly functions, with a logical approach to operations. Frequency, channels, sensitivity and other parameters can be viewed and adjusted in an instant. All components offer this same operating system, so as soon as you're familiar with one product, you know how the rest of the range works.

### Evolution 100 Series

*Simply the most affordable way to get professional-caliber UHF wireless. The amazing 100 Series is perfect for any musical style, and offers four switchable presets (reprogrammable to any of the 1280 available frequencies), a true diversity receiver for stable, high-quality transmission, and high-quality metal construction that can stand up to the rigors of life on the road. Makes any stage performance possible, from extreme rock to sensitive ballads, and performers and presenters of any kind.*

- ◆ 1,280 user-selectable UHF frequencies
- ◆ A choice of four preset frequencies saves you much time when operating several channels simultaneously on stage.
- ◆ HDX compander for crystal-clear sound
- ◆ High output power (30mW transmitters) for long transmission range
- ◆ True diversity receivers for highest transmission reliability
- ◆ Transmitters and receivers with rugged metal housings
- ◆ User-friendly display on the mount receiver allows you to quickly read off all the important transmission parameters.
- ◆ User-friendly menu control via LCD display
- ◆ Low battery consumption allows longer performances (low-battery warning as well)
- ◆ Preconfigured, ready-to-use systems for every application and every requirement



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# SENNHEISER

## UHF WIRELESS

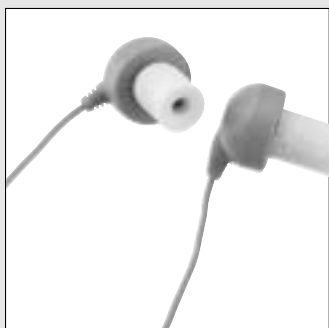
### Evolution 300 Series

For increased flexibility and power, the 300 Series steps up with eight switchable presets (reprogrammable to any of the 1280 available frequencies), peak-hold level and battery meter status indicators, and variable-level balanced XLR and TRS 1/4" connectors. In addition, an alphanumeric name can be assigned to the receiver.

- ◆ Eight switchable preset memory locations (using any of the 1280 available frequencies)
- ◆ Name, store and recall individual channel presets (e.g. 'lead vocal') in a multi-microphone situation
- ◆ Peak-hold level indicator
- ◆ Battery status indicator



### Evolution 300 Series Wireless In-Ear Monitor System



Why bother with the trouble and expense of traditional floor wedge monitoring when you can go wireless? You get much greater quality, without on-stage feedback problems. The 300 Series In-Ear Monitor System features eight switchable presets, which can be reprogrammed to any one of the 1280 available frequencies, so you can operate several systems simultaneously. It also features the ability to create personalized in-ear monitor mixes for each performer and a unique Focus function, which switches monitoring to "dual mono" mode, enabling performers to individually separate their voice or instrument from the total mix. A switchable limiter protects performers from excessive sound pressure levels.

### Evolution 500 Series

Offering the ultimate in performance for concert sound, theater and more, the state-of-the-art 500 Series steps up with sixteen switchable presets (reprogrammable to any of the 1280 available frequencies), assignable alphanumeric names for each of the sixteen presets, headphone output on the receiver (for monitoring), variable level-balanced XLR and TRS 1/4" connectors, and extensive metering including battery telephony. It also features an innovative Soundcheck mode, which allows an artist or engineer to perform their own on-stage level and RF-check



### EM-550 Dual Channel RF Receiver

The EM550 dual-channel true-diversity RF receiver is designed for professional touring and installation applications where unwavering RF performance and rugged construction is mandatory. Incorporates an active antenna splitter, all metal frame with reinforcement, transformer-balanced outputs and headphone monitoring on the front panel.

# SENNHEISER

## EVOLUTION WIRELESS MICS

WIRELESS MICS

744

### 135/335/535

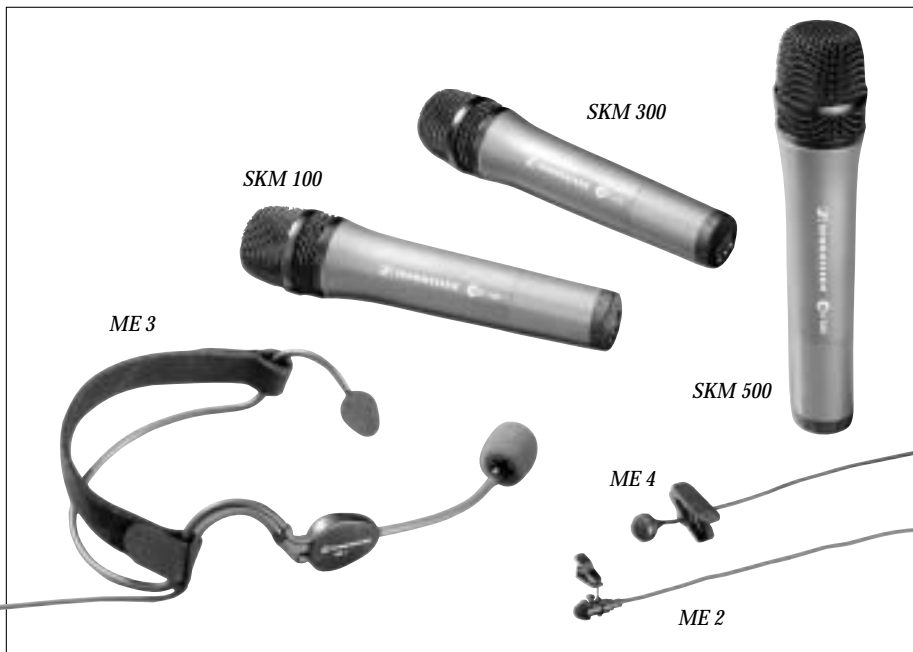
The wireless version of the Evolution e835 classic all-around performer. This mic is designed to complement any vocal style, delivering a punch output with a gentle presence boost. Cardioid pattern offers good signal isolation and feedback rejection. Robust metal construction and shock-mounted capsule minimize handling and impact noise.

### 145/345/545

The wireless version of the Evolution e845 high-quality vocal dynamic microphone. Ruggedly constructed with a super-cardioid pick-up pattern for a higher signal output to cut through high on-stage volume. A full, warm tonal response is matched with an extended high frequency presence lift for clarity and projection. Consistent on/off axis and proximity response maintains the tonal balance when moving around. Full metal construction and extensive shock-mounting minimize handling and impact noise. A tough high performance stage microphone.

### 165/365/565

The wireless version of the Evolution e865 condenser mic, the sound is marked by an exceptionally smooth, linear frequency response, capable of exceptionally detailed reproduction with the lowest possible levels of noise and distortion. A super-cardioid pick-up pattern handles high on-stage sound levels without feedback. Also well-suited for broadcast and presentation work. Full metal construction and sophisticated shock-mount suspension shield and protect the capsule for use in the most rigorous conditions.



### ME 2

Ideal for presentation and interview work, this compact lavalier design clips discretely onto any item of clothing. With an omni pick-up pattern it projects signals with a flat and extended frequency response for increased vocal intelligibility.

### ME 3

A headset microphone of exceptional quality, the ME3 is designed for music and speech applications that require movement and close proximity signal reproduction. The headband is comfortable and immovable, enabling use during exertive dance or sports activities. Super-cardioid condenser design offers excellent feedback rejection.

### ME 4

A high quality dynamic lavalier cardioid design—perfect for clear, effective signal projection even with high on-stage sound pressure. Provides levels of ambient signal and feedback rejection not associated with the use of a lavalier microphone. Ideal for presenters, vocalists, and acoustic musicians.



### ew100ENG Kit:

#### Camera Mountable UHF Wireless Lavalier and Plug-On Bundle

Consists of EK100 Receiver, SKP100 Plug-On Transmitter, SK100 BodyPack Transmitter and ME2 Microphone, Battery, (CL100) Unbalanced Mini-to-XLR Cable (Receiver Out-to-Camera In), (CL-1) Unbalanced Mini-to-Mini cable (Receiver Out-to-Camera In), Antennas, Microphone Clip, Clothing Clip and 2 Year Warranty

### ew500ENG Kit:

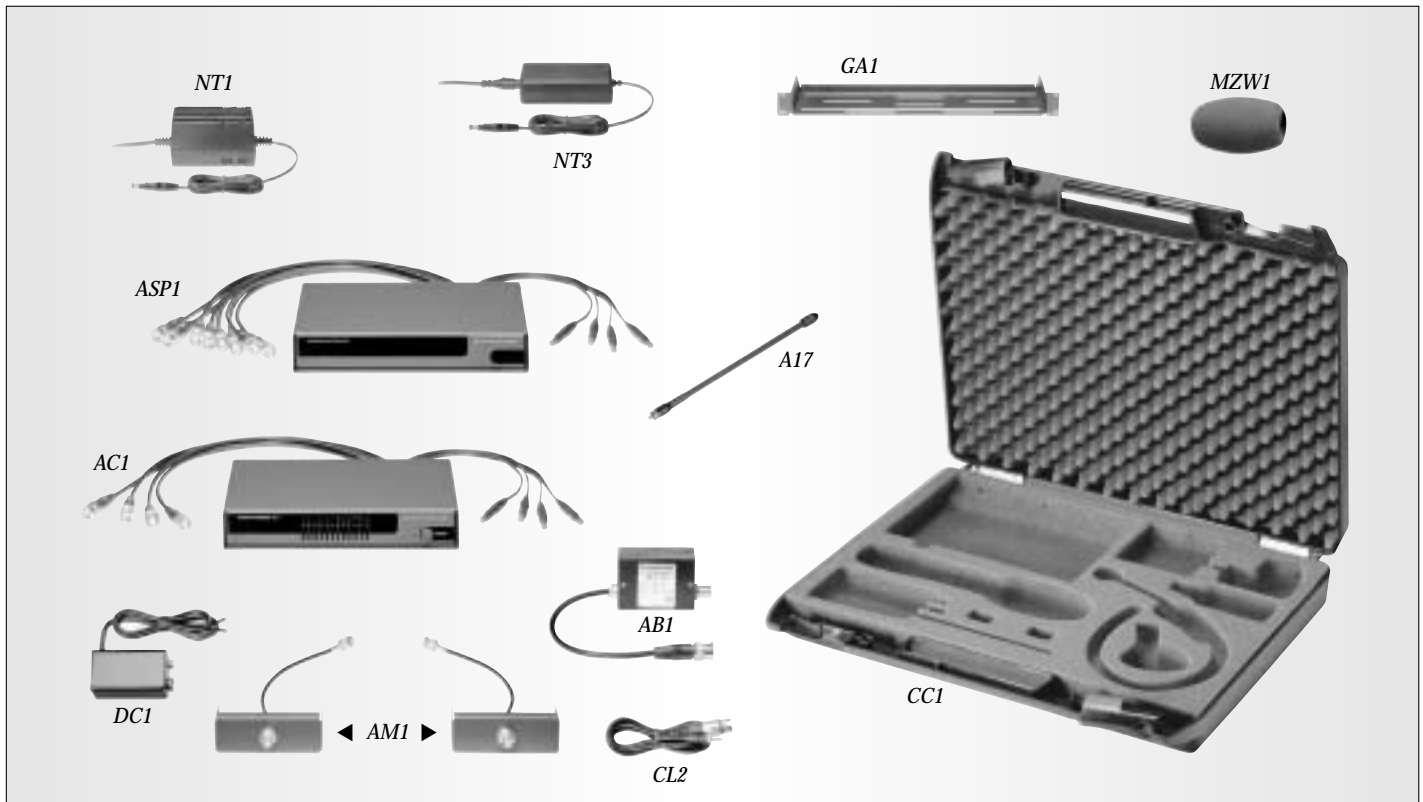
#### Camera Mountable UHF Wireless Lavalier and Plug-On Bundle

Consists of EK500 Receiver, SKP500 Plug-On Transmitter, SK500 BeltPack Transmitter and ME 2 Lavalier Microphone, Battery, (CL500) Balanced Mini-to-XLR Cable (Receiver Out-to-Camera In), Antennas, Microphone Clip, Clothing Clip and 2 Year Warranty



# SENNHEISER

## EVOLUTION WIRELESS MIC ACCESSORIES



WIRELESS MICS

745

### ASP-1 Antenna Splitter

Passive antenna splitter allows a single antenna unit to feed up to four fixed receivers simultaneously, reducing the number of antennas required for simplified set-up. Power is delivered direct to the receivers via the ASP-1 without the need for additional cables .....**429.95**

### AC-1 Antenna Combiner

Enables the signal from four separate In-Ear Monitor transmitters to be transmitted through a single antenna .....**519.95**

### A1031-U Antenna

Passive, omni-directional antenna for use as a receiver or transmitter antenna .....**229.95**

### AB-1 Antenna Booster

Particularly useful for compensating for the slight attenuation that occurs when antenna splitters are being used, an antenna booster increases signal levels to receiver. The AB-1 is frequency selectable to avoid interference from unwanted RF sources .....**279.95**

### GA-1 Rack Adapter

Offers convenient side-by-side mounting of two fixed receivers or transmitters in a 19-inch rack.....**39.95**

### AM-1 Antenna Mount

This adapter is used to mount antennas at the front, when used with receivers or transmitters in a 19-inch mounting arrangement, moving them from their usual rear position. This enables easier access and installation when rack mounting .....**39.95**

### NT-120 AC Adapter

AC adapter for use with the ASP-1 Antenna Splitter .....**38.50**

### NT-3 AC Adapter

Mains power adapter for use with the AC-1 Antenna Combiner .....**64.95**

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### MZW-1 Windscreen

Foam "pop shield" for handheld microphone transmitters, the MZW-1 effectively suppresses wind and popping. Simple fitting to all handheld mics.....**11.95**

### A17 Receiver Antenna

Optional flexible, short receiver antenna, with conductor wrapped around a flexible rod. For use with cameras or camcorders .....**29.95**

### DC-1 Camera Power Adapter

Power supply adapter for use with EK receivers and SK transmitters. Draws power for bodypack directly from camera's own power supply.....**49.95**

### CL-2 Line Cable

Optional line cable for portable bodypack transmitter .....**14.95**

### CC-1 Carrying Case

Hard-shell foam-lined case provides effective protection for your wireless set .....**58.50**

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# SHURE

## VP SERIES

WIRELESS MICS

746

### VHF On-Camera Wireless Microphone Systems

Portable, camera mountable wireless system operating in the 169.445 to 216 MHz VHF, the VP series offers belt-pack or handheld transmitters using either the WL93 omni-directional lavalier or the world standard SM58 uni-directional handheld microphone. A total of 10 channels are available, and up to six systems can be used simultaneously in the same environment. The VP3 receiver runs on 9-volt batteries and connects to either balanced or unbalanced camcorders and mixers. Ideal for documentary, broadcast and event videography, the system operates up to 300' and features a frequency response of 80Hz to 15kHz  $\pm$  3 dB.



#### VP3 Receiver

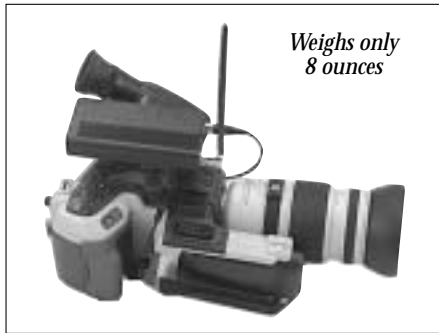
- ◆ Mounting options include velcro, removable belt clip or camera shoe adapter.
- ◆ Runs for 8 hours on one 9-volt battery
- ◆ Available in 10 frequencies
- ◆ Stereo/mono compatible 1/8" (3.5mm) headphone output with level control.
- ◆ Balanced mic level output

#### T2/58 Handheld Microphone Transmitter

- ◆ Includes SM58 cardioid mic capsule
- ◆ Audio Hi/ Lo gain switch in the battery compartment controls the audio level of the microphone

#### T2/58 AND T1 TRANSMITTERS BOTH FEATURE

- ◆ On/ Off switch mutes the mic without having to turn the transmitter off. This eliminates "pop" or "thump" sounds that occur when the mic is turned on and off.
- ◆ Indicators show when the power is on and the battery is good (approx. 18 hours on a 9v battery) or when the battery has less than one hour's worth of power



Weights only 8 ounces

#### T1 Body-Pack Transmitter

- ◆ Tini Q-G microphone jack connects to the supplied WL93 subminiature omni-directional lavalier mic or the WA310 XLR microphone adapter cable
- ◆ Flexible antenna wire is permanently attached to the transmitter
- ◆ Audio level control is achieved with the supplied small screwdriver
- ◆ Includes belt clip allowing it to be worn on a belt or waistband

- ◆ 3-pin "Tini Q-G" audio output connector provides balanced output to video camera or audio mixer when used with the optional WA450 XLR male adapter.
- ◆ Red peak light indicates audio overload or flickers when receiving loud signals
- ◆ Power/RF indicator illuminates green when the receiver is turned on and orange when an RF signal is present.
- ◆ Recessed squelch control (adjustable with supplied screwdriver) mutes the receiver when no transmitter signal is received.
- ◆ Pivoting antenna

#### VP WIRELESS SYSTEMS, COMPONENTS AND ACCESSORIES

**Complete Systems (including):** VP3 receiver, WA460 TA3F to 3.5mm stereo mini cable, (2) 9v batteries, velcro mount and camera "Hot Shoe" mount

**VPL93 Lavalier System:** With T1 Belt-Pack Transmitter and WL93 lavalier mic .....**284.95**

**VPH58 Handheld System:** With T2/58 Handheld Mic/Transmitter .....**324.95**

#### Components:

**VP3 Receiver** .....**159.95**

**T1 Belt pack transmitter (no mic)** .....**119.95**

**T2/58 Handheld transmitter** .....**194.95**

**WL93 Subminiature lavalier mic** .....**69.95**

#### Accessories:

**WA450 Balanced Tini-Q-G to XLR male cable for VP3 receiver** .....**22.50**

**WA360 In-line audio switch for T1 transmitter** .....**57.95**

**WA310 Microphone adapter cable for T1 transmitter** .....**19.95**

**WA395 System carrying case** .....**19.95**

**PS20 AC Adapter for VP3 receiver** .....**8.95**



**ONE HOUR FREE PARKING**

**AT 349 W. 34th STREET (with purchase of \$100 or more)**

### UHF Frequency Agile Portable Wireless Receiver

Designed for professional broadcasters and videographers, the UP4 is a portable UHF wireless receiver that provides the perfect combination of crystal-clear audio and rugged dependability — no matter the environment—at a price that will easily fit your budget. The UP4 is available alone or as part of a complete UP Portable UHF Wireless System with your choice of Shure UC or UHF series transmitters. (See UC Wireless Systems [page 756] and UHF Wireless Systems [page 758] for transmitter features and specifications.)

#### Engineered to avoid interference and deliver a clear, steady signal:

- ◆ Frequency Agility - provides over 100 selectable UHF channels
- ◆ IF (Intermediate Frequency) Filtering - selects the desired signal
- ◆ Phase Locked Loop (PLL) Circuitry - ensures the signal is steady
- ◆ Tone Key Circuitry - blocks out other RF signals that could interfere with reception when the transmitter is off
- ◆ Noise Squelch Circuitry - analyzes signal quality to evade noise bursts when the transmitter is off
- ◆ Patented Shure Predictive Diversity technology anticipates dropouts before they occur, switching antennas when necessary for consistent audio and RF reception

#### Designed and constructed for dependable and reliable operation even under the most challenging environments:

- ◆ Runs up to 10 hours on a single 9V battery
- ◆ Extruded aluminum chassis - built tough to withstand the real rigors of the road
- ◆ Attaches securely to NP-style and Anton-Bauer Gold Mount battery outfits
- ◆ Unique mounting design allows the battery to be changed without removing the receiver from the camera
- ◆ Innovative weather-resistant cover snaps easily around the top of the receiver for protection against the elements
- ◆ Includes a rugged system carrying case
- ◆ Legendary Shure quality - subjected to one of the most stringent environmental and drop testing programs in the industry.



WIRELESS MICS

747

#### Additional Features:

- ◆ Bi-colored LEDs to monitor multi-feature operation status
- ◆ Polarity protected battery case
- ◆ SMA antenna connectors with removable antennas
- ◆ Thread-locking DC input jack for external power option
- ◆ Push-lock audio gain control
- ◆ Mic level XLR output

#### UP Systems with UC Series Transmitters

- UPC14/93:** UC1 Bodypack Transmitter and WL93 Omnidirectional Micro Lavalier
- UPC24/58:** UC2/58 Handheld Transmitter with SM58 Capsule
- UPC24/87:** UC2/87 Handheld Transmitter with SM87A Capsule
- UPC124/93:** UC1 Bodypack Transmitter with WL93 Omnidirectional Micro Lavalier mic and UC2/58 Handheld Transmitter with SM58 Capsule

All UP Systems include UP4 Portable Receiver with 3' XLR output cable, weather resistant cover, system carrying case, two 9v or AA batteries, 9v battery, mounting box and DC power cable

#### UP Systems with U Series Transmitters

- UP14/93:** U1 Bodypack Transmitter and WL93 Omnidirectional Micro Lavalier
- UP24/58:** U2/58 Handheld Transmitter with SM58 Capsule
- UP24/87:** U2/87 Handheld Transmitter with SM87A Capsule
- UP124/93:** U1 Bodypack Transmitter with WL93 Omnidirectional Micro Lavalier mic and U2/58 Handheld Transmitter with SM58 Capsule

# SHURE

## T SERIES

WIRELESS MICS

748

### VHF Wireless Mic Systems

Whether it's for vocal, speech, or instrument performance, the T Series has a wireless system for you. Working in the VHF frequency band, the T Series systems give you the reliability and flexibility you need, at a price you can afford. Pre-packaged specifically for vocalists, guitarists, presenters and instrumentalists, all T Series systems feature:



- Convenient mute switch for noiseless control of On/Off function
- Noise squelch circuitry to virtually eliminate noise bursts
- A durable carrying case for easy storage and travel
- Unique "battery saver" technology allows up to 12 hours of operation from a single 9-volt battery. This makes the T Series ideal for live sound reinforcement, conference rooms and other installation applications that require long uninterrupted system performance.

#### T1/T1G Beltpack and T2 Handheld Transmitters

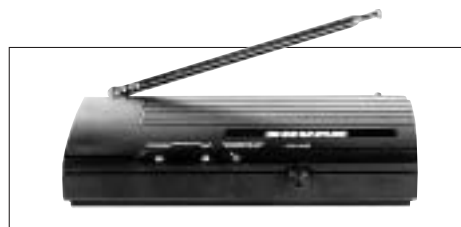
- ◆ 300' transmission distance
- ◆ Audio Gain Control accommodates input sources with different signal strengths (e.g., speaking or playing an instrument).
- ◆ On/Mute switch mutes audio without turning the transmitter off.
- ◆ Powered by 9v batteries, a low battery indicator glows red when less than an hour of operating time remains.
- ◆ Power On/Off switch is recessed to prevent it from being accidentally turned off.

#### T1/T1G Beltpack Transmitters Only

- ◆ Belt clip secures the transmitter to a belt, waistband or guitar strap. On the T1, the Tini Q-G input connects to lavalier and headset mic cables, and Shure WA302 instrument adapter cable. The T1G accepts a 1/4" or guitar cable plug.

#### T3 Non-Diversity Receiver

- ◆ Volume control of receiver output
- ◆ Telescoping antenna
- ◆ Unbalanced 1/4" output
- ◆ RF (radio frequency) signal indicator glows yellow when RF signals are received
- ◆ Audio peak indicator flashes red when the input signal approaches clipping levels
- ◆ Noise squelch circuit analyzes signal quality as opposed to signal strength, discriminating between noise and desired signal. This reduces noise burst due to environmental RF noise.



#### T4A Diversity Receiver

##### Same features as T3 PLUS—

- ◆ Exclusive MARCAD (MAXimum Ratio Combining Audio Diversity) circuitry continuously processes the RF signal from each antenna and combines them to produce one signal of optimum quality.
- ◆ Unbalanced 1/4" phone plug and balanced XLR connectors for simultaneous output to different devices. XLR output is selectable between mic and line level.
- ◆ Can be rack-mounted with the optional URT rack mount tray

#### T88 Dual Channel Non-Diversity Receiver

The T88 receiver offers dual channel performance without having to compromise your budget or standards. Ideal for applications from DJs and Karaoke, to schools and houses of worship, the T88 delivers full, rich sound and allows two transmitters to be used simultaneously.

- ◆ Power, RF signal and audio peak indicators
- ◆ Telescoping antennas
- ◆ Audio output level (volume) controllers
- ◆ Independent 1/4" audio output connectors



EQUIPMENT LEASING AVAILABLE



# SHURE

## T SERIES



**The Vocal Artist—**  
Offers wireless freedom combined with Shure's true-to-life sound and reliability in a single, economical package. Includes T3 Receiver and T2 Handheld Transmitter with SM58 or PG58 mic head. Also includes a swivel adapter, carrying case and 9v battery.

- TVS/PG58:** Includes PG58 Cardioid Mic and T3 Receiver .....**176.95**
- TV58S:** Includes SM58 Cardioid Mic and T3 Receiver .....**229.95**
- TVD/PG58:** Includes PG58 Cardioid Mic and T4A Receiver ....**231.95**
- TV58D:** Includes SM58 Cardioid Mic and T4A Receiver.....**279.95**

### The Presenter—

From stage to podium to pulpit, this system delivers crisp, clean sound and outstanding reliability for speech and theater applications. Rugged design and maintenance-free operation provides the big-time performance you need and the freedom to go where you want.



- TPS:** WL93 micro-miniature lavalier mic, T1 body-pack transmitter with 4-pin mini connector, and T3 Receiver .....**208.95**
- TPD:** WL93 micro-miniature lavalier mic, T1 body-pack transmitter with 4-pin mini connector, and T4A Receiver .....**299.95**
- TPD/84:** WL184 lavalier mic, T1 body-pack transmitter with 4-pin mini connector, and T4A Receiver.....**299.95**
- TPD/85:** WL185 lavalier mic, T1 body-pack transmitter with 4-pin mini connector, and T4A Receiver.....**294.95**



**The Headset—** As comfortable as it is durable, The Headset features a lightweight, fully adjustable wire frame that's tough enough to stand up to continuous highly active use. Unique elastic band keeps it in place from start to finish. Ideal for aerobic use, DJing,

or for singing musicians. Aerobics instructors and DJs will appreciate the freedom, comfort and quality of this system. The WH20 dynamic microphone features a fully adjustable, lightweight frame. The gooseneck microphone can be quickly repositioned for optimal sound clarity or moved aside during breaks.

- THS:** WH20 Cardioid Dynamic headset mic, T1G bodypack transmitter with 4-pin mini connector and T3 Receiver.....**208.95**
- THD:** WH20 Cardioid Dynamic headset mic, T1G bodypack transmitter with 4-pin mini connector and T4A Receiver .....**278.50**



**The Guitarist—**Designed exclusively for guitars - The Guitarist delivers the crystal clear highs and deep, resonant lows that you'd expect from a wired set up. Shure's rugged Surface Mount Technology and input gain adjust-

ment allow for the best signal-to-noise ratio with the widest variety of guitars and playing styles.

- TGS:** Includes T1G transmitter, two WA303 Guitar Cables and T3 Receiver .....**169.95**
- TGD:** Includes T1G transmitter, two WA303 Guitar Cables and T4A Receiver .....**229.95**

**The Instrumentalist —**  
Versatile solution for high volume wind, brass or percussion. Features the high SPL WB98H/C mini-cardioid condenser microphone with integrated gooseneck and clip-on clamp for secure fit and positioning.



- UT14/98H:** Includes WB98H/C Gooseneck Clip-On Instrument Mic, T1 body-pack transmitter with 4-pin mini connector, and T4A Receiver .....**Call**

Dual Systems with T88 Dual Channel Receiver  
Offering dual channel performance without having to compromise budget or standards.

### TwinPro Vocal Artist—

- T288:** Two T2 Handheld Transmitters with PG58 Cardioid Mics, and T88 TwinPro Dual Channel (non diversity) Receiver .....**393.50**

### TwinPro Presenter—

- T188/93:** Two WL93 micro-miniature lavalier mics, two T1 Bodypack Transmitters with 4-pin mini connector and T88 TwinPro Dual Channel (non diversity) Receiver .....**393.50**
- T188/85:** Two WL185 professional cardioid lavalier mics, two T1 Bodypack Transmitters with 4-pin mini connector and T88 TwinPro Dual Channel (non diversity) Receiver .....**393.50**

### TwinPro Vocal Artist/Presenter—

- T1288/93:** T2 Handheld Transmitter with PG58 Cardioid Mic, WL93 micro-miniature lavalier mic, T1 Bodypack Transmitter with 4-pin mini connector and T88 TwinPro Dual Channel (non diversity) Receiver .....**393.50**
- T1288/85:** T2 Handheld Transmitter with PG58 Cardioid Mic, WL185 professional cardioid lavalier mic, T1 Bodypack Transmitter with 4-pin mini connector and T88 TwinPro Dual Channel (non diversity) Receiver.....**393.50**

WIRELESS MICS

749

# SHURE

## PERFORMANCE GEAR WIRELESS

WIRELESS MICS

750

### UHF Diversity Wireless Mic Systems

Whether for vocal, speech, or instrument performance, Shure's Performance Gear Wireless has the right system for you. Offered in UHF bandwidths, they give you the reliability and flexibility you need, at a price you can afford. Pre-packaged specifically for vocalists, guitarists, presenters and instrumentalists, all Performance Gear Wireless systems feature:



- Noise squelch circuitry to virtually eliminate noise bursts
- Incorporating Shure's exclusive Marcad Diversity technology, the UT4A receiver seamlessly combines audio signals from two independent receiver sections—improving operating range and clarity while virtually eliminating dropout and switching noise.
- Convenient mute switch for noiseless control of On/Off function
- A durable carrying case for easy storage and travel
- Unique "battery saver" technology allows up to 18 hours of operation from a single 9v battery. This makes the Performance Gear Series ideal for live sound reinforcement, conference rooms and other installation applications that require long uninterrupted system performance.

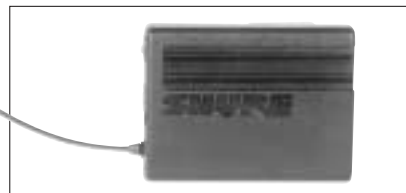


UT4A Receiver

- ◆ Exclusive MARCAD (MAXimum Ratio Combining Audio Diversity) circuitry continuously processes the RF signal from each antenna and combines them to produce one signal of optimum quality.
- ◆ Unbalanced 1/4" phone and balanced XLR connectors for simultaneous output to different devices. XLR output is selectable between mic and line level.
- ◆ Multiple receivers can be stacked or rack-mounted, with two receivers fitting into the optional URT rack mount tray
- ◆ 3" rubberized antennas offer greater durability than telescoping antennas
- ◆ Yellow diversity A/B lights glow when RF (radio frequency) signals are received from the UT1 or UT2 transmitter on one or both of the antennas
- ◆ Audio peak indicator flashes red when the input signal approaches clipping levels
- ◆ Volume control of the receiver output
- ◆ Noise squelch circuit analyzes signal quality as opposed to signal strength, allowing the circuit to discriminate between noise and desired signal. This reduces noise burst due to environmental RF noise
- ◆ Retainer secures the AC power cable to the receiver

UT1 Body-Pack Transmitter

- ◆ Input attenuation switch selects between 0 dB and -20 dB attenuation, for greater range of audio gain control



- ◆ Audio gain control accommodates various input signal strengths. A small screwdriver is supplied to make adjustments.
- ◆ Tini Q-G connector allows connection to a variety of lavalier and headset microphones and cables
- ◆ Flexible wire antenna is permanently attached to the bottom of the UT1 body-pack transmitter.

### UT1 and UT2 Transmitters Both Feature

- ◆ Transmitters work at a distance of up to 300' from the receiver.
- ◆ Red light warns you that there is less than one hour of battery life left
- ◆ Power On/Off switch is recessed to prevent it from being accidentally turned off.
- ◆ 9-volt battery operation, a green light indicates that they are on. Runs up to 18 hours on a single battery.
- ◆ On/Mute switch prevents unwanted sounds from being picked up without turning the transmitter off.

UT2 Handheld Transmitter

- ◆ Audio gain control hidden in battery compartment, allows sound levels to be matched with the transmitter for better performance.



For Any Inquiries Regarding Your Order, Call Our Customer Service:  
(800) 221-5743 • (212) 239-7765 • FAX: (800) 947-2215 • (212) 239-7549

## PERFORMANCE GEAR WIRELESS



**The Vocal Artist** - Offers wireless freedom combined with Shure's true-to-life sound and reliability in a single, economical package. Choice of either a T4A or UT4A diversity receiver with power supply, and a T2 Handheld Transmitter with an SM58, PG58 or BETA 58 mic head.

Each also includes a swivel adapter, carrying case and 9v battery.

**UT24/58:** Includes UT2 Handheld Transmitter with SM58 Cardioid Microphone and a UT4A Diversity Receiver

**UT24/PG58:** Includes UT2 Handheld Transmitter with PG58 Cardioid Microphone and a UT4A Diversity Receiver

**UT24/BETA58:** Includes UT2 Handheld Transmitter with a Beta 58 Microphone and a UT4A Diversity Receiver

**The Headset** - As comfortable as it is durable, The Headset features a lightweight, fully adjustable wire frame that's tough enough to stand up to continuous highly active use. Unique elastic band keeps it in place from start to finish. Ideal for aerobic use, DJing, or for singing musicians. Aerobics instructors and DJs will appreciate the freedom, comfort and quality of the Headset system. The WH20 dynamic microphone features a fully adjustable, lightweight frame. The gooseneck microphone can be quickly repositioned for optimal sound clarity or moved aside during breaks.



**UT14/20:** Includes WH20TQG Cardioid Dynamic headset microphone, UT1 Bodypack Transmitter, and a UT4A Diversity Receiver

**The Vocal Artist Headset** - Combines Shure's true-to-life sound and reliability with the comfortable WH30 headset that provides high-quality voice pickup for active vocalists. Headset includes adjustable wireframe, elastic headband, microphone cartridge and windscreen, microphone boom, isolation shock mount, boom hinge and cable.



**UT14/30:** Includes WH30 Cardioid Condenser headset microphone, UT1 Bodypack Transmitter, and a UT4A Diversity Receiver



**The Presenter** - From stage to podium to pulpit, the Presenter delivers crisp, clean sound and outstanding reliability for speech and theater applications. Choose from omni, cardioid & supercardioid lavalier mics-each providing the big-time performance you need and the freedom to go where you want. Features rugged design and maintenance-free operation.

**UT14/93:** Includes WL93 micro-miniature lavalier microphone, UT1 Bodypack Transmitter, and a UT4A Diversity Receiver

**UT14/84:** Includes WL184 supercardioid lavalier microphone, UT1 Bodypack Transmitter, and a UT4A Diversity Receiver

**UT14/85:** Includes: WL185 cardioid lavalier microphone, UT1 Bodypack Transmitter, and a UT4A Diversity Receiver

**The Instrumentalist** - Versatile solution for high volume wind, brass or percussion. Features the high SPL WB98H/C mini-cardioid condenser microphone with integrated gooseneck and clip-on clamp for secure fit and positioning.



**UT14/98H:** Includes WB98H/C Gooseneck Clip-On Instrument Mic, UT1 Bodypack Transmitter, and a UT4A Diversity Receiver



**The Guitarist** - Designed exclusively for guitars, The Guitarist delivers the crystal clear highs and deep, resonant lows that you'd expect from a wired set up. Shure's rugged Surface Mount Technology and input gain adjustment allow for the best S/N ratio with the widest variety of guitars and playing styles.

**UT14:** Includes WA303 Guitar Cable for connection to UT1, WA302 Instrument Cable for connecting UT4A to Guitar Amplifier, UT1 Bodypack Transmitter, and a UT4A Diversity Receiver

**Vocal Artist/Presenter** - Includes the legendary SM58 handheld transmitter plus the WL185 lavalier and body-pack transmitter. This package is for people who want the flexibility and versatility of two microphone options.



**UT124/85:** Includes: SM58 Handheld Mic, WL185 cardioid lavalier microphone, UT1 Bodypack Transmitter, and a UT4A Diversity Receiver

# SHURE

## LX SERIES

WIRELESS MICS

752

### VHF Wireless Mic Systems

Widely used in installed sound and live music situations, Shure's LX wireless systems deliver top-notch performance and VHF reliability at a moderate price. With a full line of professional handheld, lavalier, instrument and headworn microphone options, as well as instrument cable, and single-antenna or diversity receivers, a wireless system can be configured for almost any application. Plus, guitar players who demand the highest degree of sound quality and reliability will really appreciate the low noise and uncolored sound of an LX Wireless System.



#### LX1 Beltpack Transmitter

- ◆ Low-profile, highly durable LX1 body-pack transmitter features a wide dynamic range and unsurpassed reliability, plus convenience features like vertical and horizontal actuated toggle mute switches, which are easily identified by touch.
- ◆ Belt clip has a wider contact surface for a better grip, and firmly holds thinner, more slippery materials. It can be removed or inverted for special positioning.

#### Both Transmitters Feature

- ◆ 18-20 hour battery life
- ◆ Power and mute switch
- ◆ Adjustable audio gain control
- ◆ Both transmitters include a 3-segment LED that indicates both "power on" and the amount of battery life remaining.

#### LX2 Handheld Transmitter

- ◆ Beneath the sleek, elegant exterior of the LX2 handheld transmitter lie the electronics and engineering that deliver the sound that's spelled success for so many users.
- ◆ Battery mounting provides easy access and outstanding transmitter balance.
- ◆ The unbreakable WA555 grip/switch cover accessory, supplied with all LX2 hand-held mic transmitters, prevents accidental movement of the power and mute switches and provides a "grip" feel.

#### LX3 and LX4 Receivers

- ◆ Half-rack wide, the all-metal LX3 and LX4 receivers are supplied with both single and dual rack-mount hardware. An optional WA503 accessory kit lets you front-mount antennas.
- ◆ Noise Squelch control located on the front panel for easy access, analyzes signal quality instead of signal strength. This virtually eliminates the possibility of annoying noise bursts coming through your receiver.
- ◆ A five-segment audio meter helps to optimize transmitter gain setting and lets you monitor audio level during operation.
- ◆ UHF-type connectors provide connection to the supplied 1/4 -wave antennas or to coax cable used with remote antennas. They also provide connection to the optional WA421 remote antenna cable kit used with optional WA380 and WA490 1/2 -wave antennas.

- ◆ Supplied AC adapter incorporates small, in-line transformers that save space on AC power strips. It also has mounting tabs so it can be secured to any surface, as well as locking DC power connectors to prevent accidental disconnection from the receiver.

#### LX4 Only

- ◆ Instead of a single RF meter, the LX4 has two 5-segment antenna meters. The dual meters indicate received signal strength at each antenna, and make it easier to identify and troubleshoot RF "dead spots."
- ◆ MARCAD (MAXimum Ratio Combining Audio Diversity) circuitry constantly monitors signals from both receiver sections and combines them into a single output signal. Provides improved reception and freedom from dropouts.

### LX88-II

The LX88-II is a VHF wireless mic system that provides two channels in one single-rack sized receiver— perfect for DJ or karaoke applications.



- ◆ Supplied with anti-roll device for handheld transmitters
- ◆ Metal chassis contains two single antenna (non-diversity) receiver sections
- ◆ LED indicators: two RF (one per channel), two audio peak (one per channel), power-on

- ◆ Two balanced XLR connectors and three unbalanced 1/4" connectors
- ◆ Detachable racks ears with holes for optional front-mount antenna connector kit
- ◆ Two rear-mounted, detachable antennas with UHF connectors



## LX SERIES

### Headworn Systems

**LX14/16:**

LX1 bodypack transmitter with WCM16 headset mic and LX4 receiver

**LX14/20:**

LX1 bodypack transmitter with WH20TQG headset mic and LX4 receiver

### Instrument System

The most popular miniature instrument mic in the world, the cardioid WM98 wireless system is ideal for horns and other acoustic instruments. Included the A98KCS horn clamp which provides mounting capability for most brass and woodwind instruments.

**LX14/98:**

LX1 bodypack with WM98H/C clip-on instrument mic and LX4 receiver

### Guitar Systems

The LX Wireless Guitar System features crisp, clean sound and transmitter batteries that can survive several gigs. And Shure redesigned the belt clip to attach more securely to the guitar strap so guitarists can "lose their leashes" but keep all of their tone for hours longer than before.

**LX13:**

LX1 bodypack transmitter with WA302 Guitar/Bass Cable and LX3 receiver

**LX14:**

LX1 bodypack transmitter with WA302 Guitar/Bass cable and LX4 receiver

### Handheld Systems

Available in four versions: with the world standard SM58, the SM87 condenser mic, or the high-performance, premium-quality Beta 58 dynamic and Beta 87 condenser, which are the mics of choice for concert sound. And all heads are instantly interchangeable.

**LX23/58:**

With SM58 and LX3 receiver

**LX24/58:**

With SM58 and LX4 receiver

**LX24/87:**

With SM87 and LX4 receiver

**LX24/BETA58:**

With Beta 58 and LX4 receiver

**LX24/BETA87A:**

With Beta87A and LX4 receiver

### LX Lavalier Wireless Mic Systems (with LX1 Bodypack Transmitter)

**LX13/93:**

WL93 lavalier mic and LX3 receiver

**LX14/93:**

WL93 lavalier mic and LX4 receiver

**LX13/83:**

WL183 lavalier mic and LX3 receiver

**LX14/83:**

WL183 lavalier mic and LX4 receiver

**LX13/84:**

WL184 lavalier mic and LX3 receiver

**LX14/84:**

WL184 lavalier mic and LX4 receiver

**LX13/85:**

WL185 lavalier mic and LX3 receiver

**LX14/85:**

WL185 lavalier mic and LX4 receiver

### LX3/LX4 OPTIONAL ACCESSORIES

**WA380***1/2 Wave Antenna Kit*

The WA380 is a multi-section, telescoping 1/2 wave antenna that provides up to 3 dB more gain than the supplied quarter-wave antennas. Kit includes wall mounting bracket and bulkhead adapter. LX4 requires two WA380 antennas.....**53.95**

**WA421:** 20' antenna cable with connectors for the WA380 or WA490.....**19.95**

**WA503:** Front mount antenna kit.....**29.95**

**WA490***1/2 Wave Cable Antenna Kit*

The WA490 provides up to 3 dB more gain than the supplied quarter-wave antennas. A low-cost alternative to telescoping antennas, the WA490 offers unobtrusive wall- or ceiling-mounting in or around the operating area.....**33.50**

**WA405** *Antenna/Power Distribution System for LX3/LX4*

The WA405 combines an amplified antenna distribution system and DC power distribution system in one compact unit. The WA405 uses two antennas, splitting the wireless transmitter signals to feed as many as four receivers. Signal amplification compensates for insertion loss. In addition, four 12v DC outputs provide a combined current of up to 2 amps to power four receivers, eliminating the need for external power supplies. The built-in, high-efficiency switching power supply accepts 120v AC power.....**434.95**

**WA470** *Passive Antenna Splitter/Combiner*

When used as an antenna splitter, the WA470 allows two LX4 or four LX3 receivers to receive signals from only two antennas. This minimizes the number of antennas required and helps prevent interference problems in installations with multiple receivers. When used as an antenna combiner, the WA470 routes signals from four antennas to the inputs of a single VHF diversity receiver, while retaining true diversity performance. This is useful in applications where one wireless system must provide coverage in two areas.....**79.50**

### LX88 Dual Systems

**LX288/58:** Two LX2/58 Handheld Transmitters with LX88-II Dual Channel Receiver and PS20 Power Supply, two swivel mic adapters, rack mounting kit, Anti-Roll Devices

**LX1288/58:** LX2/58 Handheld Transmitter, LX1 Bodypack Transmitter (no mic) with LX88-II Dual Channel Receiver and PS20 Power Supply, one swivel mic adapter, rack mounting kit, Anti-Roll Device

# SHURE

## ULX STANDARD/ULX PROFESSIONAL

WIRELESS MICS

754

### Professional UHF Wireless Systems

Affordable systems designed for both live performance and systems integration applications, the ULX Standard and ULX Professional UHF Wireless Systems feature Shure's world-renowned audio and proprietary Automatic Frequency Selection circuitry, an innovation which simplifies system set-up by automatically scanning a user's environment for open frequencies. Over 30 system configurations available with a variety of handheld, headworn, instrument, and lavalier microphone options.

The ULX Standard is designed for regional and touring performers who have multiple wireless system users, want quick setups between gigs, and want the security of less signal interference and dropouts.

The ULX Professional with advanced controls and displays is designed for professional sound installers who require programmable and lockable front panel settings, rely on advanced LCDs, and need a durable, metal-chassis, rack-mounted system.

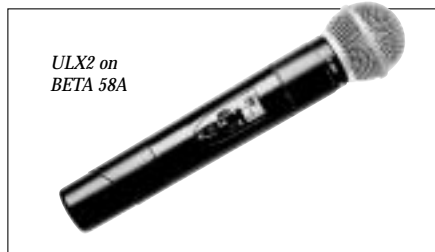


Both frequency-agile receivers operate between 554-590 MHz (J1) and 662-6987 MHz (M1) and offer up to 1440 selectable frequencies organized into pre-programmed compatible groups. This enables you to quickly set-up and operate up to 40 compatible systems simultaneously (area dependent) when both frequency bands (J1 and M1) are utilized. ULX receivers also include Predictive Diversity circuitry which virtually eliminates RF drop-out, as well as an easy-to-read, multi-function LCD display for monitoring group/channel selection, battery level, and TV channel.

Equipped with more advanced features and controls, the ULX Professional steps up with group scan function (the ability to scan all frequency groups to locate the one with the maximum number of compatible frequencies), frequency and volume lockouts, advanced front panel controls, indicators for RF signal strength, furnished rack hardware, remote mountable 1/2 wave antennas, and an extruded metal chassis.

#### ULX1 Bodypack and ULX2 Handheld Transmitters

- ◆ Backlit LCD display indicates group, channel setting and battery power level.
- ◆ They run for up to 8 hrs. on a single 9v battery
- ◆ 300' operating range (normal conditions)



ULX2 on BETA 58A

- ◆ -20dB pad switch lets you select 0dB for Voice/Low Output; 20dB for High Output
- ◆ Adjustable Audio Gain Control
- ◆ Control lockout

#### ULX/S4 Standard and ULX/P4 Professional Diversity Receivers



ULX/S4

- ◆ Automatic Frequency Selection scans for open channels—provides a straight shot to a clear channel—allowing for fast setup
- ◆ Ultra-wide UHF band agility operates across multiple TV channels for clear operation anywhere
- ◆ Shure microprocessor-controlled Predictive Diversity anticipates and avoids sound dropouts for consistent reception
- ◆ Multi-function LCD display indicates group and channel setting, current UHF TV channel and remaining transmitter battery power

- ◆ Up to 20 compatible systems can be used simultaneously (depending on location)
- ◆ LED indicators confirm RF reception and level, as as transmitter audio level
- ◆ Detachable 1/4-wave antennas allows front mount capability
- ◆ Durably constructed 1/2-rack plastic chassis

#### ULX/P4 Step-up Features:

- ◆ Lockout settings (frequency and volume) protect from accidental changes
- ◆ Easy to use LCD interface and advanced front panel controls
- ◆ Removable 1/2-wave antennas allow optimum antenna placement for enhanced signal reception
- ◆ Ruggedly constructed 1/2-rack metal chassis with supplied rackmount hardware



ONE HOUR FREE PARKING

AT 349 W. 34th STREET (with purchase of \$100 or more)



## ULX STANDARD/ULX PROFESSIONAL

### Headworn Mic Systems with ULX1 Bodypack and Receiver

**ULXS14/30:** WH30TQG Cardioid Condenser Headworn Mic and ULX/S

**ULXP14/30:** With WH30TQG Cardioid Condenser Headworn Mic

### Guitar/Bass and Instrument Systems with ULX1 Bodypack and Receiver

**ULXS14:** WA302 1/4" -mini 4-pin instrument cable and ULX/S Receiver

**ULXS14/98H:** WB98H/C Cardioid condenser clip-on mic and ULX/S Receiver

**ULXP14:** WA302 1/4" -mini 4-pin instrument cable and ULX/P Receiver

**ULXP14/98H:** WB98H/C Cardioid condenser clip-on mic and ULX/P Receiver

### Handheld Systems with ULX/S Receiver

**ULXS24/58:** SM58 Cardioid Dynamic Mic/Transmitter

**ULXS24/BETA58:** Beta 58 Supercardioid Dynamic Mic/Transmitter

**ULXS24/87:** SM87 Supercardioid Condenser Mic Transmitter

**ULXS24/BETA87A:** Beta 87A Supercardioid Condenser Mic/Transmitter

### Handheld Systems with ULX/P Receiver

**ULXP24/58:** SM58 Cardioid Dynamic Mic/Transmitter

**ULXP24/BETA58:** Beta 58 Supercardioid Dynamic Mic/Transmitter

**ULXP24/87:** SM87 Supercardioid Condenser Mic Transmitter

**ULXP24/BETA87A:** Beta 87A Supercardioid Condenser Mic/Transmitter

**ULXP24/BETA87C:** Beta 87C Supercardioid Condenser Mic/Transmitter

#### Please Note:

Combo systems (two transmitters and one receiver) and dual system (two transmitters and two receivers) are also available.....Call

### OPTIONAL WIDE BAND ACCESSORIES

Optional wide band accessories include the UA844 Antenna/Power Distribution Amplifier, which enables the use of up to four ULX receivers with just one pair of antennas; the UA830WB Line Amplifier for boosting the RF signal from remote mounted antennas; and the UA870WB Powered Directional Antenna.

**UA506 Rackmount Kit** For one ULX receiver .....29.95

**UA507 Rackmount Kit** For two ULX receivers.....29.95

**UA600 Front Mount Antenna Cable Kit** .....39.95

**UA610 Universal Hard Carrying Case**.....78.95

**UA505 Remote Antenna Mounting Bracket Kit:** Lets you mount a 1/2 wave receiver antenna away from the receiver or the equipment rack.....27.50

#### UA830 Active Remote Antenna Kit

A low-noise, in-line antenna amplifier, the UA830 is designed for remote-mounting antennas to a ULX receiver in a large installation, effectively shortening the distance from the transmitters. When an antenna is remote-mounted, the UA830 amplifies the received radio signals to compensate for insertion loss in the coax cable. A gain selector switch adjusts for longer lengths of coaxial cable (3dB for under 25', 10dB for over 25').

- ◆ Mountable on supplied desk-/wall-mount or on a microphone stand
- ◆ Isolates antennas from cable interactions



#### UA844 Wideband UHF Active Antenna and Power Distribution System

Splits a pair of antennas to multiple receivers allowing the expansion of wireless mic systems. It also amplifies RF signals to compensate for insertion loss that results from splitting signal power. A single UA844 system can support up to 4 wireless receivers. Multiple UA844 systems can be used in a tiered configuration until the maximum number of compatible frequencies is reached.....341.95

#### UA870WB UHF Wideband Active Directional Antenna

The UA870WB is an active UHF wireless directional antenna featuring a log periodic dipole array. When compared to an omnidirectional 1/2-wave antenna, the UA870WB's cardioid pattern offers enhanced reception of the desired coverage area and greater rejection of RF signals outside the coverage area.

On-board amplifier offers 3 or 10 dB gain to compensate for cable signal loss. 12v DC power for the antenna amp is provided by a Receiver or UA844 System. The UA870WB can be mounted on a mic stand, suspended from the ceiling, or mounted to a wall using the integrated swivel adapter bracket. It is also weather resistant for use outdoors. For best diversity performance, use two UA870WB antennas .....239.95



### Lavalier Systems with ULX1 Bodypack Transmitter

#### With ULX/S Receiver

**ULXS14/93:** WL93 Omni

**ULXS14/83:** WL183 Omni

**ULXS14/84:** WL184 Supercardioid

**ULXS14/85:** With L185 Cardioid

#### With ULX/P Receiver

**ULXS14/50:** WL50 Subminiature Omni

**ULXS14/51:** WL51 Subminiature Cardioid

**ULXS14/83:** WL183 Omni

**ULXS14/84:** WL184 Supercardioid

**ULXS14/85:** L185 Cardioid



# SHURE

## UC SERIES

WIRELESS MICS

756

### 100-Channel UHF Diversity Wireless Mic System

The Shure UC series gives you more of what you want most in a UHF wireless microphone system. Its flexibility and affordable price makes it the ideal choice for a wide range of applications including houses of worship, trade shows, schools, businesses and club installations. And while each UC system features more than 100 fully selectable frequencies and the ability to operate up to 16 systems simultaneously, its ease of operation eliminates the extended learning curve you'd expect from such a high-performance system.

100 user-selectable frequencies combined with Shure's tried and true MARCAD Diversity technology creates an exceptionally reliable wireless system, free of interference and drop outs—even in the most congested environments. The UC Series also incorporates microprocessor-controlled, Phase Locked Loop (PLL) circuitry for a clear, steady signal. It offers two UHF frequency ranges (692-716 and 782-806 MHz), 500' minimum working range, and 45Hz to 15kHz frequency response.



#### UC4 Receiver

- ◆ 1/2 rack space design, includes hardware for single and dual rack mounting
- ◆ Tone Key Squelch Circuitry prevents unwanted noise from entering including the "pop" noise that occurs when the transmitter is turned on or off
- ◆ Noise squelch circuitry analyzes signal quality rather than signal strength, eliminating possible noise bursts
- ◆ Dual RF meters and 5-segment antenna LEDs indicate received signal strength at each antenna, making it easy to identify "dead spots" in the performing area. Also has a LED low battery transmitter warning
- ◆ Incorporates a two band EQ with 6dB cut/boost to match the sound of wired and wireless products in an installation. Helps compensate for off-axis lavalier mics or to adjust the sibilance of vocal microphones
- ◆ Adjustable high pass filter reduces low-frequency signals
- ◆ Group/Channel Display indicates the current group and channel settings. Facilitates easy set-up of multiple channel systems
- ◆ Audio meter lets you monitor levels to optimize the transmitter gain setting
- ◆ BNC connectors provide connection to the supplied antennas or to the coaxial cable used with a distribution amplifier
- ◆ Logic In/Out provides logic interface with external devices such as the Shure SCM810 automatic mixer and AMX or Crestron compatible control systems
- ◆ Unbalanced 1/4" and balanced XLR output connectors with mic/line slide switch

#### UC1 Body-Pack Transmitter

The UC-1 body-pack has a slim, low-profile design, and functions with the full line of Shure lavalier and instrument microphones as well as guitar cables. Supplied belt clip allows the transmitter to be worn on a belt, waistband, or guitar strap. Belt clip can be rotated 180°.

- ◆ Rugged plastic case design
- ◆ TA4F (4-pin mini connector) provides connection with a variety of lavalier, headworn and instrument mics or cables. Transmitter with LEMO 4-pin input connector (UC1L) is also available.
- ◆ Remote audio mute connector allows external audio and/or RF muting capability (requires the UA-101 Remote Mute Switch)
- ◆ Two position attenuator switch (0 for normal applications including voice and low output instruments, and -20dB for high output instruments such as electric guitars.)



#### UC1 and UC2 Transmitters Feature

- ◆ Combined power On/Off and mute switch saves time and hassle
- ◆ Three-segment battery fuel gauge
- ◆ Eight hour battery life with single 9v battery
- ◆ Audio gain control to accommodate various sound sources (singing or speaking)

#### UC2 Handheld Transmitter

- ◆ Grille protects the microphone cartridge and helps reduce breath sounds and wind noise
- ◆ Available with choice of mic capsules from some of Shure's most popular microphones.



### Handheld Mic Systems with UC2 Handheld Transmitter and UC4 Receiver with two 1/4-Wave Antennas, Single and Dual Rackmount Kits, Swivel Adapter and WA555 Grip/Switch Cover for UC2



**UC24/58:** UC2/58 Handheld Transmitter with SM58 mic

**UC24/87:** UC2/87 Handheld Transmitter with SM87A mic

**UC24/BETA58:** UC2/BETA58 Handheld Transmitter with BETA58A mic

**UC24/87A:** UC2/BETA87 Handheld Transmitter with BETA87A mic

**UC24/87C:** UC2/BETA87C Handheld Transmitter with SM58

### Headworn and Lavalier Mic Systems with UC1 Bodypack Transmitter and UC4 Receiver with two 1/4-Wave Antennas, and Single and Dual Rackmount Kits

**UC14/16:** WCM16 Hypercardioid Headworn Mic

**UC14/20:** WH20TQG Cardioid Headworn Mic

**UC14/30:** WH30TQG Cardioid Condenser Headworn Mic

**UC14/50:** WL50B Subminiature Omni Lavalier Mic

**UC14/51:** WL51B Subminiature Cardioid Condenser Lavalier Mic

**UC14/83:** WL183 Omnidirectional Lavalier Mic

**UC14/84:** WL184 Supercardioid Lavalier Mic

**UC14/85:** WL185 Cardioid Lavalier

**UC14/93:** WL93 Omnidirectional Micro Lavalier Mic

**UC14/98H** WB98H/C Clip-on condenser instrument mic w/shock mount

## OPTIONAL UC SERIES ACCESSORIES

*Although UC Wireless systems come with everything you need to operate them, you can enhance the system to new levels with a host of optional accessories:*

### UA-101 Remote Mute Switch:

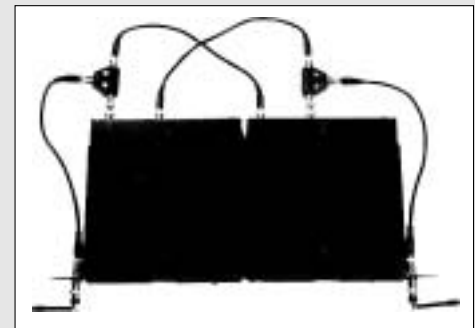
The Shure UA101 Remote Mute Switch lets you remotely mute the audio and/or RF from the UC1 bodypack transmitter during presentations or performances. Ideal for vocalists, lecturers, clergy, referees — anyone who needs easy, instant ability to mute the bodypack transmitter .....**47.50**

**UA-500 Remote Mount Antenna Kit:** For mounting one 1/2 wave antenna.....**48.50**

**UA-600 Front Mount Antenna Kit:** Mounts antennas for the receiver ..... **39.95**

### UA-220 *Passive Antenna Splitter/Combiner*

The UA220 includes two adapters that can be used as one-input, two-output or two-input, one-output passive antenna splitter/combiners for UC Wireless systems. The UA220 Kit lets you split an incoming signal into two outgoing signals or combine two incoming signals into one signal. Each kit includes two UA220 Splitter/Combiners, four coaxial cables, and attaching hardware.



The UA220 is designed for use with Shure's UA400 1/4 wave UHF antennas, UA820A 1/2 wave antennas, and UA802/UA825/850 50 ohm low loss antenna cable.....**119.95**

### UA-845 *Antenna Power/Distributor*



**658.95**

The UA845 is an amplified, UHF Antenna Distribution System designed to expand a wireless microphone system by splitting one pair of antennas to multiple UC4 wireless receivers. It also amplifies RF signals to compensate for insertion loss due to splitting signal power to multiple output connectors. Each UA845 allows up to four receivers to use the same antennas. CASCADE connectors allows connections to a fifth receiver or a second UA845. There are also power connectors for powering UC Wireless systems. The UA845 comes with hardware to front-mount the antennas, if desired.

- The UA845 maintains clean signals with low noise and minimal distortion
- Whenever a signal is split to multiple output ports, there is a loss in signal strength. The UA845 amplifies signals to compensate, ensuring a strong signal to the receivers.

# SHURE

## UHF SERIES

WIRELESS MICS

758

### *Premium UHF Wireless Systems*

*Engineered for the most demanding touring environments and installations, Shure's UHF Wireless Series provides the ultimate in wireless technology, with exclusive characteristics, unique flexibility, reliability and an affordable price. Offers up to 1200 fully selectable, user programmable frequencies per frequency band. Individual frequency bands deliver up to 24 compatible systems per band. Using multiple frequency bands, over 75 compatible systems can be used simultaneously. The ideal solution for a wide range of high-end applications—from touring and installed sound to theater to broadcast and video production.*

*But system versatility goes beyond multiple systems, interchangeable components, and a choice of single or dual channel diversity receivers. The UHF Series also offers computer control and monitoring of either single or multiple receivers. Using the optional UA111 Computer Interface Adapter gives you quick setup and monitoring of an individual receiver. Or monitor and control multiple receivers simultaneously from a remote PC with the UA888 networking interface system.*



### FEATURES

#### *U1 Body-Pack Transmitter*

The U1 body-pack is a compact transmitter that offers all the benefits of Shure handheld transmitters. The U1 functions with the full range of Shure lavalier, headworn, and instrument microphones, as well as guitar cables.

- ◆ Power-on LED
- ◆ 1/4-wave, efficient whip antenna
- ◆ TA4F (4-pin mini connector) or optional LEMO connector (U1L Body-Pack)

#### *U1 and U2 Transmitters Both Feature*

- ◆ Digitally-controlled programmable LCD display
- ◆ Combined power On/Off and mute switch
- ◆ Five-segment battery fuel gauge
- ◆ Power and frequency "lock" feature
- ◆ Adjustable audio gain control
- ◆ Durable all-metal housing
- ◆ 12 hours battery life

#### *U2 Handheld Transmitter*

U2 handheld transmitters are the top choice of live sound and install professionals worldwide with state-of-the-art UHF technology, five microphone options, and accessories included.

- ◆ Grille protects the mic cartridge and helps reduce breath sounds and wind noise
- ◆ 1/4-wave, efficient helical antenna



### Unparalleled Performance

- ◆ Choose from an assortment of legendary handheld mics, including the Beta 87A, Beta 87C and Beta 58A, known worldwide as the mics of choice for live concert sound. Lavalier and headworn designs are also available for a variety of applications
- ◆ Exclusive MARCAD diversity circuitry improves reception and eliminates dropouts
- ◆ Tone Key Squelch keeps unwanted signals and noise from entering the system
- ◆ Patented Power Defeat protection lets you "lock" transmitter power on. System controls prevent accidental transmitter and receiver program changes
- ◆ Reliable and easy to use; batteries last a full 12 hours
- ◆ Receiver's rugged front plate resists abuse encountered in transport

### Unprecedented Compatibility

- ◆ Four operating bands are available, letting you tune across 108 MHz of bandwidth
- ◆ 192 selectable frequencies in 125 kHz increments in UA and UB frequency bands
- ◆ 1200 selectable frequencies in 25 kHz increments (M4 and J4 frequencies) allow you to "squeeze out" additional channels
- ◆ Pre-programmed compatible frequency groups assure an optimal number of simultaneous channels in any location. Up to 20 (UA and UB) or 24 channels per frequency band (J4 and M4) can be achieved. With all four operating bands in use, up to 78 compatible channels can be achieved.

### Unbelievably Informative

- ◆ No other UHF system gives you more ways to monitor vital system functions:
  - Digitally-controlled, programmable transmitter and receiver LCDs indicate group/channel setting
  - Receiver display shows frequency, user name, squelch setting and menu "lock out" function, LED indicators provide RF and audio level monitoring
  - Five-segment battery power display on the transmitter and three-segment remote battery indicator on the receiver show how much transmitter battery life remains

### U4 Receivers

For added flexibility and performance, the system offers two receiver choices; the U4S with a single receiver design, and the U4D with a dual-channel receiver. Both feature Shure's exclusive MARCAD Diversity circuitry, 5-segment audio meter(s), two half-wave flexible rubber antennas and 5-segment antenna meters, 3-segment transmitter battery fuel gauge, programmable multi-function LCD, tone key squelch, mic/line switch, full rack design, internal power supply, headphone jack, rugged metal chassis, network connection, and switchable 120/220 power supply. They also include front mount antenna cables and accessories.



#### Programmable, multi-function LCD display to set and view:

- ◆ Actual frequency in MHz
- ◆ Squelch setting
- ◆ UHF TV channel
- ◆ Group/channel setting
- ◆ Menu lock-out status
- ◆ Transmitter battery fuel gauge
- ◆ Performer name

### Optional Accessories

**UA820A:** 1/2 Wave Dipole Receiver Antenna (774-862MHz)

**UA820B:** 1/2 Wave Dipole Receiver Antenna (692-746 MHz)

**UA400:** 1/4 Wave Dipole Receiver Antenna (774-862 MHz)

**UA400B:** 1/4 Wave Dipole Receiver Antenna (620-722 MHz)

**UA820C:** 1/2Wave Dipole Receiver Antenna (662-698 MHz)

**UA820D:** 1/2Wave Dipole Receiver Antenna (554-590MHz)

**UA870A:** Active Directional Antenna (774-863MHz)

**UA870UB:** Active Directional Antenna (692-716 MHz)

**UA870WB:** Wideband UHF Active Directional Antenna (500-900 MHz)

**UA500:** Remote Mount Antenna Kit

**UA600:** Front Mount Antenna Kit

**UA830:** In-Line Antenna Amplifier

**UA845:** Antenna/Power Distribution System



# SHURE

## UA888

WIRELESS MICS

760



### Networking Interface System

Now you can have complete knowledge of the up-to-the-second status of your multi-channel Shure UHF wireless microphone system—and the power that goes with it—with the UA888 Networking Interface System. The UA888 is an affordable computer interface accessory that allows you to monitor and control the functions of up to 32 dual channel receivers from a remote site using a PC. Using the supplied ShureLink cable, monitoring of up to 64 channels can be achieved by connecting multiple UA888 units.

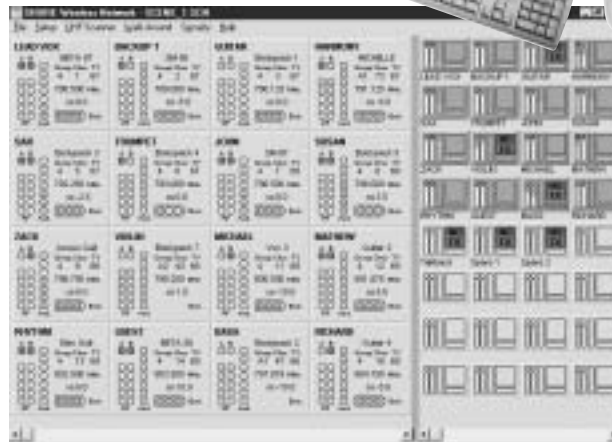
Ideal for installed sound applications requiring multiple systems such as theater, houses of worship, and for touring sound and audio/video rental.



The UA888 continually monitors an array of functions, including RF level, audio level, A/B antenna diversity and transmitter battery level. What's more, the system provides monitoring and control capability of group/channel selection, frequency in MHz, squelch, user name and lock/unlock status.



- ◆ Includes rack-mountable interface module, Windows-based software, and connecting cables for using with the U4S or U4D receivers.
- ◆ Full monitoring and control of all vital system parameters with complete real-time information. Displays all functions on a single computer screen.
- ◆ Sophisticated troubleshooting capabilities include a “walk-around” RF plotter that measures RF signal strength and identifies “dead” spots in the performing area, and a highly accurate frequency scanner that helps minimize RF interference by scanning the airwaves and identifying present frequencies
- ◆ Scene setup and implementation, saves and instantly recalls multiple receiver settings. A password option prevents unauthorized changes to settings.



### UA111 Computer Interface Adapter

Using the same software as the UA888, the UA111 is a computer interface that allows you to monitor and control one U4D or U4S receiver (monitors and controls up to two UHF wireless microphones when used with the U4D dual receiver). Use in touring sound, installed sound, and audio/video rental applications. Has all the of the software features of the UA888 Networking System, including:

- ◆ UHF frequency scanner
- ◆ Walk around RF plotter
- ◆ Password protection
- ◆ Scene setup
- ◆ Squelch control
- ◆ Indicators for transmitter battery level, frequency in MHz, group/channel, audio level, A/B antenna diversity, RF levels



ONE HOUR FREE PARKING

AT 349 W. 34th STREET (with purchase of \$100 or more)

## SPECIFICATION CHART

### RECEIVER SPECIFICATIONS

	T3	T88	T4A	UT4A	LX3	LX4	LX88	ULXS4	ULXP4	UC4	U4S/U4D
# of compatible systems	6	6	6	8	12	12	3 (dual)	20	20	16	20-24
RF/audio metering	■	■	■	■	■	■	■	■	■	■	■
Tone key squelch								■	■	■	■
Frequency synthesized								■	■	■	■
Frequency agile								■	■	■	■
Programmable LCD								■	■		■
Headphone monitor											■
Balanced XLR output			■	■		■		■	■	■	■
Unbalanced 1/4" output	■	■	■	■	■	■	■	■	■	■	■
Mic/line switchable output				■		■		■	■	■	■
Rack mountable receiver			■	■	■	■	■	■	■	■	■
1/2-rack size receiver					■	■		■	■	■	
Front/remote antenna					■	■	■	■	■	■	■
Dual channel available		■			■	■	■	■	■	■	■
Transmitter battery fuel gauge					■	■	■	■	■	■	■
In-Line power supply	■	■	■	■	■	■	■	■	■	■	
Internal switching power											■
Networking option											■
User adjustable EQ										■	
TTL logic control capacity										■	
LCD for group/channel status								■	■	■	■
Noise-sensing squelch	■	■	■	■	■	■	■	■	■	■	■
CE mark approval	■	■	■	■	■	■	■	■	■	■	■

### TRANSMITTER SPECIFICATIONS

	BODYPACK TRANSMITTERS						HANDHELD TRANSMITTERS					
	T1	UT1	LX1	ULX1	UC1	U1	T2	UT2	LX2	ULX2	UC2	U2
Attenuator switch		■		■	■	■	NA	NA	NA	NA	NA	NA
Lavalier mic option	■	■	■	■	■	■	NA	NA	NA	NA	NA	NA
Headworn mic option	■	■	■	■	■	■	NA	NA	NA	NA	NA	NA
Instrument mic option	■	■	■	■	■	■	NA	NA	NA	NA	NA	NA
"LEMO" connector option					■	■	NA	NA	NA	NA	NA	NA
Battery light	■	■					■	■				
Battery fuel gauge			3 segment	3 segment	3 segment	5 segment			3 segment	3 segment	3 segment	5 segment
Batteries (battery/hours)	9V/18	9V/18	9V/18	9V/8	9V/8	2 AA/12	9V/18	9V/18	9V/18	9V/8	9V/8	2 AA/12
Separate mute switch	■	■	■				■	■	■			
On/off/mic mute switch				■	■	■				■	■	■
LCD for group/channel status				■		■				■		■
Remote mic mute					■						■	
Power/frequency control lock				■		■				■		■
Beta 58A	NA	NA	NA	NA	NA	NA		■	■	■	■	■
Beta 87A & Beta 87C	NA	NA	NA	NA	NA	NA			■	■	■	■

# SONY

## WIRELESS MICROPHONES

WIRELESS MICS

762

### *UHF Synthesized Wireless Microphone System*



*Sony's UHF Synthesized Wireless Microphone System, consisting of handheld and bodypack transmitters and 7 different receivers, is widely recognized as the outstanding wireless mic system for professional applications. Operating in the 800 MHz UHF band range and equipped with a PLL (Phase Locked Loop) system, they provide up to 94 channels, space diversity reception and LCD indicators. Reliable and sophisticated circuit technology assure low noise, wide dynamic range, and extremely stable signal transmission and reception. An affordable system with superb audio quality and easy handling, the Sony UHF Synthesized system is the ultimate in convenience for applications at broadcasting stations, film production facilities, and in ENG/EFP work.*

### FEATURES

#### *PLL Synthesized System*

A PLL (Phase Locked Loop) synthesized system controls the transmission and reception frequencies of the system. Employed both in transmitters and receivers, these PLL controlled systems provide highly stable, selectable frequencies to be generated in increments of 125 kHz. Users may choose from 94 frequencies on all A-series models and from 188 frequencies on B-series models.

#### *Space Diversity Reception System*

A space diversity reception system is used to eliminate noise and signal dropouts, thus ensuring stable reception. Dual antenna inputs and reception circuits incorporated in the diversity system receive signals over two different paths and select the stronger signal as the output. This switching operation is undetectable on the audio output of the receivers. An additional benefit of this system is stable reception and cleaner audio when working at extended operating distances.

#### *Pre-programmed Frequency Groups*

Wireless channels are conveniently preset in the CPU of each tuner for use in a multi-channel operation at one location. These are optimum combinations of calculated and practically tested intermodulation-free frequencies. These frequencies are arranged in groups, with each group pre-programmed to allow inter-modulation free operation. The use of preset channels makes it easy to choose the correct frequencies for multi-channel operation, and unlike random selection of channels, prevents interference such as beat noise in multi-channel operation and guarantees better unit isolation.

#### *Advanced Filtering*

The Sony wireless units all employ Helical, Ceramic and/or SAW (Surface Acoustic Wave) filters as appropriate. This offers stable reception and excellent audio quality, and also enables the unique miniaturization seen in most of the Sony products.

#### *Wide Dynamic Range and Low Noise*

A compander (compressor/expander) system is employed for optimum transmission over a wide dynamic range with low noise and interference. The time constants for attack and release times are carefully chosen in the various transmitters to match the application, providing minimized noise levels and smooth and excellent audio quality.

#### *Informative, Easy-to-Read LCD*

Most receivers and transmitters feature a built-in, easy-to-read LCD, which provides extensive status information. All receivers will display the diversity RF and AF signal strength, frequency and channel groups chosen, and battery status of the transmitter. Most transmitters do in essence have the same information available in the display; such as AF input level, and RF output, battery status, current channel number, selected frequency, input attenuation setting, and accumulated battery operating time.



[www.bhphotovideo.com](http://www.bhphotovideo.com)



## WIRELESS MICROPHONES

### Tone Squelch Circuitry

To ensure accurate audio reproduction, the UHF Synthesized System is equipped with tone squelch circuitry control. Here's how it works: The wireless microphone transmitters transmit a 32 kHz tone signal along with the program audio signal. In the receivers, a squelch circuit is present, and the program signal is only output when the tone signal has been correctly received. This squelch feature is designed to eliminate undesired signals and noise from other equipment and eliminates RF noise and popping when the transmitter is powered off.

### Consistent RF Power Output

DC-DC convert circuit built into the power supply section of microphones/transmitters provides consistent output power over the life of the batteries.

### Remote Battery Alarm

For added assurance of continued operation, you can monitor the battery reserves of handheld, body pack and plug-on transmitters. Remaining battery life is indicated on both the transmitter and receiver, with an additional indication approximately one hour before the battery goes dead. On the receiver, the battery indicator on the LCD and LED displays also flash, helping to avoid the chance of battery failure at a critical moment.

### Memory Back-Up

Each unit has a convenient memory back-up capability. When the Power switch is turned on, the previous channel setting is automatically recalled and displayed.

### System Versatility

In recent years, Sony has enhanced its line-up to fulfill the ever-increasing needs for wireless operations. Offering a broad range of choices, this family presents a solution to virtually any wireless mic application from the very simple to the most sophisticated.

Such applications include ENG and EFP location, conference and entertainment, TV studio production, theater, and live performance to name just a few. A variety of options are also available so the systems can be made to suit different operational needs.

**Live Music Production**

**22-channel simultaneous operation**

ANALOGA ANALOGB DIGITAL

Required components:

- MR1 (USA) Tuner (5000 unit) x 4
- WTR1-R06R Tuner unit x 22
- AN-B20A Antenna x 2
- WD-B20A Antenna divider x 1
- Transmitter x 22

\* Wireless microphones were not supplied with transmitters. 22-channel simultaneous operation is possible by combined use of 184U modules on both 4074A and 4074B. The WD-R06A (USA type) operates over the entire range of TV channels 52-69.

**ENG/EFP Applications**

**Betacam SX<sup>®</sup> camcorder with WRR-855**

**Required components**

- WRR-855 Tuner x 1 (sold in 10-pk)
- Transmitter x 1

WRR-855 works with all Betacam SX camcorders (drop in configuration) models: DAW /VF, DAW W60/W60P, LHW-90/90P, LHW-90W/90WP and DV 5.

**Small camcorder<sup>®</sup> with WRR-805**

**Required components**

- WHH-805 Tuner x 1
- Transmitter x 1

Also lower cost WRR-805 is compatible with the tuner.

**DVCAM camcorder with WRR-855**

**Required components**

- WHH-855 Tuner x 1
- CA-WR855 Camera adapter x 1
- Transmitter x 1

**Digital Betacam<sup>®</sup> camcorder with WRR-862**

**Required components**

- WHH-862 Tuner x 1
- A-B2/B0b7 A Mounting bracket\*
- Transmitter x 2

\* Available only through Sony parts.

**Conference/Educational Applications**

Wired microphones Wireless microphones

ANALOGA ANALOGB DIGITAL

VTR DVD Player CD Player MD Player

GPR XCU1P

Speaker system

Required components:

- WTR1-R06 Tuner unit x 2
- Wireless Microphone x 2
- Wired Microphone x 2
- AN-B20A Antenna x 2
- SRP X35 1P Audio Mixer x 1

Mounting slots for two WHH-805 tuner units can built into the rear panel of GPR XCU1P.

WIRELESS MICS

763

## UHF SYNTHESIZED WIRELESS BODY-PACK TRANSMITTERS

### WRT-805B



*Although a low-cost transmitter, the lightweight WRT-805B offers 188 PLL-synthesized channels and a host of high-end features.*

- ◆ Compact, lightweight, tapered bodypack
- ◆ 10mW RF output power
- ◆ Easy-to-read LCD shows channel number, attenuator, RF and AF condition, battery status and accumulated operating time
- ◆ 3/8" 3-pole locking mini microphone jack
- ◆ Switchable -40/-60 dB input level and phase switch for guitar and lav mic

- ◆ Up to 6 hours of continuous operation with a single AA battery
- ◆ Low-battery alarm transmitted to compatible receivers

### WRT-822B



*The WRT-822B provides stable RF performance and high audio quality in a sturdy yet lightweight ergonomic package. It is suitable for use with any Sony UHF receiver and all Sony lavalier microphones, making it ideal for ENG, broadcast or theatre work.*

- ◆ Compact, lightweight, magnesium alloy body - only 2 1/2" x 4 1/8" x 1 1/8"
- ◆ 20mW RF output power
- ◆ Easy-to-read LCD shows channel number, attenuator, RF and AF condition, battery status and accumulated operating time
- ◆ Audio attenuation setting from 0 dB to -21 dB in 3 dB steps

- ◆ Eight hours continuous operation with 2 AA batteries
- ◆ Low-battery alarm transmitted to compatible receivers
- ◆ Includes low profile 1/4 wave length wire antenna and leather case

### WRT-8B

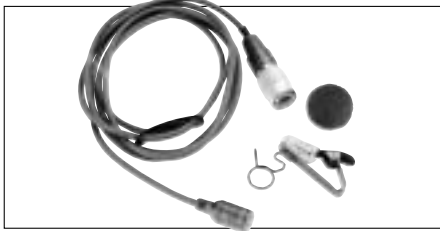
*Compact and lightweight, the WRT-8B Body-pack transmitter has all the essential qualities for use in fast-moving TV and theater musical productions. Inside its tough, die-cast magnesium body is a highly stable, low noise transmitter providing superb audio quality. It operates for up to 13 hours on two AA-batteries, and features switchable AF input (Mic/Line) and RF output levels (10mW/50mW), variable input attenuator, and easy-to-read indicators. As well as theater and studio use, the WRT-8B has the functionality and rugged construction that makes it ideal for the demanding environments of news gathering, documentary production and sports events.*

- ◆ Rugged constructed of die-cast magnesium
- ◆ Accepts professional lavalier microphones fitted with an SMC9-4P connector, such as the Sony ECM-77BC, ECM-44BC, ECM-166BC lavalier microphones
- ◆ Switchable Mic/Line input level and variable attenuator
- ◆ Easy-to-read LCD indicates operating channel/frequency, AF input and RF output levels, transmitter battery status and accumulated operating time.
- ◆ A red LED indicator also flashes when the AF level exceeds a designated level.
- ◆ Selectable output levels: 10mW for multi-channel operations such as in theater and studio productions; 50mW for the long-distance transmissions typically needed for sports and news coverage.
- ◆ Runs for up to 13 hour on two AA-batteries at 10mW, up to 6 hours at 50mW output
- ◆ Transmits a 32 kHz tone signal along with the program audio signal. This tone is recognized by the squelch circuit in Sony receivers so only the program signal is output when this tone signal is received. This eliminates the output of undesired signals and noise from other equipment, as well as RF noise and popping when the transmitter is powered on or off.
- ◆ Easily removable antenna with SMA connector
- ◆ As well as displaying battery status via the LCD indicator, the WRT-8B transmits a "low battery warning" which can be monitored by most Sony receivers. In these receivers, a red LED starts flashing one hour before the transmitter's battery will be exhausted.



## ELECTRET CONDENSER LAVALIER MICS

### FOR SONY BELTPACK TRANSMITTERS



**ECM-44**

**Omni-Directional Microphone**

- ◆ Superior sound quality
- ◆ Frequency response: 40 Hz to 15 kHz
- ◆ Sensitivity: -40 dB SPL (10 mV)\*
- ◆ Microphone head: 1/32" x 1/32"; 0.07 oz.
- ◆ Supplied with holder clip (single/horizontal type), Urethane wind screen, case

**ECM-44BC** For WRT-822B & WRT-8B...**104.95**

**ECM-44BMP** For use with WRT-805B.....**99.95**



**ECM-66**

**Uni-Directional Microphone**

- ◆ Designed for instrumental applications
- ◆ Frequency response: 70 Hz to 14 kHz
- ◆ Sensitivity: -36.5 dB (15 mV)\*
- ◆ Mic. head: 7/16" x 3/32"; approximately 0.3 oz.
- ◆ Includes holder clip, urethane wind screen

**ECM-66BC** For WRT-822B & WRT-8B...**237.95**



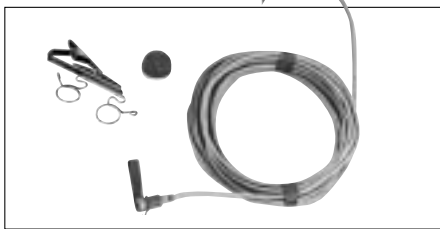
**ECM-166**

**Uni-Directional Microphone**

- ◆ Resists howling and rejects indirect sound
- ◆ Ideal for installed sound and contractor applications such as lectures & conferences
- ◆ Frequency response: 100 Hz to 10 kHz
- ◆ Sensitivity: -45 dB (5.6 mV)\*
- ◆ Microphone head: 1/2" x 15/16"; 0.12 oz.
- ◆ Includes urethane wind screen, holder clip

**ECM-166BC** For WRT-822B & WRT-8B...**104.95**

**ECM-166BMP** For the WRT-805B.....**99.95**



**ECM-77**

**High-Performance, Ultra-Miniature, Omni-Directional Microphone**

- ◆ Frequency response: 40 Hz to 20 kHz
- ◆ Sensitivity: -39.0 dB (11.2 mV)\*
- ◆ Mic. head: 1/4" x 1/2"; approximately 0.05 oz.
- ◆ Supplied with 2 holder clips (single/horizontal type and single/vertical type), Metal-mesh wind screen, microphone case

**ECM-77BC** For WRT-822B & WRT-8B...**253.95**

**ECM-77BMP** For use with WRT-805B...**241.95**



**ECM-55**

**Uni-Directional Microphone**

- ◆ Frequency response tailored for enhanced presence and improved voice quality
- ◆ Frequency response: 30 Hz to 18 kHz
- ◆ Sensitivity: -38.5 dB (11.9 mV)\*
- ◆ Mic. head: 7/16" x 27/32"; approximately 0.2 oz.
- ◆ Includes holder clip, metal-mesh wind screen

**ECM-55BC** For WRT-822B & WRT-8B...**224.95**

**ECM-55BPT** 9.8' cable without battery or connector (pig tail connection).....**189.95**



**ECM-310**

**Lightweight, Wide-Cardioid Headset-style Microphone**

- ◆ Provides crisp and clear sound – isolates desired sound from surrounding ambience
- ◆ Adjustable hinge and goose-neck
- ◆ Frequency response: 70 Hz to 12 kHz
- ◆ Sensitivity: -44 dB (6.3 mV) ±3 dB\*
- ◆ Includes urethane wind screen

**ECM-310BC** For WRT-822B & WRT-8B.....**97.95**

**ECM-310BMP** For the WRT-805B.....**86.95**

*BC models come with a 1.2m cable and a SMC9-4P connector. BMP models have a 3-pole mini-plug with a lock mechanism for secure cable clamping.*

*\*(0 dB = 1V/Pa, at 1 kHz)*

### MICROPHONE KITS

	ECM-166BC	ECM-44BC	ECM-55BC	ECM-66BC	ECM-77BC	EC-15CF	K1161
<b>WRT-805B Mic Kits</b>	Call	Call	Call	Call	Call	Call	Call
<b>WRT-822B Mic Kits</b>	Call	Call	Call	Call	Call	Call	Call
<b>WRT-8B Mic Kits</b>	Call	Call	Call	Call	Call	Call	Call

### CABLES

**EC15CF** XLR adapter cable for BC Series transmitters.....**59.95**

**GC0.7MP** 1/4" guitar cable for WRT-805B transmitter.....**44.95**

**K1161** 1/4" guitar cable for BC Series transmitters.....**89.95**

## WRT-847B

### UHF Synthesized Transmitter Unit

The WRT-847 UHF Synthesized Transmitter Unit accepts five optional microphone capsules, providing a choice of characteristics to suit a range of different applications. Mic capsules are available individually. (One head is required for it for function.). The CU-F780, CU-G780 and CU-E700 capsules are designed for vocal and speech applications in broadcasting, live music performances and concert halls, while the CU-E672 and CU-F117 options are suitable for interviews in news gathering and field productions. Other features include PLL frequency synthesized circuitry for highly stable operation and an easy-to-read LCD screen.

- ◆ Audio compander time constant is switchable to suit different capsules
- ◆ Selectable RF output level: 10 mW for simultaneous multi-channel operation and 50 mW for long working distance
- ◆ Audio gain and attenuation setting from +9 dB to -12 dB in 3 dB steps
- ◆ Easy-to-read LCD with back light indicates extensive information on operating conditions such as channel number, wireless channel frequency in MHz, audio input level, compander time constant, battery status and accumulated battery operating time.
- ◆ Lockable power switch to avoid accidental power off
- ◆ Battery status information is transmitted to the receiver and shown on an LCD for additional assurance of continuous operation
- ◆ Two AA-size alkaline batteries provide up to eight hours of continuous operation



#### CU-F780

##### Dynamic Supercardioid Mic Capsule

- ◆ Ideal for vocal applications including live music performance
- ◆ Dynamic element for extreme durability and high SPL handling
- ◆ Super cardioid polar pattern minimizes off-axis pickup and feedback
- ◆ Uses the same high quality edgewise winding Copper Clad Aluminum Wire voice coil used in Sony's acclaimed F-780 wired mic.
- ◆ Wide 50 Hz to 18 kHz frequency response
- ◆ Built-in windscreen
- ◆ Dimensions: ø 51 x 90 mm (6.3 oz)



#### CU-G780

##### Dynamic Cardioid Mic Capsule

- ◆ Ideal for live vocal applications, especially those requiring increased immunity to feedback
- ◆ Dynamic element for extreme durability and high SPL handling
- ◆ Super cardioid polar pattern minimizes off-axis pickup and feedback
- ◆ Designed to cope with high sound pressure level vocals and to provide outstanding feedback rejection
- ◆ Wide 50 Hz to 20 kHz frequency response
- ◆ Built-in windscreen
- ◆ Dimensions: ø 51 x 90 mm (6.3 oz)



#### CU-E700

##### Supercardioid Condenser Mic Capsule

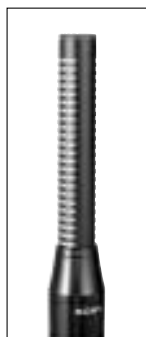
- ◆ Designed for critical vocal and speech applications
- ◆ Super cardioid polar pattern minimizes off-axis pickup and sensitivity to acoustic feedback
- ◆ Built-in windscreen
- ◆ Electret element for smooth, clear sound, excellent transient response
- ◆ Wide frequency response (50 Hz to 18 kHz) for natural sound reproduction
- ◆ Max. SPL: 150 dB
- ◆ Dimensions: ø 51 x 98 mm (6.0 oz)



#### CU-E672

##### Hypercardioid Condenser Mic Capsule

- ◆ A shotgun mic capsule (similar to the Sony ECM-672). Ideal for a wide variety of applications in news-gathering, sports and interviews
- ◆ Frequency response: 50 Hz to 16 kHz
- ◆ Dimensions: ø 37 x 172 mm (5.3 oz)
- ◆ Includes urethane wind screen
- ◆ Extreme directional response minimizes off-axis pickup
- ◆ Electret element for clear sound, excellent transient response and wide frequency response



#### CU-F117

##### Omnidirectional Dynamic Mic Capsule

- ◆ The perfect mic for various interview applications, the CU-F117 is an omni-directional dynamic microphone capsule designed to help reject wind noise and popping
- ◆ Dynamic element for extreme durability and high SPL handling
- ◆ Ideal for use in interviews and ENG applications
- ◆ Built-in windscreen reduces wind noise & popping
- ◆ Frequency response: 50 Hz to 15 kHz
- ◆ Dimensions: ø 44 x 105 mm (6.0 oz)



## HANDHELD TRANSMITTERS

### WRT-800A



- ◆ Wide-cardioid electret condenser capsule for outstanding sensitivity and response
- ◆ 12 hours of continuous operation with a single AA battery
- ◆ Selectable RF output of either 2.5 mW or 10 mW depending on transmission distance and operating environment.
- ◆ Ergonomic grip and miniature low profile helical antenna
- ◆ Low-Battery alarm works with compatible receivers
- ◆ Smoothly tapered body with compact lightweight design
- ◆ Includes easily detachable mic holder

### WRT-807A



- ◆ High sound quality for vocals - powerful, crisp and clean sound as well as presence in the low end and mid frequency range
- ◆ Dynamic microphone capsule, same as used in the Sony F-780 professional vocal microphone
- ◆ LCD for display of channels, attenuator and accumulated hours
- ◆ Up to 5 hours of continuous use with a single AA battery
- ◆ Battery alarm transmitted to compatible receivers
- ◆ Newly-developed lockable power switch to prevent accidental operation

### WRT-808A

- ◆ RF power output: 10mW
- ◆ Plug-In transmitter works with any dynamic microphone with an XLR connector
- ◆ 94 channel frequency agile
- ◆ Runs on two AA batteries
- ◆ Battery level indicator
- ◆ Level control
- ◆ AF/Peak indicator shows condition of audio input level
- ◆ Low-Battery alarm works with compatible receivers



### WRT-867A/X

- ◆ Uni-directional dynamic mic capsule incorporates a high quality edgewise-winding voice coil with lightweight CCAW (copper clad aluminum wire) and AlNiCo magnet for powerful, crisp and clear sound as well as presence in the middle and high frequency range.
- ◆ Four hours of continuous operation at 10 mW RF output level with one AA battery.
- ◆ Ideal for critical vocal applications in broadcast and film production.



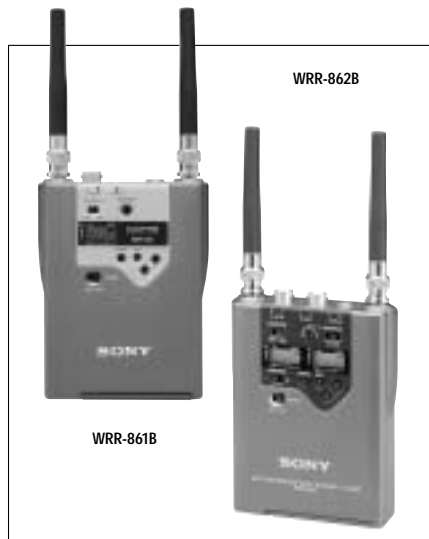
	WRT-800A	WRT-807	WRT-808A	WRT-867A/X
<b>Carrier Frequency</b>	794 MHz to 806 MHz (68 only) 94 channels selectable	770 MHz to 782 MHz (64) 782 MHz to 794 MHz (66) 794 MHz to 806 MHz (68)	770 MHz to 782 MHz (64) 782 MHz to 794 MHz (66) 794 MHz to 806 MHz (68)	794 MHz to 806 MHz (68)
<b>RF Power Output</b>	5 mW (50 Ω load)	10 mW (50 Ω load)	10 mW (50 Ω load)	10 mW (50 Ω load)
<b>Antenna</b>	1/4 wave length wire antenna	1/4 wave length wire antenna	Internal antenna	Helical antenna
<b>Frequency response</b>	100 Hz to 15 kHz	50 Hz to 15 kHz	70 Hz to 15 kHz	40 Hz to 20 kHz
<b>Signal-to-Noise Ratio</b>	> 57 dB (A-weighted)	> 60 dB (A-weighted)	> 68 dB (A-weighted)	> 60 dB (A-weighted)
<b>Attenuator Range (pad)</b>	—	21 dB, variable in 3 dB steps	0 dB to 50 dB (continuous)	0, 6 dB, 12 dB (switchable)
<b>Max. Input SPL</b>	128 dB SPL (1 kHz)	151 dB SPL (1 kHz)	N/A	130 dB SPL
<b>Directivity</b>	Uni-directional	Uni-directional	N/A	Uni-directional
<b>Battery Life</b>	Approx. 12 hours; (1) AA	Approx. 5 hours; (1) AA	Approx. 4 hours; (2) AA	Approx. 4 hours; (1) AA
<b>Dimensions</b>	2 1/4 x 8 1/2"	2 1/4 x 9 1/2"	1 1/2 x 1 1/2 x 4 1/2"	2 1/4 x 7 1/2"
<b>Weight with Battery</b>	7.1 oz.	15.5 oz.	6.18 oz.	11.5 oz.
<b>Supplied Accessories</b>	Mic holder, Metal screw adapter	Mic holder, Metal screw adapter	Soft Case	Mic holder, stand adapter

## CAMERA MOUNTABLE UHF SYNTHESIZED RECEIVERS

### WRR-805A

Loaded with features and ready to perform, the compact WRR-805A features PLL frequency synthesized circuitry for highly stable operation and whip antenna that transmits battery status to compatible receivers. An easy-to-read LCD screen and LED's indicates all the information a user might need.

- ◆ Compact and lightweight, the WRR-805A works with any camcorder that has a stereo mini jack for Mic input.
- ◆ 94 selectable frequency synthesized UHF channels
- ◆ RF, battery alarm indication by both LCD and LED to double check operating condition
- ◆ Switchable RF muting (squelch); ON (15 dBμ) or OFF.
- ◆ LCD for display of operating channel, AF, RF, accumulated operating hours, the tuner's battery status
- ◆ 3.5 mm diameter, balanced line output connector with a lock mechanism for secure camera cable clamping.
- ◆ Six hours of operation (with two AA alkaline batteries)
- ◆ Convenient headphone monitoring with volume control
- ◆ Flexible mounting position and direction ensures secure operation when mounting on DV, DVCAM, Betacam SX, and Digital Betacam camcorders. Optional mounting bracket required for rear-mounting of up to 2 units.)



### WRR-861B/WRR-862B

The WRR-861B (single-channel) and WRR-862B (dual-channel) are cost-effective portable space-diversity receivers designed to deliver high-quality/high-reliability reception in broadcast news and EFP applications. Dual-powered with a lightweight but rugged body made from die-cast magnesium, they are designed for mounting onto Sony professional camcorders with the supplied attachment kit/case, as well as for a variety of other portable applications such as field sound mixing in combination with a portable mixer. High-end features include easy-to-read LCD/LED indicators, selectable RF squelch function, transmitter battery alarm and headphone monitoring function.

- ◆ Dual diversity reception for elimination of dropouts and outstanding reception.
- ◆ Dual-powered, they can receive power from a Sony camcorder with a DC output (via supplied DC cable) or 4 AA batteries for up to 8 hours of operation.
- ◆ LED indicators display RF input status and transmitter battery alarm. Easy-to read LCD displays operating channel/frequency, AF output/RF input levels, receiver battery status and accumulated battery operating time.
- ◆ Frequencies are arranged pre-programmed groups to allow intermodulation-free operation. Also makes it easy to choose the correct frequencies for multi-channel operation.
- ◆ Headphone jack for monitoring the output (with volume control)
- ◆ To eliminate ambient noise, a selectable RF squelch function allows audio to be muted when the RF signal decreases to a certain level (can be set to 5 dBu, 10 dBu, 15dBu).
- ◆ Battery alarm function monitors their battery level as well a transmitter's. LED flashes one hour before transmitter's battery goes dead.
- ◆ Rugged, compact and lightweight, the WRR-861B (10 oz.) and WRR-862B (14 oz.) are easy to mount with the supplied attachment kit and case.

### WRR-855B

A broadcast quality true diversity receiver designed for use with Sony's SX cameras, the unobtrusive WRR-855B takes its power and supplies audio directly to the Betacam's SX's plug-in slot, or can be used with the BTA-801 adapter to provide external connections on 4-pin DC power cable and XLR audio. For reassurance on location, the WRR-855B also includes an RF scan function, allowing you to identify if any RF noise is present. The Pilot Tone Squelch, Low RF Muting and Excessive White Noise Muting functions work together to ensure optimum noise free and seamless performance. Preprogrammed groups of intermodulation free frequencies make it easy to select an used channel on busy shoots



## UHF SYNTHESIZED DIVERSITY RECEIVERS

- ◆ Water resistant structure
  - ◆ Muting RF Level: 10dBu or Off
  - ◆ Space diversity tuner for camcorder
  - ◆ Squelch circuitry operated by ultrasonic tone for positive transmitter reception
  - ◆ The WRR-855A has a 15-pin connector for audio output to a Betacam SX camcorder
  - ◆ Can be mounted on Sony camcorders with the optional BTA-801 mounting adapter. The camcorder can power the WRR-855A when you use the DC cable supplied with the BTA-801.
  - ◆ The audio is recorded to either (or both) track 1 or 2 on an SX camcorder, either with manual or (AGC) automatic gain control. In addition, audio is always recorded onto track 3 with AGC regardless of any other settings on the camera.
  - ◆ Compact and lightweight— only 11 oz
- BTA-801** mounting adapter .....**399.95**

### WRR-802A

#### Single Channel Rackmount Receiver

*Half size 19" rack width and 1U height, single-channel space diversity tuner with LCD display of channel and battery alarm. Output volume control. Balanced output connectors with XLR & TRS phone jack. Front mount antennas.*



- ◆ Two front mounted antennas allow the receiver to constantly compare signals and to choose the strongest one
- ◆ Mic/line selectable XLR and 1/4" TRS balanced output
- ◆ Convenient front panel located volume control knob for quick level adjustments
- ◆ AF, RF and battery alarm indication by both LED and LCD to double check operating condition (channel indication by LCD only).
- ◆ Also monitors the battery power of any transmitter that transmits battery power (includes WRT-800A & 805A transmitters)
- ◆ Half 19" rack width and 1U high

## MB-806A and WRU-806B

### Tuner Base Unit and UHF Synthesized Tuner Unit



*The MB-806A is a tuner base unit featuring slots for six WRU-806B diversity receiver modules, with an internal antenna divider for six channels of diversity operation in a single rack space. Using the optional WD-820A Antenna Divider, you can go even further, with up to 12 wireless mics operating simultaneously on a single pair of AN-820A active antennas! The MB-806A also features a convenient autochannel assignment function. Once an operating group is set on one of the installed WRU-806B receiver, channels within the same group are automatically assigned, and unusable channels for the additional receivers will be automatically detected and skipped. This enables instant and automatic multi-channel setting of the entire rack of receivers.*

- ◆ Modular 19" rack mount tuner frame (1RU)
- ◆ Six XLR-balanced output connectors plus an XLR balanced mix output
- ◆ Selectable mic/line (-58dBm/-20dBm) output level switch
- ◆ Accommodates up to 6 WRU-806B diversity receiver modules for up to six simultaneous channels of operation. With the optional WD-820A Antenna Divider, up to 3 systems (18 mics) can be operated simultaneously
- ◆ Auto channel assignment for extra tuner modules for instant programming of interference-free multi-channel operation
- ◆ AF, RF and battery alarm indication by both LED and LCD to double check operating condition (channel indication by LCD only)
- ◆ RF input attenuator (10db / 0dB) switch
- ◆ Supplied passive antennas for rear mounting (with provision for front mounting)
- ◆ Built-in antenna divider with 9v DC power

#### WRU-806B UHF Tuner Module



**MB-806A** .....Call  
**WRU-806B** .....Call



## MB-8N and WRU-8N

### *Wireless Mic Tuner Base Unit and UHF Synthesized Tuner Unit(s)*

*Incorporating cutting-edge wireless microphone technology, the breakthrough MB-8N Tuner Base Unit together with the WRU-8N UHF Synthesized Tuner*

*Unit set new standards for performance, flexibility and functionality in a wireless mic system. Although only 1U high, the MB-8N tuner base unit accommodates up to four WRU-8N tuner units, and it includes a built-in antenna divider making it easy to daisy-chain up to four of these base units to form a 16-channel system. The WRU-8N offers exceptional standards of RF performance. It features space diversity reception, and a wide dynamic range with low levels of noise and distortion. But what sets this system apart from any other, is the level of remote operation and monitoring the MB-8N/WRU-8N combination provides. Over standard Ethernet connections, a complete system can be set up and controlled from a PC using the supplied GUI software. This includes the store and recall of different channel configurations, a feature that is particularly useful for location use and equipment rental organizations. A separate audio monitoring feature is included to allow the individual outputs of the tuner units to be checked.*

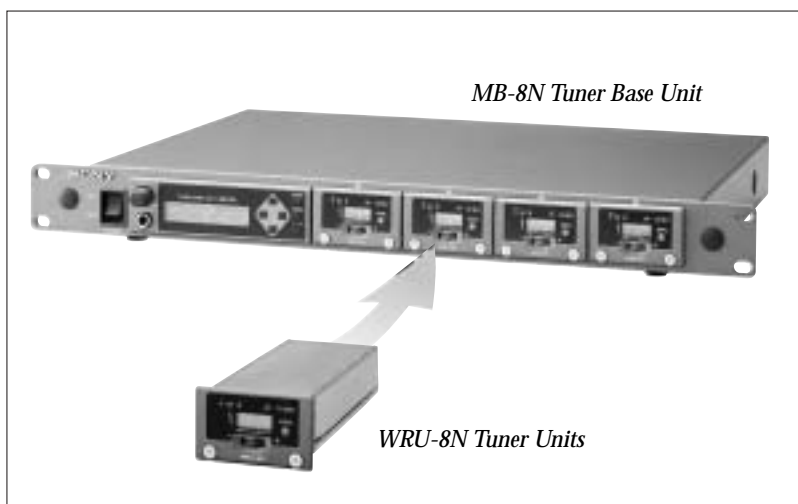


#### *MB-8N Tuner Base Unit*

- ◆ Easy to install in both fixed and mobile applications, the MB-8N Base houses up to four WRU-8N tuner units in a compact 1U high, 19" rack mountable design. This allows flexibility in expanding the number of wireless channels in a system according to budgetary and operational needs.
- ◆ Using the controls and LCD on the MB-8N's front panel, users can quickly generate and store channel names for each WRU-8N Tuner Unit installed. Since the stored names can be recalled to the LCD panel, operators can immediately verify the sound source assigned to a given unit. Additional controls include output level (mic/line selectable), variable RF squelch level for each tuner unit, antenna attenuator value, and power to the AN-820A UHF Antennas connected to the MB-8N Tuner Base.
- ◆ The MB-8N has a built-in antenna divider, allowing four units to be daisy-chained without the need of an external divider. Since each tuner base unit accommodates up to four tuners, a 16-channel system is easy to configure (requires 16 tuner modules).
- ◆ With the use of the optional Sony WD-880A Antenna Divider, simultaneous operation on up to 42 channels is possible. This combined with the pre-programmed channel plans, makes it easy to build a high-quality, sophisticated, multi-channel wireless system.
- ◆ Headphone monitor jack and level control are located on the MB-8N front pane. Output can be selected to monitor the sound from individual WRU-8N tuner units or the mixed sound from all installed units.

#### *WRU-8N Tuner Unit(s)*

- ◆ Wide dynamic range ensures that the WRU-8N can provide optimum reception of signals from current and future Sony wireless mics and transmitters.
- ◆ The three technologies used in the WRU-8N —PLL frequency synthesized system, pre-programmed frequency groups and Space Diversity Reception System—result in extremely stable RF reception, a vital factor for any wireless microphone system.
- ◆ Each tuner has a jog dial for quickly choosing channel/group number settings as well as as LCD panel and LED indicators for information on operating conditions.
- ◆ LCD indicates the operating channel group and frequency, and has four-segment displays of AF output and RF input levels, while the LEDs indicate RF input and AF output status and the battery reserve of the transmitter. A red LED starts flashing one hour before the transmitter's battery will run out.



## MB-8N and WRU-8N

### Computer-Based Control

For added operational convenience, the MB-8N/WRU-8N system allows computer-based remote control. To provide straightforward and intuitive operation, the MB-8N and installed WRU-8N units can be set up, controlled and monitored from a PC interfaced via a simple Ethernet connection and running the supplied software. Full monitoring of operating status in one window. The GUI simultaneously displays the status of up to 16- channels in one window, which can be switched to a 25- channel or 49-channel display. Both a quick reference to each tuner's reception status and that of the entire configuration are displayed on left side, while details of the channel status are displayed on the right side. Through a simple drag-and-drop operation, the operator can designate the channels to appear on the right side for access to an extensive range of operating controls and information which includes the channel name, selected channel group/frequency, tone squelch status, noise squelch status, RF squelch level, AF/RF input levels and transmitters battery alarm. The AF level is indicated in steps of approximately 2.5 dB, while the RF level is indicated in steps of approximately 5 dB. The GUI also allows the control of all other settings available on the MB-8N Base Unit.



The pre-programmed channel frequencies can also be selected from this GUI. This is especially useful for complex multi-channel operations, since operators can adjust frequencies while simultaneously viewing all channels. Once the appropriate frequencies are selected, the setup can be stored as a file. This is extremely useful, since the setup for a particular multi-channel system can be easily re-established by loading the appropriate file.

### WD-820A UHF Antenna Divider

- ◆ Four diversity distribution output connectors for distributing the RF input signal from up to three MB-806A tuners
- ◆ Two pair of antenna input connectors for connection of up to four AN-820A antennas- allowing expansion of the operating area
- ◆ Cascade three WD-820A's to control up to 19 channels

**WD-820A Antenna Divider.....1113.95**



### WD-880A UHF Antenna Divider/Channel Multiplier



- ◆ Expands simultaneous operation from 19 channels to up to 42 channels
- ◆ Incorporates RF bandpass filtering technology for stability and reliability
- ◆ Supplies 9 or 12v power to the AN-820A

**WD-880A Antenna Divider/Channel Multiplier.....3579.95**

### AN-820A UHF Antenna

The AN-820A incorporates an amplifier to compensate for signal deterioration caused by cable transmission and distribution.

- ◆ Unique and inconspicuous design allows installation on a wall or in a mic stand with the supplied adapter
- ◆ LED indication for installation check     ◆ Powered by the MB-806A or the WD-820A via coax cable

**AN-820A UHF Antenna ..... 189.95**



# SONY

## UWP SERIES

WIRELESS MICS

772

### Low-Cost UHF Synthesized Wireless Microphone System

Although low-cost wireless systems has proliferated dramatically in recent years, they usually lack in transmission stability and have noise problems that are overlooked. The ideal solution for budget-conscious users seeking rock-solid transmission, the UWP Series incorporates sophisticated wireless technologies from Sony's top-of-the-line UHF Series including PLL-synthesized system, space-diversity reception and a tone squelch function. Whether for low-cost ENG, EFP or PA systems, the UWP Series delivers the convenience of non-compromised wireless microphone operation at a very affordable price.

The UWP Series consists of five core elements — a lavalier/bodypack transmitter, a wireless handheld mic, a portable tuner, a half-rack-size tuner, and a tuner module. These are available in six turnkey packages, each comprising a microphone, transmitter and tuner, for a ready-to-go system straight out of the box. Each package has been carefully compiled to address almost any application—from video production and A/V presentations, to live performance and electronic news gathering.

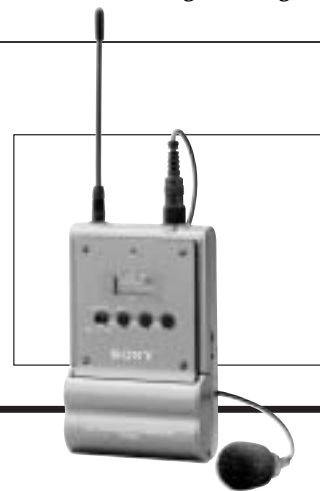


### FEATURES

- ◆ PLL Synthesized System used in the transmitters and tuners, achieves solid transmission and reception by using a stable carrier signal to avoid interference with other frequency channels and to allow the selection of a preferred channel from multiple frequencies (188 selectable frequencies).
- ◆ Space Diversity Reception System—used in all UWP tuners – reduces signal dropout to a minimum. Achieves stable reception by using dual-antenna inputs/reception circuits that receive signals over two different paths and automatically select the stronger RF signal for output.
- ◆ The antennas of the portable and half-rack-size tuners each allow for angle adjustments, which helps to further eliminate signal dropout.
- ◆ Tone Squelch Circuitry prevents the output of unwanted signals or noise from other signal transmissions in the air, as well as the RF noise and popping noise that occur when the transmitter is powered on or off.
- ◆ Allows simultaneous operation of up to 16 wireless mics. Optimum combinations of practically tested, intermodulation-free frequencies (stored in the UWP tuners) simplifies the task of system setup.

### Lavalier Microphone and Bodypack Transmitter

- ◆ Compact and lightweight design
- ◆ Includes belt clip
- ◆ 3.5mm, 3-pole mini-jack input connector with lock mechanism
- ◆ Supplied lavalier is a uni-directional, electret-condenser mic with windscreen and mic clip



### Bodypack and Handheld Transmitter Both Feature

- ◆ LCD screen displays the operating channel number and its frequency in MHz, attenuator level, RF-output level (High/Low), audio-input and RF-output status, transmitter-battery status and accumulated operating time
- ◆ Six hours operation on two AA batteries
- ◆ Selectable RF-output level: 5 mW for simultaneous multi-channel operation: 30 mW for long-distance transmission
- ◆ Attenuator function allows adjustment of the mic-input level to suit each user's voice

### Handheld Microphone



- ◆ Uni-directional, dynamic mic capsule
- ◆ Internal antenna design
- ◆ Supplied with a microphone holder and a screw adapter



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## UWP SERIES



### Half 19" Rack-Size Tuner

- ◆ Equipped with both XLR (balanced) and 1/4" phone (unbalanced) type output connectors. The output level on the XLR-type connector can be switched between mic and line levels.
- ◆ LCD screen displays the operating channel number and its frequency in MHz, plus the audio output status and RF-input level
- ◆ Stereo headphone jack with monitor volume-control
- ◆ Supplied with an AC/DC adapter
- ◆ Angle-adjustable antennas to help eliminate signal dropout

### Portable Tuner

- ◆ LCD screen provides extensive information, including the operating channel number and its frequency in MHz, audio-output status, RF-input level, tuner-battery status and accumulated operating time.
- ◆ Six hours of operation with two AA batteries
- ◆ Stereo mini jack with volume control
- ◆ Angle-adjustable antennas help eliminate signal dropout and allow mounting position flexibility when mounted on a camcorder.
- ◆ Supplied shoe-mount adapter enables easy mounting on Sony camcorders. Also includes mic stand adapter, screw adapter, mic cable and belt clip.



### Plug-in Diversity Tuner Module

- ◆ Up to modules can be installed into a Sony mixer/ amplifier (SRP-X700P or SRP-X351P), while up to six modules can be installed in the Sony MB-806A tuner base unit
- ◆ An LCD screen displays the operating channel number and its frequency in MHz, plus the audio-output status and RF-input level



### All Tuners (receivers) Feature

- Space diversity reception system for stable RF reception
- RF squelch function virtually eliminates ambient noise and unwanted signals from other wireless microphone systems
- A green LED indicator illuminates when RF-input signals are appropriately received

### Lavalier Systems

Each system includes a lavalier mic supplied with a windscreen and mic holder clip, and a bodypack transmitter supplied with a belt clip

#### UWP-C1

Includes lavalier microphone, bodypack transmitter and portable tuner

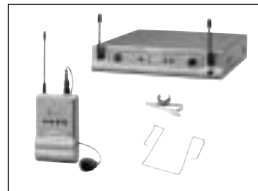
- Suitable for a wide range of applications, from news gathering and interviews to talk shows and conferences
- The portable tuner includes mic stand adapter, screw adapter, shoe-mount adapter for mounting on a camcorder and mic cable (3-pole mini plug/XLR-type)



#### UWP-S1

Includes lavalier mic, bodypack transmitter and half rack-size tuner

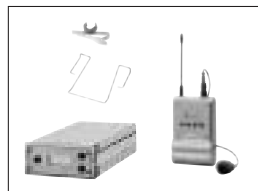
- Suitable for use in PA systems
- The half-rack-size tuner is supplied with an AC/DC adapter



#### UWP-X1

Consists of a lavalier mic, bodypack transmitter and tuner module

- Suitable for use in PA systems



### Handheld Systems

Each system includes a handheld microphone supplied with mic holder and screw adapter

#### UWP-C2

Consists of a handheld microphone and portable tuner

- Suitable for news gathering and for use in PA systems
- The portable tuner includes mic stand adapter, screw adapter, shoe-mount adapter for mounting on a camcorder and mic cable (3-pole mini plug/XLR-type)



#### UWP-S2

Consists of a handheld microphone and half rack-size tuner

- Suitable for use in PA systems
- The half-rack-size tuner is supplied with an AC/DC adapter



#### UWP-X2

Consists of a handheld microphone and tuner module

- Suitable for use in PA systems



# SONY

## SRP-X351P

WIRELESS MICS

774

### Powered Mixer

An audio/video mixer and power amplifier, the SRP-X351P is designed for a wide range of applications, including corporate boardrooms, conference rooms, houses of worship and sports/karaoke bars.

Cost-effective and flexible, it has all the key elements of an outstanding presentation system within a rugged, compact design. A built-in video switcher facilitates easy selection of a monitor or projector and the corresponding audio sources. Wide range of connections includes four balanced-XLR mic channels with switchable 48V phantom power; three stereo line inputs; stereo and master record outputs, as well as Echo send out and mic group out that allow for flexible system configuration and easy expansion. Finally, the SRP-X351P offers a unique wireless tuner option. It has two plug-in slots in the back of the unit that accommodate two Sony WRU-806A UHF tuner modules with a built-in antenna divider. Mounts in a 19" rack (3U high).



### FEATURES

#### Inputs

- ◆ Four balanced mic inputs are provided via rear-panel XLR connectors. The fourth input is also accessible via a 1/4-inch jack on the front panel. A sharp cut-off LF filter and a Signal Present LED are provided on all four inputs. 48v phantom power is available on the XLR connectors.
- ◆ Three stereo channels with line level inputs. Channel 3 has four input connections, with input selection made by the 4-way A/V selector.



#### Outputs

- ◆ Mic Group bus (usually used to route selected mics)
- ◆ An insertion point is provided for an optional EQ, dynamics control unit or feedback reducer.
- ◆ Stereo Record Bus feeds both the power amps and the record output via an EQ and an insertion point for external signal processing. This means that the stereo record output can feed external power amplifiers with the same signal as the internal power amplifiers.

#### Video Switcher

- ◆ Has four sets of composite and S-Video inputs. Any one set of inputs is selected by the four-way A/V selector and routed to two pairs of outputs, one associated with the stereo Master output, and one with the stereo Record output.

#### Remote Control

- ◆ RS-232C and Control-S ports allow external remote control of A/V input selection and Master Volume, as well as muting of the power amp and Record outputs. Also includes an infrared wireless remote.

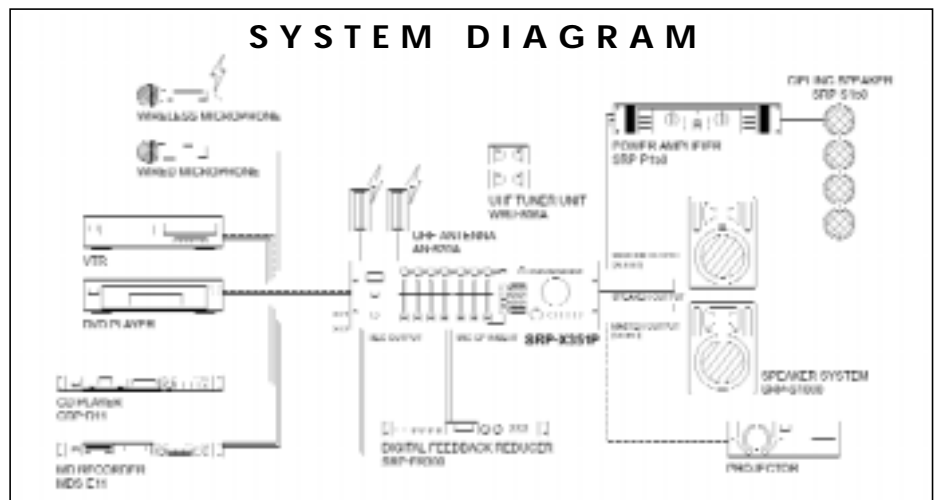
#### Wireless Tuners

- ◆ Two Sony WRU-806 wireless tuner units can be directly installed into the rear of the SRP-X351, to integrate high quality Sony wireless mics into the presentation system. 9v DC is provided on the two antenna connectors to power optional Sony AN-820A omni-directional active antennas.

#### Power Amp

- ◆ Low-distortion stereo power amplifier outputs 170W per channel into 4 ohms. Loudspeaker protection circuit and clip indication are also provided.

### SYSTEM DIAGRAM



# SONY

## SRP-X700

### Digital Powered Mixer

Designed for the modern presentation system, the SRP-X700P has the ability to process material from a wide range of sources including microphones, video, audio, DVD and PC graphics. In fact, it provides the functionality of up to seven tradition presentation devices in a compact, 3U high rack-mounting chassis. And by utilizing digital processing and control technology, the SRP-X700P combines an impressive set of features with high quality processing and simple operation.



WRU-806 tuner slots

WIRELESS MICS

775

### FEATURES

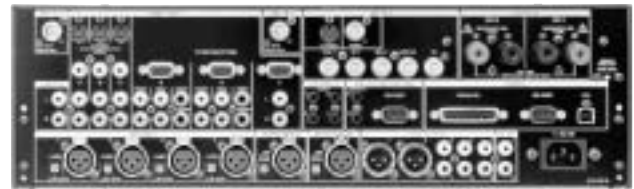
#### 6x1 Multimedia Switcher

The SRP-X700P can handle a wide variety of signal sources such as wire/wireless microphones, PC graphics, DVD playback and surround sound audio, and has a 'six into one' switcher that allows all the different material to be routed to the presentation system.

- ◆ Six picture inputs: 3-RGB/component, 3-composite/S Video
- ◆ Six audio inputs: 4 stereo and 2 surround sound (5.1 format)
- ◆ High resolution component signal processing, including 480p or 1080i
- ◆ High-performance switching, with a 150MHz frequency response for RGB signals (1280 x 1024 pixels, SXGA)

#### Integrated Machine Control and Automation Control Interfacing

The SRP-X700P has extensive machine control capabilities with four CTRL-S control ports for wired machine control, as well as parallel and RS-232C ports for extensive control from professional presentation controllers.



- ◆ RS-232C port allows for remote control of Sony projector and plasma monitor
- ◆ USB, RS-232C and parallel input ports for remote control from an external PC (or other control systems).
- ◆ Control-S ports allow for remote operation of Sony VCRs, CD and DVD players, Minidisc recorders and projectors.
- ◆ A parallel output port for remote control of such devices as a video screen (up/down), window curtains (open/close), projector (up/down), lighting (on/off), etc.
- ◆ Up to two Sony WRU-806 wireless tuner units can be directly installed into the SRP-X700P, to integrate high quality Sony wireless mics into the presentation system.

#### Bundled Software for Improved System Efficiency

The SRP-X700P is supplied with two PC applications (SRP-X700P Manager and User Control Panel). The X700P Manager is a 'set and forget' application, supplied to allow the unit to be fully configured during installation and provides a complete set of control GUIs. The User Control Panel provides a simple control GUI for real time presenter control. Additionally, the unit's 20 internal Scene memories, four of which can be recalled from front panel buttons or the user control panel, allow an instant reset all of the internal processing, so down-time is minimized between operating modes.

- ◆ 6-mono and 2-stereo channels audio mixing with processing to maximize sound quality
- Can mix and process 6-mono (4 mic, 2 mic/line) and 2-stereo (a stereo line and the 5.1/stereo line input of the switcher) inputs signals to 10 outputs (8 general purpose outputs and a stereo record output).
- Comprehensive audio processing including EQ, dynamics, routing and delay, allows the audio signals to be maximized and provides tools for correcting for room acoustics.
- ◆ Two additional tools allow 'professional quality audio' processing to be setup at the touch of a button:
  - 'Feedback Reducer' analyzes and 'nulls out' potential howl round frequencies.
  - 'Automix' function allows the SRP-X700P to analyze, in real time, the incoming signals and make adjustments to maintain the quality of the output.
- ◆ 24-bit/48 kHz A/D -D/A conversion
- ◆ Multiple operating modes with 10 outputs and the on board stereo power amplifier
- ◆ A routing function allows the SRP-X700P to offer many different operating modes to support surround sound matrix switching or 'Zoned' speaker configurations. In addition, the on board 150W stereo power amplifier can be switched between high and low impedance modes.
- ◆ Power rating 200 W + 200 W (4\*), 150 W + 150 W (8\*), Max 150 W (70V Line)

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# TELEX

## ENG-100

### 100-Channel UHF Wireless Mic System

The versatility of the ENG-100 receiver makes this the UHF system of choice. Designed to perform reliably even under the harsh conditions of news gathering, the compact but rugged receiver offers 100 channel frequency agility and delivers superior audio performance on any of 100 selectable channels in the 668 to 746 MHz frequency range. Two integral antennas and a built-in Posi-Phase diversity system assure reception in the most difficult situations. The ENG-100 also features an internal headphone amplifier and an adjustable audio output control to accommodate any situation from news gathering operations to live performances. Equally suited for corporate, industrial and event video applications, the ENG-100 is available in two frequency groups; Group A which corresponds to TV channels 47-48 and Group B which corresponds to channels 58-59.



WIRELESS MICS

776

### FEATURES

#### ENG-100

##### UHF Camera Mountable Receiver

The frequency-agile 100-channel ENG-100 receiver mounts on and interfaces with virtually all professional camcorders. It uses dual integral antennas and Posi-Phase diversity to ensure clear, superior quality, drop-out free audio. The receiver provides side-mounted controls, XLR mic output, headphone output and internal (two AA batteries) or external power for hassle-free field operation.

- ◆ Operates in the 668 - 722 MHz range
- ◆ Posi-Phase II smart diversity reception and Posi-Squelch III audio suppression ensure reception in the most difficult conditions.
- ◆ Tone-code squelch
- ◆ XLR mic output and headphone monitor output jack
- ◆ Audio level control with mic/line selector switch
- ◆ Each transmitter matches two channels on the ENG-100 receiver for easy changes in the case of interference on location. Additionally, with 4 different channel groups to choose from, you get up to 8 simultaneous users in one location.

**\$399.95**

#### LT-100/SH-100

##### UHF Beltpack and Handheld Transmitters

- ◆ 100 selectable frequencies
- ◆ Power on/off and audio mute switches
- ◆ Four segment battery life indicator
- ◆ Hi/low transmit power output
- ◆ They operate on 2 AA batteries
- ◆ Handheld transmitter with Audix OM3 cardioid dynamic mic capsule (SH-100)
- ◆ TA-4M mic jack (LT-100)
- ◆ Has external charging pins for use with BC-100 drop-in charger (LT-100)

**LT100** Beltpack Transmitter.....**377.50**

**SH100** Handheld Transmitter .....**469.95**

#### UT-102

##### UHF Crystal-Controlled Plug-on Mic Transmitter

The UT-102 is a top-of-the-line, crystal-controlled, frequency-agile plug-on transmitter that converts standard wired dynamic mics into wireless-capable transducers. This gives sound and live broadcast engineers the ability match the individual location and application with different microphones.

- ◆ Housed in an all metal aircraft alloy case with water-resistant seals.
- ◆ Although compatible with other dynamic microphones, the UT-102 is perfect for use with the EV RE50, the world standard in broadcast interview microphones.
- ◆ Also provides +6V phantom power for electret microphones.

**U102** Plug-in Transmitter.....**749.95**

#### ENG-100L System

ENG-100 receiver, LT-100 belt-pack transmitter, ELM-22S omni-directional laval microphone, SEB-1 single earbud with cord, XLR-to-pigtail audio cable .....**679.95**

#### ENG-100UT System

ENG-100 receiver, UT-102 plug-on two-channel transmitter, SEB-1 single earbud with cord, XLR-to-pigtail audio cable .....**1049.95**





### Optional Accessories for the ENG-100

#### DC-GM Anton Bauer "Sandwich" Mount

Allows the ENG-100 to be sandwiched between the camera and an Anton Bauer battery. Fully compatible with Anton Bauer Gold Mount .....**229.95**



#### DC-SM Anton Bauer Side Mount Kit

Attaches ENG-100 to Anton Bauer brand side mount accessory .....**42.95**



#### DC-UM Universal Strap Mount Kit

The DC-UM is a universal mounting device that fits virtually any video camera. The adjustable, self-locking Velcro strap ensures a secure mount.....**42.95**



#### DC-NP1 Standard NP-1 Mount Kit

The DC-NP1 allows the ENG-100 to be mounted on standard NP-1 battery holder (easily installed and removed with thumb screws .....**42.95**

## PROSTAR VR-12 VHF Wireless Microphone System

*Going wireless has never been more affordable and natural. Built around the VR12 receiver, the ProStar system offers an audio signal that is processed by the fewest possible components. The allows the signal to follow a virtual "straight line," producing pure and natural sound. Available in 8 frequencies, up to three systems can be used simultaneously.*

*The VR12 receiver is rugged reliable and includes the same diversity Posi-Phase technology found in professional Telex wireless systems. It features squelch control, 1/4" output with volume control and a built-in antenna system that eliminates interference and substantially increases the range of the system.*

*Made in the USA with the highest reliability in their class, the ProStar system delivers clean drop-out free performance every time you power up. Choose from handheld, lavalier or headworn mic systems. For guitarists, the VGR12S system was conceived, designed, and constructed for one instrument only – the guitar. The VGR12S captures everything from the window-rattling lows and the searing highs of a solid body, to the subtlety and nuances of a jazz guitar or acoustic/electric.*



#### VR12C Lavalier System

Includes the VR12 receiver, VB-12 beltpack transmitter with TA4M connector and Audio Technica AT-831b unidirectional condenser lavalier mic with TA4F connector.....**259.95**

#### VR12N1 Handheld System

Includes the VR12 receiver and a VH12N1 handheld transmitter with EV 167 neodymium dynamic mic element.....**238.95**

#### VR12S Guitar System

Includes the VR12 receiver and VB-12 beltpack transmitter with 1/4" plug and cable .....**Call**

#### VR12L Lavalier System

Includes the VR12 receiver and VB-12 beltpack transmitter with attached WLM-10 electret condenser lavalier mic.....**189.95**

#### VR12H Headworn System

Includes the VR12 receiver and VB-12H beltpack transmitter with EV HM2 headworn mic .....**289.95**

#### VR12A Aerobic System

Includes the VR12 receiver, VB-12 beltpack transmitter (with sports pouch) with TA4M connector and Special Projects WPHS-746 aerobics mic with TA4F connector.....**359.95**

## FMR-10

### 10-Channel UHF Frequency-Agile Wireless Mic System

Designed for sound contractors, A/V rental facilities and vocalists, the FMR-10 system offers high performance audio, frequency agility and simplicity. Ideal for schools, houses of worship and DJs it includes optimized channel frequencies to allow up to 10 simultaneous operating systems by combining channels from low and high bands (up to seven simultaneous systems within one band). Additionally, a 10-channel UHF frequency-agile system with ClearScan auto channel selection allows quick setup, transmitter matching and new channel selection if RF conditions change. At the push of a button, ClearScan scans for and selects a clear channel. Operation is further enhanced with front panel 4-segment RF and audio level LEDs, balanced-XLR mic level output and by the Posi-Phase diversity system for clear and drop-out free audio. For clear vocals the HT-10D handheld microphone transmitter features an Electro-Voice N/DYM 767A dynamic mic element with VOB (Vocally Optimized Bass) technology.



#### FEATURES

##### HT-10D/WT-10

##### Handheld and Bodypack Transmitters

- 10 selectable channels
- Power on/off and audio mute switches
- Power and low battery indicator LEDs
- EV N/DYM 767A mic element with VOB (HT-10D)
- TA-4M mic connector (WT-10)
- Run 10 hours on a single 9v battery

##### FMR-10

##### UHF Synthesized Receiver

- Posi-Phase Diversity receiver technology provides clear, drop-out free audio
- Adjustable amplitude squelch
- Optimized channel frequencies allow up to 10 systems to operate simultaneously by combining channels from low and high bands, or up to 7 channels within one band.
- 10-channel UHF frequency-agile system with ClearScan auto channel selection allows quick setup, transmitter matching, and new channel selection if RF conditions change.
- Front panel RF and audio level indicators
- Balanced XLR output
- Two 1/4-wave antennas
- Rackmount hardware for one or two receivers
- Wall pack power supply

## FMR-1000

### 950-Channel UHF Frequency-Agile Wireless Mic System

The FMR-1000 is a breakthrough frequency-agile system that mixes the power of fully program-mable channels with the simplicity of Advanced ClearScan. With a push of two buttons, Advanced Clear Scan finds the clearest group of channels and you can set up 16 system installations in minutes with confidence you have the clearest channels in the clearest group. A unique sound check screen allows one person to walk test a transmitter with tangible results. For clear vocals, the HT-1000 handheld microphone offers a choice between two Electro-Voice mic elements. The ideal solution for the needs of sound contractors, A/V rental facilities and performers, the FMR-1000 carries a 3-year warranty and very affordable price.



### FMR-1000 System Features

- ◆ Programmability in 25 kHz steps across 24 MHz operating bandwidth for over 950 possible channels.
- ◆ Channels are set-up in optimized groups to allow the simultaneous operation of up to 16 units within one frequency band.
- ◆ At the simple push of two buttons, Advanced ClearScan finds the clearest group of channels, allowing you to configure up to 16 system installations in minutes with the confidence that the clearest channels in the clearest group have been programmed.
- ◆ Power users can also program their own groups and channels for custom installations and tours.
- ◆ UHF operation is further enhanced by the patented DSP Posi-Phase diversity system for clear and drop-out free audio.
- ◆ Front panel parametric equalizer with Level, Q, and frequency controls for sound shaping without a mixing board.

### FMR-1000 Receiver

- ◆ 1/2 rack width metal receiver housing design, RF and audio level indicators, tone code plus adjustable squelch, 950 selectable channels, balanced XLR output, adjustable 1/4" line output, two 1/4-wave antennas, rack-mount hardware for one or two receivers and an in-line power supply cord. Also features a plug-able terminal strip for use in permanent installations
- ◆ Backlit LCD display shows group/channel, transmitter battery status, diversity operation, RF and audio level meters and allows space for a custom label.
- ◆ Unique sound check mode allows a person to walk-test a microphone throughout the performance area with quantifiable results shown on the LCD display.
- ◆ Front panel parametric equalizer with Level, Q, and frequency controls for sound shaping without a mixing board.
- ◆ Optional AD-450 antenna distributor provides power and antenna connections for four FMR-1000(s) from just two antennas.

### WT-1000 and HT-1000 Bodypack and Handheld Transmitters

The bodypack transmitter is made of cast magnesium and the over-molded Warm-Grip handheld transmitter features detachable microphone elements for rugged performance in the most demanding environments. Both transmitters feature a unique "smart" battery circuit, which makes it impossible to put the battery in wrong. Powered by 9v battery for up to 8 hours.

For clear vocals, the HT-1000 wireless handheld transmitter offers a silent power on/off and LCD channel display, low-battery indicator LED, and the choice between the EV N/DYM 767a dynamic mic element with VOB and the RE 510 professional condenser element.

## THE BEC GROUP

### Wireless Receiver Holders

*BEC's Wireless Receiver Holders are manufactured using plate aluminum, formed and welded to the exact size of your receiver. Their skilled metal mechanics use the latest in computer assisted machinery to meet the exacting standards of your cameras and receivers. They apply a durable Dry Powder coating to each holder in a smudge resistant black wrinkle finish. And your receiver is protected by a felt lining that keeps it from the bangs and bumps of everyday use.*

Holders mount on all cameras with the Sony screw configuration that is most commonly found on the NP/1 battery holder, the IDX NP/1 battery system and the Anton Bauer Gold Mount system.

Other options like the Sony V-lock system, other Pro cameras and the smaller DV cameras, may need BEC camera brackets, slide plates and other accessories to complete the installation. Everything you need for a no hassle installation is supplied. Includes all the screws, instructions with pictures and a reversible screwdriver.



<b>BEC-185:</b> Fits Lectrosonics CR-185, CR-187, UCR190 .....	<b>74.95</b>	<b>BEC-500:</b> Fits Sennheiser Evolution 500 .....	<b>69.95</b>
<b>BEC-195:</b> Fits Lectrosonics CR-195, UCR-200/205/211/411..	<b>74.95</b>	<b>BEC-3041</b> Fits Sennheiser 3041.....	<b>74.95</b>
<b>BEC-201:</b> Fits Lectrosonics UCR-201 .....	<b>74.95</b>	<b>BEC-AT100:</b> Fits Audio Technica UCR100.....	<b>69.95</b>
<b>BEC-210:</b> Fits Lectrosonics UCR-210 .....	<b>74.95</b>	<b>BEC-AZ400:</b> Fits Azden UDR-400/500/1000 .....	<b>74.95</b>
<b>BEC-100:</b> Fits Lectrosonics UCR-100.....	<b>69.95</b>		

# PORTACOM

## 2-CHANNEL WIRED INTERCOM SYSTEMS

WIRELESS MICS

780

A flexible, high-performance series of two-channel wired intercom, built smart, simple and affordable without sacrificing power or sound quality. Portacom's low-noise, broadcast-quality intercom systems are easily expandable and can be tailored to any environment. They are available in pre-configured systems or as individual components. Connection between components are made with standard mic cables and quickly adapt and grow with your needs without having to start all over with a new system. The two channel capability offered by these systems allow a director separate lines of communication to crew members and talent. The small, lightweight aluminum belt packs have their own channel switches and volume controls and Headsets are equipped with mic on/off switches. The noise-canceling microphones reduce background noise and you can power the system with an optional lightweight battery pack. Ideal for use in television/theater/lighting and church production, educational institutions, industrial production, sound contracting and football coaching.



- ◆ Full duplex
- ◆ High performance/low cost
- ◆ Durable lightweight metal construction
- ◆ Standard cables/ 3-pin XLR connectors
- ◆ Comfortable noise cancelling headsets
- ◆ Battery powered option
- ◆ Call light function
- ◆ Offers 20-headset capability with simple branch-box operation

### Pre-Configured 2-Channel Intercom Systems



COM-60FC

2-channel wired intercom systems consist of a central power supply, belt packs with A/B channel select, volume control, call light and mic on/off switch. With dual muff headsets, carrying case, and with or without standard mic cable. (H-200S single muff headsets can be substituted— mixed or matched, but you must specify.)

#### COM-40 4-Headset System:

Includes PC-100 power console, 4x H-200 dual earpiece headsets, 4x BP-200 belt-packs, 4x EX-50M 50' extension cables, CC-15 carrying case

**COM-40FC 4-Headset System:** Same as COM-40 without cables

#### COM-60 6-Headset System:

PC-100 power console, 6x H-200 dual muff headsets, 6x BP-200 belt-packs, B3-100 branch box, 7x EX-50M 50' extension cables, CC-15 carrying case

**COM-60FC 6-Headset System:** Same as COM-60 without cables

#### COM-80 8-Headset System:

PC-100 power console, 8x H-200 dual muff headsets, 8x BP-200 belt-packs, 2x B3-100 branch boxes, 10x EX-50M 50' ext. cables, 2x CC-15 carrying cases

**COM-80FC** Same as COM-80 without cables

### Components

#### PC-100: 2-Channel

**Power Console-** Two channel power console with 4 outputs; powers up to 20 BP-200 belt-packs. Includes wall mount AC adapter (operable on 30-40v DC)



**BP-200: 2-Channel Belt-Pack-** Lightweight belt-pack with volume control and A/B channel switch, call light and mic on/off switch. Has standard XLR-3 line connector and XLR-4 headset connector. Rugged construction. For use with H-200 headsets

**H-200S Single Earpiece and H-200 Dual Earpiece Headsets-** Lo-Z dynamic mic and headphones with 6' cable and XLR-4 connector. Feature mic on/off switch, and noise cancelling mic

**B3-100 Branch Box-** For expanding PortaCom systems, 1 input and 3 outputs

**CC-15F Deluxe Carrying Case-** Custom-cut foam inserts for PC-100, AC adapter, 6 headsets, 6 belt-packs, Branch Box

**CC-15 PortaCom Carrying Case-** Without foam inserts

**PBS-100 Portable Battery Supply-** Uses 6 D-cell batteries to power 8-10 headsets for 6 to 8 hours

**RM-100 PortaCom Rackmount-**

Mounts 1 or 2 PC-100 consoles in a single 19" rack space



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