



H A Harman International Company

WMS81

UHF Wireless Microphone System

Description

The WMS81 wireless microphone system comprises a bodypack transmitter or handheld microphone transmitter, a receiver and optional accessories. The bodypack and handheld transmitters have the same transmission characteristics, with a maximum radiated power of 10 milliwatts. Through 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, the performance of the system is uniform over a wide range in typical performance spaces, extending up to distances of 330 feet (100 meters).

Individual handheld microphone and bodypack transmitters are factory matched to a given receiver. Fifteen channels are available in each of four UHF bands that occupy the range of 710.2 - 745.6 MHz. Because of some channel overlap, and the recommendation that adjacent sub-channels not be used in a given installation, the user may expect approximately 12 usable channels in a given installation.

The model PT81 bodypack is powered by 2 AA batteries, and normal battery life of 8 hours can be expected from alkaline 1.5 volt cells. The PT81 accepts both microphone and instrument level input signals, and input sensitivity can be selected for optimum performance. The antenna is a quarter-wavelength wire, affording easy concealment and comfortable wearing.

The model HT81 handheld transmitter uses modular microphone capsules. Three of AKG's most popular handheld "vocal" microphone head units are available for the handheld transmitter. The microphones are the models D880WL/1, D3800WL/1, C535WL/1. The handheld transmitter has the following controls: power on/off, microphone mute, input sensitivity control, and selection of the desired transmitting frequency. Powering of the handheld transmitter is the same as for the bodypack. Battery life of 10 hours can be expected.

The SR81 receiving unit is one standard rack unit high and one-half rack unit wide. Thus, two receiving units can be placed side by side. Each SR81 comes from the factory with the chosen UHF bandwidth containing a set of 15 preset operating frequencies. The SR81 is a diversity receiver providing optimum signal reception.

Controls on the SR81 include: power switch, carrier frequency selection, and output level control. Indicators on the unit include: mute, audio overload, RF, diversity LEDs, and transmitter battery status. Squelching is automatic and provided by the TCSQ™ circuit. Each SR81 can accommodate a pair of antennas, however, when a number of receivers are used in a single installation, a master antenna pair (with booster) can be used and feed to all receivers.

A wide range of accessories is provided for operational flexibility and ease of installation. Figures 3, 4 and 5 show how multiple receivers, power supplies and power splitters can be combined for the maximum number of wireless microphones.

Features:

- 15 selectable frequencies
- Factory matched and optimized transmitter/receiver frequency sets
- Diversity reception
- Dynamic range >100 dB
- Simple, foolproof setup procedure
- Both bodypack and handheld microphone transmitters available
- 4 frequency sets available



Specifications

PT81 bodypack transmitter:

Audio bandwidth:	50 Hz to 20 kHz
Modulation method:	FM
Radiated RF power:	10 mW
Frequency stability:	±10 ppm
Antenna:	Flexible, quarter-wave wire
Rated deviation:	±30 kHz
Signal-to-noise ratio:	Typical 50 dB (A weighted)
Input impedance:	220 kohms, 600 pF
Audio input:	Mini 3-pin XLR; 1400 mV for rated deviation at 1 kHz
Phantom powering:	Pin 3: 6 V/6k8 ohms
Current consumption:	170 mA/2.4 V
Power requirement:	2 AA 1.5V batteries
Battery life:	>8 hours
Dimensions:	3.62 x 2.56 x 0.79 in. (92 x 65 x 20 mm)
Net weight:	3.04 oz. (76 g) without batteries

HT81 handheld transmitter:

Type, bandwidth and polar pattern:	See individual microphone specification sheets
Modulation type:	FM
RF radiated power:	10 mW
Rated deviation:	±30 kHz
Signal-to-noise ratio:	Typical 50 dB (A-weighted)
Current consumption:	<150 mA/2.4 V
Power requirement:	2 AA size 1.5V batteries
Battery life:	>10 hours
Dimensions:	1.4 x 9.4 in dia. (36 mm x 240 mm)
Net weight:	9.8 oz. (245 g)

SR81 receiver:

Receiver type:	Diversity
Antenna inputs:	2 x 50-ohm BNC sockets
Modulation type:	FM
Input sensitivity:	Typical -95 dBm
Squelch threshold:	Automatic, using pilot tone (32.678 kHz)
Audio bandwidth:	50 to 20 kHz
THD at 1 kHz:	<0.4% at rated deviation
Signal-to-noise	Typical 100 dB (A-weighted)
Audio output:	Balanced XLR-M, mic/line level switchable, typical 30 dB unbalanced: 1.4" jack: 0 dBm XLR: 6 dBm
Current consumption:	220 mA typical
Power requirement:	11 to 15 V dc or ac from external power supply
Dimensions:	8.27 x 6.7 x 1.65 in. (210 x 170 x 42 mm)
Net weight:	18.8 oz. (470 g)

Accessories:

PS81:	Active, wideband antenna splitter for connecting up to 4 SR81 units or 3 SR81 units and one additional PS.
RA81:	External receiver antenna with integrated booster, powered via cable from the PS61 antenna splitter.
PSU01:	Central power supply unit for support of up to 10 SR61 and up to 3 PS61 units.
SRA-1:	External directional antenna
Color code set:	Part #2455Z0051 For easy channel recognition
Hard Case CH60:	For carrying a single complete system
UAS1:	Universal antenna splitter for 2 receivers
UAM1:	Universal antenna mount for moving the antennas for 1 receiver to the front of the rack.

Architects and Engineers Specifications

The wireless microphone system shall operate selectively over the UHF frequency range from 710.2 to 745.6 MHz, providing at least 15 usable channels with transmitter power not exceeding 10 milliwatts. Both handheld and bodypack type transmitters shall be provided. The transmitters shall operate with a companding system that is complemented by the receiver, providing an A-weighted system dynamic range in excess of 100 dB. The transmitters shall provide the following switchable functions: input sensitivity, power on/off, and microphone mute. Handheld transmitters shall have a maximum diameter of

1.4 in. and a length no greater than 9.4 in.

The receiver shall operate on the diversity principle, and that action shall be inaudible as such. Total harmonic distortion at 1 kHz for rated deviation shall be no greater than 0.4%. The receiver shall incorporate a coded squelch circuit and shall provide automatic squelch adjustment for optimum system operation. An output level adjustment shall be provided, and there shall be both balanced XLR-M output and unbalanced 0.25 in. (6.5 mm) jack. The wireless microphone system shall be the AKG Acoustics WMS81.

Graphical Data

Figure 3

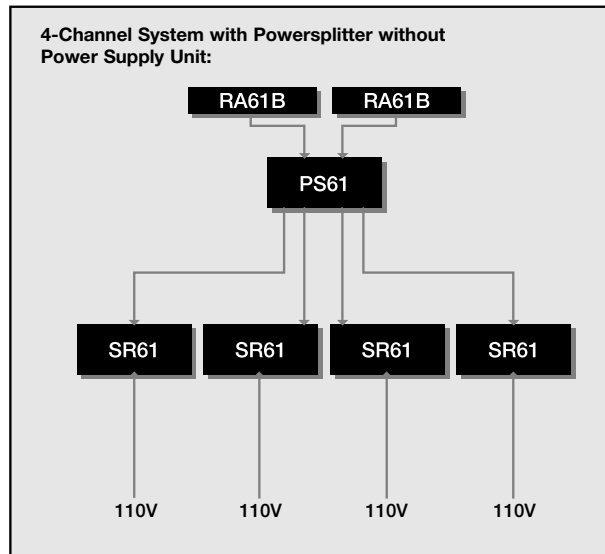
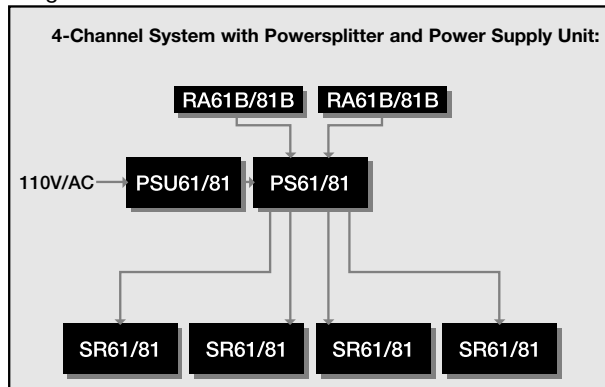
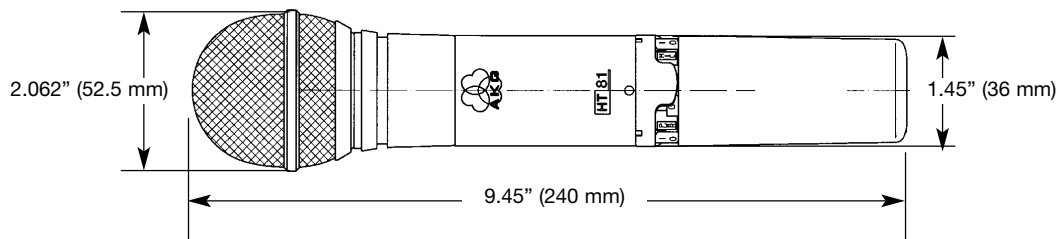
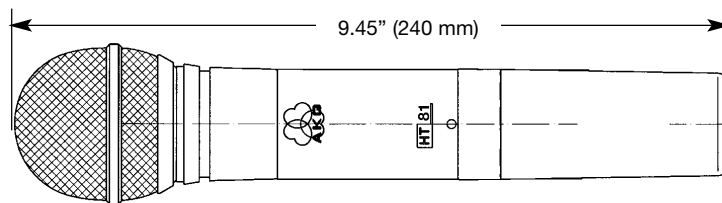
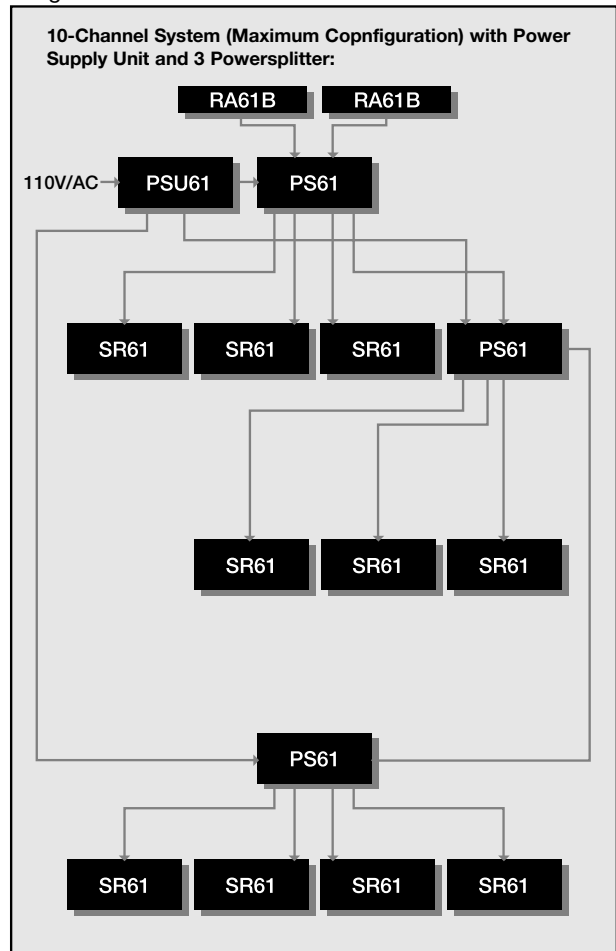
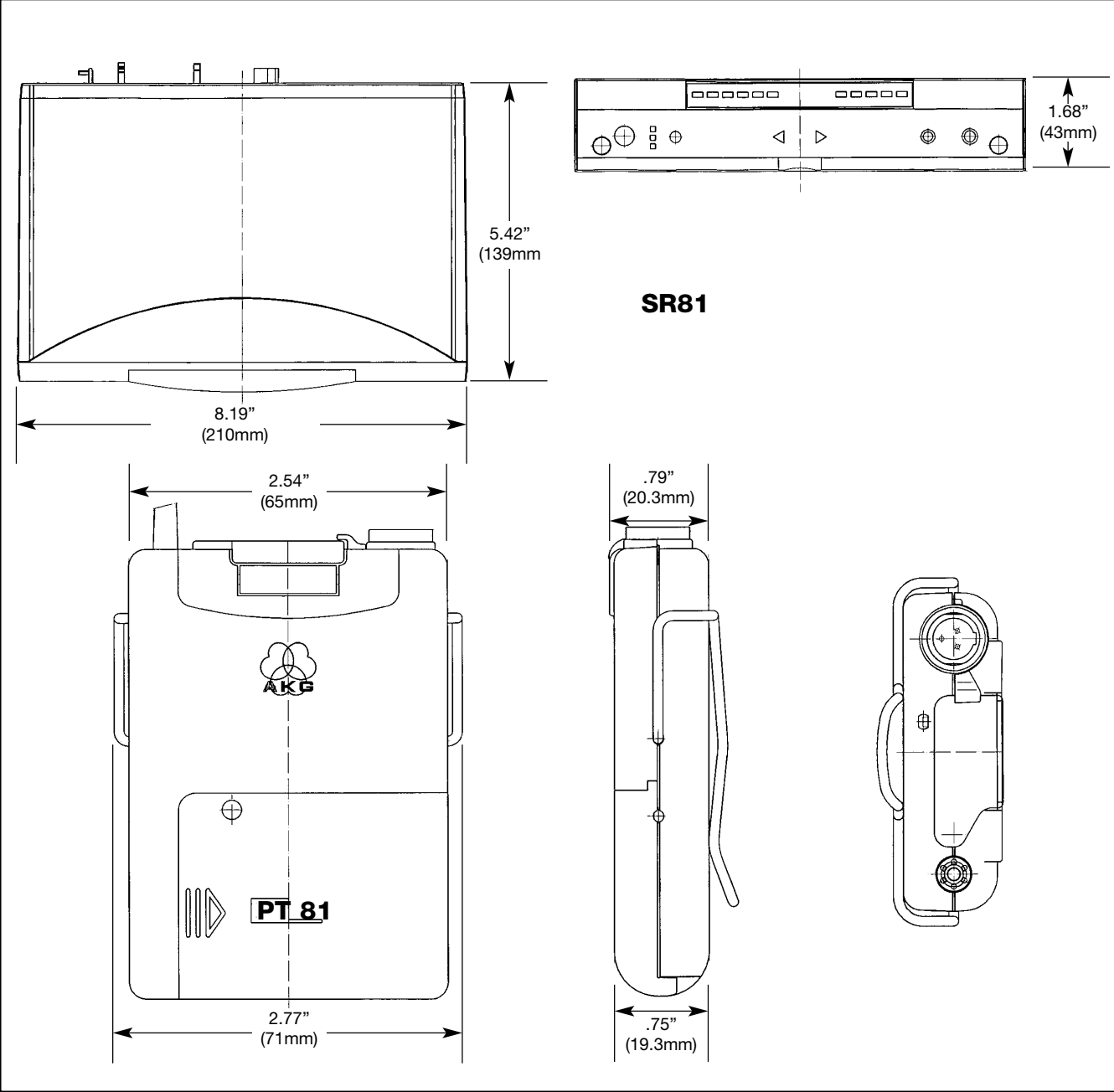


Figure 5



HT81 with D880 Head

Graphical Data



AKG is constantly improving and modifying its products, therefore, specifications are subject to change without notice.

Limited Warranty

Valid only in the United States. AKG Acoustics warrants AKG products against defects in material or workmanship for a period of one year from the date of original purchase for use, and agrees to repair or, at our option, replace any defective unit without charge for either parts or labor. Important: This warranty does not cover damage resulting from accident, misuse or abuse, lack of reasonable care, the affixing of any attachment not provided with the product, loss of parts or connecting the product to any but the specified receptacles. This warranty is void unless service or repairs are performed by an authorized service center. No responsibility is assumed for any special, incidental

or consequential damages. However, the limitation of any right or remedy shall not be effective where such is prohibited or restricted by law. Simply take or ship your AKG product prepaid to our service department. Be sure to include your sales slip as proof of purchase date. (We will not repair transit damage under the no-charge terms of this warranty.) Note: No other warranty, written or oral is authorized by AKG Acoustics, Inc. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow the exclusion or limitation of incidental or consequential damages or limitation on how long an implied warranty lasts, so the above exclusions and limitation may not apply to you.

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