

# PSM<sup>®</sup>900 Personal Monitor System

The PSM 900 Wireless Personal Monitor System from Shure offers an unprecedented combination of superb audio quality, robust RF performance, and category-leading features for the most demanding professional applications. All new, patent-pending CueMode allows the sound engineer to monitor different stage mixes with the touch of a button. Precision front-end RF filtering significantly reduces dropouts from RF interference, and the enhanced digital stereo encoder provides excellent stereo separation and audio clarity.



APPLICATIONS
Touring Sound
House Of Worship
Broadcast
Theater

PRODUCT HIGHLIGHTS
Superb Audio Quality
Robust RF Performance
Category-leading features: CueMode (patent pending), Scan and Sync, Active RF Gain Control

# System Specifications

RF Carrier Range	470–952 MHz (regionally dependent)
Compatible Frequencies	20 per band
Tuning Bandwidth	36 MHz – 40 MHz (regionally dependent)
Operating Range (environment dependent)	90m (300ft)
Audio Frequency Response	35Hz – 15kHz
Stereo Separation	60 dB
Signal-To-Noise Ratio (A-Weighted)	90 dB (typical)
Total Harmonic Distortion (ref. ±34 kHz deviation @1 kHz)	<0.8% (typical)
Comping	Patented Shure Audio Reference Comping
Spurious Rejection (ref. 12 dB SINAD)	>80 dB (typical)
Frequency Stability	±2.5 ppm
MPX Pilot Tone	19 kHz (±0.3 kHz)
Modulation	FM, MPX Stereo (±34 kHz deviation, nominal)
Operating Temperature	-18°C – +57°C

## Frequency Range

Band	Range	RF Output Power***
G6	470-506 MHz	10 / 50 / 100 mW
G6E	470-506 MHz	10 / 50 mW
G7	506-542 MHz	10 / 50 / 100 mW
G7E	506-542 MHz	10 / 50 mW
K1	596-632 MHz	10 / 50 / 100 mW
K1E	596-632 MHz	10 / 50 mW
L6	656-692 MHz	10 / 50 / 100 mW
L6E	656-692 MHz	10 / 50 mW
P7	702-742 MHz	10 / 50 mW
Q15	750-790 MHz	10 / 50 mW
R20	794-806 MHz	10 mW
R21	794-806 MHz	10 / 50 mW
R22	790-830 MHz	10 / 50 mW
A24	779-806 MHz	10 mW
X2	925-932 MHz	10 mW
X1	944-952 MHz	10 / 50 / 100 mW

\*\*\*Regionally Dependent

## Furnished Accessories

<i>P9R Antenna</i>	
UA700	470–542 MHz
UA720	596–692 MHz
UA730	692–830 MHz
UA740	830–952 MHz
<i>P9T Antenna</i>	
UA820G	470–530 MHz
UA820G7	500–560 MHz
UA820H4	518–578 MHz
UA820J	578–638 MHz
UA820L3	638–698 MHz
UA820B	690–746MHz
UA820Q	740–814 MHz
UA820X	900–952 MHz
95A9023	Front Mount Antenna Cable
95A2313	Zipper Bag

53A8612	Rackmount Bracket, Long
53A8611	Rackmount Bracket, Short
53B8443	Link Bar
90AR8100	Hardware Kit (Rackmounting Screws)
90B8977	Bumper Kit
<i>Energy Efficient Switching Power Supply</i>	
PS41US	USA
PS41BR	Brazil
PS41AR	Argentina
PS41E	Europe
PS41UK	United Kingdom
PS41AZ	Australia/New Zealand
PS41CHN	China
PS41TW	Taiwan
PS41J	Japan

## Antennas, Combiners and Accessories

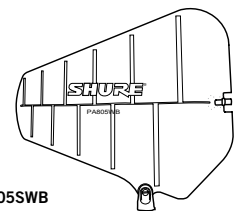
PA821SWB	8-to-1 antenna combiner for better RF performance
PA421SWB	4-to-1 antenna combiner with power distribution to 4 transmitters (better RF performance and eliminates need for external power supply)
PA805SWB	Passive Directional Antenna
HA-8089	Helical Antenna (470-900 MHz)
HA-8241	Helical Antenna (944-952 MHz)
PA860SWB	Passive Omnidirectional Antenna
P4M	4-Channel Personal Monitor Mixer
UA802	Coaxial Cable, BNC-BNC, RG58C/U type, 50 Ohm, 2 ft length (0.6 m)
UA806	Coaxial Cable, BNC-BNC, RG58C/U type, 50 Ohm, 6 ft length (2 m)
UA825	Coaxial Cable, BNC-BNC, RG8X/U type, 50 Ohm, 25 ft length (7.5 m)
UA850	Coaxial Cable, BNC-BNC, RG8X/U type, 50 Ohm, 50 ft length (15 m)
UA8100	Coaxial Cable, BNC-BNC, RG8X/U type, 50 Ohm, 100 ft length (30 m)

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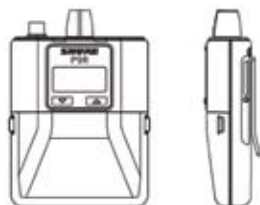
**P4M**  
4-Channel Personal Monitor Mixer



**PA805SWB**  
Unidirectional Antenna

# Component Specifications

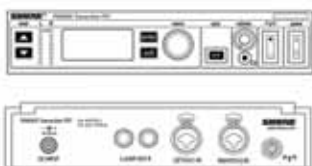
## P9R Wireless Bodypack Receiver



The P9R is a compact, stereo bodypack receiver for use with the PSM 900 Wireless Personal Monitor System. It offers premium features like RF Scan and Automatic Gain Control for unparalleled RF stability and channel availability, all packed in the thinnest form factor available. Patent-pending CueMode allows monitoring of different stage mixes and storing of up to 20 separate channels from one bodypack for quick and easy reference.

Front-End RF Filtering	-3 dB point 30.5 MHz from center frequency
Active RF Gain Control	31 dB (adjusts RF sensitivity to provide more RF dynamic range)
RF Sensitivity (20 dB SINAD)	2.2 $\mu$ V
Squelch Threshold ( $\pm$ 3 dB SINAD)	22 dB SINAD
Adjacent Channel Rejection	>70 dB
Intermodulation Attenuation	>70 dB
Blocking	>80 dB
Image Rejection	>100 dB
Audio Output Power (1kHz @ <1% distortion, peak power, @32 $\Omega$ )	100 mW
Minimum Load Impedance	9.5 $\Omega$
High Boost	Selectable: +2 dB, +4 dB @ 10 kHz
Volume Limiter	Selectable: 3-9 (Reduces maximum output level. Selected value corresponds to volume knob increment)
Battery Life	5-7 hours (continuous use)
Net Weight	200 g with batteries
Dimensions	83mm x 65mm x 22mm

## P9T Wireless Transmitter



The P9T is a half-rack wireless transmitter used in conjunction with the P9R Bodypack receiver as part of the PSM 900 Wireless Personal Monitor System. It offers state-of-art technology including CueMode (patent pending), RF Sync, and RF mute switch for easy setup and operation. Connections include balanced 1/4" and XLR, loop out, and headphone out. Includes rack-mounting kit, front or back mountable antennas, and power supply.

RF Output Power	selectable: 10, 50, 100 mW (regionally dependent)
RF Output Impedance	50 $\Omega$ (typical)
Net Weight	850 g
Dimensions	197 mm x 166 mm x 42 mm
Power Requirement (RF on, 100 mW power mode, no audio)	15 Vdc at 550 mA, supplied by external power supply
<b>Audio Input</b>	
Connector Type	Combination XLR and 6.35 mm (1/4") TRS
Polarity	XLR: Non-inverting (pin 2 positive with respect to pin 3) 6.35 mm (1/4") TRS: Tip positive with respect to ring
Configuration	Electronically balanced
Impedance	70.2 k $\Omega$ (actual)
Nominal Input Level	switchable: +4 dBu, -10 dBV
Maximum Input Level	+4 dBu: +23.3 dBu -10 dBV: +12.5 dBu
Pin Assignments	XLR: 1=ground, 2=hot, 3=cold 6.35 mm (1/4") TRS: Tip=hot, Ring=cold, Sleeve=ground
Phantom Power Protection	up to 60 V DC
<b>Audio Output</b>	
Connector Type	6.35 mm (1/4") TRS
Configuration	Electronically balanced
Impedance	Connected directly to inputs

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