



Personal Monitor Wireless System

Guide de l'utilisation du système de retour personnel

Personal Monitor System Bedienungsanleitung

Guía del usuario del sistema de monitoreo personal

Guida all'uso del sistema di monitoraggio personale

Manual do Usuário do Sistema de Monitoração Pessoal

Система личного монитора беспроводная





WARNING!

LISTENING TO AUDIO AT EXCESSIVE VOLUMES CAN CAUSE PERMANENT HEARING DAMAGE.

USE AS LOW A VOLUME AS POSSIBLE.

Over exposure to excessive sound levels can damage your ears resulting in permanent noise-induced hearing loss (NIHL). Please use the following guidelines established by the Occupational Safety Health Administration (OSHA) on maximum time exposure to sound pressure levels before hearing damage occurs.

90 dB SPL at 8 hours	95 dB SPL at 4 hours	100 dB SPL at 2 hours	105 dB SPL at 1 hour
110 dB SPL at ½ hour	115 dB SPL at 15 minutes	120 dB SPL Avoid or damage may occur	

SAFETY PRECAUTIONS

The possible results of incorrect use are marked by one of the two symbols - "WARNING" AND "CAUTION" - depending on the imminence of the danger and the severity of the damage.



WARNING: Ignoring these warnings may cause severe injury or death as a result of incorrect operation.



CAUTION: Ignoring these cautions may cause moderate injury or property damage as a result of incorrect operation.



WARNING

- If water or other foreign objects enter the inside of the device, fire or electric shock may result.
- Do not attempt to modify this product. Doing so could result in personal injury and/or product failure.

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm



CAUTION

- Never disassemble or modify the device, as failures may result.
- Do not subject to extreme force and do not pull on the cable or failures may result.
- Keep the microphone dry and avoid exposure to extreme temperatures and humidity.



ADVERTENCIA

EL ESCUCHAR REPRODUCCIONES DE AUDIO A NIVELES EXCESIVOS DE VOLUMEN PUEDE CAUSAR DAÑOS PERMANENTES AL OIDO. USE EL VOLUMEN MAS BAJO POSIBLE.

La exposición prolongada a niveles sonoros excesivamente intensos puede dañar los oídos y causar una pérdida permanente del oído causada por ruidos. Respete los lineamientos dados a continuación, los cuales fueron establecidos por la Administración de Salud y Seguridad Ocupacional (OSHA) de los EE.UU. e indican el tiempo máximo que puede escucharse un nivel determinado de presión sonora (SPL) antes de producirse daños al oído.

90 dB SPL por 8 horas	95 dB SPL por 4 horas	100 dB SPL por 2 horas	105 dB SPL por 1 hora
110 dB SPL por 1/2 hora	115 dB SPL por 15 minutos	120 dB SPL Evítese por completo, puesto que puede causar daños inmediatos	

PRECAUCIONES DE SEGURIDAD

Los posibles resultados del uso incorrecto de este producto se denotan por medio de uno de dos símbolos - "ADVERTENCIA" y "PRECAUCION" - según la inminencia del peligro y el grado de severidad de los daños.



ADVERTENCIA: Si se pasan por alto estas advertencias se podría causar lesiones graves o mortales como resultado del uso incorrecto.



PRECAUCION: Si se pasan por alto estas precauciones se podría causar lesiones moderadas y daños a la propiedad como resultado del uso incorrecto.



ADVERTENCIA

- Si el agua u otros objetos extraños penetran el dispositivo, se podría causar un incendio o sacudidas eléctricas.
- No intente modificar este producto. Hacerlo podría causar lesiones personales y/o la falla del producto.



PRECAUCION

- Nunca desarme ni modifique el dispositivo, ya que esto podría causar fallas.
- No someta el aparato a fuerzas extremas ni tire de su cable, ya que esto podría causar fallas.
- Mantenga el micrófono seco y evite exponer el aparato a niveles extremos de temperatura y humedad.



ACHTUNG!

MÖGLICHST GERINGE LAUTSTÄRKEPEGEL VERWENDEN.

Längerfristiges Hören bei übermäßigen Schallpegeln kann zu Hörschäden und zu permanentem, durch Lärm verursachten Gehörverlust führen. Bitte orientieren Sie sich an den folgenden von der Occupational Safety Health Administration (OSHA; US-Arbeitschutzbehörde) erstellten Richtlinien für die maximale zeitliche Belastung durch Schalldruckpegel, bevor es zu Hörschäden kommt.

bei 90 dB Schalldruckpegel max. 8 Stunden	bei 95 dB Schalldruckpegel max. 4 Stunden	bei 100 dB Schalldruckpegel max. 2 Stunden	bei 105 dB Schalldruckpegel max. 1 Stunde
bei 110 dB Schalldruckpegel max. ½ Stunde	bei 115 dB Schalldruckpegel max. 15 Minuten	120 dB Schalldruckpegel vermeiden; ansonsten können Schäden auftreten	

SICHERHEITSVORKEHRUNGEN

Die möglichen Folgen des fehlerhaften Gebrauchs, die durch eines der beiden Symbole - „ACHTUNG“ und „VORSICHT“ - markiert sind, hängen von der Unmittelbarkeit der bevorstehenden Gefahr und des Schweregrads der Beschädigung ab.



ACHTUNG: Die Nichtbeachtung dieser Warnhinweise kann schwere oder tödliche Verletzungen infolge des fehlerhaften Gebrauchs verursachen.



VORSICHT: Die Nichtbeachtung dieser Vorsichtshinweise kann mittel-schwere Verletzungen oder Sachschäden infolge des fehlerhaften Gebrauchs verursachen.



ACHTUNG

- Falls Wasser oder andere Fremdstoffe/-körper in das Gerät gelangen, kann es zu Bränden oder Stromschlägen kommen.
- Nicht versuchen, dieses Produkt zu modifizieren. Ansonsten könnte es zu Verletzungen und/oder zum Produktausfall kommen.



VORSICHT

- Das Gerät nie auseinanderbauen oder modifizieren, da dies zu Ausfällen führen kann.
- Keinen extremen Kräften aussetzen und nicht am Kabel ziehen, da dies zu Ausfällen führen kann.
- Das Mikrophon trocken halten und keinen extremen Temperaturen oder extremer Luftfeuchtigkeit aussetzen.



AVERTISSEMENT !

L'ÉCOUTE AUDIO À UN VOLUME SONORE EXCESSIF PEUT CAUSER DES LÉSIONS AUDITIVES PERMANENTES. RÉGLER LE VOLUME LE PLUS BAS POSSIBLE.

Une surexposition à des volumes sonores excessifs peut causer des lésions aux oreilles entraînant une perte auditive permanente due au bruit. Se conformer aux directives ci-dessous, établies par l'Occupational Safety Health Administration (OSHA) pour les limites de durée d'exposition aux pressions acoustiques (SPL) avant de risquer des lésions auditives.

SPL de 90 dB pendant 8 heures	SPL de 95 dB pendant 4 heures	SPL de 100 dB pendant 2 heures	SPL de 105 dB pendant 1 heure
SPL de 110 dB pen- dant 1/2 heure	SPL de 115 dB pendant 15 minutes	SPL de 120 dB À éviter : risque de lésions auditives	

PRÉCAUTIONS DE SÉCURITÉ

Les résultats possibles d'une utilisation incorrecte sont signalés par l'un des deux symboles - AVERTISSEMENT et ATTENTION - selon l'imminence du danger et la sévérité des dommages.



AVERTISSEMENT : L'ignorance de ces avertissements peut causer des blessures graves ou la mort suite à une utilisation incorrecte.



ATTENTION: L'ignorance de ces mises en garde peut causer des blessures modérées ou des dégâts matériels suite à une utilisation incorrecte.



AVERTISSEMENT

- Si de l'eau ou autres matériaux étrangers pénètrent dans l'appareil, il y a risque d'incendie ou de choc électrique.
- Ne pas essayer de modifier ce produit. Une telle opération est susceptible d'entraîner des blessures ou la défaillance du produit.



ATTENTION

- Ne jamais désassembler ou modifier cet appareil sous peine de provoquer des défaillances.
- Ne pas soumettre le câble à des forces extrêmes et ne pas tirer dessus sous peine de provoquer des défaillances.
- Maintenir le microphone sec et éviter de l'exposer à des températures extrêmes et à l'humidité.

⚠ AVVERTENZA

L'ASCOLTO A VOLUME ECCESSIVAMENTE ELEVATO PUÒ DANNEGGIARE L'UDITO IN MODO PERMANENTE. MANTENETE IL VOLUME AL PIÙ BASSO LIVELLO POSSIBILE.

La sovraesposizione a livelli sonori eccessivi può danneggiare l'udito provocando una perdita di udito permanente causata dal rumore. Si consiglia di attenersi alle seguenti direttive stabilite dalla **OSHA** (Occupational Safety Health Administration) sul tempo massimo di esposizione a vari livelli di pressione sonora (SPL), oltre il quale si rischia di causare lesioni all'apparato uditivo.

90 dB di SPL per 8 ore	95 dB di SPL per 4 ore	100 dB SPL per 2 ore	105 dB di SPL per 1 ora
110 dB di SPL per mezz'ora	115 dB di SPL per 15 minuti	120 dB di SPL Evitate l'esposizione per non rischiare di danneggiare l'udito	

PRECAUZIONI DI SICUREZZA

I possibili effetti di un uso errato sono contrassegnati da uno dei due simboli - "AVVERTIMENTO" E "ATTENZIONE" — a seconda dell'incombenza del pericolo e della gravità del danno.

⚠ **AVVERTIMENTO:** come conseguenza di un funzionamento errato, ignorare questi messaggi può comportare lesioni personali gravi o mortali.

⚠ **ATTENZIONE:** come conseguenza di un funzionamento errato, ignorare questi messaggi può comportare lesioni personali di media gravità o danni alla cose.

⚠ AVVERTIMENTO:

- L'eventuale introduzione di acqua o di altri corpi estranei nel dispositivo può dare luogo allo sviluppo di incendi o a folgorazione.
- Non tentate di modificare il prodotto. Tale operazione può causare infortuni e/o il guasto del prodotto stesso.

⚠ ATTENZIONE

- Per evitare di provocare possibili danni, non smontate né modificate il dispositivo.
- Per evitare di provocare possibili danni, non applicate una forza estrema sul cavo e non tiratelo.
- Mantenete il prodotto asciutto e non esponetelo a temperature estreme ed all'umidità.

⚠ ATENÇÃO!

OUVIR O SOM COM VOLUME MUITO ALTO PODE CAUSAR DANOS PERMANENTES À AUDIÇÃO. USE O VOLUME MAIS BAIXO POSSÍVEL.

A exposição a sons excessivamente altos pode danificar os ouvidos e resultar em perda permanente da audição devido ao ruído. Siga as recomendações estipuladas pela Administração de Saúde e Segurança do Trabalho dos E.U.A. (U.S. Occupational Safety Health Administration-**OSHA**) sobre o máximo tempo de exposição a determinados níveis de pressão sonora (SPL) a fim de evitar danos à audição.

90 dB SPL por 8 horas	95 dB SPL por 4 horas	100 dB SPL por 2 horas	105 dB SPL por 1 hora
110 dB SPL por ½ hora	115 dB SPL por 15 minutos	120 dB SPL Evite ou poderá ocorrer dano	

MEDIDAS DE SEGURANÇA

Os possíveis resultados do uso incorreto são marcados por um de dois símbolos - "ATENÇÃO" e "CUIDADO" - dependendo da iminência do perigo e da severidade do dano.

⚠ **ATENÇÃO:** Não seguir esses avisos de atenção pode causar lesão grave ou morte em consequência da operação incorreta.

⚠ **CUIDADO:** Não seguir esses avisos de cuidado pode causar lesão moderada ou danos à propriedade em consequência da operação incorreta.

⚠ ATENÇÃO

- Incêndio ou choque elétrico pode ocorrer caso água ou objetos estranhos entrem no dispositivo
- Não tente modificar este produto, pois pode resultar em lesão pessoal e/ou falha do produto.

⚠ CUIDADO

- Não desmonte ou modifique o dispositivo uma vez que pode resultar em falhas.
- Não sujeite à força demasiada e não puxe o cabo pois pode resultar em falhas.
- Mantenha o microfone seco e evite expor a temperaturas extremas e umidade.

⚠ ВНИМАНИЕ:

ПРОСЛУШИВАНИЕ ЗВУКА ПРИ ЧРЕЗМЕРНО ВЫСОКОЙ ГРОМКОСТИ МОЖЕТ ПРИВЕСТИ К НЕОБРАТИМОМУ ПОВРЕЖДЕНИЮ СЛУХА. ИСПОЛЬЗУЙТЕ КАК МОЖНО БОЛЕЕ НИЗКУЮ ГРОМКОСТЬ.

Длительное воздействие звука чрезмерно высокого уровня может причинить вам вред, вызвав необратимую потерю слуха из-за шума. Во избежание потери слуха руководствуйтесь следующими правилами, установленными Управлением охраны труда (**OSHA**) в отношении максимального времени воздействия различных уровней звукового давления (УЗД).

УЗД 90 дБ 8 часов	УЗД 95 дБ 4 часа	УЗД 100 дБ 2 часа	УЗД 105 дБ 1 час
УЗД 110 дБ 1/2 часа	УЗД 115 дБ 15 минут	УЗД 120 дБ Недопустимо — ведет к повреждению слуха	

УКАЗАНИЯ ПО ТЕХНИКЕ БЕЗОПАСНОСТИ

Возможные результаты неправильного использования отмечены одним из двух знаков - «ВНИМАНИЕ» и «ОСТОРОЖНО» - в зависимости от неизбежности опасности и серьезности повреждений.



ВНИМАНИЕ: Игнорирование этих предупреждений может привести к серьезной травме или смерти в результате неправильной эксплуатации.



ОСТОРОЖНО: Игнорирование этих предупреждений может привести к незначительной травме или повреждению имущества в результате неправильной эксплуатации.



ВНИМАНИЕ

- Если в устройство попадет вода или иные посторонние предметы, это может привести к возгоранию или поражению электрическим током.
- Не пытайтесь модифицировать это изделие. Это может привести к личной травме и (или) поломке изделия.



ОСТОРОЖНО

- Ни в коем случае не разбирайте и не модифицируйте это устройство, поскольку это может привести к поломке.
- Не подвергайте сильным нагрузкам и не тяните за кабель - это может привести к поломке.
- Содержите микрофон сухим и не подвергайте его воздействию очень высоких или низких температур и влажности.

PSM900

The PSM 900 Wireless Personal Monitor System from Shure offers an unprecedented combination of superb audio quality, robust RF performance, and category-leading setup 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.

Features

Superb audio quality

- Digital stereo encoder provides a wider stereo field with exceptional separation, enhancing audio detail and clarity
- Patented Audio Reference Companding sounds more like wired
- Available with Shure SE425 Sound Isolating™ Earphones featuring dual high-definition MicroDrivers for accurate and balanced audio response

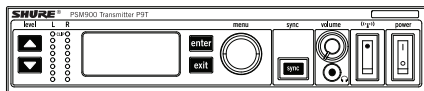
Robust RF Performance

- Precision front-end RF filtering for a cleaner, stronger RF signal and fewer dropouts and audible artifacts.
- Exceptional transmitter linearity vastly reduces frequency intermodulation, allowing more channels per frequency band.
- Automatic RF gain control prevents signal distortion due to RF overload.

Advanced Setup and Operation

- Patent-pending CueMode allows monitoring of the stage mixes of up to 20 separate transmitters from one bodypack.
- Front panel RF mute switch for disabling RF transmission during setup
- Scan and Sync setup identifies the best group and channel for your system and assigns it over a wireless IR link
- MixMode® Technology allows the bodypack user to adjust their own onstage monitor mix
- High-frequency EQ boost on bodypack

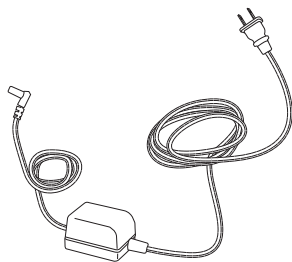
Components



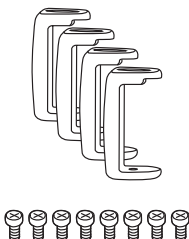
- **P9T:** Rack Unit Transmitter



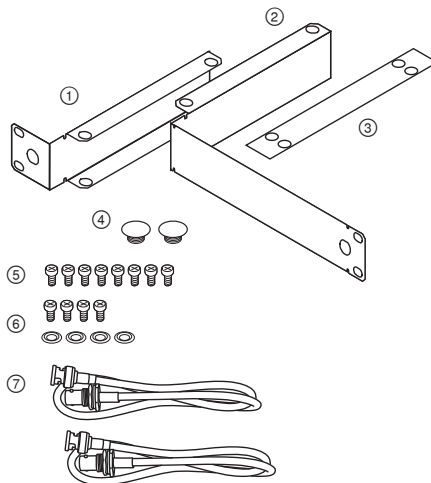
- **P9RA:** Bodypack Receiver



- **PS41:** Power supply



- Protective bumpers with 8 screws



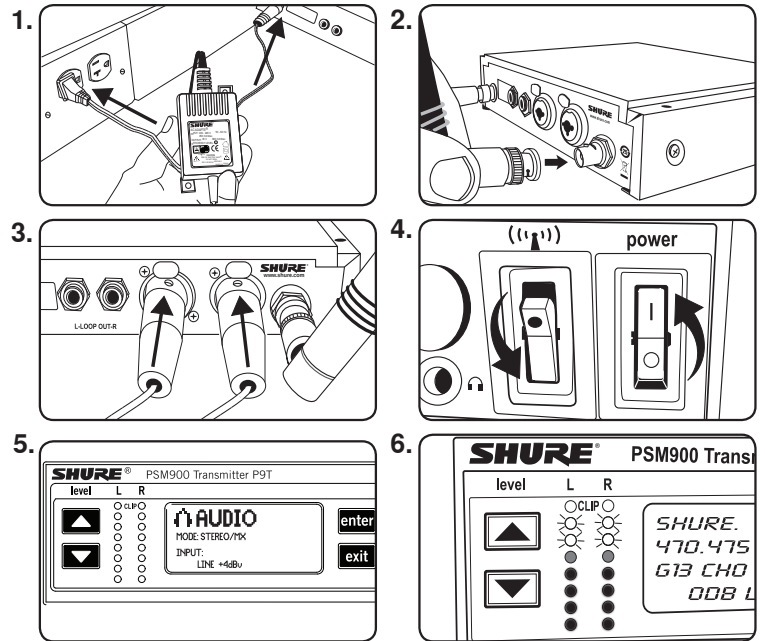
Rackmount supplies

- ① Short rack ear
- ② Long rack ear
- ③ Link bar to mount to similar rack unit
- ④ 2 antenna hole plugs
- ⑤ 8 rack ear screws
- ⑥ 4 rack mount screws with washers
- ⑦ Extension cables and connectors for front-mounting antennas

Quickstart Instructions

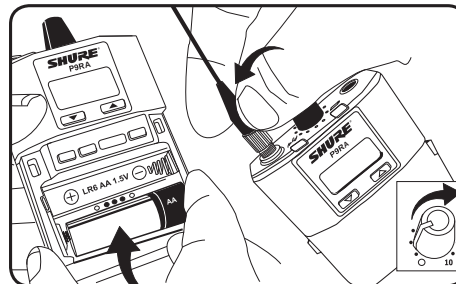
Rack Mount Transmitter

1. Connect to a power outlet using the supplied power cable.
2. Attach the supplied antennas to the **antenna out** BNC connectors.
3. Connect the audio source, such as the output of a mixer, to the audio inputs. You can use both input jacks or choose either one for a mono source.
4. Switch RF off and power on.
5. For mono (one input), access the **Audio** menu and select **Mono**. Set the input sensitivity to match the source using the **Util > Audio > INPUT** setting.
6. Adjust the audio source level so that, for the average input signal level, the top two yellow LEDs flicker and the lower LEDs are solid. If the red clip LED illuminates and a warning appears on the LCD, the inputs are overdriven. Decrease the audio input level to **+4 dBu** from the **Audio** menu. If the signal level is too low, change the input sensitivity to **-10 dBV**.



Bodypack

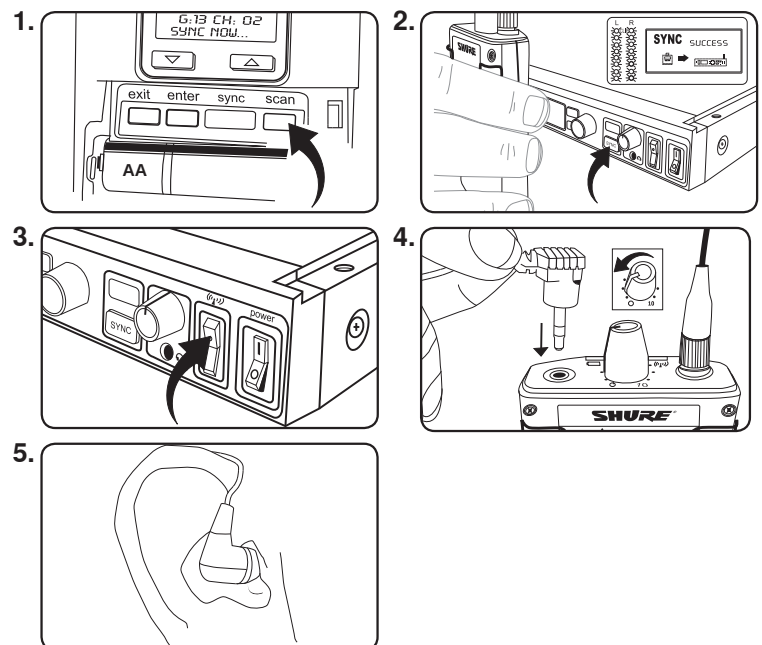
Open by pressing the latches on both sides and pulling. Insert the batteries or battery pack and attach antennas. Turn on using the volume knob. The battery light illuminates.



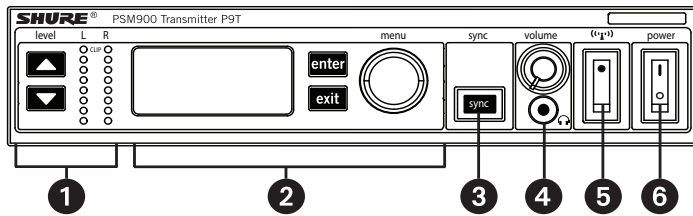
Scan and Sync

1. On the bodypack, press the **scan** button. The display flashes **SYNC NOW...**
2. Align the IR windows on the bodypack and rack unit, the IR window on the transmitter illuminates. Press the **sync** button on the transmitter. The rack unit **Level1** LEDs flash, and the screen displays **SYNC SUCCESS**.
3. Turn the RF switch on. The blue RF LED illuminates on the bodypack to indicate that it is detecting the transmitter. The bodypack also displays the RF signal strength (RF).
4. **Important:** Turn bodypack volume down before plugging in earphones.
5. Insert the earphones and slowly turn up the volume.

Important: Remove the protective film from the face of the transmitter or the IR sync may not work.



Rack Unit Transmitter

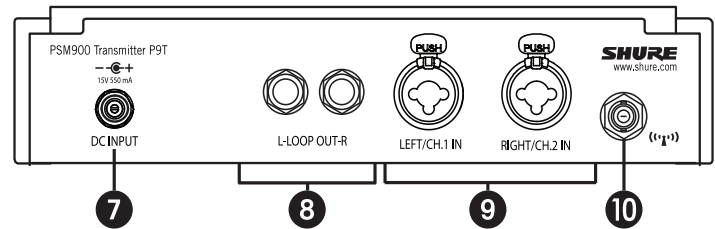


Front Panel Controls

- ① **Input Level Control and Display**
Use the ▲ ▼ buttons to adjust the audio so that, for the average input signal level, the top two yellow LEDs flicker and the lower LEDs are solid. The red **clip** LED indicates the inputs are overdriven. Reduce the level at the audio source or change the input sensitivity of the rack unit from the **AUDIO > INPUT** menu.
- ② **Status Display and Menu Controls**
Use the **enter** and **exit** buttons and the menu wheel to access the configuration menu. Push the menu wheel to move the cursor to the next item. Turn the menu wheel to change a parameter—the **enter** button flashes. Press it to save the value. Press the **exit** button to cancel changes and return to the previous menu.
- ③ **Synchronization Button**
Press the **sync** button while rack unit and bodypack IR windows are aligned to transfer settings.
- ④ **Headphone Monitoring**
The **volume** control adjusts signal output to the 3.5 mm headphone jack. NOTE: it does not affect rear panel outputs.
- ⑤ **RF switch**
Mutes RF output. For setting up multiple systems or adjusting settings without transmitting unwanted RF or audio signals.
- ⑥ **Power Button**
Turns the unit on and off.

Configuration Menu

Note: Configuration menu items may vary with regional model variations.



Rear Panel Connectors

- ⑦ **Power**
Connect the transmitter to a power outlet using the supplied power adapter.
- ⑧ **LOOP OUT**
Sends a copy of the audio signal going into the transmitter to another device. See LOOP Applications.
- ⑨ **Audio Inputs**
Connect to balanced or unbalanced outputs. Use either connector for mono input. Accepts both 1/4-inch or male XLR connectors.
- ⑩ **Antenna (BNC)**
Attach supplied antenna. If you are rack mounting, use a front panel or remote mounting kit from Shure.

RF Settings

RADIO

- G**
Sets the group number
- CH**
Sets the channel number
- 888.888MHz**
Manual frequency selection
- RF POWER**
Select from 10, 50, or 100 mW (varies by region)

Audio Settings

AUDIO > MODE

Selects monitor mode

- STEREO/MX**
Transmits both channels
- MONO**
Transmits a mono signal to bodypack

AUDIO > INPUT

Sets nominal input level

- LINE +4 dBu**
line level
- AUX -10dBV**
aux level

Utilities and Display Settings

UTILITIES

- EDIT NAME**
Changes the name on the LCD display (this name is uploaded to the bodypack with sync)
- DISPLAY**
Changes the display format
- CONTRAST**
Changes the display contrast
- CUSTOM GROUP**
For creating custom frequency groups

UTILITIES > LOCK PANEL

Locks front panel controls. To unlock, press exit, select OFF, and press enter.

- MENU+LEVEL**
Locks menu and level controls.
- MENU ONLY**
Locks only the configuration menu (menu controls).
- MENU+SWITCH**
Locks all controls except for the level buttons (including the RF and power switches).*
- ALL**
Locks all controls (including the RF and power switches).*

*RF is automatically activated when locked. When you unlock the unit, RF and power turns off if the switches are off.

UTILITIES > RX SETUP

These settings are sent to the bodypack during a sync (when the sync direction is from the transmitter). The default KEEP parameter will not change the bodypack settings.

- LOCK**
Lock bodypack
- V LIMIT**
Volume limiter
- LIM VAL**
Volume limiter value
- MODE**
Stereo (ST) or MixMode (MX)
- BAL MX**
CH. 1 (L) and CH. 2 (R) mix for MixMode
- BAL ST**
Left (L) and right (R) balance for stereo mode
- HIBOOST**
high frequency boost

UTILITIES > RESET SYSTEM

Returns all settings to the factory defaults

- NO**
Exit and do not reset system.
- YES**
Reset system settings.

Bodypack Receiver

① Power Switch and Volume Control

Turns the bodypack on and off and adjusts earphone volume.

② 3.5 mm Earphone Jack

Insert earphones here.

③ Scan Button

Press the scan button to find an available frequency. Press and hold for two seconds to find the group with the most available channels.

④ IR Window

For transmitting settings between bodypack and rack unit.

⑤ Battery Compartment

Requires 2 AA batteries or Shure rechargeable battery. Open by pressing the latches on both sides and pulling.

⑥ Menu buttons

Use in conjunction with the ▼▲ buttons to access the configuration menus.

⑦ ▼▲ Buttons

Use to adjust the audio mix (in MixMode only), or in conjunction with the menu buttons to change settings.

⑧ LCD Screen

Displays current settings and menus.

⑨ Tri-Color Battery LED

Illuminates green, amber, or red to indicate battery power. When red, change battery immediately.

⑩ Blue RF LED

Indicates the bodypack is receiving a signal from the transmitter.

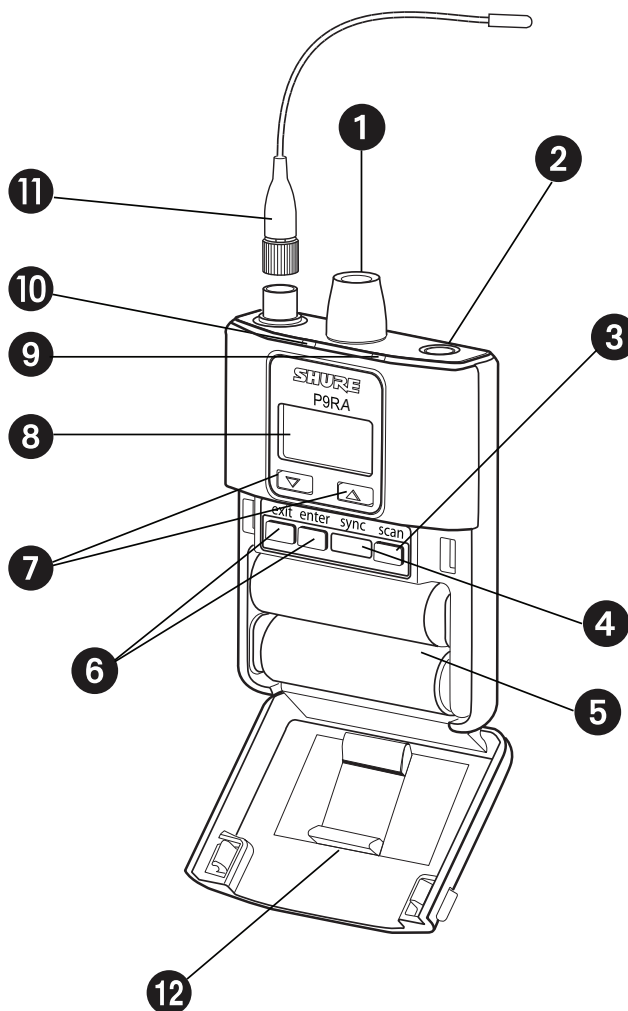
⑪ SMA Connector

For detachable antennas.

⑫ Removable AA Adapter

Remove to use with a Shure SB900 rechargeable battery.

Note: To remove adapter, open door and slide out. To reinstall adapter, place over the clip and press, there will be an audible click when seated.



Battery Life

Battery Indicator	Tri-Color Battery LED	Approximate Hours Remaining (h:mm)					
		Alkaline			Shure SB900 Rechargeable Battery		
		Volume Level			Volume Level		
		4	6	8	4	6	8
	Green	6:00 to 3:50	4:20 to 2:45	3:15 to 2:05	8:45 to 4:00	7:15 to 4:00	6:25 to 4:00
	Green	3:50 to 2:50	2:45 to 2:00	2:05 to 1:30	4:00 to 3:00	4:00 to 3:00	4:00 to 3:00
	Green	2:50 to 1:15	2:00 to 1:00	1:30 to 0:50	3:00 to 2:00	3:00 to 2:00	3:00 to 2:00
	Green	1:15 to 0:25	1:00 to 0:20	0:50 to 0:20	2:00 to 1:00	2:00 to 1:00	2:00 to 1:00
	Amber	0:25 to 0:15	0:20 to 0:10	0:20 to 0:10	1:00 to 0:30	1:00 to 0:30	1:00 to 0:30
	Red	< 0:15	< 0:10	< 0:10	< 0:30	< 0:30	< 0:30
Total Battery Life		6:00	4:20	3:15	8:45	7:15	6:25

Note: Battery life using Energizer brand AA Alkaline batteries and the following conditions:

- Receiver audio set to **HIBOOST = OFF** and **V LIMIT = OFF**
- Transmitter audio **INPUT** set to **Line+4 dBu** and **Level1** set to **-9 dB**
- Audio input to the transmitter: pink noise at **+8.7 dBV**
- Audio output at receiver: **115 dB SPL** in ear with **SE425** earphones (impedance at **22 Ω**) set at volume level **4**.

Note: Using lower-impedance earphones or ones with different sensitivity, different battery types, and higher gain settings in the PSM system may cause the receiver battery life to be different than specified.

Pink noise is a signal with a frequency spectrum such that the power spectral density is inversely proportional to the frequency. In pink noise, each octave carries an equal amount of noise power.

Configuration Menu



Audio Settings

Access the following audio settings from the **Audio** menu.

MODE

Output Mode

STEREO
Stereo

MIXMODE
MixMode

HIBOOST

High-Frequency EQ Boost

OFF
No boost (flat).

4 dB
4 dB boost at 10 kHz.

2 dB
2 dB boost at 10 kHz.

V LIMIT

Volume Limiter

V LIMIT
Turns limiter on (**ON**) or off (**OFF**) .

VALUE
3 to 9: analogous to volume knob position (for example, 5 is equal to the 5th dot on the volume knob).

BAL ST / BAL MX

Balance

▼▲ Buttons
Left and right balance for earphones when in stereo mode, or mix of left and right channel for MixMode

GAIN

Output Gain

HIGH
Increases gain by 10 dB

STANDARD(STD)
0 dB of gain.

RF Settings

Access the following RF settings from the **RADIO** menu.

RADIO

G:

Group number. Each group contains channels selected to work well together in a single installation.

CH:

Channel number. Sets the receiver to a channel in the selected group.

888.888 MHz

Displays the frequency to which the receiver is set. Highlight and use the ▼▲ buttons to set to a specific frequency.

SQUELCH

Adjusts the squelch setting.

RF PAD

Attenuates antenna signals in 3 dB increments.

Utilities and Display Settings

Access the following settings from the **UTILITIES** menu.

UTILITIES

CUEMODE

Enters **CUEMODE** (to exit, press **enter** and select **EXIT CUEMODE**)

DISPLAY

Change the display settings on the bodypack

CONTRAST

Sets display brightness to high, low, or medium.

LOCK PANEL

Locks all controls except power and volume. To unlock, press **exit**, select **OFF**, and press **enter**.

BATTERY

Displays the following: **Hrs: Min Left, temperature, Status, Cycle Count, and Health**.

RESTORE

Returns receiver to factory default settings.

Multiple System Setup

When setting up multiple systems, designate a single bodypack to scan for available frequencies and download them to all the rack units.

The bodypack must be from the same frequency band as all the transmitters.

1. Power on all the rack units. **Turn off the RF.** (This prevents them from interfering with the frequency scan.)
Note: Turn **on** all other wireless or digital devices as they would be during the performance or presentation (so the scan will detect and avoid any interference they generate).
2. Use the bodypack to **scan for a group** by pressing and holding the **scan** button for **two seconds**. The bodypack displays the group and the number of available channels, and flashes **SYNC NOW...**
Important: Note the number of available channels. If you have more rack units than available channels, eliminate potential sources of interference and try again, or call Shure Applications for assistance.
3. Sync the bodypack with the first rack unit by aligning the IR windows and pressing **sync**.
4. Press **scan** again on the bodypack to find the next available frequency.
5. Sync the bodypack with the next rack unit.
6. Repeat with all the rack units.
7. Sync each performer's bodypack to its respective rack unit by aligning the IR windows and pressing **sync**. **DO NOT** press scan on the bodypacks.
8. Turn on the RF on all rack units. The systems are ready to use.

CueMode

CueMode allows you to upload the name and frequency settings from multiple rack units and store them as a list on a single bodypack. You can then, at any time, scroll through that list to hear the audio mix from each transmitter, just as each performer does during a show.

CueMode lists are retained even if CueMode is exited, the bodypack is turned off, or batteries are removed.

Note: Set the channel frequency and assign display names for each transmitter **before** creating your CueMode list.

Adding Transmitters to the CueMode List

Note: The transmitter must be from the same frequency band as the bodypack.

1. Open the battery door and press the **enter** button.
2. From the main menu, scroll to **UTILITIES** and press **enter**. Select **CueMode** and press **enter** again.
3. Align IR windows and press **sync** on the rack unit.
The LCD displays **SYNC SUCCESS** after frequency and name data are uploaded to the CueMode list. It also displays the CueMode number for that transmitter and the total number of transmitters.
4. Repeat the above step for each transmitter.

Note: Syncing while in CueMode does not change any of the settings on the bodypack.

Auditioning Mixes

1. Enter CueMode from the **UTILITIES** menu.
2. Use the **▼▲** buttons to scroll through your CueMode list to hear the mixes.

Exiting CueMode

Exit CueMode by pressing **enter** and selecting **EXIT CUEMODE**.

Managing CueMode Mixes

While in Cue Mode, you can access the following menu by pressing **enter**:

REPLACE MIX: Select and press sync on a rack unit to upload new data for the current mix (for example, if you have changed the transmitter frequency).

DELETE MIX: Removes the selected mix.

DELETE ALL: Removes all mixes.

EXIT CUEMODE: Exits CueMode and returns the bodypack to the previous frequency setting.

Frequency Scan

Use a frequency scan to analyze the RF environment for interference and identify available frequencies.

- **Channel Scan** Press the scan button on the bodypack. Finds the first available channel.
- **Group Scan** Press and hold the scan button for two seconds. Finds the group with the greatest number of available channels. (Each group contains a set of frequencies that are compatible when operating multiple systems in the same environment.)

Note: When performing a frequency scan:

- **Turn off** the RF on the transmitters for the systems you are setting up. (This prevents them from interfering with the frequency scan.)
- **Turn on** potential sources of interference such as other wireless systems or devices, computers, CD players, large LED panels, effects processors, and digital rack equipment so they are operating as they would be during the presentation or performance (so the scan will detect and avoid any interference they generate).

Sync

You can transfer frequency settings in either direction: from the bodypack to the rack unit, or from the rack unit to the bodypack.

Note: You can also choose to transfer other settings to the bodypack during a sync, such as lock or mode settings, using the **Sync > RxSetup** menu on the rack transmitter.

Downloading settings from the bodypack

1. Press the **scan** button on the bodypack.
2. Align the IR windows and press the **sync** button from the rack transmitter LCD menu while the bodypack display is flashing "SYNC NOW...".
The level LEDs on the rack unit flash.

Sending settings to the bodypack

1. Press the **Sync** button on the rack transmitter to access the sync menu.
2. Align the IR windows.
When properly aligned the IR window on the transmitter illuminates.
3. Press **Sync** to transfer settings
The blue LED on the bodypack flashes.

MixMode

Some performers need to hear more of their own voice or instrument, while others want to hear more of the band. With MixMode, the performer creates their own mix using the balance control (▼▲ buttons) on the bodypack.

To use MixMode, send a solo mix of the performer to the **CH. 1 IN** input on the transmitter, and send a band mix to the **CH. 2 IN** input.

Set the performer's bodypack for MixMode. The bodypack combines the two signals and sends them to both earphones, while the balance control on the bodypack adjusts the relative levels for each.

LOOP Applications

Use **LOOP OUT L** (left) and **R** (right) outputs to send a copy of the audio signal going into the transmitter to other devices. Following are a few of the many applications for these outputs.

Note: The input level control and the input pad do not affect the **LOOP OUT** signals.

MixMode for Multiple Systems

Configure each system for MixMode. From the mixing console, send a mix of the whole band to input 2 of the first transmitter. Connect the **LOOP OUT R** output to the **CH. 2 IN** input of the next transmitter. Continue the chain with all the transmitters.

Next, create solo mixes for each performer. Send each mix to input 1 of the transmitter for that performer.

Floor Monitors

Send the audio from the LOOP outputs to onstage loudspeakers. The bodypack and the onstage monitors receive the same audio signals.

Note: The LOOP audio outputs will not drive passive loudspeakers, and must be sent to a power amplifier or an active loudspeaker.

Recording Devices

To record a performance, connect the LOOP outputs to the inputs of a recording device.

Point-to-Point Wireless Audio

Use PTP mode to allow a P9T to transmit to a UHF-R receiver. This allows a transmitter and receiver setup where both units are racked and powered by AC.

For more information visit: www.shure.com/americas/products/personal-monitor-systems

Squelch

Squelch mutes audio output from the bodypack when the RF signal become noisy. While squelch is activated, the blue LED on the bodypack turns off.

For most installations, squelch does not need adjustment, and it keeps the performer from hearing hiss or noise bursts if the RF signal becomes compromised. However, in congested RF environments or in close proximity to sources of RF interference (such as large LED video panels), the squelch may need to be lowered to prevent excessive audio dropouts. With lower squelch settings, the performer may hear more noise or hiss, but will experience fewer audio dropouts.

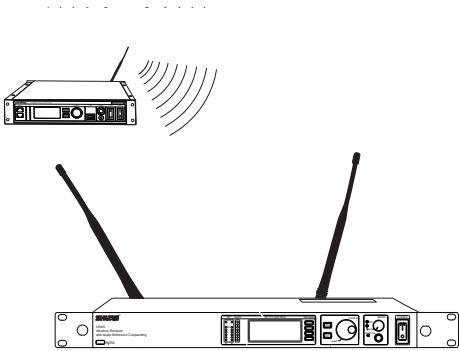
Important: Before lowering squelch, first try to eliminate the problem by finding the best set of frequencies for your installation and removing potential sources of interference.

Caution: Turning off or lowering the squelch setting can increase the noise level and cause discomfort to the performer:

- Do not lower the squelch setting unless absolutely necessary.
- Turn earphone volume to the lowest setting before adjusting squelch.
- Do not change the squelch setting during a performance.
- Turn up the transmitter **level** setting to make noise or hiss less noticeable.

Squelch Settings

HIGH (NORMAL)		Default factory setting.
MID		Moderately decreases the signal-to-noise ratio required to squelch the receiver.
LOW		Greatly decreases the noise squelch threshold.
PILOT ONLY*		Turns off noise squelch leaving only pilot squelch on.
NO SQUELCH*		Turns off noise and pilot tone squelch. (Sometimes used as a debugging tool by monitor engineers or RF coordinators to "listen" to the RF environment.)
* Symbol appears in display window.		



SPECIFICATIONS

PSM900

RF Carrier Range	470–952 MHz varies by region
Compatible Frequencies	Per band: 20
Tuning Bandwidth	36–40 MHz Note: varies by region
Operating Range environment dependent	90 m (300 ft)
Audio Frequency Response	35 Hz–15 kHz +/- 1dB
Signal-To-Noise Ratio A-Weighted	90 dB (typical)
Total Harmonic Distortion ref. ±34 kHz deviation @1 kHz	<0.5% (typical)
Companding	Patented Shure Audio Reference Companding
Spurious Rejection ref. 12dB SINAD	>80 dB (typical)
Frequency Stability	±2.5 ppm
MPX Pilot Tone	19 kHz (±0.3 kHz)
Modulation	FM*, MPX Stereo *ref. ±34 kHz deviation @1 kHz
Operating Temperature	-18°C to +57°C

P9RA

Tri-Band RF Filtering	–3 dB at 30.5 MHz from the center frequency of each band
Active RF Gain Control	31 dB Adjusts RF sensitivity to provide more RF dynamic range
Active RF Sensitivity at 20 dB SINAD	2.2 μ V
Image Rejection	>90 dB
Adjacent Channel Rejection	>70 dB
Squelch Threshold	22 dB SINAD (±3 dB) default setting
Intermodulation Attenuation	>50 dB
Blocking	>80 dB
Audio Output Power 1kHz @ <1% distortion, peak power, @32 Ω	100 mW (per output)
Minimum Load Impedance	9.5 Ω
High Boost	Selectable: +2 dB, +4 dB @ 10 kHz
Volume Limiter	Selectable: 3–9 Limits volume adjustment knob. Selected value analogous to volume knob increment.
Net Weight	200 g (with batteries)
Dimensions	99 x 66 x 23 mm (3.9 in. x 2.6 in. x 0.9 in.) H x W x D
Battery Life	4–6 hours (continuous use) AA batteries

P9T

RF Output Power	selectable: 10, 50, 100 mW (+20 dBm)
RF Output Impedance	50 Ω (typical)
Net Weight	850 g
Dimensions	42 x 197 x 166 mm, H x W x D
Power Requirement	100–15V AC, 415 mA, typical

Audio Input

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 Ω (actual)
Nominal Input Level	switchable: +4 dBu, –10 dBV
Maximum Input Level	+4 dBu: +29.2 dBu –10 dBV: +12.2 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

Audio Output

Connector Type	6.35 mm (1/4") TRS
Configuration	Electronically balanced
Impedance	Connected directly to inputs

Frequency Range and Transmitter Output Level

Band	Range	Output
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
G14	506-542 MHz	6/10 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
Q20	750-787 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

ACCESSORIES AND PARTS

Furnished Accessories

P9R Antenna	
470–542 MHz	UA700
596–692 MHz	UA720
670–830 MHz	UA730
830–952 MHz	UA740
P9T Antenna	
470–530 MHz	UA820G
500–560 MHz	UA820G7
518–578 MHz	UA820H4
578–638 MHz	UA820J
638–698 MHz	UA820L3
690–746MHz	UA820B
740–814 MHz	UA820Q
774–865 MHz	UA820A
900–1000 MHz	UA820X
Front Mount Antenna Cable	95A9023
Zipper Bag	95A2313
Rackmount Bracket, Long	53A8612
Rackmount Bracket, Short	53A8611
Link Bar	53B8443
Hardware Kit (Rackmounting Screws)	90AR8100
Bumper Kit	90B8977
Energy Efficient Switching Power Supply	
USA	PS41US
Brazil	PS41BR
Argentina	PS41AR
Europe	PS41E
United Kingdom	PS41UK
Australia/New Zealand	PS41AZ
China	PS41CHN
Taiwan	PS41TW
Japan	PS41J

P9T, P9RA

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Meets requirements of EMC standards EN 300 422 Parts 1 and 2 and EN 301 489 Parts 1 and 9.

Meets essential requirements of European R&TTE Directive 99/5/EC, eligible to bear the CE mark.

P9T

Certified under FCC Part 74. (**FCC ID:** DD4P9TA, DD4P9TB, DD4P9TC, DD4P9TD, DD4P9TJ). Certified by IC in Canada under RSS-123 and RSS-102. (**IC:** 616A-P9TA, 616A-P9TB, 616A-P9TC, 616A-P9TD).

P9RA

Approved under the Declaration of Conformity (DoC) provision of FCC Part 15. Certified in Canada by IC to RSS-123. (**IC:** 616A-P9RAA, 616A-P9RAB, 616A-P9RAC, 616A-P9RAD).

Operation of this device is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

The CE Declaration of Conformity can be obtained from Shure Incorporated or any of its European representatives. For contact information please visit www.shure.com. The CE Declaration of Conformity can be obtained from: www.shure.com/europe/compliance

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LICENSING INFORMATION

Licensing: A ministerial license to operate this equipment may be required in certain areas. Consult your national authority for possible requirements. Changes or modifications not expressly approved by Shure Incorporated could void your authority to operate the equipment. Licensing of Shure wireless microphone equipment is the user's responsibility, and licensability depends on the user's classification and application, and on the selected frequency. Shure strongly urges the user to contact the appropriate telecommunications authority concerning proper licensing, and before choosing and ordering frequencies.

Information to the user

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Note: EMC conformance testing is based on the use of supplied and recommended cable types. The use of other cable types may degrade EMC performance.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

PSM900 FREQUENCIES FOR EUROPEAN COUNTRIES

*IMPORTANT

NOTE: THIS EQUIPMENT MAY BE CAPABLE OF OPERATING ON SOME FREQUENCIES NOT AUTHORIZED IN YOUR REGION. PLEASE CONTACT YOUR NATIONAL AUTHORITY TO OBTAIN INFORMATION ON AUTHORIZED FREQUENCIES AND RF POWER LEVELS FOR WIRELESS MICROPHONE PRODUCTS IN YOUR REGION.

A ministerial license may be required to operate this equipment in certain areas. Consult your national authority for possible requirements.

PSM 900-G6E 470 - 506 MHz, max. 10 - 50 mW, 100 mW	
Country Code	Frequency Range
Code de Pays	Gamme de frequences
Codice di paese	Gamme di frequenza
Código de país	Gama de frecuencias
Länder-Kürzel	Frequenzbereich
A, B, BG, CH, CY, CZ, D, EST	470 - 506 MHz *
F, GB, GR, H, I, IS, L, LT	470 - 506 MHz *
NL, P, PL, S, SK, SLO	470 - 506 MHz *
DK, FIN, M, N	*
HR, E, IRL, LV, RO, TR	*
All other Countries	*

PSM 900-G7E 506 - 542 MHz, max. 10 - 50 mW, 100 mW	
Country Code	Frequency Range
Code de Pays	Gamme de frequences
Codice di paese	Gamme di frequenza
Código de país	Gama de frecuencias
Länder-Kürzel	Frequenzbereich
A, B, BG, CH, CY, CZ, D, EST	506 - 542 MHz *
F, GB, GR, H, I, IS, L, LT	506 - 542 MHz *
NL, P, PL, S, SK, SLO	506 - 542 MHz *
DK, FIN, M, N	*
HR, E, IRL, LV, RO, TR	*
All other Countries	*

PSM 900-K1E 596 - 632 MHz, max. 10 - 50 mW, 100 mW	
Country Code	Frequency Range
Code de Pays	Gamme de frequences
Codice di paese	Gamme di frequenza
Código de país	Gama de frecuencias
Länder-Kürzel	Frequenzbereich
A, BG, CH, CY, CZ, D, EST	596 - 632 MHz *
F, GB, GR, H, I, IS, L, LT	596 - 632 MHz *
NL, P, PL, S, SK, SLO	596 - 632 MHz *
B, DK, FIN, M, N	*
HR, E, IRL, LV, RO, TR	*
All other Countries	*

PSM 900-L6E 656 - 692 MHz, max. 10 - 50 mW, 100 mW	
Country Code	Frequency Range
Code de Pays	Gamme de frequences
Codice di paese	Gamme di frequenza
Código de país	Gama de frecuencias
Länder-Kürzel	Frequenzbereich
A, BG, CH, CY, CZ, D, EST	656 - 692 MHz *
F, GB, GR, H, I, IS, L, LT	656 - 692 MHz *
NL, P, PL, RO, S, SK, SLO	656 - 692 MHz *

B, DK, FIN, M, N	*
HR, E, IRL, LV, TR	*
All other Countries	*

PSM 900-P7 702 - 742 MHz, max. 10 - 50 mW, 100 mW	
Country Code	Frequency Range
Code de Pays	Gamme de frequences
Codice di paese	Gamme di frequenza
Código de país	Gama de frecuencias
Länder-Kürzel	Frequenzbereich
A, B, BG, CH, CY, CZ, D, EST	702 - 742 MHz *
F, GB, GR, H, I, IS, L, LT	702 - 742 MHz *
NL, P, PL, RO, S, SK, SLO	702 - 742 MHz *
DK, FIN, M, N	*
HR, E, IRL, LV, TR	*
All other Countries	*

PSM 900-Q15 750 - 790 MHz, max. 10 - 50 mW, 100 mW	
Country Code	Frequency Range
Code de Pays	Gamme de frequences
Codice di paese	Gamme di frequenza
Código de país	Gama de frecuencias
Länder-Kürzel	Frequenzbereich
A, BG, CH, CY, CZ, D, EST	750 - 790 MHz *
F, GB, GR, H, I, IS, L, LT	750 - 790 MHz *
NL, P, PL, RO, S, SK, SLO	750 - 790 MHz *
B, DK, FIN, M, N	*
HR, E, IRL, LV, TR	*
All other Countries	*

PSM 900-R22 790 - 830 MHz, max. 10 - 50 mW, 100 mW	
Country Code	Frequency Range
Code de Pays	Gamme de frequences
Codice di paese	Gamme di frequenza
Código de país	Gama de frecuencias
Länder-Kürzel	Frequenzbereich
A, BG, CH, CY, CZ, D, EST, F, GR,	790 - 830 MHz *
H, I, IS, L, LT, NL, P, PL, SLO	790 - 830 MHz *
DK, N	800.1 -819.9 MHz*
FIN	790.1 -821.9 MHz*
B, HR, E, GB, IRL, LV, M, RO, S, SK, TR	*
All other Countries	*



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