

Carvin, manufacturer of guitars, amps, and pro sound equipment since 1946, proudly presents the PM100 Professional Ear Monitor Wireless System. The PM100 provides in ear monitoring to on stage performers or behind the scenes personnel. The system is designed to be very easy to use and requires no installation.

The PM100 consists of one wireless transmitter and one or more wireless bodypack receivers on the same channel. The transmitter features three factory preset channels (AA: 72.1 MHz, EE: 72.9 MHz & HH: 75.9 MHz) with wide band modulation for quality audio. These frequencies are in a separate band that will not interfere with simultaneous use of VHF or UHF wireless systems on the same stage.

The PM100 system has a wireless operating range of 300 feet, which allows it to be used with confidence in venues from small clubs to large theatres.

The transmitter connects to a monitor or line out from any mixing console, and broadcasts the audio as an FM signal to any number of pocket size PM100 receivers on the same channel. Each receiver is equipped with an adjustable volume control, and high performance earbuds. The transmitter also provides a microphone input to allow wireless cueing of the performers on stage.

The PM100 can provide a high quality monitor mix at significantly lower decibel levels than floor monitors. This is an important benefit for artists who wish to protect their hearing from excessive and potentially damaging sound pressure levels. Please read this manual completely before using your PM100.

Important Note

Just as with any in-ear monitor system, the PM100 works best when used exclusively by all the performers on stage—without any wedges or side monitors. The high sound pressure levels produced by floor monitors (especially if the band plays loud) can bleed through the in-ear monitor earbuds, in the worst cases, thus hindering their effectiveness. Experiment with your mix to get the maximum benefit from your PM100.

Carvin's Limited One Year Warranty

Carvin warrants to the original purchaser that your unit is free from any defects in material or workmanship for a period of one year from the date of purchase. If any such defect is discovered within the warranty period, Carvin will repair or replace the unit free of charge, subject to verification of the defect or malfunction upon delivery.

Important:

Please do not return the product to the store where it was purchased, unless it was purchased at the Carvin Factory Showroom in San Diego. All items for service must be returned to Carvin (shipped prepaid), 12340 World Trade Dr., San Diego CA. 92128

This warranty does not apply to microphone capsules, nor to defects or physical damage from abuse, neglect, accident, or improper repair, alteration, or unreasonable use of the unit resulting in cracked or broken cases or parts, or units damaged by excessive heat, and does not apply to batteries or damage caused by leaking batteries. This warranty does not cover finish or appearance items nor items damaged during shipping en route to Carvin for repair.

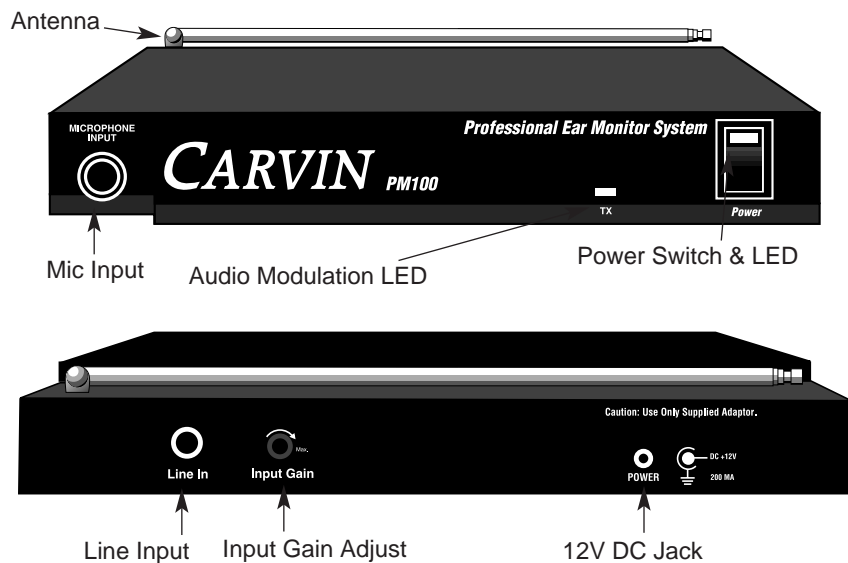
If factory service is required you must first contact our service department at 800-854-2235 to obtain a return authorization number (RA). Make sure the RA number is clearly marked on the outside of your package. If possible, please use your original packaging. You must include the Receiver, Transmitter and Power Supply. You must also include a photocopy of your proof of purchase or we cannot be responsible for repairs or replacements. Carvin will not replace nor be responsible for any units sent incomplete, without proper identification and return address or RA number clearly marked on the package.

Any applicable implied warranties including warranties of merchantability and fitness are hereby limited to one year from the date of purchase. Consequential or incidental damages resulting from a breach of any applicable express or implied warranties are hereby excluded. This warranty is in lieu of all other agreements and warranties, general or special, express or implied and no representative or person is authorized to assume for us any other liability in connection with the sale or use of this Carvin Wireless System.

Some states do not allow limitations on how long implied warranties last and do not allow exclusion of incidental or consequential damages so the above limitations and exclusions may not apply to you. This warranty gives you specific and legal rights and you may also have other rights which may vary from state to state.

Service for your Carvin Wireless System

Should your Carvin Wireless System require service, you must contact the Carvin Service Department at 1-800-854-2235 for a Return Authorization (RA) Number. Make sure the RA Number is clearly marked on the outside of packages, and ship the unit prepaid to: Carvin Corp., Service Department, 12340 World Trade Drive, San Diego CA 92128. Include a brief description of the problems you are experiencing.



Audio Input Gain Adjustment

You can quickly adjust the transmitter to obtain optimum performance with the input gain control. The audio modulation indicator LED, marked "TX" will increase in brightness as the control is turned clockwise, and decrease in brightness as the control is turned counterclockwise. When the "TX" LED is flashing during transmission, the transmitter is broadcasting properly. (If the LED stays off continuously or barely flashes at all, the input gain needs to be increased. If the LED stays on continuously and does not flash during modulation, the input is overloading and needs to be decreased.) You will also need to test the transmitter in use with an PM101 receiver. This procedure is easy to do, and is explained in the receiver instructions, which follow.

Using More Than One PM100 System

You may operate up to three PM100 systems in the same location. For example, you may want to use one transmitter to provide a mix to the rhythm section, a second to provide a different mix for the vocalist. For multiple system operation, please observe:

- If operating two or more PM100 transmitters in the same location, be sure your second transmitter is set for a different channel. This should be requested at the time of purchase since the channels are preset at the factory .
- Locate the transmitters ten feet or more, away from the performers using receivers.

PM101 RECEIVER

The PM101 receiver is a pocket sized wireless audio receiver with an output for earbuds to provide in ear monitoring, and offers these features:

- Ultra compact and lightweight
- Pretuned to one of three channels in the 72-76 MHz range
- Loudness adjustable with volume control
- Antenna is integral with earphone cord
- A pair of mini binaural earphones included
- LED "power on" indicator
- Accepts standard, alkaline or rechargeable NiCad 9V batteries

Channel Selection

Your receiver is pre tuned at the factory to the same channel as your transmitter. Should you wish to have your transmitter channel changed, as explained in the Transmitter section of this manual, you must also have your receiver(s) retuned as well. Contact Carvin's Service Department (800-854-2235).

Powering The Receiver

Install a 9V battery in battery compartment, observing polarity. To preserve battery life, always turn the receiver off when it is not in use. When the sound becomes weak or distorted, replace the battery. The number of hours of operation per battery is as follows: Carbon zinc type battery: 10-12 hours. Alkaline battery: 17-20 hours. Rechargeable: 6-8 hours per charge, varies by manufacturer.

Note: Any commercial 12V DC 100 mA adapter can also be used as a receiver NiCad battery recharger. To recharge a NiCad battery, you can plug the 12V DC adapter into the PM101 receiver's earphone/charger jack.

CAUTION: The only way you can recharge a NiCad battery while it is installed in the receiver is with a 12V DC adapter. You cannot plug a commercial 9V DC recharger into the receiver. You can use such a 9V DC recharger to recharge a NiCad battery, but you must first remove the battery from your PM101 receiver.

WARNING: Never recharge a carbon or alkaline battery is installed in the receiver, as any attempt to do so may seriously damage the receiver, cause the battery to explode or start a fire. A 12V DC adapter recharger may be plugged into your receiver only when a rechargeable battery is installed in the receiver.

USING THE EARBUDS

Simply plug the included earbuds into the mini-jack on top of the receiver. Note: Proper sound levels on stage are essential for optimum effectiveness of any in-ear monitor system. (See also "Important Note" on page 1). If sound levels are high, it is important to properly seal out unwanted sound so the earbud can be effective in providing proper monitoring. High end high priced in-ear monitor systems use special transducers that are imbedded in a soft plastic custom mold of the users ear canal. This ensures a perfect fit and seal with maximum immunity from bleed through. Such ear mold speakers are very expensive and can be used with the PM100 for optimum results. The earbuds supplied with the PM100 offer great sound and can also provide top results if utilized properly. If sound pressure levels are high and bleed through is a problem, care must be taken to ensure proper fit and a tight seal.

Operating the Receiver

While wearing your earbuds, turn the receiver on by rotating the On/Off Volume wheel. The power on indicator will go on. (To turn the receiver off, rotate the On/Off/Volume wheel until it clicks, and the "power on" indicator will go out.)

Adjusting Ear Monitor Volume

Listen for your program source, and adjust receiver volume to a comfortable listening level. The PM101 receiver is capable of providing listening levels loud enough to be heard in use with a rock band. Many bands use on stage loudness levels that with repeated exposure could pose a threat to their hearing. Therefore, it is very important that the PM101 be used at a reasonable and comfortable listening level.

NOTE: A slight hum may be heard if the receiver is used within six feet of the transmitter. This is normal and does not affect performance.

Testing Receiver Range

Wearing your receiver and earphones, walk around the stage area (and sound board and other areas if crew members are to be equipped with receivers) and listen for audio quality. In certain areas of the room the audio may disappear or "drop out." This is a normal occurrence whenever radio signals are transmitted inside a building. If you step away from the "drop out" zone, the audio will return. If a drop out zone is within the area of the stage or sound board(s), it is possible to eliminate the drop out zone by moving your PM100 transmitter as little as 12-18 inches in any direction. After you move the transmitter, "range walk" the stage and other areas again to check for consistent reception.

PM100 TRANSMITTER

The PM100 transmitter is a compact transmitter that broadcasts on one of three factory preset channels (AA: 72.1 MHz, EE: 72.9 MHz & HH: 75.9 MHz), to any number of Carvin wireless bodypack receivers on the same channel. The system provides a 300 ft. wireless operating range, and offers these features:

- Rear panel input for line level audio
- Front panel input for microphone
- Audio input gain control
- Automatic level control
- Extendable antenna
- 12 volt DC input for included AC power supply
- Power switch with red LED power on indicator
- Audio modulation LED indicator
- Rugged, metal housing, rack mountable with optional rackmount kit 200R

Setting Up the Transmitter

Your PM100 requires minimum installation. Simply place the transmitter on any flat surface, connect your mixing board to the transmitter's back panel input (See connecting Audio input below), connect the included power supply (as explained below), and the transmitter is ready to broadcast to any number of PM101 receivers operating on the same channel. The PM100 transmitter can also be quickly and easily installed in a single rack space with an optional rackmount kit (200R).

Powering the Transmitter

Connect the AC adapter provided into the 12V DC jack on the back panel of the transmitter. Plug the other end into an AC wall socket. Press power switch. The "power on" LED will light.

Antenna

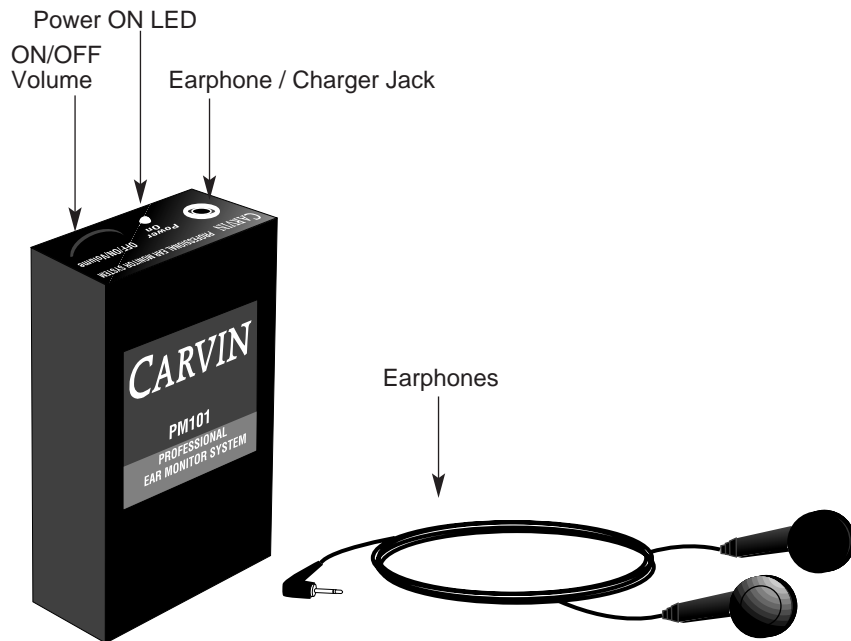
Extend antenna fully and position 90 degrees from top of the transmitter.

CONNECTING AUDIO INPUT

The Line In jack on the rear panel lets you connect the PM100 to your mixing console. This 1/4" mono phone jack accepts an unbalanced line level audio source at zero dBm nominal signal level. If your mixer has XLR outputs only, you will need an XLR-to-1/4" transformer, available from Carvin (MTF60).

USING A MICROPHONE

The Mic jack on the front panel allows wireless cueing of on stage performers. IMPORTANT: This 1/4" mono phone jack is designed for an electret condenser microphone, and 9V DC power is present at the input jack. If you wish to use a conventional dynamic microphone a preamp should be used. If a preamp is used, be sure to have a blocking capacitor (1 μ f) between the preamp output and the PM100 mic input. If a dynamic mic is plugged into the mic input by mistake, there should be no damage because the current is limited to 1.0 mA. If you have any questions, contact Carvin's Customer Service 800-854-2235.



PM100 Specifications

OVERALL SYSTEM PERFORMANCE

Frequency Response: 100 Hz - 10KHz \pm 3 dB
Signal to Noise Ratio: 60 dB
Total Harmonic Dist.: < 0.5%
RF Carrier Frequencies: Three factory preset channels between 72-76 MHz.
Channel AA: 72.1, EE: 72.9, HH: 75.9
Frequency Stability: Better than .005%
Modulation: FM \pm 75 KHz
Operating Range: 300 feet

TRANSMITTER

Line Input: Connector: One 1/4" phone jack. Impedance: 100 K Ohms, unbalanced.

Mic Input: Connector: One 1/4" phone jack. Impedance: low impedance, unbalanced, with 9V DC at 1 mA for condenser mic.

Power Output: 80,000 μ V @ 3 meters
Controls: Power On/Off, audio input gain adjust
Indicators: Power On LED, Audio Modulation "TX" LED
Antenna: Permanently mounted telescoping whip
Power Requirement: 9V DC regulated, @ 200 mA, AC adaptor provided
Dimensions: 1.25" H, 8.25" W, 4.25" D (3.175 x 20.9 x 10.8 cm)
Weight: 18.2 oz. (500 g.)

RECEIVER

Controls: Combination volume/on-off wheel
Audio Output: 100 mW max into 16 Ohms
Connectors: 3.5 mm mini jack for earbuds output or NiCad battery recharger (12V DC @ 100 mA)

Earphones: Binaural earbuds
Antenna: Integral with earbud cord
Indicators: LED power on indicator
Sensitivity: 2 μ V for 12 dB Sinad with squelch defeated. Squelches at 10 μ V for min. 50 dB S-N ratio

Mute Threshold: 8-10 μ V
Power Requirement: 9V alkaline or NiCad
Battery Life: 17-20 hours with alkaline battery; 6-8 hours per charge with NiCad rechargeable
Dimensions: 3.35" H, 2.75" W, .75" D (8.5 x 6.5 x 2.25 cm)
Weight: 2.65 oz. without battery (73 g.)

HELPLINE

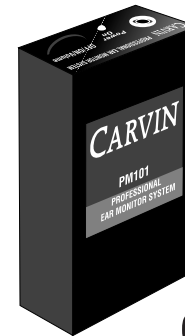
1-800-854-2235

8:30 To 4:30 Monday-Friday
Pacific Standard Time
USA

CARVIN

PM100

PROFESSIONAL EAR MONITOR
WIRELESS SYSTEM



OPERATION MANUAL

Record the serial number of your Wireless System in the space provided below:

Serial No. _____ Date Received _____

CARVIN

12340 World Trade Dr.
San Diego, CA. 92128
800-854-2235