

# Frequently Asked Questions About Wireless Systems

**1. Q: How do I select the right frequency for my wireless system?**

**A:** It is important to know your local TV environment. If possible, avoid using frequency sets that correspond to local broadcast TV channels. Wireless users who travel should consider a frequency agile system. In the event that you encounter a corresponding analog TV channel, it may still be possible to use your wireless system by tuning to a sub-channel not affected by any of the three TV carrier signals. Unfortunately, TV broadcasts in the new digital format will hamper operations on all sub-channels.

**2. Q: What are the differences between the WMS80 and WMS81 wireless microphone systems?**

**A:** The audio performance of both models is the same. However, the WMS81 offers a few features not available with the WMS80, such as, an automatic Tone Code Squelch, remote battery monitoring and the ability to network up to ten receivers to one pair of powered receiver antennas.

**3. Q: What is the difference between the PR40 and the SR40/DIV?**

**A:** The primary difference is physical size. The SR40/DIV is intended for stationary applications and may be rack mounted. The PR40 is intended for portable operation and may be powered either from two on-board AAA batteries or from the DC output of a camcorder using the optional accessory PA40.

**4. Q: Which wireless has worldwide coverage?**

**A:** There are no wireless system frequencies that are universally accepted by all nations. Countries such as Japan have very strict regulations regarding wireless microphone use. Illegal use in some countries could result in fines, confiscation of your equipment and even arrest. If there is any doubt, be prepared to rent equipment in the country where you will perform.

**5. Q: Can I remote-mount the antennas on the SR80 and SR81 receivers?**

**A:** The receiver antennas on the SR80 are permanently attached to the face of the receiver and are not compatible with any antenna network. The SR81, though, is equipped with BNC connectors and may be used with the included antennas or may be networked via PS81 antenna splitters with up to nine other receivers, all operating from a single pair of remote antennas. Single receivers can remote the antennae to the front of an electronics rack using the UAM1 universal antenna mount.

**6. Q: How long will my batteries last using an AKG wireless system?**

**A:** Typical battery life for most AKG transmitters when using quality alkaline batteries is approximately 8 to 10 hours. Exceptions are the HT40 and PT40 transmitters which have a battery life in excess of 34 hours.

**7. Q: What is the pin out of the TA3F connector?**

**A:** Pin one = ground, pin two = audio and pin three is bias, +7 VDC. When using AKG condenser mics, pin two must be shorted to pin three. When used as an instrument input, pin three is not used.

**8. Q: What causes RF dropout and what can be done to prevent it?**

**A:** Signal drop-out can be caused by a variety of circumstances, most commonly by multi-path cancellation due to interaction between reflected and direct RF signals. A non-diversity system having only one receiver antenna may experience a temporary loss of connectivity with the transmitter. A diversity receiver is less prone to this problem. Diversity reception indicates that there are two separate receiver antenna circuits. A microprocessor monitors received signal strength and rate of change. In the event that the received signal strength drops below the minimum required level at the active antenna, the receiver will automatically and silently switch to the secondary antenna.

**9. Q: Why isn't my lavalier microphone as loud as my handheld mic?**

**A:** A lavalier microphone is intended to augment the naturally projected voice at normal speech levels. Generally, a presenter should not be able to hear himself through the PA system.

**10. Q: I am experiencing feedback problems with my lavalier microphones. Is there a better model I should be using?**

**A:** Since lavalier mics have omnidirectional pick up patterns, feedback potential is an issue. To avoid feedback, two main rules should be followed: keep out of the direct sound field of the speakers and make the distance between the sound source and the mic as close as possible. If this does not solve the problem one can use directional miniature mics like the CK 55 L (cardioid) or one of our discreet series models like the CK 31 (cardioid) or CK 33 (hypercardioid) capsule with the LM 3 L Lavalier module. With directional mics, the placement of the mic and the positioning is much more critical than with omnidirectional mics. An easy way of avoiding feedback is the use of headworn mikes like our C 444 L or C 420 L (both are cardioid).

**11. Q: Can I use Nickel Metal Hydride (rechargeable) batteries for my UHF wireless system?**

**A:** Yes, but operating time will be less than with non-rechargeable alkaline batteries, approximately 4-6 hours versus 8-10 hours. The WMS40 microtools transmitters feature charging contacts that allow you to recharge using the optional CU40 charging station without removing the batteries.

**12. Q: What is the difference between wired and wireless lavs and headworn condenser mics?**

**A:** The wired versions contain preamp and impedance matching electronics located inside the XLR connectors. Wireless versions depend on the circuitry of the transmitters for these functions. A wireless mic terminated in the TA3F mini-XLR connector can be converted to wired use via the optional accessory, MPAIIL.

**13. Q: What is the MPAIIL?**

**A:** The MPAIIL is the third generation MicroMic Power Adapter. It consists of an XLR male cable connector that contains a preamp circuit board and a pigtail cable that can connect to any "L" version AKG condenser mic terminated with the TA3F mini-XLR. Once attached to the mic, it can be connected to any standard XLR mic cable or mixer input that supplies phantom power.

**14. Q: What are the differences between the wireless AKG headworn mic models?**

**A:** AKG offers three headworn microphone models; the C420L, C444L and C477WR-L. The C420L has a lightweight adjustable headband which suspends from the user's ears with clips similar to bows on a pair of eyeglasses. It features a cardioid pickup pattern and is intended for live vocal performances. The C444L is intended for the very active performer and mounts using cushioned cheek pads instead of ear clips. It also features a cardioid polar pattern for better feedback rejection. The third model, C477WR-L, is an omnidirectional mic on an adjustable wire frame and is used quite often in theatrical productions. The capsule is small and resistant to the damaging effects of perspiration and high humidity under hot stage lights.

**15. Q: The mute switch on the PT4000 is not recessed like on your other models. What is to prevent accidentally muting the mic during use?**

**A:** There is an insert pin available that, when inserted into the remote mute jack, locks the mute switch in the "on" position.

**16. Q: How many mics can a multi-channel receiver support?**

**A:** Each wireless microphone requires its own dedicated receiver. Multi-channel wireless systems allow the user to choose various sub-channels within the units operating bandwidth, but, can only receive one signal at a time. Receivers can be ganged together in a standard 19" electronics rack. Mounting hardware is provided with most AKG wireless systems.

**17. Q: I use several guitars throughout the night when playing a gig. Can I use multiple GB40 transmitters tuned to the same channel?**

**A:** Yes, but the idle transmitters have to be turned off when not in use. Even when in "mute" the transmitter will transmit a radio signal that will interfere with the active unit.

**18. Q: How can I make my AKG Discreet Series gooseneck wireless?**

**A:** The mini-XLR connector of the GN15, GN30 and GN50 gooseneck modules must be rewired according to instructions found in the Discreet Series user's guide. Note: this modification will disable the LED light ring at the capsule receptacle. Also, the HT80, HT81 and HT4000 transmitters can be converted to a wireless gooseneck by using the GN15HT gooseneck module.

**19. Q: The wireless systems that I have looked at do not have the frequency response to accommodate our bass singer's low range. Does AKG make a wireless that will do the job?**

**A:** There are a lot of reasons, why microphones and wireless systems do not handle frequencies below 50 Hz or 40 Hz.

One of the reasons is that the human voice, even a male bass singer, will not produce frequencies below 82 Hz.

Therefore the entire range of AKG microphones and wireless systems will do the job perfectly for a bass vocalist.

**20. Q: Will the SO40 Snap-on transmitter work with mics that require phantom power?**

**A:** Sorry, you can not use the SO40 with mics that require phantom power unless the mic can be self powered like the model C1000S (which uses a 9 V battery placed inside the mic).

**21. Q: Which transmitter will transmit further, the GB40 or PT40?**

**A:** The PT40 radiates 10 mW RF power, whereas, the GB40 radiates only 5 mW. However, both transmitters should have no problem achieving distances of up to 150 feet.

**22. Q: The manual lists eight WMS40 frequencies but my dealer only sells four. Where can I buy more WMS40 systems to go with my current four?**

**A:** The list provided in the manual is for worldwide distribution. Only four frequencies are currently licensed for use in the US. Around January 2004, three additional frequencies will be added in the US. In the meantime, if you require more than four, you will need to upgrade to another wireless mic model such as the WMS80.

**23. Q: Will an AC adapter work with the PR40 portable receiver?**

**A:** The PA 40 is available as an option. It is a remote powering adaptor for the PR 40. It fits into the battery compartment of the PR 40 receiver and allows the receiver to be powered from an external supply (e.g., AC power supply or camcorder supply output). The PA 40 operates on a supply voltage of 5 to 18 V and comes with stripped and tinned wires that must be connected to an appropriate power supply.

**24. Q: How do I power down the PT4000 and HT4000 transmitters?**

**A:** The power switch and other programmable features are locked to prevent accidental changes during use. To power down, push and hold the jog switch until one or more labels on the display start flashing. Then, push and hold the on/off button until the message "OFF" appears on the display.