

Q. Lately I have been picking up a weak interference signal 24 hours on both my portable and desktop shortwave receivers between 11 and 15 MHz. It sounds like a rapid up/down pitch "eee-ooo-eee-ooo" like a siren. (Ken Backer, Milton, Ont)

A. I have heard similar interference signals on my own shortwave receiver, and I've tracked them down. They are usually traced to microprocessor noise in electronic accessories (computers and peripherals, home entertainment radio and TV, telephone answering machines, etc.).

Here are two proven methods to find the interference:

(1) Carry the portable from room to room; when you approach the offending device, the signal will become much stronger. Unplug the suspect to see if the interference disappears; or

(2) In battery mode, tune in the interference on the shortwave portable, then individually switch off and on the breakers on your power panel while listening for the interference to stop. That will isolate the circuit with the offending device, and you can proceed to that area as in (1).

Q. I have a portable multiband radio that's missing its two telescoping whips, one for shortwave and the other for VHF 30-174 MHz. What would be good choices to use for replacements? (Keith Beesley, email)

A. Radio Shack stocks replacement antennas for portables, so you can start there with the two empty holes, but you will need to be sure you can attach them properly at their bases and that their girth fits the hole.

The shortwave whip will be the longest one you can get that fits, probably 3-4 feet in length. You could use the same model antenna for the VHF slot, fully extended for 30-50 MHz low band, and compressed to about 18"-24" for the high band. Or, if you're in a typical area where there's very little low band communications, you can simply get another whip that pulls out to that shorter length.

Q. I have an ICOM R-3 wide-coverage receiver with TV reception. In what states is it illegal to tune in and observe wireless cameras in operation?

A. To my knowledge it's perfectly legal in any state to watch any wireless video camera signal that's on the air. Radio privacy laws protect voice and scrambling only.

Q. I have heard that the new fluorescent screw-base light bulbs generate radio interference; is that true?

A. Yes, but their interference range is limited to a few feet from the bulb. They radiate wide-band strongest in the AM broadcast band and gradually less so as the frequency rises into the shortwave range. Indoor listeners shouldn't place a fluorescent bulb near a portable radio's whip, but an outdoor antenna would be well isolated from this noise source.

You can easily test this yourself by placing a portable AM or shortwave radio with its whip near the fluorescent bulb and tuning through the bands.

Q. Recently I experimented with my VHF/UHF antenna by attaching it to an HF antenna tuner (transmatch) and feeding it to my shortwave receiver. I was amazed that I actually had signal improvement over my much longer shortwave antenna. Does this mean I can scrap the wire and use my VHF/UHF antenna for shortwave? (Anthony Lenzo, Brooklyn, NY)

A. A receiving antenna does not have to be resonant to work well. The antenna tuner adjusted the mismatched antenna to the 50 ohm impedance of the receiver so that there was very little loss in the line. It also acted somewhat like a preselector, preventing swamping from off-frequency signals.

Decades ago, the U.S. Coast Guard determined that a receiving antenna, properly matched, only needs to be about 5 feet in length to hear virtually 100% of the communications signals. In general terms, an antenna needs only to be long enough to capture enough signal voltage to overcome the receive-

ing system's own internally-generated noise. Once you have higher signal than that, you gain nothing. It also helps to have directivity in an antenna to null out unwanted co-channel interference and favor the desirable signal.

Shortwave antennas are long, because then they are naturally resonant at impedances which more closely match the nominal 50 ohm input of most receivers.

Q. The AA batteries that came with my hand-held scanner last a good while, but I'd like some that last longer. Is this just a simple substitution of batteries?

A. Yes; the scanner will only discharge the batteries at a specific level, regardless of the current capacity of the battery, just so long as it is the same voltage (which all AA cells of the same chemistry will be). Reader Paul McCay recently informed us that he went to an office supply store and found some Duracell NiMH (nickel metal hydride) AA cells to replace his stock batteries and they lasted a whole lot longer. The key is to read the mAh rating on the AA cell; if it's higher, it will deliver power longer.

Q. I have two shortwave receivers but live in an apartment complex which doesn't allow external antennas. I've managed to put an antenna on a porch, but still get a lot of electrical noise from the apartments. What's the next step? (Jack Feldstein, email)

A. It sounds as if no matter where you put an antenna, you will pick up electrical noise from the building. This is a case where a noise phase-cancellation device is mandatory. I'd suggest the MFJ-1026 (\$189.95) which hooks to your main antenna and also has an input from a random wire noise antenna that is tuned against the receive antenna so the noise can be cancelled out. (See April 2007 MT Review for advice on how to use this product - ed.)

Questions or tips sent to Ask Bob, c/o MT are printed in this column as space permits. Mail your questions along with a self-addressed stamped envelope in care of MT, or e-mail to bobgrove@monitoringtimes.com. (Please include your name and address.)