



**Q.** *I have a Grove Scanner Beam and I want to take it down to replace the balun transformer. How do I unlock the elements so that they can be folded back against the boom as it was originally shipped? (David, email)*

**A.** To avoid creasing the element, you need to pull up on the flat spring tab on the main boom right at the rivet holding the element. With that tab released, grasp the element close to the rivet, not out toward the end of the element.

**Q.** *What coax would you recommend for use in 2.4 GHz work? (Jerry Demas, email)*

**A.** Additional information is needed such as whether it's for transmitting; how much power and at what impedance; the length of the line; types of connectors required and, if cost is an object. But, in general:

Stay away from most thin, highly-flexible cables like RG-174 and RG-58.

For short runs (a few feet), RG-214, RG-8, RG-59, and RG-6 are all good choices.

For longer runs, LMR-400 is recommended and widely available. Increasing LMR numbers (500, 600, etc.) indicate even better performance, but at higher prices.

An excellent calculator for comparing a wide variety of coaxial cables is found at [www.timesmicrowave.com/cgi-bin/calculate.pl](http://www.timesmicrowave.com/cgi-bin/calculate.pl).

**Q.** *I have a WinRADiO G39. With such wide frequency coverage, should I get an antenna combiner like the WR-ACD-1800? (Jim Finn KJ6NJJ, Santa Monica, CA)*

**A.** Yes, the WR-ACD-1800 is ideally suited for wide-frequency coverage receivers such as the G39. Under more restricted requirements, such as AM broadcast up to 900 MHz, I'd say simply use a standard TV antenna splitter; however, since the G39 has much wider range, and you'll be inquisitive as to what's up there, go for it!

**Q.** *Exactly where is the North Pole located (please don't say 90 degrees north). (Mark Burns, Terre Haute, IN)*

**A.** The north *geographical* pole is in the middle of the Arctic Ocean and covered with sea ice. It

is the point around which the Earth spins as illustrated on any world globe by the pivot point at the top.

The north *magnetic* pole is the point at which a compass needle points directly downward. It's located at 85.9 degrees north, 147.0 degrees west, and is slowly drifting toward Russia.

Since it's off-center of the geographical north, a compass needle doesn't point directly toward the North Pole unless you're located on a line that goes through both poles.

**Q.** *I've attached some sound files I've made on shortwave frequencies. What are all these strange noises? (James, email)*

**A.** The shortwave bands are peppered with strange noises. Since most of yours seem to be on maritime frequencies, I suspect it's mostly ship-to-shore traffic, such as FAX (facsimile, photos and weather maps) and text in high-speed Morse (passenger manifests and day-to-day shipping reports). Some transmissions are digitized and some encrypted for privacy and security, especially military and government.

**Q.** *I have a random wire antenna in my attic connected to two receivers simply wired in parallel at their antenna inputs. Is this the proper way to connect two receivers to one antenna? It seems I'm losing signal strength in one of the receivers. (Tom Carroll, email)*

**A.** If you have two receivers with identical 50 ohm antenna receptacles, you would theoretically lose only 3 dB (half an S-unit) in each since the available signal is now split in half for each radio. Losing an appreciable amount of signal level in just one radio is wrong.

Rather than hardwire the two receiver antenna lines together, it's best to use a splitter. Most standard TV antenna splitters work fine at shortwave frequencies (see [www.grove-ent.com/splitter.html](http://www.grove-ent.com/splitter.html)). Even better would be the Stridsberg multicoupler built for this purpose ([www.grove-ent.com/MC102.html](http://www.grove-ent.com/MC102.html)). If your original signal levels are low on the antenna, you could add an in-line preamp such as the one from Ramsey ([www.grove-ent.com/PRE2.html](http://www.grove-ent.com/PRE2.html)).

**Q.** *I've often heard that antenna tuners are needed on a portable shortwave radio, but you say that it's necessary for sending and NOT*

*necessary for receiving. Why the difference of opinions? (Ted, Cambodia)*

**A.** Much of the difference in opinion comes from listeners' different expectations and experiences with different radios. If you are in a metropolitan area and your shortwave reception is compromised by strong-signal overload from VHF pagers, NOAA weather, and local AM and FM broadcasters, then a tunable pre-selector, not a tuner, would solve the problem since it isolates a narrow swath of spectrum, deeply suppressing frequencies above and below that. Portable, multiband radios are far more vulnerable to overload problems than desktop communications receivers and amateur radio transceivers.

An antenna tuner, more correctly called a transmatch, is an impedance matching device intended to make the antenna system's impedance approach that of the transmitter. This assures better transfer of RF power and less hazard to the transmitter by high RF voltages from reflections on the feedline caused by the mismatch. For receiving, on some frequencies there may be a marginal increase in signal strength, along with background noise, when the transmatch is properly adjusted. Tuners are far more broad than pre-selectors in their frequency selectivity, so they have little effect on slicing a narrow portion of spectrum out of the mire and suppressing the rest.

**Q.** *I'd like to operate two or more scanners in my car. Can I do it with just one antenna and a splitter, or do I need a separate antenna for each scanner to avoid signal loss and mutual interference between the scanners? (Jerry Dehoney KAOQIZ, email)*

**A.** Two separate antennas for two scanners will result in the highest signal strengths and best isolation between the two scanners. It will help prevent picking up oscillator radiation which can act like a bogus signal, locking up the scanning sequence in the affected scanners.

If signal strengths are reasonably strong, a standard TV antenna splitter, bringing one antenna into two scanners, will work just fine. You only lose about 3 dB of signal because you divide the signal voltage in half. With more scanners there's more loss, and more chances of the interference. I'd try the splitter method first before you turn your car into a porcupine.

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](mailto:bobgrove@monitoringtimes.com). (Please include your name and address.)