Why 2.4 GHZ ?

2.4 GHZ Radio technology has revolutionized radio control in all of the R/C hobbies. The performance is far superior to older 72/75MHZ systems, and also has advantages over 900 MHZ systems.

Exceptional Range

You can easily operate hundreds of feet beyond the normal boundaries of your railroad. Obstacles such as tunnels or even full size buildings are not a problem.

Noise Immunity

The 2.4 GHZ frequency is **not** susceptible to the noise generated by your loco's motor. And there is no filtering required.

The biggest downfall of all the lower frequencies is the noise generated by your loco's motor. This noise kills the radio signal and can reduce your operating range down to a couple of feet. While filters can be installed, they are usually of little or no help.

Radio Interference is Eliminated

There are several different protocols for processing the 2.4 GHZ radio signals. They all have very sophisticated means of constantly changing the frequencies hundreds of times per second. This avoids any possible interference from another radio or other sources of interference.

No Frequency or Channel Assignments to Worry About

Each receiver is "bound" to a specific transmitter, which means it will only respond to signals from that transmitter, and no other. You can literally have hundreds of 2.4 GHZ radios operating in the same close space with no interference from each other. The "binding" is easily changed by the user, as needed.

You can use the same transmitter to control all of your locos (all bound to the same transmitter). If a friend comes over, you can change the binding to run some locos from another transmitter.

Antennas

Transmitter antennas are only 6 inches long (no fishing poles). Receiver antennas are a little wire 1 inch long. Some receivers have dual antennas to improve reception (mostly for aircraft flying at constantly changing angles). And some receivers have provisions for satellite receivers (again an aircraft thing we don't need).

Receivers can be placed anywhere with no concern for reception. They even work inside of metal bodies.

Low Cost and Multi-Sourced

The 2.4 GHZ technology is so widely used that the low end systems we require for trains are very low cost, and available from multiple sources. However, do be aware that you usually can't mix and match transmitters and receivers. Brand X won't work with brand Y. The exception is radios that are DSM2 compatible.

World Wide Standard

2.4 GHZ is legal for use worldwide for cars, planes, trains, etc.