

# What is a Radio System?

Radio systems generally come with a transmitter (the controller), a receiver, and servos. Servos go inside the truck to control the steering and the 3-speed transmission and a connected directly to the receiver. High-end radios are sometimes sold with just the transmitter and receiver allowing the builder to custom purchase the rest of the system to suit their needs.

## Transmitter Basics

First, the word channel is used two different ways when talking about radio control equipment. First, a trucks radio is usually a 6-channel radio. This means that it controls 6 functions on the truck. The first function is the steering and the second function is throttle (for both forward and reverse travel), additional functions are engine sound and air horns, 3 speed transmission and other functions based upon the type of truck.

The second way the word “channel” is used refers to the actual radio frequency (in Megahertz, or MHz) on which the radio transmits. There are several frequencies legal to use for R/C and each one has been assigned a channel number for simplicity. The same way each TV station transmits on a certain frequency but is referred to by a channel number.

## Frequencies

There are two separate frequency bands, 27MHz and 75MHz. There are thirty-six total channels (or radio frequencies), 27 MHz (channels 1 through 6), 75 MHz (channels 61 through 90). Identical channels (or frequencies) cannot be operated at the same time. In other words, two radios on channel 68, regardless of radio type or signal type, cannot be used at the same time. The 75-band offers 30 channels so it is less likely that someone will be on your channel.

It is possible to change your radio's frequency by changing the crystals in the transmitter and receiver. The crystal controls the frequency. Replacement crystals cost anywhere from 12 to 25 dollars according to the brand and signal type. Be sure to use the correct brand crystal if you change them or the performance of your radio will suffer greatly!

## Transmitter Features

The following features can be found on many economically priced radios:

### Servo Reversing

In any given radio installation, control inputs may end up backwards. This may be due to the linkage design of the truck or the individual servo's rotation. For example, when you move the transmitter stick to the right, the trucks wheels steer left. To remedy this, transmitters have servo reversing switches. Just flip the switch and everything will move the right way.

### Dual Rate Inputs

Not used with truck R/C systems.

### Throttle ATV

Not used with truck R/C systems

### Trim Tabs

This is a handy feature that allows you to quickly and very accurately adjust steering neutral when running your trucks for the first time or any time. Trim tabs are found at the right side or bottom of the control sticks.

## Radio Receivers

The receiver is your vehicle's brain. This little "black or blue box" is installed in your truck. It receives the transmitter's radio signal with its encoded control inputs and translates and separates the code and sends commands to the servo(s) or electronic systems in your truck.

## Servos

Servos either make the truck steer or make the transmission shift when you move the controls on your transmitter. They come in all sizes, speeds and strengths.

Choosing the right servo depends on the demands of the truck and driver. The "standard" servo will work fine on most uses in our trucks.

Damaged servos can be easily repaired with factory replacement parts. So, don't throw them away because for a few dollars, you may be able to make them as good as new.

## Electronic Interface

These units translate digital radio information from the receiver directly into the electronic device being controlled. Example: electronic speed control, electronic motor reverser for dump or winch, and solid-state switches.

## Channel Expander

Electronic device used to divide a single channel into multiple channels allowing many more functions for our trucks. Example: switch 16 or switch 8 allowing one channel to be used for 8 or 16 switch functions.