72 MHz VS 2.4 GHz Radio systems compared

	FM (Frequency Modulations) or PCM (Pulse Code Modulation)	(DSSS) Direct Sequence Spread Spectrum DSM & DSM2	(FHDSS) Frequency Hopping Digital Spread Spectrum
Frequency	72Mhz	2.4Ghz	2.4Ghz
Invented	First	Third	Second
Brands that use this rc system	all	Spectrum, JR	Futaba Airtronics
How many channels	50	80	80
Crystals	Yes	No	No
Changing frequency	Buy new crystal set	On next power up	Constantly
RF Noise Immunity	Some	Very Good	Very Good
Multiple transmissions	No	Yes	No
Ability to transmit through obstacles	Very good	weak through carbon fiber or aluminum	weak through carbon fiber or aluminum
Multiple receivers	No	Yes	No
Redundant channels	No	Yes	No
Diversity antennas	No – (Not needed)	No	Yes
Band Width	Narrow	Wide	Wide
Data Rates	Slow	Fast	Fast
Frequency control	Yes	No	No
Model Match		Yes	
Antenna Length	Long	Shortest	Short
Latency	Slow	Quick	Quick
Range Checking	With antenna Down	In Software	In Software
Power useage	More	Less	Less

Antenna Lengths are dependent on frequency. Shown below is how there calculated $C=\lambda f$ or $\lambda=C/f$ where C is the speed of light 299,792,458 m/s λ is the wavelength in meters and f is frequency in hertz

For 72 Mhz $\lambda=\frac{299\,792\,458\ m/s}{72000000\ Hz}$=3.963M but most 72Mhz antennas are ¼ wavelength so 0.991m long

For 2.4Ghz $\lambda=\frac{299\,792\,458\ m/s}{2400000000\ Hz}$=0.119M but the receiving antennas are ¼ wavelength so 0.030m long

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Q. Are there disadvantages to a module-based 2.4GHz system?
A. Newer non-module-based 2.4GHz systems often offer higher resolution and faster response. The JR and spectrum 2.4GHz systems also offer a unique feature (Model Match) that eliminates the risk of flying with the wrong model memory selected in your transmitter.
Q. Can I use my existing servos with a new 2.4GHz system?
A. Yes, all of the currently available 2.4GHz systems are compatible with conventional (analog or digital) servos. The only exception to this is that some Hitec digital servos may not work reliably (or at all) with some Futaba FASST receivers due a lower than expected voltage on the signal line.
Q. What causes lockouts on 2.4GHz?
A. Spread spectrum radio sets work in a way very similar to PCM ones in the way they respond to strong interference. If you're unlucky enough to experience interference so strong that the link between transmitter and receiver is lost, your receiver will enter "hold/lockout" mode and then go to failsafe mode (if set).The cause of such a lockout/failsafe is interference or inadequate batteries in the model or bad installation.
Q. Should I switch to 2.4GHz now or wait?
A. this depends very much on your own situation. If you've never had a glitch with your existing narrowband RC system and have no problems with frequency control at your flying field then there's no reason why you should rush out and by a 2.4GHz spread spectrum set. However, if you do live in an area where interference on your existing set is not uncommon, or if there are long queues for frequency pegs then the move might be worthwhile. If you're just starting out in the hobby and don't yet have any RC gear then it probably makes sense to go straight to 2.4GHz.
Q. Why are good receiver batteries so important on 2.4GHz? A. Inside every spread spectrum receiver are an array of tiny computer chips that must perform millions of complex instructions without mistakes every second. In order to function reliably, these computer chips require a steady stream of electricity. If that steady stream is interrupted, even for a tiny fraction of a second, the computers can crash or stop working briefly. This means that if your receiver batteries, BEC or regulator aren't up to scratch then you will almost certainly have real problems with your new 2.4GHz radio.
Unless you're flying helicopters with servos that can't handle the extra voltage, it is strongly recommended that you use a 5-cell receiver pack (6V) or even one of the new 2-cell A123 battery packs (6.4V) to further reduce the risk of voltage-related receiver problems. Many of today's hi-torque servos can draw very high amounts of current and if your battery isn't up to the task, this can cause the voltage they deliver to be drastically reduced. Should that voltage drop below the 4.5V some receivers require to function, a lockout or reboot may result. Remember that when the computer in your 2.4GHz receiver crashes, its' quite likely your plane will also crash. Good batteries of adequate capacity and well-charged are absolutely essential to safe flight.
Q. Can I use a 2.4Ghz system in my carbon fiber glider
A. Unfortunately carbon fiber acts as a pretty good shield against 2.4GHz radio transmissions. This means that if you mount a 2.4GHz receiver inside a carbon-fiber fuselage, it probably won't work very well at all. For this reason, many glider fliers (especially DLG fliers) are sticking with narrowband radios where not only are the frequencies less affected by carbon fiber but at least some of the antenna can be routed outside the fuselage.
Some 2.4GHz receivers such as those from Futaba have extended antennas that make it easier to route them through the CF to the outside world. It's still very important to make sure that at least one antenna is visible from every angle.