



Frequently Asked Questions for the new SPM Air Module Systems:

What radios are the Spektrum Air Modules compatible with?

Three Spektrum Aircraft Modules are available. The JR Module will fit popular JR module-based aircraft radios including the XP8103, XP9303, 10X, 347, 388, PCM10, PCM10S, PCM10SX and the PCM10SXII. Spektrum's Futaba Modules fit all versions of the Futaba 7, 9C and 9Z. Spektrum's MZ Modules are designed to fit the Futaba 12 and 14MZ radios.

Why do I only get 9 channels with JR and 8 Channels with the Futaba modules when the transmitter I'm using has 10, 12 or 14 channels?

Spektrum Air Modules operate by utilizing the PPM stream output from the transmitter. It's necessary to place the transmitter in PPM modulation prior to operating the module system. JR's 9- and 10-channel transmitters output 9 channels in PPM mode while Futaba's 9, 12 and 14 channel radios output 8 channels in PPM mode.

This is new technology. How can I be assured that the Module System will provide a solid interference-free RF link with plenty of range?

Actually the RF technology is identical to the technology that is used in Spektrum's DX7. There are currently thousands of Spektrum DX7 systems in operation with tens of thousands of successful flights in all types of aircraft—the technology is well proven. In fact, our Technical Director John Adams has been specifically testing the Module Systems for over two years, plus we've had several Module Systems in the hand of testers for months prior to release.

What is the purpose of the AR9000's Data Port?

An optional device called a Flight Log (SPM9540) is available and plugs into this data port. After a flight and before the receiver is powered off, the Flight Log displays RF link performance of the previous flight. Parameters displayed include the number of bit losses of each remote receiver, the number of frame losses (simultaneous bit losses on all receivers) and holds. In addition to this information, the main receiver battery voltage will be displayed. The Flight Log is an important tool that allows you to confirm that your system and installation is optimized and working perfectly.

Will Model Match work with the Module System?

No. Model Match is a patented feature that prevents a model from being operated using the wrong model memory. Model Match can only be integrated into a dedicated Spektrum transmitter such as the Spektrum DX7. The programming necessary to make Model Match functional must be embedded into the transmitter's programming.

I hear a lot about latency and response time. Supposedly the DX7 is faster than any 72MHz systems. Is the Module System as fast as the DX7?

The DX7 is a purpose-built 2.4GHz spread spectrum radio. With the DX7, the stick inputs are directly converted to digital code bypassing the PPM stream. This is the primary reason the DX7 is so fast and responsive. The module system needs to utilize the transmitter's PPM stream and converts it to the appropriate digital code. Because of this extra processing step, the module system cannot be as fast as a dedicated system. It's important to remember that the PPM stream is actually faster than PCM. In reality, the latency and response time of the Spektrum Module System is virtually identical to PCM systems.

Does the module system transmit on two channels like the DX7?

Yes. The Module System features DSM2 technology with DualLink. When first turned on, the transmitter scans the 2.4GHz band and finds an open channel to broadcast on. The transmitter then scans the band a second time and finds a second open channel and locks onto that channel. Once complete, the Spektrum Air Modules will be transmitting on two channels simultaneously. The receiver scans the band looking for the module's GUID (Globally Unique Identifier) code and, when found, locks onto both channels. DualLink provides modelers with dual-path redundancy, offering a level of safety and security unavailable with a single channel, single receiver system.

The AR9000 is a different configuration from previous receivers. Can you tell me more about it?

The AR9000 has two internal receivers plus one remote receiver. The AR9000 has a minimum of three receivers operating simultaneously; this is called Multi-link technology. An additional fourth remote receiver can be installed in the other remote receiver port for extra redundancy or in critical applications like turbine jets where significant conductive material is present. The AR9000 also features a data port that allows for an optional Flight Log to be plugged in, allowing the RF link performance to be monitored after a flight.

I understand the AR9000 has two types of fail-safe?

The AR9000 features both Smart Safe and a conventional fail-safe. With Smart Safe, if there is a loss of signal the throttle servo will move to a preset position (idle) while holding the last position command of the other servos. The AR9000 also has conventional programmable fail-safe that drives all servos to their preset position if there is a signal loss. When the signal is regained, complete control is resumed within 4ms.

When I install the Module system in my radio, will all of my settings (travel adjust, trims, etc.) need to be changed?

No. All programmed settings, adjustments and trims will be identical when switched from a conventional 72MHz module to a Spektrum 2.4GHz module system.

Are there any servo limitations?

As with all Spektrum systems, any three-wire servo that is currently available is compatible including digital, analog and high current servos.

How much current will the module draw?

The system is very efficient, with average current draw of about 220mAh. That means a 1500mAh battery will last for nearly 7 hours.

What receivers will work with the Module System?

All current and future DSM2 aircraft receivers are compatible with the Module System. The only currently available receiver not compatible with the System is the AR6000 parkflyer receiver.

Is there anything else I should know before operating the Spektrum Module System?

The following points are clearly covered in the manual but need to be followed:

- Be sure the transmitter is in PPM modulation mode. If necessary, refer to the instructions included with your radio system for details on how to program your transmitter to PPM modulation. Note: The Spektrum Module System will not operate in PCM modulation mode.
- Never power up the module unless the antenna is connected. Doing so can overload the module's electronics causing damage to the module.
- Before operating, the receiver must be bound to the module (see the manual for proper binding instruction). Binding is the process of teaching the receiver the transmitter's specific GUID (globally unique identifier) code. Binding also sets the fail-safe positions. It's also recommended that the system be rebound again after radio setup to establish and confirm the desired fail-safe positions.
- Before each flying session, it's imperative that you perform a range check to confirm that the system is working properly.
- When using the Module system with the AR6100 DSM2 microlite 6-Channel Receiver, it's imperative that this receiver only be flown in parkflyer type models. This includes all types of small electric airplane and mini and micro helicopters. Do not fly the AR6100 receiver in large gas or glow aircraft, as loss of control at extended range due to signal and/or blocking issues can occur.
- The Module system features DSM2 technology and is compatible will all DSM2 compatible receivers. The module system is not compatible with the AR6000 DSM first generation receiver.