

Federal Communications Commission Requirements For Model Aircraft Operations

Although many model aircraft pilots are aware of the Federal Aviation Administration's (FAA) regulation of model aircraft flight, some do not know the Federal Communications Commission (FCC) also regulates the operation of wireless radio transmitters used to control model aircraft and transmit video images during flight.

Under FCC regulations, model aircraft operations generally fall into two categories:

- License-exempt operation under Part 15 of the FCC regulations ("Radio Frequency Devices"): A license is not required.
- Amateur radio operations under Part 97 of the FCC regulations ("Amateur Radio Service"): Individual operators are required to hold an appropriate license.

Most radios included within model aircraft control systems are certified by the equipment manufacturer or vendor for low-powered, license-exempt operations on frequency bands authorized under Part 15. On the other hand, because of power restrictions, very few First Person View (FPV) video systems are certified for unlicensed use under Part 15, and may be operated only with an Amateur Radio license as described below.

License-Exempt Operation (Part 15)

Model aircraft devices and other transmitting equipment operated without a license under Part 15 of the FCC regulations must be certified for compliance with certain technical standards designed to limit interference to other devices. The standards differ for analog and digital devices, between frequency bands, and depending on the type of attached antenna. Technical certification is accomplished by the equipment manufacturer or vendor. Users are unlikely to be able to determine independently whether a device is Part 15 compliant by evaluating power limits or other operating parameters.

Instead, users may take the following steps to confirm a device is authorized under Part 15:

- Identify the FCC ID number shown on the device.
- Use the ID number to locate the device's certification record in the FCC's database search: <https://apps.fcc.gov/oetcf/eas/reports/GenericSearch.cfm>
- Click on the "Display Grant" link.
- Confirm that the frequency and output power (in watts) matches the parameters for the device the user intends to operate.

If the above steps can be successfully completed, the device may be operated without an FCC license.

Licensed Operation for FPV (Part 97)

FPV devices typically require more output power than is authorized in Part 15 of the FCC regulations and, as a result, are not certified for unlicensed operations. These types of devices may be operated in

certain bands only under authority of an Amateur Radio license issued by the FCC pursuant to Part 97 of the regulations.

The FCC issues three classes of Amateur Radio license: Technician, General, and Amateur Extra. The lowest level license, Technician Class, is sufficient to authorize FPV use.

Applicants must pass a 35-question test in order to receive a Technician Class license. Users should contact their local Amateur radio club (find one at www.arrl.org) for testing schedules and requirements for the Technician Class license.

Based on the regulations above, here is the practical application:

- In order to use a video transmitter on your model aircraft, you should first ensure that the video transmitter is FCC Certified. It will have an FCC ID sticker somewhere on the video transmitter.
- If it does not have the FCC ID sticker, then it is illegal for use in the United States.
- If it does have the sticker, you can go to the FCC's database search at <https://apps.fcc.gov/oetcf/eas/reports/GenericSearch.cfm> and click on the Display Grant link.
- Insert the FCC ID number in the first field and click on search.
- If the item is listed, then it is a FCC Part 15 compliant device and **DOES NOT** require an Amateur Radio license to operate.
- If the items is not listed, then it **DOES** require an Amateur Radio license to operate

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If you have questions regarding these FCC requirements, please feel free to contact AMA Headquarters at 765-287-1256.