

Final FAA Remote ID Rule – John Watkins, with review by Al Yanchak

The FAA released the final Remote ID (RID) Rule on 28 December 2020. The rule is 470 pages; some parts are difficult to interpret or are ambiguous, so full understanding will take some time.

From the point of view of the recreational modeler and NCRCC, the final rule is a big improvement over the proposed rule. For us, the hobby won't change that much. The 53,000-plus comments to the FAA had a positive effect in removing parts of the rule that would have jeopardized the hobby. *Many thanks to those who commented on the proposed rule!!*

Figure 1 provides an overview of changes from the proposed rule. Methods of compliance in the final RID rule are shown in Figure 2 from the FAA. In a nutshell:

- RID compliance is now possible for existing and new model aircraft using a portable broadcast type RID module that can be moved from model to model. New model aircraft can be built as before.
- FAA-Recognized Identification Area (FRIA) limitations such as the 12 month window to apply for a FRIA have been eliminated. The FAA no longer intends to phase-out FRIAs.
- The Limited RID system and requirement for an internet connection have been eliminated.
- The requirement to register each model aircraft has been eliminated.
- The final rule does not appear to affect or change current UAS airspace and flight rules.
- The final rule does not include provisions for RID equipped UAS to provide data to manned aircraft.
- RID devices are not currently available. Manufacturers will have 18 months to develop and certify RID equipment. The final rule must be complied with 30 months after the effective date of the rule. Until then, use of RID is not required.

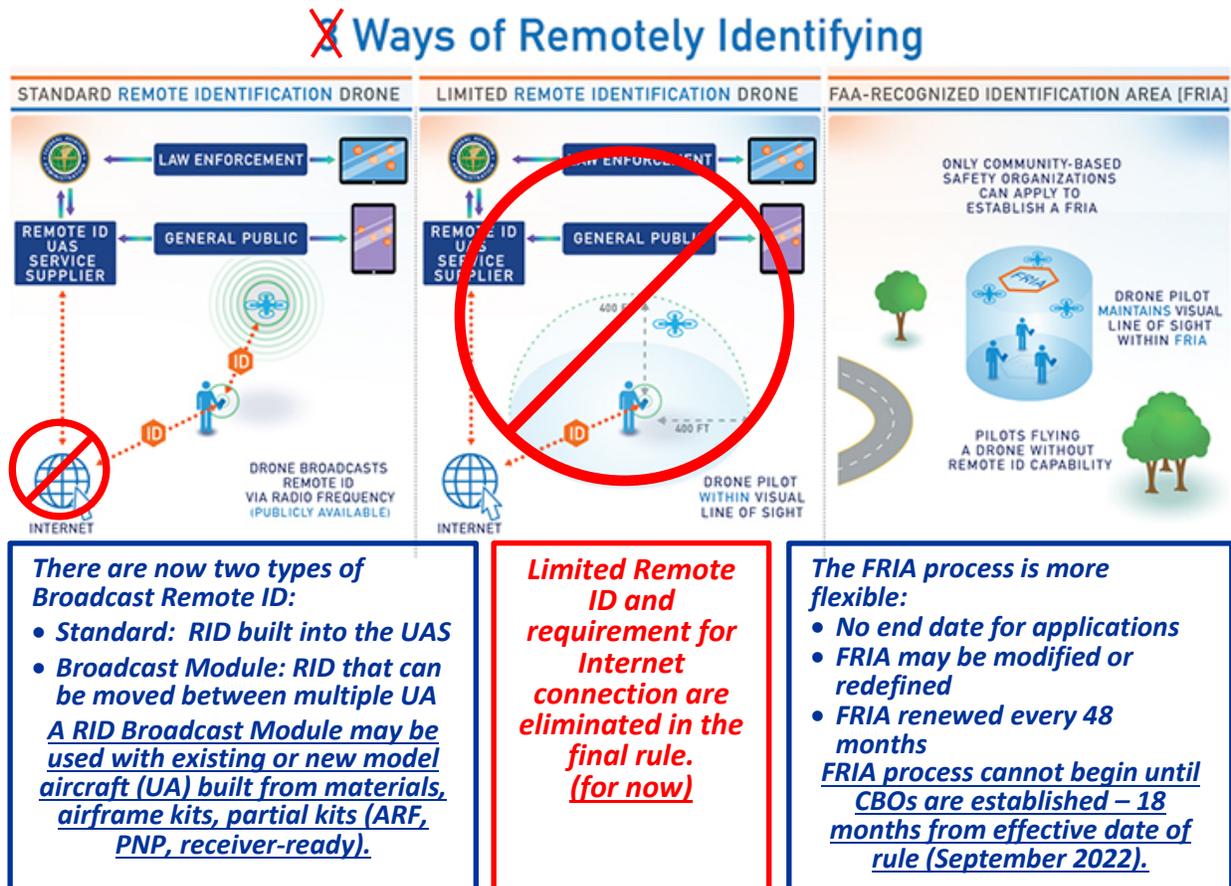


Figure 1 – Overview of Changes to the Proposed Remote ID rule

3 WAYS DRONE PILOTS CAN MEET REMOTE ID RULE



Figure 2 – Overview of Methods of Compliance in the Final Remote ID Rule, Source FAA

Links to FAA overview of final RID rule:

https://www.faa.gov/uas/getting_started/remote_id/

https://www.faa.gov/news/media/attachments/RemoteID_Executive_Summary.pdf

https://www.faa.gov/uas/media/Remote_ID_Toolkit.pdf

Additional information about the final rule and changes from the proposed rule:

Definitions for unmanned aircraft:

- An Unmanned Aircraft System (UAS) is defined as a complete, integrated, stand-alone system consisting of the unmanned aircraft, Standard RID, communications and control equipment. Examples would be a DJI drone that includes everything needed for flight, or a RTF (including control station) fixed or rotary wing model aircraft weighing more than 250 grams.
- An Unmanned Aircraft (UA) is defined as the aircraft itself. Home-built unmanned aircraft are defined as unmanned aircraft partly or completely fabricated by the builder for educational or recreational purposes. Examples would be traditional model airplanes built from materials, airframe kits, almost complete kits (ARF, PNP, receiver-ready). Severe and poorly defined restrictions on building model aircraft in the proposed rule are largely eliminated in the final rule.
- The RID rule leaves the current rules/regulations governing operation of UAS largely unchanged:
 - Visual Line of Sight (VLOS) operations only. (Operation with RID Broadcast Module specifically states VLOS only. The Standard RID does not state VLOS only, so perhaps the door is being left open for Beyond Visual Line of Sight (BVLOS) operations using Standard RID in the future.)
 - The 400-foot Above Ground Level (AGL) altitude limit for recreational flying remains in place. A waiver is required for commercial, Part 107 operations.
 - Flight in controlled airspace (other than Class G) requires authorization via Low Altitude Authorization & Notification Capability (LAANC) or other means.
 - The intent of the final rule appears to allow FPV operations to continue, but the wording is confusing, and may require clarification.

RID compliance:

- RID compliance is required for all UAS/UA weighing more than 250 grams and all UAS/UA of any weight used for commercial purposes.
- A RID is not required for indoor flight. RID was required for indoor flight in the proposed rule, but has been eliminated in the final rule.
- Following are ways to comply with the RID rule shown in Figure 1:
 - Standard Remote ID Unmanned Aircraft: A UAS with integral Standard RID broadcasts data continuously during flight. Standard RID UAS must be certified/approved by the FAA, and be tamper-proof.
 - Remote ID Broadcast Module: A module containing RID that can be moved between multiple UA. The module broadcasts data continuously during flight. The module can be used with any existing UA, or any new home-built UA fabricated from parts, materials, or partial kits. Only the broadcast module itself must be certified/approved by the FAA.
 - Fly in a FRIA: Existing or home-built UA can be flown in a FRIA without RID.
- The Standard RID identifier or RID Broadcast Module serial number will be linked to the operator UAS Certificate of Registration, requiring the operator to update their FAA Certificate of Registration prior to using the RID. Individual registration of each UA over 250 grams used for educational or recreational purposes was required in the proposed rule, but is not required in the final rule.

Operational aspects of Remote ID:

- Standard RID Unmanned Aircraft:
 - Data broadcast by Standard RID includes: unique UAS identifier, latitude, longitude, geometric altitude, and velocity of the UAS; latitude, longitude, geometric altitude of the control station; time stamp, and emergency status indication (lost-link, lost GPS location, crashed aircraft, or other abnormal status).
 - Standard RID prevents flight unless a self-test verifies the device is functional, and will warn the operator of failure or abnormal condition of the RID during flight.
- Remote ID Broadcast Module:
 - Data broadcast by the RID module includes: serial number of the broadcast module, latitude, longitude, geometric altitude, velocity of the UA, and time stamp. The broadcast module determines its location at take-off, assumes that is the location of the control station for the entire flight, and broadcasts that fixed location as the position of the control station.
 - The RID module advises the operator if the device fails the self-test and possibly if it fails in flight, but does not prevent flight. It is up to the operator to resolve the issue prior to flight or to land as soon as possible if the RID fails in flight.
- With elimination of the Limited RID system in the originally proposed rule, there is no longer a distance limit of 400-feet between UAS and operator.
- Flight data broadcast by the RID will not be recorded because there is no means to do so with elimination of the network requirement. Flight data can only be received by devices within range of the RID broadcast. Broadcast data will be compatible with smart phones/devices (Wi-Fi/Bluetooth).
- The RID broadcast can be received by law enforcement and other government organizations, as well as ordinary citizens using smart phones/devices. Only law enforcement and government organizations will be able to use the UAS identifier or broadcast module serial number to access personal information associated with the operator's FAA UAS Certificate of Registration. There are continuing concerns about providing ordinary citizens with the capability to locate UAS operators.

- The FAA envisions the broadcast data will be used by an eventual UAS Traffic Management System (UTM) that will track all unmanned aircraft. The UTM will be needed for commercial UAS operations such as package delivery.
- Within the scope of the final rule, there is no system to provide manned aircraft with the location or velocity of nearby unmanned aircraft. Thus, the principle of “see, hear, and avoid” will continue.

FAA-Recognized Identification Areas (FRIA):

- The FAA no longer intends to phase-out FRIAs, as had been proposed in the original rule.
- The 12 month limit on submitting FRIA applications in the proposed rule has been eliminated in the final rule.
- The final rule does not define the process to apply for establishment of a club field as a FRIA. But in general terms, organizations such as AMA must apply for Community Based Organization (CBO) status, the FAA must approve that organization as a CBO, and then a club associated with the CBO may apply for establishment of a FRIA. The FAA expects to issue guidance for application for CBO status and for a FRIA “shortly”.
- A FRIA must be renewed every 48 months.
- Re-application for an expired or terminated FRIA is possible. In the original rule, this would not be possible.
- The size, dimensions, and altitude limits for a FRIA or means to request specific limits are not defined in the final rule.
- The FAA may terminate a FRIA for reasons that might include: change in airspace or unsafe flying.
- Educational institution facilities are now eligible to become a FRIA.

Timeline:

- RID timeline begins on the date the rule becomes effective. The effective date is 60 days after the publication date of 28 December 2020.
- Manufacturers are to develop Standard RID UAS and RID Broadcast Modules, have them FAA approved/certified, and available for purchase within 18 months from the effective date of the rule, (around September 2022).
- The FRIA application process will not begin for 18 months after the effective date of the rule, (around September 2022).
- The RID rule does not take final effect until 30 months after the effective date of the rule, (around September 2023).

Other considerations:

- The devil is in the details, and much remains to be worked out before the final RID rule can be implemented:
 - No RID equipment exists at this time.
 - The FAA is likely to revisit some items such as the network requirement.
 - Not all organizations may be satisfied with the final rule – particularly means of compliance using RID Broadcast Module and deletion of the network requirement. So, future changes are possible.
- Effectiveness:
 - The final rule should be more effective regarding “clueless and careless” operators ignorant of rules or using poor judgment where and how they fly.
 - Because there is currently no means to provide UAS location to manned aircraft, the final rule will not be effective in reducing the potential for collision – see, hear, and avoid.