WRCS - Radio Fail-Safe Setup Guide

1. Why Fail-Safe Is Important

Fail-Safe is a protective feature that tells your aircraft what to do if the radio signal is lost. Instead of leaving control surfaces and throttle in unpredictable positions, Fail-Safe moves them to safe, pre-programmed positions.

Without Fail-Safe:

- Motor could stay at full throttle.
- Aircraft may lock in an uncontrolled dive or flyaway.
- High risk of damage or injury.

With Fail-Safe:

- Throttle cuts to idle/off.
- Surfaces return to neutral for stable glide.
- Aircraft descends in a more controlled, predictable way.

2. General Safety Setup

Before programming Fail-Safe on any brand:

- Remove the propeller (electric) or disable the engine/fuel (glow/gas).
- Restrain the aircraft while testing.
- Decide safe positions:

  - Throttle → idle/off
  - Aileron (Neutral), Elevator (Neutral or slightly up), Rudder (Slight deflection)
  - Flaps/Gear → down or safe
  - Gliders → slight up elevator (for controlled descent)

3. Test and Verify

As with Range Checks, it if important to check Fail-Safe settings prior to the first flight of the day. To check your Fail-Safe settings:

- Ensure the model is restrained
- Start the model and move throttle and control surfaces from flight ready position
- Turn off the transmitter
- Receiver should move the Throttle and Control Surfaces to the programmed Fail-Safe positions

3. Brand-Specific Setup Instructions

Please note: These instructions should be considered as a global overview. Please consult the instructions specific to your transmitter/receiver.

A. Spektrum Systems (DSM2 / DSMX)

Preparation:

- Power on transmitter.
- Power on receiver in Bind mode.

Set Control Positions:

- Place throttle to idle/off.
- Set control surfaces to desired Fail-Safe position.
- Set switches (gear/flaps) to Fail-Safe positions.

Bind With Positions Held:

- While holding controls steady, rebind to the Transmitter and receiver.
- Keep controls steady until binding completes.
- Receiver saves these positions as Fail-Safe.

Verify:

- Ensure the model is restrained.
- Turn off transmitter.
- Receiver should move servos to the stored Fail-Safe positions.

    Notes:

    - DSM2 → Throttle Fail-Safe only, others 'hold last.'
    - DSMX → Preset Fail-Safe on all channels.

B. Futaba Systems (FHSS / FASSTest)

Preparation:

- Power on both transmitter and receiver.
- Ensure they are bound (linked).

Set Control Positions:

- Place throttle to idle/off.
- Set control surfaces to desired Fail-Safe position.
- Set switches (gear/flaps) to Fail-Safe positions.

Store Fail-Safe:

- Press and hold the Receiver's Fail-Safe/Link button for ~3 seconds.
- LED blinks to confirm Fail-Safe stored.

- Verify:
- Ensure the model is restrained.
- Switch off transmitter.
- Receiver servos/throttle move to stored positions.

Notes:

- Futaba allows 'Hold' (channels stay at last position) or 'Preset' (channels move to stored positions).
- Most pilots use Preset for throttle = idle and surfaces neutral.

C. FrSky Systems (ACCST / ACCESS)

Preparation:

- Power on transmitter and receiver.
- Ensure they are bound/registered.

Set Control Positions:

- Place throttle to idle/off.
- Set control surfaces to desired Fail-Safe position.
- Set switches (gear/flaps) to Fail-Safe positions.

Store Fail-Safe:

- On transmitter: Go to Model Setup → Fail-Safe menu and choose 'Set' while holding sticks/switches in desired positions.
- Alternatively (older receivers): press and hold Bind/F.S. button on receiver briefly.

Verify:

- Ensure the model is restrained.
- Power off transmitter.
- Watch receiver servos and throttle — they should move to the programmed positions.

Notes:

- FrSky gives three options:
-   - No Pulse (servos stop)
-   - Hold (last command held)
-   - Custom/Preset (recommended: throttle low, surfaces neutral).

4. Final Tips

- Always Range Check and test Fail-Safe before the first flight of the day.
- Check after firmware updates or if you re-bind equipment.
- If visiting another Club, their rules may require proof of working Fail-Safe before you can fly.
- Remember: Fail-Safe doesn't guarantee a perfect landing — it just reduces risk.