

INSTRUMENT PROCEDURES

IFR Lost Comm

A practical guide to handling two way radio communications failure under IFR using 14 CFR 91.185, AIM guidance, and sound cockpit judgment.

IFR LOST COMM

91.185

AVEF

MEA

EMERGENCY PROCEDURES

CHECKRIDE

START WITH THE MISSION

IFR lost communications is heavily tested because it combines regulation memory, route planning, altitude selection, approach timing, emergency authority, and judgment. The rule exists so ATC can predict what a no radio aircraft will do and protect other traffic.

The pilot's job is to keep flying the airplane, try to restore communication, use the transponder, follow the expected lost comm procedure when appropriate, and use emergency authority when safety requires something else.

IMMEDIATE COCKPIT FLOW

- Fly the airplane and protect attitude, altitude, heading, and terrain clearance.
- Confirm the problem is not volume, squelch, audio panel, microphone selection, headset plugs, frequency entry, or a stuck push to talk switch.
- Try the last frequency, previous frequency, next expected frequency, guard, Flight Service, and any backup radio that can be used safely.
- Squawk 7600 when two way radio capability is lost and workload permits.

MEMORY AID

Fly, Troubleshoot, Squawk, Try, Navigate, Comply

Control first, diagnose the failure, alert ATC, try alternate communications, navigate safely, then apply 91.185 unless emergency authority is required.

The First Fork, VFR Or IFR Conditions

VFR Conditions

If the failure occurs in VFR conditions, or VFR conditions are later encountered, continue under VFR and land as soon as practicable. Practicable means safe, suitable, and reasonable. It does not mean panic land at the first surface you see.

Common Checkride Trap

Do not jump straight to AVEF and MEA if you are in VFR conditions. The VFR provision comes first because it removes the aircraft from the IFR system when that can be done safely.

Route Selection, AVEF

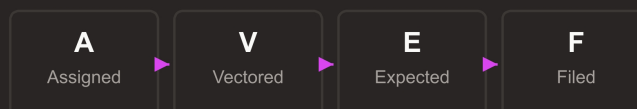
Route selection answers where ATC can expect the aircraft to go. The order is assigned, vectored, expected, filed. Use the first condition that applies, and remember that filed is the backup, not the default.

If ATC amended your route after departure, that amended clearance becomes the assigned route. If you were being radar vectored, do not hold the last heading forever. Proceed from the point of failure to the fix, route, or airway specified in the vector clearance.

AVEF

Assigned, Vectored, Expected, Filed

The most recent assigned clearance is strongest. Expected route matters only when no assigned route controls.



Use the first route condition that applies.

Route rule pairs with the altitude rule: fly the route by AVEF and altitude by highest of MEA, assigned, or expected.

PRIORITY	ROUTE	MEANING	TRAP
1	Assigned	Route assigned in the last ATC clearance.	A later clearance changes the plan.
2	Vectored	Direct to the fix, route, or airway specified in the vector clearance.	The last heading is not a route.
3	Expected	Route ATC advised to expect in further clearance.	It does not override a later assigned route.
4	Filed	Route filed or amended with ATC.	Filed is last priority.

Vector Scenario
 If ATC says fly heading 270, vectors to join V12, and the radios fail, proceed from the failure point to join V12 while flying the correct lost comm altitude. Do not continue 270 indefinitely.

Instructor Habit
 After every clearance, quietly ask: What is my clearance limit, what route am I assigned, and what altitude am I assigned or told to expect? That habit makes lost comm far less mysterious.

Altitude Selection, MEA

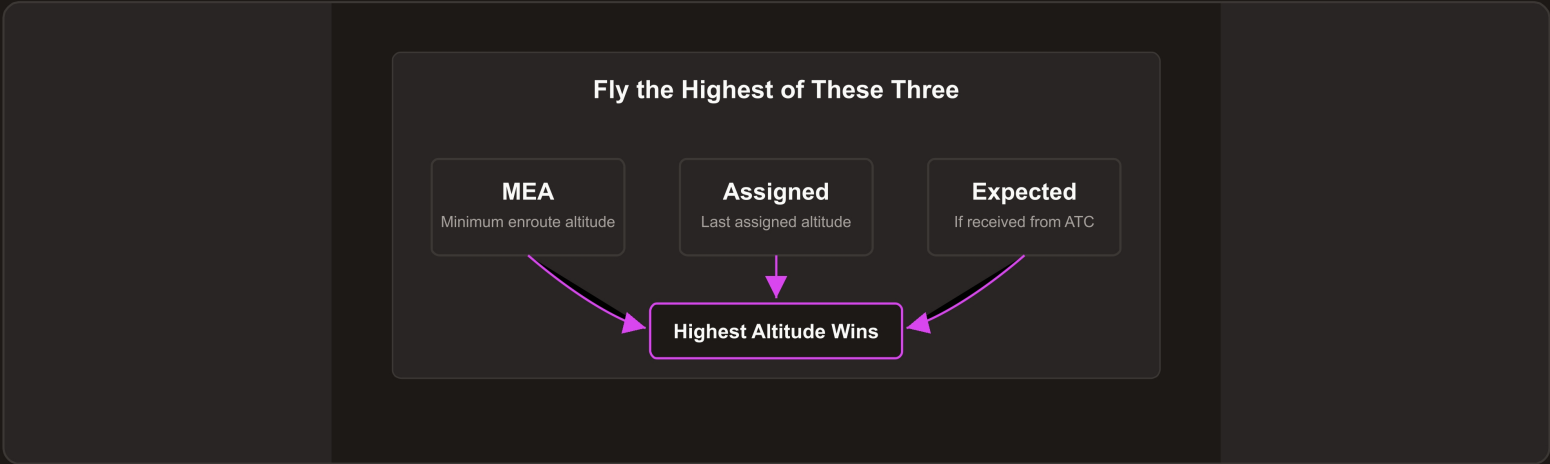
The altitude rule is dynamic. For the route segment being flown, use the highest of the minimum IFR altitude, expected altitude when applicable, and assigned altitude. Recheck the answer as segments, fixes, MCAs, and minimum altitudes change.

The M in MEA is broader than one airway MEA. It means the minimum altitude for IFR operations, which may involve MEA, MOCA when usable, MCA, off route obstacle clearance, or an ATC minimum vectoring altitude context.

MEA

Minimum, Expected, Assigned

Fly the highest applicable value for the current segment. Expected altitude becomes active at the specified time or fix.



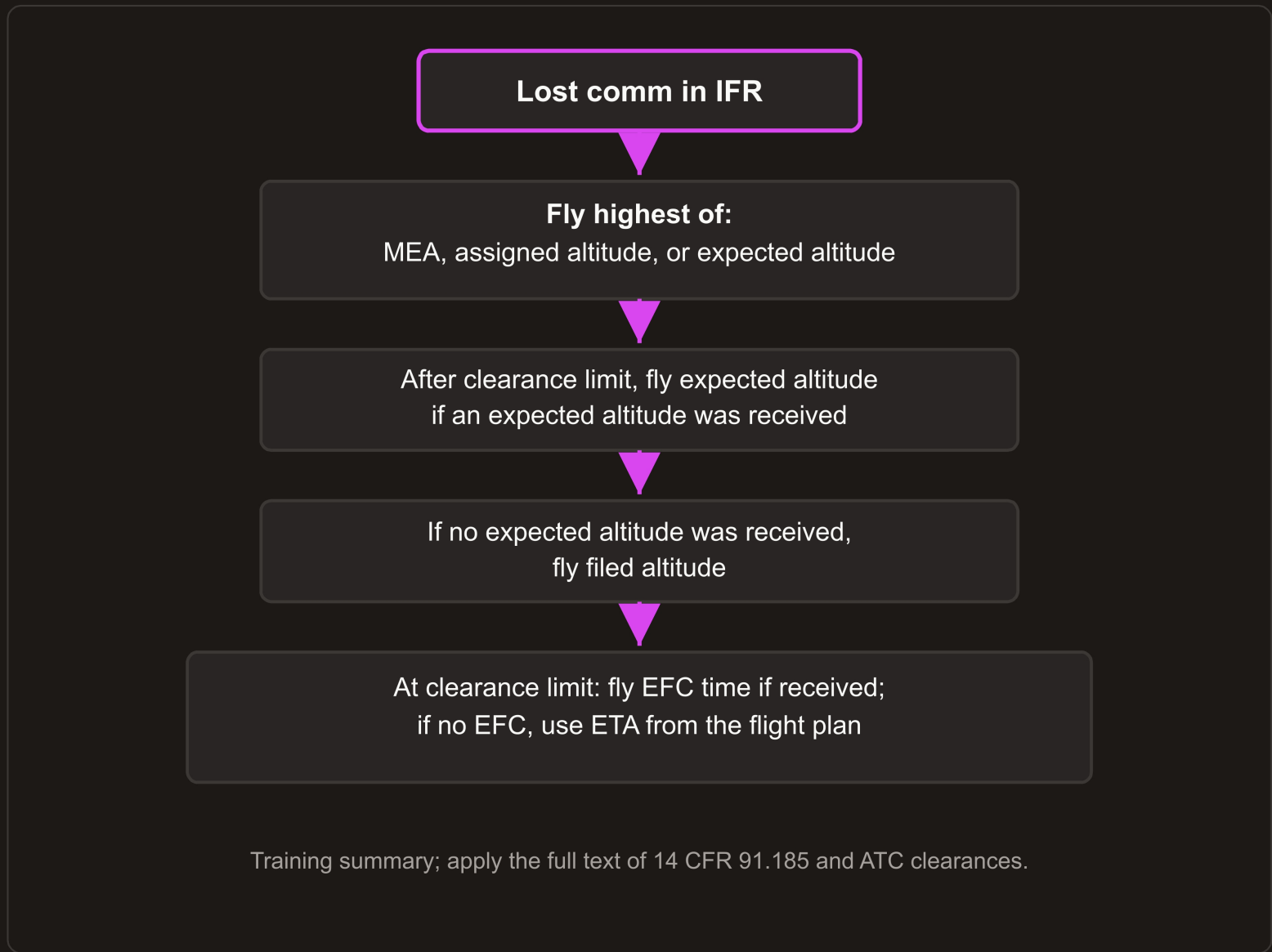
Altitude Traps And Terrain Protection

ITEM	MEANING	KEY DETAIL
Minimum	Minimum IFR altitude for the route segment.	May change segment by segment.
Expected	Altitude ATC advised to expect.	Use at the specified time or fix when applicable.
Assigned	Last assigned altitude or flight level.	Compare against minimum and expected altitude.
Highest	The required altitude to fly.	Do not descend just because the next published minimum is lower if assigned or expected still controls.

Expected Altitude Timing
 Assigned six thousand, expect eight thousand ten minutes after departure, lost comm at three minutes in IMC. Maintain the highest of assigned and minimum IFR altitude until ten minutes unless terrain requires higher sooner. At ten minutes, climb to eight thousand if it is highest.

91.177 Terrain Layer
 When no other minimum is prescribed, IFR minimum altitude requires at least two thousand feet above obstacles within four NM in designated mountainous areas, and one thousand feet within four NM in other areas.

If You Must Continue IFR



Clearance Limit And Approach Timing

AVEF tells you the route and MEA tells you the altitude, but neither tells you when to descend. That answer comes from the clearance limit. A clearance limit may be the destination, a holding fix, an intermediate fix, or a fix from which an approach begins.

If the clearance limit is a fix from which an approach begins, commence descent or descent and approach as close as possible to the EFC time if one was received. If no EFC was received, use the ETA calculated from the filed or amended estimated time en route.

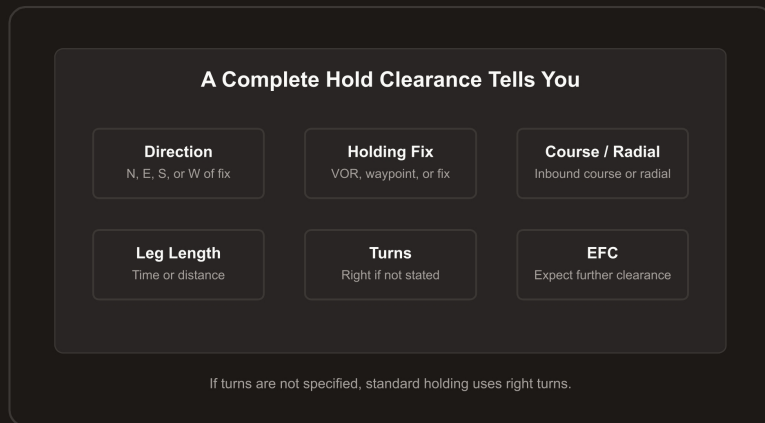
If the clearance limit is not a fix from which an approach begins, leave the clearance limit at the EFC time if one was received. If no EFC was received, leave upon arrival over the clearance limit, then proceed to a fix from which an approach begins and time descent or approach as close as possible to the ETA.

CLEARANCE LIMIT	EFC RECEIVED	NO EFC RECEIVED
Fix from which approach begins	Begin descent or approach as close as possible to EFC.	Begin descent or approach as close as possible to ETA.
Not a fix from which approach begins	Leave clearance limit at EFC, then proceed to approach fix.	Leave upon arrival, then proceed to approach fix.

Destination Airport Nuance
 Many IFR clearances are to the destination airport, which may not itself be a fix from which an approach begins. Explain the text of 91.185, then add that AIM judgment and 91.3 emergency authority matter if a literal maneuver would be unsafe.

CLEARANCE LIMIT QUESTION
Is this where an approach begins?
 If yes, time descent from EFC or ETA. If no, leave at EFC or arrival, then proceed to an approach fix.

Holding Makes EFC Matter



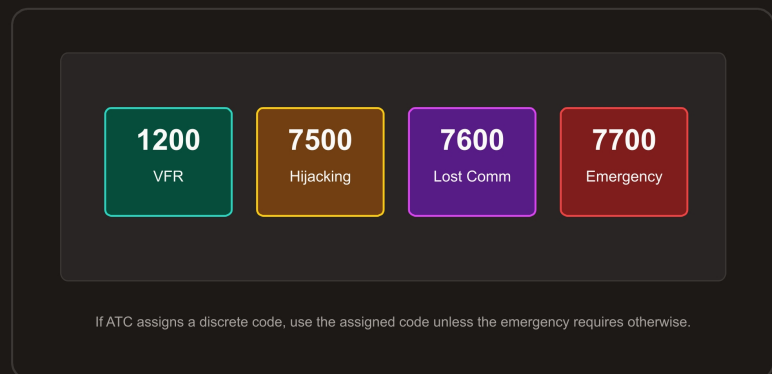
If you were issued holding instructions with an EFC time, that time tells you when to leave the holding fix if communications are lost. Maintain the applicable lost comm altitude unless the hold clearance or minimum IFR altitude requires a different answer.

If the hold fix is a fix from which an approach begins, begin descent and approach as close as possible to EFC. If not, leave at EFC and proceed to a fix from which an approach begins.

Communication Recovery Is Still Part Of The Procedure

Lost comm procedures do not mean stop trying to communicate. AIM guidance encourages pilots to try multiple paths while continuing to fly the airplane. If contact is made through a relay, provide position, altitude, last assigned frequency, and the assistance or clearance needed.

Two way failure is not always total silence. If only the transmitter failed, keep listening and comply with ATC instructions received clearly. If only the receiver failed, continue broadcasting intentions, position, altitude, and planned actions.



METHOD	USE	CAUTION
Last frequency	Try immediate recontact.	Could be blocked or out of range.
Previous frequency	Return to the last working controller.	Explain lost contact if able.
121.5	Use guard for concise contact attempts.	Keep transmissions short.
Flight Service	Relay to ATC.	Give position, altitude, and last frequency.
Navaid voice	Monitor or transmit if available.	Not all nav aids support voice.
Transponder	Squawk 7600 for lost comm.	Radar coverage may not exist.

Stuck Microphone

A stuck mic can block the frequency for everyone. Release or disconnect the push to talk source, try another microphone or radio, and stop transmitting until the issue is fixed if you suspect the blocked frequency is yours.

7600 Versus 7700

If radio failure is the only issue and you can safely follow 91.185, 7600 is normally appropriate. If fuel, weather, icing, navigation failure, engine trouble, or medical risk creates an emergency, use 91.3 and emergency handling as needed.

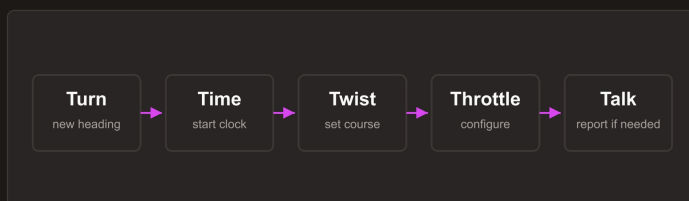
Where Lost Comm Happens

DEPARTURE

Follow the assigned departure clearance first. If cleared via a SID, maintain the assigned altitude until the expected altitude time or fix unless a higher minimum IFR altitude requires a climb sooner.

ARRIVAL OR STAR

Continue on the assigned arrival route unless the clearance or lost comm rule points elsewhere. Honor published restrictions when they remain compatible with the altitude rule.



Use after crossing a fix, entering a hold, or beginning a new instrument segment.

VECTORS

Determine what the vector was for. Reconnect to the specified fix, route, airway, or final approach course. Use emergency authority if the vector leaves no safe or clear route.

APPROACH

If already cleared and established on the approach, continue if safe. If the required visual references are not present at minimums, fly the published missed approach.

Fix Crossing Discipline

The Five Ts are useful when lost comm puts more workload on pilot navigation. Use them after a fix, entering a hold, or beginning an approach segment so timing, course setup, power, and communication attempts do not drift.

Regulations And FAA Guidance In Plain English

14 CFR 91.185

The main lost comm regulation. It gives the VFR landing rule, AVEF route rule, highest altitude rule, and clearance limit timing rule.

AIM 6 4 2

Set Mode A code 7600 when two way radio capability is lost, while remembering radar coverage may not exist.

14 CFR 91.3

The pilot in command is final authority and may deviate from rules to the extent required to meet an emergency.

AIM 6 4 1

The judgment layer. It notes that no rule covers every possible situation, that practicable is not the same as possible, and that emergency authority remains available.

AIM 6 4 3

Keep trying to reestablish contact through assigned or previous frequencies, Flight Service, appropriate radio facilities, and 121.5 when useful.

14 CFR 91.187

If communication equipment is degrading but not fully failed, report the malfunction, degree of impairment, and assistance desired while you still can.

Checkride Questions In Context

Q What regulation covers IFR lost communications?
A 14 CFR 91.185, with AIM guidance for judgment, transponder use, and communication recovery.

Q What do you do first if radios fail in IMC?
A Fly the airplane, troubleshoot the likely cockpit causes, squawk 7600, keep trying to communicate, then apply route, altitude, and timing rules.

Q What does squawk 7600 do?
A It alerts ATC to radio failure in radar coverage. It does not replace the route, altitude, or clearance limit procedure.

Q What if strict compliance creates an unsafe result?
A Use 91.3 emergency authority to the extent needed, broadcast intentions if possible, squawk appropriately, and land or navigate to the safest practical outcome.

Scenario Quick Answers

SCENARIO	PRIMARY RULE	PRACTICAL ACTION
Lost comm in VMC	91.185 VFR provision	Continue VFR and land as soon as practicable.
Lost comm in IMC on route	AVEF and MEA	Fly the predictable route and highest applicable altitude.
Lost comm while vectored	Vector rule	Proceed to the specified fix, route, or airway.
Lost comm in holding with EFC	Clearance limit rule	Leave at EFC as applicable.
Lost comm after approach clearance	Approach clearance and 91.185	Continue the approach if safe and fly the missed if required.
Unsafe to comply	91.3 emergency authority	Deviate as required for safety.

WHY ROTE MEMORIZATION FAILS

- AVEF does not tell you when to descend.
- MEA does not tell you what to do at the clearance limit.
- Neither acronym tells you whether to land VFR.
- Neither acronym tells you when safety requires emergency authority.

Final Instructor Thought

IFR lost comm is about predictability, terrain clearance, timing, and command judgment. The sharp pilot knows AVEF and MEA. The professional pilot knows when VFR landing is better, when EFC matters, when the clearance limit controls the approach, and when safety requires 91.3.