Radio Communication In Detail

This document is a summary of US aviation voice radio communications phrasing. Further procedure details can be found in the FAA's *Aeronautical Information Manual* (AIM).

In this document, pilot transmissions look like this, and controller transmissions look like this.

Contents

Transmission Format

The full format of an aviation radio transmission is three parts: (1) Call sign of who you want to speak to, (2) your call sign, (3) the message. Use this full format when you start a conversation. Subsequent transmissions in the conversation are in the abbreviated format (1) your reply, followed by (2) your call sign.

For example:

Pilot: Executive tower, Skyhawk 413ES, 10 miles east, 2,500, information E, landing Executive.

Tower: Skyhawk 3ES, Executive tower, report mid-field downwind.

Pilot: Report mid-field downwind, Skyhawk 3ES.

Call Signs

Your aircraft call sign is your aircraft type name (like Skyhawk or Cub or Citation), followed by the digits and letters of your aircraft registration (like "six eight two alpha charlie"). When a controller replies to you using an abbreviation of your call sign (just "Skyhawk two alpha charlie"), you can then use that abbreviation in your subsequent transmissions.

Air traffic control call signs are usually a facility name (Austin, SoCal [southern California], DFW, etc.) followed by the controller type (ground, tower, approach, etc.). These names are published with the frequencies on aviation charts and directories.

How to Say Numbers and Letters

For numbers and identification, speak individual digits (11 is "one one," not "eleven") and letters. The digit **9** is pronounced "nine-er." Internationally, **3** is pronounced "tree," and **5** is "fife."

— Aircraft ID: Type-name digits-and-phonetic-letters
— Heading: "Heading" 3-digits
— Altitude (< 18,000 ft MSL): Digits "thousand," optional digit "hundred"
(≥ 18,000 ft MSL): "Flight level" 3-digits
— Transponder code: 4-digits
— Frequency (MHz): 3-digits "point" 1-or-2-digits
— Speed (knots): Digits "knots"
— Runway: "Runway" 1-or-2-digits, optional left-center-right
— Distance: Digits "miles"

ICAO Radiotelephony Spelling Alphabet

A: **al**-fah	H: ho-**tell**	O: **oss**-cah	V: **vik**-tah
B: **brah**-voh	I: **in**-de-ah	P: pah-**pah**	W: **wiss**-key
C: **char**-lee	J: **jew**-lee-**ett**	K: keh-**beck**	X: **ecs**-ray
D: **dell**-tah	K: **key**-loh	R: **row**-me-oh	Y: **yang**-key
E: **eck**-oh	L: **lee**-mah	S: see-**air**-rah	Z: **zoo**-loo
F: **foks**-trot	M: **mike**	T: **tang**-go	
G: **golf**	N: no-**vem**-ber	U: **you**-nee-form	

Examples:
413ES = **fow**-er **wun tree eck**-oh see-**air**-rah
heading 300 = heading **tree ze-ro ze-ro**
2800 (altitude) = **too** thousand **ait** hundred
runway 19L = runway **wun nine**-er left

Basic Terminology

I heard you / I didn't hear that

Roger: I have received **and understood** all of your last transmission. It should *not* be used to answer a question requiring a yes or a no answer, or when a read back is required.

Say again: Used to request a repeat of the last transmission. Usually specifies transmission or portion thereof not understood or received; e.g., "Say again all after Cen-Tex VOR."

Yes / No

Affirm: Yes.

Negative: "No," or "permission not granted," or "that is not correct."

OK, I will do that / I can't do that

Wilco: I have received your message, understand it, and will comply with it.

Unable: Indicates inability to comply with a specific instruction, request, or clearance. "Unable" is normally followed by a reason.

Start Talking / Hang on a Moment

Go ahead: Proceed with your message. Not to be used for any other purpose. "Go ahead" *never* means you're cleared to do anything.

Stand by: Means the speaker must pause for a few seconds, usually to attend to other duties. Also means to wait, as in "stand by for clearance." "Stand by" is not an approval.

Multiple Messages in One Transmission

Break break: When ATC is very busy, they can include multiple messages in one transmission, separated by "break break." For example, "Citation 9-4-B, climb and maintain 1-0 thousand; break break, Skyhawk 2-A-C, turn left heading 2-0-0."

Checking and Correcting Messages

Correction: Means "an error has been made in this transmission (or message indicated). The correct version is..." For example, "1-2 miles east, correction, 1-5 miles east"

Disregard: Means "ignore." For example, stopping a transmission in the middle, "Executive ground, Skyhawk six—disregard."

Read back: Means "repeat my message back to me."

Verify: Request confirmation; e.g., "verify assigned altitude" or "verify Skyhawk 2-A-C cleared to land." (Internationally, the term used is "confirm.")

That is correct: Means "the understanding that you have is right."

Read Backs

Read back to ATC: all (1) clearances, (2) vectors, (3) restrictions, (4) runway assignments, (5) transponder squawks, and (6) frequencies. Basically anything with a number or routing. End the read back with your call sign.

ATC General Requests

Cleared: Means "authorized to proceed under the conditions specified."

Approved: Means "permission for proposed action granted."

Cancel: Means "annul the previously transmitted clearance."

Say altitude: Request for pilot to tell ATC the aircraft's current altitude/flight level. When the aircraft is climbing or descending, round to the nearest 100 feet.

Say heading: Request for pilot to tell ATC the aircraft's current heading. The pilot should state the actual heading of the aircraft (not the course or the assigned heading).

Maintain visual separation: Means "keep the other aircraft in sight and maneuver your aircraft as necessary to avoid it."

Levels of Urgency

Pilot's discretion Whenever you want. With altitude assignments, this means start climb or

When able	As soon as makes sense. You may delay starting the turn/climb/etc. until you are high enough, or past the weather, or some other reason. Unlike "pilot discretion," when instructions are prefaced "when able," you should do so at the first opportunity. Once a maneuver has been started, you are expected to continue through completion.
(no urgency word)	Normal urgency. Follow the clearance/instruction without unusual delay.
Expedite	Quickly. Prompt compliance is required to avoid the development of a bad situation. Expedite climb/descent normally indicates to a pilot that the approximate best rate of climb/descent should be used.
Immediately	NOW!! Immediate and vigorous action is required to avoid a bad situation.

Switching Frequencies

Contact ⟨facility call sign⟩ ⟨frequency⟩: Means "establish communication with ⟨facility call sign⟩ on ⟨frequency⟩." Check in to the new frequency with: facility call sign, your full call sign, and your position and altitude. If you've been told that you're in "radar contact," you can omit your position, but still need to say your altitude.

Change to my frequency ⟨frequency⟩: Switch to the given frequency and say only "⟨your call sign⟩ on ⟨frequency⟩." No need for a full check-in.

Monitor: Listen on a specific frequency and stand by for instructions. No need for any check-in.

Remain this frequency: Instead of changing frequencies as usual, stay on the current frequency.

Change to advisory frequency approved: Switch to the CTAF frequency for the airport.

Frequency change approved: ATC's way of saying "good bye." Switch to any frequency.

Radio Difficulties

Blocked: A transmission has been distorted or interrupted due to multiple simultaneous radio transmissions.

How do you hear me?: A question relating to the quality of the transmission or to determine how well the transmission is being received. Reply with "loud/good/weak" and "clear/readable/unreadable" with comments like "fading," "with interference," "distorted," and "intermittent."

I say again: The message will be repeated.

Speak slower: A request to reduce speech rate.

Words twice: As a request: "Communication is difficult. Say every phrase twice." As information: "Every phrase in this message will be spoken twice."

Transmitting in the blind: A transmission from one station to other stations in circumstances where two-way communication cannot be established, but where it is believed that the called stations may be able to receive the transmission.

Taxiing

You request taxi clearance before takeoff using this format: ⟨facility name⟩ ground, ⟨your call sign⟩, ⟨position on airport (use airport chart)⟩, information ⟨ATIS code⟩, VFR/IFR ⟨direction⟩ to ⟨destination⟩, or VFR ⟨direction⟩, ready to taxi.

You request taxi clearance after landing using this format: ⟨facility name⟩ ground, ⟨your call sign⟩, clearing/clear of ⟨runway⟩ on ⟨taxiway⟩, request taxi to ⟨destination⟩.

Ground control will issue taxi clearances with a taxi destination and route: Runway ⟨number⟩, taxi via ⟨route⟩ or Taxi to ⟨ramp/FBO/hangar⟩ via ⟨route⟩.

If ground cannot clear you to taxi yet, they'll instead say Hold position or Hold for ⟨reason⟩.

A taxi clearance can have these phrases in it:

- Taxi/continue taxiing via ⟨route⟩
- Cross ⟨runway⟩, at ⟨runway/taxiway⟩
- On ⟨runway/taxiway⟩
- To ⟨location⟩
- ⟨direction⟩
- Via ⟨route⟩, hold short of ⟨location⟩
- Follow ⟨traffic⟩ ⟨restrictions as necessary⟩
- Behind ⟨traffic⟩
- Give way
- Cross ⟨runway⟩ at ⟨runway/taxiway⟩, hold short of ⟨runway⟩
- Hold short of ⟨runway⟩ approach
- Hold short of ⟨runway⟩ departure
- Hold short of ⟨runway⟩ ILS critical area
- Taxi without delay ⟨traffic⟩

Note: Any "hold short" instructions must be read back by you, including the area that you are to hold short of (usually a runway number).

Takeoff

You request takeoff clearance using this format: ⟨facility name⟩ tower, ⟨your call sign⟩, ⟨taxiway⟩ at runway ⟨runway⟩, ready for departure.

Tower will reply with one of three responses:

- Runway ⟨runway⟩, cleared for takeoff: Authorization for you to depart.

— Runway ⟨runway⟩, line up and wait: Taxi onto the departure runway into your takeoff position, and wait. This is not authorization for takeoff. It is used when takeoff clearance cannot immediately be issued because of traffic or other reasons.

— Hold short of runway ⟨runway⟩: Do not enter the runway. Stay outside of the hold short markings.

For expediency, you can choose to make an "intersection takeoff," which is a takeoff from a point not at the start of the runway, where a cross taxiway leads on to the runway. In these cases, the runway is specified with the taxiway—Runway ⟨runway⟩ at ⟨taxiway⟩. To clarify that a takeoff is not an intersection takeoff, the phrase "full length" is used—Runway ⟨runway⟩, full length.

If you will be handed off from tower to departure control after takeoff, your takeoff clearance will be prefixed with your initial vector:

— Fly runway heading, runway ⟨runway⟩, cleared for takeoff: Keep flying the runway heading, without any wind correction applied. For example, if runway 31 is aligned to 307° magnetic, stay on that heading.

— Turn left/right heading ⟨heading⟩, runway ⟨runway⟩, cleared for takeoff: Turn as cleared, when you reach a safe altitude to do so (at least 400 AGL in IMC).

You must read back the takeoff clearance or instruction, including the runway number.

If tower needs to, they can revoke your takeoff clearance: cancel takeoff clearance, ⟨reason⟩. Once you start your takeoff roll, they won't cancel your takeoff unless there's a safety problem.

If you ever start a takeoff roll and then stop, report to tower "stopping."

If you will be handed off from tower to departure control, soon after you takeoff, tower will say "change to departure."

If you have requested to remain in the pattern, tower will say "left/right closed traffic approved." Tower may ask you to "report ⟨position⟩" in the pattern.

ATC Radar Services to VFR Aircraft

All ATC facilities with radar can provide VFR aircraft with services such as traffic advisories and safety alerts.

Departing

Note: Listen to the ATIS for the airport's specific procedures. At many towers, the ATIS has remarks like "All VFR departures contact clearance delivery."

When departing an airport with an approach control, before taxi, contact clearance delivery (if there is one at the airport) with this format: ⟨facility name⟩ clearance delivery, ⟨your call sign⟩, information ⟨ATIS code⟩, VFR ⟨direction⟩ to ⟨destination⟩. If there is no clearance delivery frequency, contact ground with this format: ⟨facility name⟩ ground, ⟨your call sign⟩, ⟨position on airport (use airport chart)⟩, information ⟨ATIS code⟩, VFR ⟨direction⟩ to ⟨destination⟩, ready to taxi. If you would like ATC radar flight following for your flight, you can request it from clearance delivery (or ground, if no clearance delivery) with this format: ⟨facility name⟩ clearance delivery, ⟨your call sign⟩, information ⟨ATIS code⟩, request flight following. We're a ⟨type code⟩ slant ⟨equipment code⟩, destination ⟨destination code⟩, altitude ⟨cruise altitude⟩. For example, "Austin clearance delivery, Skyhawk 6-8-2-A-C, information F, request flight following. We're a C-1-7-2 slant G, destination T-K-I, altitude 5 thousand 5 hundred."

In any case, you will be given: departure frequency ⟨frequency⟩, squawk ⟨code⟩.

After takeoff, tower will say change to departure. Switch to the frequency you were give, and check in with ⟨facility name⟩ departure, ⟨your call sign⟩, passing ⟨altitude⟩, climbing to ⟨altitude⟩.

Requesting Flight Following After Departure

You can also ATC radar flight following in the air from approach or center. Call them with: ⟨facility name⟩ center/approach, ⟨your call sign⟩, request flight following. When they say "go ahead," say: ⟨your call sign⟩ is a ⟨type code⟩ slant ⟨equipment code⟩, destination ⟨destination code⟩, altitude ⟨cruise altitude⟩. For example, "Houston center, Skyhawk 6-8-2-A-C, request flight following." "Skyhawk 6-8-2-A-C, go ahead." "Skyhawk 6-8-2-A-C is a C-1-7-2 slant G, destination T-K-I, altitude 5 thousand 5 hundred."

ATC Radar Service Phraseology

While you're getting ATC radar service, the controller may say:

Radar contact: ATC has identified you on radar, and radar flight following will be provided.

Radar contact lost: ATC has lost your radar/transponder signal.

Radar service terminated: ATC will no longer provide radar services such as traffic advisories and safety alerts. Radar service is automatically terminated when you're instructed to change to tower or advisory frequency.

Squawk VFR: Change your transponder code to 1200.

Squawk ⟨code⟩: Change your transponder code to ⟨code⟩.

Ident: Press the IDENT button on your transponder. This will help the controller to identify you on the controller's radar display.

Stop altitude squawk: Turn off the altitude reporting feature of your transponder. This is used when the verbally reported altitude varies 300 feet or more from the automatic altitude report.

ATC Advisories and Alerts

Low altitude alert, check your altitude immediately: The ATC computer indicated you appear to be getting too low.

Traffic alert ⟨call sign⟩ ⟨position of aircraft⟩, advise you turn left/right ⟨heading⟩, and/or climb/descend ⟨specific altitude, if appropriate⟩ immediately: It looks like you are about to hit another aircraft.

Traffic, ⟨number⟩ o'clock, ⟨number⟩ miles, ⟨direction⟩-bound: A traffic advisory for you. Respond with looking, and then either traffic in sight or negative contact ⟨reasons⟩.

Traffic no factor: Indicates that the traffic described in a previously issued traffic advisory is no longer a concern.

Traffic no longer observed: Indicates that the traffic described in a previously issued traffic advisory is no longer depicted on radar, but may still be a factor.

Numerous targets vicinity ⟨location⟩: Targets on the radar scope are too numerous to issue individually.

Caution wake turbulence ⟨traffic information⟩: An advisory that your flight path will follow or cross a large aircraft's path, which could expose you to tip vortices and upset your attitude.

Wind shear alert: An advisory that possibly hazardous wind shear has been detected on the airport.

Vectoring, Climbs/Descents, or Speed Restrictions

ATC may instruct pilots to turn to headings, climb/descend to altitudes, or speed up/slow down:

- Turn left/right heading ⟨degrees⟩.
- Fly heading ⟨degrees⟩.
- Turn ⟨number⟩ degrees left/right.
- Fly heading ⟨degrees⟩. when able, proceed direct ⟨name of fix⟩.
- Climb and maintain ⟨altitude⟩.
- Descend and maintain ⟨altitude⟩.
- Maintain ⟨number⟩ knots.
- Increase/reduce speed to ⟨number⟩ knots.
- Maintain maximum forward speed.
- Maintain slowest practical speed.
- Reduce speed to approach speed.

ATC can also return control to the pilot:

- Resume own navigation: Return to your on-course heading. ATC expects you to navigate approximately according to whatever you coordinated with them (or filed as an IFR flight plan). If you're going to turn to some other direction, keep ATC informed.
- Altitude restrictions are canceled: Adherence to previously imposed altitude restrictions is no longer required during a climb or descent.
- Resume normal speed: Resume an aircraft's normal operating speed. This does not delete speed restrictions in published procedures of upcoming segments of flight.

When issuing vectors, ATC may give the reason for the vectors:

- Vector to ⟨fix or airway⟩
- Vector for spacing
- Vector to final approach course

Instead of a vector, if you've reported traffic in sight, ATC can request that you:

- Maintain visual separation: Keep the other aircraft in sight and maneuver your aircraft as necessary to avoid it.
- Follow ⟨description⟩ ⟨position⟩: Keep the other aircraft in sight and maneuver your aircraft to follow it.

Landing

When approaching an airport, call-up when 25 NM out (when there is approach control) or 15 NM out (tower, no approach control): ⟨facility name⟩ tower, ⟨your call sign⟩, ⟨position⟩, ⟨altitude⟩, information ⟨ATIS code⟩, landing ⟨airport name⟩.

If you are talking to approach, when you are a few miles from the airport, they will say contact tower. Call up tower with ⟨facility name⟩ tower, ⟨your call sign⟩, ⟨position⟩.

Tower will sequence you to the runway with phases such as:

- Enter left/right base.
- Make straight-in.

— Make left/right traffic.
— Continue.
— Extend downwind.
— Follow ⟨description and location of traffic⟩: Keep the other aircraft in sight and maneuver your aircraft to follow it.
— Circle the airport.
— Make left/right three-sixty/two-seventy: Make 1 or 2 full circles in the direction indicated.
— Make short approach: Alter your traffic pattern so as to make a short final approach.

You will be cleared to land:

— Cleared to land: Authorization to land (or go-around if necessary).
— Cleared for the option: Authorization to make a touch-and-go, low approach, missed approach, stop-and-go, or full stop landing, at the discretion of the pilot. Pilots should advise ATC if they decide to remain on the runway, of any delay in their stop and go, delay clearing the runway, or are unable to comply with the instruction(s).
— Cleared touch-and-go: Authorization to land (or go-around if necessary) and depart on a runway without stopping or exiting the runway.
— Cleared stop-and-go: Authorization to land (or go-around if necessary), stop, and immediately depart on a runway without exiting the runway.
— Cleared low approach: Authorization to fly over a runway without landing.
— Cleared to land, hold short of runway ⟨number⟩: Authorization to land (or go-around if necessary), but not use the full runway length. The pilot must stop short of the specified runway. If not certain to be able to stop short, the pilot must refuse the clearance ("unable").
— Change to runway ⟨number⟩, runway ⟨number⟩ cleared to land: Authorization to land (or go-around if necessary), but on a different runway than was expected.
— Not in sight, runway ⟨number⟩ cleared to land: Authorization to land (or go-around if necessary), but the controller hasn't yet been able to see you.

As you land, tower can tell you:

Go around: Abandon your approach to landing. Additional instructions may follow. Unless otherwise advised by ATC, a VFR aircraft or an aircraft conducting visual approach should overfly the runway while climbing to traffic pattern altitude and enter the traffic pattern via the crosswind leg. A pilot on an IFR flight plan making an instrument approach should execute the published missed approach procedure or proceed as instructed by ATC.

When going around (at your choice or at request of ATC), pilots should report going around.

Turn left/right ⟨taxiway/runway⟩: During the landing rollout, ATC may specify a specific turnoff. If you're not going to make it, say unable.

If able, turn left/right ⟨taxiway/runway⟩: During the landing rollout, ATC may suggest a specific turnoff.

Hold short of runway ⟨number⟩: Do not cross the specified runway. This instruction must be read back to ATC, including the runway number.

Make left/right closed traffic: Remain in the traffic pattern at a towered field.

Non-Towered Field

Here are examples of all of the "standard" CTAF calls:

Taylor traffic, Skyhawk 6-8-2-A-C, 1-0 miles ⟨direction⟩, ⟨altitude⟩ descending, landing Taylor.

Taylor traffic, Skyhawk 6-8-2-A-C, 5 miles ⟨direction⟩, ⟨altitude⟩ descending, landing Taylor.

Taylor traffic, Skyhawk 6-8-2-A-C, right downwind runway 1-7 full stop/touch-and-go, Taylor.

Taylor traffic, Skyhawk 6-8-2-A-C, right base runway 1-7 full stop/touch-and-go, Taylor.

Taylor traffic, Skyhawk 6-8-2-A-C, final runway 1-7 full stop/touch-and-go, Taylor.

Taylor traffic Skyhawk 6-8-2-A-C clear of runway 1-7, Taylor.

Taylor traffic, Skyhawk 6-8-2-A-C, ⟨location on airport⟩ taxiing to runway 1-7, Taylor.

Taylor traffic, Skyhawk 6-8-2-A-C departing runway 1-7, remaining in the pattern, Taylor.

Taylor traffic, Skyhawk 6-8-2-A-C departing runway 1-7, departing the pattern to the ⟨direction⟩, climbing to ⟨altitude⟩, Taylor.

Taylor traffic, Skyhawk 6-8-2-A-C, 1-0 miles ⟨direction⟩, ⟨altitude⟩, overflight Taylor.

Emergencies

Emergency: A distress or an urgency condition. (Distress: A condition of being threatened by *serious and/or imminent danger* and of requiring *immediate assistance*. Urgency: A condition of being *concerned about safety* and of requiring timely but not immediate assistance; a *potential distress* condition.)

Mayday: The international radiotelephony distress signal. When repeated three times, it indicates imminent and grave danger and that immediate assistance is requested.

Pan-pan: The international radio-telephony urgency signal. When repeated three times, indicates uncertainty or an alert.

VFR & IFR Terminology

From the FAA *Pilot/Controller Glossary*:

abeam: An aircraft is "abeam" a fix, point, or object when that fix, point, or object is approximately 90 degrees to the right or left of the aircraft track. Abeam indicates a general position rather than a precise point.

abort: To terminate a preplanned aircraft maneuver; e.g., an aborted takeoff.

AIRMET: In-flight weather advisories issued only to amend the Aviation Surface Forecast, Aviation Cloud Forecast, or area forecast concerning weather phenomena which are of operational interest to all aircraft and potentially hazardous to aircraft having limited capability because of lack of equipment, instrumentation, or pilot qualifications. AIRMETs concern weather of less severity than that covered by SIGMETs or Convective SIGMETs. AIRMETs cover moderate icing, moderate turbulence, sustained winds of 30 knots or more at the surface, widespread areas of ceilings less than 1,000 feet and/or visibility less than 3 miles, and extensive mountain obscurement.

back-taxi: To taxi an aircraft on the runway opposite to the traffic flow. The aircraft may back-taxi to the beginning of the runway or at some point before reaching the runway end for the purpose of departure or to exit the runway.

ceiling: The heights above the earth's surface of the lowest layer of clouds or obscuring phenomena that is reported as "broken," "overcast," or "obscuration," and not classified as "thin" or "partial."

clear of the runway:
a. Taxiing aircraft, which is approaching a runway, is clear of the runway when all parts of the aircraft are held short of the applicable runway holding position marking.
b. A pilot or controller may consider an aircraft, which is exiting or crossing a runway, to be clear of the runway when all parts of the aircraft are beyond the runway edge and there are no restrictions to its continued movement beyond the applicable runway holding position marking.

convective SIGMET: A weather advisory concerning convective weather significant to the safety of all aircraft. Convective SIGMETs are issued for tornadoes, lines of thunderstorms, embedded thunderstorms of any intensity level, areas of thunderstorms greater than or equal to VIP level 4 with an area coverage of 4/10 (40%) or more, and hail 3/4 inch or greater.

flight level: A level of constant atmospheric pressure related to a reference datum of 29.92 inches of mercury. Each is stated in three digits that represent hundreds of feet. For example, flight level (FL) 250 represents a barometric altimeter indication of 25,000 feet; FL 255, an indication of 25,500 feet.

have numbers: Pilot has received runway, wind, and altimeter information only.

maintain:
a. Concerning altitude/flight level, the term means to remain at the altitude/flight level specified. The phrase "climb and" or "descend and" normally precedes "maintain" and the altitude assignment; e.g., "descend and maintain 5,000."
b. Concerning other ATC instructions, the term is used in its literal sense; e.g., maintain VFR.

one-minute weather: The weather broadcast from an uncontrolled airport ASOS/AWOS.

SIGMET: A weather advisory issued concerning weather significant to the safety of all aircraft. SIGMET advisories cover severe and extreme turbulence, severe icing, and widespread dust or sandstorms that reduce visibility to less than 3 miles.

VFR conditions: Weather conditions equal to or better than the minimum for flight under visual flight rules.

IFR-Only Terminology

From the FAA *Pilot/Controller Glossary*:

circle to runway ⟨number⟩: Used by ATC to inform the pilot that he/she must circle to land because the runway in use is other than the runway aligned with the instrument approach procedure. When the direction of the circling maneuver in relation to the airport/runway is required, the controller will state the direction (eight cardinal compass points) and specify a left or right downwind or base leg as appropriate; e.g., "Cleared VOR runway 3-6 approach, circle to runway 2-2," or "Circle northwest of the airport for a right downwind to runway 2-2."

cleared ⟨type⟩ approach: ATC authorization for an aircraft to execute a specific instrument approach procedure to an airport; e.g., "Cleared ILS runway 3-6 approach."

cleared as filed: The aircraft is cleared to proceed in accordance with the route of flight filed in the flight plan. This clearance does not include the altitude, DP, or DP Transition.

cleared through: ATC authorization for an aircraft to make intermediate stops at specified airports without refiling a flight plan while en route to the clearance limit.

climb to VFR: ATC authorization for an aircraft to climb to VFR conditions within Class B, C, D, and E surface areas when the only weather limitation is restricted visibility. The aircraft must remain clear of clouds while climbing to VFR.

climb via: An abbreviated ATC clearance that requires compliance with the procedure lateral path, associated speed restrictions, and altitude restrictions along the cleared route or procedure.

comply with restrictions: An ATC instruction that requires an aircraft being vectored back onto an arrival or departure procedure to comply with all altitude and/or speed restrictions depicted on the procedure. This term may be used in lieu of repeating each remaining restriction that appears on the procedure.

contact approach: An approach wherein an aircraft on an IFR flight plan, having an air traffic control authorization, operating clear of clouds with at least 1 mile flight visibility and a reasonable expectation of continuing to the destination airport in those conditions, may deviate from the instrument approach procedure and proceed to the destination airport by visual reference to the surface. This approach will only be authorized when requested by the pilot and the reported ground visibility at the destination airport is at least 1 statute mile.

cross ⟨fix⟩ at ⟨altitude⟩: Used by ATC when a specific altitude restriction at a specified fix is required.

cross ⟨fix⟩ at or above ⟨altitude⟩: Used by ATC when an altitude restriction at a specified fix is required. It does not prohibit the aircraft from crossing the fix at a higher altitude than specified; however, the higher altitude may not be one that will violate a succeeding altitude restriction or altitude assignment.

cross ⟨fix⟩ at or below ⟨altitude⟩: Used by ATC when a maximum crossing altitude at a specific fix is required. It does not prohibit the aircraft from crossing the fix at a lower altitude; however, it must be at or above the minimum IFR altitude.

cruise: Used in an ATC clearance to authorize a pilot to conduct flight at any altitude from the minimum IFR altitude up to and including the altitude specified in the clearance. . . . . .

execute missed approach: Instructions issued to a pilot making an instrument approach which means continue inbound to the missed approach point and execute the missed approach procedure as described on the Instrument Approach Procedure Chart or as previously assigned by ATC. The pilot may climb immediately to the altitude specified in the missed approach procedure upon making a missed approach. No turns should be initiated prior to reaching the missed approach point. When conducting an ASR or PAR approach, execute the assigned missed approach procedure immediately upon receiving instructions to "execute missed approach."

expect ⟨altitude⟩ at ⟨time⟩ or ⟨fix⟩: Used under certain conditions to provide a pilot with an altitude to be used in the event of two-way communications failure. It also provides altitude information to assist the pilot in planning.

expect further clearance ⟨time⟩: The time a pilot can expect to receive clearance beyond a clearance limit.

expect further clearance via ⟨air- ways, routes or fixes⟩: Used to inform a pilot of the routing he/she can expect if any part of the route beyond a short range clearance limit differs from that filed.

hold for release: Used by ATC to delay an aircraft for traffic management reasons; i.e., weather, traffic volume, etc. Hold for release instructions (including departure delay information) are used to inform a pilot or a controller (either directly or through an authorized relay) that an IFR departure clearance is not valid until a release time or additional instructions have been received.

if no transmission received for ⟨time⟩: Used by ATC in radar approaches to prefix procedures which should be followed by the pilot in event of lost communications.

missed approach:
a. A maneuver conducted by a pilot when an instrument approach cannot be completed to a landing. The route of flight and altitude are shown on instrument approach procedure charts. A pilot executing a missed approach prior to the Missed Approach Point (MAP) must continue along the final approach to the MAP.
b. A term used by the pilot to inform ATC that he/she is executing the missed approach.
c. At locations where ATC radar service is provided, the pilot should conform to radar vectors when provided by ATC in lieu of the published missed approach procedure.

no gyro approach: A radar approach/vector provided in case of a malfunctioning gyro-compass or directional gyro. Instead of providing the pilot with headings to be flown, the controller observes the radar track and issues control instructions "turn right/left" or "stop turn" as appropriate.

off course: A term used to describe a situation where an aircraft has reported a position fix or is observed on radar at a point not on the ATC-approved route of flight.

on course:
a. Used to indicate that an aircraft is established on the route centerline.
b. Used by ATC to advise a pilot making a radar approach that his/her aircraft is lined up on the final approach course.

request full route clearance: Used by pilots to request that the entire route of flight be read verbatim in an ATC clearance. Such request should be made to preclude receiving an ATC clearance based on the original filed flight plan when a filed IFR flight plan has been revised by the pilot, company, or operations prior to departure.

resume published speed: Used by ATC to advise a pilot to resume published speed restrictions that are applicable to a SID, STAR, or other instrument procedure. It is issued to terminate a speed adjustment where speed restrictions are published on a charted procedure.

verify specific direction of takeoff (or turns after takeoff): Used by ATC to ascertain an aircraft's direction of takeoff and/or direction of turn after takeoff. It is normally used for IFR departures from an airport not having a control tower. When direct communication with the pilot is not possible, the request and information may be relayed through an FSS, dispatcher, or by other means.

VFR-on-top: ATC authorization for an IFR aircraft to operate in VFR conditions at any appropriate VFR altitude (as specified in 14 CFR and as restricted by ATC). A pilot receiving this authorization must comply with the VFR visibility, distance from cloud criteria, and the minimum IFR altitudes specified in 14 CFR Part 91. The use of this term does not relieve controllers of their responsibility to separate aircraft in Class B and Class C airspace or TRSAs as required by FAA Order JO 7110.65.

visual approach: An approach conducted on an instrument flight rules (IFR) flight plan which authorizes the pilot to proceed visually and clear of clouds to the airport. The pilot must, at all times, have either the airport or the preceding aircraft in sight. This approach must be authorized and under the control of the appropriate air traffic control facility. Reported weather at the airport must be: ceiling at or above 1,000 feet, and visibility of 3 miles or greater.