



IFR PHRASEOLOGY

1. Introduction

1.1. What is phraseology?

Phraseology is the way to communicate between the pilot and air traffic controller (ATC unit) for the purpose of ensuring uniformity in RTF communications.

If standard phrases are adhered to when composing a message, any possible ambiguity will be reduced to a minimum.

As a pilot, you must repeat the air traffic controller clearances you received. That is called the read back procedure.

It is a mandatory procedure except when the pilot is in emergency and he has no time to read back or when the pilot's radio is broken.

1.2. Basic Rules

An ATC must start all messages with the call sign of the addressed aircraft.

A pilot usually ends read-back messages with his call sign.

A pilot usually starts a message with his ATC call sign followed by his call sign when he calls the ATC unit for the first time.

Some abbreviations may be spoken using their constituent letters rather than the spelling alphabet, for example, ILS, QNH, RVR.

The following words may be omitted from transmissions provided that no confusion or ambiguity will result:

- "Surface" in relation to surface wind direction and speed
- "Degrees" in relation to radar headings
- "Visibility", "Clouds" and "Height" in meteorological reports
- "Hecto Pascal" when giving pressure settings

The use of courtesies should be avoided.

The word "IMMEDIATELY" should only be used when immediate action is required for safety reasons.

You shall avoid words "this is", "over", and other similar terms from radio transmissions provided there is no likelihood of misunderstanding.

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1.3. Advice for IFR pilots

If any traffic controller is in charge of your airfield, as an IFR pilot, **you must read his ATIS** (Automatic Terminal Information Service) which contains basic elements as:

- Weather information (METAR) including QNH value
- Runway in use
- Transition altitude / transition flight level
- Other information applicable for your flight (if present)
- Information letter

You must check the weather using METAR and TAF information of the airfield or a nearby one, if your airfield has no weather station.

Clearance read-back is mandatory for all pilots.

1.4. Information

In this document, we use the following convention:

- IFR Pilot call sign is **SAU1234**.
- ATC unit is located at **Faircity** airfield.
- The sign $\rightarrow\blacktriangleleft$ before the text means: this is the pilot transmission. ($\leftarrow\blacktriangleleft$ for VFR, $\rightarrow\blacktriangleleft$ for IFR)
- The sign $\uparrow\blacktriangleleft$ before the text means: this is the air traffic controller unit (ATC unit) transmission.

The ATC is the one that may start using the short call sign. Only thereafter the pilot shall use it as well.

2. Transmitting technique

The following transmitting techniques will assist in ensuring that transmitted speech is clear and satisfactorily received:

1. **before transmitting, listen out on the frequency** to be used to ensure that there will be no interference with a transmission from another station
2. use a normal conversational tone, and speak clearly and distinctly
3. maintain the speaking volume at a constant level
4. **a slight pause before and after numbers** will assist in making them easier to understand
5. **avoid using hesitation sounds** such as "er"
6. be familiar with the microphone operating techniques, particularly in relation to the maintenance of a constant distance from the microphone
7. **depress the transmit switch fully before speaking and do not release it until the message is completed**

We give you a specific advice for using the IVAO voice server. After switching to a new channel using the voice server, be aware that you never hear the current speaking person. Always wait 3/5 seconds minimum, before transmitting your message.

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3. Aerodrome control

Concise and unambiguous phraseology used at the correct time is vital to the smooth, safe and expeditious operation of an aerodrome.

Controllers should not transmit to an aircraft during take-off, initial climb, the last part of the final approach or the landing roll, unless it is necessary for safety reasons, as it may be distracting to the pilot at a time when the cockpit workload is at its highest.

3.1. Departure information

Where no ATIS is provided, the pilot may ask for current aerodrome information before requesting start up (of course if there is an active ATC nearby your position).

ATC ↑	Pilot →
	→ Faircity ground, SAU1234, IFR to Globalcity, request departure information
↑ SAU1234, departure runway 24, wind 290 degrees 6knots, QNH1000, temperature 14, dew point 3, visibility 8000m, clouds broken 030, time 26	

3.2. IFR departure clearance

The IFR clearance shall contain the following items:

- Aircraft identification
- Clearance limit (usually destination aerodrome)
- Designator of the assigned Standard Instrument Departure or omnidirectional departure clearance
- Runway in use for departure (except if it is already included in the SID description)
- Initial climb (except if it is already included in the SID description)
- allocated squawk/transponder code (SQ)
- Any other necessary instructions or information not included in the SID description, e.g. the change of frequency at a particular point, a non-standard departure, the expected startup time...

The aircraft shall read (or listen to) the complete ATIS before contacting the ATC. By saying the information letter, ATC will understand that the pilot has taken the ATIS information on board.

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ATC ↑	Pilot →
	→ Faircity delivery, SAU1234, stand B9, request start-up, information BRAVO
↑ SAU1234, start-up approved, cleared to the Berlin airport, departure TRA3R, runway 24, maintain flight level 140, squawk 5256.	
	→ departure TRA3R, runway 24, maintaining flight level 140, squawk 5256, SAU1234
↑ SAU1234, Correct, contact ground 118.5 when ready for push back	
	→ 118.5, when ready for push back, SAU1234

Note that the start-up received by the pilot is the flight plan start and activation. The engine can be started by the pilot at every moment after this initial clearance without any specific request. The engine start-up is usually done during pushback.

If the pilot does not read back correctly, ATC shall correct the wrong parameter using the “Negative” word:

ATC ↑	Pilot →
	→ departure TRA3R, runway 24, maintaining flight level 150, squawk 5266, SAU1234
↑ SAU1234, Negative , flight level 140, squawk 5256	
	→ flight level 140, squawk 5256, SAU1234

If the start-up is delayed by ATC, ATC must give the minutes or event including reasons why the departure is delayed with the clearance:

ATC ↑	Pilot →
	→ Faircity delivery, SAU1234, stand B9, request start-up, information BRAVO
↑ SAU1234, cleared to the Berlin airport, departure TRA3R, runway 24, maintain flight level 140, squawk 5256, do not depart before 35 due to 8 aircraft waiting at the holding point	
	→ departure TRA3R, runway 24, maintaining flight level 140, squawk 5256, do not depart before 35, SAU1234

If a departure time or event cannot be specified, do not issue a clearance.

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Here, the start-up is delayed, ATC does not know the expected time for departure. ATC will delay the clearance:

ATC ↓	Pilot →
	→◀ Faircity delivery, SAU1234, stand B9, request start-up, information BRAVO
↓◀ SAU1234, expect start-up after 35 due to traffic on taxiway Alpha immobilized.	
	→◀ Roger, SAU1234

If an ATC unit delays the clearance, he must call back the aircraft after the initial delay to give him information or clearance.

3.3. Push back operation

At many aerodromes at which large aircraft operate, the aircraft are parked with the nose towards the terminal. Aircraft have to be pushed backwards by tugs before they can taxi for departure.

Requests for push-back are made to ATC or apron management depending on the local procedures.

ATC ↓	Pilot →
	→◀ Faircity ground, SAU1234, Stand B9, request pushback.
↓◀ SAU1234, pushback approved	
	→◀ Push back approved, SAU1234

If the pushback is not free or will not be free due to traffic taxiing, the ATC can delay the pushback:

ATC ↓	Pilot →
	→◀ Faircity ground, SAU1234, Stand B9, request pushback.
↓◀ SAU1234, stand by, expect 2 minutes delay due B747 taxiing behind	
	→◀ Stand by, SAU1234
(after a while)	
↓◀ SAU1234, pushback approved	
	→◀ Push back approved, SAU1234

3.4. Taxi Instructions

Taxi instructions issued by a controller will always contain a clearance limit, which is the point at which the aircraft must stop until further permission to proceed is given.

For departing aircraft, the clearance limit will normally be the taxi-holding point of the runway in use, but it may be any other position on the aerodrome depending on the prevailing traffic circumstances.

ATC ↓	Pilot →
	→◀ Faircity ground, SAU1234, request taxi
↓◀ SAU1234, taxi to holding point runway 06, via taxiway Alpha	
	→◀ Taxi to holding point runway 06, via taxiway Alpha, SAU1234

As a pilot, you can ask another holding point or taxiway, the ATC can accept:

ATC ↓	Pilot →
	→◀ Request taxi bravo, SAU1234
↓◀ SAU1234, taxi to holding point runway 06, via taxiway Bravo	

The ATC can refuse:

ATC ↓	Pilot →
↓◀ SAU1234, negative, continue taxi via Alpha	
	→◀ continue taxi via Alpha, SAU1234

The ATC can propose an alternative solution:

ATC ↓	Pilot →
↓◀ SAU1234, negative, taxi to holding point runway 06, via Delta and Echo	
	→◀ continue taxi via Delta and Echo, SAU1234

Taxi to holding point, requiring a runway cross:

ATC ↓	Pilot →
	→◀ SAU1234 approaching holding point, request cross runway 12
↓◀ SAU1234, maintain holding point runway 12	
	→◀ Maintain holding point, SAU1234
↓◀ SAU1234, cross runway 12, report vacated	
	→◀ Crossing runway 12, SAU1234
(after a while)	
	→◀ runway 12 vacated, SAU1234
↓◀ SAU1234, roger, continue taxi via Delta	

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A specific crossing clearance from ATC is needed to cross a runway.
A taxi clearance is not a runway crossing clearance.

Sometimes taxis are faced with some traffic moving or waiting; the ATC can stop the traffic:

ATC ↓	Pilot →
↓ SAU1234, maintain position, give way to B747 passing left to right	
(after a while)	→ SAU1234, maintain position, B747 in sight
↓ SAU1234, continue taxi via Alpha to holding point runway 24.	

Sometimes taxis are faced with some traffic moving or waiting; the ATC can let the aircraft organize its separation with the traffic:

ATC ↓	Pilot →
↓ SAU1234, give way to B747 passing left to right, taxi to holding point runway 24	
	→ give way to B747 in sight and taxi holding point runway 24, SAU1234

Since misunderstandings in the granting and acknowledgement of take-off clearances can result in serious consequences, care should be taken to ensure that the phraseology employed during the taxi manoeuvres cannot be interpreted as a clearance to enter the runway or to take-off.

3.5. Take-off procedure

At busy aerodromes with separate GROUND and TOWER functions, aircraft are usually transferred to the TOWER at, or when approaching, the runway-holding position.

ATC ↓	Pilot →
↓ SAU1234, contact tower, 118.525	
	→ contact tower 118.525, SAU1234

Some aircraft may be required to carry out checks prior to departure and are not always ready for take-off when they reach the holding point:

ATC ↓	Pilot →
↓ SAU1234, report ready for departure	
(after a while)	→ Wilco, SAU1234
	→ Ready for departure, SAU1234
↓ SAU1234, line-up runway 24 and wait.	
	→ Lining-up runway 24 and wait, SAU1234

The term “maintain” shall not be used on the runway for a lining up operation.

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The taking-off clearance shall be given to aircraft after lining-up, or at the holding point when necessary:

ATC ↓	Pilot →
↓ SAU1234, runway 24 cleared for take-off.	
	→ Runway 24 cleared for take-off, SAU1234

During approaching a holding point, an aircraft can anticipate the call to the ATC in order to avoid a full stop at the holding point:

ATC ↓	Pilot →
	→ SAU1234 approaching holding point runway 24
↓ SAU1234, line-up runway 24 and wait	
	→ lining up runway 24 and wait, SAU1234

A normal taking off clearance usually has two phases: lining-up and take-off.
As ATC, you can provide two separate clearances:

ATC ↓	Pilot →
↓ SAU1234, line up runway 24 and wait	
	→ lining up runway 24 and wait, SAU1234
(after a while)	
↓ SAU1234, runway 24 cleared for take-off.	
	→ Runway 24 cleared for take-off, SAU1234

Except in cases of emergency, controllers should not transmit to an aircraft in the process of taking off or during the early stage of climb.

Or, ATC can provide only one clearance with both instructions:

ATC ↓	Pilot →
↓ SAU1234, line up runway 24, cleared for take-off.	
	→ Line up runway 24, cleared for take-off, SAU1234

In aerodrome control, the use of "cleared" instruction is only used for landing and take-off operations.

The number of the runway should be stated in all landing and take-off clearances (especially when several runways are in use and there is a possibility that the pilot may be confused as to which one to use).

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In poor visibility conditions, the ATC unit may request the pilot to report when airborne:

ATC ↑	Pilot →
↑ SAU1234, runway 24 cleared for take-off, report airborne.	
	→ Runway 24, cleared for take-off, wilco, SAU1234
(After take-off)	
	→ SAU1234 airborne

After take-off, an IFR shall be transferred to the next ATC:

ATC ↑	Pilot →
↑ SAU1234, contact departure 121.250	
	→ contact departure 121.250, SAU1234

Departure instructions may be given with the take-off clearance. Such instructions are normally given to ensure separation between aircraft operating in the vicinity of the aerodrome.

ATC ↑	Pilot →
↑ SAU1234, climb straight ahead until 2000ft before turning right, runway 24 cleared for take-off.	
	→ Climb straight ahead 2000ft before turning right, runway 24 cleared for take-off, SAU1234.

3.6. Conditional line-up clearance

Conditional clearances shall not be used for movements affecting the active runway(s), except when the aircraft (or vehicles) concerned are seen by both the controller and pilot.

When the conditional clearance involves a departing aircraft and an arriving aircraft, it is important that the departing aircraft correctly identifies the arriving aircraft on which the conditional clearance is based.

Reference to the arriving aircraft type may be insufficient and it may be necessary to add a description of the color or the company name to ensure correct identification

A conditional clearance shall be given as follows:

- Call sign
- The condition
- The clearance
- Brief reiteration of the clearance

Example: SAU1234, behind the landing airbus 340, line-up runway 16 and wait, behind

Callsign = SAU1234

Condition = behind the landing airbus 340

Clearance = line-up runway 16 and wait

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ATC ↑	Pilot →
↑ ◀ SAU1234, do you have in sight, one airbus 340 on final runway 16?	
	→ ◀ We have airbus 340 in sight, SAU1234
↑ ◀ SAU1234, behind the landing airbus 340, line-up runway 16 and wait, behind	
	→ ◀ Behind the landing airbus 340, line-up runway 16 and wait, behind, SAU1234

In case of poor visibility, as a result of which the pilot at the holding point cannot see the traffic, ATC shall not give any conditional clearance:

ATC ↑	Pilot →
↑ ◀ SAU1234, do you have in sight, one airbus 340 on final runway 16?	
	→ ◀ No traffic in sight, SAU1234
↑ ◀ SAU1234, maintain holding point runway 16	
	→ ◀ Maintaining holding point runway 16, SAU1234

3.7. Special take-off operation

Due to unexpected traffic developments, it is occasionally necessary to cancel the take-off clearance or quickly free the runway for landing traffic.

Take-off cancellation before the aircraft is rolling (pay attention that “cancel take off” shall be repeated two times):

ATC ↑	Pilot →
↑ ◀ SAU1234, hold position, cancel take-off, I say again, SAU1234, cancel take-off aircraft on the runway.	
	→ ◀ holding position, SAU1234

Take-off cancellation when aircraft is rolling:

ATC ↑	Pilot →
↑ ◀ SAU1234, stop immediately, SAU1234, stop immediately.	
	→ ◀ stopping, SAU1234

When an aircraft has commenced the take-off roll, and it is necessary for the aircraft to abandon take-off in order to avert a dangerous traffic situation, the aircraft should be instructed to stop immediately and the instruction and call sign repeated.

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An aircraft on the runway and the runway needs to be evacuated immediately:

ATC ↑	Pilot →
↑ SAU1234, take-off immediately or vacate the runway.	
	→ taking off, SAU1234

An aircraft on the holding point and the take-off shall be very quick in order to vacate the runway as soon as possible:

ATC ↑	Pilot →
↑ SAU1234, take-off immediately or hold short of runway	
	→ holding short, SAU1234

The ATC can give the immediate take-off in a different manner:

ATC ↑	Pilot →
↑ SAU1234, B737 at 6NM final, are you ready for immediate departure?	
	→ Ready for immediate departure, SAU1234
↑ SAU1234, runway 24, cleared for take-off immediately.	
	→ Runway 24, cleared for take-off immediately, SAU1234

An aircraft can abandon a take-off manoeuvre (for a technical problem for example) before the speed V1; the control tower should be informed as soon as possible:

ATC ↑	Pilot →
	→ SAU1234, stopping
↑ SAU1234, Roger.	
	(after a while, when aircraft speed is controlled)
	→ SAU1234, request return to ramp
↑ SAU1234, take next right, contact ground 118.350	
	→ Taking next right, contact ground 118.350, SAU1234

3.8. Final approach and landing

A "FINAL" report is made by an aircraft when reaching the point at 7 km or 4 NM from touchdown. If the aircraft is making a straight-in approach, a "LONG FINAL" report can be made at 8NM.

Final = 4NM / Long Final = 8NM / Short Final = 2NM

If no landing clearance is received at that time, a "FINAL" report is made at 7 km or 4 NM from touchdown.

ATC ↑	Pilot →
	→ SAU1234, final runway 19
↑ SAU1234, runway 19, cleared to land, wind 250 degrees 22knots	
	→ runway 19, cleared to land, SAU1234

If the runway is not free, and the aircraft makes a position report on final, the ATC shall invite the pilot in command to continue his current approach:

ATC ↑	Pilot →
	→ SAU1234, long final runway 19
↑ SAU1234, continue approach runway 19, wind 260 degrees 20knots.	
	→ SAU1234, continue approach runway 19

A pilot can acknowledge a continuing clearance with only his call sign. But, in order to improve safety, you can make a standard read-back.

For training purposes, a pilot may request permission to make an approach along, or parallel to the runway, without landing:

ATC ↑	Pilot →
	→ SAU1234, request low approach runway 19 for training.
↑ SAU1234, cleared low approach runway 19, not below 250feet.	
	→ SAU1234, cleared low approach runway 19, not below 250 feet.

3.9. Go around procedure

A go around procedure shall be initiated by the pilot or the ATC.

An ATC shall issue a go-around if:

- The landing runway is not free
- The separation will be below the limits (collision avoidance) defined by the regulations.

A pilot shall issue a go-around if:

- He can see an obstacle on the landing runway (vehicle, aircraft, material, people...)
- He does not see the runway (exception when performing CAT III precision approaches)
- He cannot land considering the current flight conditions (wind shear, cross wind, missing approach, wake turbulence, too high speed, too high altitude...)
- He does not receive any landing clearance starting from the short final (2NM) to runway threshold at the latest.

Instructions to carry out a missed approach may be given to avert an unsafe situation. When a missed approach is initiated, the cockpit workload is inevitably high. Any transmissions to aircraft going around should be brief and kept to a minimum.

ATC request a go around:

ATC ↑	Pilot →
↑ SAU1234, go around aircraft on the runway.	
	→ going around, SAU1234

Pilot initiates a go around:

ATC ↑	Pilot →
	→ going around, SAU1234
↑ SAU1234, Roger.	

Unless instructions are issued to the contrary, an aircraft on an instrument approach (IFR) will carry out the missed approach procedure and an aircraft operating VFR will continue in the normal traffic circuit. An aircraft must initiate a go around procedure when instructed by the ATC and the aircraft is not authorized to land.

A go-around clearance cannot be cancelled by the ATC when a pilot has already started a go-around.

3.10. After landing

Unless absolutely necessary, controllers should not give taxi instructions to pilots until the landing roll is completed.

ATC ↓	Pilot →
↓ SAU1234, Take first right, when vacated contact ground 118.350	
	→ Taking first right, and contact ground 118.350, SAU1234

Unless otherwise advised by ATC, pilots should remain on the tower frequency until the runway is vacated.

After vacating, the pilot in command shall ask a taxi clearance to continue:

ATC ↓	Pilot →
	→ Faircity ground, SAU1234, runway vacated (via Echo) (*)
↓ SAU1234, Taxi to Stand 6D via taxiway Golf.	
	→ Stand 6D via taxiway Golf, SAU1234

(*) As a pilot in command you can help ATC to locate you by transmitting the position of the aircraft on the taxiway

An IFR flight usually does not call back the controller when on blocks or apron.

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4. Approach control

At many airports both arrivals and departures are handled by a single approach control unit. At busier airports, departures and arrivals may be handled separately by specific arrival and departure control units.

This document will show you the presence of two separate units: the first one is arrival or approach controller and the second is the departure. If you are in the approach position with no departure position, just replace word "Departure" by "Approach" in the name of the ATC unit.

4.1. IFR departure

During the first contact with the aircraft, the ATC shall identify the aircraft:

ATC ↑	Pilot →
	→◀ Faircity departure, SAU1234, heavy
↑◀ SAU1234, identified	

The identification of aircraft means that the aircraft spot on the radar has the expected call sign and the flight plan is received.

Usually with the identification message, the ATC sends the departure procedure received and the initial level (which can be the first level given during the clearance or new expected level):

ATC ↑	Pilot →
	→◀ Faircity departure, SAU1234, heavy
↑◀ SAU1234, identified, TRA3R departure, climb FL140	
	→◀ TRA3R departure, climb FL140, SAU1234

In addition to the ATC route clearance, departing IFR flight may be given additional departure instructions in order to provide for separation.

ATC ↑	Pilot →
	→◀ Faircity departure, SAU1234 heavy
↑◀ SAU1234, identified, turn right heading 040 until passing FL70 then direct WIK VOR	
	→◀ Turn right heading 040 until passing FL70 then direct WIK VOR, SAU1234
↑◀ SAU1234, report passing FL 70	
	→◀ SAU1234, WILCO
(after a while)	
	→◀ SAU1234, passing FL 70, (WIK VOR at 1456)
↑◀ SAU1234, contact Edmonton control 129.1	
	→◀ 129.1, SAU1234

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4.2. IFR arrival

The approach controller will normally advise, on initial contact, the type of approach to be expected.

ATC ↑	Pilot →
	→◀ Faircity approach, SAU1234 heavy, FL80, information Delta.
↑◀ SAU1234, descend 4000 feet QNH 1004, transition level 50, expect ILS approach runway 24	
	→◀ Descending 4000 feet QNH 1004, transition level 50, expecting ILS approach runway 24, SAU1234

When the transition level is published, information regarding transition level may be omitted. When including the term “expect” in “expect ILS approach runway 24”, this message shall not be considered as a clearance or an instruction.

During the first contact, a pilot can include the arrival procedure cleared or performed in the message to the ATC unit.

ATC ↑	Pilot →
	→◀ Faircity approach, SAU1234 heavy, FL120, VALAX1A arrival, information Delta.
↑◀ SAU1234, descent FL70, continue VALAX1A arrival, expect ILS approach runway 03	
	→◀ Descending to FL70, VALAX1A arrival, expecting ILS approach runway 03, SAU1234

When performing a STAR, a pilot must await ATC instructions to change level or altitude.

When performing a complex STAR, the approach controller can give a direct to an intermediate fix or initial approach fix for regulation:

ATC ↑	Pilot →
↑◀ SAU1234, direct BODUL	
	→◀ Direct BODUL, SAU1234

Note that clearance to a FIX shall be considered as a clearance limit in the approach phase for the pilot. If the pilot does not receive new instructions at the point, he must initiate a holding pattern at this point.

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4.3. IFR approach

Then, after this first contact, the ATC unit will give the descent instruction to the aircraft in order to reach the final approach altitude and can also give the approach clearance in a different or in the same communication:

ATC ↑	Pilot →
↑ SAU1234, descent 2000ft, cleared ILS approach runway 24, report ILS established	
	→ Descending 2000 feet, cleared ILS approach runway 24, Wilco, SAU1234
(after a while)	
	→ SAU1234, ILS established
↑ SAU1234, contact tower 118.7	
	→ 118.7, SAU1234

The instruction “report ILS established” is facultative. The ATC unit can use it or not (no regulation need). For other types of approach, the ATC can use other terms like “report track established”, “report radial established”, “report Outer Marker”, “report Over NDB”, “report 8 nautical miles final”

There are several approach types to be performed by aircraft.
The ATC unit must choose the right one in function of aircraft, weather and regulations.

The name of the approach must be chosen from instrument approach charts (IAC). Do not invent your own name.

Examples of approach clearances:

- Cleared VOR/DME approach runway 1 3 right
- Cleared NDB approach runway 2 4
- Cleared VIRIE ILS approach runway 1 8
- Cleared VOR Alpha approach runway 0 4 left
- Cleared ILS Zulu approach runway 0 3
- Cleared ILS approach runway 2 5, followed by visual approach with prescribed track runway 0 7.

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If an IFR aircraft wants a visual approach, ATC must check that the aircraft will maintain the visual reference to the terrain before giving the clearance:

ATC ↑	Pilot →
	→ SAU1234, 2000ft, field in sight, request visual approach
↑ SAU1234, cleared visual approach runway 24.	
	→ cleared visual approach runway 24, SAU1234

If the ATC unit wants to delay the aircraft approach, it must send to the pilot the new expected approach time (EAT). The aircraft will perform a holding pattern on a specific point in this situation:

ATC ↑	Pilot →
↑ SAU1234, revised approach time 48 (minutes from now)	
	→ revised approach time 48, SAU1234

ATC will give only the minutes of the current hour. If the current time is 17H30, then the information means that the aircraft can expect to start its approach procedure at 17H48.

In order to speed up the arrival and approach procedure or to regulate traffic between arriving aircraft, vectors can be given by the ATC unit to arriving flights to position them onto a pilot-interpreted final approach aid, or to a point from which a visual approach can be made.

Example of vectors to final approach using ILS aid with restriction which can be used or not by ATC unit:

ATC ↑	Pilot →
	→ SAU1234, approaching ATOLL, FL60
↑ SAU1234, vectoring for ILS approach runway 27, QNH 1008	
	→ ILS approach runway 27, QNH 1008, SAU1234
↑ SAU1234, leave North Cross NDB heading 200	
	→ Leaving North Cross NDB heading 200, SAU1234
↑ SAU1234, report speed	
	→ SAU1234, speed 250 knots
↑ SAU1234, for separation reduce minimum clean speed	
	→ reducing to 205 knots, SAU1234
↑ SAU1234, descend 2500 feet QNH 1008, transition level 50, number 4 in traffic	
	→ Leaving FL60, Descending 2500 feet QNH 1008, transition level 50, SAU1234
↑ SAU1234, Turn right heading 180	
	→ Right heading 180, SAU1234
↑ SAU1234, 12 miles from touchdown, reduce to minimum approach speed, turn right heading 230, cleared for ILS approach runway 27, report established	
	→ Reducing minimum approach speed, right heading 230, cleared for ILS approach runway 27, Wilco, SAU1234
(after a while)	
	→ SAU1234, established
↑ SAU1234, no ATC speed restriction, contact tower 118.9	
	→ 118.9, SAU1234

5. Holding procedure

Normally, a holding procedure should be published. The ATC unit gives only the fix or navigation aid to hold at and the pilot-in-command will follow the holding pattern description published on charts (IAC and/or ARR charts):

ATC ↓	Pilot →
↓ ◀ SAU1234, hold at TBO VOR	
	→ ◀ hold at TBO VOR, SAU1234

The holding procedure can be used by the ATC unit in order to descend an arriving aircraft which has too high altitude or to delay an aircraft to create separation for approach.

If the ATC unit wants to give a non-published holding procedure, it must describe its components to the pilot:

ATC ↓	Pilot →
↓ ◀ SAU1234, hold on the 265 radial of DIK VOR between 25 miles and 30 miles DME, FL100, inbound track 085, right hand pattern, expected approach time 1545	
	→ ◀ holding on the 265 radial of DIK VOR between 25 miles and 30 miles DME, FL100, inbound track 085, right hand pattern, expected approach time 1545, SAU1234

The ATC unit shall pass the holding information in the following order:

- 1) FIX
- 2) Level
- 3) Inbound Track
- 4) Right or Left hand
- 5) Time of leg (when necessary)

If there are some parameters missing for this holding instruction and if there is no hold published on this point, the parameters shall be: altitude is the current altitude/level, inbound track is the current heading of the aircraft, outbound time is 1 minute, right hand pattern

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The ATC unit can give a holding procedure, but an aircraft can ask for a holding procedure in order to descend if the pilot-in-command knows that the aircraft has too high altitude for beginning an approach procedure or if the pilot-in-command needs time to prepare his aircraft for final approach:

ATC ↓	Pilot →
	→ SAU1234, request holding procedure
↓ SAU1234, hold at VIRIE, FL70	
	→ hold at VIRIE, FL70, SAU1234

For regulation purposes, the ATC unit can give level and/or speed instructions with the holding procedure.

However, when the pilot requires a detailed description of the holding procedure based on a facility, the following phraseology should be used:

ATC ↓	Pilot →
↓ SAU1234, hold at NCR	
	→ request holding instructions, SAU1234
↓ SAU1234, hold at NCR NDB, inbound track 250 degrees, left hand pattern, outbound time 1 minute.	
	→ Holding at NCR NDB, inbound track 250 degrees, left hand, outbound 1minute, SAU1234

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6. ATS surveillance service

This chapter contains general ATS surveillance service phraseology which is commonly used in communication between aircraft and all types of ATC units equipped with radar.

This phraseology is more applicable to approach radar control (APP/DEP) or area radar control (CTR).

6.1. Radar identification in controlled areas

When an aircraft enters a controlled area, the ATC unit equipped with radar shall identify each aircraft:

ATC ↑	Pilot →
	→◀ GrandVilla control, SAU1234 heavy
↑◀ SAU1234, identified.	

When an aircraft leaves a controlled zone and no ATC unit is present in the next area, the ATC unit equipped with radar gives the following message:

ATC ↑	Pilot →
↑◀ SAU1234, radar control terminated.	
	→◀ Roger, SAU1234

In IVAO, you can include UNICOM in your message; the universal auto-information frequency:

ATC ↑	Pilot →
↑◀ SAU1234, radar control terminated, monitor UNICOM 122.8	
	→◀ UNICOM 122.8, SAU1234

When an aircraft leaves a controlled zone and an ATC unit is present in the next area, the current controller must transfer the aircraft:

ATC ↑	Pilot →
↑◀ SAU1234, contact Munich 118.950	
	→◀ 118.950, SAU1234

ATC shall advice pilots if identification is lost or established:

ATC ↑	Pilot →
↑◀ SAU1234, identified 20 miles north west of Highvilla	

ATC ↑	Pilot →
↑◀ SAU1234, identification lost due to radar failure, remain this frequency.	
	→◀ Wilco, SAU1234

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6.2. Vectoring

Aircraft may be given specific vectors to fly in order to establish separation:

ATC ↑	Pilot →
↑ SAU1234, turn left, heading 050 for separation.	
	→ Heading left 050, SAU1234

ATC ↑	Pilot →
↑ SAU1234, fly heading 050	
	→ Heading 050, SAU1234

Aircraft may be given instruction to maintain its present heading to maintain separation:

ATC ↑	Pilot →
↑ SAU1234, report heading	
	→ heading 090, SAU1234
↑ SAU1234, roger, continue heading 090	
	→ Continue heading 90, SAU1234

When vectoring is completed, pilots shall be instructed to resume their own navigation if necessary:

ATC ↑	Pilot →
↑ SAU1234, resume own navigation.	
	→ Wilco, SAU1234

The ATC unit shall give specific instructions in addition to the previous message:

ATC ↑	Pilot →
↑ SAU1234, resume own navigation direct SAU VOR.	
	→ Direct SAU VOR, SAU1234

Occasionally, an aircraft may be instructed to make a complete turn known as 360° turn (orbit for VFR) for delaying purposes:

ATC ↑	Pilot →
↑ SAU1234, make a three sixty turn left for sequencing.	
	→ Three sixty turn left, SAU1234

6.3. Traffic information and avoiding action

Whenever practicable, information regarding traffic on a conflicting path should be given in the following form:

- Relative bearing of the conflicting traffic in terms of the 12 hour clock.
- Distance from the conflicting traffic
- Direction of the flight of the conflicting traffic
- Any other pertinent information such as: slow/fast moving, closing, opposite/same direction, overtaking, crossing left/right to right/left, aircraft level and type, climbing/descending.

ATC ↓	Pilot →
↓ ◀ SAU1234, unknown traffic, 1 o'clock 3 miles opposite direction fast moving	
(after some time)	→ ◀ Looking out, SAU1234
	→ ◀ SAU1234, Traffic in sight

Example of traffic information with all details:

ATC ↓	Pilot →
↓ ◀ SAU1234, traffic 11 o'clock, 10 miles, southbound, Boeing 737, flight level 230.	

When the ATC unit does not know some parameter, it can use the term like "unknown", "unverified".
Example:

ATC ↓	Pilot →
↓ ◀ SAU1234, traffic 1 o'clock, 5 miles, from left to right, slow moving, type and altitude unknown	

6.4. Radar instruction

The following phrases together with their meanings are instructions which may be given by ATC units to pilots regarding the operation of SSR transponders:

ATC ↓	meaning
Squawk 5343	Set the transponder code 5343 as instructed
Confirm squawk	Confirm mode and code set on the transponder
Squawk IDENT	Operate the IDENT feature
Squawk MAYDAY	Select emergency code 7700
Squawk STAND BY	Select the stand by feature
Squawk CHARLIE	Select pressure altitude transmission feature (TX)
Check altimeter settings and confirm level	ATC identifies a wrong altitude and wants the pilot to check the altimeter instrument

Example:

ATC ↓	Pilot →
↓ SAU1234, squawk 4112	
	→ Squawk 4112, SAU1234

ATC ↓	Pilot →
↓ SAU1234, check altimeter setting and confirm flight level	
	→ SAU1234, altimeter 1013, flight level 80

6.5. Manage aircraft with radio communication failure

There are several methods to identify an aircraft which faces a radio communication failure and is able to receive but not transmit messages:

In IVAO, if a pilot cannot transmit using voice, he always has the possibility to transmit via text mode. The communication via text shall be made first when voice communication is not possible (before any other solution like radio communication failure procedures).

Identify with heading change:

ATC ↓	Pilot →
↓ SAU1234, reply not received if you read Faircity approach, turn left heading 040	
	(the pilot turns to 040 degrees)
↓ SAU1234, turn observed 5 miles south of WIK VOR, will continue radar control	

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Identify with squawk IDENT feature:

ATC ↑	Pilot →
↑ SAU1234, reply not received if you read Faircity approach, squawk IDENT.	
	(the pilot presses on squawk IDENT button)
↑ SAU1234, squawk observed 5 miles south of WIK VOR, will continue radar control	

6.6. Alerting phraseologies

In the event that a minimum safe altitude is not respected by the pilot, the ATC unit will inform the aircraft and issue appropriate instructions.

ATC ↑	Pilot →
↑ SAU1234, low altitude warning, check your altitude immediately, QNH is 1009, and minimum flight altitude is 6200 feet.	

When the ATC unit considers that an imminent risk of collision will exist if action is not taken immediately, an avoiding action to be taken by the pilot is given.

ATC ↑	Pilot →
↑ SAU1234, turn right immediately heading 110 to avoid traffic 11 o'clock 4 miles.	
	→ Right heading 110, SAU1234 (after a while)
↑ SAU1234, clear of traffic, resume own navigation	
	→ Roger, SAU1234

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7. Level instructions

Levels instructions may be reported as altitude, height or flight levels according to the phase of flight and the altimeter setting.

7.1. Reported flight level requested by ATC

ATC ↓	Pilot →
↓ SAU1234, report passing FL80	
(after a while)	→ SAU1234, Wilco
	→ SAU1234, passing FL80

7.2. Level change

ATC ↓	Pilot →
↓ SAU1234, climb to FL230	
	→ climbing to FL230, SAU1234

ATC ↓	Pilot →
↓ SAU1234, descend to FL110	
	→ descending to FL110, SAU1234

Level change using conditional clearance:

ATC ↓	Pilot →
↓ SAU1234, after passing NCS NDB, descend to FL70	
	→ after NCS NDB, descend to FL70, SAU1234

Once having been given an instruction to climb or descend, a further overriding instruction may be given to a pilot

ATC ↓	Pilot →
↓ SAU1234, continue climb FL330	
	→ climbing to FL330, SAU1234

Occasionally, for traffic reasons, a higher than normal rate of descent (or climb) may be required in order to free flight level left.

ATC ↓	Pilot →
↓ SAU1234, expedite descent to FL80	
	→ expediting descent to FL80, SAU1234

Through the following clearance, ATC wants the pilot to reach the new level with the highest rate of descent until an intermediate level:

ATC ↑	Pilot →
↑ SAU1234, climb to FL240 expedite until passing FL180	
	→ climbing to FL240 expediting until passing FL180, SAU1234

As a pilot if you are unable to follow the expedite clearance you shall report that to ATC:

ATC ↑	Pilot →
	→ unable to expedite, SAU1234

The ATC unit shall transmit the QNH value or Altimeter setting value when it instructs an aircraft to descend and cross the transition level.

ATC ↑	Pilot →
↑ SAU1234, descend to FL110	
	→ descending to FL110, SAU1234 (after a while)
↑ SAU1234, descend to 4000 feet, QNH 1023	
	→ descending to 4000 feet, QNH 1023, SAU1234

Now an example with altimeter setting (inHg) used mainly in North America:

ATC ↑	Pilot →
↑ SAU1234, descend to 4000 feet, altimeter 2998	
	→ descending to 4000 feet, altimeter 2998, SAU1234

7.3. Maintaining level or stopping level change

ATC ↑	Pilot →
↑ SAU1234, maintain 5000 feet	
	→ maintaining 5000ft, SAU1234

Once having been given an instruction to climb or descend, a further overriding instruction may be given to a pilot:

ATC ↑	Pilot →
↑ SAU1234, stop descent at FL150	
	→ stopping descent at FL 150, SAU1234

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