IFR PHRASEOLOGY - ADC

1. Introduction

1.1.   What is phraseology?

The phraseology is the way to communicate between the pilot and air traffic controller (ATC unit) for the purpose of ensuring uniformity in radiotelephony (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's called the read back procedure.

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

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 ✈◀ before the text means: this is the pilot transmission. (⬠ for VFR, ✈ for IFR)
- The sign ▮◀ 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 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 it is already included in the SID description)
- Initial climb (except 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. With 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 doesn't read back correctly, ATC shall correct the wrong parameter using the word "Negative":

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 doesn't 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, it 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

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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 underlined 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 occupied 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	
	✈🔊 Maintain position, B747 in sight SAU1234
(after a while)	
🕴🔊 SAU1234, continue taxi via Alpha to holding point runway 24.	

Sometimes taxis are occupied 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	
	✈🔊 Wilco, SAU1234
(after a while)	
	✈🔊 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 the 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 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 the two 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 flight 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, the pilot at 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 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 short 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 the 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.

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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 regulation.

A pilot shall issue a go-around if:

- He can see an obstacle on the landing runway (vehicle, aircraft, material, people…)
- He doesn't see the runway (except when performing CAT III precision approaches)
- He can't land considering the current flight condition (wind shear, cross wind, missing approach, wake turbulence, too high speed, too high altitude…)
- He doesn't receive any landing clearance starting from the short final (2NM) to the 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, 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 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.

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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 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 doesn't call back the controller when on blocks or apron.

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