CHAPTER 5
RADIO COMMUNICATION PROCEDURES

Radio communication procedures and phrases contained in this section have been selected from **AIP GEN 3.4 and ENR 1.1**.

Use of standard phrases for radio communication between aircraft and ground stations is essential to avoid misunderstanding the intent of messages and to reduce the time required for communication.

Generally, communication procedures and phrases that are used in Australia are in harmony with ICAO and international practices.

Where circumstances warrant, if a standard phrase is not available, clear, concise and plain language should be used.

General communication phrases

English language (CASR 61.255 to 61.270)

The English language must be used for all air–ground radio telephony (RTF) communications within Australian flight information regions (FIRs) unless use of an alternative language has been arranged with ATS prior to a specific flight.

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Phonetic alphabet

Radio telephony pronunciation of the phonetic alphabet is as follows:

Character	Word	Pronunciation
A	Alpha	**al** fah
B	Bravo	**brah** voh
C	Charlie	**char** lee or **shar** lee
D	Delta	**dell** tah
E	Echo	**eck** ho
F	Foxtrot	**foks** trot
G	Golf	golf
H	Hotel	hoh **tel**
I	India	**in** dee **a**
J	Juliet	jew lee ett
K	Kilo	**key** loh
L	Lima	**lee** mah
M	Mike	mike
N	November	no **vem** bar
O	Oscar	**oss** cah
P	Papa	pah **pah**
Q	Quebec	keh **beck**
R	Romeo	**row** me oh
S	Sierra	see **air** rah
T	Tango	tang go
U	Uniform	**you** nee form or **oo** nee form
V	Victor	**vik** tah
W	Whiskey	**wiss** key
X	X-ray	**ecks** ray
Y	Yankee	**yang** key
Z	Zulu	**zoo** loo

Note: For pronunciation, syllables to be emphasised are in bold.

Numerals

Radio telephony pronunciation of numbers shall be in the phonetic form as follows:

Number	Pronunciation	Number	Pronunciation	Word	Pronunciation
0	ZE-RO	**5**	FIFE	Decimal	DAY SEE MAL
1	WUN	**6**	SIX	Hundred	**HUN** dred
2	TOO	**7**	**SEV** en	Thousand	TOU SAND
3	TREE	**8**	AIT		
4	**FOW** er	**9**	**NIN** er		

Note: The syllables printed in bold in the above list are to be stressed.

Transmission of numbers

All numbers used in the transmission of altitude, cloud height, visibility and runway visual range (RVR) information, which contain whole hundreds and whole thousands, must be transmitted by pronouncing each digit in the numbers of hundreds or thousands followed by the word '**hundred**' or '**thousand**' as shown below.

Element	Transmission
Altitudes	
800	eight hundred
1,500	one thousand five hundred
10,000	one zero thousand
FL180	Flight level one eight zero
FL200	Flight level two hundred
Cloud height	
2,200	two thousand two hundred
4,300	four thousand three hundred
Visibility	
200	two hundred
1,500	one thousand five hundred
3,000	three thousand
Runway visual range	
700	seven hundred
Headings	
150	Heading one five zero
80	Heading zero eight zero
300	Heading three zero zero

Element	Transmission
Wind direction	
020°	Wind zero two zero degrees
100°	Wind one zero zero degrees
210°	Wind two one zero degrees
Wind speeds	
20 kt	two zero knots
18 kt, gusting 30	one eight knots gusting three zero
Mach number	
0.84	Mach decimal eight four
Altimeter setting	
1,000	QNH one thousand
1,027	QNH one zero two seven
Transponder code	
2,400	Squawk two four zero zero
2,000	Squawk two thousand
Time	
0920	Time zero nine two zero or two zero (if the hour is the same as the current hour)
1643	Time one six four three or four three

Note: A QNH or transponder (Squawk) codes in whole thousands (e.g. QNH 1,000 hPa or code 2000) are to be expressed as whole numbers. For other than those the digits must be pronounced separately.

Altimetry phrases

Heights measured from a QNH or area QNH datum must be expressed in full, for example: 3,000 ft as '**three thousand**' and 1,800 ft as '**one thousand eight hundred**' adding, if necessary, '**on (QNH)**'.

Expressions of height measured from the 1,013.2 hPa datum must always include the words '**flight level**'.

Other standard words and phrases

The following other words and phrases are to be used in radiotelephony communications, as appropriate.

Word/phrase	Meaning
Acknowledge	Let me know that you have received and understood the message.
Affirm	Yes.
Approved	Permission for proposed action is granted.
Break	I hereby indicate the separation between portions of the message (to be used where there is no clear distinction between the text and other portions of the message).
Break break	I hereby indicate separation between messages transmitted to different aircraft (in a very busy environment).
Cancel	Annul the previously transmitted clearance.
Check	Examine a system or procedure (no answer is normally expected).
Cleared	You are authorised to proceed under the conditions specified.
Confirm	Have you correctly received the following...?
	Did you correctly receive this message?
Contact	Establish radio contact with....
Correct	That is correct.
Correction	An error has been made in this transmission (or message indicated). The correct version is....

Word/phrase	Meaning
Disregard	Consider that transmission as not sent.
I say again	Repeat for clarity or emphasis.
Maintain	Continue in accordance with the condition(s) specified, or in its literal sense, for example: 'Maintain VFR'.
Mayday	My aircraft and its occupants are threatened by grave and imminent danger and/or I require immediate assistance.
Monitor	Listen out on (frequency).
Negative	No.
	Permission is not granted.
	That is not correct.
Out	My transmission is ended, and I expect no response from you (not normally used in VHF communication).
Over	My transmission is ended, and I expect a response from you (not normally used in VHF communication).
Pan Pan	I have an urgent message to transmit concerning the safety of my aircraft, or other vehicle or of some person on board, or within sight, but I do not require immediate assistance.
Readback	Repeat all, or the specified part, of this message back to me exactly as received.
Recleared	A change has been made to your last clearance and this new clearance supersedes your previous clearance or part thereof.
Report	Pass me the following information...
Request	I should like to know or I wish to obtain...
Roger	I have received all of your last transmission. **Note:** Under no circumstances is this to be used in reply to a question requiring read back or a direct answer in the affirmative or negative.
Say again	Repeat all or the following part of your last transmission.
Speak slower	Reduce your rate of speech.
Standby	Wait and I will call you.

Word/phrase	Meaning
Unable	I cannot comply with your request instruction or clearance (reason).
Verify	Check and confirm with originator.
Wilco	I understand your message and will comply with it.
Words twice	**As a request:** Communication is difficult. Please send every word or group of words twice.
	As information: Since communication is difficult every word or group of words in this message will be sent twice.

Transmission readability

Where your aircraft radio transmission readability is advised by ATS or another station it will be given on a scale of 1 to 5. Transmission readability is as follows:

5 – Perfectly readable

4 – Readable

3 – Readable but with difficulty

2 – Readable now and then

1 – Unreadable

Aircraft callsigns (AIP ENR 3.4)

Pilots should be aware that there are various radio callsigns in addition to the phonetic alphabet used to identify certain operations.

Aircraft callsign examples	
Passenger transport **(Qantas link 2719)**	'Q-link Twenty-seven nineteen'
Recreational **(Jabiru 5234)**	'Jabiru fifty-two thirty-four'
Military	'Stallion'
Law enforcement **Police**	'Polair'
Foreign-registered **US (N 35826)**	'November three fifty-eight twenty-six'
Australian registered **VH-ZTQ**	'Zulu Tango Quebec'

The aircraft type should precede the callsign when making initial calls on the common traffic advisory frequency (CTAF).

Examples:

Parkes traffic Cessna 172 Zulu Tango Quebec

The prefix 'helicopter' before the callsign must be used by rotary-wing aircraft when first establishing contact on any frequency. For example:

VH-ZTQ – 'helicopter zulu tango quebec'

The prefix 'unmanned' must be used by remotely piloted aircraft (RPA). The RPA should be identified based on the manufacturer or model using a maximum of three syllables. For example, unmanned DJI or 'unmanned Mavic'. Numbers may be added to the callsign as required.

Non-controlled airspace and non-controlled aerodromes

Listening to other pilots' broadcasts increases situation awareness and helps you to see and avoid other aircraft.

It is essential to maintain a diligent lookout because other traffic may not be able to communicate on the radio for various reasons—they might be tuned to the wrong frequency, have selected the wrong radio, have a microphone failure or have the volume turned down.

Make calls as clearly and concisely as possible using the standard phrases. Speak at a normal pace, as rapid speech can make transmissions difficult for other pilots to understand. Be careful not to 'clip' your transmission when stating your location as confusion can arise at aerodromes that are close together and share the same CTAF.

Ideally, pilots should make circuit broadcasts before making a turn because banking aircraft are easier to see.

A simple strategy to remember when flying in the circuit is 'look', 'talk' and 'turn'.

Make broadcast calls brief and clear. Think about what to say before transmitting. Make positional and other broadcasts necessary to minimise traffic conflict using standard phrases, for example: joining circuit, base, and vacating the runway. Effective communication and increased traffic awareness will help prevent a collision or an airprox.

If you are flying a higher performance aircraft, or operating at a busy aerodrome,you are encouraged to monitor/broadcast on the CTAF earlier to allow sufficient time to gain situational awareness of the traffic.

The responsibility for collision avoidance, sequencing, and knowledge of local procedures lies solely with you. Aircraft overflying a non-controlled aerodrome should avoid the circuit area, and the routes commonly flown by arriving and departing traffic.

Avoid the use of local terminology in position reports, for example: use 'Bundaberg' instead of 'Bundy'.

When an aerodrome frequency response unit (AFRU) is in operation, be careful not to break your transmission momentarily as the AFRU will automatically over-transmit your subsequent broadcast.

Carrying a radio in non-controlled airspace

(CASR 91 MOS 26.18)

A VFR aircraft must carry a radio when:

› at or above 5,000 ft in class G airspace

› in the vicinity of an aerodrome that is a certified or military aerodrome

› in any area when below 3,000 ft AMSL or 1,000 ft AGL (whichever is the higher) in reduced VMC.

Frequency management

When operating in the vicinity of a non-controlled aerodrome published on aeronautical charts, you are to use 126.7 MHz or the discrete CTAF frequency as published.

Where a number of non-controlled aerodromes are in close proximity, a single discrete CTAF may be allocated to those aerodromes. Where a discrete CTAF is prescribed, these frequencies are shown in ERSA and VTC, VNC, ERC Low charts.

Anywhere within a broadcast area, you are to use the dedicated Broadcast Area CTAF.

Outside the vicinity of a non-controlled aerodrome, you should use the Area VHF. This frequency may provide the best means of gaining assistance from ATC or other pilots in the event of an emergency.

In the vicinity of uncharted aerodromes, you have discretion to use the most appropriate frequency that ensures safe operation. This may be 126.7 MHz. However, you should be aware that transiting aircraft may be monitoring Area VHF. To ensure mutual traffic awareness, it is recommended that when you are using an alternative frequency you also monitor Area VHF.

You are 'in the vicinity' of an aerodrome if you are flying:

› within 10 NM of an aerodrome

› at a height above the aerodrome that could result in conflict with operations at the aerodrome (CASR 91.360).

In the vicinity of an aerodrome, the most hazardous area for a collision is within a cylinder of airspace 5 NM in diameter and up to 3,000 ft above the aerodrome.

When a UNICOM service is provided at a non-controlled aerodrome and the UNICOM is the CTAF, ERSA identifies the frequency as CTAF/UNICOM.

How to determine where radio carriage is required (CASR 91.625)(MOS 21.02)

An aircraft must have a VHF radio when operating on the manoeuvring area, or in the vicinity of a non-controlled aerodrome that is:

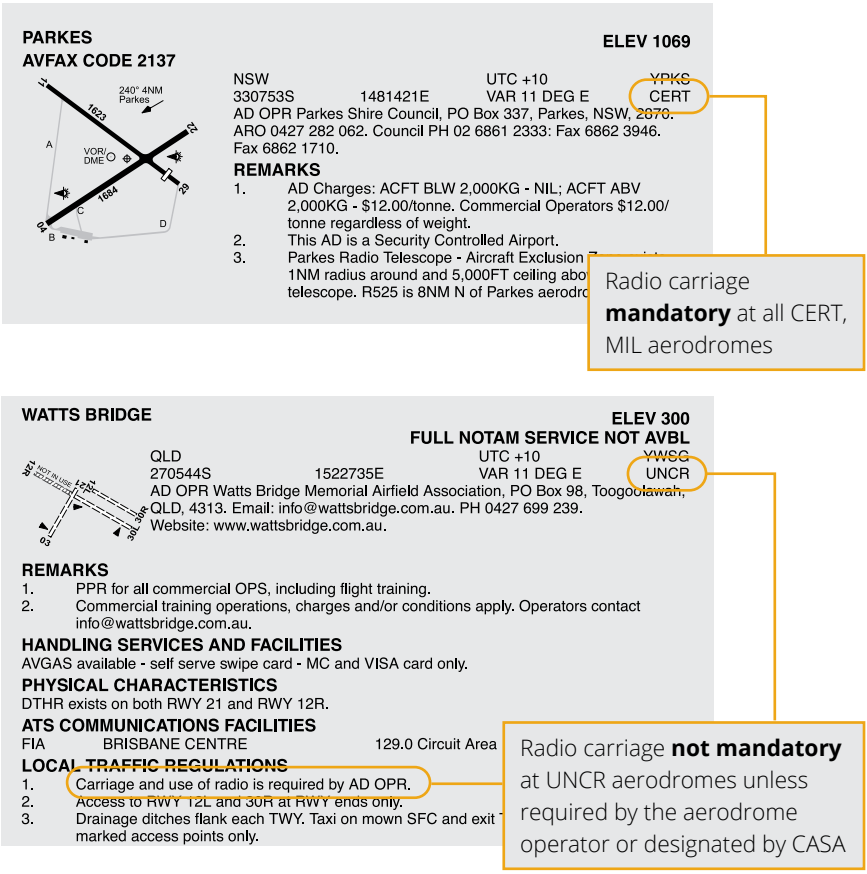
› certified, or

› military, or

› prescribed as a designated non-controlled aerodrome by the MOS.

You can determine the aerodromes where you must carry and use a radio by referring to ERSA and checking the status of the aerodrome you intending to fly to, from or over which will put you in the vicinity (see Figure below).

Figure: Sample extract from ERSA aerodrome chart for Parkes and Noosa



Listening watch of radio transmissions (CASR 91.640) (MOS 21.04)

When operating outside controlled airspace in an aircraft with a radio, you must ensure that any radio transmissions are monitored continuously by you or another qualified pilot.

Gliders and manned free balloons which carry a radio will maintain a listening watch on the following frequencies:

- in controlled airspace – the relevant ATC frequency
- in Class G airspace, above 5,000 ft AMSL – the relevant area frequency or one of the following glider specific frequencies (122.5; 122.7; 122.9 MHz)
- in Class G airspace, below 5,000 ft AMSL – 126.7 MHz
- in the vicinity of a non-controlled aerodrome – the common traffic advisory frequency (CTAF) or 126.7 MHz if no CTAF is specified.

The use of a handheld radio (CASR 91 MOS 26.02)

For a light sport or an experimental aircraft, the radio that is required does not have to be a radio that complies with CASR Part 21 (a certified radio) provided the radio has the same capability as if it were certified. Therefore, if you are qualified to use a radio (MOS 21.01), a licensed handheld radio can meet this requirement.

Flight with inoperative radio (CASR 91 MOS 26.19)

When in the vicinity of an aerodrome, if the radio has become inoperative, or the purpose of the flight is to take the radio to a place for repairs, you must join the circuit on either the crosswind or downwind leg, and if the aircraft is equipped, ensure the:

- landing lights are switched on
- anti-collision lights are switched on
- a transponder is switched on.

An aircraft required to carry a radio may only begin a flight with the radio inoperative if:

- the flight is from an aerodrome with no facility for the radio to be repaired or replaced, and
- the flight is to the nearest facility where the radio can be repaired or replaced

- the flight is in an MBA or class G airspace above 5000 ft AMSL and
  - the flight is in day VMC or
  - the aircraft is in company with another aircraft carrying an operative radio for which the pilot is qualified and the required radio broadcasts and reports are made for both aircraft
- for a flight conducted in controlled airspace:
  - ATS is informed, before the flight begins, of the inoperative radio
  - clearance is obtained from ATS for the flight.

Pilot not radio-qualified or aircraft without radio (CASR 91 MOS 26.19)

In exceptional circumstances, the regulations make provision for a pilot who is not qualified to use an aircraft radio, or where the aircraft is not equipped with a radio, to operate in the vicinity of a non-controlled certified, military or designated aerodrome.

An aircraft without a radio must be operated:

- VMC by day
- to arrive or depart under the escort of another aircraft that is radio-equipped and flown by a radio-qualified pilot. This will allow the escorting pilot to make radio calls on behalf of both aircraft.

The radio-equipped aircraft should be manoeuvred to always keep the non-radio aircraft at a safe distance (CASR 91.400) and in sight in order to accurately report its position.

Radio failure en route in Class G or E airspace

(CASR 91 MOS 11.10)

If you are flying under the VFR in Class G or Class E airspace and your radio fails you should:

- select code 7600 on the transponder (if fitted)
- remain outside controlled airspace
- assume the radio is broadcasting and broadcast position and intentions on the frequency appropriate to the area of operation
- as soon as practicable, descend below 5,000 ft to continue flight under the VFR.

Radio broadcasts in CTAF (CASR 91.630) (MOS 21.02 to 21.04)

When you consider it reasonably necessary to avoid collision with another aircraft, you must make broadcasts on a CTAF when:

- you are operating in the vicinity of a non-controlled aerodrome, including a certified or military aerodrome, and
- the aircraft is equipped with a very high frequency (VHF) radio.

Note: For an aircraft that must be equipped with a VHF radio, see MOS Chapter 26.

The regulation requires you, when flying an aircraft that is fitted with or carries a radio, to make broadcasts or reports relating to the flight.

You should make the following broadcasts as described below when you are in the vicinity of any non-controlled aerodrome.

Table: Recommended calls in all circumstances

Situation	Broadcast
When you intend to take-off	Immediately before, or during taxiing
When you are inbound to an aerodrome	10 NM from the aerodrome, or earlier, commensurate with aeroplane performance and your workload, with an estimated time of arrival (ETA) for the aerodrome
If you intend to fly through the vicinity of, but not land at, a non-controlled aerodrome	10 NM from the aerodrome, or earlier, commensurate with aeroplane performance and your workload, with an estimated time of arrival over the aerodrome.

Table: Recommended calls dependent on traffic

Situation	Broadcast
You intend to enter a runway.	Immediately before entering a runway
You are ready to join the circuit.	Immediately before joining the circuit
You intend to make a straight-in approach.	On final approach at not less than 3 NM from the threshold (See Note)
During an Instrument approach when you are: › departing final approach fix (FAF) or established on final approach segment inbound › terminating the approach and commencing the missed approach procedure.	Including details of position and intentions that are clear to all pilots (both IFR and VFR)
You are clear of the active runway(s).	Once established outside the runway strip

Note: Some distances above refer to the runway threshold and others to the aerodrome reference point (ARP). You should be aware that a global positioning system (GPS) indication of 3 NM from an aerodrome may not be 3 NM from the runway threshold.

You must also report any hazard that you become aware of, that is not published in the AIP when circumstances permit, to air traffic services (ATS), or the aerodrome operator if the hazard is on the aerodrome. Although required, if you are reasonably sure that the hazard has already been reported you do not need to make the report (CASR 91.675).

Standard broadcast format (AC 91-10)

The standard broadcast format is as follows:	
(Location traffic)	Parkes traffic
(Aircraft type)	Cessna 172
(Callsign)	zulu tango quebec
(Flight rules)	(Only if IFR)
(Position/ intentions)	One-zero miles north, passing four thousand two hundred, on descent, inbound circuit three-six
(Location)	Parkes

Where more than one aerodrome is used on a CTAF frequency, prefixing the message with the location followed by the word '**traffic**' (for example: '**Caboolture traffic**') and then adding the location again on its own at the end of the message (for example: '**Caboolture**') helps to confirm the location.

VFR aircraft in Class E or G airspace – prescribed reports (CASR 91 MOS 21.07)

When flying under the VFR in Class E or G airspace, you must report and broadcast to ATS according to the following Table.

Table: VFR aircraft in Classes E and G airspace

Situation	Frequency	Report
Requiring clearance into controlled airspace	ATS	Report the situation
Before, and on completion of, over-water stage	ATS	Report in accordance with search and rescue (SAR) reporting schedules if arranged before the over-water stage

Mandatory broadcast area (MBA)

A broadcast area that is a mandatory broadcast area is a volume of airspace of defined horizontal and vertical limits in which broadcast and other requirements apply. They are located in Class G airspace and are depicted on the VTC, VNC and ERC-low charts.

There is usually more than one aerodrome within a mandatory broadcast area, and pilots operating within the area must be monitoring the published CTAF for the mandatory broadcast area.

Mandatory broadcast areas are:

› Ayers Rock Broadcast Area (BA)
› Ballina/Byron Gateway BA
› Port Hedland BA.

For a flight in an MBA your aircraft must be fitted with a radio and you must broadcast and listen while you are flying in that area.

The requirement to have a radio in a BA is contained in CASR 91 and MOS 26.18.

Radio broadcast and report requirements are contained in the Table below (CASR 91 MOS 21.09.)

Civil Aviation Safety Authority

Table: Mandatory broadcasts

Situation	Broadcast
Prior to, or immediately entering an MBA	Your intentions when entering the MBA
Joining the circuit	The leg of the circuit you intend to join
Conducting a straight-in approach	No later than 3NM from the runway threshold, broadcast you are conducting a straight-in approach
Passing the final approach fix of an instrument approach	That you are passing the final approach fix
Commencing a missed approach	That you are commencing a missed approach procedure
After landing and clear of the active runways	That you are clear of the active runways
Starting to taxi	You must broadcast the following information: › you are IFR if your flight is under the IFR › your planned destination aerodrome, or › direction in which you intend to fly from the aerodrome, or › nature of operation (e.g. circuits), and › runway you intend to take-off from.
Immediately before entering the runway for take-off	That you are entering the runway, with the runway identifier

Surveillance flight information service (SFIS)

SFIS is the amalgamation of two existing services Flight Information Services (FIS) and Surveillance Information Service (SIS).

SFIS provides a flight information service to VFR and IFR aircraft flying at non-controlled aerodromes that are designated, mandated broadcast areas that use the discrete CTAF.

During prescribed hours of operation, a SFIS will be provided from the surface to the upper limit of the broadcast area. Pilots are required broadcast and report to the SFIS on the CTAF when operating in the broadcast area.

SFIS will provide full traffic information and alerting service premised on available surveillance data and pilot reports using the aerodrome's discrete CTAF.

SFIS is not a separation service, it doesn't provide clearances, or sequence aircraft into an aerodrome.

All aircraft operating within the designated, mandatory broadcast area will receive a traffic Information on conflicting traffic. This will enable SFIS to provide enhanced traffic information to all pilots when surveillance and/or other information warrants.

Flight information Service and Flightwatch

An on-request flight information service (FIS) is available to aircraft in all classes of airspace on ATC VHF or HF (domestic and international) frequencies. The FIS is subject to ATC workload.

You must prefix any request for FIS on ATC VHF frequencies with the callsign of the appropriate ATC unit and the generic callsign **'Flightwatch'**, for example:

'Melbourne centre flightwatch zulu tango quebec request actual weather (location)'

Due to workload considerations, ATC may redirect your requests for FIS to an alternative VHF frequency or FLIGHTWATCH HF.

When operating on domestic HF (callsign **'Flightwatch'**) and international HF (callsign **'Brisbane'**), you must include the frequency on which you are calling. For example,

'(Flightwatch Brisbane), zulu tango quebec, six five four one, request actual weather (location)'.

Information will be provided in an abbreviated form, paraphrased into brief statements of significance. The full text of messages will be provided on request.

Air-to-air communication between pilots

In accordance with regional agreements, 123.45 MHz is the designated air-to-air VHF communications channel. Use of this channel will enable aircraft engaged in flights over remote and oceanic areas out of range of VHF ground stations, and not in the vicinity of a non-controlled aerodrome depicted on an aeronautical chart, to exchange necessary operational information and facilitate the resolution of operational problems.

Aerodrome frequency response unit (AFRU)

To assist all pilots' awareness of inadvertent selection of an incorrect VHF frequency when operating into non-controlled aerodromes, a device known as an aerodrome frequency response unit (AFRU) may be installed. An AFRU will provide an automatic response when you transmit on the CTAF for the aerodrome at which it is installed.

The features of the AFRU are as follows:

- When the aerodrome traffic frequency has not been used for the previous five minutes, the next transmission over 2 seconds long will cause a voice identification to be transmitted in response, for example: 'Goulburn CTAF'.
- When the aerodrome traffic frequency has been used within the previous 5 minutes, a 300 millisecond tone will be generated after each transmission over 2 seconds long.

A series of 3 microphone clicks within a period of 5 seconds will also cause the AFRU to transmit a voice identification for the particular aerodrome.

If the transmitter in the AFRU is jammed for a period of more than one minute, the unit will automatically shut down.

The AFRU improves safety by confirming the operation of your aircraft's transmitter and receiver, the volume setting, and that you have selected the correct frequency for use at that aerodrome.

Certified air/ground radio service (CA/GRS)

A certified air/ground radio service (CA/GRS) is an aerodrome-based radio information service, which may operate at non-controlled aerodromes. The service provides pilots with operational information relevant to the aerodrome. The service is operated by or for the aerodrome operator within the published hours, on the CTAF assigned to the aerodrome. It is not an Airservices Australia or Royal Australian Air Force (RAAF)-provided air traffic service.

The CA/GRS does not provide any separation service.

The callsign of the service is the aerodrome location followed by **'radio'**; for example: **'Ayers Rock radio'**. The radio operators of the service have been certified to meet a CASA standard of communication technique and aviation knowledge appropriate to the service being provided.

The CA/GRS is provided to all aircraft operating within the designated broadcast area for the specific location. Refer to ERSA for the location-specific designated broadcast areas.

When a CA/GRS is operating, pilot procedures are unchanged from the standard non-controlled operating and communication procedures. ERSA includes location-specific information related to procedures.

The CA/GRS information helps pilots to make informed operational decisions. Pilots retain authority and responsibility for the acceptance and use of the information provided.

Aircraft making the normal inbound or taxiing broadcast receive a responding broadcast from the CA/GRS operator, conveying the following information:

- confirmation of correct CTAF
- current known, relevant traffic in the vicinity of the aerodrome and on its manoeuvring area. Traffic information may include some or all of the following information:
  - the aircraft type, callsign, position and intention
  - where circuit flying is in operation, general advice on the number of aircraft in the circuit and position in the circuit if relevant

Note: This information is provided to assist pilots in arranging traffic separation.

- weather conditions and operational information for the aerodrome. This may include:
  - runway favoured by wind or noise abatement
  - runway surface conditions
  - wind direction and speed
  - visibility and present weather
  - estimated cloud base
  - aerodrome surface temperature
  - aerodrome QNH.

This information will be provided by means of an automatic aerodrome information service (AAIS) broadcast on a discrete published frequency (similar to ATIS) during CA/GRS operating hours, or on request to the CA/GRS operator. Pilots should monitor the published AAIS frequency before making a taxiing or inbound broadcast.

Other local operational information, relevant to the safety of operations at the aerodrome, will also be broadcast.

The CA/GRS will provide emergency services call-out if requested by the pilot in an emergency or, if in the opinion of the operator, a call-out is warranted.

The weather information provided by the service is derived from approved measuring equipment, which meets Bureau of Meteorology (BoM) aeronautical precision standards. QNH provided by a CA/GRS or AAIS may be used to reduce landing, circling and alternate minima in accordance with AIP ENR 1.5 (QNH Sources).

The CA/GRS operator may act as a representative of an air operator (where formal agreement with the operator has been established) for the purposes of holding SARWATCH.

UNICOM

Universal communications (UNICOM) is a non-ATS communications service to improve the information normally available about a non-controlled aerodrome.

The primary function of the frequency used for UNICOM services where the frequency is the CTAF is to give pilots the means to make standard positional broadcasts when operating in the vicinity of the aerodrome. Participation in UNICOM services must not inhibit the transmission of standard positional broadcasts.

Participation in UNICOM services relates to the exchange of messages concerning:

- fuel requirements
- estimated times of arrival and departure
- aerodrome information
- maintenance and servicing of aircraft, including the ordering of parts and materials urgently required
- passenger requirements
- unscheduled landings to be made by aircraft
- general weather reports
- basic information on traffic.

This information is available to all aircraft during the times when the UNICOM is operating.

Weather reports, other than simple factual statements about the weather, may not be provided by UNICOM operators unless they are properly authorised to make weather observations under CAR 120.

The UNICOM operator is solely responsible for the accuracy of any information passed to an aircraft, while the use of information obtained from a UNICOM is at the discretion of the pilot in command.

Stations providing a UNICOM service must be licensed by the Australian Communications and Media Authority (ACMA). Detailed information regarding the licensing and use of equipment may be obtained by contacting ACMA in the appropriate state or territory capital city.

UNICOM operators must comply with the requirements of CASR 91.625.

Controlled airspace and controlled aerodromes

Controlled airspace is a volume of airspace of horizontal and vertical dimensions in which an air traffic control clearance must be obtained before entering or flying within the airspace or at the associated controlled aerodrome.

Precise radio phrasing between the air traffic controller and the pilot, as described below, is essential to achieve efficient navigation and traffic separation.

Controlled airspace and controlled aerodromes areas are depicted on the charts: VTC, VNC and ERC-low and ERC-high. They are not depicted on the WAC.

ATS callsigns

When initiating a transmission to ATS, pilots will commence the transmission with the callsign of the unit being addressed followed by the aircraft callsign.

'Canberra ground – zulu tango quebec'

The ATS unit will respond using the station's callsign followed by their callsign. In the absence of an instruction to 'STAND BY', this response by the ATS unit is an invitation for the aircraft calling to pass their message.

'zulu tango quebec – Canberra ground'

A readback of an ATS message will be terminated with the aircraft's callsign.

'turn right heading three three zero – zulu tango quebec'

Callsigns should never be abbreviated on initial contact, or at any time when other aircraft callsigns have similar numbers/sounds or identical letters/numbers. For example:

'charlie whisky zulu' and 'whisky charlie zulu'.

Pilots must be certain that their aircraft identification is complete and clearly identified before taking action on an ATC clearance.

Pilots should use the phrase 'verify clearance for (complete callsign)' if doubt exists concerning proper identity.

ATS units are identified by the name of the location followed by the service available, as follows:

Station	Service
Centre	En route area control, including SIS and FIS
Approach	Approach control, where provided as a separate function
Departure	Departure control, where provided as a separate function
Final/director	Radar control providing vectors onto final approach
Tower	Aerodrome control or aerodrome and approach control, where these services are provided from an aerodrome control tower, for example at Coffs Harbour
Ground	Surface movement control
Delivery	Clearance delivery to departing aircraft
Flightwatch	Flight information service. When initiating a transmission to ATS, pilots must commence the transmission with the callsign of the unit being addressed, followed by the aircraft's callsign.

The name of the location or the service may be omitted providing that satisfactory communication has been established.

Communication monitoring in controlled airspace

(CASR 91.635, 91.405) (MOS 11.13)

When flying in controlled airspace, you or another pilot occupying a pilot seat must continuously monitor the primary communications medium used by ATC.

When operating at a controlled aerodrome you must:

- have an ATS clearance to taxi, land or take-off
- maintain a continuous listening watch on the ATS frequency for the aerodrome, or
- when you cannot maintain a continuous listening watch you must continuously watch for any visual signals given by ATS.

Unless you are complying with an ATS clearance or instruction, or flying in accordance with an instrument departure or approach procedure, you must:

- maintain runway track from the take-off until you reach 500 ft AGL unless a change to the track is necessary to avoid terrain
- make all turns in the direction of the circuit pattern when joining the circuit for a landing or when taking off for the purpose of conducting a circuit.

You would only need to watch for visual signals if your radio failed, or if ATS had approved your aircraft operation without a radio. Standard visual signals would be used (see CASA regulation 91.670 Standard visual signals).

You are responsible for obtaining an airways clearance and, once it has been obtained, you must not change or deviate from your cleared route/track, , or change level without first obtaining ATC clearance to do so.

You must request your airways clearance:

- on the clearance delivery frequency, preferably immediately before starting engines, otherwise as soon as possible thereafter, or
- where a clearance delivery frequency is not available, before entering the departure runway
- before entering controlled airspace.

Airways clearances normally contain the following items:

- aircraft identification
- destination, area of operation, position or clearance limit
- route of the flight
- assigned level
- SSR code
- frequency requirements.

If your aircraft is cleared only to an intermediate point, and flight beyond that point will be in controlled airspace, you must obtain a further clearance before proceeding beyond the intermediate clearance point.

When an aircraft leaves controlled airspace, a further clearance must be obtained for any subsequent flight in controlled airspace.

You must obtain ATC clearance when:

- taxiing on any part of the manoeuvring area
- entering, crossing, or backtracking on a runway
- taking off
- landing.

When taxiing on the manoeuvring area of a controlled aerodrome, you must stop and hold at all illuminated stop bars. You may only proceed beyond the stop bars when the stop bar lights are switched off.

Exception: *You may proceed beyond a lighted stop bar if ATC advises you that stop bar contingency measures are in effect for the lighted stop bar, and ATC has identified the relevant lighted stop bar to you by reference to the specific holding position and instructs you to cross it.*

Control zones and areas – entry into Class A, C or E airspace (CASR 91 MOS 11.14)

You must not enter a control zone or a control area that is Class A, C or E airspace without ATC clearance.

Exception: *VFR flights do not require clearance to enter Class E airspace.*

Exception: *A clearance is not required when an ATC service is not in operation for a control zone.*

Broadcasts and reports general (CASR 91 MOS 21.03)

You must make broadcasts and reports on the relevant published radio frequency unless ATS agrees to the use of a different frequency for special flight circumstances.

Note: Special flight circumstances include, for example, descent from controlled to non-controlled airspace, formation flights, and search and rescue, police and security operations. You may initiate a request to ATS to agree to a changed radio frequency for special flight circumstances.

You must not fly under the VFR in Class A airspace unless you hold an approval (CASR 91.285).

Prescribed reports in controlled airspace

(CASR 91 MOS 21.05)

When flying in Class A, C or D airspace, or IFR in Class E airspace, you must report and broadcast to ATS according to the following table as applicable.

The Australian flight information region (FIR) does not have Class B airspace.

Table: An aircraft in Class A, C or D airspace, or an IFR aircraft in Class E airspace

Situation	Frequency	Report
Ready to taxi	ATS	Report the situation.
Airborne	ATS	Report the situation.
Departure	ATS	Report the situation.
Position report as per ATS, or route, reporting requirements	ATS	Report the situation.
Previously reported position estimate is more than 2 minutes in error	ATS	Report the corrected position estimate.
Sustained variation of more than 10 kt or Mach 0.02 from any previously notified speed or any standard descent profile agreed between the aircraft operator and ATS	ATS	Report the situation.
Aircraft performance degraded below: the level required for the airspace in which it is operating, or the capability reported in the flight notification	ATS	Report the situation.
Leaving a level or reaching an assigned level	ATS	Report the situation.
Unable to comply with an ATC clearance or instructions	ATS	Report the situation.
Arrival	ATS	If cancelling SARWATCH: report cancellation.
Runway braking action encountered not as good as reported by ATC	ATS	Report actual braking action with prefix AIREP SPECIAL.

Read-back requirements

You must read back correctly ATC clearances, instructions and information which are transmitted by voice. Apart from the first item of the list below, only key elements of the following clearances, instructions, or information must be read back. Ensure you include sufficient detail to indicate compliance (that you have adequately understood the message).

Read back the following:

- an ATC route clearance in its entirety, and any amendments (**'rest of clearance unchanged'** is not required to be read-back)
- en route holding instructions
- any route and holding point specified in a taxi clearance
- any clearances, conditional clearances or instructions to do any of the following manoeuvres on any runway:
  - hold short of
  - enter
  - land on
  - line up on
  - wait
  - take off from
  - cross
  - taxi
  - backtrack on any runway or helicopter landing site (HLS)
- any approach clearance
- assigned runway, altimeter settings, directions to specific aircraft, and radio and radio navigation aid frequency instructions (an **'expectation'** of the runway to be used is not to be read back)
- secondary surveillance radar (SSR) codes and data link logon codes
- level instructions, direction of turn, heading and speed instructions.

The controller will listen to the read-back to ascertain that the clearance or instruction has been correctly acknowledged and will take immediate action to correct any discrepancies revealed by the read-back. Reported level figures for an aircraft must be preceded by the words **'flight level'** when related to standard pressure and may be followed by the word **'feet'** when related to QNH.

Conditional clearances

In all cases a conditional clearance will be given in the following order and consist of:

› identification (callsign)
› the condition (including position of the subject of the condition)
› the clearance
› brief reiteration of the condition.

Example of an exchange:

> **ATS: 'zulu tango quebec behind Cessna on short final line up runway 29 right'.**
>
> **Pilot: 'Behind the Cessna, line up runway 29 right zulu tango quebec'.** (See AIP ENR 1.1.)

Route terminology

The phrase 'flight planned route' may be used to describe any route or portion thereof that is identical to that filed in the flight notification with sufficient routing details given to definitely establish the aircraft on its route.

Amended route or level

Whenever ATS provides an initial airways clearance that is not in accordance with the flight details currently held by the ATC system, they will prefix the route and/or level details with the term 'amended'. For example:

> **ATS:** '(aircraft callsign) cleared to (destination) [amended route] (route clearance details) [amended level] (level)'.

When an issued airways clearance needs to be changed, ATS will prefix the new route and/or level details with the term 'recleared'. The level will be stated in all clearance changes regardless of whether a change to the initially cleared level is made or not. For example:

> **ATS:** '(aircraft callsign) recleared [to (destination)] [(route clearance details)] (level)'.

The prefixes AMENDED and RECLEARED will not be used:

› for standard instrument departure (SID) or standard arrival route (STAR) clearances, or
› during normal progressive climb/descent instructions.

Limited radio or no radio in CTA

If total or partial failure of mandatory radio communications equipment occurs before flight commences and repair facilities are available, repairs must be made before the flight proceeds. Where repair facilities are not available, and flight to the nearest appropriate repair facility entails flight in controlled airspace, the flight may proceed providing that for flight in controlled airspace ATS is advised of the radio failure and a clearance for the flight is obtained from ATC.

Radio failure in controlled airspace

When flying under the VFR in Class A, C or D airspace or in a restricted area: select code 7600 on the transponder, and:

- assume the radio is functioning and broadcast position and intentions on the frequency prescribed in the AIP
- remain in VMC and land at the most suitable aerodrome
- if on departure remain in VMC, and
  - maintain the last assigned altitude or level for 3 minutes
  - maintain the last assigned vector for 2 minutes
  - after complying with the above two points, proceed in accordance with the latest ATC route clearance acknowledged
  - commence descent in accordance with the latest ATC route clearance acknowledged.

Class D airspace

Entry and departure – Class D airspace (CASR 91 MOS 11.15)

You must establish communication with the relevant Class D ATC tower, if ATC is active, before you enter the airspace.

Two-way communications established between a pilot and ATC constitutes a clearance for the aircraft to enter Class D airspace.

To established two-way communications, you must:

- advise current position, altitude, intention, ATIS received and any request(s), and
- to enter Class D airspace once you have established communication you must:
  - fly the track, maintain the level and intentions (eg inbound) you stated
  - comply with any subsequent ATC instructions.

When no level instruction is issued, descend as necessary to join the aerodrome traffic circuit.

If ATC responds to your initial radio call without using the aircraft callsign, e.g. AIRCRAFT CALLING ARCHER TOWER, STANDBY, or AIRCRAFT CALLING ROCKY TOWER, SAY AGAIN, you must remain outside Class D airspace.

Taxiing and manoeuvring

The separation of aircraft taxiing on the manoeuvring area is the joint responsibility of you and the controller. A taxi clearance from ATC is required before operating on the manoeuvring area (taxiways and runways of any controlled aerodrome). When ATC issues a taxi instruction, which includes a holding point, pilots must read back the words 'Holding point [holding point designator]'. Specific clearance is required to taxi, enter, cross or backtrack on a runway.

VFR flights wishing to depart without submitting flight notification must provide the following information on first contact with ATC:

› aircraft callsign and 'DETAILS' and (wait for a response from ATC)
› destination and first tracking point
› preferred level
› identification of ATIS code received.

These details may be given with the request for taxi clearance.

Change to tower frequency

You should change to tower frequency:

› in the holding bay, or
› close to, or at, the holding point of the nominated runway, when ready for take-off.

Take -off

A clearance to take-off is a clearance to operate within or depart the CTR into Class G airspace in accordance with the ready report.

You must include the following information when you report ready:

› the departure runway when parallel runway operations are in progress
› your intentions when operating wholly within a Class D CTR, and
› your tracking details when departing the Class D CTR and not in receipt of an airways clearance.

At Class D aerodromes where parallel runway operations are in progress, you must identify the departure runway when reporting ready. For example: **'(Callsign) ready runway right'**.

You must not hold on the runway in use unless ATC has cleared you to do so.

Departure report

At certain Class D aerodromes where the tower also provides a procedural approach control service (see ERSA), you must report on the tower frequency after take-off:

› track information, and

› the last assigned altitude.

However, this report is not required:

› for VFR aircraft departing the control zone directly into Class G airspace, or

› for aircraft that have been instructed to contact Centre, Approach or Departures once airborne—in which case an airborne report will be made on the relevant frequency.

The departure time must be calculated as follows:

› current time minus an adjustment for the distance from the aerodrome, or

› when over or abeam the aerodrome.

Example of radio calls – VFR aircraft in Class D airspace (AIP ENR 1.1)

Aircraft Callsign VH – ZTQ

Situation	Aircraft radio call	ATC
Ready to taxi	Bankstown ground (Aircraft type) (Callsign) [persons on board (POB) (number) (aircraft location) INFORMATION (ATIS identification) [TO (aerodrome of destination)] REQUEST TAXI [intentions] Bankstown Ground Cessna C172 ZTQ 2POB taxiway mike received information Alpha for Cowra Request taxi clearance	ZTQ clear to taxi report when ready
Ready for take-off	Bankstown Tower ZTQ ready holding point Alpha 7 runway 29 right for upwind/downwind departure for Cowra Line up and hold 29 right ZTQ RWY 29 right clear for take -off ZTQ	ZTQ line up and hold runway 29 right ZTQ runway 29 right clear for take-off
Inbound	Bankstown Tower Cessna 172 ZTQ Prospect Reservoir inbound received Alpha Report joining downwind for 29 right ZTQ	ZTQ report joining right downwind for runway 29 right
Downwind call	ZTQ right downwind runway 29 right	ZTQ continue approach
Aircraft is on final	Clear to land runway 29 right ZTQ	ZTQ clear to land runway 29 right
Aircraft turns off runway and calls SMC	Bankstown ground ZTQ	ZTQ

Standard phrases

The following tables set out the standard phrases that should be used by air traffic controllers and pilots. For the VFR pilot, some of the phrases shown in the tables might not apply. However, a VFR pilot may share the same airspace as an IFR pilot. If the VFR pilot has a basic understanding of the phrasing that might apply to an IFR or large aircraft air transport pilot, they will be in a better position to understand air traffic control, aircraft traffic management and separation communications.

In the tables below, the standard phrases show the text of message components without callsigns. They are not intended to be exhaustive, and when circumstances differ, pilots, ATS, air defence and ground personnel will be expected to use appropriate subsidiary phrases. These should be clear, concise and designed to avoid any possible confusion.

For convenience the phrases are grouped according to types of air traffic service. However, users should be familiar with, and use as necessary, phrases from groups other than those referring specifically to the type of air traffic service being provided. All phrases must be used in conjunction with callsigns (aircraft, ground vehicle, ATC or other), as appropriate.

Civil Aviation Safety Authority

General phrases

Circumstance	ATC phraseology	Pilot phraseology
Tracking instructions		
When instructing an aircraft to turn 180° or more when tracking instructions follow	Turn left (or right)—I say again—left (or right) [tracking instructions]	
Level instructions		
When there is an expectation that the aircraft will maintain the level or to eliminate confusion, the instruction 'and maintain' shall be included	Climb (or descend) followed as necessary by: › to (level) › to and maintain (level) › to reach (level) at (or by) (time or significant point) › to (level) report leaving (or reaching or passing or approaching) (level) › at (number) feet per minute [minimum (or maximum)]	
When rate is required to be in accordance with 'standard rate' specifications	At standard rate	

Circumstance	ATC phraseology	Pilot phraseology
When advising expectation of a level requirement	Expect a restriction to reach (level) by (time or position) climb/ descend...	
	Step climb (or descent) (aircraft identification) above (or beneath) you	
	Request level change from (name or unit) at (time or significant point)	
	Stop climb (or descent) at (level)	
	Continue climb (or descent) to [and maintain] (level)	
	Expedite climb (or descent) [until passing (level)]	
	Expect climb (or descent) at (time or location)	
Pilot requesting a change of level		(REQUEST CLIMB (or descent) [at (time or location)]
To require action at a specific time or place	Immediately	
	After passing (significant point)	
	At (time or significant point)	
To require action when convenient	When ready (instruction)	
When a pilot is unable to comply with the clearance or instruction		UNABLE TO COMPLY

Circumstance	ATC phraseology	Pilot phraseology
When a descent clearance is issued in relation to the DME (or GNSS) steps	Descend to (level) not below DME (or GNSS) steps	
When a pilot is assigned and required to maintain separation with a sighted aircraft	Maintain separation with (or pass behind or follow) (aircraft type or identification) [instructions or restriction]	
Night vision imaging system (NVIS) operations		
Pilot request to operate at or not above a published or pilot calculated LSALT using NVIS		REQUEST (altitude) NVIS
		REQUEST NOT ABOVE (altitude) NVIS
Maintenance of specified levels		
Note: the term 'maintain' must not be used in lieu of 'descend' or 'climb' when instructing an aircraft to change level.	Maintain (level) [to (significant point)] [condition]	
Requesting block level		REQUEST BLOCK LEVEL (level) to (level)
When approved		CLIMB (or descend) TO AND MAINTAIN BLOCK (level) TO (level)
When established	Maintain block (level) to (level)	
When block clearance cancelled	Cancel block clearance. Climb (or descend) to and maintain (level)	

Circumstance	ATC phraseology	Pilot phraseology
Specification of cruising level	Cross (significant point) at (or above, or below) (level)	
	Cross (significant point) at (time) or later (or before) at (level)	
Reply to cruise climb request	Cruise climb not available (reason)	
Where an aircraft operation requires random climb and descent at and below (or at and above) a specified level	Operation not above (or below) (level)	

Frequency management

Circumstance	ATC phraseology	Pilot phraseology
Transfer of control and/or frequency change **Note:** An aircraft may be requested to 'standby' on a frequency when the intention is that the ATS unit will initiate communication, and to 'monitor' a frequency when information is being broadcast thereon.	Contact (unit callsign) (frequency)	
		(frequency)
	At (or over) (time or place) contact (unit callsign)	
		(frequency)
	If no contact (instructions)	
		REQUEST CHANGE TO (frequency) (service)
	Frequency change approved	

Circumstance	ATC phraseology	Pilot phraseology
Pilot request to maintain radio silence for a specific time or event (e.g. fuel dump)		REQUEST TO MAINTAIN RADIO SILENCE DUE (reason) [UNTIL (time)]
	Monitor (unit callsign) (frequency)	
		MONITORING (frequency)
	Remain this frequency	
Nominating scheduled reporting times	Report › (at time) › (by time)	
	Stand by for (unit callsign) (frequency)	
Changing to the CTAF (as applicable)		CHANGING TO (location) CTAF (frequency)
A pilot contacting next frequency when on a heading		HEADING (as previously assigned)
When a pilot/ATC broadcasts general information		ALL STATIONS (appropriate information)
When a pilot broadcasts location-specific general information		(Location) TRAFFIC (appropriate information) (location)

Circumstance	ATC phraseology	Pilot phraseology
Flights contacting approach control Not a radar-identified or procedural tower		(Distance) MILES (GNSS or DME) from (aerodrome) (bearing degrees) or (VOR radial) MAINTAINING/ DESCENDING TO (level) VISUAL (if visual approach can be made) INFORMATION (ATIS identification)
After landing	When vacated contact ground (frequency)	
To request a station, relay a clearance or information to a third party	For [relay to] (third party callsign) (clearance or information)	
Termination of control services	Control service terminated [due (reason)]	

Speed control

Circumstance	ATC phraseology	Pilot phraseology
Speed **Note:** All speed communications shall relate to indicated airspeed unless otherwise stipulated. Where applicable, Mach number may be nominated as the unit of speed statement.		SPEED (number) KNOTS (or Mach number)
	Report speed or ([climb or cruise] Mach number)	
	Maintain (number) knots [or Mach [number)] [or greater (or less)] [until (location)]	
	Maintain present speed	
	Increase (or reduce) speed to (or by) (number) knots	
	Reduce to minimum approach speed	
	Cross (significant point) [at (time)] [at (number) knots]	
When aircraft is required to reduce speed to the minimum position in a clean configuration	Reduce to minimum clean speed	
When ATC speed restrictions no longer apply, and the aircraft is required to resume profile speeds in accordance with published procedural requirements	Resume published speed	
When ATC speed restrictions no longer apply the aircraft can resume its 'normal' speed while complying with airspace and other speed restrictions that would apply in the absence of an ATC speed restriction.	Resume normal speed	

Circumstance	ATC phraseology	Pilot phraseology
ATC speed restrictions cancelled speed at pilot's discretion while complying with airspace speed limitations	No ATC speed restrictions	
All ATC and airspace speed restrictions cancelled	No speed restrictions	

Traffic information in a radar or surveillance environment

Circumstance	ATC phraseology	Pilot phraseology
Traffic Pilot request		REQUEST TRAFFIC (details)
Following pilot request or initiated by ATS	Traffic (number) o'clock (distance) (direction of flight) [any other pertinent information] › unknown › slow moving › fast moving › closing › opposite (or same) direction › overtaking › crossing left to right (or right to left) › (type) › (level) › climbing (or descending)	
When clear of traffic	Clear of traffic [appropriate instructions]	

Traffic information

Circumstance	ATC phraseology	Pilot phraseology
Traffic information Pilot request for traffic information		REQUEST TRAFFIC
To pass traffic information	No reported [IFR] traffic	
	[IFR] traffic (relevant information) [report sighting]	
	[additional] [IFR] traffic (direction) bound (type of aircraft) [level] estimated (or over [significant point]) at (time)	
To acknowledge traffic information		LOOKING TRAFFIC IN SIGHT NEGATIVE CONTACT [reasons]
Interception of relevant traffic information transmitted by other aircraft or ATS facility		COPIED (callsign of sender of traffic information intercepted)
Advice of military aircraft conducting abrupt vertical manoeuvres	Abrupt vertical manoeuvres at (position) up to (level)	
Advice of military low jet operations known to be taking place	Military low jet operations (relevant information)	

Meteorological information

Circumstance	ATC phraseology	Pilot phraseology
Request aerodrome data (if no ATIS available)		REQUEST WEATHER INFORMATION AT (the aerodrome)
	Runway (number) wind (vector) QNH (detail) temperature (detail) [visibility for take-off (detail) (or RVR detail)]	
Meteorological conditions **Note:** Wind is always expressed by giving the mean direction and speed and any significant variations **Note:** For complete RVR phrasing refer AIP GEN 3.4 **Note:** runway visibility may be indicated either by Runway visual range (RVR) or runway visibility (RV) **Note:** When visibility, cloud and present weather are better than prescribed values or conditions, the meteorological conditions may be described as CAVOK (cloud and visibility OK)	[Threshold] wind (number) degrees (number) knots	
	Wind at (height/altitude/flight level) (number) degrees (number) knots	
	Wind at up-wind end (number) degrees (number) knots	
	Visibility (distance) (direction)	
	Runway visual range or runway visibility [runway (number)] (distance) (for RV assessments – assessed at time (minutes))	
	Present weather (details)	
	Cloud (amount, [type] and height of base) (or sky clear)	
	CAVOK (pronounced cav-oh-kay)	
	Temperature [minus] (number) (and/or dewpoint [minus] (number))	
	QNH (number) [units]	
	Moderate (or severe) icing (or turbulence) [in cloud] (area)	

Circumstance	ATC phraseology	Pilot phraseology
During RVR / RV operations where an assessment is not available or not reported	Runway visual range or runway visibility (runway (number)) not available (or not reported)	
When responding to a request for flight conditions (excluding turbulence or icing information)	Report flight conditions	
		IMC (or VMC)

Reports and information

Circumstance	ATC phraseology	Pilot phraseology
Position reporting	Next report at (significant point)	
Additional reports	Report passing (significant point)	
To request a report at a specified place or distance	Report [GNSS] (distance) from (name of DME station) DME (or reference point)	
	Report passing (three digits) radial (name of VOR) VOR	
To request a report of present position	Report distance from (significant point)	
	Report distance from (name of DME station) DME	
When descending a non-DME equipped aircraft to LSALT above CTA steps	Report passing control area steps for further descent	
GNSS tracking	Confirm (or report) established on the (three digits) GNSS track (between (significant point) and (significant point))	

Circumstance	ATC phraseology	Pilot phraseology
GNSS navigation (unavailability) (resumption)	Confirm GNSS navigation	AFFIRM GNSS NAVIGATION or
	GNSS available (due to (reason))	UNAVAILABLE (due to (reason e.g. loss of RAIM))
Pilot report when satisfied that the CTA steps have been passed, allowing for navigational tolerances		INSIDE (distance of a CTA step as shown on ERC) miles
Aerodrome information	Runway (number) (condition)	
	Landing surface (condition)	
	Caution (work in progress) (obstruction) (position and any necessary advice)	
	Braking action reported by (aircraft type) at (time) good (or medium to good; or medium; or medium to poor; or poor; or less than poor)	
	Runway (or taxiway) dry (or wet; or standing water) depth (in millimetres or not reported)	
Information to aircraft		
Wake turbulence	Caution – wake turbulence	
Jet blast on apron or taxiway	Caution – jet blast	
Propeller-driven aircraft slipstream	Caution – slipstream	
Helicopter downwash	Caution – downwash	

Starting and initial clearance issues

Circumstance	ATC phraseology	Pilot phraseology
To request permission to start engines		[Aircraft location] REQUEST START
		[Aircraft location] REQUEST START INFORMATION (ATIS identification)
ATC response	Start approved	
	Start at (time)	
	Expect start at (time)	
	Expect departure (time) start at own discretion	
When clearance delivery is in operation		(Flight number, if any) TO (aerodrome of first intended landing), REQUEST CLEARANCE
If runway other than runway nominated is required		REQUIRE RUNWAY (number)
When no ATIS broadcast is available	Runway (number), wind (direction and speed), QNH (detail) temperature (detail) [visibility for take-off (detail (or RVR) (detail)]	REQUEST DEPARTURE INFORMATION

Clearances

Circumstance	ATC phraseology	Pilot phraseology
Inflight clearances		REQUEST CLEARANCE
	Cleared to (details)	
If the route and/or level issued in the initial airways clearance is not in accordance with the flight plan.	Cleared to (destination) [amended route] (route clearance details) [amended level] (level)	
If an airways clearance is amended en route	Recleared (amended route portion) to (significant point of original route) [rest of clearance unchanged] [(level)]	
Where the clearance is relayed by a third party, for example pilot/flight watch (ATC excepted)	(Name of unit) clears (aircraft identification)	
When clearance will be issued subject to a delay	Remain outside class (airspace class) [and (airspace class)] airspace and standby	
When clearance will be issued at a specified time or place	Remain outside class (airspace class) [and (airspace class)] airspace, expect clearance at (time/place)	
When clearance will not be available	Clearance not available, remain outside class (airspace class) [and (airspace class)] airspace	
When requesting a deviation from cleared route		REQUEST TO DEVIATE UP TO (distance) MILES LEFT (or RIGHT) OF ROUTE DUE (reason)

Circumstance	ATC phraseology	Pilot phraseology
When requesting a deviation from cleared track		REQUEST TO DEVIATE UP TO (distance) MILES LEFT (or RIGHT) OF TRACK DUE (reason)
When a request for deviation from cleared route or track is given	Deviate up to (distance) miles left (or right) of route (or track)	
When clearance cannot be issued	Unable, traffic (direction) inbound (type of aircraft) (level) estimated (or over) (significant point) at (time) callsign (callsign) advise intentions	
When a weather deviation has been completed and onwards clearance is requested		CLEAR OF WEATHER [request (route clearance)]
When a weather deviation has been completed and the aircraft has returned to its cleared route		BACK ON ROUTE (or TRACK)
When subsequent restrictions/requirements are imposed in addition to previous restrictions/ requirements to be complied with.	Further restriction	
	[Re]enter control area (or zone) [via (significant point)] at (level) [at (time)]	
	Leave control area (or zone) at (level) (or climbing or descending)	
	Leave and re-enter-controlled airspace at (level) (or climbing/ descending to (level) or on (type of approach))	
	Join (specify) at (significant point) at (level) at (time)	

Circumstance	ATC phraseology	Pilot phraseology
Indication of route and clearance limit	From (place) to (place) followed as necessary by: › direct › via (route and/or reporting points) › via flight planned route	
	(Level or route) not available due (reason) alternative(s) is/ are (levels or routes) advise	
Issuing a specific clearance limit	Clearance limit (places/NAVAID)	
When pilot requests, or ATC anticipates, a visual departure in lieu of a SID	[Clearance details] visual departure	
When a clearance has been cancelled	Cancel clearance	
		CANCEL CLEARANCE
Change of flight rules		
Cancelling IFR		CANCEL IFR
Changing from VFR to IFR		CHANGE OF FLIGHT RULES REQUEST IFR

Circumstance	ATC phraseology	Pilot phraseology
Requesting clearance		
When notification of flight details had not been submitted to ATS	Go ahead flight details	FLIGHT DETAILS (INBOUND) or FOR (DEPARTURE or transit)]
Flight details to be passed after ATS response		(Aircraft type) (position) (route in controlled airspace and next estimated) (preferred level)
If clearance cannot be issued immediately (upon request)	Expect clearance at (time or place)	
If giving warning of clearance requirement		EXPECT CLEARANCE REQUEST (aircraft type) VFR (if appropriate) FOR (destination) VIA (point outside controlled airspace at which clearance will be requested) ESTIMATE (estimate at destination) at (altitude proposed for entry to controlled airspace)

Taxi procedures

Circumstance	ATC phraseology	Pilot phraseology
Taxi procedures		
For departure at a controlled aerodrome		(Aircraft type) [persons on board (POB) (number)] [DUAL(or SOLO)] INFORMATION (ATIS identification) [SQUAWK (SSR code)] [aircraft location] [flight rules, if IFR] [TO (aerodrome of destination)] REQUEST TAXI (intentions)
For departure at a non-controlled aerodrome		(Aircraft type) [POB (number)] [IFR (if operating IFR)] TAXIING (location) FOR (destination or intentions) RUNWAY (number)
Where detailed taxi instructions are required		[Aircraft type] REQUEST DETAILED TAXI INSTRUCTIONS
	Taxi via (specific routine to be followed) to holding point [identifier] [runway (number)] [time (minutes)]	
		HOLDING POINT (identifier), RUNWAY (number)

Circumstance	ATC phraseology	Pilot phraseology
Where aerodrome information is not available from an alternative source such as ATIS		Taxi to holding point [identifier] (followed by aerodrome information as applicable) [time (minutes)]
		HOLDING POINT (identifier)
For arrival at a controlled aerodrome		(Aircraft callsign) [parking area or bay number]
	Taxi to [terminal or other location [for example, general aviation area] [stand (number)]	
Intersection departures		
When a pilot requests an intersection departure		REQUEST INTERSECTION DEPARTURE FROM (taxiway identifier)
	Taxi to holding point (taxiway identifier) [runway (number)]	
When a pilot is offered an intersection departure	Intersection departure available from (taxiway identifier) (distance) remaining – if this information is not readily available to the pilot	
	Taxi to holding point (taxi identifier) [runway (number)]	

Circumstance	ATC phraseology	Pilot phraseology
Specific routing	Take (or turn) first (or second) left (or right)	
	Taxi via (identification of taxiway)	
	Taxi via runway (number)	
Manoeuvring on aerodrome **Note:** The pilot must, when requested, report 'runway vacated' when the aircraft is well clear of the runway.	Backtrack approved	REQUEST BACKTRACK
	Backtrack runway (number)	
		[Aircraft location] REQUEST TAXI TO (destination on aerodrome)
	Taxi straight ahead	
	Taxi with caution (reason)	
	Give way to (description and position of other aircraft or vehicle)	
		GIVING WAY TO (traffic)
	Taxi into holding bay	
	Follow (description of other aircraft or vehicle)	
	Vacate runway	
		RUNWAY VACATED
	Expedite taxi [reason]	
		EXPEDITING

Aerodrome movements

Circumstance	ATC phraseology	Pilot phraseology
Holding **Note:** The procedure words 'roger' and 'wilco' are insufficient acknowledgment of the instructions 'hold', 'hold position' and 'hold short of' (position). In each case, the acknowledgment must be 'holding' or 'holding short', as appropriate.	Hold (direction) of (position, runway number, etc)	
	Hold position	
	Hold short of (position)	
		HOLDING
		HOLDING SHORT
To cross a runway **Note:** If the control tower is unable to see the crossing aircraft (for example at night or in low visibility) the instruction should always be accompanied by a request to report when the aircraft has vacated and is clear of the runway.		AT (or ON) (location)] REQUEST CROSS RUNWAY (number)
	[At (or on) (location)] cross runway (number) [report vacated]	
		AT (or ON) (location) CROSSING RUNWAY (number)
	Expedite crossing runway (number) traffic (aircraft type) (distance) miles final	

Runway operations

Note: During multiple runway operations where the possibility of confusion exists, the runway number will be stated. The runway number may be stated if the caller wishes to emphasise the runway to be used. For parallel runway operations on discrete frequencies, at Class D aerodromes, the runway number may be omitted.

Circumstance	ATC phraseology	Pilot phraseology
Preparation for take-off		
When reporting ready for take off	Report when ready [for departure] ready [for circuits] via (published departure route, circuit leg for departure or first tracking point)	
	Are you ready for immediate departure?	
		READY
		READY, RUNWAY (runway identifier) **Note:** For operation at Class D aerodromes with parallel runway operations

Circumstance	ATC phraseology	Pilot phraseology
Clearance to enter runway and await take-off		
When the pilot desires to enter the runway and assume take-off position for checks before departure		REQUEST LINE-UP [require (required number of seconds delay in lined-up position before departure) SECONDS ON RUNWAY]
	Line up [and wait] [runway (number)] [be ready for immediate departure]	
Conditional clearances	(Condition) line up [runway (number)] (brief reiteration of condition)	

Circumstance	ATC phraseology	Pilot phraseology
Acknowledgment of a conditional clearance		(Condition) LINE UP [RUNWAY (number)] [AND WAIT]
Take-off clearance		
	Cleared for take-off [report airborne]	
		CLEARED FOR TAKE OFF
Multiple runway operations, other than Class D aerodromes where aircraft are operating on parallel runways using discrete frequencies	Runway (number) cleared for take-off	CLEARED FOR TAKE OFF RUNWAY (number)
When take-off clearance has not been complied with.	Take off immediately or vacate runway	
	Take off immediately or hold short of the runway	
When land and hold short operations (LAHSO) are in use		(Aircraft type) LANDING ON CROSSING RUNWAY WILL HOLD SHORT — RUNWAY (number) CLEARED FOR TAKE-OFF
Radar departure	Assigned heading (left or right) (three digits) (altitude restriction) [runway (number)] cleared for take-off	
Visual departure	(Instruction) (runway number) cleared for take-off (left or right turn)	

Circumstance	ATC phraseology	Pilot phraseology
Radar instructions during visual departure	(instructions) maintain runway heading (or turn left or right) heading (three digits) visual (altitude restriction) runway (number) cleared for take-off.	
		(instructions) MAINTAIN RUNWAY HEADING (or TURN LEFT or RIGHT) HEADING (three digits) VISUAL (altitude restriction) RUNWAY (number) CLEARED FOR TAKE OFF
Take-off clearance cancellation		
To stop a take-off in emergency conditions	Hold position, cancel, I say again, cancel take-off (reason)	
	Stop immediately (repeat aircraft callsign) stop immediately (reason)	

After take-off

Note: All 'level' reports to radar must be to the nearest 100 ft.

Circumstance	ATC phraseology	Pilot phraseology
Tracking after take-off		REQUEST RIGHT (or LEFT) TURN [when airborne]
	Left (or right) turn approved	
	After passing (level) (tracking instructions)	
Instruction to make a 180-degree turn	Make (left or right), I say again (left or right) turn	
Heading to be followed	Continue on (magnetic direction of runway) (instructions)	

Circumstance	ATC phraseology	Pilot phraseology
When a specific track is to be followed	Track (magnetic direction of runway) (instructions)	
	Climb straight ahead (instructions)	
Airborne report – radar		
Where an ATS surveillance service is provided		PASSING (level) CLIMBING TO (level)
Heading specified by ATC		TURNING LEFT (or RIGHT) (three digits) PASSING (level) CLIMBING TO (level)
When assigned heading approximates runway bearing	MAINTAINING RUNWAY HEADING PASSING (level) CLIMBING TO (level)	HEADING (three digits) PASSING (level) CLIMBING to (level)
Departure report – non-radar		
When notifying departure report to a Class D control tower		TRACKING (track being flown) [FROM (reference aid used to establish track) or VIA SID (identifier)] CLIMBING TO (level)
Non-controlled aerodromes		DEPARTED (location) (time in minutes) TRACKING (track being flown) [FROM (reference aid used to establish track) or VIA SID (identifier)] CLIMBING TO (level) ESTIMATING (first reporting point) AT (time)

Approach and area control services

Circumstance	ATC phraseology	Pilot phraseology
Departure instructions	Track (three digits) degrees [magnetic] to (or from) (significant point) [until (time) (or reaching) (fix or significant point or level)]	
Approach instructions	Cleared visual approach (runway)	
		REQUEST [STRAIGHT-IN APPROACH]
	Cleared straight-in (runway)	
	Commence approach at (time)	
Pilot to advise when able to conduct a visual approach	Report visual	
	Report runway [lights] in sight	
	Report (significant point) [outbound or inbound]	
Holding instructions		
Visual	Hold visual [over] (position)	
Minimum fuel		
To advise ATC of minimum fuel status		MINIMUM FUEL
ATC acknowledgment of minimum fuel status **Note:** Advice of fuel status must be made to each ATC sector on frequency transfer.	Minimum fuel acknowledged [no delay expected or expect (delay information)]	
Expected approach time	No delays expected	
	Expected approach time (time)	

Arrival at aerodrome

Circumstance	ATC phraseology	Pilot phraseology
Entering aerodrome traffic circuit		
When arriving at non-controlled aerodrome		(Location) Aircraft type and callsign (position) (level) (intentions) (location) e.g.Port Macquarie Traffic, ZULU TANGO QUEBEC, CESSNA 172 JOINING CROSSWIND RUNWAY (IDENTIFIER) at 1,000 (ft) FOR TOUCH AND GO
When arriving at controlled aerodrome		[Aircraft type] (position) (level) INFORMATION (ATIS identification) (intentions)
	Join (instruction) runway (number) QNH (detail) [traffic (detail] [track (requirements)]	
	Overfly (circuit direction – runway (identifier) (level) (QNH) (traffic) (detail) (track [requirements])	
In the circuit Non-controlled aerodrome		(Position in circuit, for example DOWNWIND/ FINAL)
		(Position in circuit, for example DOWNWIND/ FINAL) [GLIDE APPROACH, FLAPLESS APPROACH]

Circumstance	ATC phraseology	Pilot phraseology
Controlled aerodrome	Number (sequence number) follow (aircraft type and position) [additional instructions if required]	
	Overfly (circuit direction) runway (number) (level) [QNH (detail)] [traffic (detail)] [track (requirements)]	
Nearing position at which approach must be aborted if not cleared to land		SHORT FINAL
Abnormal operations/ doubt exists **Note:** When doubt exists as to whether the gear is fully extended, or when a general aviation aircraft with retractable undercarriage has experienced abnormal operations.	Check gear down (and locked)	
		GEAR DOWN (and locked)
Approach instructions	Make short approach	
	Make long approach (or extend downwind)	
	Report base (or final or long final)	
	Continue approach	

Circumstance	ATC phraseology	Pilot phraseology
Landing		
	Cleared to land (or touch and go) (or stop and go)	CLEARED TO LAND (TOUCH AND GO) or (STOP AND GO)
Multiple runway operations, other than Class D aerodromes where aircraft are operating (or conducting stop and go) on parallel runways using discrete frequencies	Runway (number) cleared to land (or touch and go) (or stop and go)	
Where the aircraft cannot be sighted by ATC	[Runway (number)] not in sight – cleared to land	
Pilot requesting option for touch and go, full stop, stop and go, or go-around		(Position in circuit) REQUEST THE OPTION (the option)
Advising the pilot of the option to touch and go, full stop, stop and go, or overshoot	[Runway (number)] cleared for (the option)	
	Make full stop (reason) cleared to land	
Missed approach		
	Go around [track extended centreline (three digits)] degrees (or instructions)]	
To discontinue an approach		GOING AROUND
Multiple runway operations		GOING AROUND RUNWAY (number)

ATS surveillance service phrasing

General phrases

Circumstance	ATC phraseology	Pilot phraseology
Identification of aircraft	Report heading [and flight level (or altitude)]	
	For identification turn left (or right) heading (three digits)	
	Identified [(position)]	
	Not identified [reason] [resume (or continue) own navigation]	
Termination of ATS surveillance services	Identification terminated [due to (reason)] [(instructions)] [frequency changed approved]	
	Will shortly lose identification (appropriate instructions or information)	
	Identification lost [reasons] [(instructions)]	
ATS surveillance system position information		
To request traffic, position and/ or navigation information from a SIS		REQUEST: ATS SURVEILLANCE ASSISTANCE (reason) POSITION [WITH REFERENCE TO (aid or location)] TRAFFIC (or POSITION or NAVIGATION) ADVISORY [BY SURVEILLANCE] (HANDOFF FOR) FLIGHT FOLLOWING

Circumstance	ATC phraseology	Pilot phraseology
To terminate an ongoing SIS		CANCEL FLIGHT FOLLOWING
	Position (distance) (direction) of (significant point) (or over or abeam (significant point))	
Where ongoing SIS is not available	ATS surveillance not available	
To request the aircraft's SSR or automatic dependent surveillance-broadcast (ADS-B) capability	Advise transponder capability	
To advise the aircraft's SSR or ADS-B capability		TRANSPONDER (ALPHA, CHARLIE or SIERRA as shown in the Flight Plan)
		ADS-B TRANSMITTER [TEN NINETY DATALINK]
		ADS-B RECEIVER [TEN NINETY DATALINK]
		NEGATIVE TRANSPONDER

ATS surveillance service communication and navigation

Circumstance	ATC phraseology	Pilot phraseology
Communications	[If] radar contact lost (instructions)	
	[If] no transmissions received for (number) minutes (or seconds) (instructions)	
	Reply not received (instructions)	
If loss of communications is suspected	If you read manoeuvre instructions or squawk (code or identification (ident))	
	(Manoeuvre or squawk) observed, position (position of aircraft), will continue to pass instructions	

ATS surveillance system manoeuvres

Circumstance	ATC phraseology	Pilot phraseology
General manoeuvres	Leave (significant point) heading (three digits) [inbound] [at (time)]	
	Continue heading (three digits)	
	Continue present heading	
	Fly heading (three digits)	
	Turn left (or right) (number) degrees (or heading (three digits) [reason])	

Circumstance	ATC phraseology	Pilot phraseology
When an aircraft is assigned a level below the minimum sector altitude (MSA)/LSALT	Climb (or descend) to (level) visual	
When instructing an aircraft to turn 180º or more and to emphasise the direction of turn	Orbit left (or right) [reason]	
	Turn left (or right) (number) degrees (or heading (three digits)) [climb (or descend) to (level)] visual	
	Stop turn heading (three digits)	
When necessary to specify a reason for a manoeuvre, the following phrasing should be used	Turn left (or right) – I say again – left (or right) heading (three digits) [reason]: › due traffic › for spacing › for delay › for downwind (or base, or final)	
Aircraft vectoring by ATS surveillance services		
Pilot or ATS initiated	Do you want vectors?	REQUEST VECTORS [to (or from) (aid, location or reason)]
To transfer responsibility to the pilot for navigation and terrain clearance (as applicable) on termination of vectoring)	Resume own navigation (position of aircraft) (specific instructions)	

Secondary surveillance radar (SSR) and ADS-B

Circumstance	ATC phraseology	Pilot phraseology
To instruct setting of transponder **Note:** The word 'code' is not used in transmissions. **Note:** ADS-B and SSR are linked in many aircraft and terminating one will terminate the other.	Squawk (code) [and ident if required]	[SQUAWK] (code) [AND IDENT if instructed by ATS]
	Squawk normal	
Reselection of the assigned mode and code	Recycle [(mode)] (code)	RECYCLING [(mode)] (code)
Reselection of aircraft identification	Re-enter Mode S (or ADS-B) aircraft identification	
Confirmation of Mode A code selection	Confirm squawk (code)	SQUAWKING (code)
Operation of the ident feature	Squawk ident	(Transmit ADS-B ident)
Temporary suspension of transponder operation	Squawk standby [transmit ADS-B only]	
Emergency code selection termination of SSR transponder or ADS-B transmitter operation	Squawk MAYDAY	
Termination of SSR transponder or ADS-B operation	Stop squawk [transmit ADS-B only]	
	Stop ADS-B transmission [squawk (code) only]	

Circumstance	ATC phraseology	Pilot phraseology
Pressure setting check and confirmation of level	Squawk Charlie Transmit ADS-B altitude	
	Check altimeter setting and confirm level	
Altitude check	Verify [level] (level)	
Confirmation of ADS-B operation	ADS-B transmissions not received, confirm ADS-B operational	
Change to secondary transponder	Select secondary transponder	
Advice on traffic level where the pressure altitude derived level information has not been verified	Unverified level (level)	

Duncan Grant | Aviation headsets

SARTIME

Circumstance	ATC phraseology	Pilot phraseology
SARTIME nomination		SARTIME DETAILS
	Standby or (callsign)	
		SARTIME FOR DEPARTURE (or ARRIVAL) [location] (time)
SARTIME cancellation	(callsign) (position/location) SARTIME/SARWATCH Terminated	(position/location) CANCEL SARTIME
SARTIME amendment		SARTIME DETAILS
	Standby or (callsign)	
		Amend SARTIME details using the specific phrases above as applicable.

Emergency – distress and urgency

Circumstance	ATC phraseology	Pilot phraseology
Distress message		MAYDAY MAYDAY MAYDAY followed by: › station being addressed › aircraft identification › nature of distress › intentions › position level and heading › other useful information details
Acknowledgement of distress	Roger MAYDAY	
Acknowledgement of distress on frequency handover	MAYDAY (type) acknowledged	
Imposition of radio silence due to an emergency	Stop transmitting. MAYDAY	

Circumstance	ATC phraseology	Pilot phraseology
Urgency message		PANPAN PANPAN PANPAN followed by: › station being addressed › aircraft identification › nature of urgency › intentions › position level and heading › other useful information details
Acknowledgement of urgency	Roger PAN	
Acknowledgement of urgency on frequency handover	PAN (type) acknowledged	