

**Student Radiotelephony  
Procedures Manual**

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## ***Introduction***

Radiotelephony is the word used to describe how we use and talk on the radio. In aviation it provides the means for pilots to communicate with ground personnel and vice versa. Communication via the radio is vital to safe flight in busy airspace.

In the past, non-standard phraseology was used and this led to many instances of miscommunication. Fatal accidents resulted and as a consequence, standard phraseology is now used to prevent this type of accident happening again.

English is the agreed language used in aviation throughout the world. Many foreign pilots do not have English as their native language. As such, it is vital that we continue to use standard phraseology during our communications. When we can all understand what is being said on the radio, our situational awareness is greatly increased.

**The importance of using correct and precise standard phraseology cannot be over-emphasised.**

From the 15<sup>th</sup> March 2008 anyone requiring a Student Pilot's Licence (SPL) in Ireland will have to pass a written radiotelephony exam and an oral radiotelephony test. The oral test will also serve as an English proficiency test.

With proper training the written exam and oral test should cause no difficulty for anyone who is proficient in the English language.

There is no doubt that the standard of radiotelephony in Ireland can be improved. This will lead to fewer misunderstandings between pilots and controllers. It will reduce the amount of precious time spent on the radio asking for clarification or repeating messages and perhaps most important of all, safety in the air will be improved.

This book is designed to help you understand what is being said on the radio and also to teach you what to say and what not to say for different scenarios.

In this book you will find all the phrases you will need as a private pilot. We have tried to cover as many different scenarios as we could think of but obviously it is impossible to cover every eventuality. Once you have learned the basics you will be confident enough to alter or combine these scenarios to suit your particular flight.

As an instructor I know that learning how to use the radio and speaking on the radio is probably one of the most intimidating parts of learning to fly an aircraft. But rest assured that you will improve with practice.

Initially you will struggle to understand anything that is being said on the radio but after a few flights you will get to understand some basic phrases. Gradually you will realise that the words spoken are quite predictable and you will almost be able to predict word for word what is going to be said to you. Sometimes you will be bombarded with information and this is where you will have to learn to listen properly as you will be expected to read back the same information. Again, this will improve with practice.

Remember that all radio operators (including air traffic controllers) were at the same stage you are at now. They understand what you are trying to achieve and they will be sympathetic to you. Don't worry if you make a mistake. If you are not making mistakes then in my opinion you are not learning. Learn from your mistakes.

When you are qualified you will have joined a privileged group of people and will have responsibilities. You will only be allowed to use the radio for aeronautical use and using the appropriate language

By the time you have read this book and completed your flying training, you should be proficient in radiotelephony. With this confidence will come an understanding and professionalism that will play a part in the safety of our airspace.

### ***Using this manual***

This manual covers all the phraseology that is current at the time of printing. There may have been some changes since then and these can be found in the Irish Aeronautical Information Publication (AIP) at your flying school, in the Aeronautical Information Circulars (AICs) and aeronautical charts. During your training your instructor will make you familiar with these documents.

Early on, you will learn how to pronounce the words phonetically. The aircraft callsigns and numbers are written as you should pronounce them subsequently the spelling may seem unusual at first. The phonetic words may have some letters in bold text to show where emphasis should be placed in their pronunciation. Later in the book; as you become familiar with the phonetic pronunciation; the spelling reverts to normal spelling for ease of reading.

### ***Format***

The examples of phraseology in this book are intended to be representative of radiotelephony procedures in common use today. The initial call will always appear on the left hand side of the page and remaining messages connected with this call subject will appear in chronological order on the right hand side.

The following symbols represent which radio station is transmitting:



Aircraft transmitting



Air Traffic Service Unit (ATSU) transmitting

The procedures and phrases in this manual have been written with the Very High Frequency (VHF) environment in mind however they are equally applicable to the High Frequency (HF) environment. If using HF radios it is important to be disciplined in your phraseology as interference is much more likely in this frequency band.

## Glossary

### Terms

### Definitions

**Absolute Minimum** The calculated RVR, or at aerodromes where; RVR measurements are not taken or available, the visibility, which is the lowest possible for any instrument approach to be made using that particular approach aid.

**Advisory Area** A designated area where air traffic advisory service is available.

**Advisory Route** A designated route along which air traffic advisory service is available.

**Aerodrome** Any area of land or water designed, equipped, set apart or commonly used for affording facilities for the landing and departure of aircraft.

**Aerodrome Control Service** Air traffic control service for aerodrome traffic.

**Aerodrome Flight Information Service (AFIS)** A flight information service provided to aerodrome traffic.

**Aerodrome Traffic** All traffic on the manoeuvring area of an aerodrome and all aircraft operating in the vicinity of an aerodrome.

**Aerodrome Traffic Zone** Airspace of defined dimensions established around an aerodrome for the protection of aerodrome traffic.

**Aeronautical Mobile Service** A radio communication service between aircraft stations and aeronautical stations, or between aircraft stations.

**Aeronautical Station** A land station in the aeronautical mobile service. In certain instances, an aeronautical station may be placed on board a ship or an earth satellite.

**Airborne Collision Avoidance System** An aircraft system based on SSR transponder signals which operates independently of ground based equipment to provide advice to the pilot on potential conflicting aircraft that are equipped with SSR transponders.

**Aircraft Station** A mobile station in the aeronautical mobile service on board an aircraft.

**Air-ground Communications** Two-way communication between aircraft and stations or locations on the surface of the earth.

**Air Ground Communication Service** A service that permits information to be passed from an aeronautical station to an aircraft station on or in the vicinity of an aerodrome.

**AIRPROX** A situation in which, in the opinion of a pilot or controller, the distance between aircraft as well as their relative positions and speed have been such that the safety of the aircraft involved was or may have been compromised.

**Air Traffic** All aircraft in flight or operating on the manoeuvring area of an aerodrome.

**Air Traffic Control Clearance** Authorisation for an aircraft to proceed under conditions specified by an air traffic control unit.

**Air Traffic Service (ATS)** A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service, area control service, approach control service or aerodrome control service.

**Airway** A control area or part of a control area established in the form of a corridor equipped with radio navigation aids.

**Altitude** The vertical distance of a level, a point or an object considered as a point, measured from mean sea level.

**Area Control Centre** A term used in the United Kingdom to describe a unit providing en-route air traffic control services.

**Automatic Terminal Information Service (ATIS)** The provision of current, routine information to arriving and departing aircraft by means of continuous and repetitive broadcasts throughout the day or a specified portion of the day.

**Base Turn** A turn executed by the aircraft during the initial approach between the end of the outboard track and the beginning of the intermediate or final approach track. The tracks are not reciprocal.

**Blind Transmission** A transmission from one station to another station in circumstances where two-way communication cannot be established but where it is believed that the called station is able to receive the transmission.

**Broadcast** A transmission of information relating to air navigation that is not addressed to a specific station or stations.

**Clearance Limit** The point to which an aircraft is granted an air traffic control clearance.

**Control Area** A controlled airspace extending upwards from a specified limit above the surface of the earth.

**Controlled Airspace** An airspace of defined dimensions within which air traffic control service is provided in accordance with the airspace classification.

**Control Zone** A controlled airspace extending upwards from the surface of the earth to a specified upper limit.

**Cruising Level** A level maintained during a significant portion of a flight.

**Decision Altitude/Height** A specified altitude/height in a precision approach at which a missed approach must be initiated if the required visual reference to continue the approach to land has not been established.

**Elevation** The vertical distance of a point or level on, or affixed to, the surface of the earth measured from mean sea level.

**Estimated Time of Arrival** The time at which the pilot estimates that the aircraft will be over a specific location.

**Flight Information Service (FIS)** A service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights.

**Flight Level** A surface of constant atmospheric pressure, which is related to a specific pressure datum, 1013.2 Hp, and is separated from other such surfaces by specific pressure intervals.

**Flight Plan** Specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft. Flight Plans fall into two categories: Full Flight Plans and Abbreviated Flight Plans.

**General Air Traffic** Flights operating in accordance with civil air traffic procedures.

**Heading** The direction in which the longitudinal axis of an aircraft is pointed, usually expressed in degrees from North (magnetic).

**Height** The vertical distance of a level, a point, or an object considered as a point measured from a specified datum.

**Holding Point** A speech abbreviation used in radiotelephony phraseology having the same meaning as Taxiway Holding Position.

**IFR Flight** A flight conducted in accordance with the instrument flight rules.

**Instrument Meteorological Conditions (IMC)** Meteorological conditions expressed in terms of visibility, horizontal and vertical distance from cloud, less than the minima specified for visual meteorological conditions.

**Known Traffic** Traffic, the current flight details and intentions of which are known to the controller concerned through direct communication or co-ordination.

**Level** A generic term relating to the vertical position of an aircraft in flight and meaning variously, height, altitude or flight level.

**Level Bust** Any deviation from assigned altitude, height or flight level in excess of 300 feet.

**Minimum Descent Altitude/Height** A altitude/height in a non precision or circling approach below which descent may not be made without visual reference.

**Missed Approach Point (MAPt)** The point in an instrument approach procedure at or before which the prescribed missed approach procedure must be initiated in order to ensure that the minimum obstacle clearance is not infringed.

**Missed Approach Procedure** The procedure to be followed if the approach cannot be continued.



**Procedure Turn** A manoeuvre in which a turn is made away from a designated track followed by a turn in the opposite direction to permit the aircraft to intercept and proceed along the reciprocal of the designated track.

**Radar Approach** An approach, executed by an aircraft, under the direction of a radar controller.

**Radar Contact** The situation which exists when the radar blip or radar position symbol of a particular aircraft is seen and identified on a radar display.

**Radar Identification** The process of correlating a particular radar blip or radar position symbol with a specific aircraft.

**Radar Vectoring** Provision of navigational guidance to aircraft in the form of specific headings, based on the use of radar.

**Reporting Point** A specified geographical location in relation to which the position of an aircraft can be reported.

**Runway** A defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft.

**Runway Visual Range** The range over which the pilot of an aircraft on the centre line of a runway can expect to see the runway surface markings, or the lights delineating the runway or identifying its centre line.

**Signal Area** An area on an aerodrome used for the display of ground signals.

**Significant Point** A specified geographical location used in defining an ATS route or the flight path of an aircraft and for other navigational and ATS purposes.

**Special VFR** A special VFR clearance to an aircraft in a control zone to permit flight if the weather is below VMC minima.

**Straight Ahead** When used in departure clearances means: 'track extended runway centre-line'. When given in Missed Approach Procedures means: 'continue on Final Approach Track'.

**Terminal Control Area** A control area normally established at the confluence of airways in the vicinity of one or more major aerodromes.

**Threshold** The beginning of that portion of the runway useable for landing.

**Traffic Alert and Collision Avoidance System (TCAS)** See ACAS.

**VFR Flight** A flight conducted in accordance with the visual flight rules.

**Visual Meteorological Conditions (VMC)** Meteorological conditions expressed in terms of visibility, horizontal and vertical distance from cloud, equal to or better than specified minima.

## Abbreviations

The abbreviations annotated with an asterisk are normally spoken as complete words. The remainder are normally spoken using the constituent letters rather than the spelling alphabet.

### A

<b>AAIU</b>	Air Accident Investigation Unit
<b>aal</b>	Above Aerodrome Level
<b>ACAS*</b>	Airborne Collision Avoidance System (pronounced A-kas) (see TCAS)
<b>ACC</b>	Area Control Centre
<b>ADF</b>	Automatic Direction-Finding Equipment
<b>ADR</b>	Advisory Route
<b>ADT</b>	Approved Departure Time
<b>AFTN</b>	Aeronautical Fixed Telecommunication Network
<b>AFIS</b>	Aerodrome Flight Information Service
<b>AGCS</b>	Air Ground Communication Service
<b>agl</b>	Above Ground Level
<b>AIC</b>	Aeronautical Information Circular
<b>AIP</b>	Aeronautical Information Publication
<b>AIRPROX*</b>	Aircraft Proximity (replaces Airmiss)
<b>AIS</b>	Aeronautical Information Services
<b>amsl</b>	Above Mean Sea Level
<b>APAPI</b>	Abbreviated Precision Approach Path Indicator (pronounced Ay-PAPI)
<b>ATA</b>	Actual Time of Arrival
<b>ATC</b>	Air Traffic Control (in general)
<b>ATD</b>	Actual Time of Departure
<b>ATIS*</b>	Automatic Terminal Information Service
<b>ATS</b>	Air Traffic Service
<b>ATSU</b>	Air Traffic Service Unit
<b>AT-VASIS</b>	Abbreviated T Visual Approach Slope Indicator System (pronounced Ay-Tee-VASIS)
<b>ATZ</b>	Aerodrome Traffic Zone

### C

<b>CAVOK*</b>	Visibility, cloud and present weather better than prescribed values or conditions (CAVOK pronounced Cav-okay)
<b>C/S</b>	Callsign
<b>CTA</b>	Control Area
<b>CTR</b>	Control Zone

### D

<b>DF</b>	Direction Finding
<b>DME</b>	Distance Measuring Equipment
<b>DR</b>	Dead Reckoning

### E

<b>EAT</b>	Expected Approach Time
<b>ETA</b>	Estimated Time of Arrival
<b>ETD</b>	Estimated Time of Departure

**F**

<b>FAF</b>	Final Approach Fix
<b>FIR</b>	Flight Information Region
<b>FIS</b>	Flight Information Service
<b>FL</b>	Flight Level
<b>Ft</b>	Foot (feet)

**G**

<b>GAT</b>	General Air Traffic
<b>GLONASS*</b>	Global Orbiting Navigation Satellite System (pronounced Glo-NAS)
<b>GMC</b>	Ground Movement Control
<b>GNSS</b>	Global Navigation Satellite System
<b>GPS</b>	Global Positioning System

**H**

<b>H24</b>	Continuous day and night service (H24 pronounced Aitch Twenty Fower)
<b>HF</b>	High Frequency

**I**

<b>IAA</b>	Irish Aviation Authority
<b>IAF</b>	Initial Approach Fix
<b>ICAO*</b>	International Civil Aviation Organisation
<b>IF</b>	Intermediate Approach Fix
<b>IFR</b>	Instrument Flight Rules
<b>ILS</b>	Instrument Landing System
<b>IMC</b>	Instrument Meteorological Conditions
<b>IRVR</b>	Instrumented Runway Visual Range

**K**

<b>Kg</b>	Kilogram(s)
<b>KHz</b>	Kilohertz
<b>Km</b>	Kilometer(s)
<b>Kt</b>	Knot(s)

**M**

<b>MAPt</b>	Missed Approach Point
<b>mb</b>	Millibars
<b>MDA/H</b>	Minimum Descent Altitude/Height
<b>MET*</b>	Meteorological or Meteorology
<b>METAR*</b>	Routine aviation aerodrome weather report
<b>MHz</b>	Megahertz

**N**

<b>NDB</b>	Non-Directional Radio Beacon
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**O**

<b>OAC</b>	Oceanic Area Control Unit
<b>OCA</b>	Oceanic Control Area
<b>OCA/H</b>	Obstacle Clearance Altitude/Height

**P**

**PAPI\*** Precision Approach Path Indicator (pronounced PAPI)  
**PAR** Precision Approach Radar

**Q**

**QDM** Magnetic heading (zero wind) (Sometimes employed to indicate magnetic heading of a runway)  
**QDR** Magnetic bearing  
**QFE** The observed pressure at a specified datum (usually aerodrome or runway threshold elevation) corrected for temperature  
**QGH** Ground interpreted letdown procedure using DF equipment  
**QNE** Landing altimeter setting  
**QNH** Altimeter sub-scale setting to obtain elevation when on the ground and indications of elevation when in the air  
**QTE** True Bearing

**R**

**RA** Resolution Advisory (see TCAS)  
**RTF** Radiotelephone/Radiotelephony  
**RVR** Runway Visual Range

**S**

**SAR** Search and Rescue  
**SID\*** Standard Instrument Departure  
**SIGMET\*** Significant information concerning en-route weather phenomena which may affect the safety of aircraft operations  
**SRA** Surveillance Radar Approach  
**SSR** Secondary Surveillance Radar  
**STAR\*** Standard Instrument Arrival

**T**

**TA** Traffic Advisory (see TCAS)  
**TAF\*** Terminal Aerodrome Forecast  
**TCAS\*** Traffic Alert and Collision Avoidance System (pronounced Tee-kas) (see ACAS)  
**TMA** Terminal Control Area  
**T-VASIS** T Visual Approach Slope Indicator System (pronounced TEE-VASIS)

**U**

**UAS** Upper Airspace  
**UHF** Ultra-High Frequency  
**UIR** Upper Flight Information Region  
**UTC** Co-ordinated Universal Time

**V**

**VASIS\*** Visual Approach Slope Indicator System (pronounced VASIS)  
**VDF** Very High Frequency Direction-Finding Station  
**VFR** Visual Flight Rules  
**VHF** Very High Frequency (30 to 300 MHz)

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<b>VMC</b>	Visual Meteorological Conditions
<b>VOLMET*</b>	Meteorological information for aircraft in flight
<b>VOR</b>	VHF Omnidirectional Radio Range
<b>VORTAC*</b>	VOR and TACAN combination

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## CHAPTER 1

### *Talking on the Radio*

This chapter will introduce you to the language of radio. You will probably need to refer back to this chapter at regular intervals as you progress through your training. You will have to become proficient in getting your message across efficiently and making sure that you do not block the frequency unnecessarily as this would make the frequency unavailable for others.

### *Transmitting Technique*

#### **First**

Select the required frequency.  
Make sure the volume is set correctly.

The following transmitting techniques will assist in ensuring that transmitted speech is clearly and satisfactorily received.

#### **Second**

Listen out on the frequency to be used to ensure that there will be no interference with a transmission from another station. Do not transmit if someone else is also transmitting otherwise both transmissions will be distorted beyond all recognition. If someone is transmitting, make sure that their conversation is finished before transmitting your message.

Think about what you are going to say. You will find that the words are almost the same for each startup call as everyone should be using standard phraseology. Your messages should be short and to the point.

Be familiar with the microphone operating techniques and do not turn your head away from it whilst talking or vary the distance between it and your mouth. Severe distortion of speech may arise from:

Talking too close to the microphone.

Touching the microphone with your lips.

Holding the microphone or boom (of a combined headset/microphone system).

Use a normal conversation tone, speak clearly and distinctly.

Maintain an even rate of speech not exceeding 100 words per minute. When it is known that elements of the message will be written down by the recipients, speak at a slightly slower rate.

Maintain the speaking volume at a constant level.

A slight pause before and after numbers will assist in making them easier to understand.

Avoid using hesitation sounds such as “er” and “umm”.

Depress the transmit switch fully before speaking and do not release it until the message is complete. This will ensure that the entire message is transmitted. However, do not depress the transmit switch until you are ready to speak.

Be aware that the mother tongue of the person receiving the message may not be English. Therefore, speak clearly and use standard radiotelephony (RTF) words and phrases wherever possible.

One of the most irritating and potentially dangerous situations in radiotelephony is a ‘stuck’ microphone/transmit button. Operators should always ensure that the button is released after a transmission and the microphone placed in an appropriate place that will ensure that it will not inadvertently be switched on. If you are transmitting then you will be unable to receive and this becomes a safety issue. A “stuck mike” can be identified by looking at your radio display. Most modern radios display a “T” when you are transmitting. If this symbol is displayed and you are not intentionally transmitting then you need to check your transmit switch. If the radio is unusually quiet for a period of time then you should also check your transmit button or ask for a radio check (discussed later).

After a call has been made, a period of at least 10 seconds should elapse before a second call is made. This should eliminate unnecessary transmissions while the receiving station is getting ready to reply to the initial call.

The way you pronounce letters and numbers is important. Try not to use changes in the tone of your voice to ask a question – instead, use a direct question or phrase (e.g. “Confirm cleared to take off” not “Cleared to take off?”).



## CHAPTER 2

### *Transmission of Letters (The Phonetic Alphabet)*

Letters of the alphabet are not pronounced in the normal manner. Each letter has its own word and the first letter of that word is the same as its associated letter in the alphabet. If you were to pronounce the letter only, confusion could happen with certain letters (e.g. M and N, E and V etc).

Stress the syllables that are printed in **bold**.

THE PHONETIC ALPHABET					
Letter	Word	Transmitted as	Letter	Word	Transmitted as
<b>A</b>	Alpha	<b>Al</b> -fah	<b>N</b>	November	No- <b>vem</b> -ber
<b>B</b>	Bravo	<b>Brah</b> -voh	<b>O</b>	Oscar	<b>Oss</b> -cah
<b>C</b>	Charlie	<b>Char</b> -lee	<b>P</b>	Papa	Pah- <b>pah</b>
<b>D</b>	Delta	<b>Dell</b> -tah	<b>Q</b>	Quebec	Keh- <b>beck</b>
<b>E</b>	Echo	<b>Eck</b> -oh	<b>R</b>	Romeo	<b>Row</b> -me-oh
<b>F</b>	Foxtrot	<b>Foks</b> -trot	<b>S</b>	Sierra	See- <b>air</b> -rah
<b>G</b>	Golf	Golf	<b>T</b>	Tango	<b>Tang</b> -go
<b>H</b>	Hotel	Hoh- <b>tell</b>	<b>U</b>	Uniform	<b>You</b> -nee-form
<b>I</b>	India	<b>In</b> -dee-ah	<b>V</b>	Victor	<b>Vik</b> -tah
<b>J</b>	Juliet	<b>Jew</b> -lee-ett	<b>W</b>	Whiskey	<b>Wiss</b> -key
<b>K</b>	Kilo	<b>Key</b> -loh	<b>X</b>	X-ray	<b>Ecks</b> -ray
<b>L</b>	Lima	<b>Lee</b> -mah	<b>Y</b>	Yankee	<b>Yang</b> -key
<b>M</b>	Mike	Mike	<b>Z</b>	Zulu	<b>Zoo</b> -loo

The phonetic alphabet is most commonly used when identifying aircraft. All aircraft registered in Ireland have a registration that uses letters of the alphabet. This registration is your call sign. The first two letters are "EI". These two letters are followed by three other letters. E.g. EI-ABC.

Once you have established two way communications with an Air Traffic Service Unit (ATSU), the ATSU will probably shorten your call sign. The call sign will commonly be abbreviated to the first letter and the last two letters of your aircraft registration. E.g. EBC "**Eck**-oh - **Brav**-oh - **Char**-lee". This will become your call sign for any future communications with the ATSU.

It may sometimes be necessary to spell words such as your name or a location and the phonetic alphabet should be used in these cases.

**As with all rules, there are exceptions.** Some aviation abbreviations are pronounced in the normal manner without using the phonetic alphabet. Some of these terms are listed below.

QNH

VOR

ILS

CAVOK (Pronounced "Kav-O-Kay")

NDB

These acronyms are explained in the glossary at the start of this manual.

### **Transmission of Numbers**

When individual numbers are transmitted, the following words should be used. The syllables in **bold** should be emphasised.

<b>Number or Numeral Element</b>	<b>Pronunciation</b>
0	<b>Ze-ro</b>
1	<b>One</b>
2	<b>Two</b>
3	<b>Tree</b>
4	<b>Fow-er</b>
5	<b>Fife</b>
6	<b>Six</b>
7	<b>Sev-en</b>
8	<b>Eight</b>
9	<b>Nin-er</b>
Decimal	<b>Day-see-mal</b>
Hundred	<b>Hun-dred</b>
Thousand	<b>Tousand</b>

It is especially important to differentiate between the numbers five and nine (pronounced "**fife**" and "**nin-er**") as these numbers may be misinterpreted when spoken normally.

A decimal point in a number should never be pronounced as "point" but always pronounced "**day-see-mal**".

All numbers should be transmitted by pronouncing each individual number separately.

E.g. 10 is pronounced "**one zero**"

345 is pronounced "**tree fower fife**"

**But as usual, there are exceptions to this.**

Whole hundreds (e.g. 900 is "nin-er hun-dred").

Whole thousands (e.g. 6000 is "six tousand").

Combinations of thousands and whole hundreds. (e.g. 6900 is "six tousand nin-er hun-dred").

The words "one hun-dred" and "one tousand" are pronounced in full rather than "one zero zero" or "one zero zero zero". This is very important when transmitting flight levels. For example:

FL100 is "flight level one hun-dred"

FL110 is "flight level one one zero"

Number	Transmitted As
25	<b>Two fife</b>
50	<b>Fife zero</b>
76	<b>Sev-en six</b>
700	<b>Sev-en hun-dred</b>
728	<b>Sev-en two eight</b>
2000	<b>Two tousand</b>
2500	<b>Two tousand fife hun-dred</b>
2550	<b>Two fife fife zero</b>
11000	<b>One one tousand</b>
11325	<b>One one tree too fife</b>

There are exceptions to the pronunciation of hundreds and thousands. There are instances when the whole number is expressed digit by digit even though the number ends in a hundred or thousand. Some examples are given below:

- **Time** is pronounced digit by digit. E.g. time 1500 UTC is pronounced "*time One fife ze-ro ze-ro*".
- **Altimeter pressure settings** are pronounced digit by digit. E.g. QNH 999 is pronounced "*QNH nin-er nin-er nin-er*".
- **Headings** are pronounced digit by digit. E.g. heading 150 is pronounced "*heading one fife ze-ro*".
- **Transponder codes** are pronounced digit by digit. E.g. squawk 0425 is pronounced "*squawk ze-ro fow-er two fife*".
- **Radio frequencies** are pronounced digit by digit. E.g. 124.65 is pronounced "*one two fow-er day-see-mal six fife*".
- **Wind direction and speed** is pronounced digit by digit. E.g. Wind velocity 230° at 15 knots is pronounced "*two tree ze-ro at one fife knots*".
- **Numbers in aircraft call signs** are pronounced digit by digit. E.g. Aer Lingus flight 200 is pronounced "*Shamrock two ze-ro ze-ro*".
- **Runway numbers** are pronounced digit by digit. E.g. Runway 27 is pronounced "*runway two sev-en*".

When using the clock code to describe the position of another aircraft, whole numbers may be used. For example, an aircraft may be described as being "two o'clock low" or "nine o'clock high".

Numbers containing a decimal point shall be transmitted with the decimal point in the appropriate sequence and indicated by the word "**Day-see-mal**".

Frequency	Transmitted As
122.4	<b>One Two Two Day See Mal Fow-er</b>
119.925	<b>One One Nin-er Day See Mal Nin-er Two Fife</b>

**NOTE:** Only the first five figures are used when identifying frequencies separated by 25 kHz.

## Time

Coordinated Universal Time (UTC) is the internationally recognised time reference used in aviation today. All times written or transmitted are expressed as UTC. UTC is the time at 0° longitude which passes through Greenwich in London. In Ireland, when daylight saving time is not in use, local time is the same as UTC.

UTC used to be known as Greenwich Mean Time (GMT). UTC is a more correct description of the time. UTC may sometimes be referred to as Zulu time and the time may be superseded by the letter Z.

e.g. 1800 UTC = 1800Z

All time is based on the twenty four hour clock with the day beginning at 0000 UTC.

When transmitting time it is normal to say only the minutes of the hour but if there is any possibility of confusion then the hour should also be transmitted.

Time	Transmitted As
0525	<b>Two fife</b> (or <b>Ze-ro fife two fife</b> )
1535	<b>Tree fife</b> (or <b>One fife tree fife</b> )
1800	<b>One eight ze-ro ze-ro</b>
2218	<b>One eight</b> (or <b>Two two one eight</b> )

## Daylight Saving Time

In Ireland, the local time is moved forward by one hour at the end of March and becomes known as daylight saving time. Daylight saving time is always one hour ahead of UTC. Daylight saving time reverts back to UTC at the end of October. (Refer to the Aeronautical Information Publication for exact dates and times).

This must be taken into account when transmitting times. Local time in the summer months is one hour ahead of UTC.

E.g. 1500hrs Local time in the summer months is 1400 UTC.

1500hrs Local time in the winter months is 1500 UTC.

## Standard Words and Phrases

All radio communications should be clear and unambiguous. English is the internationally recognised language for radiotelephony in aviation. Phrases and words have been standardised to minimise the risk of confusion and reduce the time spent transmitting. There are often many people trying to share the same frequency. Trying to make a radio call in a busy environment can be difficult if someone is making prolonged radio calls. For this reason it is important that communications are brief and to the point. Standard phraseology should be used where possible. If standard words or phrases do not exist for your situation or if you have forgotten the standard words then you should go ahead and use normal English language.

Most standard words and phrases need no explanation. Some of the words and phrases are listed below. The shaded items are the most important but all of these should be known. Take time to learn them.

<b>WORD OR PHRASE</b>	<b>MEANING</b>
<b>AT YOUR DISCRETION</b>	ATC clearing or Flight Information Service advising pilot to commence manoeuvre when pilot wants to.
<b>ABEAM</b>	Alongside
<b>ACKNOWLEDGE</b>	Let me know that you have received and understood this message.
<b>AFFIRM</b>	Yes
<b>ALL STATIONS</b>	All stations on this frequency.
<b>APPROVED</b>	Permission for proposed action approved.
<b>BASE</b>	The base leg of the circuit pattern.
<b>BACKTRACK</b>	Proceed in direction opposite to that of runway in use when on the ground.
<b>BREAK</b>	Indicates the separation between messages.
<b>CANCEL</b>	Cancel the previously transmitted clearance.
<b>CANCEL DISTRESS</b>	Cancel distress and pass details of why it has been cancelled.
<b>CANCEL MAYDAY</b>	Cancel mayday and pass details of why it has been cancelled.
<b>CHANGING TO...</b>	I intend to call... (Station) on .... (Frequency) NOTE: The word "to" is only used if followed by the station name. Using "to" before a frequency could lead to confusion with the number two.
<b>CHECK</b>	Examine a system or procedure (no answer is normally expected).
<b>CLEARED</b>	Authorised to proceed under the conditions specified.
<b>CLEARED FOR TAKE OFF</b>	Only used when the aircraft is cleared for take off. At all other times "departure" is used.
<b>CLEARED FOR IMMEDIATE TAKE OFF</b>	Cleared to take off without delay.
<b>CLEARED TO LAND</b>	Cleared to land on the nominated runway.
<b>CLIMB FLIGHT LEVEL..... CLIMB TO ALTITUDE.....<sup>1</sup> CLIMB TO HEIGHT.....<sup>1</sup></b>	Climb to and maintain stated flight level... Note that the word "to" is omitted from messages relating to flight levels, e.g. "Climb flight level four zero". When "to" is used, the words "altitude" or "height" follow, e.g. "Climb to altitude tree thousand feet".
<b>CONFIRM</b>	Have I correctly received the following...? Or/ did you correctly receive this message?
<b>CONTACT</b>	Establish radio contact with... (Your flight details have been passed on).
<b>CONTINUE</b>	Continue with manoeuvre (e.g. approach or heading).
<b>CORRECT</b>	That is correct
<b>CORRECTION</b>	An error has been made in this transmission. The correct version is....

<b>CROSS RUNWAY</b>	Taxi instructions to cross a runway.
<b>DESCEND FLIGHT LEVEL DESCEND TO ALTITUDE DESCEND TO HEIGHT</b>	Descent to and maintain stated flight level. Note that the word "to" is omitted from messages relating to flight levels. E.g. Descend flight level six five. When "to" is used, the words "altitude" or "height" follow and then the figures. E.g. "Descend to altitude two thousand feet".
<b>DISREGARD</b>	Consider the last transmission as not sent.
<b>DOWNWIND</b>	In the circuit pattern, abeam the upwind end of the runway in use.
<b>EXPECT</b>	Expect the stated item. This is to allow you to plan ahead but is not a clearance.
<b>EXPEDITE</b>	Perform the manoeuvre as quickly as is safely possible.
<b>FINAL</b>	After turning from base leg of the circuit pattern onto final approach.
<b>FOLLOW</b>	Adjust your taxi path or flight path and/or speed to follow the specified aircraft/vehicle.
<b>FRECALL</b>	Contact the specified ATSU. (Your details have not been forwarded).
<b>GO AHEAD</b>	Proceed with your message.
<b>GO AROUND</b>	Discontinue the approach and join the visual circuit or carry out the missed approach procedure.
<b>HEAVY</b>	Large aircraft in the "heavy" wake turbulence category. E.g. "Shamrock 200 heavy".
<b>HOLD POSITION</b>	ATC requesting taxiing aircraft to stop and hold present position.
<b>HOW DO YOU READ?</b>	What is the readability of my transmission?
<b>IMMEDIATELY</b>	Indicates an exceptional circumstance requiring immediate action by the pilot.
<b>I SAY AGAIN</b>	I repeat for clarity or emphasis.
<b>KNOWN TRAFFIC IS</b>	Traffic whose current flight details and intentions are known to the controller.
<b>LATE DOWN WIND</b>	Somewhere on the downwind leg of the circuit pattern past the normal point for calling "downwind".
<b>LINEUP or LINEUP AND WAIT</b>	Taxi onto the runway and into position ready for takeoff but do not takeoff.
<b>LONG FINAL</b>	Between four and eight miles on a straight in approach to land.
<b>MAINTAIN</b>	Hold current altitude or heading.
<b>MAYDAY MAYDAY MAYDAY</b>	Distress call from a pilot with details following.
<b>MAYDAY TRAFFIC ENDED</b>	Cancellation of emergency communications and radio silence.
<b>MONITOR</b>	Listen out on frequency.
<b>NEGATIVE</b>	No. Incorrect. Permission not granted.
<b>NO KNOWN TRAFFIC</b>	ATC reporting no known traffic that will conflict with you.
<b>ORBIT LEFT ORBIT RIGHT</b>	Make a 360° turn.

<b>OUT<sup>2</sup></b>	This exchange of transmission is ended and no response is expected.
<b>OVER<sup>2</sup></b>	My transmission is ended and I expect a response from you.
<b>PAN-PAN PAN-PAN PAN-PAN</b>	Urgency call from a pilot with details following.
<b>PASS YOUR MESSAGE</b>	Proceed with your message. You may sometimes hear the phrase "go ahead".
<b>PRACTICE PAN PRACTICE PAN PRACTICE PAN</b>	Pilot making a practice PAN-PAN call on emergency frequency 121.5 MHz
<b>RADIO CHECK</b>	Request for radio serviceability check. 1 = Unreadable 2 = Readable now and then 3 = Readable but with difficulty 4 = Readable 5 = Perfectly readable
<b>READ BACK</b>	Repeat all or the specified part of this message back to me exactly as received.
<b>READY FOR DEPARTURE</b>	Pilot reporting all checks complete and ready for takeoff and departure.
<b>READY TO COPY?</b>	Are you ready to copy? (routes, clearances, weather etc.)
<b>RECEIVED... (information code letter)</b>	Advice to ATC that the pilot has received and understood the specific automatic terminal information (ATIS) for that particular aerodrome. Note that if you receive an altimeter pressure setting from the ATIS prior to departure and it is not given again by the ATC unit, you must read back that pressure setting. E.g. "Received information golf QNH 1010".
<b>RECYCLE CODE</b>	Set your transponder to standby then reselect the assigned code and mode.
<b>REPORT</b>	Pass requested information.
<b>REPORT ESTABLISHED</b>	Report when established on the stated flight path or track.
<b>REPORT FINAL</b>	Report when you are within four nautical miles of the runway threshold on final approach.
<b>REPORT LONG FINAL</b>	Report when you are between four and eight nautical miles of the runway threshold on final approach.
<b>REQUEST</b>	I would like to know or I wish to obtain.
<b>ROGER</b>	I have received and understood your last transmission. NOTE: Under no circumstances to be used in reply to a question requiring a direct answer of yes ("affirm") or no ("negative").
<b>RUNWAY VACATED</b>	Pilot reporting that the aircraft has now vacated the active runway.
<b>SELCAL</b>	Selective calling on HF radio.
<b>SAY AGAIN</b>	Repeat all or the following part of your last transmission.
<b>SPEAK SLOWER</b>	Reduce your rate of speech.

<b>SQUAWK</b>	Set the assigned squawk code and mode on your transponder.
<b>SQUAWK MODE CHARLIE</b>	Set mode C (altitude reporting) on your transponder.
<b>SQUAWK IDENT</b>	Press the "ident" button on your transponder.
<b>SQUAWK MAYDAY</b>	Select code 7700 on your transponder.
<b>SQUAWK STANDBY</b>	Set standby mode on your transponder.
<b>STANDBY</b>	Wait and I will call you. Note: There is no need to respond. No onward clearance is to be assumed.
<b>STOP CLIMB/DESCENT<sup>3</sup></b>	Revised clearance to a new flight level or altitude which will be reached prior to the originally cleared (and now cancelled) flight level or altitude.
<b>STOP IMMEDIATELY</b>	Aircraft specified taxiing or taking off to stop immediately.
<b>STOP TRANSMITTING. MAYDAY</b>	All stations other than the one transmitting the mayday call are to temporarily cease transmitting.
<b>TAXI TO... VIA...</b>	Taxi instructions to taxi as specified.
<b>TRANSMITTING BLIND ON (FREQUENCY)</b>	Pilot transmitting with a suspected receiver failure (i.e. possibly can transmit but cannot receive messages).
<b>TURN (left/right) ONTO HEADING</b>	Turn in the direction indicated onto the stated magnetic heading.
<b>VACATE RUNWAY</b>	Taxi clear of the active runway.
<b>VECTERING FOR</b>	Radar vectors (heading) for final approach or stated procedure.
<b>VERIFY</b>	Check and confirm.
<b>WHEN READY</b>	Perform the specified instruction at the pilots discretion.
<b>WILCO</b>	I will comply.
<b>WIND CHECK</b>	Request the surface wind velocity at the aerodrome.
<b>WORDS TWICE</b>	As a request: Communication is difficult. Please send every word twice. As information: Since communication is difficult every word in this message will be sent twice.

<b>1</b>	The words "to" and "for" should be avoided when preceding numbers such as altitudes, headings or frequencies unless separated by another word. This avoids confusion with the numbers "2" and "4".
<b>2</b>	"Over" and "Out" may be omitted after initial contact has been firmly established provided no possibility of confusion or ambiguity will result. These words are not often used in VHF transmissions which are usually very clear but may be used in HF (high frequency) transmissions in remote areas which are often difficult to hear clearly.
<b>3</b>	In relation to level instructions, the phrase "re-cleared" <b>should NOT</b> be used.

### **Conclusion**

The only way you will become fluent in radiotelephony is with practice. Ask your instructor to spend time in the classroom and simulate some flight transmissions.



When you are planning a flight, remember to plan for your radio calls. What calls are you going to make? When are you going to make them? What radio frequencies are you going to need? These are some of the things you should consider as part of your planning for a flight.

## CHAPTER 3

### ***Flying at an Aerodrome***

The aim of this chapter is to teach you the phraseology used in radiotelephony (RTF) when operating at an airfield. This is where your flying training will normally start and as such it is where you will commence talking on the radio.

You will probably need to refer to the standard words and phrases in Chapter two as you progress through this chapter.

We are going to study RTF at different types of aerodrome but for the time being, all you have to read up on is the type of aerodrome and airspace you are flying at. (Ask your instructor if you are unsure). The different types of aerodrome are discussed below. When you become comfortable with the RTF at your aerodrome you will want to read up on the type of RTF used at aerodromes you are going to visit during your training.

### ***The Main RTF Positions***

There are five main radiotelephony positions for taxi and circuit operations at an aerodrome. Once you become familiar with these, you will find your communications become much easier. These calls are similar for any aerodrome in Ireland or the UK.

The main RTF positions are:

- The helipad
- The runway
- The downwind leg
- Base leg
- Final approach

### ***Types of Aerodrome***

Aerodromes fall into one of two categories:

- **Aerodromes with ATC** (Air Traffic Control), where ATC clearances are required to operate on the aerodrome (i.e. to takeoff and land).
- **Aerodromes with either an FIS** (Flight Information Service) or **AGCS** (Air Ground Communication Service) to provide information and advice. There may be no radio at all. When you are at this type of aerodrome. You are completely responsible for aerodrome operations and ATC clearances are not required (nor are they available) but you should advise others of your movements.

### ***Types of Air Traffic Service Units (ATSU)***

There are three main types of air traffic service units (ATSU) that may be in use at an aerodrome.

- **Air Traffic Control (ATC)**. Air Traffic Control provides a control and information service. It issues ATC clearances to enter Class A or Class C controlled airspace. It also provides clearances within any controlled airspace.

- **Flight Information Service (FIS).** The Flight Information Service provides an information service. The FIS cannot issue clearances. The FIS can only provide information for aircraft in flight.
- **Air Ground Communication Service (AGCS).** The Air/Ground radio provides a very basic information service.

More details on the type of ATSU may be found in the Aeronautical Information Publication (AIP). Your training school/club will have a copy of this document. Ask your instructor if you wish to see the AIP. You will need to be familiar with this document before you do your flight test.

- **An ATC unit** is indicated by its name followed by its function. E.g. Cork **Approach**, Galway **Tower**, Baldonnell **Radar**, Dublin **Ground** etc.
- **An FIS unit** is indicated by its place name followed by the word "information". E.g. Dublin **Information**, Shannon **Information**.
- **An Air/Ground unit** is indicated by its place name followed by the word "radio". E.g. Kiltrush **Radio**, Birr **Radio**.

During most flights you will be passed from one frequency to another. The name of the frequency you are passed to will indicate the type of ATSU that you will be contacting. The type of service offered at an aerodrome may change at different times. E.g. an aerodrome may be extremely busy at weekends or at different times of the day and as such it may offer ATC for these times. At less busy times it may revert to a FIS.

Most of your training flights will begin and end at the same aerodrome. You will gradually become familiar with the radio calls for this aerodrome. A lot of your training will take place away from the aerodrome. On your way to the training area you will be taught who to contact and what to say.

Find out what type of ATSU operates at your aerodrome. To do this, find out the answers to the following questions:

- Does my aerodrome have an air traffic control service?
- Yes. (Refer to the ATC section in this manual)
- No. Then what radio facilities are available?
  - **FIS** (Flight Information Service)
  - **A/G** (Air/Ground radio)
  - **None** (i.e. no radio)

## **General Principles**

To begin with you will find the radio language difficult to understand but as you listen to others and become more relaxed in the aircraft, it will become much easier to understand.

We will summarise some of the main points in this chapter and cover them in more detail later in the book.

## **Booking Out**

At larger aerodromes it is normally required that you contact the ATSU to inform them when you intend to go flying. This is known as "booking out" and it is separate from filing a flight plan. Booking out is normally done by telephone but may be done in person and sometimes by radio if permitted. Smaller aerodromes normally do not require booking out.

## **Aircraft Callsigns**

Aircraft callsigns are found by taking the letters used in the registration of the aircraft. The callsign is spoken using the phonetic alphabet. E.g. EI-ABC is pronounced **Eck**-oh **In**-dee-ah **Al**-fa **Brah**-voh **Char**-lie.

The call signs of aircraft registered in Ireland begin with the letters "EI", followed by three letters.

Your initial call to an ATSU should always include your full callsign. The ATSU may decide to shorten your callsign to make communication shorter. If this happens then you should use this new, abbreviated callsign. If the ATSU does not shorten your callsign, then you should continue to use your full callsign.

E.g. EI-ABC may be shortened to EBC.

### **NOTE**

If the ATSU does not abbreviate your callsign then you should continue to use your full callsign.

If you subsequently have to contact another ATSU you should begin with your full callsign on your initial communication. I.e. EI-ABC.

You should now practice the phonetic alphabet. Try to memorise it and remember to emphasise the syllables in **bold**. Become comfortable with the pronunciation of the registrations (callsigns) of the aircraft you fly. Learn the full callsign and the abbreviated callsign.

## ***Placement of Callsigns***

The general rules are:

1. INITIAL CALL. When you first contact an ATSU, you should first give the name of the ATSU station you are calling followed by your full callsign. E.g. "Waterford Tower. **Eck-oh In-dee-ah Al-fa Brah-voh Char-lie**".
2. PASSING A NEW MESSAGE TO THE ATSU. After the ATSU responds to confirm that it is receiving you. E.g. "**Eck-oh In-dee-ah Al-fa Brah-voh Char-lie**. Waterford Tower." Or "**Eck-oh In-dee-ah Al-fa Brah-voh Char-lie**. Waterford Tower. Pass your message." You should continue with your callsign followed by your message. E.g. "**Eck-oh In-dee-ah Al-fa Brah-voh Char-lie** request taxi instructions". Each time you initiate a new conversation you should follow the pattern of CALLSIGN then MESSAGE.
3. IN RESPONSE. When responding to a message from the ATSU, you should answer the message followed by your callsign. E.g. "**Eck-oh In-dee-ah Al-fa Brah-voh Char-lie**. Cleared for takeoff." You should respond "Cleared for takeoff **Eck-oh In-dee-ah Al-fa Brah-voh Char-lie**"

### **NOTE**

The only time you will use the ATSU's callsign is during your first communication. Their callsign should not be used in any further communications while you remain on that frequency.

## ***Read Back***

Important items of any message from an ATSU must be read back.






In the early stages of your training you should be reading back the following items. This is not a complete list but is sufficient to keep your radiotelephony correct.

- Runway in use.
- Runway clearances from ATC. (E.g. cleared for takeoff, cleared to land etc.).
- Altimeter settings. QNH or QFE.
- Frequencies when required to change frequency.
- Heading changes requested by an ATSU.
- Level or altitude instructions.
- Transponder squawk instructions.
- Speed instructions.
- VDF direction finding information (QDM)
- All clearances.


You are not required to read back taxi instructions but it shows good airmanship to do so at larger aerodromes where there could be confusion.

You need only read back the items listed above followed by your callsign. Any other items such as wind velocity or traffic should simply be acknowledged by your callsign or the word "Roger".




**Startup Call For Circuit Detail**

	Cork Ground. EI-DDA. Robinson R44 helicopter at the club house. Information Bravo.		E-DA. Cork Ground. QNH 1008. Pass your message.
	E-DA. QNH 1008. Two persons on board. Endurance two hours ten minutes. Request startup for a circuit detail.		E-DA. Circuit detail approved. Squawk 2076. Call Tower on 119.3 when ready to lift.
			Circuit detail approved. Squawk 2076. Call tower on 119.3 when ready for lift. E-DA.


**Alternative Startup Call**

	E-DA. QNH 1008. Two persons on board. Endurance two hours ten minutes. Request startup for a one hour training flight to the southeast.
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**Lift and Departure Calls**


	Cork Tower. EI-DDA. Robinson R44 Helicopter at the club house. Request lift to the hover.		EI-DDA. Cork Tower. Cleared to lift to the hover. Remain clear of runway 17/35. QNH 1008. Report ready for circuit detail.
			Cleared to lift to the hover. Remain clear of runway 17/35. QNH 1008. Report ready for circuit detail. EI-DDA.


**Alternative Flight Detail**


	EI-DDA. Cork Tower. Cleared to lift to the hover. Remain clear of runway 17/35. Your clearance will be a departure through the zone to the east not above 1500 feet on QNH 1008. Report ready for departure.
---	--


**Departure to the East**


	EI-DDA ready for departure to the east.
---	---


	EI-DDA. Cleared to take off and depart to the east. Route via Carrigaline not above 1500 feet. Wind 340 at 7 knots.
---	---

	Cleared to take off and depart to the east. Route via Carrigaline not above 1500 feet. EI-DDA.
---	--

	{Abeam Carrigaline (approx.)} EI-DDA contact Cork Approach on 119.9
---	---

	Contact Cork Approach on 119.9. EI-DDA.
---	---

	Cork Approach. EI-DDA. Robinson R44. Outbound to the east. Passing Carrigaline at 1500 feet. Squawking 2076.
---	--

	EI-DDA. Cork Approach. Identified on radar. No traffic to affect you. Next report abeam Ballycotton.
---	--

	Next report abeam Ballycotton. EI-DDA.
---	--

### ***Uncertain of Message***

In the early stages of your training, radio transmissions are sometimes difficult to understand. The messages may be very important to the safety of your flight. If you do not understand the message you must ask the ATSU to "say again" or "say again after ...." Or "say again before". If you inform the ATSU that you are a student pilot they will be particularly understanding.

If you read back an item of clearance incorrectly, the controller will say "negative" and then repeat the correct information. You should read this information back again.

### ***Unable to comply***

If you receive an instruction from an ATSU and for some reason you are unable to comply with the instruction, you must inform the ATSU "unable to comply" and give the reason. A common reason could be the limitations of your licence.

The next example assumes a PPL holder with no instrument qualifications of any kind. Following the controller's instruction would mean that the pilot would be flying in cloud in Instrument Meteorological Conditions (IMC) even though the pilot is only qualified to fly in Visual Meteorological Conditions (VMC).

The controller will not know the limitations of your licence and it will be up to you to know what you can and cannot do and respond accordingly.

### ***Acknowledgement***

You may acknowledge a radio message that does not require a read back with your callsign only or with an appropriate word followed by your callsign.

- "Roger" means "I have received and understood all of your last transmission".
- "Wilco" means "I will comply with your last message".

The words "Roger" and "Wilco" are somewhat redundant in that you can acknowledge most messages not requiring a read back with your callsign only.



## ***Automatic Terminal Information Service***

An ATC unit may have the ability to tape record the aerodrome information such as runway in use, surface wind QNH etc. This information can be broadcast on a dedicated frequency. If this information is available, you have the opportunity to listen to it and copy it before you contact the ATSU. This service is called the automatic terminal information service and is known as ATIS (pronounced "ay-tiss").

The recorded ATIS information is updated regularly (normally every 30 minutes) and each updated version is named with a different letter of the alphabet. The phonetic alphabet is used e.g. Alpha, Beta, Charlie, etc.

When contacting the ATSU you should inform them that you have "Information Oscar" or information Papa, Quebec, Romeo etc. as the case may be.

**NOTE:** If you obtain a QNH or QFE from the ATIS before departure and it is not given again by the ATC unit, then you are required to read back that pressure setting.

If there is no ATIS, it is normal to request departure information from the ATSU before taxiing. Typical departure information will include runway in use, surface wind and QNH.

## ***Radio Check and Readability Scale.***

Before making the first call on the radio, make sure that the correct frequency is displayed and that the volume is set correctly.

Before starting up or during flight, you may want to check that the radio is operating correctly. A radio check will confirm that your radio is transmitting and receiving. Similarly an ATSU may ask you for a radio check at any time if there is concern about the operation of your radio or the radio of the ATSU.


The readability scale is shown in the table below.


<b>Readability Scale</b>	<b>Meaning</b>
<b>1</b>	Unreadable
<b>2</b>	Readable now and then
<b>3</b>	Readable but with difficulty
<b>4</b>	Readable
<b>5</b>	Perfectly Readable

The radio check may be made as a separate call or combined with another request e.g. start-up call.


If you call for start-up or taxi and do not inform the ATSU that you have received the latest ATIS, the ATSU will infer that you do not have the departure information and will probably pass this information to you without further request.


## Example


	Sligo Information. <b>Eck-oh Brah-voh Char-lie.</b> Request radio check
---	---

	<b>Eck-oh Brah-voh Char-lie.</b> Sligo Information. <b>Readability fife.</b>
---	--

## Example


	<b>Eck-oh In-dee-ah Al-fa Brah-voh Char-lie.</b> Request departure information.
---	--

	<b>Eck-oh In-dee-ah Al-fa Brah-voh Char-lie.</b> Runway <b>two fife.</b> Surface wind <b>tree tree ze-ro</b> at <b>one ze-ro</b> knots. QNH <b>nin-er nin-er sev-en</b> hectopascals. QFE <b>nin-er nin-er two</b> hectopascals.
---	--


	Runway <b>two fife.</b> QNH <b>nin-er nin-er sev-en</b> hectopascals. QFE <b>nin-er nin-er two</b> hectopascals. <b>Eck-oh In-dee-ah Al-fa Brah-voh Char-lie.</b>
---	---


## Example


	<b>Eck-oh In-dee-ah Al-fa Brah-voh Char-lie.</b> Taxiing for runway two fife for a VFR flight to the west.
---	---


	Roger. <b>Eck-oh In-dee-ah Al-fa Brah-voh Char-lie.</b>
---	--

## Examples Combined

	Weston Tower. <b>Eck-oh In-dee-ah Al-fa Brah-voh Char-lie.</b> Request radio check and taxi instructions for a VFR flight to the west.
---	--

	<b>Eck-oh In-dee-ah Al-fa Brah-voh Char-lie.</b> Weston Tower. Readability <b>fife.</b> Runway <b>ze-ro sev-en.</b> Surface wind <b>ze-ro eight ze-ro</b> at <b>one six</b> knots QNH one <b>ze-ro ze-ro tree</b> hectopascals. QFE <b>nin-er nin-er eight</b> hectopascals. Taxi to intersection. Remain clear of runway <b>ze-ro sev-en.</b>
---	--

	Readability fife also. Runway ze-ro sev-en. QNH one <b>ze-ro ze-ro tree</b> hectopascals. QFE <b>nin-er nin-er eight</b>
---	---

	hectopascals. Taxi to intersection. Remain clear of runway <b>ze-ro sev-en</b> . <b>Eck-oh In-dee-ah Al-fa</b> <b>Brah-voh Char-lie</b> .
	Roger. <b>Eck-oh In-dee-ah Al-fa</b> <b>Brah-voh Char-lie</b> .

### ***Listening out***

Once you have established communications with a particular station you should listen to all the transmissions on that frequency. This is called listening out. Listen for your callsign as some messages may be specifically for you.

Note the calls made by other aircraft. These aircraft will give position and altitude reports from time to time and you will start to develop a mental picture of where all the other aircraft are and where they are going. If you are receiving a Flight Information Service (FIS), and you hear an aircraft giving a position report near to your location; you can expect a call from ATC shortly afterwards to advise you about that traffic. This mental picture is often referred to as "Situational Awareness".

If you have heard no transmissions for a long period, you may want to check your radio. When you transmit, a "T" for transmit appears on your radio screen. If it is not present then you are probably not transmitting. When your radio is receiving, an "R" for receive appears on your radio screen.

If in doubt, do a radio check with the ATSU you are tuned into to confirm two-way communications still exist.

### ***Transferring Frequencies***


You will normally be told when to change frequency and what frequency to change to. Acknowledge the frequency given to you by repeating it followed by your callsign.


Make contact with the new ATSU by using the ATSU's name followed by your callsign.

#### **NOTE**


You will sometimes hear other pilots (and sometimes controllers) using the letters "QSY". These letters used to be used to signify a frequency change however they should not be used today.


### **Example**

	<p><b>Eck-oh In-dee-ah Al-fa Brah-voh Char-lie.</b> Contact Dublin Information on <b>one two fow-er day- see-mal six fife.</b></p>
---	--

	<p>Dublin Information on <b>one two fow-er day-see-mal six fife.</b> <b>Eck-oh In-dee-ah Al-fa Brah-voh Char-lie.</b></p>
---	---

### ***After changing frequency***

	<p>Dublin Information. <b>Eck-oh In-dee-ah Al-fa Brah-voh Char-lie.</b></p>
---	---

	<p><b>Eck-oh In-dee-ah Al-fa Brah-voh Char-lie.</b> Dublin Information. Pass your message.</p>
---	--

The name of the ATSU will identify the type of ATSU you are being transferred to. Examples are given below.

Dublin Tower is ATC.

Dublin Information is FIS.

Trim Radio is A/G.

### ***Passing Your Flight Details***

Sometimes when an ATSU transfers you to a new frequency, they will have already passed on your flight details to the next ATSU. This is normally done by telephone but if the two controllers are sitting next to each other then this is often done verbally. Approach, Tower and Ground controllers are normally in the same room and within earshot of each other. In this instance the controller on the new frequency will know all your flight details before you contact him/her.

On other occasions the ATSU will not have received any information about your flight. You will be expected to "Freecall" this ATSU. This means that the ATSU does not have your details and you will have to pass this information. Introduce yourself as usual by giving the ATSU's callsign followed by your callsign and wait for a response. The response will normally be to "Pass your message" or "pass your details".









Pass your flight details in the following order:

Callsign and aircraft type. Then use the acronym **CEPHACER**.

- **C Callsign and Type**
- **E Enroute** (Include departure point and destination)
- **P Position**
- **H Heading.**
- **A Altitude** or flight level.
- **C Conditions** (VFR or IFR).

- 
- **E Estimate** (Estimated time over your next waypoint or destination).
  - **R Request** (if any or state your destination or intentions).

**Example**

	Dublin Approach. <b>Eck-oh In-dee-ah Al-fa          Brah-voh Char-lie.</b>		<b>Eck-oh In-dee-ah Al-fa          Brah-voh Char-lie.</b> Dublin Approach. Pass your message.
			<b>Eck-oh In-dee-ah Al-fa          Brah-voh Char-lie.</b> PA- <b>two eight.</b> <b>One ze-ro</b> miles west of Trim. Heading <b>one two ze-ro.</b> Altitude <b>two thousand</b> feet. VFR. Estimate zone boundary at time <b>tree tree.</b> Request zone entry and transit to Bray.
			<b>Eck-oh In-dee-ah Al-fa          Brah-voh Char-lie.</b> We have no record of your flight plan. Remain clear of controlled airspace.
			Remain clear of controlled airspace. <b>Eck-oh In-dee-ah Al-fa          Brah-voh Char-lie.</b>

**Message Priority**

Some messages have priority over other messages. If someone's life is in danger then their radio messages will have top priority over other radio transmissions. The order of priority is as follows:

1. **DISTRESS MESSAGES:** Mayday, Mayday, Mayday.
2. **URGENCY MESSAGES:** Pan-Pan, Pan-Pan, Pan-Pan.
3. **DIRECTION FINDING MESSAGES:** QDM (homing), QDR, QTE, QGH.
4. **FLIGHT SAFETY MESSAGES:** Messages of immediate concern to an aircraft in flight. E.g. wind shear, change in flight plan etc.
5. **METEOROLOGICAL MESSAGES:** Weather information not of immediate safety concern.
6. **FLIGHT REGULATORY MESSAGES:** Operator messages not of an immediate safety requirement. E.g. maintenance, scheduling etc.

## ***Flight Information Service (FIS)***

A Flight Information Service (FIS) is an information ATSU. It is staffed by licensed Flight Information Service Officers (FISO's). FISO's are licensed and regulated by the Irish Aviation Authority (IAA) but not to the same extent as Air Traffic Controllers.

A Flight Information Service may be identified by its name followed by the word "Information". E.g. Dublin Information.

A FIS may not issue clearances. They are there to help the pilot operate safely in busy environments. They will provide:

- Traffic information.
- Weather information.
- Runway in use.
- QNH, QFE.
- Meteorological conditions at the aerodrome.
- Hazards.
- An alerting service e.g. Search and Rescue (SAR).

You do not require ATC clearances to operate on an aerodrome with FIS, nor is anyone qualified to give clearances. It is up to the pilot to make the decisions such as when to taxi, when to line up and when to takeoff.


FISO's will say "Take-off at your discretion" or "Land at your discretion". This leaves the responsibility with the pilot to make the decision.

The words "at your discretion" should never be read back. This phrase should be acknowledged by the word "roger", followed by your callsign.

## ***Station Broadcast***

There are occasions when a ground station may wish to send information to all aircraft in its area. This message will always start with the words "All stations". You will not normally be expected to acknowledge this message unless specifically contacted by the ground station.

### **Example**

	All stations. Weston Tower. New QNH wun zero wun zero
---	--

## ***Unsure of Communication***

If you are unsure that a message (or part of a message) has been correctly received, you must request a repetition of the message.


Example


Phrase	Meaning
Say again	Repeat the entire message
Say again .... (item)	Repeat the specific item
Say again all before...(word)	Repeat everything transmitted before the specified word
Say again all after...(word)	Repeat everything transmitted after the specified word.
Say again .... (word before missing portion to word after missing portion)	Repeat everything transmitted between the two words specified

### **Corrections**

Sooner or later you will make a mistake in your transmission and will need to correct it. This is done by using the word "Correction".

Example

	QNH 1021 EI-CAD Correction QNH 1022 EI-CAD
---	--


	EI-CAD. Roger
---	---------------

If the correction can be best made by repeating the entire message, then you should use the phrase 'CORRECTION I SAY AGAIN' and then transmit the message a second time.

### **Acknowledgement of Receipt**

When you receive information from a ground station, you should acknowledge it by the use of your callsign or the word 'Roger' followed by your callsign.

Example

	Delta 350 Wind 230 at 13 knots
---	-----------------------------------



	Roger. Delta 350
---	------------------

### **Transferring Frequency**



During a flight you may be requested to contact another ATSU. If you are in communication with either an ATC or a FISO, you will be advised of the frequency to contact and when to do so.

**Example**





	Shamrock 223 contact Dublin Tower 118.6		Dublin Tower 118.6 Shamrock 223
---	--	---	------------------------------------

If you wish to change frequency before having been advised to by the appropriate ATSU, then you **must** obtain permission from the relevant station before doing so.

**It is important that you do not leave your assigned frequency without informing that station first.** If this should happen, you should inform your new station frequency that you have left the previous frequency without informing them. This new aeronautical station will telephone your previous station and inform them.

You may be instructed to '**standby**' on a particular frequency if it is intended that the ATSU will initiate communications and to monitor a frequency on which information is being broadcast. Note that you will have to have a second radio installed in your aircraft if you are to comply with this instruction.

**Example**

	E-ZP Standby 122.0 for Baldonnell Tower		Standby 122.0 for Baldonnell Tower. E-ZP
	E-ZP Monitor 118.875 for ATIS		Monitor 118.875 for ATIS. E-ZP

If you are not required to remain in contact with a specific ATSU and you wish to "free call" another station, you should request or notify your intention.

**Example**

	E-ZP request frequency change to Shannon Information on 123.45		E-ZP. Frequency change approved
---	--	---	------------------------------------

***Issue of Clearance and Read Back Requirements***

Provisions governing clearances are contained in the PANS-ATM (ICAO doc 4444). A clearance may vary in content from a detailed description of the route and levels to be flown to a brief standard instrument departure (SID) according to local procedures.







Controllers will normally pass a clearance slowly and clearly as the fixed wing pilot will have to write it down (Rotary pilots will normally not have the option of writing the clearance down as both hands will be busy flying). Whenever possible, the route clearance will be passed to the aircraft before start up and the aircrafts callsign will always be used. Generally controllers will avoid passing a clearance to a pilot engaged

in complicated taxiing manoeuvres and on no occasion when the pilot is engaged in line up or take off manoeuvres.

An ATC route clearance is not an instruction to take off or enter an active runway. The words 'TAKE OFF' are used only when an aircraft is cleared for take off. **At all other times the word 'DEPARTURE' is used.**

It is vital that all ATC route clearances must always be read back in full unless otherwise instructed by the ATSU, in which case they will be acknowledged in a positive manner. There is a serious risk of a misunderstanding if read backs are not made. Ignoring the read back may prompt ATC to transmit the clearance again.

### Examples

	E-ZP after departure cleared to zone boundary via Maynooth not above 1000 feet QNH 1009. Squawk 0415		After departure cleared to zone boundary via Maynooth not above 1000 feet QNH 1009. Squawk 0415. E-ZP
	E-ZP correct		
	Shamrock 225 cleared to Strumble via KLY. At FL 70 Request level change enroute squawk 0411		Cleared to Strumble via KLY. At FL 70 request level change enroute squawk 0411. Shamrock 225
	Shamrock 225 correct		

Pilots of departing aircraft flying in controlled airspace, who suffer radio communication failure prior to reaching the specified cruising level should be aware of the procedures to be adopted (Ref: Irish AIP ENR) when the following types of clearance are issued:


- a) Request level change enroute.
- b) Climb under radar.
- c) Temporary restriction to climb.


The ATS messages listed below are to be read back in full by the pilot:


- Taxi or towing instructions
- Airways or route clearances
- Heading instructions
- Level instructions
- Altimeter settings
- Frequency changes
- VDF information
- SSR (Secondary Surveillance Radar) instructions
- Speed instructions


Approach clearances  
 Runway in use  
 Clearances to Enter, Land on, Take off from, Back track, Cross or Hold short of any active runway.  
 Transition levels  
 Type of radar service


**Examples**


	E-AB contact Tower on 118.6
---	-----------------------------


	Tower on 118.6 E-AB
---	---------------------


	E-AB squawk 0414
---	------------------

	Squawk 0414 E-AB
---	------------------

	E-AB hold position
---	--------------------


	Holding E-AB
---	--------------


	E-AB cleared to cross runway 25. Report vacated
---	---

	Cleared to cross runway 25. Wilco. E-AB
---	---

Items that are not in the above list may be acknowledged with an abbreviated read back.


**Example**


	E-ZP behind the landing Cessna, taxi to the apron via taxiway C3
---	--


	Behind the Cessna, apron via C3. E-AB
---	---------------------------------------

If an aircraft read back of a clearance or instruction is incorrect, the controller will transmit the word 'NEGATIVE' followed by the correct message.

**Example**

	E-AB QNH 1023
---	---------------

	QNH 1032 E-AB
---	---------------

	E-AB. Negative. QNH 1023
---	--------------------------



QNH 1032 E-AB

If at any time you receive an instruction or clearance with which you are unable to comply, you must inform the controller using the phrase 'UNABLE COMPLY' and give the reason.

### Example



E-AB cleared to cross the city not above 1000 feet.



Unable comply due to single engine. Require minimum 1500 feet.

## Communications Failure

### Air – Ground

If you have a problem with your transmission or reception in flight, you should proceed as follows:

- a) Check the following items:
  - i) The correct frequency has been selected.
  - ii) The station being called is open for watch.
  - iii) The aircraft is not out of radio range.
  - iv) The receiver volume is correctly set.
- b) If the problem still exists then it may be that the radio is not functioning properly. Check your headset connection and volume control. Check any relevant circuit breakers.
- c) If you are unable to contact the ATSU on the designated frequency, you should attempt to establish contact on another frequency relevant to the route you are flying. If you are still unable to contact anyone, you should attempt to contact other aircraft or other ATSU's using frequencies appropriate to your route.
- d) If all of the above has been unsuccessful you should transmit your message twice on the designated frequency. You should include the callsign of the station you are calling preceded by the phrase 'TRANSMITTING BLIND' as your transmitter may still be working.
- e) If the transmitter is suspected as having a problem, check your microphone. Keep a listening watch on the designated frequency for instructions.
- f) If the receiver is suspected as having a problem, transmit your reports twice at the scheduled times or positions on the designated frequency preceded by the phrase 'TRANSMITTING BLIND DUE TO RECEIVER FAILURE'.
- g) If you are being provided with an air traffic control service or an aerodrome flight information service, you should transmit information regarding your intentions with respect to the continuation of the flight. Specific procedures are published for pilots flying IFR or special VFR and these may be found in the AIP ENR and/or AD sections.

## Ground – Air

Most airports have standby emergency equipment. Checks will be carried out on this equipment. The ground station will request other aeronautical stations and aircraft to attempt to communicate with the aircraft that has failed to maintain contact.

If they are still unable to establish communication with the aircraft, the aeronautical station will transmit messages addressed to the aircraft by blind transmission on the frequency that the aircraft is expected to be listening.

These messages will consist of:

- a) The level, route and EAT or ETA to which it is assumed the aircraft is adhering.
- b) The weather condition at the destination and if practicable, the weather conditions in an area or areas suitable for a descent through cloud procedure to be effected. (REF: AIP ENR Section).

## **CHAPTER 4**

### ***General Phraseology***

#### **Introduction**

The phraseology detailed in this manual has been established for the purpose of ensuring uniformity in RTF communications. Communications shall be concise and unambiguous, using standard phraseology whenever available. Obviously, it is not practicable to detail phraseology examples suitable for every situation which may occur. However, if standard phrases are adhered to when composing a message, any possible ambiguity will be reduced to a minimum.

Some abbreviations, which by their common usage have become part of aviation terminology, may be spoken using their constituent letters rather than the spelling alphabet, for example, ILS, QNH, RVR, etc., (see Chapter 1).

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

- a) 'Surface' and 'knots' in relation to surface wind direction and speed.
- b) 'Degrees' in relation to surface wind direction and headings.
- c) 'Visibility', 'cloud' and 'height' in meteorological reports.
- d) 'Hectopascals' when giving pressure settings of 1000 Hp and above.
- e) 'over', 'roger' and 'out'.

The excessive use of courtesies should be avoided.

#### ***Level Instructions***

Only basic level instructions are detailed in this chapter. More comprehensive phrases are contained in subsequent chapters in the context in which they are most commonly used.

The precise phraseology used in the transmission and acknowledgement of climb and descent clearances will vary, depending upon the circumstances, traffic density and nature of the flight operations.


However, care must be taken to ensure that misunderstandings are not generated as a consequence of the phraseology employed during these phases of flight. For example, levels may be reported as altitude, height or flight levels according to the phase of flight and the altimeter setting. Therefore, when passing level messages, the following conventions apply:


- a) The word 'to' is to be omitted from messages relating to FLIGHT LEVELS.
- b) All messages relating to an aircraft's climb or descent to a HEIGHT or ALTITUDE employ the word 'to' followed immediately by the word HEIGHT or ALTITUDE. Furthermore, the initial message in any such RTF exchange will also include the appropriate QFE or QNH.
- c) The phrase 're-cleared' should not be used.


d) When transmitting messages containing flight levels each digit shall be transmitted separately. However, in an endeavor to reduce 'level busts' caused by the confusion between some levels (100/110, 200/220 etc.), levels which are whole hundreds e.g. FL 100, 200, 300 shall be spoken as "Flight level (number) HUN DRED". The word hundred must not be used for headings.


In the following examples the operations of climbing and descending are interchangeable and examples of only one form are given.

**Example 1**


	E-AB Report your level
---	------------------------


	E-AB maintaining Flight Level 65
---	----------------------------------


	E-AB descend Flight Level 45
---	------------------------------


	Descend Flight Level 45E-AB
---	-----------------------------

**Example 2**


	E-AB Report your level
---	------------------------


	E-AB maintaining altitude 2500 feet on QNH 998 hectopascals.
---	--

	E-AB descend to altitude 2000 feet. QNH 1000.
---	---


	Descend to altitude 2000 feet. QNH 1000. E-AB
---	---


**Example 3**

	E-AB descend to altitude 1500 feet.
---	-------------------------------------


	Descend to altitude 1500 feet E-AB
---	------------------------------------


**Example 4**


	E-AB descend to height 1000 feet. QFE 997 hectopascals.
---	---

	Descend to height 1000 feet. QFE 997 hectopascals. E-AB
---	---

**Example 5**

	E-AB report passing FL 80
---	---------------------------

	Report passing FL 80. E-AB
---	----------------------------

	E-AB passing FL 80.
---	---------------------


Exceptionally, a best rate of climb or descent may be required.


Under exceptional circumstances, if instant descent/climb is required, the word 'immediately' shall be used.

**Pilots are expected to comply with ATC instructions as soon as they are issued.**


However, when a climb/descent is left to the discretion of the pilot, the words 'when ready' shall be used; in these circumstances the pilot will report 'leaving' his present level. Should pilots be instructed to report leaving a level, they should inform ATC that they have left an assigned level only when the aircraft's altimeter indicates that the aircraft has actually departed from that level and is maintaining a positive rate of climb or descent, in accordance with published procedures.


**Example 6**


	E-AB maintain altitude 2500 feet.
--	-----------------------------------

	Maintaining altitude 2500 feet E-AB
--	-------------------------------------


**Example 7**


	E-AB climb FL 70
---	------------------


	Climb FL 70 E-AB
---	------------------

	E-AB reaching FL 70
---	---------------------


**Example 8**


	E-AB request descent
---	----------------------

	E-AB descend FL 60
---	--------------------

	Descend FL 60 E-AB
---	--------------------


**Example 9**


	Shamrock 345 after passing North Cross descend FL 80
---	--

	After passing North Cross descend FL 80 Shamrock 345
---	--





**Example 10**

	Shamrock 345 stop descent FL 210
---	-------------------------------------


	Stop descent FL 210 Shamrock 345
---	-------------------------------------


**Example 11**


	Ryanair 345 expedite descent FL180
---	---------------------------------------

	Expedite descent FL 180 Ryanair 345
---	--


**Example 12**


	E-AB climb FL 280. Expedite until passing FL 180
---	---

	Climb FL 280. Expedite until passing FL 180. E-AB
---	--

	E-AB unable expedite climb due weight.
---	---

**Example 13**

	E-AB descend immediately FL 200 due traffic.
---	---

	Descend immediately FL 200. E-AB
---	-------------------------------------

**Position Reporting**

Position reports shall contain the following elements of information:


- a) Aircraft identification
- b) Position
- c) Time
- d) Level
- e) Next position and ETA


Where adequate flight progress data is available from other sources, such as ground radar, aircraft may be exempted from the requirement to make compulsory position reports.

**Flight Plans**

A pilot may file a flight plan with an ATSU during flight, although the use of busy RTF channels should be avoided; normally the FIS frequency should be used.

**Example**

	Shannon Information E-AB. I wish to file an airborne flight plan.
---	---

	E-AB. Shannon Information. Pass your message.
---	--

The format for an airborne flight plan is as follows:


- a) Aircraft identification and type.
- b) Position and heading.
- c) Level and flight conditions.
- d) Departure aerodrome.
- e) Estimated time at entry point.
- f) Route and point of first intended landing.
- g) True airspeed.
- h) Desired level on airway or advisory route.


**Reply to 'Pass your Message'**


The service that an aircraft requires should be passed in the initial call to the ATSU; when requested by the ATSU to 'pass your message' a suitable reply could contain the following information which, whenever possible, should be given in the following order:

- a) Aircraft identification and type.
- b) Point of departure and estimated position.
- c) Heading.
- d) Level.
- e) Intention (next reporting/turning point/destination)
- f) Type of service required.

**Example**

	Shannon Information. EI- BCD request flight information service.
---	--

	E-CD. Shannon Information. Pass your message.
---	--

	E-CD. Bell 206 from Athy. 15 miles west of Tullamore. Heading 275. Altitude 1800 feet on QNH 1001. Destination Athy. Request Flight Information Service.
---	---

## ***Designated Positions in the Traffic Circuit***

### **Typical Left-Hand Circuit**

Position 1 Aircraft reports on downwind leg when abeam upwind end of runway.

Position 2 Aircraft reports 'Late downwind' if it is on the downwind leg, has been unable to report 'Downwind' and has passed abeam the downwind end of the runway.

Position 3 'Base' leg report (if required).

Position 4 'Final' report. Clearance to land issued here.

Position 5 'Long final' report (between 8 and 4 miles) when aircraft is on a straight in approach.

### **Figure 1 Designated positions in the traffic circuit**

*(Student to draw diagram here)*

## CHAPTER 5

### ***Aerodrome Phraseology***

#### ***Air Traffic Control Service***

##### ***Introduction***

Concise and unambiguous phraseology used at the correct time is vital to the smooth, safe and expeditious running of an aerodrome. It is not only the means by which instructions and information are passed but it also assists pilots in maintaining an awareness of other traffic in their vicinity, particularly in poor visibility conditions.

Messages will not be transmitted to an aircraft during take-off, the last part of final approach or the landing roll, unless it is necessary for safety reasons, because it will be distracting to the pilot at a time when the cockpit workload is often at its highest.

Local procedures vary from aerodrome to aerodrome and it is impossible to give examples to cover every situation which may arise at the multiplicity of different types of aerodrome. Information in addition to that shown in the examples, e.g. time checks, etc. may be provided as necessary.

##### ***Type of Service***

As described in Chapter 1, the type of service provided at an aerodrome falls into one of three categories. In this section the examples are confined to those used by air traffic controllers.

Whilst the RTF procedures used by air traffic controllers form the main content of this book it should be noted that the phraseology used by FISOs and Air/Ground Communication Service operators is different from that used by controllers.


Examples of phraseology for Flight Information Service Officers and Air/Ground Communication Service operators may be found in previous chapters.


##### ***Departure Information and Engine Starting Procedures***


Where no ATIS is provided the pilot may ask for current aerodrome information before requesting start up.

Requests to start engines are normally made to facilitate ATC planning and to avoid excessive fuel wastage by aircraft delayed on the ground. At certain aerodromes, along with the request, the pilot will state the location of the aircraft and acknowledge receipt of the departure ATIS broadcast identifying letter together with the QNH.


**Example**


	Dublin Ground EI-ABC request departure information
---	--

	E-AB. Dublin Ground. Departure runway 10. Wind 220 at 6 knots. QNH 995 hectopascals. Temperature 5. Dew point 3.
---	--

	Runway 10. QNH 995. Will call for start up. E-AB
---	--

**Example**

	Dublin Ground EI-ABC Stand 3 with information Charlie. QNH 1000 request start up.
---	---

	E-AB. Dublin Ground. Start up at time 25.
---	---

When there will be a delay to the departure of the aircraft the controller will normally indicate a time to start up or expect to start up.


**Pushback and Powerback**


At many aerodromes at which large aircraft operate, the aircraft are parked nose-in to the terminal in order to save parking space. Aircraft have to be pushed backwards by tugs before they can taxi for departure. Some aircraft also have the capability to reverse from a nose-in position to the terminal under their own power. This procedure is known as powerback. Requests for pushback or powerback are made to ATC depending on the local procedures.


**Taxi Instructions**

Taxi instructions issued by a controller will always contain a clearance limit, which is the point at which the aircraft must stop unless further permission to proceed is given. For departing aircraft the clearance limit will normally be the holding point of the runway in use, but it may be any other position on the aerodrome depending on the prevailing traffic.


**Example**


	Dublin Tower EI-ABC. PA-28 at light aircraft apron request taxi for VFR flight to Galway.
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	E-BC. Taxi holding point B3 runway 25 via taxiway Charlie. QNH 1012.
---	--

	Taxi holding point B3 runway 25 via taxiway Charlie. QNH 1012. E-BC.
---	--

**Example**

	E-BC request runway 16
---	------------------------

	E-BC follow the Citation coming from your left. Taxi holding point A2 runway 16.
---	--

	Following the Citation, taxi holding point A2 runway 16. E-BC
---	--

Where an ATIS broadcast is established the controller does not need to pass departure information to the pilot when giving taxi instructions. He will, however, check that the aircraft is in possession of the latest QNH.


**Pre-Departure Manoeuvring**


Meticulous care has been taken to ensure that the phraseology which is to be employed during the pre-departure manoeuvres cannot be interpreted as a takeoff clearance. This is to avoid the serious consequences that could result if there is any misunderstanding in the granting or acknowledgement of takeoff clearances.

At busy aerodromes with a separate ground and tower function, aircraft are usually transferred to the tower frequency at or approaching the holding point.


Many types of aircraft carry out engine checks prior to departure and are not always ready for takeoff when they reach the holding point.

**Example**

	E-BC taxi to the flying club. Cross runway 22 at the threshold. Report vacated
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	Taxi to the flying club. Cross runway 24 at the threshold. Will report vacated E-BC
---	---

	E-BC
---	------

	E-BC runway vacated.
---	----------------------

	E-BC
---	------

**NOTE**

For helicopters the phrase "Air-taxi...." may be used in place of "Taxi....".

**Take-Off Clearance**

Except in cases of emergency, messages will not be transmitted to an aircraft in the process of taking off or in the final stages of an approach and landing.

Controllers will use the following phraseology for take off.

**NOTE**

The surface wind will be passed if there is a significant difference to that already passed.

For traffic reasons a controller may consider it necessary for an aircraft to take off without any delay. Therefore, when given the instruction 'cleared for immediate takeoff', the pilot is expected to act as follows:

- a) At the holding point: taxi immediately on to the runway and commence takeoff without stopping the aircraft.
- b) If already lined up on the runway: takeoff without delay.

For reason of expedition a controller may wish to line-up an aircraft for departure before conditions allow takeoff.

In poor visibility the controller may state the runway and request the pilot to report when airborne.

## CHAPTER 6

### Emergencies





#### Relay of Emergency Messages

Anyone hearing an emergency transmission should remember the details of the transmission so that the message can be transmitted again should ATC not receive it. Should ATC not receive the emergency transmission, you should relay the transmission making it clear that you are not the aircraft that has the emergency.

An example of this could be when you hear a Mayday call from another aircraft but there is no reply from any ATC unit. (it is possible the aircraft is out of range or too low for its transmissions to be received by ATC).

You should assist this aircraft by relaying the message to ATC.

#### Example:


	EI-ABC. Have intercepted a Mayday call from EI-DEF. I say again. EI-ABC. Have intercepted a Mayday call from EI-DEF.		EI-ABC Pass your message
	EI-ABC. EI-DEF is a Cessna 172 with two POB. Engine Failure and forced landing 2 miles NW of Cashel.		EI-ABC Roger. Your relayed Mayday from EI-DEF has been received.

You may want to advise the aircraft with the emergency that you have relayed the distress call.

#### Cancellation of Emergency

An aircraft that is no longer having an emergency should cancel the emergency in the following manner.

#### Example:

	Shannon Information. EI-ABC. Cancel Mayday. Oil light extinguished. Continuing to Sligo.
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