



**SAFETY**

# It's good to talk

Are you the shy, retiring type who comes out in a cold sweat at the thought of talking to ATC? Fear not: **Chloe Eriksen** is here to calm your troubled mind

## Why do we need radiotelephony procedures?

Radiotelephony, aka RT, allows us to be understood quickly and efficiently, and in turn allows us to understand others in the same way.

We can find often ourselves in situations where there are several aircraft communicating with ATC, and the airwaves, just like the airspace, can become very congested.

By understanding and following these procedures, clarity and brevity will permit everyone to get a word in.

So efficient are these procedures that when used on a regular basis they can have a tendency to creep into everyday life. Anyone who has ever told their partner to "say again" or "stand by" will know what I'm talking about.

## The way we communicate

We rely upon visual clues for the majority of our communication, which is why it becomes more difficult to effectively communicate when we cannot see one another.

In fact, non-verbal communication accounts for 93% of all communications, with 55% being body language and 38% tone of voice (according to Kevin George, human performance consultant at the British Council).

It's important to consider this when trying to convey a message to any passengers or to a co-pilot who may be positioned behind or in front of us, as well as when speaking on the radio.

Inflection and tone should not be relied upon, which is why we have procedure and set phrases for aviation.



Darling, say again what's for supper this evening?

## Just published

The CAA has just published the latest version of its *Safety Sense* leaflet on RT procedures, and it's an excellent rundown of the main points from *CAP 413*, the radiotelephony manual.

As well as examples of radio calls and detail on the types of ATC services available, it contains important information on licensing and approval.

The contents are essential knowledge for anyone working towards their Flight Radiotelephony Operators Licence (FRTOL). (Note from Aaron, the BMAA licensing guru: remember that all FRTOL applications must be made online directly to the CAA).

Although I must note that VFR flight in Class G and E does not require the use of a radio or any ATC clearances, pilots are still responsible for their own safety and it is worth considering that ATC services can provide excellent resources to keep us all safe.

There is so much good stuff in this leaflet that I could go on for ages, but instead I have compiled a few of the most pertinent points below.

## Know your kit

As with all avionics, it is essential to familiarise yourself with the equipment in your cockpit.

Take a few minutes before a flight to make sure that you are happy with the controls and adjust the settings as required, since unfamiliarity can be a major cause of distraction in flight.

It is important to have a good balance between the intercom and radio volumes: for example, you don't want to miss valuable cues on the position of other aircraft because you are listening to your co-pilot chatter.

Anything you can do on the ground will free up capacity in the air. It's much easier to adjust the transponder when asked to do so if you've already familiarised yourself with the position of the squawk selector *before* entering controlled airspace.

Most transponders now incorporate Mode C, which transmits the aircraft's level relative to 1013.2hPa. This sort of transmittable information can only aid deconfliction in our increasingly congested airspace.

I understand that some prefer to fly around without any form of identifiable device, but remember that the Standardised European Rules of the Air make it a legal requirement to use a transponder if fitted and serviceable.

Flying with your transponder switched off could be compared to driving on the road with your number plate deliberately obscured. If you are flying responsibly, you have nothing to hide.

## My mind's gone blank

I think it is quite common to have a fear of the radio, especially when you first start to learn to fly.

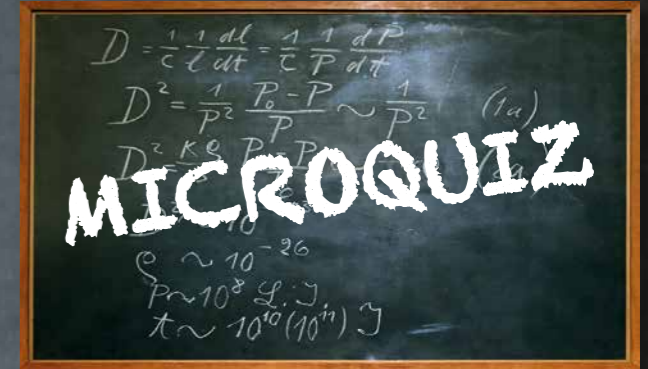
I used to be terrified of getting the terminology wrong, or stumbling over my words.

It can feel very public to transmit and as soon as I hovered my finger over the press to talk button, I would inexplicably find myself unable to remember my call sign, altitude or intentions.

However, ATC staff are not to be feared, they are there to help. At the end of the day, if you are having difficulty understanding or being understood, or worse still having an emergency situation, just speak in plain English. While we should all strive for brevity and the correct terminology, this must not be to the detriment of flight safety.

I have found that the key to success is learning one's lines. Practice, practice, practice. It then becomes second nature to roll off the set pieces of speech that are required when approaching or departing an airfield, or transiting controlled airspace.

Helpfully, the *Safety Sense* leaflet contains examples of all the dialogue you would need for these eventualities. ▷



- 1 A glider that is hill soaring is absolved from the 500ft rule
  - a True
  - b False
  - c True only if ATC clearance is received
- 2 What precipitation, if any, is described in the METAR? EGGH 101650Z 22006KT 6000 -RA FEW016 BKN020 10/08 Q1018
  - a No precipitation
  - b Recent drizzle
  - c Light rain
- 3 What does "Vx" refer to?
  - a The best angle of climb speed
  - b The best rate of climb speed
  - c The speed below which the aircraft must not be flown
- 4 Lateral stability is referred to as stability around which axis?
  - a Lateral axis
  - b Vertical axis
  - c Longitudinal axis
- 5 Which element of the structure may provide lateral stability?
  - a Fin
  - b Differential ailerons
  - c Wing dihedral

MF's quizmaster Lawrence Bell is the developer of QuizAero, the online groundschool for microlight student pilots, [quizaero.co.uk](http://quizaero.co.uk).

Answers overleaf



GASCo, the General Aviation Safety Council, is a charity whose members are aviation organisations. Its aim is to make aviation safer through education. It presents the CAA safety evenings, runs seminars and provides safety information through its magazine and website, [gasco.org.uk](http://gasco.org.uk).



CHIRP, the Confidential Human Incident Reporting Programme, reviews and analyses reports from pilots, then publishes them so others can learn. Get the app at [chirp.co.uk](http://chirp.co.uk).

▷ Practice can easily be done in the comfort of your own armchair, and like most things in aviation, preparation on the ground will increase capacity and therefore situational awareness in the air.

### Common error

The leaflet also highlights some common errors, one of which is the use of the phrase “at your discretion”.

When you receive a call like this from a FISO (Flight Information Service Officer) when on AFIS, it doesn't mean any form of clearance is given, and is not to be read back.

In the case of landing and taking off you must confirm your intentions, and it's your responsibility to ensure that it is safe to do so.

### SafetyCom

Licensed aerodromes have published frequencies (refer to UK AIP), but smaller sites may not have an allocated frequency.

SafetyCom is a common traffic advisory frequency used at airfields without an assigned frequency. It should be used within 10 miles and up to 1000ft above the height of the circuit traffic at an aerodrome, and calls should outline your intentions to aircraft operating at, or in the vicinity of, the aerodrome in question.

All transmissions should be prefixed with the name of the aerodrome and

“Traffic”, then finished with the name of the aerodrome, eg: “Borton Traffic, G-ABCD, 10 miles southwest, joining overhead, Borton.”

It is also worth noting that certain microlight sites have been allocated the recreational aviation aeronautical radio station frequency 129.83, which should be utilised in line with correct RT procedures.

### Mayday, Mayday, Mayday!

One really good reason to make sure you are speaking to ATC is to let someone know if you have a problem.

If things aren't going your way, it's better to declare an emergency and cancel it later, than wait until you have run into more difficulties, by which time you will have little capacity left to make a radio call. If you are not talking to ATC at the time, call 121.5.

In the event of radio failure, check, check and check again. Many apparent communication failures are actually a result of incorrect equipment settings.

So check your volumes, check your frequency selection, check your master switch, check your headset, check your PTT isn't stuck. Check, check, check, check, check, and then transmit blind, and don't forget to fly the aircraft, because you don't need a functioning radio to fly safely. Remember also to squawk 7600.

### Other resources

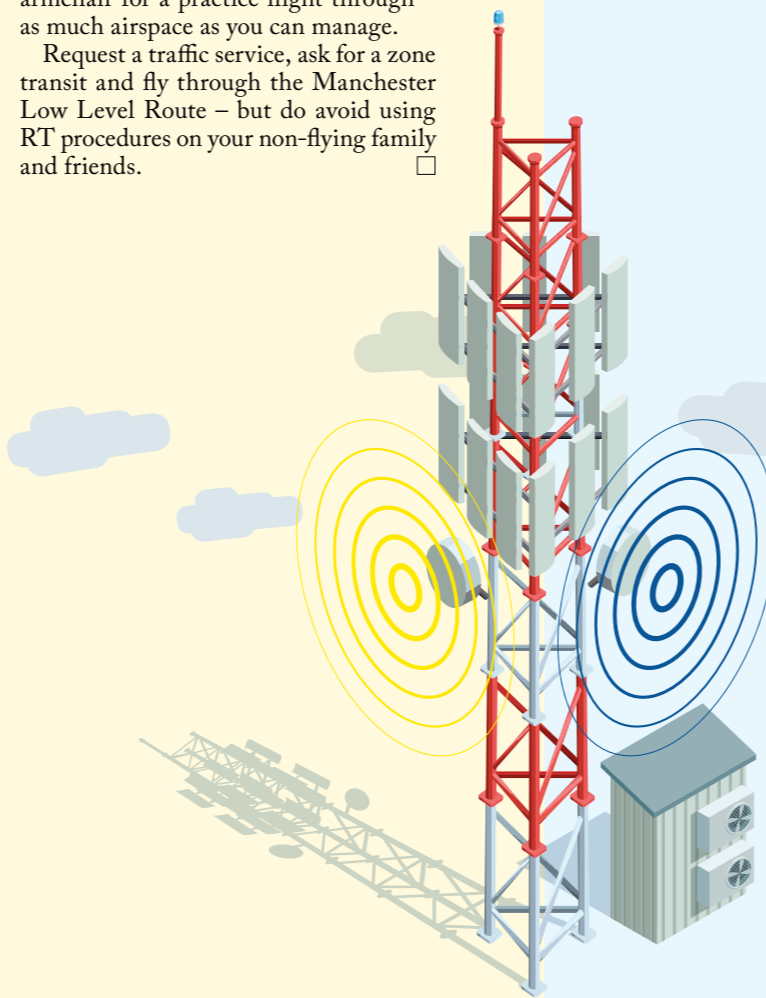
I would always recommend having a read through the source regulations, in this case *CAP 413*. In addition to this, Astral Aviation Consulting has a recording of its recent radiotelephony workshop available to watch on its website, <https://www.astralaviationconsulting.com/workshops>.

Don't forget *CAP 774* UK Flight Information Services too, in order to get the most out of the services available to us from ATC across the country.

As we look ahead to the new season, there couldn't be a better time to brush up on your RT skills.

It's all too easy to waffle on the radio when it's been a few months since your last flight, so take the armchair for a practice flight through as much airspace as you can manage.

Request a traffic service, ask for a zone transit and fly through the Manchester Low Level Route – but do avoid using RT procedures on your non-flying family and friends. □



## Making waves – and receiving them

Dr Peter Griffiths tries to make sense of the bewildering world of aviation communication

RADIO waves are a form of electromagnetic radiation and are inaccessible directly with the human senses.

However, we as pilots holding FRTOLs have a duty to imagine how our electronic cockpit devices receive and transmit them, to whom or what they are connecting us and what information they carry. Most often that information concerns our or others' wellbeing.

While radio equipment in microlights is not compulsory in the UK, the lack of a VHF transceiver can compromise safety, and non-radio pilots carry the extra burden of having to make advance requests for entry into RMZs such as controlled commercial and military airspace.

In these days of ubiquitous information technology, microlights increasingly incorporate an array of electronic devices, some interlinked, but all operating distinctively. Their different or overlapping objectives can be confusing to the non-specialist. What follows is my attempt as a pilot and avionics layman to understand them in simple terms. It is not a substitute for detailed exposition by an RT expert or airspace controller.

Having said that, in preparing this essay (literal meaning: an attempt to understand something by writing about it), I am grateful to various professionals in the field of air traffic services for their kindness and patience in fielding my questions as an outsider.

### VHF radio

Your cockpit radio transceiver provides two-way communication, but in a walkie-talkie or half-duplex style.

You receive by selecting a VHF airband frequency (118.000-136.975MHz), and transmit by depressing the PTT button. What you hear are oral-verbal messages, mostly live, and you respond mostly with speech.

Exceptions to the live reception rule are recorded ATISs and volmets provided by certain aerodromes. Exceptions to the live transmission rule are PTT button clicks in the event of a microphone failure.

The well-tryed radio, microphone and headset combination provides a verbal/linguistic channel for pilots on the ground or in the air to connect with other pilots, aerodrome radio stations, FISOs and ▷

## MICROQUIZ ANSWERS

- 1a True
- 2c Light rain
- 3a The best angle of climb speed
- 4c Longitudinal axis
- 5c Wing dihedral



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