**RT Transmission Example**

RT Transmission will usually follow the following format:

a)   Handshake

b)   Request

c)   Instruction & Read-back

d)   Handover or Close-down

**a)   Handshake**

The purpose of this is to establish two-way communications between the aircraft, and the ground station that is being called.

Suppose that the aircraft is a Cessna 172 with registration G-OSKY, flying from Caernarfon in North Wales to Cambridge in the Midlands, intending to cross Birmingham's controlled airspace.  About 15nm (nm - nautical miles, about 1.15 statute miles) from western boundary of Birmingham airspace, the pilot would make an initial call to Birmingham Radar as follows:

**'Birmingham Radar, Golf Oscar Sierra Kilo Yankee, request Zone Transit'.**

*(who is being called, who is calling, what is wanted)*

Birmingham's response is quite simple:

**'Golf Oscar Sierra Kilo Yankee, Birmingham Radar, pass your message’.**

(*confirming the aircraft registration, confirming who they are, carry on with the call)*

Occasionally, if they are busy with something else, for example another aircraft or a telephone call, Birmingham may replace 'pass your message' with 'standby'.   This is not acknowledged by the Pilot, who must merely remain silent until called by ground station.

If there are any errors in the handshake, for example Birmingham reads back the aircraft registration as **‘Golf Oscar Kilo Sierra Yankee’** this is corrected before proceeding further, so the aircraft would reply:

**‘Negative, this is Golf Oscar Sierra Kilo Yankee’.**

Birmingham will repeat their response with the correction applied.

**'Golf Oscar Sierra Kilo Yankee, Birmingham Radar, pass your message’.**

Ideally, the Pilot App will pick up this kind of error.

**b)   Request**

Once Birmingham's 'Pass your message' has been received, the aircraft will transmit his information in a specific manner, defined by the acronym CARPAIR *(NB., think Flying Fish, a Carp is a freshwater fish found in British canals and reservoirs).*

**C**all Sign*(full call sign)*

**A**ircraft Type

**R**oute *(from, to, via)*

**P**osition*(relative to a local town, airfield, reservoir or lake)*

**A**ltitude *(including pressure setting on which it is based, QNH or QFE)*

**I**nformation *(any other relevant information)*

**R**equest *(repeat of initial request, possibly with greater detail)*

So, in this example, the aircraft's message would be:

**'Golf Oscar Sierra Kilo Yankee, Cessna 172, Caernarfon to Cambridge via Birmingham Zone, 10 miles north-west Wolverhampton, 2,300 ft QNH 1009, request Zone Transit, Wolverhampton to M6 J3'***(note more detail provided in the request this time).*

**c)   Instruction & Read-back**

Assuming this routing is acceptable to Birmingham, their response might be:

**'Golf Kilo Yankee, Birmingham QNH1010, squawk 0431, remain clear of controlled airspace’.**

*(Note that the instruction commences with the aircraft call sign - abbreviated in this case, the different Birmingham QNH which the aircraft must use from now on, the unique squawk code that has been allocated and the instruction to remain clear of controlled airspace. N.B., this is the default position until a zone transit can be offered).*

To verify that this has been received correctly, the aircraft must read this back in full:

**'Birmingham QNH1010, squawk 0431, remain clear of controlled airspace, Golf Kilo Yankee’.**

*(Note that the aircraft terminated their response with their call sign, abbreviated only if ATC has done so first).*

The unique squawk code 0431 will permit the aircraft to be identified by Birmingham Radar from amongst the myriad of other returns on their screen, and consequently a decision on whether a zone transit can be safely offered.

Assuming this is the case, a follow-up instruction will be provided:

**'Golf Kilo Yankee, Zone Transit approved, Wolverhampton to M6 J3, not above altitude 2,500 ft.  Report airfield in sight'.**

*(Note that both a route and altitude restriction form part of the zone transit clearance).*

The aircraft will also read this back:

**‘Zone Transit approved, Wolverhampton to M6 J3, not above altitude 2,500 ft.  Wilco', Golf Kilo Yankee’.**

*(In this case 'Report airfield in sight' has been replaced with 'Wilco'. The only instructions that may be replaced in this way commence with either ‘Report …….’ Or ‘Advise ………’ ).*

With critical clearances such as this. Birmingham will sometimes confirm that the read back is correct:

**'Golf Kilo Yankee, read back correct'**or possibly just **'Golf Kilo Yankee, correct'.**

This concludes this section of the transmission.

At the point where the aircraft is able to see the airfield, the pilot may transit:

**'Golf Kilo Yankee, airfield in sight'.**

*(Note that when initiating a conversation, the aircraft commences with its call sign, abbreviated where appropriate).*

Birmingham Radar may just reply:

**'Golf Kilo Yankee, Roger'.**

*(meaning your message has been received'*

or may issue a further instruction, such as:

**'Golf Kilo Yankee, report leaving the zone'.**

To which the aircraft replies:

**'Wilco, Golf Kilo Yankee'.**

**d)   Handover**

At the point where the aircraft is leaving Birmingham's control zone, it will call:

**'Golf Kilo Yankee, leaving your zone'.**

At this point, Birmingham Radar may wish to pass the aircraft on to the next ground station, say Cambridge Radar, so it will reply:

**'Golf Kilo Yankee, roger.  Free-call Cambridge Approach on 120.965'.**

To which the aircraft replies:

**'Free-call Cambridge Approach, 120.965, Golf Kilo Yankee'.**

Birmingham will typically terminate the call with:

**'Golf Kilo Yankee, correct.  Goodbye'.**

The entire sequence may be repeated with Cambridge Approach, albeit with different instructions for the landing phase (which still involves an entry into controlled airspace).