

Radio Communications

November 19, 2018



SIMULATION USE ONLY

These materials are provided for discussion and use in online flight simulation on VATSIM. They are not suitable for real-world flight.

The Phonetic Alphabet

- The Phonetic Alphabet is used to reference characters and numbers, although there are exceptions (e.g., callsigns):

A - ALFA	B - BRAVO	0	ZE-RO
C - CHARLIE	D - DELTA	1	WUN
E - ECHO	F - FOXTROT	2	TWO
G - GOLF	H - HOTEL	3	TREE
I - INDIA	J - JULIETT	4	FOW-ER
K - KILO	L - LIMA	5	FIFE
M - MIKE	N - NOVEMBER	6	SIX
O - OSCAR	P - PAPA	7	SEV-EN
Q - QUEBEC	R - ROMEO	8	AIT
S - SIERRA	T - TANGO	9	NIN-ER
U - UNIFORM	V - VICTOR		
W - WHISKEY	X - X - RAY		
Y - YANKEE	Z - ZULU		



Radio Telephony Examples

- 4,500 “Four Thousand Five Hundred”
- 20,000 “Flight Level Two Zero Zero”
- AAL1520 “American Fifteen Twenty”
- N20556 “November Two Zero Five Five Six”



CRAFT: IFR Clearances

- CRAFT is an acronym used as a 'template' for IFR clearances. Expect all IFR clearances to follow CRAFT, with the possibility for some items to be removed or amended as necessary:
 - **C** – Clearance Limit
 - **R** – Route
 - **A** – Altitude
 - **F** – Frequency
 - **T** – Transponder

Example:

- Cleared to the Chicago O'Hare Airport via the **Albany Six** departure, radar vectors Syracuse, then as filed. **Maintain 4,000'**. **Departure frequency 118.05**, squawk **3113**.



Initial Contact

- Correctly establishing initial contact with an ATC facility helps maintain the efficiency of the air traffic control system
- Provide “the right amount” of information: too much, and you’re wasting time on the frequency. Not enough, and you require the controller to ask for clarification
- When making initial contact with a controller:
 - Identify the controller
 - Explain who you are
 - Explain where you are (on the ground: position; in the air: altitude)
 - Tell them your request

Examples:

- Martha’s Vineyard Tower, Cessna 311KR, five miles south at 2,500, inbound for full stop landing, information B.
- Norwood Ground, Mooney 153KB, information J, south ramp, request taxi, VFR closed traffic.
- Boston Approach, N391QR, 14,000 descending 11,000, information Q.
- Boston Approach, Delta 515, FL187, descending via the ROBUC3 arrival, Runway 22L, with U.



Readbacks

- Readbacks allow you to display to the controller that you understand what instructions you were given and you will be able to execute the instructions given correctly
 - A readback that includes your callsign is a confirmation that you understand and are accepting the instruction:
 - ATC: “N12345, descend and maintain 5,000”
 - Pilot: “Descend and maintain 5,000, N12345”
 - Readback of runway hold short instructions is particularly critical, and ATC will ask you to repeat if the readback is unclear
- Is “short of the right” an appropriate runway hold short readback?



Changing Frequencies

- Only when instructed; if unclear, ask!
- If you need to listen to an ATIS or temporarily change to a new frequency, use the second radio or ask for permission (“Boston Center, Cessna 48L, request temporary frequency change to listen to the Boston ATIS.”)
- “Monitor” vs. “Contact”:
 - When told to **contact**, change to the next frequency and ‘check in’
 - Make the change as soon as instructed
 - Check in as discussed
 - When told to **monitor**: “don’t call us, we’ll call you”
 - If not, or if unclear, ask the *previous* controller to confirm that you are on the correct frequency



Communication Tips

- **DO:**

- ✓ Readback instructions given by ATC
- ✓ Make appropriate position reports while on UNICOM/CTAF
- ✓ Make special requests (specific runways/approaches) early so ATC can prepare
- ✓ Listen to the ATIS and confirm you have the information

- **DO NOT:**

- ✗ Readback an instruction you can not understand or properly fly
- ✗ Leave the controller's frequency until instructed to do so
- ✗ Contact a controller when instructed to monitor their frequency
- ✗ Over communicate of UNICOM, CTAF, or Advisory Frequencies



VFR Radio Communications

- VFR radio procedures differ between airport operations involving ATC and operations at uncontrolled airports
- In general, VFR aircraft talk to:
 - ATC, to gain permission for certain activities (e.g., access to airspace, use of the runway, etc.)
 - Other aircraft, to aid in the visual responsibilities for VFR aircraft



VFR: Clearance and Taxi

With ATC

“Nantucket Ground, Cessna 311PB, **FBO ramp**, request taxi to the active, VFR to Bradley at 4,500, **request flight following**”

“Cessna 311PB, Nantucket Ground, Runway 24, taxi via E. Departure frequency 118.20. Squawk 1254”

“Taxi to Runway 24 via E, departure frequency 118.20, squawk 1254, Cessna 311PB”

Without ATC

“Concord Traffic, Bonanza 376FR, Hangar 3, taxiing to Runway 17, VFR closed traffic”

Pilot – **BLUE**
Controller – **GREEN**



VFR: Departing

With ATC

“Nantucket Tower, Cessna 311PB, holding short of Runway 24, VFR to the northwest at 4,500”

“Cessna 311PB, left crosswind departure approved, Runway 24, cleared for takeoff”

“Cleared for takeoff, Runway 24, left crosswind departure, Cessna 311PB”

Without ATC

“Concord Traffic, Cessna 376FR, departing Runway 17, left closed traffic, Concord”

Pilot – **BLUE**
Controller – **GREEN**



VFR: Arriving

With ATC

“Bradley Approach, Cessna 311PB, at 4,500, information J, inbound to Bradley, full stop”

“N311PB, Bradley Approach, navigate to a left base Runway 24, report the airport in sight”

“Navigate to a left base Runway 24, report the airport in sight, N311PB”

Without ATC

“Concord Traffic, Cessna 376FR, 7 miles west, planning to join left downwind, Runway 17, full stop, Concord”

Pilot – **BLUE**
Controller – **GREEN**



VFR: Approach and Landing

With ATC

“Bradley Tower, Cessna 311PB, left base, Runway 24”

“Cessna 311PB, Bradley Tower, wind 270 at 10, Runway 24, cleared to land”

“Cleared to land Runway 24, N311PB”

Without ATC

“Concord Traffic, Cessna 376FR, short final, Runway 17, full stop, Concord”

Pilot – **BLUE**
Controller – **GREEN**



VFR: After Landing

With ATC

“Bradley Ground, N311PB, on Taxiway E, request taxi to Signature FBO”

“N311PB, Bradley Ground, taxi to the ramp via E”

“Taxi to the ramp via E, N311PB”

Without ATC

“Concord Traffic, Cessna 376FR, clear of Runway 17”

Pilot – **BLUE**
Controller – **GREEN**



IFR Radio Communications

- IFR pilots are normally in contact with air traffic control throughout the flight
 - In these cases, IFR pilots are typically “reading back” ATC instructions
 - In most cases, communications from ATC need to be read back in full, with your callsign (particularly for altitudes and hold short instructions)
- IFR pilots should be familiar with uncontrolled airport operations when:
 - Landing at uncontrolled airports (e.g., KPVC) on an IFR flight plan
 - Landing at a controlled airport when air traffic control is unavailable
- In general, IFR communications at uncontrolled airports are similar to VFR calls



IFR Clearances

“Boston Clearance, SWA1673, request IFR to Portland”

“SWA1673, Boston Clearance, cleared to the Portland Jetport via the LOGAN2 departure, radar vectors PSM, then as filed. Maintain 5000. (Departure frequency 133.00.) Squawk 2452”

C – Clearance Limit
R – Route
A – Altitude
F – Frequency
T – Transponder

“Cleared to Portland Jetport via the LOGAN2 departure, radar vectors PSM, then as filed. Maintain 5000. Squawk 2452, SWA1673”

“SWA1673, readback correct”

Pilot – **BLUE**
Controller – **GREEN**



IFR: Taxi

“Boston Ground, DAL8011, information B, Signature, request taxi”

➤ What does “information B” refer to?

“DAL8011, Boston Ground, Runway 22R, taxi via A, N, cross Runway 15R, hold short of Runway 15L”

➤ What part of the instruction is the pilot *required* to read back?

“Runway 22R, taxi via A, N, cross Runway 15R, hold short of Runway 15L, DAL8011”

Pilot – **BLUE**
Controller – **GREEN**



IFR: Departure

“SWA1673, monitor Boston Tower, 128.8”

“Monitor Boston Tower 128.8, SWA1673”

➤ Who will speak next – the controller or pilot?

“SWA1673, Boston Tower, Runway 22R, cleared for takeoff”

“Cleared for takeoff Runway 22R, SWA1673”

“SWA1673, contact Departure”

➤ Why didn't Boston Tower give SWA1673 a frequency for Boston Departure?

“Contact Departure, SWA1673”

Pilot – **BLUE**
Controller – **GREEN**



IFR: Approach

“Portland Approach, SWA1673, descending through FL190 for 11,000, information J”

“SWA1673, Portland Approach, expect vectors ILS Runway 29 approach, altimeter 30.12”

➤ What if the pilot prefers not to fly the ILS approach?

“SWA1673 request Harbor Visual Runway 29 Approach”

“SWA1673, expect Harbor Visual Runway 29 Approach”

“Expect Harbor Visual Runway 29 Approach, SWA1673”

Pilot – **BLUE**
Controller – **GREEN**



IFR: Landing

“Portland Tower, SWA1673, passing House Island, Harbor Visual Runway 29 approach”

“SWA1673, Portland Tower, wind 230 at 6, Runway 29, cleared to land”

“Cleared to land Runway 29, SWA1673”

Pilot – **BLUE**
Controller – **GREEN**



IFR: After Landing

“Portland Ground, SWA1673 on A, request taxi to Gate 3”

➤ Why does the pilot inform the controller of the gate?

“SWA1673, Portland Ground, taxi to the ramp via A”

“Taxi via A to the ramp, SWA1673”

Pilot – **BLUE**
Controller – **GREEN**



Thank You!

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Ground School Curriculum

Radio Communications ✓

Weather

VFR Departure and Arrival Procedures

IFR Clearances

Oceanic Procedures

Holds

Approach Plates – Part 1

Approach Plates – Part 2

RNAV (Area Navigation): Departures, Arrivals, and Approaches

