



## Introduction to Radio Communications

Talking on radio frequencies may seem intimidating at first. After understanding two basic concepts; format and situational awareness, one can begin to excel with their radio communication skills. Radio calls are often similar in form in order to bring structure and increase frequency efficiency. This document will include basic radio calls including a departure from Durant (KDUA) and re-entry into Durant and some other important radio phraseology.

Radio basics:

Every radio call should have several segments in the same order regardless of who you are talking to:

Who you are calling.  
Who you are.  
Where you are.  
What you want to say.

**Communication Style:** Several things we should understand about radio communications –  
The 4 Bs:

- **Be Considerate** – Listen first on the frequency so you don't step on someone else.
- **Be Clear** – Pronunciate your words carefully so there is no misunderstanding.
- **Be Concise** – Think about what you are going to say before you say it so it comes across clear.
- **Be Brief** – Don't tell a story. Briefly say what you want and they will ask you if they want your story!

**Communications with air traffic control (ATC):**

- Do not abbreviate your tail number until they abbreviate it.
- Be aware of other aircraft on the same frequency with similar call signs as your aircraft.
- If they give you a clearance (Command), read it back.
- If they give you an advisory with a command, you may respond with "Wilco" which means I understand and will cooperate.
- If they give you an advisory, you can reply with "Roger" which means I heard you and I understand.
- Note: Many times, Roger and Wilco are not enough for ATC. *They may demand that you read it back especially in busy airspace or where traffic separation is at stake!*

Example:

- N5181B, traffic at 12 o'clock 3 miles, opposite direction. You say "N5181B, Roger"
- N5181B, traffic 12 o'clock 3 miles opposite direction, report traffic in sight". You say "N5181B, Roger, traffic in sight"
- N5181B, North Texas Tower, enter and report a 2-mile base to runway 17L" You say "Roger". They say, "N5181B, repeat back the clearance please"



## Where to begin?

After the engine is started and avionics are on your next step is to obtain the current weather available through the AWOS (automated weather observation station). AWOS frequency **124.17**

An example would be:

- *“Durant Eaker Field Time automated weather observation 1215Z Winds 060 7kts visibility 10 Statute miles ceilings 3000 scattered temperature 075 temperature 20 (degrees Celsius) dew point 18 altimeter 29.93 Remarks Density Altitude 2000”*

After the local weather has been obtained, the CTAF (common traffic advisory frequency) should be monitored.

- Common Traffic Advisory Frequency (CTAF) frequency is **122.8** for Durant and many other **airports**.

This frequency is where the bulk of your calls and communication will be made while operating in the immediate vicinity of our airport and our practice areas.

Note: As you approach other airports, you should consult your sectional chart, chart supplement, or Foreflight for the correct CTAF frequency. An airport with no frequency listed (such as McLaughlin and Tomahawk private airports just North of KDUA), you will use the Multicom frequency of **122.9** and make your traffic calls

Departing:

“Durant Traffic N5181A departing runway 35 (three five) Durant traffic...”

- To be more informative add these into your call after ‘departing runway 35’
  - Left close traffic (if you plan on staying in the pattern)
  - Northwest departure (if your lesson includes maneuvering in a practice area)

Note: Since many aircraft may be sharing the CTAF frequency common to many airports, it is important that we designate which airport we are talking to; thus “Durant Traffic”. Many students ask why we say it again at the end of the transmission... This is done because aircraft may not have heard you or were not focused on your transmission at the beginning and by saying it at the end, it confirms to them whether your report is relevant to where they are; thus “Durant” (Some people say “Durant Traffic at the end, but the FAA only suggests you say the airport name and not repeat traffic on the end of the transmission).

## Exiting the Pattern

Lets say we went to the Northwest practice area. After a climb check has been completed and we are more than 5 miles away from the airport, maneuvers can begin. In order to be safe another radio call should be made now and approximately every 15 minutes unless another aircraft is nearby, then it would be safe to announce your position again in order to give that aircraft a chance to hear where you are in relation to the other aircraft’s position.

- “Durant traffic N5181A maneuvering 8 miles Northwest of the field 3000 feet Durant traffic.
  - These are generic numbers, use whatever distance and altitude you are maneuvering at for maximum safety.

### Pattern Re-entry

Once the maneuvering is complete and it is time for re-entry, the standard 45 to downwind entry is used. What this means is you will set up to enter the pattern at an angle of 45 degrees and enter downwind at mid-field (in the middle of downwind). There are two ways we execute this entry. First is simple and straightforward.

- While in the northwest practice area when landing runway 35 we set up on a 45-degree entry for downwind. When three miles from the airport, altitude should be pattern altitude (1700 MSL and 1000 AGL)
- “Durant traffic N5181A is on a 3 mile 45 for left downwind runway 35 Durant”
  - This signifies you are about to enter the pattern.
  - This will allow people who are in the pattern to extend either upwind or downwind to make room for you if the pattern is busy.
  - The ability to help another in the air by simply extending a leg in the pattern decreases frustration and radio congestion.
- The other way to enter the 45 is if you are to the east of the airport when landing 35.
  - When executing this entry cross over the airport perpendicular to the runway at 2700 MSL or 2000 AGL, (1000 feet higher than pattern altitude)
- “Durant traffic N5181A over the top at 2700 setting up for a teardrop entry into a 45 left downwind Durant traffic.”

Preferred Entry When Crossing Over Midfield





## Contacting Approach Control

### 1. Initial Contact.

The terms *initial contact* or *initial call up* means the first radio call you make to a given facility or the first call to a different controller or FSS specialist within a facility. Use the following format:

- Name of the facility being called;
- Your *full* aircraft identification as filed in the flight plan or as discussed in paragraph 4-2-4, Aircraft Call Signs;
- When operating on an airport surface, state your position.
- The type of message to follow or your request if it is short; and
- The word “Over” if required.

#### **EXAMPLE-**

*“New York Radio, Mooney Three One One Echo.”*

*“Columbia Ground, Cessna Three One Six Zero Foxtrot, south ramp, I-F-R Memphis.”*

*“Miami Center, Baron Five Six Three Hotel, request V-F-R traffic advisories.”*

1. Many FSSs are equipped with Remote Communications Outlets (RCOs) and can transmit on the same frequency at more than one location. The frequencies available at specific locations are indicated on charts above FSS communications boxes. To enable the specialist to utilize the correct transmitter, advise the location and the frequency on which you expect a reply.

#### **EXAMPLE-**

*St. Louis FSS can transmit on frequency 122.3 at either Farmington, Missouri, or Decatur, Illinois, if you are in the vicinity of Decatur, your callup should be “Saint Louis radio, Piper Six Niner Six Yankee, receiving Decatur One Two Two Point Three.”*

2. If radio reception is reasonably assured, inclusion of your request, your position or altitude, and the phrase “(ATIS) Information Charlie received” in the initial contact helps decrease radio frequency congestion. Use discretion; do not overload the controller with information unneeded or superfluous. If you do not get a response from the ground station, recheck your radios or use another transmitter, but keep the next contact short.



**EXAMPLE-**

*“Atlanta Center, Duke Four One Romeo, request V-F-R traffic advisories, Twenty Northwest Rome, seven thousand five hundred, over.”*

**2. Initial Contact When Your Transmitting and Receiving Frequencies are Different.**

- a. If you are attempting to establish contact with a ground station and you are receiving on a different frequency than that transmitted, indicate the VOR name or the frequency on which you expect a reply. Most FSSs and control facilities can transmit on several VOR stations in the area. Use the appropriate FSS call sign as indicated on charts.

**EXAMPLE-**

- b. *New York FSS transmits on the Kennedy, the Hampton, and the Calverton VORTACs. If you are in the Calverton area, your callup should be “New York radio, Cessna Three One Six Zero Foxtrot, receiving Calverton V-O-R, over.”*
  - a. If the chart indicates FSS frequencies above the VORTAC or in the FSS communications boxes, transmit or receive on those frequencies nearest your location.
  - b. When unable to establish contact and you wish to call *any* ground station, use the phrase “ANY RADIO (tower) (station), GIVE CESSNA THREE ONE SIX ZERO FOXTROT A CALL ON (frequency) OR (V-O-R).” If an emergency exists or you need assistance, so state.

**3. Subsequent Contacts and Responses to Callup from a Ground Facility.**

Use the same format as used for the initial contact except you should state your message or request with the callup in one transmission. The ground station name and the word “Over” may be omitted if the message requires an obvious reply and there is no possibility for misunderstandings. *You should acknowledge all callups or clearances* unless the controller or FSS specialist advises otherwise. There are some occasions when controllers must issue time-critical instructions to other aircraft, and they may be in a position to observe your response, either visually or on radar. If the situation demands your response, take appropriate action or immediately advise the facility of any problem. Acknowledge with your aircraft identification, either at the beginning or at the end of your transmission, and one of the words “Wilco,” “Roger,” “Affirmative,” “Negative,” or other appropriate remarks; e.g., “PIPER TWO ONE FOUR LIMA, ROGER.” If you have been receiving services; e.g., VFR traffic advisories and you are leaving the area or changing frequencies, advise the ATC facility and terminate contact.

#### 4. Acknowledgement of Frequency Changes.

- a) When advised by ATC to change frequencies, acknowledge the instruction. If you select the new frequency without an acknowledgement, the controller's workload is increased because there is no way of knowing whether you received the instruction or have had radio communications failure.
- b) At times, a controller/specialist may be working a sector with multiple frequency assignments. In order to eliminate unnecessary verbiage and to free the controller/specialist for higher priority transmissions, the controller/specialist may request the pilot "(Identification), change to my frequency 134.5." This phrase should alert the pilot that the controller/specialist is only changing frequencies, not controller/specialist, and that initial callup phraseology may be abbreviated.

**EXAMPLE-**

*"United Two Twenty-Two on one three four point five" or "one three four point five, United Two Twenty-Two."*

#### 5. Compliance with Frequency Changes.

When instructed by ATC to change frequencies, select the new frequency as soon as possible unless instructed to make the change at a specific time, fix, or altitude. A delay in making the change could result in an untimely receipt of important information. If you are instructed to make the frequency change at a specific time, fix, or altitude, monitor the frequency you are on until reaching the specified time, fix, or altitudes unless instructed otherwise by ATC.

**REFERENCE-**

*AIM, Paragraph 5-3-1, ARTCC Communications*

Do note that around this area FT Worth Center will be our primary source of flight following. Further north Kansas City center will be utilized and further south Houston center will be utilized. Here is a reference guide.





Glossary

• **Phonetic Alphabet** The International Civil Aviation Organization (ICAO) phonetic alphabet is used by FAA personnel when communications conditions are such that the information cannot be readily received without their use. ATC facilities may also request pilots to use phonetic letter equivalents when aircraft with similar sounding identifications are receiving communications on the same frequency. Pilots should use the phonetic alphabet when identifying their aircraft during initial contact with air traffic control facilities. Additionally, use the phonetic equivalents for single letters and to spell out groups of letters or difficult words during adverse communications conditions. (See [TBL 4-2-2](#).)

**TBL 4-2-2**

**Phonetic Alphabet/Morse Code**

Character	Morse Code	Telephony	Phonic (Pronunciation)
A	• –	Alfa	(AL-FAH)
B	– • • •	Bravo	(BRAH-VOH)
C	– • – •	Charlie	(CHAR-LEE) or (SHAR-LEE)
D	– • •	Delta	(DELL-TAH)
E	•	Echo	(ECK-OH)
F	• • – •	Foxtrot	(FOKS-TROT)
G	– – •	Golf	(GOLF)
H	• • • •	Hotel	(HOH-TEL)
I	• •	India	(IN-DEE-AH)
J	• – – –	Juliett	(JEW-LEE-ETT)
K	– • –	Kilo	(KEY-LOH)
L	• – • •	Lima	(LEE-MAH)
M	– –	Mike	(MIKE)
N	– •	November	(NO-VEM-BER)
O	– – –	Oscar	(OSS-CAH)
P	• – – •	Papa	(PAH-PAH)
Q	– – • –	Quebec	(KEH-BECK)
R	• – •	Romeo	(ROW-ME-OH)
S	• • •	Sierra	(SEE-AIR-RAH)
T	–	Tango	(TANG-GO)



U	• • -	Uniform	(YOU-NEE-FORM) or (OO-NEE-FORM)
V	• • • -	Victor	(VIK-TAH)
W	• - -	Whiskey	(WISS-KEY)
X	- • • -	Xray	(ECKS-RAY)
Y	- • - -	Yankee	(YANG-KEY)
Z	- - • •	Zulu	(ZOO-LOO)
1	• - - - -	One	(WUN)
2	• • - - -	Two	(TOO)
3	• • • - -	Three	(TREE)
4	• • • • -	Four	(FOW-ER)
5	• • • • •	Five	(FIFE)
6	- • • • •	Six	(SIX)
7	- - • • •	Seven	(SEV-EN)
8	- - - • •	Eight	(AIT)
9	- - - - •	Nine	(NIN-ER)
0	- - - - -	Zero	(ZEE-RO)

**Common Frequencies Used by Southeastern Students**

Frequency	Title	Purpose
122.8	Unicom KDUA and many other airports!	Position Reports
123.5	Southeastern Operations	Talk to Dispatch
124.17	AWOS KDUA	Get minute by minute local weather from Durant
124.75	Fort Worth Center	IFR Clearances and VFR Flight Following
122.9	Multicom	Talking with other aircraft and position reporting at airports with no published Unicom/CTAF
122.25	Fort Worth Radio (FSS) in Paris area	Opening/Closing flight plans and getting weather
122.65	McAlister Radio (FSS) North of Durant	Opening/Closing flight plans and getting weather
122.55	Fort Worth Radio (FSS) in Ardmore area	Opening/Closing flight plans and getting weather
122.3	Sherman Dennison RCO	Opening/Closing flight plans and getting weather



# Southeastern Oklahoma State University



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124.6	Regional Approach Control when entering DFW Class B Airspace from the Northeast	Class B Clearance and flight following in area surrounding DFW and Love (Generally a 40 mile radius)
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*Note: Always check sectional and/or chart supplement for changes in these frequencies*