Radar communications©

There are some radio procedures that are relatively infrequently used by new pilots. In this tome I will attempt to clarify why some of the distinctions exist and what to say, when. The proper radar frequency is often not available to the VFR pilot. If you know a facility exists, such as Center, the local frequency can be obtained by contacting a local tower or an FSS. Every sectional chart has a Facilities Frequency section behind the chart legend. The initial radio call for such a frequency should end in the word “request” as “Napa Tower Cessna 1234X request” (All radio communications will be written without punctuation, just as they should be spoken.)

Radar Communication

The initial callup to every radar facility is the same. It makes no difference if you are dealing with a Class B or C, an approach /departure, traffic control (TRACON), or a center.

Initial Call

Name of facility, full aircraft identification + “Student pilot" over

Example:

“Travis Approach Cessna 6185K student pilot over”

The reasons for this brevity is because the radar controller has a multiplicity of tasks. In addition to your frequency he may have a military one. He has a phone line for contact with controllers of adjacent areas. He often records data and writes notes. In low traffic periods one controller may have two areas and two frequencies. Under certain workload/weather conditions VFR advisories may not be possible. When this condition exists you will be so advised. A visit to a radar facility will help you be more understanding as to why the controller does not answer immediately.

A more distant initial callup procedure allows the controller to select when to contact you as his workload permits. Wait at least 30 seconds before calling again. The more efficiently you communicate the more likely it is that you will be accommodated since good communications reduce the workload.

ATC Radar Acknowledgment:

Make NO response if told to standby. When the controller is able you will be told to go ahead. However, you may be occasionally 'forgotten’.

Example:

"Cessna 85K go ahead with your request"

When the controller acknowledges your existence give the particulars of your flight and aircraft. Occasionally, a transponder squawk will be immediately assigned only to be modified to indicate additional information later on.

Full call sign; type of aircraft; Present position; present altitude and enroute altitude; destination; and request

Example:

“Cessna 6185K is a 150, off Concord for Half Moon Bay out of 2000 for 2800 via Golden Gate Bridge requesting flight advisories”

The controller will ask for anything you leave out. The type information is added to the radar data block by the ATC specialist. The present altitude information is used to check the accuracy of your transponder encoder. Once you are established at an altitude do NOT leave that altitude without first advising ATC. As a VFR pilot you are allowed to select your own altitude as long as it follows the hemispheric rule for your direction. To change you must first advise ATC. Alternatively, ATC may assign you an altitude, in which case you must request approval of any change. Your transponder code assignment will indicate IFR/VFR and destination.

The importance of correct, concise, and accurate communications when dealing with a radar facility is essential. You are required to fly assigned headings and altitudes. If you wish to change heading or altitude advise ATC. If there is a traffic conflict ATC may provide an alternative. Always write down squawk and frequencies. Always repeat back squawk, frequencies, heading, and directions as much as practical. If you need something repeated, say so. If you cannot visually locate conflicting traffic, do not hesitate to indicate that you will accept (want) a vector for traffic avoidance.

When given a handoff to another sector you just have to tell the sontroller your altitude. Every radar controller is required to check your transponder-readout accuracy at least once so get it over with right away.
Example:
"Sacramento Approach Cessna 6185K level at 6,500"

ATC will assign a squawk and confirm your Mode C operation by saying,

"85K squawk 5234 say altitude ident”

Do not believe that being on radar relieves you from ‘see and avoid’ responsibility. As a VFR flight you are relatively low on the ATC totem pole. When ATC radar advises you of nearby traffic you should acknowledge the ‘point out’ with.
Example:
“85K have traffic”

Do this only if you are sure of the traffic direction, distance and aircraft type. If you are uncertain or have failed to see any aircraft of the type indicated you say,
Example:
“85K negative traffic”

If after thirty seconds to a minute you still have not identified the traffic and you feel that a hazard may be involved, you should request vectors for avoidance by saying,
Example:
“85K will accept vectors”

The controller may indicate that traffic is no longer a factor or may give your a vector by saying,
Example:
“85k turn to 030”

Your response will be the direction of the turn and the heading given so as to establish the certainty of your instructions.
“85k left/right to 030”

When you are clear of the traffic ATC will instruct you to resume your own navigation.

If your transponder is not making a reply or is giving the wrong code ATC will request that you recycle. This means to turn it off then on and roll through the numbers again. This often is sufficient to fix the problem. If some aspect of transponder operation is unsatisfactory ATC can usually work with a primary signal. Under the escape clause “unless otherwise authorized or directed by ATC” you can be given a waiver. The willingness to ask for help when you need it from ATC is more important than whether your transponder is working. Not only can ATC give you vectors they can give you ‘no gyro’ aid that will get you out of IFR conditions into VFR.

At some point on a flight either you or ATC may wish to end radar service. You merely ask for a frequency change. Example:

“85K have Concord in sight frequency change”

“85K frequency change approved squawk VFR”