

ADS-B and Transponders

A QUICK AND DIRTY OVERVIEW

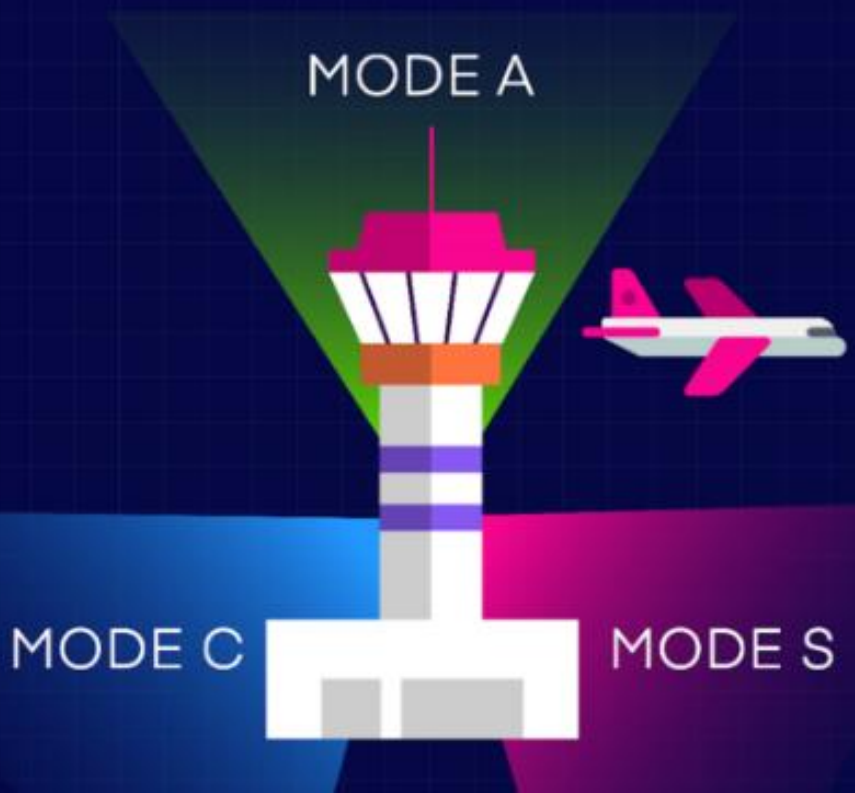
What is a transponder?



An aircraft transponder sends out a signal when it receives a request for information (called an interrogation).

This signal contains valuable information and helps Air Traffic Control (ATC) track and identify aircraft.

What is a transponder mode?



A transponder mode refers to the different ways an aircraft's transponder can communicate (i.e., reply to interrogations) with ATC and other aircraft.

Transponders: codes vs. modes



Transponder Code

A transponder “code” is a specific four-digit number that you, as the pilot, will input into your transponder.



Transponder Mode

A transponder “mode” refers to the various ways an aircraft’s transponder communicates with ATC and other aircraft.

Three transponder modes

Mode A

- ▶ Basic identification using a four-digit squawk code.
- ▶ No altitude information provided.

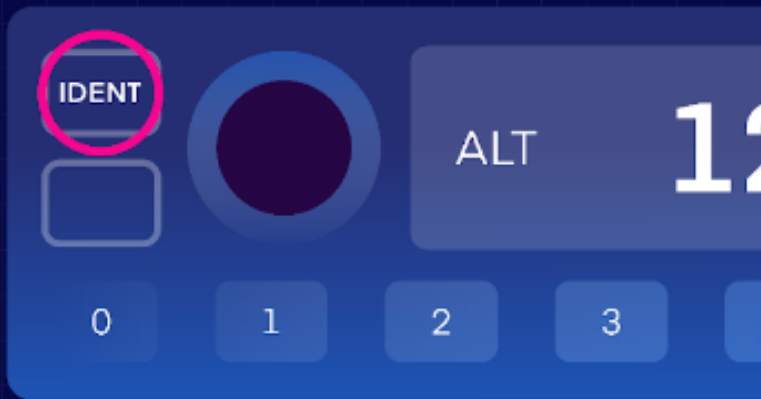
Mode C

- ▶ Adds pressure altitude reporting to the identification function.

Mode S

- ▶ Transmit a unique aircraft identifier and additional data (e.g., speed, heading).
- ▶ Support collision avoidance and ADS-B systems.

What is ***IDENT*** ??



When ATC asks you to “ident,” they’re requesting that you hit the “IDENT” button on your transponder.

When you do this, your transponder sends out a specific signal that makes your aircraft’s position and squawk code more prominent on the ATC radar screen.



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