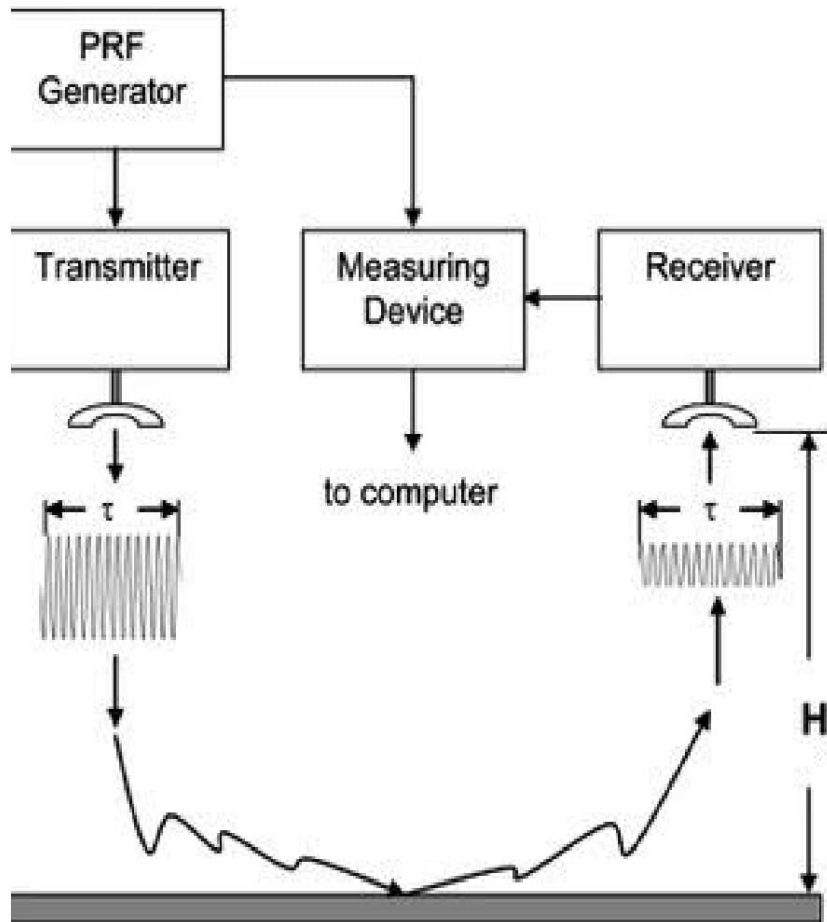


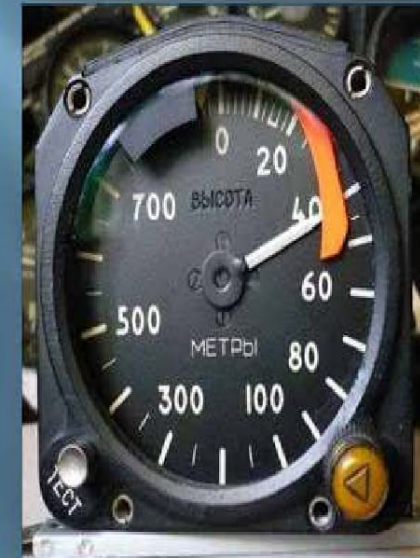
## **RADIO ALTIMETER**

A radio altimeter is an airborne electronic device capable of measuring the height of the aircraft above terrain immediately below the aircraft.

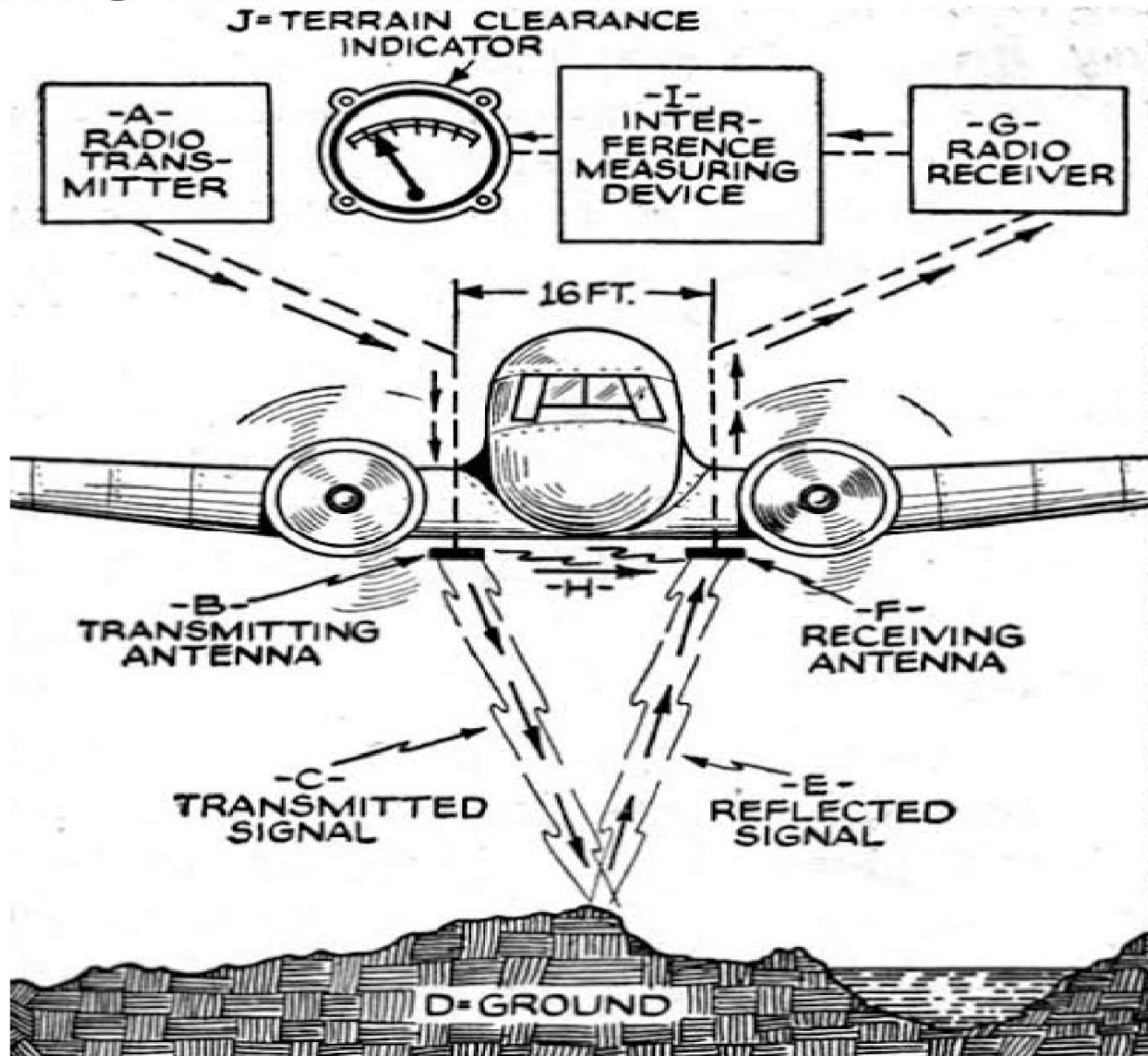
# ➤ RADIO ALTIMETER



- The radio altimeter has many names: radar altimeter, electronic altimeter and reflection altimeter.



# ➤ RADIO ALTIMETER



## ➤ **RADIO ALTIMETER**

- ✓ A radio altimeter, or radar altimeter, is used to measure the distance from the aircraft to the terrain directly beneath it.
- ✓ It is used primarily during instrument approach and low level or night flight below 2500 feet.
- ✓ The radio altimeter supplies the primary altitude information for landing decision height.
- ✓ It incorporates an adjustable altitude bug that creates a visual or aural warning to the pilot when the aircraft reaches that altitude.
- ✓ Typically, the pilot will abort a landing if the decision height is reached and the runway is not visible.
- ✓ Using a transceiver and a directional antenna, a radio altimeter broadcasts a carrier wave at 4.3 GHz from the aircraft directly toward the ground.

# ➤ RADIO ALTIMETER



## Radar Altimeter Antennas

The radar altimeter antennas are installed on the bottom of the aircraft.



# ➤ RADIO ALTIMETER





# ➤ RADIO ALTIMETER



## ➤ **RADIO ALTIMETER**

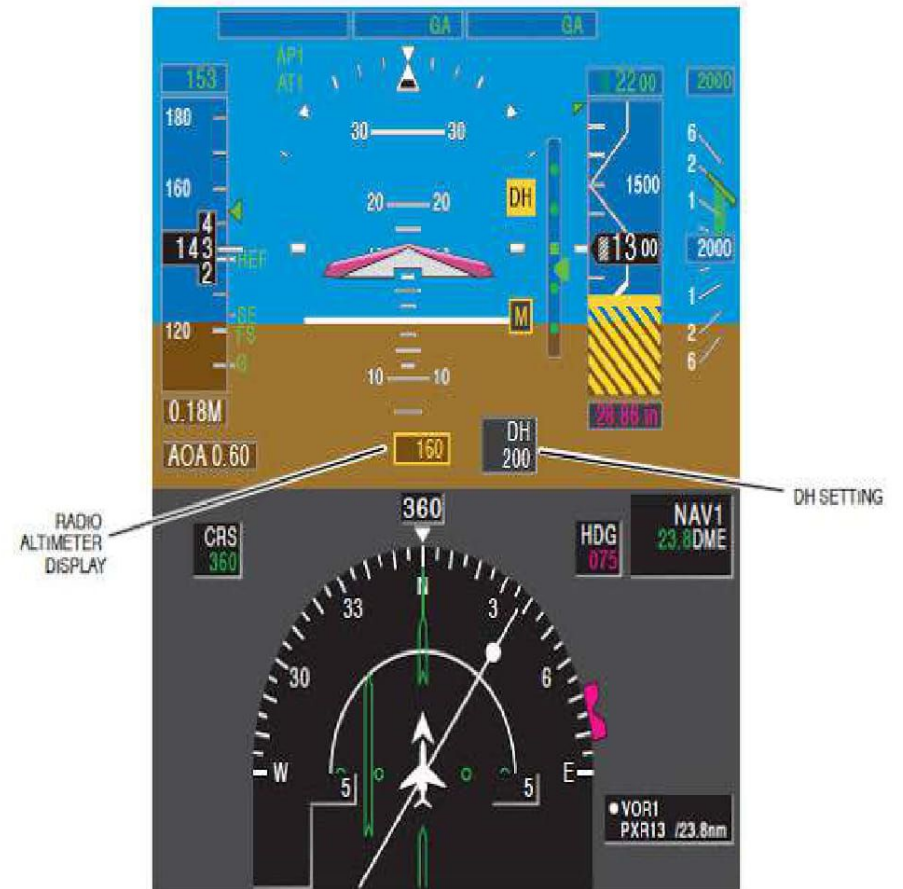
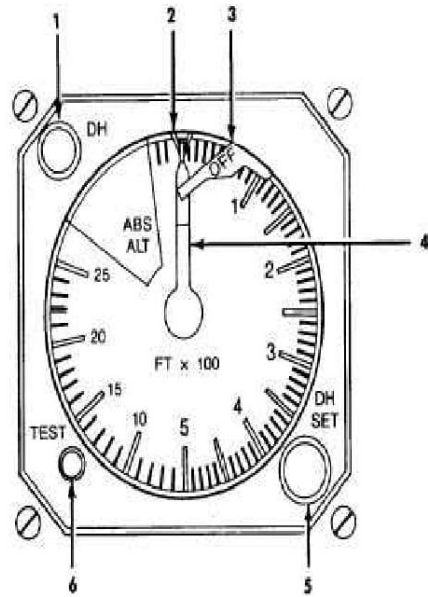
- ✓ The wave is frequency modulated at 50 MHz and travels at a known speed.
- ✓ It strikes surface features and bounces back toward the aircraft where a second antenna receives the return signal.
- ✓ The transceiver processes the signal by measuring the elapsed time the signal traveled and the frequency modulation that occurred.
- ✓ The display indicates height above the terrain also known as above ground level (AGL).
- ✓ A radar altimeter is more accurate and responsive than an air pressure altimeter for AGL information at low altitudes.
- ✓ The transceiver is usually located remotely from the indicator.



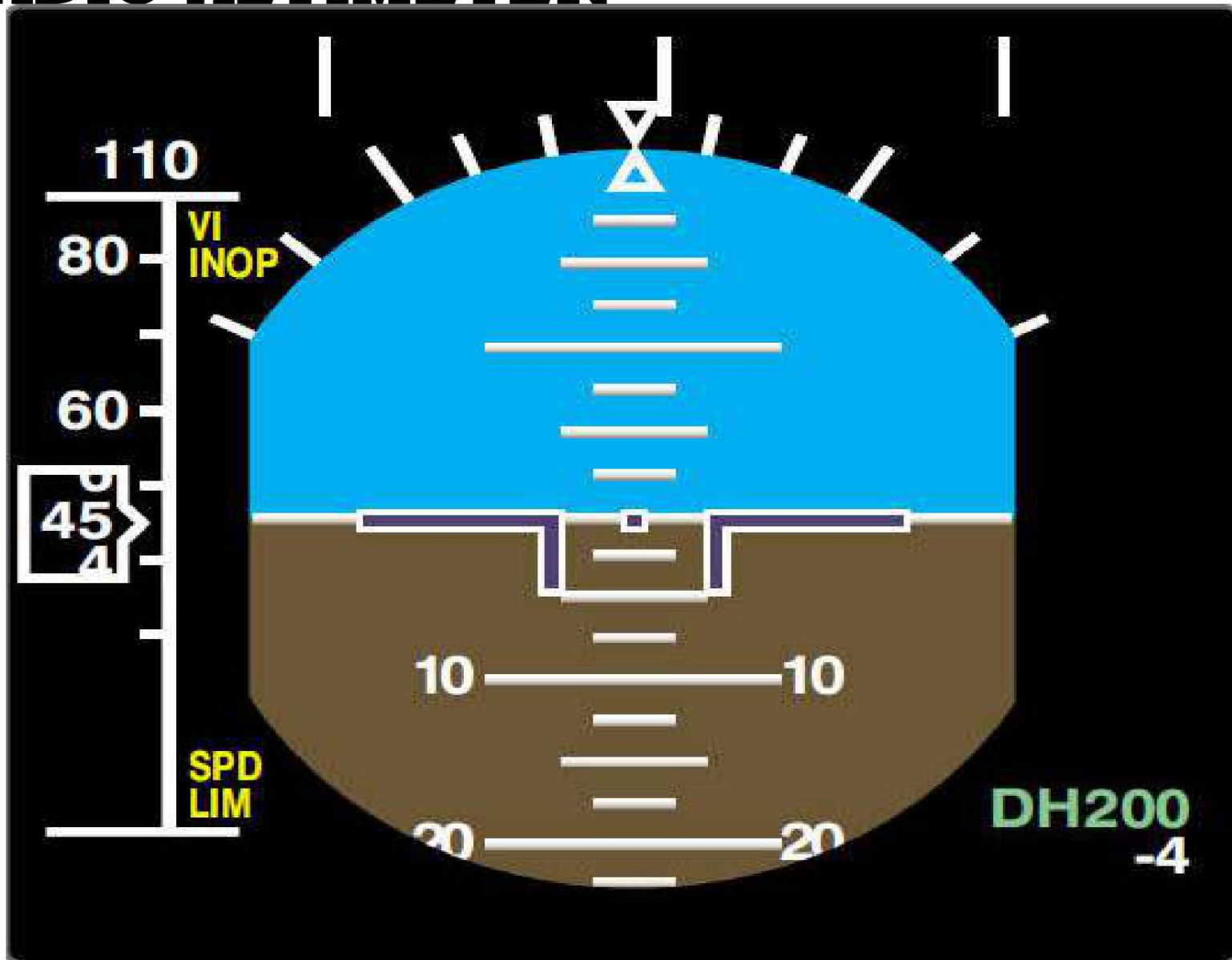
# ➤ RADIO ALTIMETER



# ➤ RADIO ALTIMETER



# ➤ RADIO ALTIMETER



## ➤ **RADIO ALTIMETER**

- ✓ Multifunctional and glass cockpit displays typically integrate decision height awareness from the radar altimeter as a digital number displayed on the screen with a bug, light, or color change used to indicate when that altitude is reached.
- ✓ Large aircraft may incorporate radio altimeter information into a ground proximity warning system (GPWS) which aurally alerts the crew of potentially dangerous proximity to the terrain below the aircraft.
- ✓ A decision height window (DH) displays the radar altitude on the EADI.