

Information Sheet:

IFF Mode 5 and ADS-B

What is IFF Mode 5?

IFF is an acronym for 'Identify Friend or Foe'. It is a command and control system that allows ground and air systems to identify other systems and determine their bearing and range. It is an active system that sends and receives signals. By sending a signal to another system and receiving a reply, a system can be identified as 'friendly'. If no reply is received, the system is identified as potentially hostile.

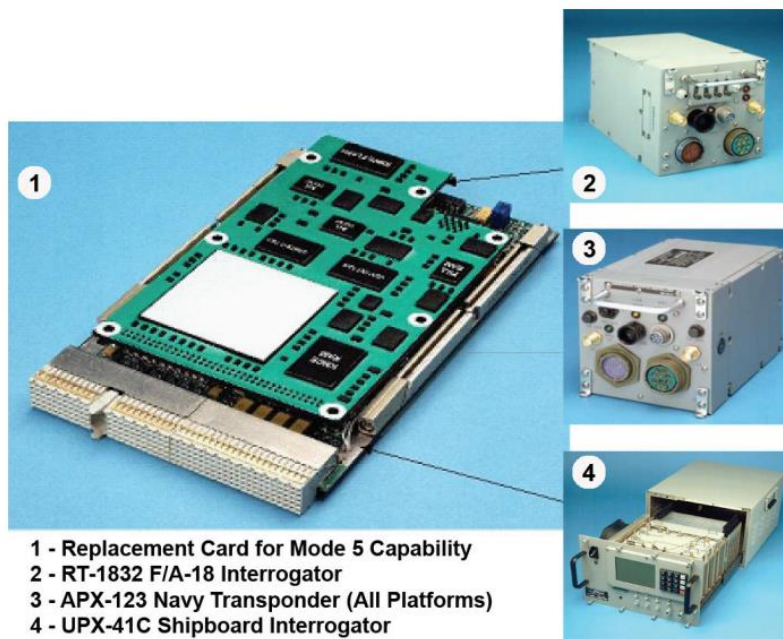


Figure 1 IFF system components (US Navy)ⁱ

Mode 5 is the latest standard of IFF required by all NATO forces. It is military only and integrates with the civilian ADS-B system to provide GPS capability, in addition to the 'regular' radar-based system.

It provides a higher level of security encryption and works at longer ranges than previous standards. The Mode 5 standard employs spread-spectrum radio transmissions that are difficult to intercept or jam and encrypts data with keys that change every few seconds.

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IFF Mode 5 and ADS-B

What is ADS-B?

ADS-B stands for ‘Automatic Dependent Surveillance-Broadcast’. It is a GPS surveillance system that allows an aircraft to use satellite navigation to both determine its position and broadcast it. This allows the aircraft to be tracked by Air Traffic Control in areas with poor radar coverage such as oceans, as well as giving the crew better situational awareness. It is required for peacetime flight through civil airspace and is an automatic system, requiring no action from the crew during normal use.

ADS-B System

Automatic Dependent Surveillance Broadcast

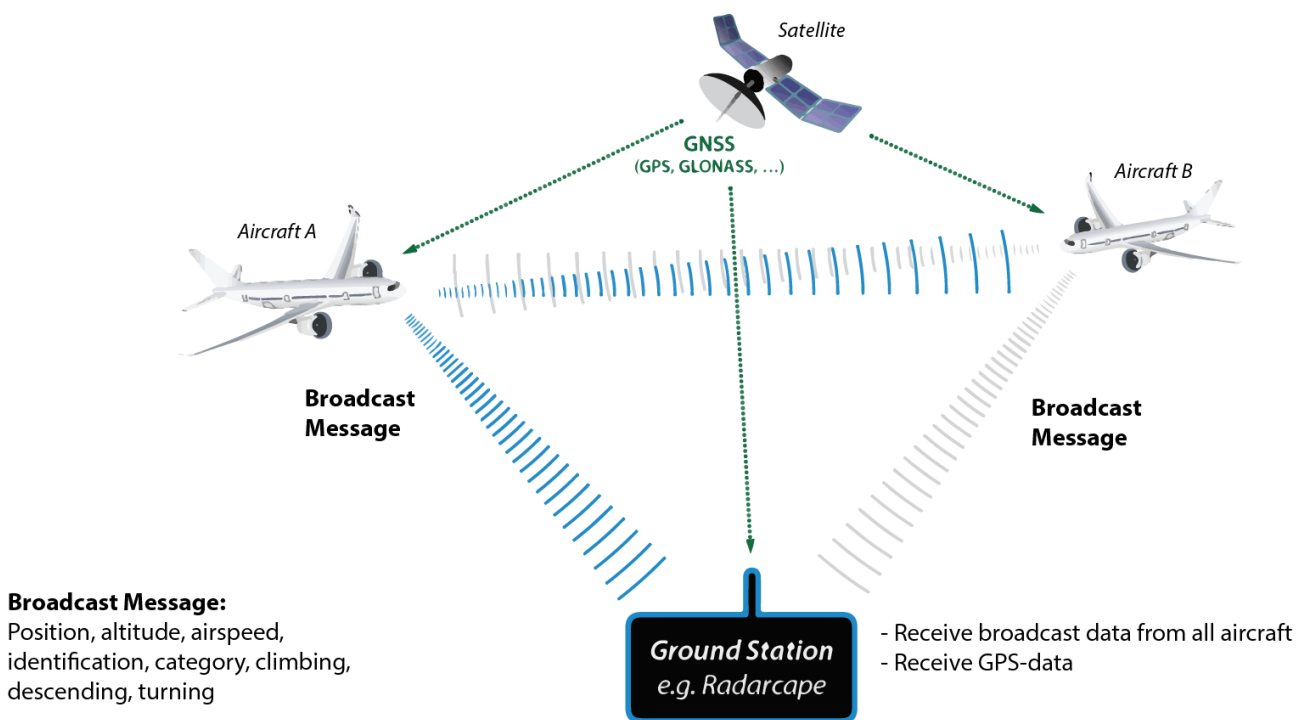


Figure 2 ADS-B Operation Diagramⁱⁱ

ⁱ Figure 1 IFF System components taken from dote.osd.mil (no copyright information available)

ⁱⁱ Figure 2 ADS-B image taken from shop.jetvision.de (no copyright information available)