



CAN YOU BE SEEN?

ADS-B AND TRANSPONDER EQUIPMENT

How to use this chart:

- Start with the left column to find the technology relevant to your aircraft.
- The chart will help you understand if you can be seen by aircraft with the equipment along the top row.

Tip

To maximise the safety benefits of ADS-B, choose the equipment that has the most green in both its row & column.

| MY AIRCRAFT EQUIPMENT | OTHER ATC OR AIRCRAFT EQUIPMENT | | | | | | | | | | | | |
|-----------------------|--|---------------------|----------|--|----------------------------|---|--|------------------|--------------------------|--|---------------|-------------|---------------------|
| | | ATC | Airlines | General aviation | | | | | | | Gliders | | |
| | Start here ↓ | Air traffic control | TCAS | Transponder with ADS-B IN & OUT ¹ | Transponder with ADS-B OUT | Transponder with EC device ^{1,4} | Transponder with ADS-B IN ^{1,2} | Transponder only | EC device ^{1,3} | Tablet EFB with mobile data ⁵ | ADS-B IN only | Basic FLARM | FLARM with ADS-B IN |
| | Air traffic control | - | - | - | - | - | - | - | - | - | - | - | - |
| | TCAS | S ⁷ | Y | N | N | N | N | N | N | N | N | N | N |
| | Transponder with ADS-B IN & OUT | Y ⁶ | Y | Y | N | Y | Y | N | Y | N | Y | N | Y |
| | Transponder with ADS-B OUT | Y ⁶ | Y | Y | N | Y | Y | N | Y | N | Y | N | Y |
| | Transponder with EC device | S ⁷ | Y | S ⁸ | N | Y | S ⁸ | N | Y | N | Y | N | Y |
| | Transponder with ADS-B IN | S ⁷ | Y | N | N | N | N | N | N | N | N | N | N |
| | Transponder only | S ⁷ | Y | N | N | N | N | N | N | N | N | N | N |
| | EC device | N | N | S ⁸ | N | Y | S ⁸ | N | Y | N | Y | N | Y |
| | Tablet EFB with mobile data ⁵ | N | N | N | N | N | N | N | N | Y ⁹ | N | N | N |
| | ADS-B IN only | N | N | N | N | N | N | N | N | N | N | N | N |
| Basic FLARM | N | N | N | N | N | N | N | N | N | N | Y | Y | |
| FLARM with ADS-B IN | N | N | N | N | N | N | N | N | N | N | Y | Y | |

| |
|-----------|
| Yes |
| No |
| Sometimes |

- Any ADS-B IN capability presumed to include a suitable display or indicator
- Presumes any ADS-B IN capability – standalone receiver, integrated with EC device, or integrated with transponder
- Cannot be used in transmit mode if aircraft has or required to have transponder with ADS-B OUT
- Presumes a basic transponder without ADS-B capability used in conjunction with a separate EC device
- Tablet EFB with mobile data, but not connected to an ADS-B IN or an EC device
- Within detection range of air traffic control conventional radar or ground-based ADS-B receiver network

- An aircraft equipped with TCAS will also be fitted with a Mode S transponder, and will therefore be detected by air traffic control radar
- Some fixed screen equipment configurations (e.g. CDTI) are only able to display traffic information received from certified ADS-B transmitting equipment. EC-based traffic information may only be displayable via a connected tablet or EFB. Contact your equipment manufacturer for specific information.
- Only if the EFB software has traffic capability and is compatible with the EFB software in the other aircraft

CAN YOU BE SEEN?

About the technology

TCAS: Traffic collision avoidance system

Relies on transponder information from other aircraft to alert pilots of a potential collision. This equipment is required on **commercial aircraft** heavier than 5,700 kg or can carry more than 19 passengers.

Transponder

Transmits a response to interrogations from ground-based radar systems (air traffic control) or the TCAS fitted to some aircraft. Required for all **VFR in Class A, B, C or E airspace or at/above 10,000 ft in Class G.**

ADS-B IN (eligible for rebate)

Receives information from other ADS-B OUT equipped aircraft in range. This can be presented to pilots on a cockpit display or in the form of audible alerts. **Optional for all aircraft.**

Transponder with ADS-B OUT (eligible for rebate)

Transmits information about the aircraft such as the flight number and precise position. Can be received by ground-based ADS-B receiver stations and by other aircraft equipped with ADS-B IN. Required for all **IFR flights and at/above FL290 for any VFR.**

EC device (eligible for rebate)

A lower cost ADS-B device that transmits information about the aircraft such as the flight number and precise position. Can be received by other aircraft equipped with ADS-B IN or an EC device. EC devices are generally portable and can be transferred between aircraft. **Optional for all.**

Tablet EFB with mobile data

Also known as an electronic flight bag. Transmits information about the aircraft to the EFB provider's servers. This information can then be uplinked via the mobile network to other users for the same EFB service and displayed on the users' tablets. **Optional for all.**

FLARM: FLight aLARM

A proprietary detection and avoidance system that can alert pilots to potential collisions. Typically used in gliders and glider support (tow) aircraft. **Optional for all.**

ADS-B AND TRANSPONDER EQUIPMENT

Remember

- ADS-B is only one technology to help you maintain situational awareness.
- It does not relieve you of your responsibility to see and avoid other aircraft.

Hints and tips to improve your situational awareness

1. If it feels wrong it probably is!
2. Establish a sterile cockpit rule
3. Fly within your personal limits
4. Learn to recognise the red flags
5. Aviate, navigate, communicate

Quick find – can they see me?

| | ATC | Airlines | General aviation |
|-------------|-----|----------|------------------|
| Transponder | Y | Y | |
| ADS-B Out | Y | | Y |
| EC device | | | Y |

50% rebate on ADS-B

Find out more
about ADS-B:

casa.gov.au/adsb