ADS-B Transmitter standards

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Key components

- Transponder
  » ADS-B capable model
- GPS or MMR
  » Provides integrity data
- Panel or system to provide CALLSIGN
### Standards for Mode S & ADS-B

#### AVIONICS & TEST STANDARDS
- **RTCA & EUROCAE**
  - ADS-B MOPS DO242
  - ADS-B MOPS 1090 DO260 & DO260A & DO260B (ED102...)
  - Mode S MOPS DO-181c include ADS-B (ED73)

- **FAA & Eurocontrol (Regulator)**
  - TSO C166a,b
  - (J) TSO C112

#### APPLICATION STANDARDS
- **RFG -> RTCA/Eurocae**
  - Eg RAD (DO318), NRA(DO303), APT, SURF, ITP, AIRB

#### FORM/FIT STANDARDS
- **AEEC**
  - Eg ARINC 718A-3 / ED86
<table>
<thead>
<tr>
<th>GPS</th>
<th>TRANSPONDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>DO208 (TSO129)</td>
<td>Needs HPL output. Most assume SA ON</td>
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<tr>
<td>DO316 (TSO196)</td>
<td>SA aware</td>
</tr>
<tr>
<td>DO229 (TSO145/146)</td>
<td>WAAS GPS (SA aware)</td>
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</tbody>
</table>
Avionics status

• DO260 & DO260A equipment flying
  » Some acceptable for use (eg approved under AMC20-24)
  » Some not acceptable (prohibited in Australia)
  » Used in Australia and Canada
  » Operationally displayed in Indonesia

• DO260B equipment not yet flying
  » One TSO already issued
  » Required by US (2020) and European mandates (2015+)
• Backplane wiring must be correct for numerous parameters
  » SIL, 24 bit code, squat switch etc

• Correct ARINC 429/ARINC 629 labels must be used

ARINC718A for Mark 4 Transponders
718A-3 → DO260B
718A → DO260

ARINC429 & 629
Defines data labels
Questions?

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