



ADS-B Transmitter standards

ADS-B Workshop SP/19

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Example

FLIGHT ID : CALLSIGN



TRANSPONDER

ALTITUDE



POSITION & INTEGRITY

GPS/ MMR



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

- ICAO → Signals in Space
 - » Annex 10 SARPS

AVIONICS & TEST STANDARDS

- » RTCA & EUROCAE
 - ADS-B MASPS 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

Standards

GPS	
DO208 (TSO129)	Needs HPL output. Most assume SA ON
DO316 (TSO196)	SA aware
DO229 (TSO145/146)	WAAS GPS (SA aware)

TRANSPONDER	
DO260 (TSO166)	Accepted by Canada & Australia (AMC20-24 certification)
DO260A (TSO166A)	Adds NIC,NAC,SIL, Mode A code
DO260B (TSO166B)	Adds additional parameters. FAA requirement 2020



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



AEEC / ARINC Standards

- **Size**
- **Connectors**
- **Functions**

**ARINC718A for Mark
4 Transponders**

718A-3 → DO260B

718A → DO260

ARINC429 & 629

Defines data labels

Questions?

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