

TSC 2002/2030/4000 IFF Digital Transponder family

Comprehensive portfolio for
all type of platforms

- Fully compliant with the latest IFF military and civil standards (Mode 5 , Mode S)
- ADS-B
 - DAL-B Software & Firmware
 - Qualified on a large installed based (aircrafts and ships)



Digital IFF Transponder Family

Platforms

> AIRCRAFT

Hawk
M2000
MIG-29
Alphajet
Awacs
A330-MRTT
EMB 145
A1M
ATL2



> UAV

Watchkeeper
Hermes 900
Heron
Campoter
Patroller
VSR-700



> HELICO

NH90
Super Puma
Gazelle
Sea King
Cougar



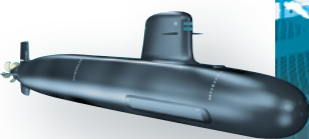
> SURFACE SHIP

BPC Mistral Class
Lafayette Class
Sawari
Horizon
FAA
PA CDG



> SUBMARINE

Scorpene
SSN
SSBN



Transponder Product Line

Thales Bluegate IFF transponder offers high performance, MKXIIA/Mode S/ADS-B qualified products with different NATO M4/M5 or NSM (National Secure Mode) certified crypto computer. Fitted for various platform type, as UAV, helicopters, trainers, fighters or large mission aircraft, the IFF products are also qualified for maritime or submarine environment. It also offers military aircraft seamless integration into General Air Traffic thanks to its Eurocontrol qualified mode S. More than 2,500 transponders have already been manufactured.

Technology

Technology architecture based on:

- Proprietary operating system allowing real time sharing of software processing
- Patented software signal processing permitting flexible adaptation for optimal transmission and reception performance
- MIDS compatibility special filtering
- Simplicity of integration through various choices of interface and data platform management due to combinations of:
 - pin programming
 - software configuration
 - automatic detection
- Easy growth potential for future evolution of standards thanks to Ethernet link enabling software upgrade
- Options: Embedded GPS
- Growth potential to Sense & Avoid applications

Key differentiators & Innovation

- Fully compliant with civil regulations and military regulations
 - STANAG 4193, Ed 3, DoD AIMS 03-1000B
 - Mode 5 up to Level 2
 - Full Mode S Level 3 capability - Amdt 85
- NSM (National Secure Mode)
- Large range of digital interfaces as MIL-STD 1553B, ARINC 429, RS485, Ethernet
- ADS-B In/Out capability - DO 260 B
- DO 178C Level B software
- DO 254 Level B firmware
- TCAS version 7.1

User benefits

- Low integration risk (large installed platform base)
- Proven interoperability, performance and reliability
- All common interfaces supported
- Guaranteed worldwide support
- Commitment to long term reliable and sustainable customer partnership
- Qualified with US KIV-77 crypto or with FR QRTK3NG crypto or with IT SIT2010 crypto
- Easy integration with Thales pseudo crypto computer PSK 77 (no mode 4 or mode 5 keys required, no Time Of Day loading required)
- Not subject to ITAR regulations and not subject to German export control

TSC 4000: Latest Innovation

- Based on state of the art technologies, the TSC 4000 is the reduced size transponder compliant with latest civilian and military standards and provides additional ADS-B IN capabilities within the aircraft.

Mode S / Mode 5



TSC 2002
Rack Mounted



TSC 2030
Cockpit Mounted



TSC 4000
• Smallest
• Lightest



TSC 2002/2030/4000 IFF Digital Transponder family



COMMON CHARACTERISTICS

Standards:

STANAG 4193 DoD AIMS 03-1000 & ICAO Annex 10 and subsequent Amdts

Modes: 1, 2, 3/A, C, S Lev. 3, 4, Mode 5 (Level 1 and 2), NSM (National Secure Mode)

Mode S: ELS, EHS, ADS-B OUT according to D0181E & DO 260B

Diversity processing

ADS-B In for TSC4000

Environment

- **Shocks, Vibrations:** MIL STD 810 - DO 160 G

- **EMC:** MIL STD 461/462 – DO 160 G

Min. Triggering level (MTL):

< -76 dBm +/- 2dB for Mode S, < -80 dBm for Mode 5

Options & Ancillaries:

- Crypto computer:

TSK 4035, 4085/QRTK-3NG/KIV-77/SIT2010

- Pseudo crypto computer: PSK77

- KIV-77 crypto adaptor for TSC 2002

- MTR 401/ 403/ 404 / 406 Various Mounting Trays

- CBU 404

- CBU 412



PSK77
Pseudo crypto computer

CBU 404
Emerg. Control Unit

CBU 412
Control Unit

TSK 4035
Crypto Unit

FEATURE	TSC 2002	TSC 2030	TSC 4000
Interface	1553 B, Arinc 429, RS485	1553 B, Arinc 429	Arinc 429, RS485 Ethernet, RS 232, 1553 B (Option)
Crypto	Appliqué or external	External	Appliqué or external
Output Power Min	320 W	320 W	320 W
Dimensions	124x194x318 mm (1/2 ATR short)	127x130x145 mm	137x212x89 mm (KIV 77) 137x217x105.5 mm (QRTK 3NG)
Weight	< 6.8 kg	< 3.4 kg	<2.1kg (< 5 lbs) (KIV 77 interface)
Temp. Operating	-54 to +71 °C	-40 to +71 °C	-40 to +71 °C
Altitude	70,000 ft	70,000 ft	50,000 ft

