

TT-3024A

Inmarsat-C Aeronautical Capsat®



Features

- Optimised for use on all sized aircraft enabling message transfer and data/position polling.
- Integrated GPS for automatic 3-D position reporting/polling from anywhere in the world.
- Interface to on-board equipment for automatic flight data and message transfer.
- Interfaces to international X.25/PSTN/Fax networks/e-mail/SMS and between terminals.
- Global coverage, 78° north to 78° south, mean sea level to 55,000 feet.
- Automatic doppler shift compensation to min. 620 knots ground speed.
- Full FAA/JAA and Inmarsat approval for aeronautical use.

Description

The compact TT-3024A Aero-C/GPS transceiver is designed for automatic data reporting and message transfer on a global basis, from sea level to 55,000 feet and all the way from 78° north to 78° south.

Based on proven technology, unsurpassed durability and compact design of the TT-3024A, you are ensured the best competitive solution for your long distance aeronautical communication and reporting requirements for the next many years to come.

The TT-3024A operates through the established network of Inmarsat and GPS satellites with interconnection to the international fax and packet switched data networks, offering fast and reliable transfer of information, 24 hours a day.

The integrated GPS receiver calculates your exact position, altitude, speed and heading every second, used for automatic doppler compensation and transfer of position status reports to any predefined Air Traffic Control (ATC) or company at user specified intervals.

Data collecting equipment may be connected to the TT-3024A via an RS422/423 port, enabling all selected data to be transferred as data reporting packages to your company, as frequently as every 2 minutes or whenever a special event occurs. (e.g. take-off or at a specific altitude transition).

Operational messages, weather and flight plan information as well as passenger messages may be transferred to/from any data subscriber via the international networks, using e.g. a personal computer as onboard interface.

Specifications

General Specifications: Meets or exceeds all Inmarsat specifications for the Aero-C system and all relevant GPS specifications.

Antenna: Integrated Inmarsat-C/GPS omnidirectional antenna, RHC polarised.

Figure-of-Merit (G/T): -23dB/K at 5° elevation.

EIRP: 12dBW minimum at 5° elevation.

Transmit Freq: 1626.5-1646.5 MHz

Receive Freq: Inm-C 1530.0-1545.0 MHz, GPS 1575.42 MHz

Channel spacing: 5 kHz

Modulation: 1200 symbols/sec. BPSK.

Ambiguity resolution: Unique word.

Coding: R 1/2 K=7 convolutional code, interleaved code symbols RX.

Data Rate: 600 bits/second.

RX frame length: 8.64 sec.

TX signalling access mode: Slotted ALOHA.

TX message channel: TDMA 5 FDMA, interleaved code symbol.

Position reporting: Built-in 5-channel GPS receiver with Lat/Long/Alt/Speed/Heading calculation, update rate 1 sec.

Position accuracy: C/A code with 96 meter spherical error probability (SEP-SPS).

Initial stabilisation: 15 min. max doppler shift correction and GPS almanac update.

Solid-State storage: 256 kbyte RAM memory.

On-board message/data interface: RS422/423, 110-9600 bps.

Navigational interface: RS422/423 V.10 Special for interface to on-board navigational systems.

Roll & Pitch: Minimum +/- 25° from level flight.

Altitude: MSL-55,000 feet.

Airspeed: Full doppler compensation to minimum 620 knots GS.

Airspeed acceleration: Minimum +/- 1 g.

Turn rates: Frequency acquisition to rate-1 turns at max. speed.

Antenna drag: 0.55 kg@ 35,000 feet and MACH 0.85.

General Env. Category: Transceiver, DO-160C D1 -BA(MNB) XXXXXXXAAAP

UAKXX. LNA/HPA, DO-160C D2-

BBCXXXXXAAAAAAVAKXX

Jet Blade antenna, DO-160C D2-

ACCCXSFDXSSXXXXXX(LM)

Ambient temperature: Transceiver, -20°C

to 55°C operational. LNA/HPA and Jet

Blade antenna, -55°C to 70°C operational.

Relative humidity: Transceiver and LNA/HPA, 95% non-condensing.

Vibration: DO-160C sect. 8 cat. B, M, N for fixed wing turboprop and turbojet and helicopters.

Shock and Crash safety: DO-160C sect. 7.

DC power source: Floating 10.5- 32Vdc, 9.5W Rx, 80W Tx.

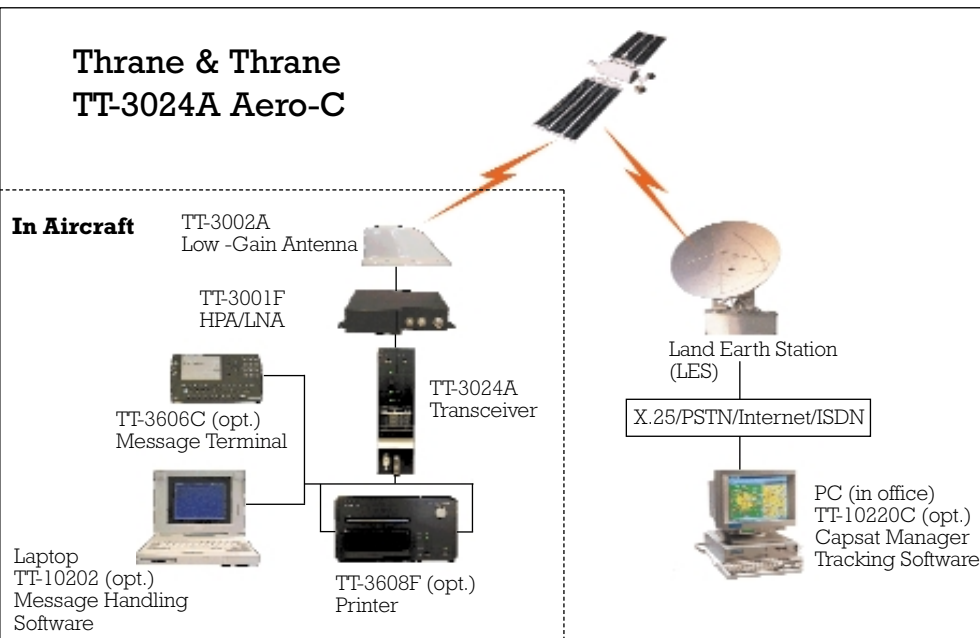
Size and weight: Vertical Jet Blade antenna with standard flange mounting, LxWxH: 274x98x114 mm, 0.75 kg.

LNA/HPA, LxWxH: 213.9x161.0x 49.5 mm, 2.3 kg.

Transceiver, ARINC 404 1/4 sized short,

LxWxH: 320.5x57.15x207.6 mm, 2.5 kg.

■ Our products are under continuous research and development. Any information may therefore be changed without prior notice. Capsat is a registered trademark of Thrane & Thrane A/S, Denmark



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