

FAA STC ST10739SC

Installation of Thales/EMS Technologies SATCOM AMT-3500 Antenna with Provisions for System Components on Boeing 737-800 Aircraft

OVERVIEW

- » FAA STC ST10739SC

Governs the installation of Thales/EMS Technologies SATCOM AMT-3500 antenna with provisions for system components in accordance with Electronic Cable Specialists (ECS) master data list ECS-205827.

YOUR NEEDS

Provides a standalone antenna sub-system for future SATCOM capabilities.

YOUR BENEFITS

Designed to your modify Boeing 737-800 aircraft with a standalone SATCOM antenna sub-system, which will support later or concurrent installation of the THALES/EMS SATCOM systems.

STC AIRCRAFT EFFECTIVITY

- » Boeing 737-800 series aircraft

STC CONFIGURATIONS & LIMITATIONS

- » **Configuration 1:** SATCOM antenna structural provisions

STC Limitation: None

- » **Configuration 2:** SATCOM system provisions

STC Limitation: Configuration 1 must be installed prior to or in conjunction with Configuration 2.

PRODUCT DESCRIPTION

- » An Intermediate Gain Antenna (IGA) for a SATCOM system is installed on the upper aft fuselage at STA 766. A Diplexer Low Noise Amplifier (D/LNA) is installed at STA 770. The system is inactive and is installed for future aircraft capabilities.

MECHANICAL CHANGES

Configuration 1:

- » Structural provisions for an ARINC 781 Type D D/LNA will be installed between STA 767 and STA 787 and between Stringers S-2L and S-3L.
- » Structural provisions for an ARINC 781 IGA antenna will be installed between STA 747 and STA 787 and between stringers S-1 (A/C Centerline) and S-2L. Structural reinforcement will be added as required for this installation.
- » A cover plate will be installed over the IGA antenna wire access hole between STA 767 and STA 787.
- » See Figure 2 for additional details regarding the IGA antenna provisions.

Configuration 2:

- » The IGA wire access hole cover plate will be removed.
- » An IGA antenna, adapter plate, and six external antenna adapter plate mounting fittings will be installed onto the previously installed IGA antenna structural provisions.
- » See Figure 3 for additional details.

FAA STC ST10739SC

Installation of Thales/EMS Technologies SATCOM AMT-3500 Antenna with Provisions for System Components on Boeing 737-800 Aircraft

MECHANICAL CHANGES CONT'D.

Configuration 1:

- » The D-LNA structural provisions installation supports the installation of the D-LNA electronic equipment.
- » The D-LNA (Diplexer - Low Noise Amplifier) mounts onto a drip shield mounting plate.
- » The mounting plate is then fastened to mounting angles, which span between the aircraft frame members.
- » The mounting angles attach to the aircraft frames with clips.

Figure 2 shows the equipment installed.

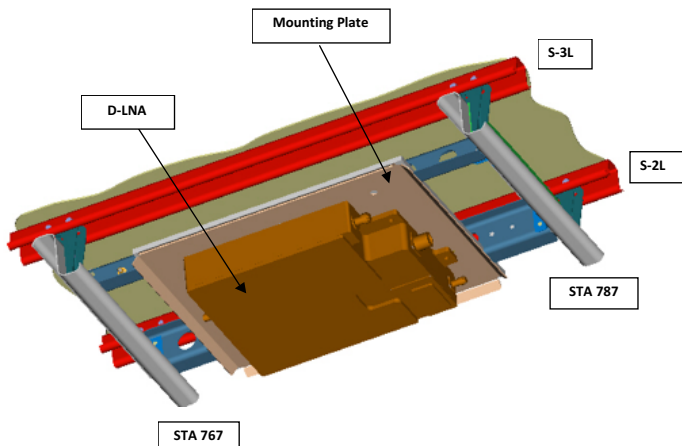


FIGURE 2:
D-LNA Structural Provisions Installation
(Aircraft Skin Removed for Clarity)

Configuration 2:

- » The SATCOM antenna used in this installation is EMS Technologies Ltd AMT-3500 intermediate gain antenna.
- » The antenna mounts to the fuselage by means of an adapter plate and external attach fittings.
- » The attach fittings are internally supported by intercostals spanning fuselage frames 747, 767, and 787. These frames are locally reinforced for the loads imposed by the antenna.

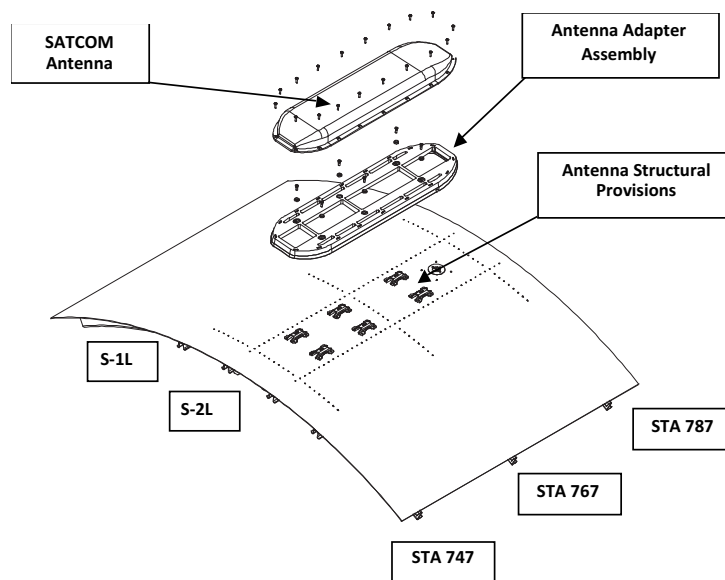


FIGURE 3:
SATCOM Provisions & Antenna Installation

FAA STC ST10739SC

Installation of Thales/EMS Technologies SATCOM AMT-3500 Antenna with Provisions for System Components on Boeing 737-800 Aircraft

STC CONFIGURATIONS

Configuration 2:

- » The provisioned SATCOM provisions installation provides interface wiring between the D/LNA connector and existing aircraft system discrete, power, and digital signals.
- » The provisions installation wiring will be capped and stowed near the systems to which the D/LNA will be interfaced and therefore, no active signals will be provided to the existing aircraft systems or wiring.

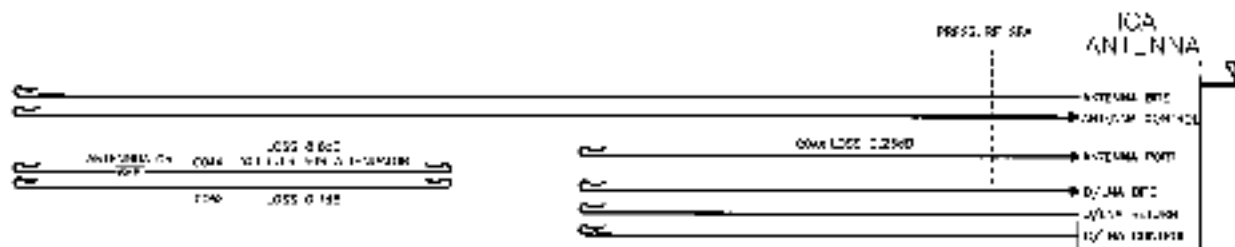


FIGURE 4:
SATCOM Wiring Provisions Block Diagram

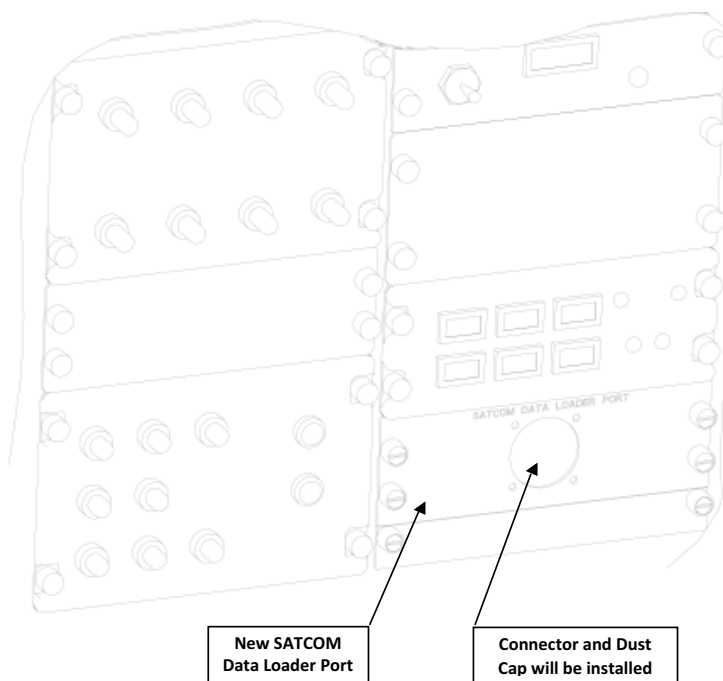


FIGURE 3:
SATCOM Data Loader Port Installation

FAA STC ST10739SC

Installation of Thales/EMS Technologies SATCOM AMT-3500 Antenna with Provisions for System Components on Boeing 737-800 Aircraft

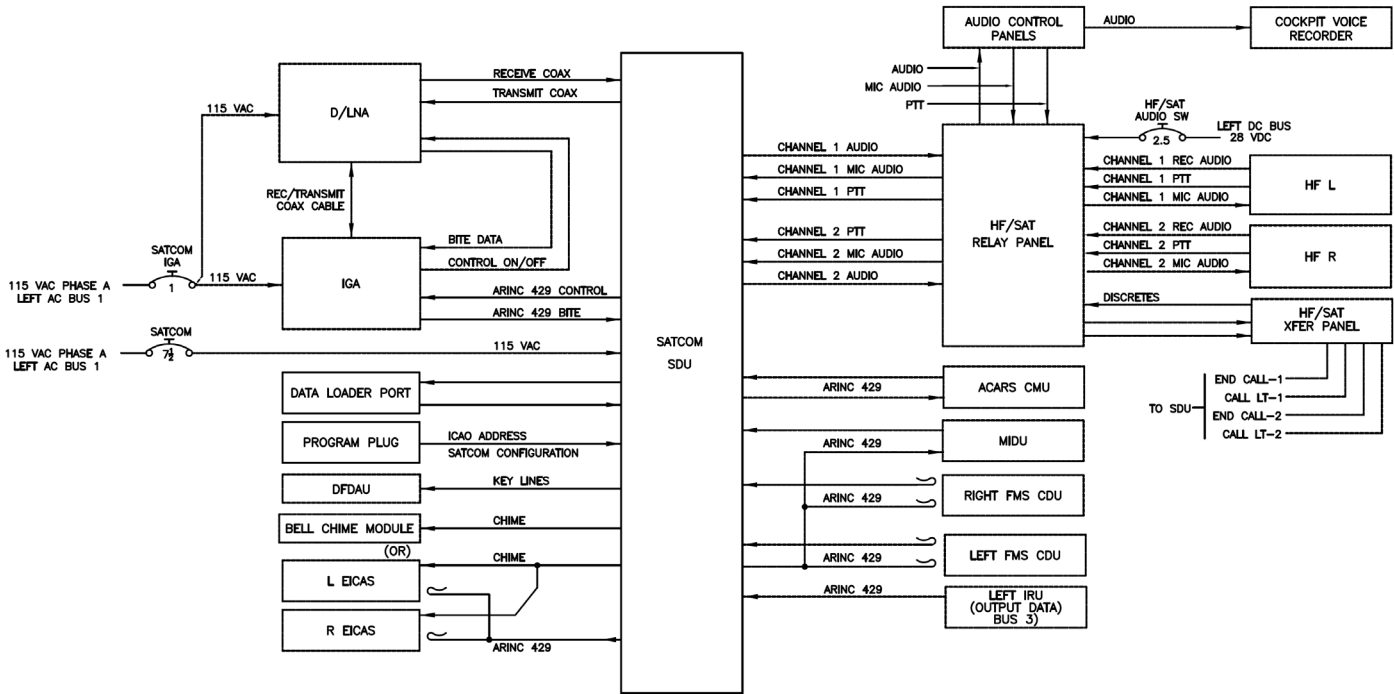


FIGURE 4:
SATCOM System Block Diagram