

ST10739SC

FAA Supplemental Type Certificate



Installation of Thales/EMS Technologies SATCOM AMT-3500 Antenna with Provisions for System Components on Boeing 737-800 Aircraft (FAA STC ST10739SC)

OVERVIEW

- » FAA STC ST10739SC.

INTRODUCTION

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 LIMITATIONS

- » Configuration 1: None.
- » Configuration 2: Configuration 1 must be installed prior to or in conjunction with Configuration 2.

STC CONFIGURATIONS

- » Configuration 1: SATCOM antenna structural provisions.
- » Configuration 2: SATCOM system provisions.

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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.

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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.

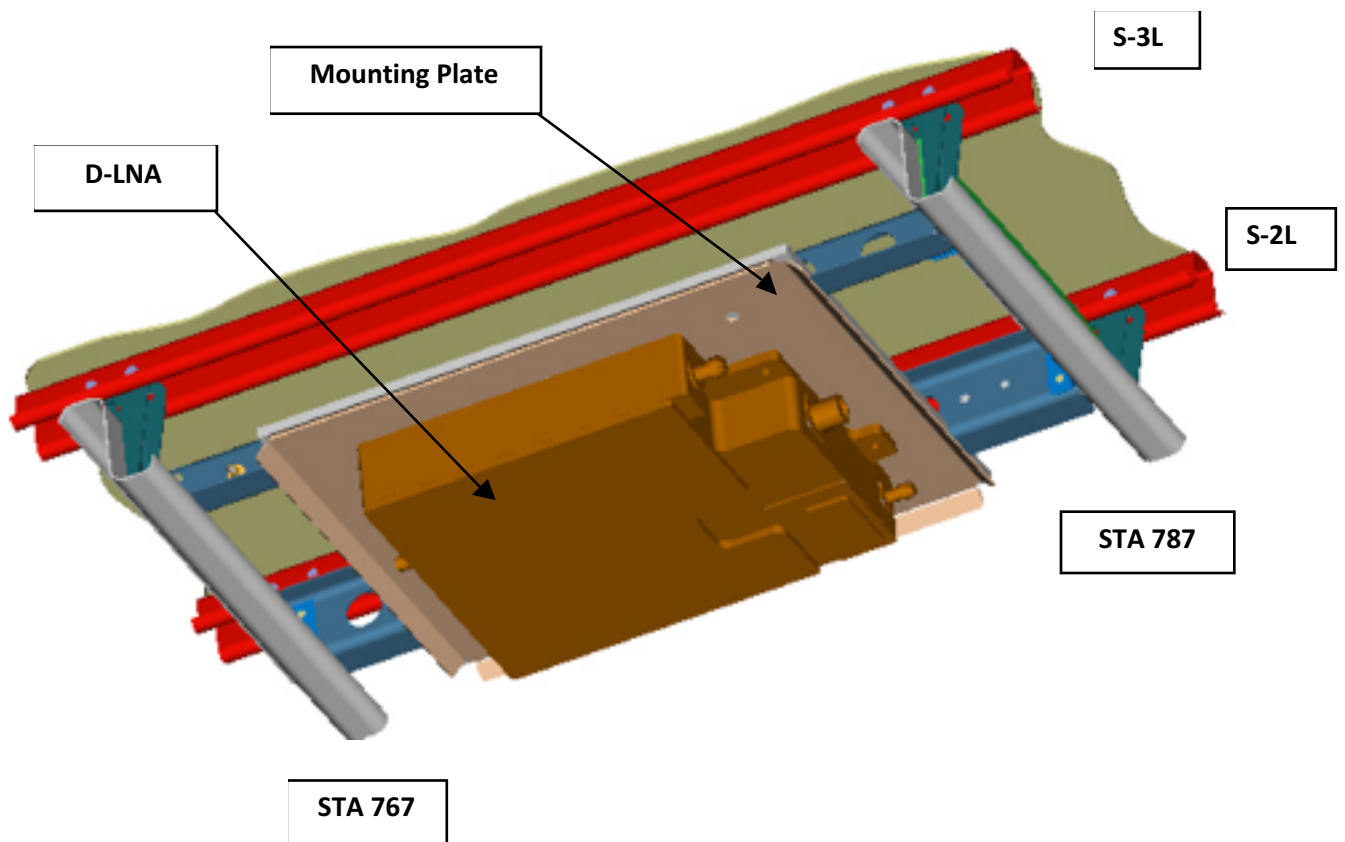


FIGURE 2 – D-LNA STRUCTURAL PROVISIONS INSTALLATION
(AIRCRAFT SKIN REMOVED FOR CLARITY)

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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.

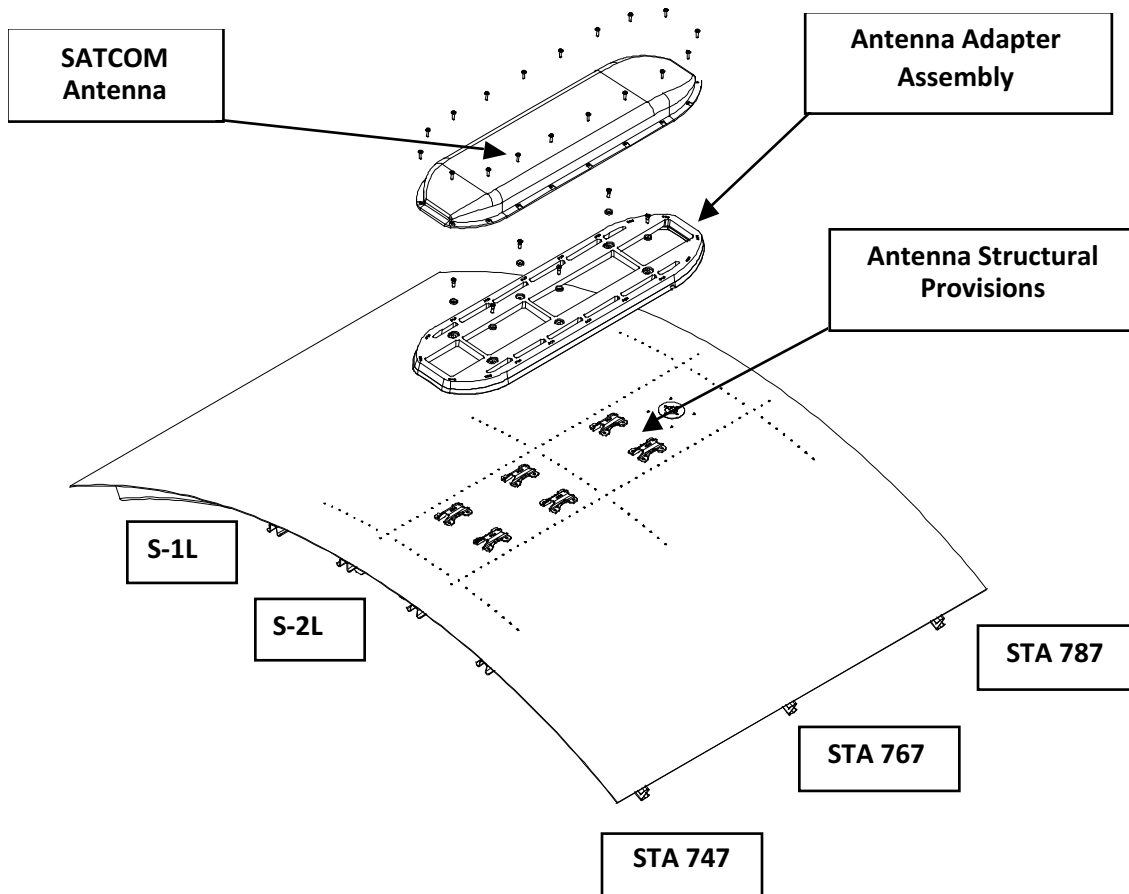


FIGURE 3 – SATCOM PROVISIONS AND ANTENNA INSTALLATION

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ELECTRICAL CHANGES

Configurations 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.

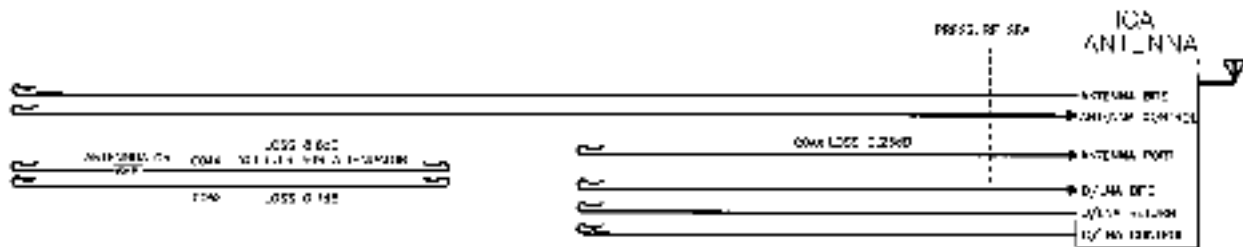


FIGURE 4 – SATCOM WIRING PROVISIONS – BLOCK DIAGRAM

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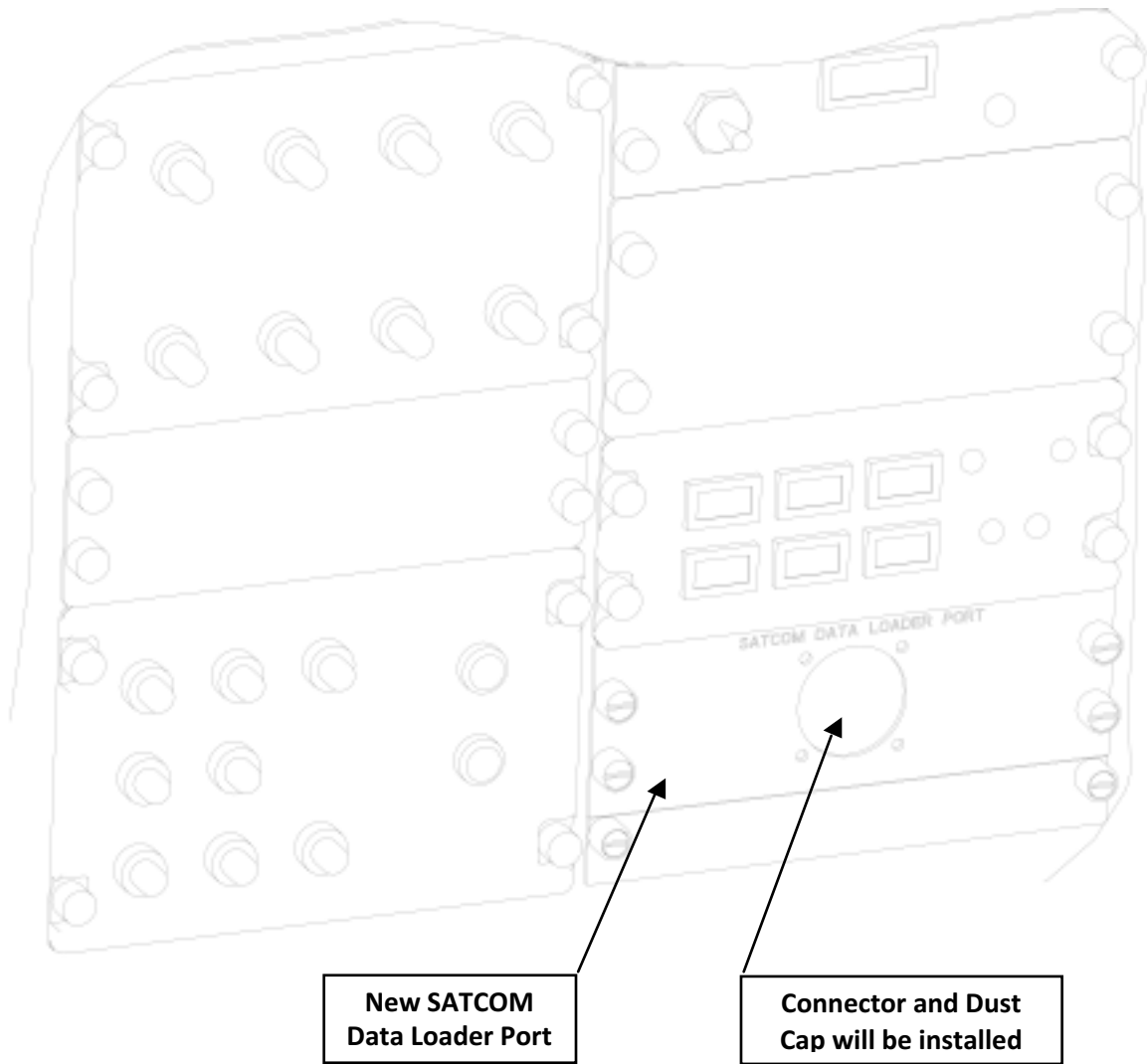


FIGURE 3 - SATCOM DATA LOADER PORT INSTALLATION

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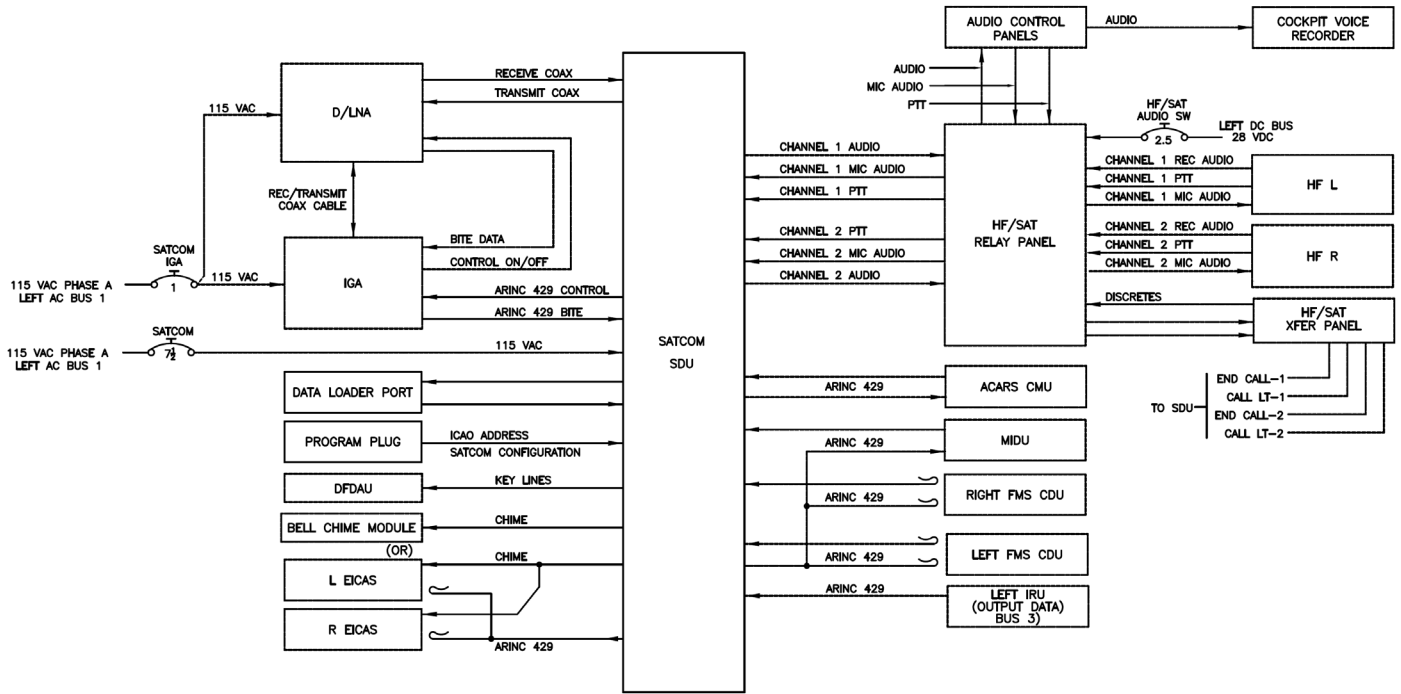


FIGURE 4 - SATCOM SYSTEM BLOCK DIAGRAM

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