

STC ST04334CH (FAA) & STC 10075259 (EASA)

Installation & Activation of ARINC 791 SATCOM System

OVERVIEW

- » FAA STC ST04334CH
- » EASA STC 10075259

INTRODUCTION

STC ST04334CH (FAA) and STC 10075259 (EASA) govern the installation and activation of the Zodiac/Honeywell ARINC 791 SATCOM System in accordance with Carlisle Interconnect Technologies (CIT) Master Data List 900-102529. It is designed to interface with the Zodiac RAVE Wireless Broadband System (STC ST04328CH).

YOUR NEEDS

Provides installation provisions and activation of Honeywell JetWave SATCOM system on A320 family of aircraft.

YOUR BENEFITS

A single source for complete system installation and integration in support of aircraft connectivity.

STC AIRCRAFT EFFECTIVITY

- » **FAA & EASA: Airbus A319:** A319-111 • A319-112 • A319-113 • A319-114 • A319-115 • A319-131 • A319-132 • A319-133 • A320-111 **Airbus A320:** A320-211 • A320-212 • A320-214 • A320-216 • A320-231 • A320-232 • A320-233 • A320-251N • A320-252N • A320-271N **Airbus A321:** A321-111 • A321-112 • A321-131 • A321-211 • A321-212 • A321-213 • A321-231 • A321-232 • A321-251N • A321-251NX • A321-252N • A321-252NX • A321-253N • A321-253NX

PRODUCT DESCRIPTION

The system installation package includes all provisions including wire harnesses, coaxial cables, equipment trays, aircraft structural modifications and outside aircraft equipment.

- » The ARINC 791 SATCOM System consists of the following avionics:

Fuselage Mounted Antenna (FMA): The FMA aperture provides a fixed Right-Hand Circular Polarization (RHCP) for transmit (TX) and Left-Hand Circular Polarization (LHCP) for receive (RX). Frequency isolation of transmit and receive paths are connected via a waveguide throughout the transmit path. The receive path interconnection between the aperture and Low Noise Amplifier (LNA) input is also via a waveguide. The receive connection from the LNA output is via low loss coaxial cable (coax). Radio Frequency (RF) connections through the rotating axis are made via rotary joints, two single band units (transmit waveguide and receive coax) across the elevation axis, and one dual band unit across the azimuth axis. Command, status, and power signals are carried in conventional multi wire cables from/to

STC LIMITATIONS

- » None

STC CONFIGURATION

- » Configuration 1: Zodiac ARINC 791 Ka-Band SATCOM Outside Aircraft Equipment and Structural Provisions Installation
- » Configuration 2: Zodiac ARINC 791 Ka-Band SATCOM System Installation and Activation
- » Configuration 3 and 8: Emergency Locator Transmitter (ELT) Antenna Internal Structural Provisions Installation
- » Configuration 4 and 9: ARINC 791 Ka-Band SATCOM System Deactivation
- » Configuration 5 and 10: ARINC 791 Ka-Band SATCOM System De-modification
- » Configuration 6: Honeywell ARINC 791 Ka-Band SATCOM Outside Aircraft Equipment and Structural Provisions Installation
- » Configuration 7: Honeywell ARINC 791 Ka-Band SATCOM System Installation and Activation

the Fuselage Antenna Control Module (FACM) passed through a rotary slip ring across the azimuth axis. No slip ring is required for the elevation axis.

Ka-Band Radio Frequency Unit (KRFU): The KRFU contains a Block up Converter (BUC) that converts the transmit RF frequencies (950 1950 Megahertz (MHz)) to Ka Band frequencies. It also contains a High Power Amplifier (HPA) to increase the signal strength for the FMA and a Block down Converter (BDC) that converts the received Ka Band frequencies back to RF frequencies (950 2150 MHz). The KRFU unit is cooled via conduction through the KRFU baseplate on the ARINC 791 adapter plate and a thermal pad.

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PRODUCT DESCRIPTION (CONT'D.)

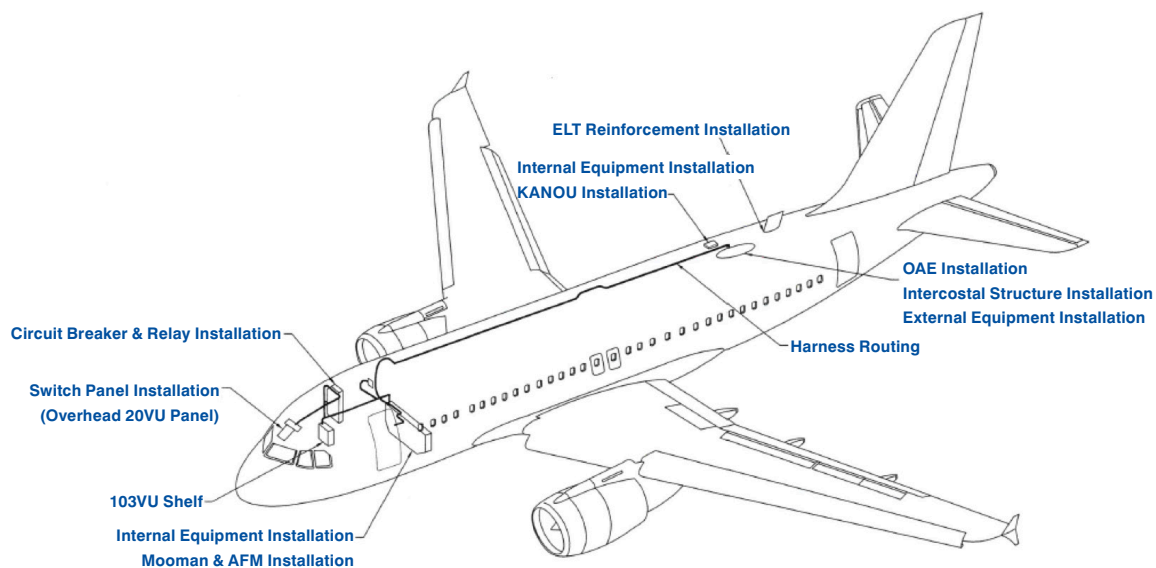
Modem Manager (MODMAN): The MODMAN is responsible for providing the user interfaces, controlling the Aircraft Earth Station (AES), and converts waveforms from digital to analog format. The Ethernet interfaces can be configured to provide three separate domains, Passenger Owned Devices Domain (PODD), Passenger Information & Entertainment Services Domain (PIESD) or Airline Information Services Domain (AISD) per the ARINC 791 standard, or it may be configured to provide a single user domain. The user data and control data planes may be configured to be on the same or different Ethernet ports to allow the user to connect one or more Ethernet lines to the MODMAN. The control plane provides status and control primitives via Simple Network Management Protocol (SNMP) v3 as detailed in ARINC 791. The user plane access is configurable to terminate the Inmarsat trunk at the terminal, provide an IP pipe, or extend the trunk outside of the terminal using Virtual Local Area Network (VLAN).

Airplane Personality Module (APM): The APM contains a memory device and stores aircraft and customer specific information for the equipment. The APM eliminates the need to reconfigure the MODMAN if replacement was required.

MECHANICAL CHANGES

- » Configuration 1 and 6: FMA, KRFU, wired adapter plate, radome fairing, radome and structural provisions consisting of doublers, intercostals, and fittings located between frame stations 58-62 and stringers S-4L to S-4R.
- » Configuration 2 and 7: KANDU and structural provisions located between frame stations 61-62 and stringers S-2R to S-4R. MODMAN, APU and two 4 MCU trays located in the 80VU rack in the Avionics bay. A switch panel located in the 20VU overhead panel in the flight deck.
- » Configuration 3 and 8: Internal ELT antenna provisions consisting of intercostals, doubler, and brackets for the existing ELT antenna.
- » Configuration 4 and 9: Removal of the KANDU, MODMAN, APM and switch panel.
- » Configuration 5 and 10: Removal of all LRUs, system components, structural provisions, etc. Aircraft is returned to original condition; blanking plates are provided to cover any remaining openings.

CONFIGURATION 1, 2 AND 3; 100-102466 SHEET 1



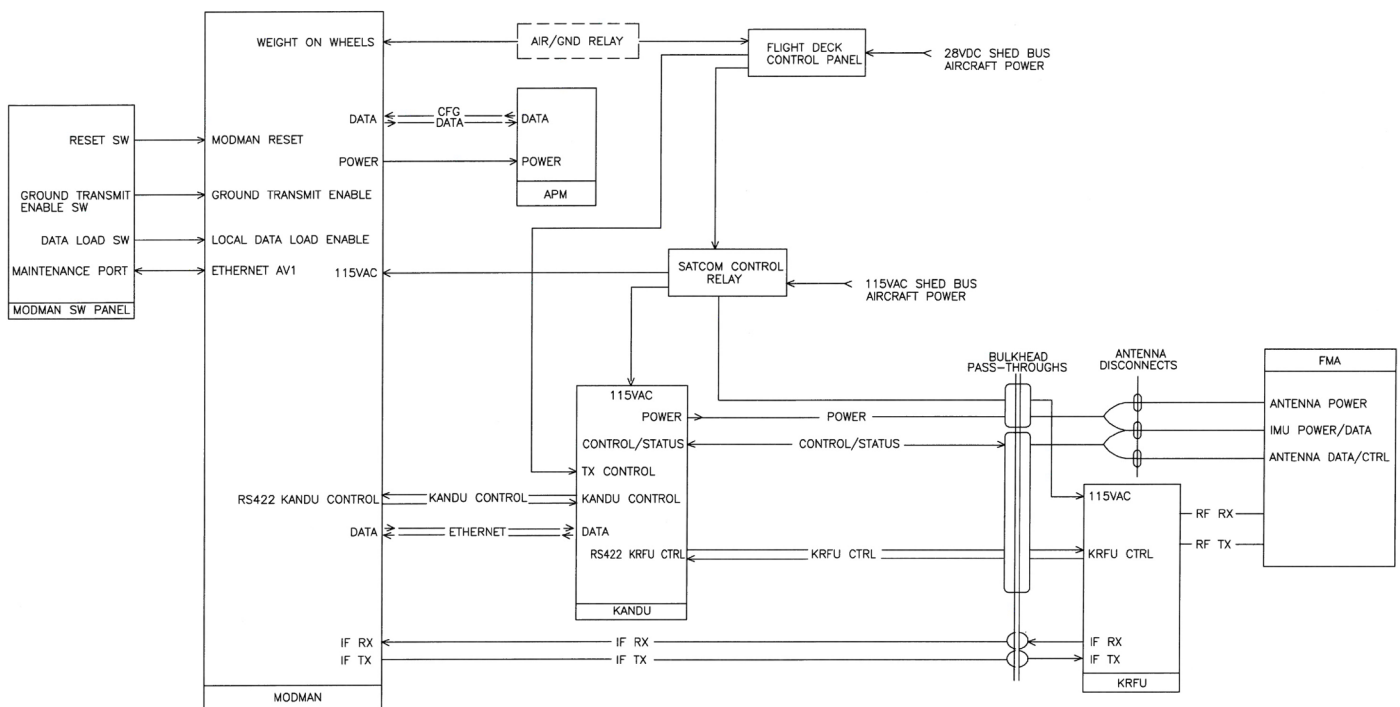
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ELECTRICAL CHANGES

- » Configuration 1 and 6: Pass-thru locations for connectors located between frame stations 60-61 and stringers S-3L to S-3R.
- » Configuration 2 and 7: New circuit breakers located in the 121VU panel in the Avionics compartment. New wire harnesses between the SATCOM system components. New control relays located in the 188VU relay panel.
- » Configuration 3 and 8: None
- » Configuration 4 and 9: All wiring capped and stowed at the system component locations. Circuit breaker and relay wiring unterminated and capped and stowed behind the circuit breaker and relay panels.
- » Configuration 5 and 10: All wiring removed, and aircraft is returned to original condition.

CONFIGURATION 2; 800-104041 SHEET 1



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