

SAC USER MANUAL

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Proprietary information

Any use of the following information being confidential and proprietary to Lufthansa Technik AG is prohibited unless approved in writing.

Title

SAC – Small Aircraft CMS/IFE User Manual

Applicability**Part Number(s)**

SAC0522-001-001

Nomenclature

Small Aircraft CMS/IFE

Prepared**checked****approved**

(Date / Name / Signature)

(Date / Name / Signature)

(Date / Name / Signature)

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Revision History

Rev/Issue	Description	Rev/Issue Date
01	Initial Draft	31 July 2024
02	Updating images	02 Aug 2024
03	Updating chapter 2	29 Oct 2024

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1. Introduction

NOTICE:

This device complies with Part 15 of the FCC Rules and contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS standard(s).

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and***
- (2) this device must accept any interference received, including interference that may cause undesired operation.***

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et***
- (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.***

NOTICE:

Changes or modifications made to this equipment not expressly approved by Lufthansa Technik AG may void the FCC authorization to operate this equipment.

Radiofrequency radiation exposure Information:

The radiated output power of the device is far below the FCC radio frequency exposure limits. Nevertheless, the device should be used in such a manner that the potential for human contact during normal operation is minimized.

1.1. Product Description

The Cabin Electronics System covers the functionality required for the aircraft to provide means of Entertainment, Communication, Productivity and Cabin Management to passengers in the cabin. The Cabin Electronics System is both the Cabin Management System (CMS) and In-Flight Entertainment (IFE) system together.

The Cabin Electronics System provides following features::

- Master Cabin Control
- 3D Moving Map for flight information display.

- Cabin audio system that integrates Bluetooth streaming and the Passenger Address (PA) functionality.
- App-based Graphical User Interface (GUI) to control the Entertainment and Cabin Control functions.

1.2. Interfaces

Small Aircraft CMS and IFE (SAC) provides various interfaces to the aircraft systems including several Ethernet interfaces to connect to the nice™ entertainment, audio interface, USB interfaces, serial interfaces, ARINC, video output, discrete IOs, integrated WiFi and Bluetooth®.

SAC provides the following interfaces:

- J1 – power supply (D-Sub HD 17W2 Male)
- J2 - audio interface (Audio D-Sub HD 36W4 Female)
- J3 – ARINC, RS232, USB, RS485 (D-Sub HD 44 Female)
- J4 – SVL video, USB (D-Sub HD 15 Female)
- J5 - discrete I/O (D-Sub HD 44 Male)
- J7 – USB A
- J8 – USB C
- J61, J62, J63, J64 - Ethernet
- J91, J92, J93 – WiFi, BLE
- J10 – HD BaseT video

The following devices can be connected to SAC for a complete system:

- Speakers, headphones and audio inputs
- Lights controlled by RS485
- Serial video display
- HD base video display
- USB peripherals
- Optional units over ethernet

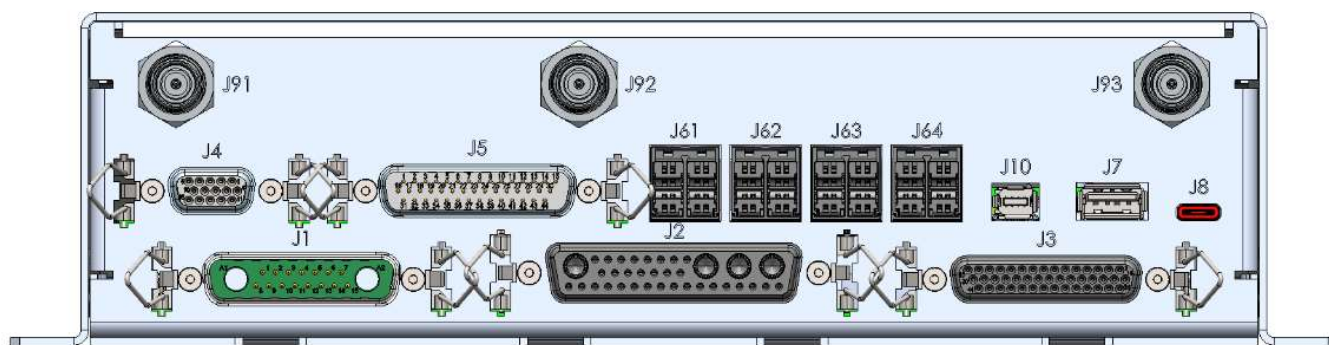


Figure 1 – SAC interfaces

1.3. Mechanical Description

The SAC has the following dimensions (refer to Figure 3; all dimensions in mm).

Length	180 mm
Width	280 mm
Height	70 mm



Figure 2 – led indicators

There are LEDs on the device front panel indicating:

- 1x Green Led => Power Ok / Marking = PWR
- 1x Red Led => Fault detection / Marking = FLT
- 1x Green Led => WIFI/BT Radio enabled / Marking = RF
- 1x Green Led => Power Audio Amplifier / Marking = AMP
- 4x Green Led => Link/ Activity Ethernet ports J61-J64
- 1x Green Led => HDBaseT Status



Figure 3 – SAC unit

1.4. Identification and Marking

Each SAC is marked with part number and serial number.

1.5. Accessories

Minimum setup:

a/ SAC requires external power supply providing stabilized 28V DC. A special power cable should be used with connector type 17W2 Pin female D-Sub.

b/ External antenna Satcom Direct TN2008-201 with three feeders 12" and TNC connectors.

c/ TERA to RJ45 ethernet cable.

2. Installation

As a UUT is installed professionally during the production of the aircraft in the middle of the cabin under the cabin aisle, during normal operation all passengers stay at least 20 cm from the antenna.

2.1. Prepare UUT:

a/ connect antenna to SAC (refer to Figure 4)

antenna PORT1 connect to SAC J91

antenna PORT2 connect to SAC J92

antenna PORT3 connect to SAC J93

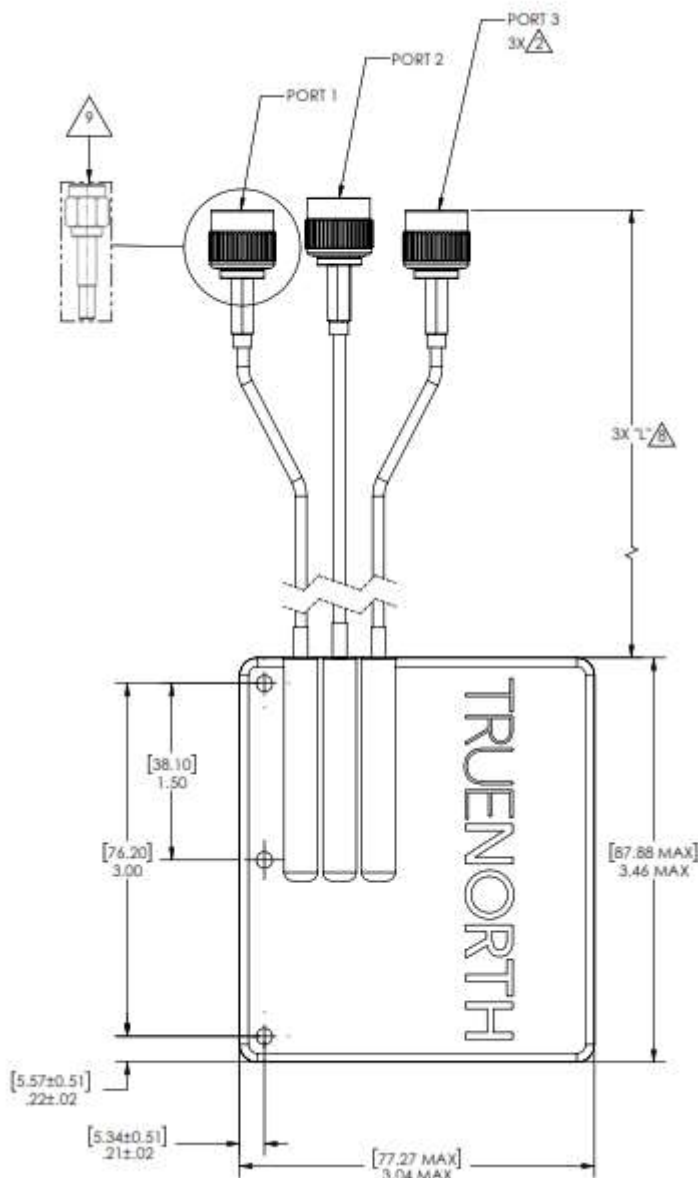


Figure 4 – antenna configuration

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b/ connect TERA cable to port J61, the other end to laptop with ethernet port,

c/ connect power cable to connector J1, the other end to power supply – there is no power switch, the unit will instantly start operation. Power supply should provide 28V DC and a minium current capacity 9A.

2.2. Connect to the unit

a/ Open a ssh terminal client on the laptop e.g. PUTTY

b/ Enter IP address 10.10.11.1, user: root, password: nice

2.3. When connected to SAC you can execute various commands as it runs Linux.

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