



 **Aeronautics and Space** > On-board Electronics

VCS

Voice Communications System

Voice communications management system (VoIP and analog) for air traffic control (ATC) of UAVs. Designed for civil and military air traffic applications, deployable in harsh environments. Used in UAVs such as EuroMALE.

Main advantages:

Centralized management of radio communication systems (V/UHF, HF, SATCOM radios, ATN VDL CPDLC Data Links, Tactical Data Links), intercom and telephony in UAVs

Customization of the HMI graphic interface of the operator consoles, with a high degree of ergonomics to offer optimized and customizable access

Robust audio for UAVs in hostile Operations Zones, with Electronic Warfare activity

Recording capacity of 4 TB (121.600 hours) to record the communications (radio, telephony, environment...) of the operator consoles, with noise suppression

Establishment of three security domains: NATO Secret + NATO Restricted + NATO Unclassified

TEMPEST safety certification, HW DO-254 DAL C, and SW DO-178C DAL C

VCS: Management of radio communications in UAVs

- It consists of an **aerial segment** located in the **UAV** platform and a **ground segment** located in the **ground station (GCS)**.
- **Uninterrupted communications management** thanks to duplicate **Audio Management Unit operations**, ensuring operations under fault conditions.
- Backbone **LAN 100 Base FX (fiber optic) and 100 Base TX (copper)**
- The VCS voice communications management system allows you to manage **HF, VHF, UHF, SATCOM radios, data links for air traffic control and tactical data links, telephony, intercommunications**.
- It allows the management of both analogue radios and **Software Defined Radios (SDR)**.
- The configuration parameters allow to control the radios, data links and telephony, through the management of the VCS system.
 - Access to the radios and data links is done through a software **customizable HMI interface** on the operator consoles.
 - The VCS system operator consoles allow **quick and intuitive configuration** of radio and data link parameters, such as frequency, channels, transmission power, Fixed Frequency / Frequency Hopping mode, waveforms, etc.
 - Through the VCS system, operators can manage the **EPM ECCM (HaveQuick, SATURN)** operating mode **for tactical radios** and configure their working parameters.
- Security is a fundamental part of tactical communications, especially when it comes to military operations. To do this, VCS can establish **three security domains: NATO Secret + NATO Restricted + NATO Unclassified**, separating and controlling voice flows based on the criticality of their content.
- It allows **to effectively record and archive all communications** between control tower and operators in GCS. These data can be used to reconstruct events in detail.



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