

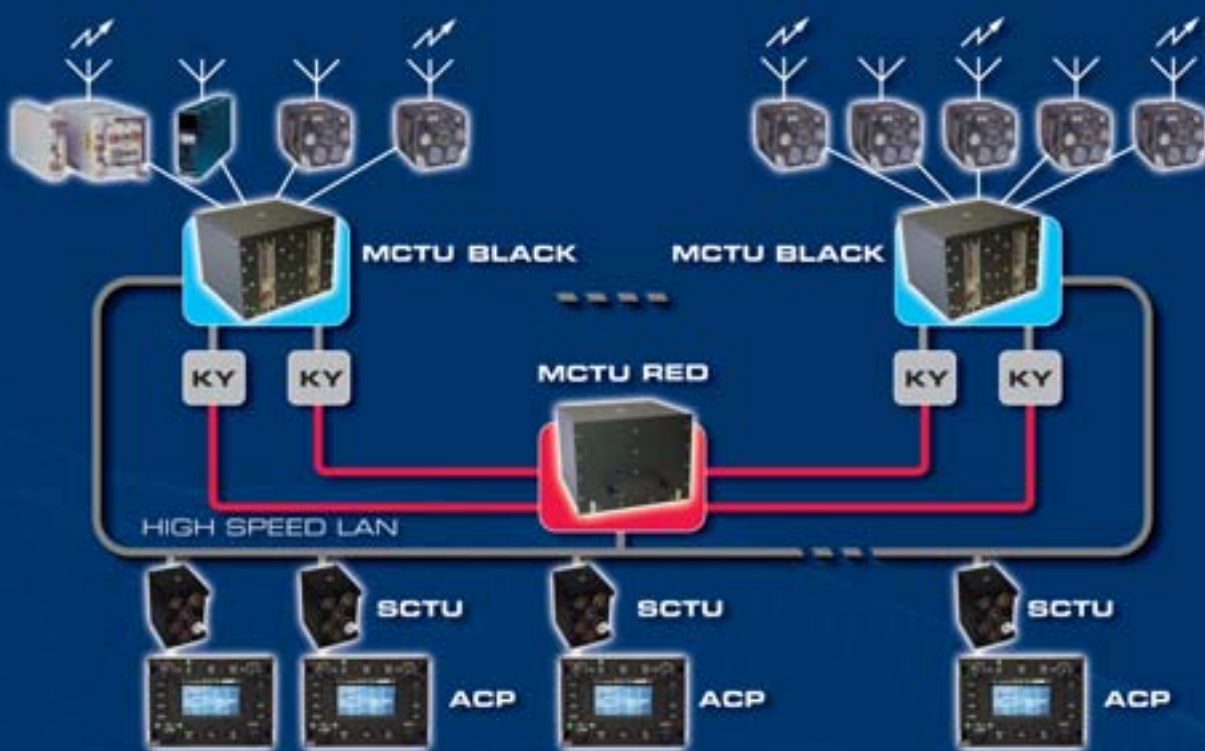


MACS

Multifunctional Airborne
Communication System

Scalable system for customised solutions

MACS is a state-of-the-art Inter Communication System meeting the operational communication requirements of today's and tomorrow's aircraft. Thanks to its modularity and distributed architecture the system can be scaled to form a cost effective solution for small to large airborne platforms.



State-of-the-art

- > Digital System
- > Based on IP technology
- > Crystal clear audio
- > Flexible
- > Open architecture
- > Modular
- > Scalable

Highly Integrated Functionality

- > Crypto switching
- > Radio relaying
- > PA function
- > Warning tone generation
- > Built-In Test
- > Light Weight
- > Low Power Consumption
- > In-mission reconfigurability

Secure and safe

- > TEMPEST
- > Red/black separation
- > Reliable
- > Graceful degradation
- > Emergency mode

State-of-the-art modular system



System configuration

Audio quality setting

Microphone configuration

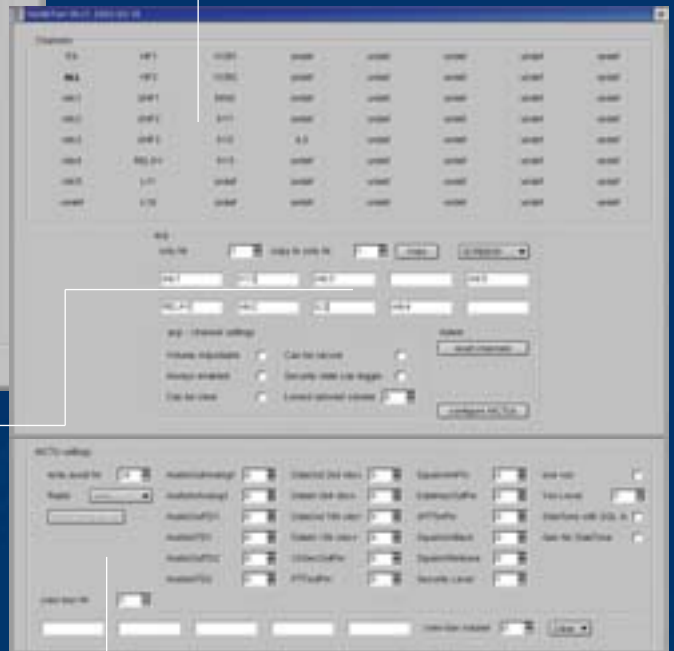


Volume configuration

Individual HMI Configuration

Security settings

Communication assets definition



Radio Interface Configuration

The MACS Configuration Tool (MCT) is a very powerful instrument to configure the complete ICS system:

System Parameters

- Nr Crewmember
- Nr LRUs
- Radios
- Intercoms

Performance Parameters

- Audio quality
- Redundancy
- Security

Mission Parameters

- Personalised HMI
- Accessibility



(*)

MCTU:

Multiple Channel Terminal Unit

Provides up to 32 of analog and 16 digital channels to interface with a broad range radios and encryption devices. Interfaces with up to 128 discrete lines used for radio signaling or alarm inputs. Connects to the high speed LAN that interconnects building blocks of the MACS and transports audio, data and control data throughout the system. Performs analog to digital and digital to analog conversion for all connected analog audio interfaces. Multiple single or double sized MCTUs can be used to fulfill various platforms sizes and requirements.



SCTU:

Single Channel Terminal Unit

Converts analog audio at each audio position into digital audio and puts it on the high speed LAN. Combines up to 99 audio sources simultaneously with individual volume control. One audio interface is provided supporting a headset boom microphone or a hand microphone. A second and a third interface for an observer and an oxygen mask are available. Interfaces with the ACP through a serial bus and passes the control data from the ACP onto the high speed LAN. Supports emergency communications: 2 emergency intercoms, emergency radio interface and critical alarms.



ACP:

Audio Control Panel

The Human Machine Interface of the system. The single screen with re-configurable menus allows simultaneous visualization of up to 15 audio sources. Provides full ICS control in emergency mode. Offers access to integrated system wide maintenance. Supports sunlight readability and compatibility with night vision goggles.

(*) double size shown

MACS

Multifunctional Airborne Communication System

GENERAL CHARACTERISTICS

- **Power requirements:**

28 VDC, MIL-STD-704E

- **Panel lighting:**

green, blue / white
Night Vision Green

- **Mechanical dimensions:**

- **MCTU:**

Width = 124 mm, height 193 mm, depth= 230 mm.
Weight: 2.70 kg.

- **SCTU:**

Width = 124 mm, height 193 mm, depth= 148 mm.
Weight: 2.60 kg.

- **ACP:**

Width = 124 (146) mm, height 105 mm, depth= 127 mm.
Weight: 0.80 kg.



KEY FEATURES:

- > Distributed architecture:
up to 25 SCTUs and 6 MCTUs
- > Graceful degradation:
automatically into emergency mode,
manually into hardwired mode
- > Broad range of analog radio interfaces,
receive only interface with either individual
or group volume control.
- > Tactical Data Link Switching:
Link 4, Link 11, Link 16
- > Crypto switching
- > Integrated built-in test, seamless LRU
replacement
- > High audio quality
- > Unlimited conference capabilities
- > Dial-up:
Point-to-point and multi-point conferences
with dial-tone, call waiting tone and busy
tones.
- > Individual volume control and master
volume control
- > Warning tone generation
- > Integrated PA function
- > Interface with Mission Systems via high
speed LAN
- > AFDX (Ethernet/IP) compatible

ENVIRONMENTAL CONDITIONS: RTCA DO-160D / MIL-STD-810E

- TEMPERATURE AND ALTITUDE
- HUMIDITY
- OPERATIONAL SHOCKS AND CRASH SAFETY
- VIBRATION
- EXPLOSION PROOFNESS
- POWER INPUT
- VOLTAGE SPIKE
- AUDIO FREQUENCY CONDUCTED SUSCEPTIBILITY
POWER INPUTS
- INDUCED SIGNAL SUSCEPTIBILITY
- RADIO FREQUENCY SUSCEPTIBILITY
- EMISSION OF RADIO FREQUENCY ENERGY
- LIGHTNING INDUCED TRANSIENT SUSCEPTIBILITY
- ELECTROSTATIC DISCHARGE
- TEMPEST: AMSG784 vol. 1

THALES

THALES Communications

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