STARCOM

Intercommunication Control Group

Mahindra TELEPHONICS

Telephonics Corporation's STARCOM audio Intercommunication System (ICS) is designed for secure communications to meet the diverse needs of airborne, shipborne, and ground-based

STARCOM is specifically designed to provide reliable intercommunications in high noise environments. It has gained widespread acceptance in both domestic and international markets with 27 different platform types incorporating STARCOM in numerous system configurations.

System Design

The STARCOM system design is based on an analog, distributed architecture which can accommodate both large and small configurations. All active electronics are incorporated into individual crew stations providing maximum operator control while eliminating the possibility of a system-wide failure that can be associated with a centralized system.

System Configuration

The STARCOM system consists of a Communication System Control (CSC) unit and an Audio Distribution Unit (ADU). The CSC unit is the heart of the system and provides individual on/off and volume control for radios and receive-only devices. Operators can communicate hands-free using STARCOM's Voice Operated Keying (VOX) interphone. The basic CSC controls five radios and an interphone communication.


CH-46 Sea Knight

The ADU interfaces all elements of the ICS and maintains crosstalk isolation performance of 100 dB. The ADU is a completely passive unit with no active circuitry and is extremely reliable with no single point of failure.

Navigation Receive Unit and Maintenance Station Unit

Two additional units, the Navigation Receive Unit (NRU) and the Maintenance Station Unit (MSU) located on the ICS only, add increased functionality and flexibility to the STARCOM system. The NRU provides up to six additional on/off and audio level controls for monitoring individual receivers such as radios, navigation equipment, Aircraft Survivability Equipment, Radar Warning Receiver, and jamming equipment. The unit is connected to one of the CSC's direct audio inputs and can be controlled by the master volume control knob. The NRU features six additional (three controlled and three uncontrolled) direct audio inputs for aural warnings and also provides a CALL feature.

The MSU is a derivative of the CSC that contains the headset driver and the microphone amplifier circuits and is designed to provide interphone transmit/receive capabilities and aural warnings. Optional configurations provide additional functions.

Main Features

Accommodates up to 5 Receiver/Transmitters (R/Ts), 6 Navigation Receivers, 2 ICS channels, and controlled/uncontrolled audio warning signals.

- External switching can provide alternate connection to additional R/Ts and receive channels
- Radio and Navigation receive channels that can be individually monitored and level controlled
- Selected R/T channels are automatically monitored
- Improved audio intelligibility due to individual volume controls, increased volume range, better audio signal-to-noise ratio, and reduced crosstalk

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Main Features (Cont.)

- Main and private interphone channels
- Remote radio transmit selection available for Hands on Throttle-and-Stick or Hands on Collective and Stick operations
- Remote radio transmit selection indication provided for interface with Control Display Unit/Flight Management Systems
- Hands-free operation via VOX that performs in high noise environments
- An adjustable threshold allows for an optional VOX setting as determined by ambient acoustic noise. The quieter headset reduces crew fatigue on long missions.
- Provides communications with isolation between radio transmit output channels and other signals greater than 120 dB
- Available MIL-L-85762A Night Vision Goggle compatible or standard edge-lit front panels
- Adapters available for direct C-6533 replacement

Technical Specifications

- Power Requirements
  - Unit: 28 Volts @ 230 mA
  - Panel: 115 Volts/400 Hz @ 10 mA; or +28 Volts @ 230 mA; or 5 Volts AC/DC @ 1.0 A
- Panel Lighting
  - Aviation red, green, white, blue/white
  - NVIS green per MIL-L-85762A
- Signal Levels
  - COM Radios: 2.75 Vrms, nominal receive levels; 0.39 Vrms, nominal transmit levels
  - NAV Receivers: 2.75 Vrms, nominal receive levels
  - Direct: 2.75 Vrms, nominal receive levels
  - Interphone: 0.39 Vrms, nominal receive and transmit levels
- Impedances
  - Receive/Transmit/Interphone: 150 ohms
  - Microphone: 5 ohms Dynamic (M-87 or equivalent); 150 ohms Electret (M-170 or equivalent)
  - Headphones: 8 ohms
- Headphone Nominal Max Drive Levels
  - 1.25 Vrms, 1.50 Vrms or 2.65 Vrms
- Control Functions
  - Key Lines: Conducts up to 1 amp to ground when keyed
  - Main Volume: 0 to 40 dB
  - PTT Lines: Radio, ICS, PVT
  - Status Output: For remote display
  - Radio Monitor: Individualized to 24 dB
  - NAV: To 24 dB (1 control/3 controls)
  - Direct 2-uncontrolled, 2-master volume only
  - Remote Select: Sequential - Up/down; Dedicated 5 way switch
- Environmental
  - MIL-STD-810
  - EMI: MIL-STD-461
- Reliability
  - Mean Time Before Failure: 10,000 hours rotary-wing, 20,000 hours fixed-wing

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