LEONARDO ELECTRONICS

CM107E-M
MULTI-DOMAIN VOICE/DATA ENCRYPTOR

CM107E-M is a programmable high-grade encryptor for protecting voice and data communications according to the operational and technical requirements of the NATO Crypto Modernization Program. CM107E family is market-acknowledged for airborne, land and naval applications and can work in narrowband or wideband modes while in connection with either wired lines or radios supporting HF or V/UHF or SatCom waveforms, as, for instance, SATURN and MIL-STD-188-110. As such, the unit holds potential to replace in the field the former generation of ANDVT/VINSON crypto devices.

The CM107E-M unit is compliant with both the Secure Tactical Communications Interoperability Standard (STaC-IS) in accordance with the NATO STANAG 5068 and the Tactical Secure Voice Cryptographic Interoperability Specifications (TSVCIS) standards. This enhances the multi-national/multi-vendor interoperability and make CM107E-M capable of supporting a wider set of operative modes. CM107E-M has a standard fill connector for keys loading by means of any electronic key fill device compliant with EKMS-308F. CM107E-M is the modernized version of the field-proven device CM107E retaining its form, fit, connectors, pin out and functions: this allows the plug and play replacement of currently used CM107E. The unit relies on a powerful computing architecture enabling an easy incremental update for preserving Customer' investments.

KEY FEATURES

- Compliant with NATO Crypto Modernization Program
- Ruggedized for airborne,land and naval-specific
- Interoperable via STaC-IS and TSVCIS standards
- EKMS 308F Data Transfer Device Keyfill compliant
- NARROWBAND MODES
    - HF band: Single-Tone MIL-STD-188-110D
        Voice: 2400 bps MELPe
        Data: Sync/Async MIL-STD-188-114
    - Wireline: unbalanced MIL-STD-188-114
        Voice: 2400 bps MELPe
        Data: Sync/Async MIL-STD-188-114
- WIDEBAND MODES : unbalanced MIL-STD-188-114
        Voice: 2400 bps or Variable Data Rate MELPe
        Digital Data: Sync/Async MIL-STD-188-114
        Analog Data: sampled/encoded as MELPe voice
- Fit & Form with former CM107E family units
- Programmed by the CP107E Remote Control Unit
- Type Approval up to NATO Secret is pending
- Support new functionalities by incremental updates

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TECHNICAL SPECIFICATION

GENERAL

- Multi-domain programmable encryptor
- Crypto Modernization Program compliant
- Interoperable with STaC-IS (SCIP-214.6 specification of STANAG 5068) and TSVCIS standards
- Secure communications on Narrowband and Wideband transmission channels
- Night Vision Imaging System display with front backlight (5V/28V)
- Ease of configuration in the bay through the CP107E Remote Multi-Units Controller
- Plug & Play replacement of the former in-field CM107E family units
- Compliant to DO-178 Level D and DO-254 standards

NARROWBAND MODE

- Baseband — Digital unbalanced MIL-STD-188-114 interface
- Embedded HF Modem — Single Tone MIL-STD-188-110D Par. 5.3
- Vocoder — 2400 bps MELPe (STANAG 4591)
- Plaintext sync/async data — 75, 150, 300, 600, 1200, 2400, 4800, 9600 bps

WIDEBAND MODE

- Baseband — Digital unbalanced MIL-STD-188-114 interface
- Vocoder — 2400 bps MELPe (STANAG 4591) orVariable Data Rate MELPe
- Plaintext sync/async data — 8, 12, 16 Kbps

CERTIFICATIONS

- Pending Type Approval up to NATO Secret
- Pending TEMPEST Certification according to SDIP 27 Level A

INTERFACES

- Radio Connector — Analog Unbalanced (0dBm): 150, 300,600 Ω user selectable impedance; Digital Data MIL-STD-188-114 unbalanced
- Audio/Data Connector — Analog Unbal/Bal (0dBm): 150, 300, 600 Ω user selectable impedance; DigitalData MIL-STD-188-114 unbalanced
- Audio Connector — One headset interface (analog, PTT)
- Two DS-101 Keyfill port; CIK port

COMSEC

- Compliant with any EKMS 308F DTD Keyfill
- DS-101 for key-fill with >100 keys per crypto context
- Anti-tampering functions
- Crypto Ignition Key (CIK): CM107E-M is declassified to CCI when CIK is removed
- Manual and Over-The-Air Rekeying

MANAGEMENT

- Local control — Four buttons keypad/display on the front panel "Preloaded Configurations" Switch
- Remote control Unit — CP107E (RS485 bus)
- Auto-diagnostics — Power-on self-test, On-line BIT

POWER SUPPLY

- Supply Voltage — 28VDC nominal
- Power consumption — 25W

SIZE AND WEIGHT

- Size — 120.5 x 126.8 x 120mm (H x W x D)
- Weight — <3 Kg
- Color — Matt Black (FS 37038) i.a.w. FED-STD-595 (A)

ENVIRONMENTAL

- In compliance with MIL-STD-810G
- Operating — -40°C to +55°C (Max short Temperature term operating temp. +71°C)
- Storage Temperature — -54°C to +71°C

EMI/EMC

- According to MIL-STD-461E

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