

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 MIL-STD-188-114
 - Wireline: unbalanced MIL-STD-188-114
 - Voice: 2400 bps MELPe
 - Data: Sync MIL-STD-188-114
- **WIDEBAND MODES : unbalanced MIL-STD-188-114**
 - Voice: 2400 bps or Variable Data Rate MELPe
 - Digital Data: Sync MIL-STD-188-114
 - Analog Data: sampled/encoded as MELPe voice
- Fit & Form with former CM107E family units
- Type Approval up to NATO Secret
- Support new functionalities by incremental updates

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 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) or Variable Data Rate MELPe
- Plaintext sync/async data 8, 12, 16 Kbps

CERTIFICATIONS

- Designed to COMSEC up to NATO Secret
- Deigned for 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 temperature -40 °C to +55 °C
(Max short term operating temp. +71°C)
- Storage Temperature -54 °C to +71 °C

EMI/EMC

- According to MIL-STD-461G

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