

HALCYON HIGH-SPEED LINK CRYPTOGRAPHIC EQUIPMENT

Designed by the UK's top crypto specialists, responsible for over 50% of the UK HG market, HALCYON is the next generation of high-grade data link encryptor that will provide end-to-end protection of traffic up to and including TOP SECRET UK EYES.

Using the very latest cryptographic algorithms developed by CESG, which offer significant future-proofing, the device is compact and rugged and facilitates secure communications in duplex mode over a wide range of data rates from 32kbps up to 155Mbps. It will inter-operate with a variety of standard communications interfaces including X21, V11, G.703 (E1 and E3), G.707 (STM-1/OC-3).

The unit can be deployed in both tactical and strategic environments and has been designed for 19" rack mounting (with removable flanges).

Key management

A private key variable system is utilised with two types of key variable:

- > Red Key Encryption Keys (KEKs)
- > Black Traffic Encryption Keys (TEKs)

Up to 35 TEKs can be stored within the unit. In the event of a 'power down', keys are retained within the crypto for a period of 2-hours.

EKMS Red and Black Intelligent Fill Interfaces (EKMS 308) are implemented in order to accommodate key variable fill operations. It also interfaces to S300, S200 and S227 (GKM) compliant devices. Black TEKs can also be downloaded over the management system.



Equipment management

The unit can be fully managed in three ways:

- > Front panel controls
- > Locally attached VT100 terminal
- > Remotely from a Network Management System (NMS)

Interaction with the NMS is via SNMPv3 (with SHA-96) over an Ethernet link to provide full management and configuration capability. An audit log of security related events is maintained and can be uploaded to the NMS. Configuration data and audit logs are retained within the unit even if the device is disconnected from the network and powered down.

Operation in a tactical communications environment

The device is capable of crypto synchronisation when the link is suffering very high burst errors or high random Bit Error Rates (BER) of up to 2×10^{-2} . The synchronisation scheme has also been designed to operate over double satellite hops. The unit recovers automatically after power outages and communications channel failures to a fully operational state.

Procurement options

HALCYON can be supplied on a managed service contract with agreed service level agreements, or as an outright purchase.

TECHNICAL CHARACTERISTICS

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| Certification | CESG High Grade (Top Secret) Standard | Maintainability | Modular design for ease of maintenance |
| TEMPEST | Certification to SDIP 27 Level A (AMSG 720B) | | Extensive Built in Test (BIT) 30 minute 1st line Mean Active Repair Time (MART) |
| EMC | | | 2-hour Mean Time To Repair (MTTR) |
| | Military | DEF STAN 59-41 Land Class A | |
| | Civil | 89/336/EEC | Physical Form |
| NBC | DEF STAN 08-4 (TREE and EMP) | Width | 483 mm |
| Safety | Compliant to BS EN 60950 CE marking to 93/68/EEC | Depth | 563 mm |
| | | Height | 44 mm (1U) |
| Environmental | | Weight | 7kg |
| | Climatic | DEF STAN 00-35 A2, B1 and C2 | Power |
| | Operating | -40 deg C to + 55 deg C | Integral AC PSU module taking 115/230V 50/60 Hz, Single Phase |
| | Storage | -40 deg C to + 55 deg C | 20W to 40W dissipation |
| | Transportation | DEF STAN 00-35 'Wheeled Vehicles' | (dependant on bit rate) 2-hour backup |
| Reliability | 20,000 hours in a benign military environment at 25 deg C | | |

Typical deployment scenario

