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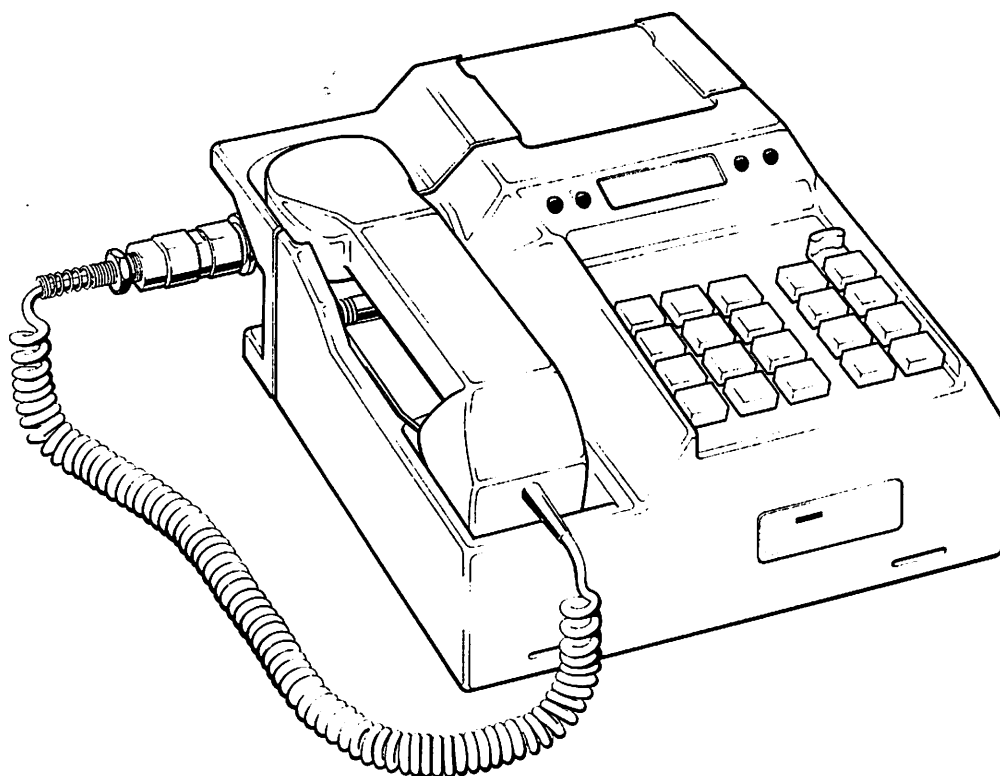
**Provisional information**

# SPENDEX 50

## **TACTICAL SECURE VOICE TERMINAL TYPE UA 8246/00**

SPENDEX 50 is a stand-alone tactical wideband secure voice terminal designed for the high-grade secure communication of speech and either digital or analogue data.

The terminal is of a compact, rugged design for use in military installations.



SPENDEX 50 operates at 16 or 32 kbit/sec and is intended for use in tactical communication nets conforming to EUROCOM standards.



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**APPLICATIONS**

The SPENDEX 50 terminal enables a subscriber to set up an end-to-end automatic connection for secure communications on a digital basis (using the Saville cryptographic algorithm) with any other SPENDEX 50 subscriber or any other compatible apparatus in the system. The terminal can also be used as an automatic telephone set for plain-language communication.

SPENDEX 50 is capable of processing the following types of signal:

- analogue speech signals in the band between 80 and 3400Hz, using 16 or 32kbit/sec delta modulation
- analogue data in the band between 300 and 3400Hz, using delta modulation
- synchronous digital data with rates of 2.4 and 16 kbit/sec
- asynchronous digital data with rates up to 2400 baud.

The terminal is a rugged, compact unit designed for vertical or horizontal installation in military trucks or in wheeled or tracked armoured vehicles.

SPENDEX 50 is suitable for use in extreme conditions because of its simple operating controls and its ability to withstand environmental conditions as defined in DEF-STAN-07-55.

**KEY VARIABLES**

For secure crypto traffic, the terminal can communicate on the basis of the following key variables:

**Net key variables**

Up to 18 sets of commonly-held net key variables can be loaded into each terminal for end-to-end or conferencing communications using Saville logic. The net key variables can be updated at the terminal by the user.

Net key variables can be loaded into the memory either by means of a fill-gun or by remote keying from another station via the transmission line.

**Key Cube key variables**

For up to 2000 subscribers in a SPENDEX 50 network, the terminal can store KC key-variables according to the Key Cube principle. These variables are selected automatically between the calling subscribers (end-to-end only), without operator intervention and without Key Distribution Centres (KDCs). They are loaded with the aid of a special "crypto key loader" in a low-frequency rollover replacement schedule.

Both net and KC key variables are protected by a zeroise key (stored in the terminal) and by a Crypto Ignition Key (CIK) which provides additional physical security; both must be present before the terminal can be loaded or a secure phone call can be made.

**INTERFACES**

**Line** SPENDEX 50 can be connected to a digital multiplexer by means of 2-core field telephone cable WD1/TT, provided that the length is less than 2.4km and the resistance does not exceed 400 ohms.

The electrical parameters conform to EUROCOM D/I, paragraph ID4. Signalling for the connection build-up between the terminal and the switch, and between terminals, is in digital code (CPC signalling) as defined in EUROCOM D/I.

**Power** Supply 20 to 32 Vdc.

The equipment will tolerate:

- maximum supply voltage of 40V for one second (max.)
- power supply transients up to 250V (max. pulse width 5µsec, max. repetition frequency 1Hz)
- ripple: 1V (max) p/p from 10 to 3000Hz.

The equipment cannot be damaged by reversing the supply polarity.

**Peripherals**

The digital-terminal interface complies with CCITT V24. The signals are compatible with CCITT V10, V11, V28 and MIL-STD-188C.

The analogue-peripheral interface complies with EUROCOM D/I Section IA8, connection points A and B.

A recorder connection is incorporated to facilitate the recording of all speech inputs and outputs between 300 and 3400Hz and all tones.

**Fill gun/key transfer device** The interface parameters conform to the requirements of CSESD 11G.

**Earthing** The unit should be connected to an earth point as specified in AMSG 719B.

**COMPOSITION**

A complete SPENDEX 50 installation comprises:

- SPENDEX 50 unit
- CIK (Classification module)
- Handset
- Supply cable
- Transport cover

## ENVIRONMENTAL DATA

## Mechanical/climatic

When correctly installed, or in its transport packing (if supplied), SPENDEX 50 will withstand the following (in accordance with DEF-STAN 07-55):

- (a) Non-operational
- ambient temperatures: -40 to +70°C
  - atmospheric pressure: 200 to 800mm Hg
  - relative humidity: 95% maximum
  - shock and vibration associated with transport in wheeled military vehicles (and tracked vehicles provided that the equipment is suitably shock-mounted).
- (b) Operational
- ambient temperatures: -20 to +55°C
  - atmospheric pressure: differences associated with temperature changes
  - relative humidity: 95% maximum
  - direct solar radiation

## EM conditions

SPENDEX 50 is not affected by EMP, lightning and other EM phenomena. The equipment meets the EM requirements of MIL-STD-461B.

The emitted radiation (TEMPEST) of SPENDEX 50 complies with the requirements of AMSG 720A.

## DIMENSIONS AND WEIGHT

- (a) Dimensions
- SPENDEX 50 unit only: 225mm(w) x 275mm(d) x 125mm(h)
- Unit plus cover: 255mm(w) x 295mm(d) x 175mm(h)
- (b) Weight
- SPENDEX 50 unit only: 5 kg approx.
- Complete installation: 7 kg approx.