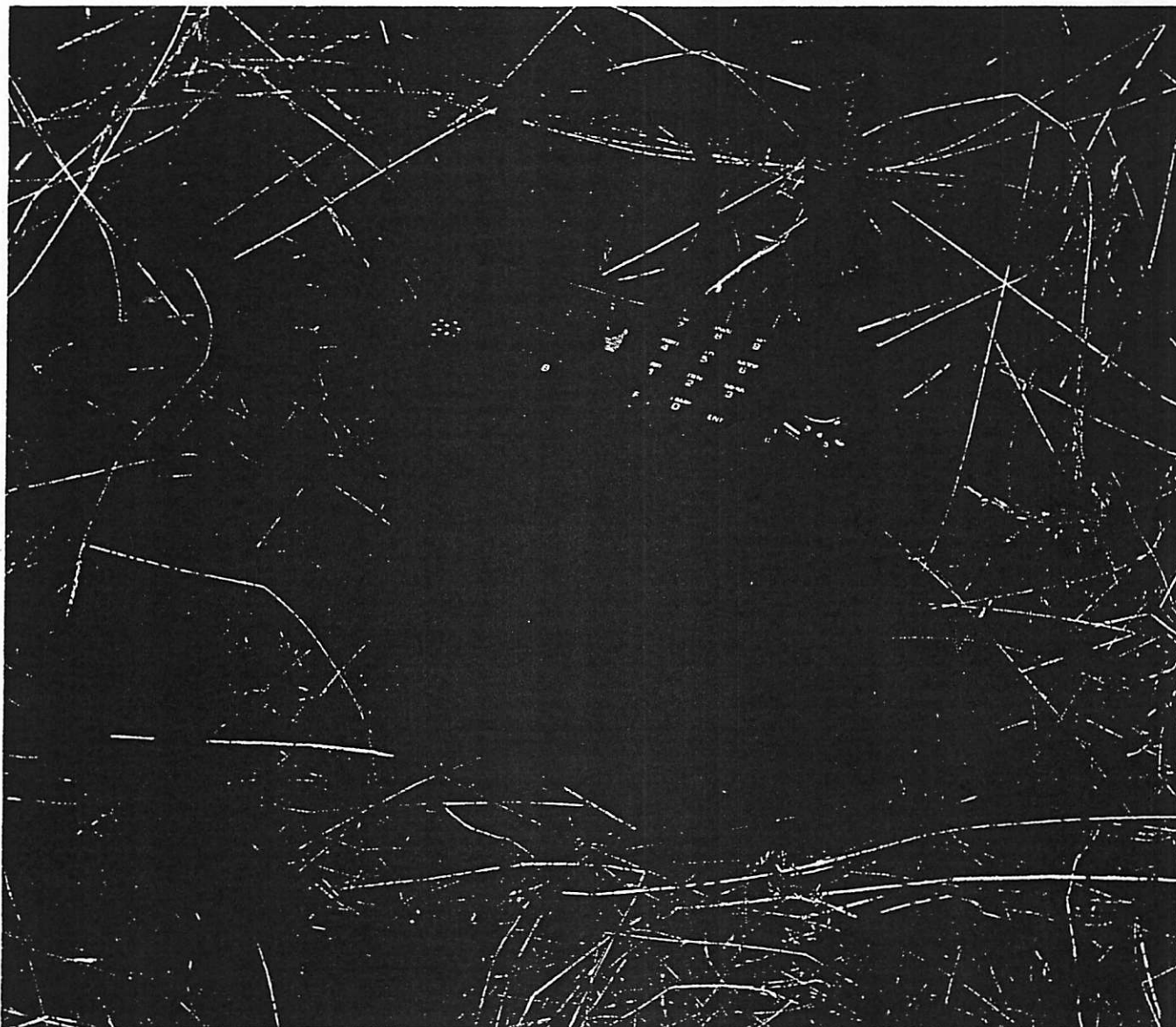




SPIDER

Signaal portable infantry digitally encrypted radio



OPERATIONAL FEATURES

SPIDER is a state-of-the-art VHF-FM man-pack radio featuring some unique qualities. It offers both voice and data communication with selective calling and integrated crypto facilities. The set is user friendly and operation is made easy by a large liquid crystal display (LCD), a simplified key-board with a maximum of two functions per key, and one rotary switch. The display supports 13 functions. Hands-free operation is possible with a special chest-pad containing a telemicrophone and control switches. Both voice and data communication can be secured by full encryption in an optional encryption unit, to be integrated with the set. The encryption codes can be entered via

the set's key-board or using a separate quick-action fill-gun. Enemy detection of the transmissions can be avoided by using the minimum possible transmitting power. Transmitting power is selectable in 3 levels. This also extends the autonomy of the set. Under difficult conditions of range or interference extra burn-through power (5W) is available. The encryption unit also supports selective calling, the transmission of data and of up to 99 pre-coded numerical messages. These messages are transmitted from the key-board and shown on the display. SPIDER is compatible with all current VHF-FM radios including those with tone-modulation for squelch purposes. The set is

primarily a lightweight manpack but can be used in vehicles with a vehicle mounting, power supply adapter and power booster.

MAIN CHARACTERISTICS

- Wide frequency range (30 - 108 MHz)
- Lightweight
- Microprocessor control
- Simple control key-board and rotary switch
- BITE
- The option combines:
 - Highly secure integrated crypto option
 - Selective call facilities
 - 99-numerical messages transmission/reception

FUNCTIONAL ASPECTS

The basic configuration comprises an analogue FM transmitter and receiver. The set can be powered by a rechargeable NiCd battery, a high-capacity lithium battery, or dry batteries. Frequency setting is microprocessor-controlled and digitally selected with the key-board. The selected frequency or the numerical messages and 11 other functions will be shown on the display, e.g. type of traffic, selected power output. The antenna is a standard PRC-25 type. Two connectors are available for the connection of the handset, headset, remote-control chest pad, message exchange device (MED) or crypto fill-gun.

Accessories

Standard : Telemicrophone handset, Antenna PRC-25, Carrying harness
 Optional : Crypto unit (to be integrated with set, increasing its overall depth by 14 mm)
 Crypto fill-gun,
 Vehicle mounting,
 Chest-pad for hands-free operation
 Long-range antenna, Short-'jungle'-antenna,
 Handset with preset channel selector and volume control

TECHNICAL DATA

General

Frequency range : 30 - 108 MHz
 Channel spacing : 25 kHz
 Frequency accuracy : ± 5 ppm
 Modulation 300-3400 Hz : analogue: FM
 16 kb/s : digital : FSK
 Power supply : 12 VDC nominal
 Fault location : BITE
 Number of channels : 3120
 Preset channels : 8 + 1
 MTTR : less than 15 min.
 MTBF : 5600 hrs

Transmitter

RF output power : selectable: 2 W, 200 mW, 20 mW
 5 W burn-through
 Frequency deviation : 6.5 kHz
 Squelch-tone modulation : 150 Hz
 deviation : 1.6 kHz
 Protection : Transmitter can be short-circuited or not terminated

Receiver

Sensitivity : -116 dBm
 Image suppression : 60 dB
 Adjacent channel suppression : 60 dB
 IF suppression : 100 dB
 Blocking level at 10% from carrier : -5 dBm
 Audio output power : 2 Veff in 500 ohm

Crypto/data unit (option)

Encrypted voice : delta codings 16 kb/s
 Encrypted low-speed data : 1200 b/s
 High-speed data : 16 kb/s

ENVIRONMENTAL CONDITIONS

Temperature range : operational -20° to +65°C
 storage -40° to +85°C
 Mechanical : compliant with all relevant clauses of the British DEF-STAN 07-55 specification
 (vibration, bump, shock, drop, toppling, watertightness, tropical life)

DIMENSIONS AND WEIGHTS

	Width (mm)	Height (mm)	Depth (mm)	Weight (kg)
Basic configuration	236	175	66	4*
With cryptodata unit	236	175	80	4.4*

* including batteries and standard accessories

POWER REQUIREMENTS

Supply voltage : 12 VDC
 Batteries : NiCd rechargeable
 Lithium high capacity
 10 dry batteries R14
 Supply from vehicle : 24 VDC
 12 VDC (stabilised)
 Battery autonomy : 10 hrs. at 10% transmit time (2 W) and 90% receive time.
 Expendable through transmitter output power reduction.

ASSOCIATED EQUIPMENT

- HF-VHF combat net radio equipment (UNICOM)
- Message exchange device (MED)
- Radio remote control system (GRA-3686)
- Two wire audio system (SOTAS)

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