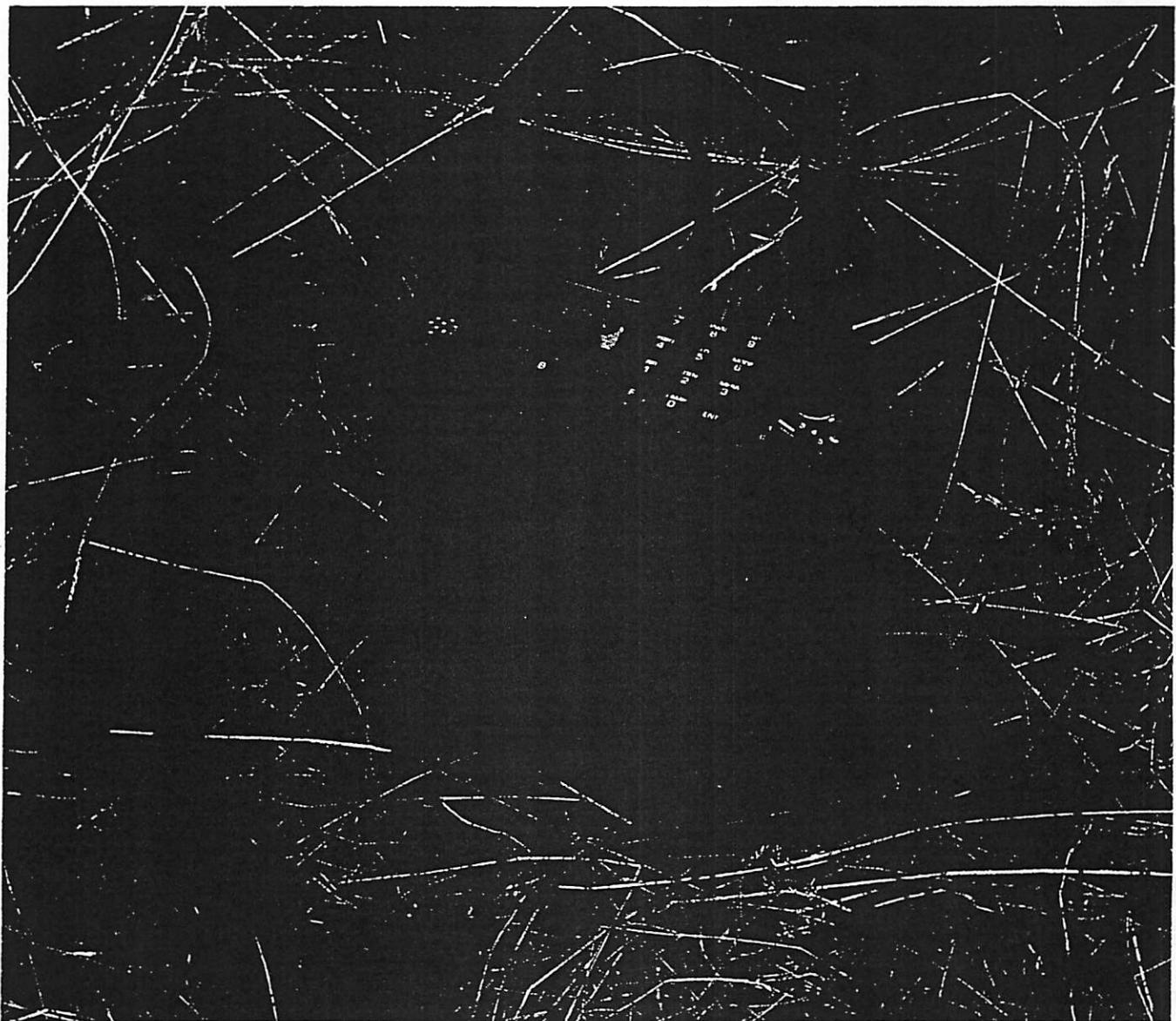




## SPIDER

### Signaal portable infantry digitally encrypted radio



#### OPERATIONAL FEATURES

SPIDER is a state-of-the-art VHF-FM manpack 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 :  $\pm 5$  ppm  
 Modulation 300-3400 Hz : analogue: FM  
                           digital : FSK  
                           16 kb/s  
 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 : 65 kHz  
 Squelch-tone modulation deviation : 150 Hz  
 Protection : 1.6 kHz  
                           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 (vibration, bump, shock, drop, toppling, watertightness, tropical life) : compliant with all relevant clauses of the British DEF-STAN 07-55 specification

## DIMENSIONS AND WEIGHTS

	Width (mm)	Height (mm)	Depth (mm)	Weight (kg)
Basic configuration	236	175	66	4*
With crypto/data 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)

