



VHF HANDHELD RADIOS TRC 5100



STE
SAPURA THALES Electronics



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Operational Use

Tactical Military Communications, Site Surveillance, Special Forces. Used as:

- Walkie-talkie with built-in microphone and speaker.
- Handsfree radio with external headset.
- Handphone with external handset.

- TRC 5101 : ANALOG VOICE
- TRC 5102 : DIGITAL VOICE AND DATA CIPHERED
- TRC 5103 : VOICE AND DATA

Product Description

Radio performances

- Full VHF frequency range: 30 MHz to 88 MHz.
- More than 2000 frequencies.
- 100 programmable channels.
- High sensitivity and jammers rejection.
- Powerful: 2 W typical.

Security

- Protected initial data loading.
- Protected communication in analog mode.
- Digital and ciphered communication in Digital mode.

Light

- Less than 600 g (without battery).

Reliable

- Advanced analog and digital technology.

Robust

- For battlefield use, in extremely severe conditions.
- Fully compliant to international MIL STD 810 E and MIL STD 461 / 462D.

Easy to maintain

- Powerful built-in-tests for operational and intermediate level maintenance.
- Interchangeable modules for quick and easy exchange at intermediate level maintenance.

Easy to use

- Quick access to menus and control settings by keypad.
- Liquid Crystal Display for text messages and icons.
- Back light for night use.

Leading-edge technology

Intensive use of digital technologies (Microprocessors) and Complex Programmable Logic Devices

Advanced Modes

TRC 5102 & TRC 5103

TRC 5101

Advanced Fixed Frequency Analog Modes

Clear or Private (scrambled) one-to-many simplex communication (conference call).

Private scrambled one-to-one communication (selective call).

Half-duplex mode for star configurations (leader-to-many, one-to-leader).

Automatic scanning of 10 preset channels.

Advanced Digital Secure Modes for Digitised Voice and Digital Data

A high performance digital processing and digital transmission (GMSK) associated with a high security built-in encryption module ensuring full confidentiality.

Fixed Frequency Secure Modes

- Private ciphered one-to-many simplex communications (conference call).
- Private ciphered one-to-one communications (selective call).
- Half-duplex mode for star configurations (leader-to-many, one-to-leader).

Skipping Frequency Secure Mode

- Free Channel Search Mode to escape jammers.
In jammers environments, FCS mode selects automatically a usable frequency, on 10 programmed frequencies of the channel at each transmission; receiver scans and detect automatically the right frequency.

Advanced Services

- Loading of initial data by Protected PC loading, cloning or keying.
- Whisper mode for use when stealthiness is required.
- Data retention even without battery.
- Emergency Erasure of data.
- Built-in tests for operational and intermediate level maintenance.

A Complete Range of Accessories

- Carrying harness (POR 212)
- NiCd battery (BPK 624)
- Lithium pack (BPK 221)
- Antennas: Short antenna (ANT 190) - 0.5 m
Long antenna (ANT 179) - 1 m
- Handset (COT 207 - TA)
- Headsets: (ETT 123 - TA; ETT 123 - ATA)
- Chargers for NiCd batteries (BCH 127)
- Charger for PL1 and Lilon battery BCH 231 / 331
- Cable for Cloning (CBF 286) and PC loading (CBF 287)
- Vehicular Fixture including plug-in charger and direct power supply source – DKS 200
- Relay accessories
- Software for initial data loading
- Software for Data Transmission



Characteristics

General

- Frequency band : 30 to 88 MHz
- Spacing : 25 kHz
- Programmable channels : 100
- Modulation : F3
(compliant @ STANAG 4204)

Transmission

- Selectable power : 2 W / 0.2 W
- Frequency stability : ± 5 ppm
- Whisper : -20 dB under nominal level

Analog transmission services

- Conference call (clear or scrambled)
- Selective call (scrambled) - DTMF tones
- Scanning on 10 channels 150 Hz tone subcarrier @ STANAG 4204
- Noise squelch on 3 levels
- Selective reception on CTCSS tones

Digital transmission TRC 5102

- Digital Conference call Digitized voice 16kbit/s (ciphered and non-ciphered)
- Selective call and Group call
- Skipping frequency Mode (ciphered and non-ciphered)
- Asynchronous Data Transmission
RS232 Protocol
Transmission Rate
1200 baud
- Built-in security module for voice and data encryption

Reception

- Sensitivity : $(S+N/N) \geq 20$ dB for a signal of 0.5 μ V pd on 50 Ω
- Audio output power : 0.2 W on 300 Ω
- Audio bandwidth : 300 to 3000 Hz at ± 4 dB
- Parasite frequency rejections : >60 dB

Power supply

- Power supply nominal : 7 V
- Consumption : Transmission ≤ 1.2 A
Reception ≤ 250 mA
- Autonomy : >7 h for Ni-Cd battery
 >24 h with Lithium pack

Mechanical

- Weight* : < 600 g
- Dimension* : Width : 73 mm
Height : 140 mm
Depth : 45 mm

*without battery

Environmental

- Compliant to MIL STD 810E and MIL STD 461D
- Temperature range:
Operations : -25° C to $+70^{\circ}$ C
Storage : -40° C to $+70^{\circ}$ C
- Relative humidity : 93% at $+40^{\circ}$ C
- Watertightness : Under 1 m during 2 h

