

TRC 5101

VHF/FM Handheld radio

- **Tactical hand-held radio**
 - full frequency range:
30-88 MHz (2320 channels)
 - power: 2 W - 0.2 W
 - compact and light-weight
 - 100 programmable channels
 - interoperable with most VHF radio sets
 - back-lit keypad and display
for night-time use
- **User friendly**
- **Advanced services**
 - selective calls: DTMF, CTCSS
 - scanning
 - automatic relay
 - whisper function
- **Great robustness**
- **Operational utilizations**
tactical military communications,
site surveillance, security forces



The TRC 5101 is a 2 W hand-held VHF transceiver which operates in simplex or half-duplex fixed frequency mode.

It covers the whole 30 to 88 MHz frequency range, at 25 kHz steps (2320 channels). It features 100 programmable channels and operational services such as selective call, whisper, relay.

Its compact volume makes it highly efficient, whatever its operational utilization: foot-soldier communications, site surveillance missions, security forces missions.

Thanks to its power, this transceiver can replace previous generation hand-held and manpack radios such as TRPP 13 and AN/PRC 77, with which it is interoperable.

Operational services

The TRC 5101 allows to communicate in conference mode, in which all the radios of the network participate, or to establish selective private links between two radios.

In **conference mode**, the operator may select the CTCSS tones of the radio. The CTCSS tones permit to avoid reception of communications on the same frequency coming from other networks.

When the operator sends out a **selective call**, the TRC 5101 uses DTMF tones to warn the receiving operator by a ringing signal. Moreover, a specific CTCSS tone is transmitted during the communication to avoid reception by the other radio sets of the network.

The **automatic relay** function is done by a simple interconnecting cable between two transceivers associated with boosters. It increases the radio network range.

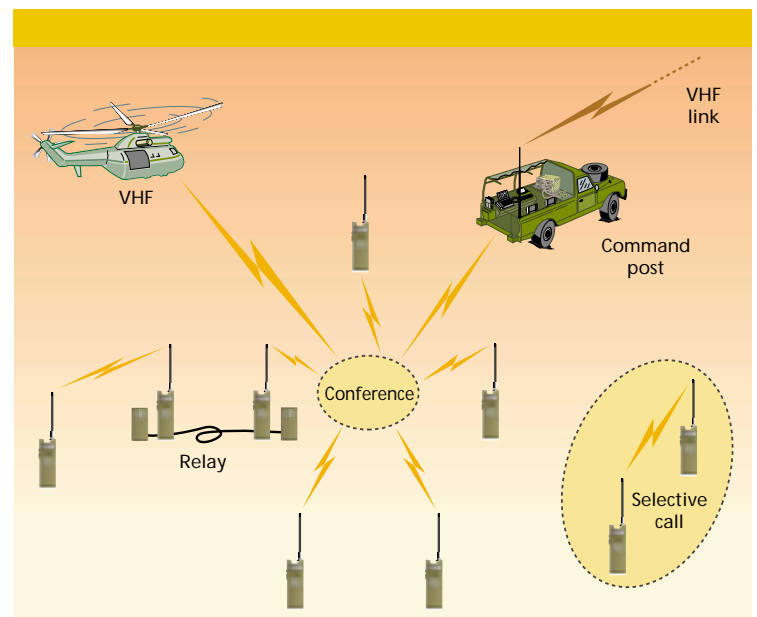
The **whisper function** provides better stealthiness (adaptation of microphone and loud-speaker levels).

In **scanning mode**, the receiver scans the programmed channels. If any activity is detected, it goes into receiving mode as long as the communication lasts; the operator can decide at any time to return to scanning mode or to stay on the frequency.

Initial data are saved when the set is off, even when no battery is connected.

Integration of front-edge technology

The intensive use of digital technologies (micro-processors), integration of ASICs (Application Specific Integrated Circuits) and use of SMCs (Surface- Mounted Components) have led to the integration of advanced services and guarantee high-level performances, larger autonomy, while maintaining user-friendliness and reliability.



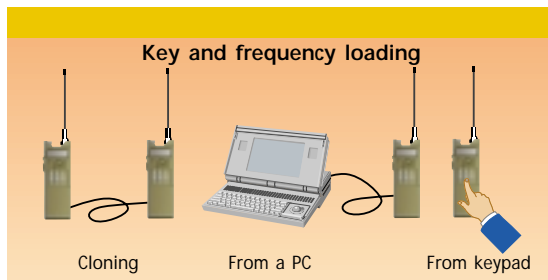
User-friendliness

The radio sets of the TRC 5100 family, very light-weight, are adapted to utilization by the military or security forces at day or at night.

They are **easily initialized**. The programming of the radio parameters can be done by cloning, from a PC, or by direct entry via the radio keypad.

They are also **easy to operate** thanks to :

- a large autonomy
- a walkie-talkie or hands free utilization, thanks to built-in microphone and loudspeaker or external audio accessories.
- a keypad with simple menus to access the services
- a back-lit keypad and display for night-time use.
- a built-in self-test (BITE)



Accessories adapted to every requirement

- Several types of battery can equip the TRC5100 family, bringing from 8 to over 24 hours autonomy (NiCad: ALI 124; Lithium pack: ALI 130).
- Tactical or commercial battery chargers are available (ALT 160, ALT 167).
- A range of audio frequency accessories : head sets, microphones, handsets (ETT 123-14A; ETT 123-14 hands free; COT 207; Special Forces accessories).
- The radio set can be carried with a carrying harness (POR 212).
- The associated antenna enables the radio to operate in the whole frequency range.

Different lengths are available (0.5 m: ANT 190A; 1 m: ANT 179A).

- An adapter for vehicle-mounting equipped with a booster will complete that range of accessories (ALA 125).

Tactical radio

The TRC 5100 family has been designed for battlefield use in any region of the world and in extremely severe environments. It withstands shocks and vibrations, immersion, and extreme climatic conditions (heat, cold, humidity).

It can be transported by air and parachuted.

Mechanical and climatic tests are done according to MIL-STD 810E standard.



TRC 5101

Technical specifications

General characteristics

Frequency band	30 to 88 MHz in 25 kHz steps, (2320 channels)
100 programmable channels	
STANAG 4204 compliant F3 modulation	
Mode	Analog Fixed Frequency (AFF)
Services	- Selective call : DTMF and CTCSS tones - Squelch : Noise, CTCSS - Interoperable with VHF/FM radio sets in fixed frequency, according to STANAG 4204; modulation by a 150 Hz subcarrier
Power supply	7 V nominal
Consumption	Reception ≤ 250 mA Transmission ≤ 1.2 A
Autonomy	> 8 hours with NiCd battery and ≥ 24 hours with lithium pack
Whisper	- 20 dB under nominal level

Transmission characteristics

Power	2 W - 0.2 W
Frequency stability	± 5 ppm
Harmonics radiation	Protection better than 35 dB
Spurious radiation	Protection better than 60 dB

Reception characteristics

Sensitivity	(S + N) / N ratio is better than 20 dB for a signal of 0.5 μ V PD
Audio output power	≤ 20 mW / 300 Ω
Image frequency rejection	60 dB
Spurious rejection	60 dB
Audio bandwidth	Voice 400 to 2400 Hz at ± 3 dB

Mechanical characteristics and environment

Weight (include Lithium pack)	≤ 750 gr
Volume	≤ 0.6 liter
Dimensions	Width 73 mm Length 235 mm (with lithium pack) Depth 47 mm
Temperature range	Operational between - 25° C and + 70° C
Relative humidity	93 % at 40° C
Watertightness	The radio set is immersion-proof under 1 m of water during 2 hours
Mechanical characteristics	Tested according to MIL STD B10 E standard

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