

REPEATER STATION RPT 1000



STE
SAPURA THALES Electronics

The indispensable solution to range limitations and interoperability between radio network

RPT 1000 repeater station has been designed to fulfill Army's operational requirements:

- To increase the communication coverage of TRC 5100 handheld radios networks
- To avoid communication blockage due to LOS limitation by hills or others obstacles
- To give high flexibility on the move in hilly or mountainous terrains
- To interconnect different networks (VHF and HF tactical radios) working separately in their own modes, secured or not. RPT 1000 operates as cross-repeater or gateway.
- To connect two remote TRC 5100 networks with two repeater stations. RPT 1000 operates as a long-range relay.

Key features

In order to achieve the tactical flexibility, RPT 1000 has the following characteristics:

- Man portable (man-pack)
- Easy and short time to install by one man
- Rugged (Mil specs)
- Long battery autonomy

Product Description

The repeater includes:

- 1 control unit (RCU)
- 1 handset,
- 1 loudspeaker
- 1 high capacity battery to supply the equipment.
- 1 backpack
- 1 antenna system, composed of an ultra light mast and a VHF wire antenna which is used for transmission and reception without co-site problem.

Versatile Use

The repeater control unit (RCU) is fitted inside the backpack and connected to one TRC 5100 radios on one side and on the other to either:

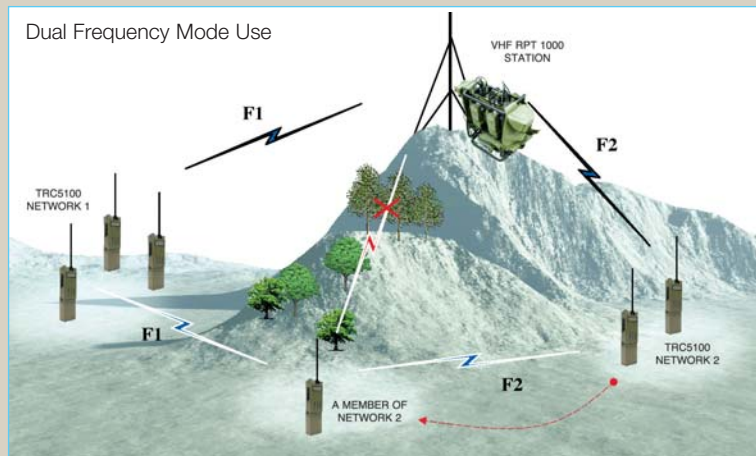
- A TRC5100 radio (Configuration RPT 1100).
- An external VHF radio by audio and RF cables (Configuration RPT 1900).
- An external HF radio by audio and RF cables (Configuration RPT 1300).



Setting-Up & Operation

The RPT 1000 repeater station is managed by an operator in charge of installing the repeater station, setting-up the repeater networks, managing the communications when required, transferring manual communications on the right networks (if required) and changing the battery when necessary.

Example of connecting two radio networks

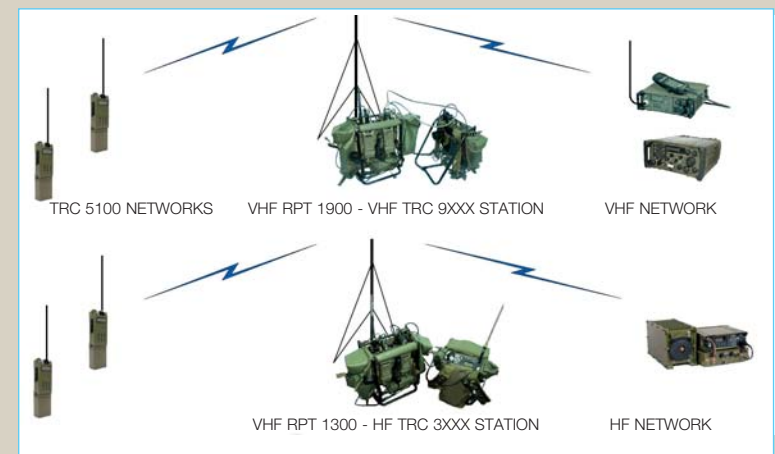


When NETWORK1 cannot communicate with NETWORK2 due to obstacles (e.g. hill), a RPT 1000 repeater station, placed on top of the hill or by the obstacle allows the communication to be established.

As an example of an operational deployment with a RPT 1100 repeater station, the TRC 5100 network radios can be used in Dual Frequency mode. This mode allows a radio of NETWORK2 to receive a communication from NETWORK1 either from RPT 1100 repeater station (F2) or directly (F1). This mode increases the communication area coverage when there are many obstacles.

In other configuration with the repeater station RPT 1900 or RPT 1300, the TRC 5100 network can be interconnected respectively to VHF network or HF network, whatever the mode used by each network. By this way, inter-operability of TRC 5100, TRC 9XXX and TRC 3XXX series radio is fully achieved.

With two repeater stations RPT 1300 or RP 1900, a TRC 5100 network can also be “relayed” on long distance to another TRC 5100 network.



Standard Package

RPT 1000 - Repeater Station

- RCU-01 : Repeater Control Unit
- BPK 232 : High capacity Battery Supply Unit
- TRC 5100 : Radio with repeater software
- COT207 : Handset
- HPE108-14: Loudspeaker (or HPA112-14)
- BP-01 : Back pack
- MEO RPT-01-MY : Operators guide

ANTS-01 - Antenna System

- ANT-VHF1 : VHF wire antenna
- ULM-9 : Mast system for ANT-VHF1

Accessories

- KAB-AU-X : Audio cable to TRC 5100 / 9XXX / 3XXX series radios
- KAB-RF-X : RF cable to TRC 5100 / 9XXX / 3XXX series radios
- BPK 232 : High capacity Battery Supply Unit (spare)
- BCH 232 : 1 position BPK 232 battery Charger

Power Supply For Fixed Station

- DRA02 : PSU - Power supply unit
- DRA03 : 24V AC/DC adapter

Options

- ANT211 : VHF plug-in antenna

Characteristics

TX Power

The RPT 1000 is capable of handling from 2 W to 50 W of RF power for VHF - VHF configuration, and up to 125 W for VHF - HF configuration.

Power Supply Sources

- BPK 232 - High Capacity Polymer Lithium Ion battery: Capacity: 9 Ah, Autonomy: >10 H
The discharged battery can be charged with a BCH 232 charger: 6 H

Physical Characteristics

- Overall Dimension (without antenna)
H x W x D: 420 mm x 400 mm x 220 mm
- Overall Weight (without antenna): < 10 kg

Antenna System

- ANT-VHF 1 : Wire antenna.
Frequency 30-88 MHz, VSWR \leq 5.
Impedance 50 Ω , power handling 10 W max.
- ULM-9: Ultra light mast.
Overall height 9 m. Quick installation and setup (<5 minutes).
Total weight (antenna and mast): < 4 kg.

Environmental Conditions

- Compliant to MIL STD 810E and 461/462D
- Operating Temperature : - 25°C to + 55°C
- Storage Temperature : - 40°C to + 70°C
- Drop, Rain, Humidity, Vibration, Shock