

TP9100 Product Overview

The TP9155 and TP9160 are robust and versatile dual-mode P25 portable radios.

These portables are intended to fully meet the demanding needs of public safety users providing analog operation, P25 digital operation, or even the ability to automatically operate in either mode.

The portables are designed around several key strengths

- Interoperability
- Product functionality
- Audio quality
- Ruggedness
- Useability

The core of the TP9100 range is the Digital Signal Processor (DSP) which allows much of the radio signal processing to take place in the digital domain. This provides the ability to customise the radio without additional hardware.

The TP9155 has a 4 button keypad while the TP9160 has a 16 button keypad. Each radio has capacity for 512 programmed channels.

The VHF TP9100 portables cover the range 136-174 MHz, and are rated at 5 Watts maximum RF output. The UHF portables cover the ranges 400-470 and 450-520 MHz and are rated at 4 Watts RF output.



TP9155



TP9160

Interoperability

The TP9100 portables are fully compliant Phase 1 P25 radios, with much versatility in their ability to communicate with other radio users.

Communication is possible with existing analog radios via the built-in analog functionality. This greatly eases the upgrade transition for an organisation.

Communication is also possible with the P25 phase 1 and phase 2 users of other organisations, via the P25 common air interface.

The TP9100 portables can operate in a Dual Mode. This is when they receive either digital P25 mode or analog FM automatically, without any user knowledge or intervention.

P25 Digital Functionality

The TP9100 portables provide a comprehensive suite of P25 digital services. These include:

- Broadcast calls
- Preset status messages
- Radio inhibit/uninhibit
- Encryption*
- Individual calls
- Talking party identification
- Call alerting
- Radio check
- Group calls

Analog Functionality

Analog operation on 12.5 and 25 kHz channels is possible enabling the TP9100 range to easily integrate with a customer's existing analog radios.

CTCSS (PL), DCS (DPL), are standard inclusions, as well as having MDC1200* and DTMF encode facility.

A level of analog security is provided by the built-in frequency inversion scrambler

*** This is not in the first product release.**

Emergency Functionality

There is a comprehensive range of emergency options for the TP9100 portables. These include the basic “Emergency Mode”, which comprises receive and transmit cycling.

Emergency Mode can be in a stealth or non-stealth form, and can be activated by the large red switch on the top cover or by detection of either a Man Down* or the Lone Worker* timer activating.

The Man Down* detection itself has 2 forms – the tilt switch activation or “no movement”.

Audio Quality

Two outstanding attributes of the TP9100 portables are the excellent audio quality and the minimal audio processing delay.

A very low distortion figure of less than 1%, ensures superb clarity, while the low audio processing delay provides the “real time” operation users are familiar with.

Ruggedness

Designed for Public Safety users, the TP9100 portables are extremely robust, far surpassing the MIL810 standard drop test.

Shock absorbent protection provides the ability to withstand a minimum of 26 drops onto concrete from 1.8m.

The TP9100 portables are sealed to meet water and dust ingress to a standard of IP54, and as a result provide reliable operation in wet or dirty environments.

*** This is not in the first product release**

Batteries

For maximum shift-life, quality of batteries is of paramount importance.

For this reason the TP9100 batteries use the latest technology cells from a respected manufacturer, and intelligence embedded in the batteries ensures optimum performance.

The batteries feature drop-protecting corners and have a patented securing mechanism. This mechanism ensures the battery will not separate from the radio if it is dropped.

Batteries are available in Nickel Metal Hydride and Nickel Cadmium and may be charged by either the desktop charger, the multiway charger*, or one of the in-vehicle chargers*.



Nickel Metal Hydride or Nickel Cadmium Battery

Useability

The TP9100 user interface is designed to ensure ease of use and user-safety in a variety of environments.

The user interface and menu structure are shared with the TM9155 range of mobiles, so that users of one product will be confident with the use of the other.

The large emergency button is easily located in the dark by running fingers down the antenna. It is the only push button on the radio top cover.

The TP9100 portables are designed for use with gloved hands and have large controls that are easy to access, for instance the volume control is angled for easy recognition.

For user-safety, the leds shine vertically upwards to avoid detection in the dark, and the volume control has been designed to be slightly stiff to turn, helping to ensure that it does not get easily knocked.

*** This is not in the first product release**

Accessory Range

The rugged design of the TP9100 portables is supported by the choice of Otto accessories, including headset and extension microphone options.



Genesis Speaker/Microphone

This is an extremely rugged IP68 microphone, and is designed for use by Fire departments. It features a removable front grille and will withstand complete immersion in water as well as exposure to high pressure water.

The microphone features a “snap-action” PTT for use when wearing gloves, and has a MIL-STD-810 specification.



Evolution Speaker/Microphone

This microphone is designed for prolonged exposure to water and temperature extremes and features a heavy-duty cable assembly with strain relief. It is IP54 rated.

Like the Genesis it is rated to MIL-STD-810 specifications and may be used with an earpiece.

The clothing spring clip rotates 360 degrees for wearer comfort.

Summary

The TP9100 portables are highly featured and very robust.

Customers using them will benefit from the ease of integration with existing radios, the dual mode versatility, overall reliability, and excellent battery performance.