STP9100
HAND-PORTABLE

DIMENSIONS

Height: 133mm
Width: 61mm (54mm)
Depth: 32mm (Standard Battery)
Depth: 37.5mm (High Capacity Battery)

WEIGHT

With Standard Battery: 250g
With High Capacity Battery: 275g

FREQUENCY BANDS

380-430MHz – STP9138
407-473MHz – STP9140

POWER SUPPLY

7.4V (nominal) lithium polymer battery packs
Intelligent reporting batteries
1260mAh standard battery
1400mAh mid-capacity battery
1880mAh high-capacity battery

RF PERFORMANCE

RF Power – MS power class 3L (1.8 Watts)
RF Power – customisable for:
- TMO/DMO/Repeater
- Adaptive Power Control supported
- Receiver class – A and B
- Receiver Static Sensitivity - 112dBm (-115dBm typical)
- Receiver Dynamic Sensitivity - 103dBm (-106dBm typical)

PRODUCT PERFORMANCE

Audio Power - >1 Watt
Operational temperature (Conformance tested) -20°C to +60°C
Operational temperature (Min/Max) -30°C to +70°C[4]
Storage temperature -40°C to +85°C[1]
Dust & water protection IP67 (waterproof, submersible and dustproof)
Shock, drop & vibration ETS 300 019
Salt fog: MIL810E 509.4(I); duration 24hr salt[5]
Salt water: submersion, rated at 1m depth for 30 minutes[5]

RFID PERFORMANCE:

Internal tag – HITAG S2048, short range, 125KHz, ISO11784 and ISO11785 compliant
Range: 1cm from back of individual radio box pack
User accessible storage – 512 bits, Passive technology pre programmed (user can overwrite)
32 bit unique identifier
Serial number
Hardware code
TEI

PRODUCT OPTIONS

GPS
Bluetooth[6]
Man-down alarm[3]
DMO repeater type1A
Air interface encryption options
End-to-End encryption options
Wide range of languages supported
STProtect – in-building tracking solution[6]
Smart card support

DISPLAY AND USER INTERFACE

Large 30x38mm active LCD area
Hi-resolution display (176 x 220 pixels)
Transflective TFT display, 262K colours, Normal, Large & Very Large mode text
5 configurable feature activation keys
Vibrate call/message
2 Context keys
Call history
Phonebook (2000 entries)
9900 talkgroups in TMO/DMO
5000 multi-level talkgroup folders
Intelligent search facility
Quick groups
Transmit inhibit with on/off status messaging
Fixed & definable scan lists
Remaining charge-time indication
Missed call indicator
Intuitively-enhanced user interface
Choice of three user interface presentation styles (Compatibility mode, Grid mode and List mode)
Haptic technology to enhance key tactility when used with heavy gloves
Twist and zoom portrait image viewer
Wake-on-alarm feature

VOICE SERVICES

Full duplex calls (to MS and PABX/PSTN)
Half duplex calls (Individual and Group)
Priority call
Emergency call (pre-emptive priority)
Intelligent alarm reporting
Talking party identity
Calling line identity presentation
MSISDN dialing
DTMF dialling from address book[8]
Dynamic group number assignment
Background (hidden) groups
DMO individual call[8]
DMO group call
DMO emergency call
DMO intelligent emergency call
Independent volume control
Enhanced full duplex ear sealing
Ambiance listening
Privacy mode
Whisper mode
Group focus

DATA SERVICES AND APPLICATIONS

Status messaging (in TMO & DMO)
SDS Messaging (in TMO & DMO)[7]
Concatenated SDS messaging[7]
Multi-slot packet data
Circuit mode data
TETRA pager and call out
Short Data Applications (SDAs)
Image & map storage on memory card
Lone-Worker feature
Missed event application

LOCATION BASED SERVICES

GPS integrated option -192dBw (-162dBm) tracking sensitivity
Over-The-Air GPS reporting using the following protocols
- ETSI location standard reporting (LIP)
- NMEA & Sepura compact messaging

GPS-based compass
Enhanced indoor start-up and acquire through 'predicted ephemeris'
Bluetooth Location System compliant
STProtect option-indoor tracking solution
RFID tag equipped

SECURITY SERVICES

Authentication
Class 1, 2, 3 and 3G security
Air interface encryption
TEA1/2/3/4 Supported[2]
Smartcard E2E encryption support[2]
Embedded E2E encryption support[2]
In-country E2E encryption algorithm support[2]
Multiple E2E algorithm support[2]

DMO REPEATER SERVICES (LICENCE REQUIRED)

DMO voice repeated
DMO tone signaling repeated
Group status & SDS repeated
Type 1A efficient operation over one RF channel
Presence signal support
Emergency call monitoring & participation in calls

CONNECTIVITY

TETRA voice and data
Bluetooth support for voice and data (PEI)
PEI Data via RS232 and USB data cables
Accessory connections via Rugged Accessory Connector (RAC)
High speed interface for feature-rich audio accessories
Audio and data connection via facility connector
MicroSD card slot (4GB max)
Passive 125KHz RFID tag
STProtect

ACCESSORIES

Personal charger
Vehicle DC charger
1+1 desktop charger
6+6 desktop charger
12- and 24-way battery-only chargers
Wide range of antennas
Stud and belt attachments
Rugged belt clip
Rugged and soft leather cases
Basic IP55 remote speaker microphone
Advanced remote speaker microphone (with and without RF antenna)
Hands-free kit
Personal ear pieces
Public order accessories
Semi-covert accessories
Feature-rich car kit
Serial and USB data leads
4- & 8-way programming pods
Basic car kit

1. As defined in ETSI EN300 019-2-1 and EN300 019-2-2
2. Availability is subject to export licence.
3. The Man-Down Alarm should in no way be regarded as a substitute for compliance with appropriate risk assessment and other safety procedures and practices. To enable Man-Down a Software License is also required.
4. Operating at temperature extremes may limit some aspects of operational performance
5. 'Connector protector' must be enabled in customisation. An antenna, a battery and either an accessory or the STP9100 series RAC cover must be fitted
6. Bluetooth and STProtect hardware options cannot both be fitted at the same time.
7. Through use of Sepura pseudo-keypad. Chinese text entry not supported.
8. Selectable from phonebook or incoming call list.

Sepura's policy is to continually improve its products and services. The features and facilities described in this document were correct at publication, but are subject to change without notice.

© Sepura plc
For more information visit **sepura.com**

DN109 STP9100 English / Sept 2012

Bluetooth RFID microSD

DATASHEET

9000 SERIES

STP9100

HAND-PORTABLE

The STP9100 hand-portable combines extreme ruggedness, powerful audio and RF with a streamlined user interface. It is aimed at users who need a high specification, reliable radio, but typically need only to adjust the volume, send status messages and change talkgroups.

ROBUST

Waterproof, **submersible**, **dust-proof and marine-hardened**, the STP9100 has the design and construction values that enable it to withstand the most harsh and challenging environments. Its **IP67 environmental protection rating** and Connector Protector technology, to counter the potential corrosive damage from salt water and salt fog, mean that the STP9100 can be used in a huge range of wet, salt-laden and dusty environments.

EASY TO USE

The STP9100 provides an enhanced user interface, uniquely offering **three different presentation styles**, which users can select according to their personal preference, thus reducing training costs and improving choice. The reduced keypad also helps simplify operation.

SMART TECHNOLOGY

Sepura has brought a variety of "smart" keypad and display technologies to the STP9100, including both "**haptics**", for improved tactility when used with gloved hands, and a "**Twist and Zoom**" feature, for improved image display. The addition of a **built-in RFID** tag will also be of considerable benefit to many users, who wish to automate the logistics of issuing and tracking pool radios.

USER SAFETY AND EFFICIENCY

The innovative hardware design of the STP9100 blocks out background noise, whilst its advanced audio equalisation technology provides a radically **enhanced full-duplex telephony audio** experience. With **extended GPS** capabilities, Man-Down and the STProtect indoor location solution as options, Sepura has put user safety at the heart of the STP9100's design.

The **STP9100** is a rugged TETRA hand-portable

EMERGENCY OPERATION
Easy to activate and with a "wake-on-alarm" feature, the emergency key enhances user safety.

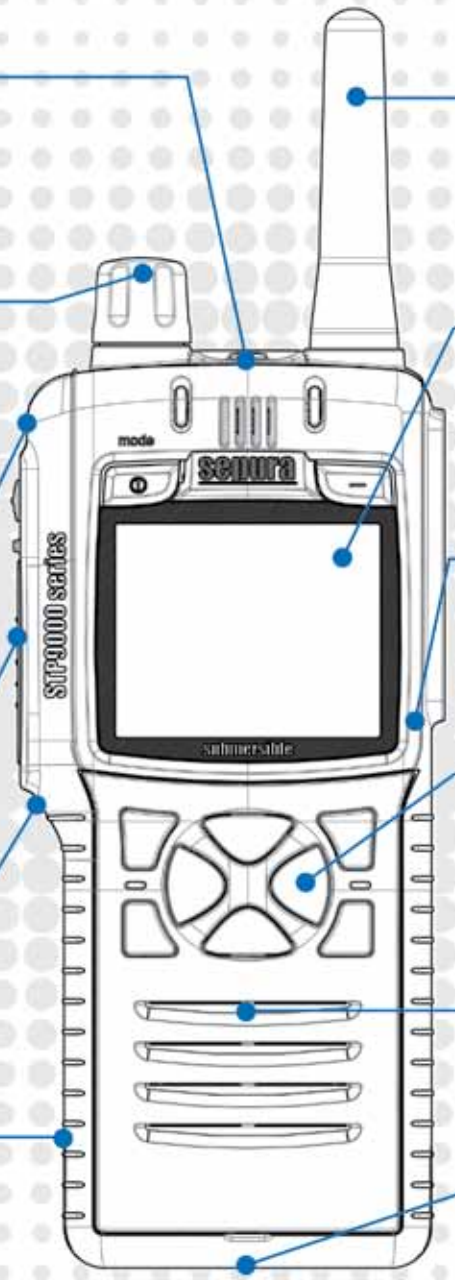
NAVI-KNOB™ OPERATION
In combination with the mode key, provides simple and quick access to talkgroups, volume adjustments, user profile selection and status messaging.

RFID TAG
Facilitates access control solutions, tracking of pool radios and potential for integration with back-end systems.

LARGE TACTILE PRESS-TO-TALK KEY
Large and glove-friendly, located on the side of the radio.

STPROTECT MODULE
An option which enables use of Sepura's STProtect indoor location and lone worker solution.

PRODUCT DESIGN
The STP9100 leverages the tough technology developed for Sepura's STP8X Intrinsically-Safe series to deliver a market-leading IP67 package, proven to perform in the most demanding operational environments.



SMA ANTENNA CONNECTOR
Delivers 1.8 Watts of RF power in TMO, DMO and repeater modes. Increases range thus extending network and direct mode coverage.

LARGE, SUNLIGHT-VISIBLE, COLOUR DISPLAY
Featuring an enhanced user interface, which offers three presentation styles to suit user preferences.

MAN-DOWN PERSONAL SAFETY
Multi-dimensional motion sensing technology automatically provides man-down detection and reporting option.

ERGONOMIC KEYPAD
Large, well-spaced keys, enhanced by haptic technology, which allows the user to feel a key press, even through thick gloves.

POWERFUL AUDIO
Large loudspeaker delivers outstanding audio, even in the noisiest environments.

BOTTOM CONNECTOR
Featuring Connector Protector technology to provide protection from corrosive salt water and salt fog.

Bluetooth™ RFID microSD

TOUGH • HIGH PERFORMANCE • FEATURE-RICH

Product is not actual size

STP9100 HAND-PORTABLE:

- Robust, 'tough technology' inherited from state-of-the-art development for the STP8X ATEX/IECEX
- Market-leading **IP67 (submersible, waterproof and dustproof) rating**
- High power RF and audio, with **improved full-duplex audio experience**
- Intuitive, enhanced UI, with **3 presentation styles** (Grid, List and Compatibility modes)
- **Integral RFID tag** allows rapid asset tracking of pool-issued radios
- Fully integrated Bluetooth™ option
- Enhanced key tactility through haptic-based technology
- Automatic Man-Down reporting option
- Wake-On-Alarm activation
- Micro-SD memory card slot
- End-to-End encryption option
- DMO Repeater ready (frequency efficient Type 1A option) with Call Participation
- A wide range of market-leading accessories
- Supported by Sepura's market-leading software tools, including Radio Manager 2.

Focussed on offering new functional possibilities and removing obstacles to efficient and effective operation, the STP9100 offers a range of benefits that make it **more Reliable, Robust and Secure**:

Robustness – The STP9100 boasts an IP67 submersible, waterproof and dust proof environmental protection rating, which means that it will still function after having been submerged in up to 1m of water for up to 30 minutes. In addition, new Connector Protector technology provides **marine-hardened protection** against the corrosive damage that salt water and salt fog can cause to exposed connectors.

Improved ease of use – The STP9100 provides an enhanced user interface, which offers three different presentation styles, which users can select according to their personal preference.

- Compatibility mode allows existing Sepura users to be immediately familiar with the STP9100.
- Grid and List modes will appear familiar to new users who may be accustomed to user interfaces on smartphones or other GSM devices, rather than a radio.

These new presentation styles mean lower training costs for both new and existing Sepura users.

Smart keypad and display technology – Following detailed user feedback, Sepura has added "haptic" technology to the STP9100. Haptics produce a physical movement of the radio, felt through the hand, which confirms to gloved users that the key press has been successful. In addition, the "Twist and Zoom" feature uses smartphone technology to allow a portrait image to be zoomed to full-screen size, allowing the user to see full detail of an image, such as a missing person, as they rotate the radio. The feature also enables access to details concerning the image.

Resource and information management – Tracking radios, particularly in a pooled system, can be difficult, so the STP9100's **built-in RFID tag** will be of considerable benefit to many users. In addition, the micro SD card slot makes it easy to store and manage data, such as photos, maps, missing person information and hazardous chemical data.

Enhanced user safety – In addition to Man Down, enhanced GPS and STProtect capability, the **Wake-On-Alarm** feature, which enables the STP9100 to be switched on and make an emergency call by pressing the emergency button, also helps to protect users.

Reduced cost of ownership – The STP9100 is compatible not only with all accessories from Sepura's STP8000 hand-portable range, but also with its market-leading RadioManager2 fleet management tool and CMC encryption management suite - all factors which help organisations to maximise the value of existing investments.

Indoor location capability – An **STProtect module** can be optionally fitted within the radio. This is a key element of the STProtect complete indoor location and lone-worker protection solution. It allows organisations such as prisons, airports and industrial sites to track and protect lone workers, locate employees, control access to restricted areas and ensure that pre-defined security patrol routes are being adhered to.