# SRG**3900**

### MOBILE RADIO

#### SIZE AND WEIGHT

TRANSCEIVER

980g,177mm x 50mm x 110mm SEPURA COLOUR CONSOLE (SCC1) 220g, 185mm x 58mm x 33mm

HANDSET-BASED CONSOLE (HBC2) 225g, 69mm x 162mm x 28mm

#### FREQUENCY BANDS

344 - 400MHz 380 - 430MHz 407 - 473MHz 806 - 870MHz

#### POWER SUPPLY

10.8 to 15.6V DC, typical 13.8V DC

#### **RF PERFORMANCE**

10 watt RF power output (Class 2) RF power adjustable in steps of 5dB, independently adjustable for TMO & DMO operations Adaptive power control supported Receiver static sensitivity -112dBm (-116dBm typical) Receiver dynamic sensitivity -103dBm (-107dBm typical) Receiver class A & B

#### AUDIO

Rated audio output - 8 W @1kHz into 4 Ohms Dual speaker configuration capable of driving two 4 Ohm speakers

Fixed level line-out audio option enabling broadcast & recording support

2x1W of additional audio drive via speaker mics or handsets attached to up to two SCC1 colour consoles Line-in audio for third-party console interface support Five independent volume controls for loudspeaker & audio accessories 2,

Three audio accessories per console

#### ENVIRONMENTAL

Dust & water protection to IEC529 IP54 ETS 300 019 -2-5 drop, vibration & humidity Storage temperature -40°C to 85°C<sup>5</sup> Operating temperature -30°C to 70°C<sup>6</sup> IP67 radio marine enclosure option IP67 SCC2 console option

#### PRODUCT OPTIONS

GPS/Glonass location tracking DMO repeater type 1A (licence enabled) DMO gateway (licence enabled) Air Interface encryption options End-to-end encryption options Wide range of languages supported including Cyrillic, Chinese, Korean & Arabic Coloured bezels (on SCC1/SCC2 & HBC2 consoles) Smart card support Virtual console support (licence enabled) Line in/out audio support (licence enabled) Consoles: SCC1, SCC2 (IP67), HBC2 & Virtual Console

#### USER INTERFACE

Normal, large & very large mode text<sup>4</sup> Night mode 262k colours plus monochrome support Dual remote console support Call history Phone book (2000 entries) 9900 talkgroups in TMO/DMO 5000 multi-level talkgroup folders Intelligent search facility

Up to 50 dynamic group number assignment (DGNA) with support for lifetime timers Efficient management of talkgroups using up to 5000 folders in a multilevel folder structure with up to 75 talkgroups per folder Talkgroup folder management via PEI & SDS Priority group scanning with support for background groups Fast talkgroup access supports up to five TMO and five DMO groups Query selected talkgroup Macro keys: a single key can perform a sequence of complex functions Quick groups Transmit inhibit with on/off status messaging Fixed & definable scan lists Missed call indicator Intuitively-enhanced user interface Choice of three user interface presentation styles Auto-capitalisation during SDS text entry Two context keys

User profiles Sepura Picture Message

Smart menu

#### CONSOLE: SCC1

High resolution 320 x 240 pixels QVGA TFT display Large 57.6mm x 43.2mm active area Three accessories supported: one front-mounted & two rear-mounted audio accessories Front-mounted connector for data & configuration via Radio Manager AMPS, on-dash & single DIN mount options Fully compatible with existing accessories, cables & legacy mounting options Common enhanced Sepura user interface . Two context-sensitive keys Missed event LED & soft key Tri-colour status LED 16 configurable soft keys Dual remote console support, each up to 30m from the transceiver IP54 certified; IP67 variant available9 Optional coloured keymat bezels

#### CONSOLE: HBC2

Large high resolution 320x240 pixels QVGA 2.2"TFT display Hands-free mic & PTT option Fist mic mode & handset installation modes Magnetic cradle, AMPS mountable Fully compatible with existing console cables Common enhanced Sepura user interface Two context-sensitive keys Missed event LED & soft key Tri-colour status LED 16 configurable soft keys Dual remote console support, <30m from the transceiver IP55 certified Optional coloured keymat bezels Also available: virtual console, embedded car console, handlebar control unit & air-approved console

#### VOICE SERVICES

Full-duplex calls (to MS & PABX/PSTN) Half-duplex calls (individual & group) Priority call Emergency call (pre-emptive priority) Intelligent alarm reporting Talking party identity Calling line identity presentation DTMF dialling MSISDN dialling Abbreviated dialling Dynamic group number assignment Background (hidden) groups Ambience listening Privacy mode Whisper mode Group focus DMO individual call DMO group call DMO emergency call DMO intelligent emergency call

Independent volume control Gateway pairing

#### DATA SERVICES

Status messaging (in TMO & DMO) SDS messaging (in TMO & DMO) SDS store & forward SDS via DMO gateway Auto-capitalisation on SDS text entry Concatenated SDS messaging Multi-slot packet data Circuit mode data TETRA paging & call out WAP browsing WAP shortcuts in SDS Battery status advised immediately on start-up Short data applications (SDAs) Lone Worker feature Missed event application 30 guick status messages

#### LOCATION-BASED SERVICES (OPTIONAL)

34-channel concurrent GPS/GLONASS receiver SBAS differential GPS support -191dBW (-161dBm) acquisition sensitivity -191dBW (-161dBm) tracking sensitivity Over-The-Air GPS reporting using the following protocols: ETSI location standard reporting (LIP) - NMEA & Sepura compact messaging Enhanced indoor start-up & acquire through 'predictive ephemeris' Active anti-jamming of Continuous Wave (CW) jammers Multipath mitigation GPS-based compass

#### SECURITY SERVICES

Authentication: mutual and SwMI initiated TMO & DMO Air Interface encryption support: TEA1, TEA2, TEA3 & TEA4<sup>3</sup> Trunked mode class 1, 2, 3 & 3G TETRA security Direct mode DM-2C support PIN & PUK entry temporary enable and disable Fully integrated E2E hardware with tamper protection Public & private algorithm E2E support enabled via software upgrade<sup>3</sup> Integral SIM connector for smart card-based E2EE options<sup>3</sup> Optional remote smart card reader Dual E2EE algorithm support with dynamic switching of active algorithm<sup>3</sup> Software authenticity & protection employing digital signature

#### **GATEWAY SERVICES** (LICENCE REQUIRED)

Group voice call between DMO & TMO Individual voice calls between DMO &TMO Emergency group call from DMO to TMO & TMO to DMO Pre-emption (in either direction) of existing call SDS messaging in either direction Configurable routing of SDS messages to console or PEI intelligent handling of point to point calls & SDS messages whilst operating as a gateway

#### **REPEATER SERVICES (LICENCE REQUIRED)**

DMO voice repeated DMO tone signalling 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 & data PEI Data via RS232, or USB data cables direct to radio or via SCC1 Accessory connections via consoles and AIU SASI high speed interface for feature-rich audio accessories (on SCC1 & SCC2) Digital I/O lines (3 in, 1 out), expandable via AIU Line level audio connection Remote control via status-triggered functions

- Further information available on request
  Accessories connected at the rear of a console use the same volume level
  Functionality is subject to an export licence Display mode and audio support will change when the legacy console, HBC or Virtual



- 5 As defined in ETSI EN300 019-2-1 and EN300 019-2-2
- 6 Operating at temperature extremes may limit some aspects of operational performance 7 Speakers to be wired in parallel by installer

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.

### SRG**3900** Mobile radio





A fully-featured TETRA mobile radio, the SRG3900 offers a wide range of installation options, dual remote console support, an intuitive user interface, missed event notifications and short data application (SDA) support.



Going further in critical communications



# SRG3900 CONSOLE OPTIONS





SCC BLACK BEZEL





SCC BLUE BEZEL

#### **Extends radio coverage**

A 10W RF TETRA engine, and the most proven gateway and repeater technology on the market, extends communication into areas previously beyond network coverage.

#### Improved ease of use

With three presentation styles – grid, list and compatibility mode – the SRG3900 uses the same enhanced user interface as the STP9000 and STP8X, reducing the need for retraining.

Customer-defined smart menus give intuitive access to hundreds of soft key features. Related functions can be grouped together, allowing features to be activated quickly with no need to remember complicated key combinations.

#### **Reduced cost of ownership**

The SRG3900's compatibility with all accessories from the SRG3500 range, the Radio Manager 2 fleet management tool and the CMC encryption management suite allows you to maximise the value of existing investments.

#### **Short Data Applications (SDAs)**

Built and deployed on Radio Manager 2, SDAs permit the user to simply and intelligently interact with a back-end IT system, allowing the automation of work flows, job allocation and remote control.

#### WAP and SDS URL shortcuts

SDS text messages now support URL shortcuts that allow the user to browse images and text, organised into a convenient and intuitive WAP site. Accessed over the TETRA network, these sites allow the rapid dissemination of data, such as missing person information.

#### Sepura Picture Message

Sepura Picture Message allows the radio to securely receive images and any associated text, permitting simultaneous distribution to multiple user groups via SDS.

#### **GPS and Glonass satellite tracking**

Uniquely, the SRG3900 integral GPS module tracks both GPS satellites and the Glonass satellite network. Together with the latest **SBAS** differential GPS support and CW anti-jamming technology, this provides a greater degree of accuracy and security, and allows precise location of resources.

When a team is operating on DMO with the SRG3900 functioning as a network Gateway, it will automatically translate any received GPS location messages so that DMO users of Sepura handhelds can continue to be tracked.

#### Macro keys

Allow a complex sequence of functions to be combined and activated at the touch of a single key.

#### **Status triggered functions**

Facilitate the remote control of SRG3900 over-the-air, from an authorised Sepura radio or backend control system.

#### **Network Performance monitoring**

The SRG3900 can be remotely interrogated for a report on the signal level, location, neighbour cells and data latency of a TETRA network, allowing monitoring and auditing of the network service quality.

#### **Enhanced user safety**

Fully-configurable emergency call behaviour includes live microphone, emergency status messaging and GPS/Glonass location reporting options.

#### **Flexible installation**

Multiple installation options are supported, allowing tailored use in a variety of vehicles and scenarios:

- Transceiver only for remote RCU/SCADA telemetry operation.



VIRTUAL CONSOLE SCREEN

#### > Powerful

- Class-leading 10 Watts RF power
- Gateway licence-enabled option brings network coverage to groups of DMO users
- Repeater licence-enabled option extends off-network coverage
- Loud, clear audio: 8W audio drive, allowing two speakers to be driven<sup>7</sup> plus up to 2x1W of additional audio drive available via speaker mics or speaker handsets attached to up to two SCC1 colour consoles

#### > Flexible

- · Backwards compatible with existing Sepura mobile installations
- Multiple installation options: transceiver only, dual console, virtual console, handset-based console
- Audio presentation options support PA broadcast, local recording and third-party radio equipment
- · Additional features available via feature licence codes

#### > Intelligent

- Short data application and WAP support
- Night mode for easy, low-glare viewing
- Over-the-air remote control via Sepura status-triggered functions
- Macro key support
- · Performance monitoring feature facilitates network analysis
- Combined GPS, Glonass tracking with differential GPS and 'predictive ephemeris' support
- Variety of encryption options
- Single console for car-, motorcycle-, marine-, desk-, air-1 and rack-based solutions.
- Dual console for larger vehicles and train<sup>1</sup> installations that require multiple control points, each of which can be mounted up to 30m away from the transceiver. With automatic screen resolution and colour adjustment to cater for differing consoles<sup>4</sup>

Control heads to suit your needs Sepura offers the widest range of control heads on the market, each designed to match varying user needs.

- SCC1: high-resolution colour console, IP54 certified, AMPS or DIN slot mounted
- SCC2: high-resolution colour console, IP67 certified, dustproof and waterproof
- HBC2: space-saving, high-resolution colour handset-based console, IP55 certified
- HCU: IP67 certified handlebar mounted control unit
- Virtual console: integrates SRG3900 control from a PC/tablet running Microsoft Windows
- Air approved consoles<sup>1</sup>
- Embedded car consoles

#### **Specialist options**

An international market leader within the TETRA policing, security and surveillance markets, Sepura has created a number of specialist options maximising the potential of the SRG for these sectors:

- Remote crypto smart-card reader
- Tamper-proof security processors and a range of software licence-enabled E2E encryption options<sup>3</sup>

#### **Direct mode gateway**

Extending network coverage to DMO teams.

#### Improved coverage

Links groups of users operating off-network in direct mode with the trunked TETRA radio network, extending coverage into network dead spots.

#### Intelligent communication

With Sepura Intelligent Call Conversion, the calling party only needs to call the TETRA identity of the SRG3900. Once switched to DMO gateway mode, the SRG3900 automatically converts and relays the incoming call or message to the associated team of direct mode users.

#### **Operational effectiveness**

Status messaging and SDS-based messaging, including text and GPS location reports, are seamlessly transferred between the network and direct mode users. A control room dispatcher is able to track the positions of individual users.

#### Extended coverage

Where no network coverage is available, the 10 watt DMO repeater allows multiple direct mode users to exchange voice and data messages over a wider area with increased reliability. The DMO repeater is ETSI-compliant Type 1A, and uses a single frequency, saving scarce spectrum.

Note: Direct mode gateway and repeater services are enabled by a feature licence code.

- Full and semi-covert installation solutions
- Suitcase-transportable variants