SRG3900
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.

sepura

Going further in critical communications

APPLICATIONS
TERMINALS
SYSTEMS

SRG**3900** CONSOLE OPTIONS

HANDSET BASED CONSOLE

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.

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.

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.

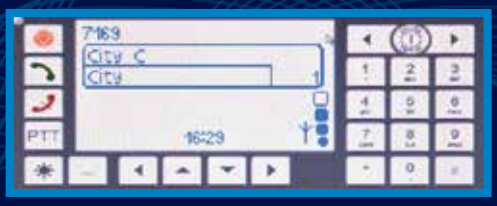
Status triggered functions
Facilitate the remote control of SRG3900 over-the-air, from an authorised Sepura radio or backend control system.

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.
- **Single console** for car-, motorcycle-, marine-, desk-, air-[1] and rack-based solutions.
- **Dual console** for larger vehicles and train[1] installations that require



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[7]. 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 optional 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 for network analysis
- Combined GPS, Glonass trackin`g with differential GPS and 'predictive ephemeris' support
- Over-the-air remote control via Sepura status-triggered functions.
- Variety of encryption options.
- Performance monitoring feature facilitates network analysis.

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[4]

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[1]
- 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:

- Full and semi-covert installation solutions
- Suitcase-transportable variants
- Remote crypto smart-card reader
- Tamper-proof security processors and a range of software license-enabled E2E encryption options[3]

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.

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 and 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 Ohms speakers
Fixed level line-out audio option enabling broadcast and 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 and audio accessories [2,4]
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[5]
Operating temperature -30°C to +70°C[6]
IP67 radio marine enclosure option
IP67 SCC2 console option

PRODUCT OPTIONS

GPS/Glonass location tracking
DMO Repeater Type 1A (license 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 and HBC2 consoles)
Smart card support
Virtual console support (licence enabled)
Line in/out audio support (licence enabled)
Consoles: SCC1, SCC2 (IP67), HBC2 and Virtual Console

USER INTERFACE

Normal, large & very large mode text[4]
Night mode
262k colours plus mono chrome 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 and 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 – operation of a single key will 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 (compatibility, grid & list)
Auto-capitalisation during SDS text entry
Two context keys
User profiles

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 keys4
Missed event LED and 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 keys4
Missed event LED & soft key
Tri-colour status LED
16 configurable soft keys
Dual remote console support, each up to 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 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
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 and 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

LOCATION-BASED SERVICES (OPTIONAL)

34-channel concurrent GPS and 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 and 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[3]
Trunked mode class 1, 2, 3 & 3G TETRA security
Direct mode DM-2C support
PIN and PUK entry temporary enable and disable
Fully integrated E2E hardware with tamper protection
Public & private algorithm E2E support enabled via software upgrade[3]
Integral SIM connector for smart card-based E2EE options[3]
Optional remote smart card reader
Dual E2EE algorithm support with dynamic switching of active algorithm[3]
Software authenticity and 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 and 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 and 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 and SCC2)
Digital I/O lines (3 in, 1 out), expandable via AIU
Line level audio connection
Remote control via status-triggered functions

1 – Further information available on request
2 – Accessories connected at the rear of a console use the same volume level
3 – Functionality is subject to an export license
4 – Display mode and audio support will change when the legacy console, HBC or Virtual Console are connected
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.

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