

SRG3900

TETRA GATEWAY/REPEATER

Sepura's SRG3900 is the latest generation of the proven SRG3000 Series mobile radio and includes support for both the Sepura **Colour Console** (SCC) with hi-colour user interface and for "hot swappable" front connected accessories.

The SRG3900 is a **fully featured TETRA mobile** that is hardware ready to support Direct Mode **Gateway**, Direct Mode **Repeater**, **PEI** based Data and **E2EE** options.

Designed and manufactured by Sepura, the **adaptability and flexibility** of the SRG3900 has been designed to meet the needs of demanding users within the Transport, Utility and Public Safety markets.

ADAPTABLE

- Class leading 10 Watts RF Power gives the greatest **operational range** of any TETRA radio.
- Direct Mode Gateway services increase workflow management with Intelligent Call Conversion and Message Routing.
- Direct Mode Repeater functionality enhances DMO communication.

FLEXIBLE

- Feature licence codes to enable functionality when required in the field.
- **Backwards compatible** with existing Sepura Mobile installations.
- **Numerous installation solutions** include Transceiver only, Dual Console, Virtual Console, Handset Based Console and a Remote SIM Reader option.
- Audio presentation options support PA broadcast, local recording and 3rd party radio equipment.

INTELLIGENT

- Night Mode for low-glare night use.
- Over-the-air remote control via Sepura Status Triggered Functions.
- Tamper protected and Smart card based E2E Encryption options.
- Performance monitoring feature facilitates network analysis.

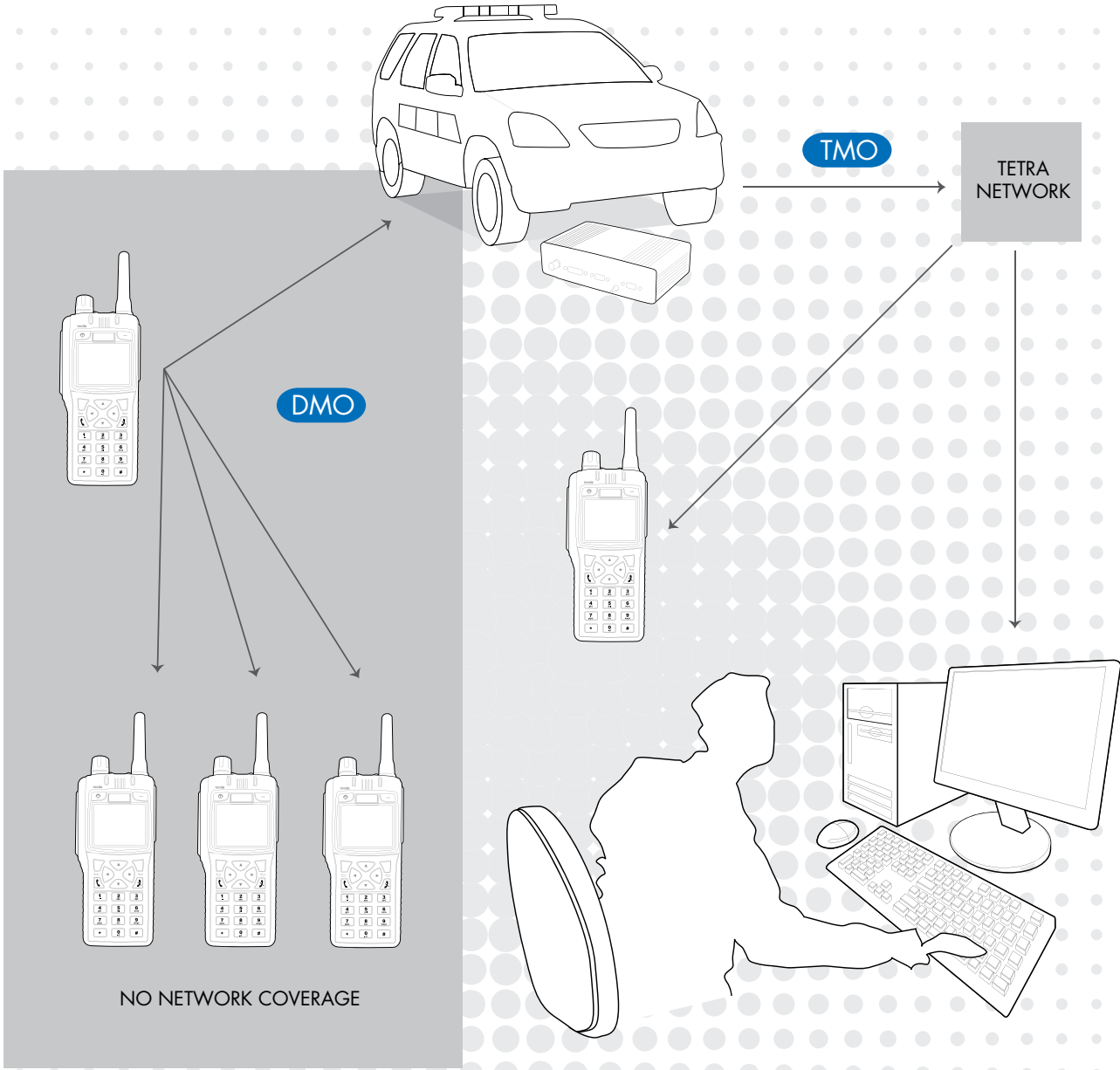


Note: Finishes may vary



Products is not actual size

EXTENDING OPERATIONAL REACH



DIRECT MODE GATEWAY

IMPROVED COVERAGE

Links radios operating in Direct Mode with the trunked radio network **extending primary radio coverage** into areas of unreliable coverage or network dead spots found inside buildings, deep inside tunnels or in remote rural locations.

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 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. In operational terms, a control room dispatcher is able to track the positions of the individual users in a greater number of scenarios.

SRG3900 TETRA GATEWAY / REPEATER RADIO

The SRG3900 is a fully featured TETRA mobile radio that can be easily field upgraded to support DMO Gateway and DMO Repeater via a software licence code.

- 10 Watts RF Power – the most powerful TETRA mobile radio available.
- Hardware ready to support Direct Mode Gateway, Direct Mode Repeater, PEI based Data and E2EE options.
- Common UI with all Sepura radios – gives advantages of **easy integration** into existing fleets, whilst minimising user training.
- **Flexible configuration**, installation and audio options allow a solution to be tailored for all applications. The SRG3900 can be deployed as:
 - Transceiver only – for remote SCADA and telemetry operation.
 - Single Console – for vehicle, motorcycle, marine, desk and rack based solutions.
 - Dual console – for larger vehicles such as ambulance, fire and rail installations, which require multiple control points, each mounted up to 12m away from the transceiver.
 - Virtual Console – a software application allowing control of the radio from a Windows™ based computer.

- Handset Based Console – offers a GSM style handset solution where installation space is limited.
- Full and semi-covert installation.
- Applications Interface Unit – allows 3rd party control of the transceiver and user interface.
- Suitcase and Rucksack Transportable variants plus an Air approved product for helicopter and fixed wing installations.
- Remote SIM Reader allows Smart card security solutions to be located near the user and up to 7m from the SRG3900.
- Optional GPS module, integral within the transceiver, with selectable support for NEMA, Sepura Compact or ETSI LIP messaging.
- Comprehensive Over the Air control using Sepura Status Triggered Functions.
- Multi-lingual user interface: Eastern and Western European languages plus Cyrillic, Chinese, Korean and Arabic.
- Fully configurable emergency call behaviour including live microphone, status messaging and location reporting options.
- The SRG3900 has been built to address security issues by including tamper protected security processors and a smart card connector in all models. **E2E Encryption** can be implemented in the field by a software upgrade, thus minimising any operational disruption.



Note: Finishes may vary

INTELLIGENT OPERATION

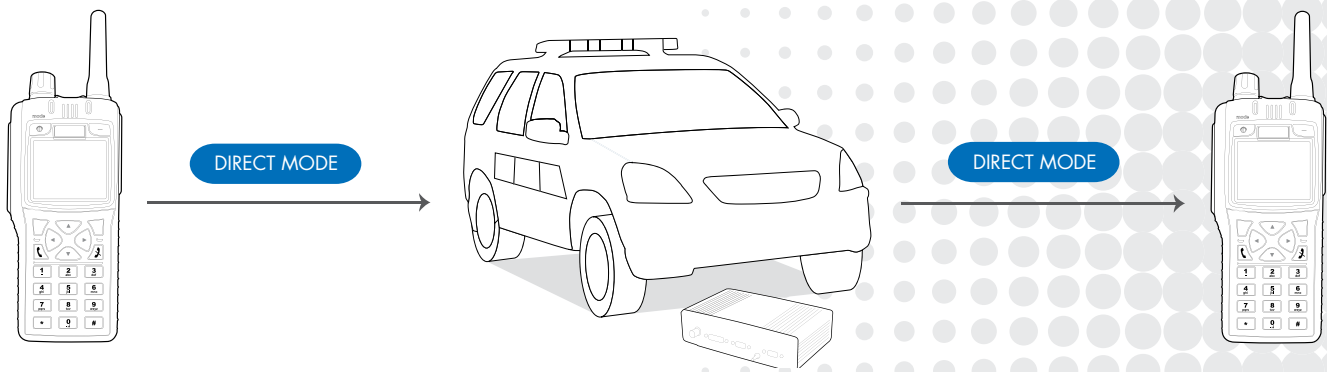
- Low glare night mode to enable **safe night use**.
- Dual data ports, as standard, enable support for two data applications.
- Multiple I/O lines available – activated locally or via Status Triggered operation.
- Configurable audio presentation options allow:
 - Fixed Level Line-out audio for use with PA Broadcast or local voice Recorder².
 - Line-in Audio to support a 3rd party console interface².
 - Independent volume control of the loudspeaker and audio accessories².
- Sepura Advanced Serial Interface (SASI) on the SCC provides future scope for advanced accessories with increased functionality.
- Macro keys allow a sequence of functions to be combined and activated by a single Soft key action.
- **Short Data Applications** that allow system integrators to create and run complex form driven programmes that can interact with back office systems via SDS messaging.
- Performance Monitoring, whereby the radio can be remotely interrogated for a report on the signal level, location, neighbour cells and data latency of a TETRA network, allowing an organisation to monitor the Quality of Service (QoS) provided.
- When operating in Gateway mode, the SRG3900 will translate any received GPS message so that the DMO originator's identity is maintained.

ADAPTABLE DESIGN

- Fully compatible with existing Sepura accessories and cabling, allowing easy substitution and extending the life of existing installations.
 - The SRG3900 will automatically vary the display mode to match the connected console and accessories⁴.
- The following modes are supported:
- Hi-Colour
 - Colour
 - Monochrome

DIRECT MODE REPEATER

EXTENDING OPERATIONAL REACH



In situations where there is no network coverage 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 which uses a single frequency, thus **saving scarce spectrum**.

Note: Direct Mode Gateway and Repeater services are enabled by a feature licence code.

SRG3900 CONSOLE OPTIONS



Handset Based Control



SCC Black Bezel



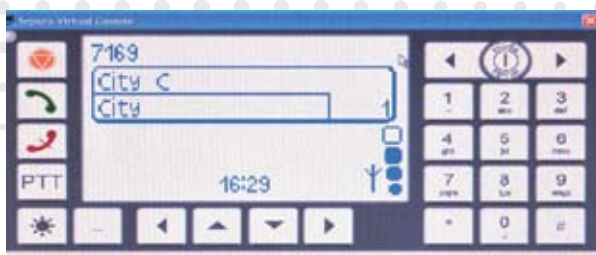
SCC Blue Bezel



Standard Mode Screen



Night Mode Screen



Virtual Console Screen

SRG3900

TETRA GATEWAY/REPEATER

| SIZE AND WEIGHT | CONSOLE | VOICE SERVICES |
|---|---|--|
| TRANSCIVER 980g - 180mm W x 54mm L x 110mm D SEPURA COLOUR CONSOLE (SCC) 220g - 185mm W x 58mm L x 33mm D HANDSET BASED CONSOLE 225g - 69mm W x 162mm L x 28mm D | High resolution 320 x 240 pixels QVGA TFT display Large 57.6mm x 43.2mm Active Area (2.8") 262k colours Three text sizes ⁴ Night Mode ⁴ Front mounted audio accessories Front mounted connector for data and configuration via radio manager AMPS and single DIN compatible Fully compatible with existing accessories, cables and legacy mounting options Common Sepura UI Two context sensitive keys ⁴ Missed event LED Tri colour status LED 18 configurable soft keys Dual remote console support, each up to 12 metres from the Transceiver Virtual and Handset Based Console (HBC) options available ¹ | Full Duplex Calls (to MS and PABX/PSTN) Half Duplex Calls (Individual and Group) Late Entry Priority Call Emergency Call (Pre-emptive Priority Call) Emergency Call preference Talking Party Identity Calling Line Identity Presentation DTMF Dialling Ambience Listening Privacy Mode Whisper Mode Group Focus |
| FREQUENCY BANDS | | DATA SERVICES |
| 380 - 430MHz 407 - 473MHz | | Status Messaging Short Data Service Messaging SDS via DMO Gateway Circuit Switched Data Calls Multi Slot Packet Data Text Message Data Store Short Data Applications (SDA) Wireless Application Protocol (WAP) SDS Store & Forward Concatenated SDS (up to 1000 characters) |
| POWER SUPPLY | | OTHER FUNCTIONS AND FEATURES |
| 10.8 to 15.6V DC, typical 13.8V DC | | Support for up to 9900 pre-programmed Talkgroups and in any combination of TMO or DMO talk groups Up to 50 Dynamic Group Number Assignment(DGNA) and supporting Lifetime Timers Efficient management of talk-groups using up to 5000 folders in a multilevel folder structure with up to 75 talk-groups per folder Talk-group Folder Management via PEI and SDS Fixed and User Defined Talk-group Scan Lists Priority Group Scanning with support for Background groups Fast Talk-group Access supports up to 5 TMO and 5 DMO groups Query selected Talk-group Telephone and Radio user Address Book (2000 entries) across 64 Folders Call History with Missed Call alerts Transmit Inhibit (TXI) with On/Off Status messaging DMO Group and Emergency Calls DMO Gateway Interoperability supported ETSI compliant PEI port. AT-command interface for external applications User Profiles including Pager capability Remote control via Status triggered functions Status triggered functions (up to 64configurable actions driven by remote user) Macro keys – operation of a single key will perform a sequence of complex functions Digital I/O lines (3 in, 1 out) Network performance monitoring |
| RF PERFORMANCE | LICENCES | |
| 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 Receiver Dynamic Sensitivity -103dBm Receiver Class A & B | DMO Gateway DMO Repeater Virtual Console Line in/out audio | |
| ENVIRONMENTAL | GATEWAY SERVICES (OPTION ENABLED BY A FEATURE LICENSE CODE) | |
| Dust & Water protection to IEC529 IP54 ETS 300 019 -2.5 drop, vibration and humidity Storage Temp -40°C to +85°C ⁵ Operating Temp -30°C to +70°C ⁶ IP67 Console option available ¹ | Group voice call between DMO and TMO Individual voice calls between DMO and TMO Emergency group call from DMO to TMO Emergency group call from TMO to DMO Pre-emption (in either direction) of existing call SDS messaging in either direction ¹ Configurable routing of SDS messages to Console or PEI Intelligent handling of point to point calls and SDS messages whilst operating as a Gateway | |
| GPS RECEIVER - OPTIONAL | REPEATER SERVICES (OPTION ENABLED BY A FEATURE LICENSE CODE) | |
| 12 channel GPS receiver - 155 dBm / - 185 dBW acquisition sensitivity - 159 dBm / - 189 dBW tracking sensitivity ETSI IIP, Sepura Compact & NMEA protocol support Position Assist Over the Air GPS management Location reporting to two TETRA identities Position & Direction Display ¹ | Repeats DMO voice and tone signalling on selected talk group Repeats SDS and Status messaging on selected talk group ETSI Type 1A DMO Repeater for channel efficient operation Priority Call Emergency Call (Pre-emptive Priority Call) Supports E2E Encrypted DMO traffic Call participation whilst in Repeater mode | |
| SECURITY | AUDIO | |
| Authentication – Mutual and SwMI initiated TMO and DMO Air Interface Encryption support - TEA1, TEA2, TEA3 and TEA4 ³ Trunked Mode Security Class 1, 2 and 3 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 Dual E2EE Algorithm support with dynamic switching of active algorithm ³ Software Authenticity and protection employing Digital Signature | Rated Audio Output - 8 W @ 1kHz into 4 Ohms Dual speaker configuration capable of driving 2 x 4 Ohms speakers Fixed Level Line-out audio option enabling Broadcast and Recording support Line-in Audio for 3rd party console interface support Five independent volume controls for Loudspeaker and Audio Accessories ^{2 & 4} Three audio accessories per console | |

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 licence.

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

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

DN006 SRG3900 English / April 2011