

SCG22 SERIES MOBILE RADIO



SIZE AND WEIGHT

TRANSCEIVER

Standard option:

938g

179mm x 50mm x 116mm

TETRA FREQUENCY BANDS

380 - 470MHz - SCG2229

POWER SUPPLY

12V DC rated 90W

Range 10.8 to 15.6V 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 -115dBm (-118dBm typical)

Receiver dynamic sensitivity -107dBm (-109.5dBm 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 (to be wired in parallel by installer)

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 SCC front-mounted accessory ports¹

Line-in audio for third-party console interface support

Five independent volume controls for loudspeaker & audio accessories^{2,3}

Up to three audio accessories per console

ENVIRONMENTAL

Dust & water protection to IEC60529 IP54

ETS 300 019 -2-5 drop, vibration & humidity

Operational temperature (min./max.) -30°C to +70°C⁴

Operational temperature (conformance tested) -20°C to +55°C

Storage temperature -40°C to +85°C⁴

IP67 SCC3 console option

IP67 HCU handlebar control unit option

PRODUCT OPTIONS

GNSS location tracking

Bluetooth/Wi-Fi broadband module

Micro SDHC card 32GB

DMO repeater type 1A (licence enabled)

DMO gateway (licence enabled)

Air Interface encryption options⁵

End-to-end encryption options⁵

Wide range of languages supported including Cyrillic, Chinese, Korean & Arabic

Coloured bezels on SCC3

Local & remote smart card support

Line in/out audio support (licence enabled)

Extensive console support: SCC3, HBC3, AIU.

Specialist solutions include HCU

handlebar control unit & marine consoles, embedded car console.

FEATURE LICENSES

DMO-Repeater

DMO-Gateway

Virtual Console

Audio Line In & Line Out

Soft Key Function via PEI

Callout

Picture Message Push

Premium Application Pack (SDA)

Profile by Talkgroup

Network Selection by Talkgroup

DMO/TMO Selection by Talkgroup

Reset to Default Status

Extended Preferred & Fixed LA list

Dynamic Home Screen

Set DMO Power from MMI

Air Interface Migration

End-to-End Encryption

Security Class 3G

Lone Worker

Packet Data

WAP

AT Commands

Status Triggered Function

Sepura Public Protocol (SPP)

Performance Monitoring

Position Report Buffer

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

WAP support:

- WAP 2.0

- WAP browsing via TETRA

- WAP shortcuts embedded in SDS for instant data access

WAP onboard:

- Micro SDHC-based WAP sites for instant access to intelligence, images, maps & text

- Data maintained by Radio Manager2 Bluetooth module:

- Bluetooth v2.1+EDR

- Bluetooth v4.x

Bluetooth audio:

- Headset profile (HSP)

- PTT extension to HSP support

Bluetooth data services:

- Serial Port Profile (SPP) for data connectivity

- Dial-up networking (DUN)

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Going further in critical communications

- Discovery mode
- Generic attributes profile (GATT)
- Hardware-ready for:
 - Object push profile
 - Heart device (heart rate & temperature)
 - Battery service profile
 - Devices identity profile
 - Message Access profile
 - Human Interface Device (HID) profile
 - HID over GATT profile
- Bluetooth trusted device, auto re-connect
- Battery status advised immediately on start-up
- Short data applications (SDAs)
- Lone Worker feature
- Missed event application
- 30 quick status messages

AppSPACE

Allows use of secure apps on your radio
 Apps increase operational safety and productivity whilst reducing costs
 Apps can be customised to suit your workflows
 Controlled deployment by your fleet manager

GNSS LOCATION-BASED SERVICES (OPTIONAL)⁶

GPS -194dBW (-164dBm) tracking sensitivity
 Over-The-Air GPS reporting:

- ETSI location standard reporting (LIP)
- NMEA & Sepura compact messaging

 Max. simultaneous satellite track = 24
 Integral antenna plus active external antenna input option for use in sky obscured vehicles
 GPS-based compass
 On-board mapping capable
 Enhanced start-up & acquire through 'predictive ephemeris'

- Glonass and BeiDou2 support⁶

 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

 Active anti-jamming of Continuous Wave (CW) jammers
 Multipath mitigation

SECURITY SERVICES

Authentication: mutual and SwMI initiated
 TMO & DMO Air Interface encryption support: TEA1, TEA2, TEA3 & TEA4⁵
 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 upgrade⁵
 Integral SIM connector for smart card-based E2EE options⁵
 Optional remote smart card reader
 Dual E2EE algorithm support with dynamic switching of active algorithm⁵
 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
 Bluetooth support for voice & data
 Wi-Fi support
 PEI data via RS232, or USB data cables direct to radio or via SCC3
 Accessory connections via consoles and AIU
 SASI high speed interface for feature-rich audio accessories

Digital I/O lines expandable via AIU or expand by second board in main unit
 Line level audio connection
 Remote control via status-triggered functions
 Ethernet¹ (hardware ready)

PROGRAMMING CAPABILITY

Micro SDHC contents manageable via Radio Manager 2
 On-screen programming progress bar
 High-speed programming via USB slave cable
 Background 'over the air' programming via Wi-Fi Radio Manager 2 compatible

1- Factory fit option

2 - Further information available on request

3 - Accessories connected at the rear of a console use the same volume level

4 - Operating at temperature extremes may limit some aspects of operational performance

5 - Functionality is subject to an export license

6 - GNSS any 2 of 4

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Going further in critical communications

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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