

SCG22 SERIES MOBILE RADIO



SIZE AND WEIGHT

TRANSCIVER

Standard option:
938g
179mm x 50mm x 116mm

FREQUENCY BANDS

380 - 470MHz

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 -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)
• Discovery mode
• Generic attributes profile (GATT)
• Hardware-ready for:
---Object push profile

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Going further in critical communications

- 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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