SC20 SERIES
HAND-PORTABLES

Dust & water protection to IP65, IP66, IP67 & IP68
• IPx5 (weatherproof)
• IPx6 (dustproof)
• IPx6 (waterproof – heavy rain/spraying/water-jet)
• IPx7 (waterproof – submersible, 1m depth for 30mins)
• IPx8 (waterproof – submersible, 2m depth for 1hour)
• ‘Fit for purpose’ tested for complete 8hr shifts “in the pouring rain”
Shock, drop & vibration: ETSI EN 300 019 SM3
Salt fog: MIL STD 810G Method 509; duration 24hr
Salt water: submersion, rated at 2m depth for 1hour

RFID PERFORMANCE
Internal tag: HITAG S2048, short range, 125 KHz,
ISO11784 & ISO11785 compliant
Range: 1 cm from back of individual radio box pack
User accessible storage: 2048 bits, passive
technology pre-programmed (user editable):
• 32-bit unique identifier
• Serial number
• Hardware code
• TEI

PRODUCT OPTIONS
GPS with future Glosas & BeiDou2 support
Bluetooth/Wi-Fi broadband module
Man-Down alarm
DM-Repeater Type-1A
Air Interface encryption
End-to-end encryption
Enhanced security module (ESM)
End-to-end encryption smart card support
Wide range of languages supported
Mini SDHC card up to 32GB
User-changeable coloured bar for easy identification

DISPLAY & USER INTERFACE
Screen:
• 37 x 49mm active LCD area
• High-resolution display QVGA (320 x 240 pixels)
• Sunlight-visible Transflective TFT display, 262K
colours
Menu:
• Intuitively-enhanced user interface
• Favourite feature short-cut & event notification
bar, with missed call indicator LED
• Choice of three user interface presentation styles
(compatibility, grid & list modes)
• Customisable top-level screen content
• Customisable SmartMenu supporting 100s of
intuitively arranged soft keys
• Quick change menu for rapid & intuitive selection
of talkgroups, status & user profile
• Custom zoom/normal, large & very large mode
• ‘Twist & zoom’ portrait image viewer
• Night mode to reduce low-light glare in vehicles
• Invert display for easy viewing whilst lapel- or
belt-mounted
• Customisable privacy screen image
• Customisable user profiles e.g. ‘covert’, ‘quiet’, in a
meeting’ & ‘loud’
Controls:
• Dual-language alpha-numeric keypad option
• Four-way navigation keys
• Three context keys for intuitive menu interaction
• Three configurable feature-activation side keys:
  • blind-find & glove-friendly
  • 12 configurable keypad feature activation keys
  • Manual & automatic keypad lock
• Hard-capped keys
• Large, easy reach, blind find, glove-friendly
• ‘Twist & zoom’ portrait image viewer
• Single rotary
Haptics:
• Vibrate on call/message
• Haptic technology for enhanced key tactility when
used with gloves

TALKGROUP MANAGEMENT
• 9900 talkgroups including TMO & DMO
• 50 DGNA
• 5000 folders
• Five multi-level structure
• Quick groups/quick folder
• Home group
• Group toggle
• Talkgroup stack toggle
Talkgroup selection:
• Single or user-defined scan list (UDSL)
• 20 UDSL each with 10 talkgroups
Folder selection:
• 4987 folder scan list of 22 scanned talkgroups
each
• Each folder scan list with 75 talkgroups
• 10 editable folder scan lists
• Background talkgroups in folder scan list

NETWORK
Multiple home networks
Up to 30 configurable networks
Simple & mutual authentication
Alicasing with Radio User Assignment (RUA)
• Radio user-initiated log-on/log-off process
• Dispatcher-initiated log-on/log-off process
Preferred location area
Fixed location area

PHONEBOOK
• 2000 contact names
• Up to six numbers per contact (to a max. of 6000
stored numbers)
• 64 contact folders including favourite folder

VOICE SERVICES
Individual/group/broadcast call
Half-duplex (individual & group)
Route pre-emptive half-duplex call to internal
loudspeaker
Half-duplex audio toggle
Full-duplex calls (to MS & PABX/PSTN)
Full-duplex auto-answer
Independent volume control
Speed, one-touch & direct dialling
Call priority
Calling/talking party identification
DTMF/MSISDN/abbreviated dialling
Ambience listening
Privacy & whimper modes
Group focus
Transmit inhibit with on/off status messaging
Call history
Multiple alert tones

DMO SERVICES
DMO individual & group call
DMO emergency & intelligent emergency call
DM-repeater inter-working call
DM-gateway inter-working call
Channel-only talkgroup
DM-Gateway talkgroup pair

SECOND DATA-BEARER CAPABILITY
Wi-Fi:
• IEEE standard: 802.11b, 802.11g & 802.11n
• Frequencies: 2.4GHz band
• Authentication & encryption: WPA2-PSK, WPA2-
Enterprise authentication (radius) with AES encryption

DATA SERVICES & APPLICATIONS
Dual-data-beater support:
• TETRA & broadband Wi-Fi
• Single- & multi-slot packet data

Wi-Fi:
• WAP high-speed browsing via Wi-Fi
• WAP browsing via TETRA

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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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*Contact Sepura for availability

DIMENSIONS
Height: 139mm (excluding antenna and rotary)
Width: 61mm (54mm)
Depth – standard battery: 32.5mm
Depth – high-capacity battery: 38mm

WEIGHT
With standard battery: 241g (excluding antenna)
With high-capacity battery: 266g (excluding antenna)

TETRA FREQUENCY BANDS
380-430MHz – SC2020
403-470MHz – SC2024
806-870MHz – SC2028*

POWER SUPPLY
7.4V (nominal) lithium polymer battery packs
Intelligent reporting batteries
1160mAh standard battery
1880mAh high-capacity battery

TETRA RF PERFORMANCE
RF power:
• MS power Class 3 (2.7W), Class 3L (1.8W), & Class 4 (1W)
• MSPD power Class 3 (2.7W), Class 3L (1.8W) & Class 4 (1W)
• DMO repeater power Class 3 (2.7W), Class 3L (1.8W),
& Class 4 (1W)
RF power customisable for:
• TMO/DMO/DM-repeater
• Adaptive power control
• Receiver class A & B
• Receiver static sensitivity -116dBm (-118dBm
typical)
• Receiver dynamic sensitivity -107dBm (-109.5dBm
typical)

AUDIO PERFORMANCE
Speaker audio power: 2W with EN-Fi filtering
Rugged accessory connector (sRAC)®
Water proofing technology continually clears water
from mic/earpiece & speaker to allow use in constant
rain

ENVIRONMENTAL PERFORMANCE
Operational temperature (conformance tested): -20°C to
+60°C
Operational temperature (min./max.) -30°C to +65°C
Storage temperature -40°C to +85°C

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• WAP shortcuts embedded in S for instant data access
• WAP access OTA via TETRA or second data bearer

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(s)
• PTT extension to HSP support

Bluetooth data services:
• Serial Port Profile (SPP) for data connectivity with body-worn printers/scanners
• Dial-up networking (DUN)
• Discovery mode

• Generic attributes profile (GATT)
• Hardware-ready for:
  – Object push profile
  – Heart device (heart rate & temperature)
  – Battery service profile
  – Devices identity profile
  – MAP
  – HID
  – HoG

Bluetooth trusted device, auto re-connect

PEI access
USB 2.0 support:
• Host support for interaction with body-worn accessories such as printers & scanners
• Slave support allows use of SC20 as a modem
• PEI access
• High-speed programming

Enhanced Short Data Applications (eSDAs):
• Supports all existing SDA capabilities from STP1
• Supports data accessories such as body-worn printers & scanners
• Supports online database access & interaction with returned data

Messaging:
• SDS messaging (in TMO & DMO)
• Picture Messaging via SDS or packet data
• Concatenated SDS messaging
• Auto-capitalisation in SDS text entry
• Status messaging (in TMO & DMO)
• 350 predefined status messages (up to 140 Unicode characters)
• Up to 30 quick status messages

Callout & paging:
• TETRA simple callout/full callout/paging alert AT commands:
  – ETI & enhanced commands
  – via PEI serial port profile over Bluetooth & USB
  – Voice call control supported
  – Over the air control & programming:
  – Status-triggered functions

Group management via Sepura Public Profile (SPP):
• Reprogramming over Wi-Fi with Radio Manager2

Battery status at start-up
• Missed event application

Major radio status change notification application
• User-expandable up to 32GB via Micro SDHC card

SAFETY FEATURES & APPLICATIONS

Emergency call:
• Pre-emptive priority
• Hands-free live mic operation
• Emergency voice call & alerting to current or defined subgroup
• Emergency status/SDS/location report to defined control user/group

• Full-duplex or half-duplex emergency calls
• Manual activation via red emergency key
• Automatic activation via Man-Down** option

• Automatic TDM/DMO selection
• Emergency through DM-repeater/DM-gateway
• Loud, distinct audio & visual indication
• Silent alarm call

Man-Down**:
• Immobility detection
• Unusual inclination detection
• Customisable alerting (see Emergency Call Capability)

Lone-Worker feature
• Blind-find emergency button
• Wake-on-Alarm allows user to switch on radio & signal an emergency in one action

LOCATION-BASED SERVICES
• GPS integrated option -194dBw (-164dBm) tracking sensitivity

Over-The-Air GPS reporting:
• ETSI location standard reporting (LIP)
• NMEA & Sepura compact messaging

Max. simultaneous satellite track = 24

GPS-based compass
On-board mapping capablea
Enhanced start-up & acquire through predictive ephemera

• RFID tag equipped
• Glonass and BeiDou supportb

SECURITY SERVICES

TETRA:
• Authentication
  – Class 1, 2, 3 & 3G TETRA security
  – Air Interface encryption TEA1/2/3/4
  – Smart card E2E encryptionc
  – Embedded E2E encryptionc
  – Enhanced security module (ESM)
  – In-country E2E Encryption algorithmc
  – Multiple EJE algorithmc
  – Temporary disable (stun)
  – Permanent disable (kill)
  – 60KBER crypto groups

Wi-Fi:
• WPA2-PSK, WPA2-Enterprise authentication (radius) with AES encryption

DM-REPEATER SERVICES (LICENCE REQUIRED)
• DMO voice repeated
• Status & SDS 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
• PEI data via USB or Bluetooth
• Wi-Fi support

Accessory connections via rugged accessory connector (sRAC)2

Audio & data connection via bottom connector (sDAC)

MicroSDHC card slot (32GB max.)
• Passive 125KHz RFID tag
• eSDA – rugged side connector:
  – Rapid tool-less fitting & removal
  – Unique anti-overkerning design
  – Salt-resist seal
  – Modular connector

Travel-auto heart of the TETRA device

Network monitor & participation in calls

PROGRAMMING CAPABILITY

High-speed programming via USB slave cable
• Six-way USB gang programming supported in 6+6 programmer/charger

• Background ‘over the air’ programming via Wi-Fi

Radio Manager2 compatible

Micro SDHC contents manageable via Radio

COMPATIBLE STP ACCESSORIES

Chargers:
• 1+1 desktop chargerf
• 6+6 desktop charger/programmer (USB connection)

Batteries:
• Standard capacity batteryf
• High capacity batteryf

Car kits:
• Basic car cradle

Data leads:
• USB host adapter for wired body worn accessories
• USB slave data lead for programming & control of SC20 from a third-party device

STP ACCESSORIES

Chargers:
• Personal rapid charger
• Vehicle rapid charger

Batteries:
• Standard capacity battery
• High capacity battery

Car kits:
• Basic car cradle

1 – New standard (300-01852) & high-capacity (300-01853) batteries, along with the high power Class 2 feature licence, are required to operate the SC20 in high power RF Class 3 mode. Use of older STP batteries will limit SC20 operation to RF Class 3L.
2 – Compatible with Sepura STP9000 & STP8000 RAC-based accessories.
3 – Operating at temperature extremes may limit some aspects of operational performance
4 – As defined in EN300 019-2-1 & EN300 019-2-2
5 – Connector Protector must be enabled in customisation. An antenna, a battery & a Sepura accessory or IMAC cover must be fitted. Rinse in fresh water to prevent salt crystal build-up
6 – Future: please contact Sepura Product Management to discuss your requirements
7 – eSDAs must be re-formatted for use with an SC20
8 – Availability is subject to export licence
9 – STP 1+1 chargers shipped since mid-2013 are compatible
10 – Existing STP belt clips may adversely affect broadband performance. SC20 belt clips are recommended

* Whilst every effort is made to ensure the reliability of the Man Down Alarm (“MDA”), the nature of the technology and the circumstances of use are such that Sepura cannot warrant that it will operate effectively in all circumstances and users should not entrust their safety to the MDA. The MDA should in no way be regarded as a substitute for compliance with appropriate risk assessment and other safety procedures. As such, and specifically in respect of the MDA, all warranties, conditions or other terms implied by statute or common law are excluded. For the avoidance of doubt, no term is to be implied to the MDA for purpose or satisfactory quality of the MDA.