Class 4 (1W)

- TEI
- Serial number
- 32-bit unique identifier pre-programmed (user editable):

User accessible storage: 2048 bits, passive technology

Range: 1 cm from back of individual radio box pack

ISO11784 & ISO11785 compliant

403-470MHz – SC2024
380-430MHz – SC2020

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

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

Salt fog: MIL810E 509.4(l); duration 24hr

- ‘Fit for purpose’ tested for complete 8hr shifts “in the
- IPx8 (waterproof – submersible, 2m depth for 1hour)
- IPx6 (waterproof – heavy rain/spraying/water-jet)

Rugged accessory connector (sRAC)

- Receiver static sensitivity -116dBm (-118dBm typical)
- Receiver dynamic sensitivity -107dBm (-109.5dBm typical)

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 +70°C
Storage temperature -40°C to +85°C
Dust & water protection to IP66, IP67 & IP68
- IP6x (dustproof)
- IP6x (waterproof – heavy rain/spraying/water-jet)
- IPx7 (waterproof – submersible, 1m depth for 30mins)
- IPx8 (waterproof – submersible, 2m depth for 1hour)
- IP6x (pouring rain)
Shock, drop & vibration: ETS 300 199 536
Salt fog: MIL810E S09.4(d); duration 24hr
Salt water: submersion, rated at 2m depth for 1hour

RF PERFORMANCE

Internal tag: HITAG 2S048, 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
- TRL

PRODUCT OPTIONS

GPS with future Glonass & BeiDou2 support
Bluetooth Wi-Fi broadband module Wi-Fi dual-band module
Man-Down alarm
DM-Repeater Type-1A
Air Interface encryption

End-to-end encryption
Enhanced security module (ESM) FIPS 140-2 level 3
End-to-end encryption smart card support
Wide range of languages supported
Micro 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’ shortcut & 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 SmartMenus supported 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 text
- ‘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 PTT
- Blind-find emergency key
- 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:
- 4967 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
Alising 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 6 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, on-touch & direct dialling
Call priority
Calling/talking party identification
DTMF/MSDSN/abbreviated dialling
Ambience listening
Privacy & whisper 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-Early authentication (radius) with AES encryption

DATA SERVICES & APPLICATIONS

Dual-data-bearer support:
- TETRA & broadband Wi-Fi/LTE
- Single- & multi-slot packet data

Circuit mode data
WAP support:
- WAP 2.0
- WAP browsing via TETRA
- WAP high-speed browsing via Wi-Fi/LTE
- WAP shortcuts embedded in SDS for instant data access
- WAP access OTA via TETRA or second data bearer

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

Data maintained by Radio Manager2

Bluetooth support:
- Bluetooth 2.1 + EDR with secure pairing
- Bluetooth 4.0 LE
- Bluetooth Smart (BLE)
- Bluetooth audio:
  - Headset profile (HSP)
  - 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 access profile (GAP)
- Hardware-ready for:
  - Device profile
  - Device profile
  - Device profile
  - Device profile
  - Device profile

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 processing

Going further in critical communications
Enhanced Short Data Applications (eSDAs):
- Supports all existing SDA capabilities from STP
- Supports data accessories such as body-worn printers & scanners via Bluetooth or USB
- Supports online database access & interaction with returned data

Messaging:
- SDS messaging (in TMO & DMO)
- Picture Messaging via SOD 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 10 quick status messages

Callout & paging:
- TETRA simple callout/full callout/paging/alert AT commands:
- ETSI & 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)
- Over programming via Wi-Fi with Radio Manager2
- Battery status at start-up

Programmed features:
- User-expandable up to 32GB via Micro SDHC card
- Major radio status change notification application
- Missed event application
- Battery status at start-up

SAFETY FEATURES & APPLICATIONS

Emergency call:
- Pre-emptive priority
- Hands-free live mic operation
- Emergency voice call & alerting to current or defined talkgroup
- 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 TMO/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-Mann allows user to switch on radio & signal an emergency in one action

LOCATION-BASED SERVICES

GPS integrated option -194dBm (-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' Bluetooth location system compliant

RFID tag equipped
- Glosnus and BeiDou2 support

SECURITY SERVICES

TETRA:
- Authentication
- Class 1, 2, 2.3 & 3G TETRA security
- Air interface encryption TEA1/2/3/4
- Smart card E2E encryption
- Embedded E2E encryption
- Enhanced security module (ESM) FIPS 140-2 level 3 validated
- In-country E2E Encryption algorithm
- Multiple E2E algorithm
- Temporary disable (stun)
- Permanent disable (kill)
- 600KE crypt groups
- Wi-Fi
- WPA2-PSK, WPA2-Enterprise authentication (radius) with AES encryption

DM/REPEATER SERVICES (LICENSE 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
- USB support for data
- PEI data via USB or Bluetooth
- LTE support

Accessories:
- Audio & data connection via bottom connector (bDAC)
- MicroSDHC card slot (32GB max.)
- Passive 125KHz RFID tag
- Smart card E2E encryption
- Class 1, 2, 3 & 3G TETRA security
- Authentication

TETRA:
- Glonass and BeiDou2 support
- LTE support
- eSDA – bottom connector:
- Rapid tool-less quarter-turn twist-lock fitting & removal
- Connector Protector salt protection

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
MicroSDHC contents manageable via Radio Manager2
via USB or Wi-Fi
On-screen programming progress bar

COMPATIBLE STP ACCESSORIES

Chargers:
- 1+1 desktop charger
- 12- & 24-way battery-only chargers
- Personal rapid charger
- 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

Batteries:
- High capacity battery
- Car kits:
- Standard capacity battery
- High capacity battery
- Carrying accessories:

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
MicroSDHC contents manageable via Radio Manager2
via USB or Wi-Fi
On-screen programming progress bar

COMPATIBLE STP ACCESSORIES

Chargers:
- 1+1 desktop charger
- 12- & 24-way battery-only chargers
- Two-way, battery-only, charger for vehicles

Batteries:
- Standard capacity battery

1 – As defined in ETSI EN300 019-2-1 & EN300 019-2-2
2 – Availability is subject to export licence
3 – The Man-Down alarm should in no way be regarded as a substitute for compliance with appropriate risk assessment & other safety procedures & practices. To enable Man-Down a software licence is required
4 – Operating at temperature extremes may limit some aspects of operational performance
5 – Connector Protector salt protection
6 – Bluetooth & Wi-Fi are supplied in one option module; Bluetooth supported in software from Jan’16. Wi-Fi supported in a future software release
7 – New standard (300-01174) & high-capacity (300-01175) batteries, along with the high power Class 3 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
8 – 100% compatible with Sepura STP9000 & STP8000 RAC-based accessories
9 – STP 1+1 chargers shipped since mid-2013 are compatible
10 – Existing STP belt clips may adversely affect signal performance. SC20 belt clips are recommended
11 – SDSs must be reformatted for use with an SC20
12 – Future: please contact Sepura Product Management to discuss your requirements

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