

SC21 SERIES HAND-PORTABLES



DIMENSIONS

Height: 122.5mm (excluding antenna and rotary)
Width: 60mm (54mm)
Depth – standard battery: 27mm
Depth – high-capacity battery: 31.5mm

WEIGHT

With standard battery: 194g (excluding antenna)
With high-capacity battery: 220g (excluding antenna)

TETRA FREQUENCY BANDS

380-430MHz – SC2120
403-470MHz – SC2124
806-870MHz – SC2128

POWER SUPPLY

7.4V (nominal) lithium polymer battery packs
Intelligent reporting batteries
1160mAh standard battery¹
1880mAh high-capacity battery¹

TETRA RF PERFORMANCE-

RF power

380-430MHz – SC2120
• MS power Class 3 (2.7W)¹, Class 3L (1.8W), & Class 4 (1W)¹
• MSPD power Class 3 (2.7W)¹, Class 3L (1.8W) & Class 4 (1W)¹
• DMO repeater power Class 3 (2.7W)¹, Class 3L (1.8W), & Class 4 (1W)¹

403-470MHz – SC2124

• MS power Class 3 (2.7W)¹, Class 3L (1.8W), & Class 4 (1W)¹
• MSPD power Class 3 (2.7W)¹, Class 3L (1.8W) & Class 4 (1W)¹
• DMO repeater power Class 3 (2.7W)¹, Class 3L (1.8W), & Class 4 (1W)¹

806-870MHz – SC2128

• MS power Class 3 (2.5W)¹, Class 3L (1.8W), & Class 4 (1W)¹
• MSPD power Class 3 (2.5W)¹, Class 3L (1.8W) & Class 4 (1W)¹
• DMO repeater power Class 3 (2.5W)¹, Class 3L (1.8W), & Class 4 (1W)¹

RF power customisable for:

- TMO/DMO/DM-repeater
- Adaptive power control
- Receiver class A & B

380-430MHz – SC2120

- Receiver static sensitivity -116dBm
- Receiver dynamic sensitivity -107dBm

403-470MHz – SC2124

- Receiver static sensitivity -116dBm
- Receiver dynamic sensitivity -107dBm

806-870MHz – SC2128

- Receiver static sensitivity -114dBm
- Receiver dynamic sensitivity -105dBm

AUDIO PERFORMANCE

Speaker audio power: 1W
Rugged accessory connector (sRAC)²
Water-porting 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°C³
Storage temperature -40°C to +85°C⁴
Dust & water protection to IP65 and IP67:
• IP6x (dustproof)
• IPx7 (waterproof - submersible, 1m depth for 30 mins)
• IPx5 (waterproof - heavy rain/spray/jets)
• 'Fit for purpose'; tested for full 8-hour shift in heavy rain
Shock, drop & vibration: ETS 300 019 5M3
Salt fog: MIL810E 509.4(l); duration 24hr salt⁵

RFID PERFORMANCE

Internal tag: HITAG S2048, short range, 125 KHz, ISO11784 & ISO11785 compliant
User accessible storage: 2048 bits, passive technology pre-programmed (user editable):
• 32-bit unique identifier
• Serial number
• Hardware code
• TEI

PRODUCT OPTIONS

GPS & BeiDou2 support
Bluetooth
Wi-Fi
Man-Down alarm⁶
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
User-changeable coloured keymat bezel 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 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 text
• 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:

- 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
Aliasing 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 & whisper modes
Group focus
Transmit inhibit with on/off status messaging
Call history
Multiple alert tones

Going further in critical communications

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0090_0219_V9_English

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

WAP support:

- WAP 2.0
- WAP browsing via TETRA
- WAP shortcuts embedded in SDS for faster data access
- WAP access OTA via TETRA or second data-bearer

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 with body-worn printers/scanners
- Dial-up networking (DUN)
- Discovery mode
- Generic attributes profile (GATT)
- Hardware-ready for the following Bluetooth capabilities:
 - Object push profile
 - Heart device (heart rate & temperature)
 - Battery service profile
 - Devices identity profile
 - Hands-free
 - 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 SC21 as a modem
- PEI access
- High-speed programming

Enhanced Short Data Applications (eSDAs):

- Supports all existing SC20 & STP SDA capabilities⁷
- 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 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:

- 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)
- Battery status at start-up

Missed event application

Major radio status change notification application

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-Down⁵ option
- Automatic TMO/DMO selection
- Emergency through DM-repeater/DM-gateway
- Loud, distinct audio & visual indication
- Silent alarm call
- Man-Down:⁶
 - 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
- Integral antenna plus active external antenna input option for use in sky-obscured vehicles
- GPS-based compass
- Enhanced start-up & acquire through 'predictive ephemeris'
- Bluetooth location-system compliant
- RFID tag equipped
- BeiDou2 support

SECURITY SERVICES

TETRA

- Authentication
- Class 1, 2, 3 & 3G TETRA security
- Air Interface encryption TEA1/2/3/4⁸
- Smart card E2E encryption⁸
- Embedded E2E encryption⁸
- Enhanced security module (ESM)
- In-country E2E encryption algorithm⁸
- Multiple E2E algorithm⁸
- Temporary disable (stun)
- Permanent disable (kill)
- 600KEK 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

USB support for 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)

Passive 125KHz RFID tag

sRAC – rugged side connector²

- Rapid tool-less fitting & removal
- Unique anti-overtighten design
- Salt-resistant seal

sDAC – bottom connector

- Rapid tool-less quarter-turn twist-lock fitting & removal
- Connector Protector salt protection⁵

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

On-screen programming progress bar

COMPATIBLE SC20/STP ACCESSORIES

Chargers

- SC20 personal rapid charger
- SC20 vehicle rapid charger
- 1+1 desktop charger⁹
- 6+6 desktop charger/programme⁹
- 12- & 24-way battery-only chargers
- Two-way, battery-only, DC charger for vehicles
- STP RAC-mount accessory compatibility
- All overt range
- All covert range
- All semi-covert range
- All public order range

Batteries:

- Standard capacity battery¹
- High-capacity battery¹

Data leads:

- USB host adapter for wired body-worn accessories
- USB slave data lead for programming & control of SC21/SC20 from a third-party device

Car Kits:

- SC2/STP basic car kit (metal) plus insert

SC21-ONLY ACCESSORIES

Carrying accessories:

- Stud, belt & shirt pocket attachments
- Nylon holster
- Lightweight leather case

Car kits:

- SC21 modular car kit

Antennas:

- Overt range
- Covert range

¹ – New standard & high-capacity batteries, along with the high power Class 3 feature licence, are required to operate the SC21 in high power RF Class 3 mode. Use of older STP standard & high-capacity batteries will limit SC21 operation to RF Class 3L.

² – Compatible with Sepura STP9000 & STP8000 RAC-based accessories, as well as SC20 sRAC-based accessories

³ – Operating at temperature extremes may limit some aspects of operational performance

⁴ – As defined in ETSI EN300 019-2-1 & EN300 019-2-2

⁵ – Connector Protector must be enabled in customisation. An antenna, a battery & a Sepura accessory or sRAC cover must be fitted. Rinse in fresh water to prevent salt crystal build-up

⁶ – 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

⁷ – SDAs created for an STP must be reformatted for use with an SC20 or SC21

⁸ – Availability is subject to export licence

⁹ – SC20/STP 1+1 chargers (300-01930) are compatible with SC21, SC20 and STP series. SC20/STP 6+6 charger/programmers (300-00846) are compatible with SC21, SC20 and STP series for charging and SC21/SC20 for charging and programming.



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