

HF TRANSCEIVER

SENTRY-H 5120-BM



KEY FEATURES

- Software Defined Radio
- 150 W power output (expandable to 500W/1kW)
- Wide range 10 V to 36 V DC input
- Rugged and waterproof design
- Multiple control point flexibility
- Intuitive icon based colour display
- Multilingual user interface
- IP connectivity
- Exceptional RF performance
- Digital Voice TWELP/MELPe 2400/1200 bit/s
- Digital voice message call
- Supported standards:
 - FED-STD-1045 ALE
 - 3G ALE
 - SELCALL
- Virtual Control Point (VCP) compatible
- Worldwide Codan service and support

Codan's SENTRY-H 5120-BM delivers a rugged Software Defined Radio (SDR) solution for organisations that demand uncompromised long-range voice and data communications. With 150W RF power, it has been specifically designed to deliver the smallest and lightest form factor for no-fuss integration into base and mobile platforms.

PROVEN SOFTWARE DEFINED ARCHITECTURE

Codan's 5120-BM uses the latest-generation high-performance Digital Signal Processor (DSP). Built upon a proven SDR platform with thousands of hours of operation in the field, the 5120-BM delivers market-leading performance and future upgradability through software updates that support evolving standards and ensure sustainability.

CONTROL POINT FLEXIBILITY

The 5120-BM is supported by the 2320 Smart Handset, 2340 Control Head, and the 2330 Desk Console, providing ultimate flexibility for any base or mobile platform application. This presents the advantage of choosing the preferred control point for radio control while using a dedicated headset/handset or intercom system for voice communications.

IP/ETHERNET/USB CONNECTIVITY

The 5120-BM's IP based design enables remote operation via a dedicated cable or Ethernet when using the Desk Console. All SENTRY-H control points have a USB port for radio profiling in the field. Direct access to the optional 3G ALE data modem capabilities is possible via IP connection for customised data solutions.

ADVANCED ALE

The 5120-BM uses the latest generation 3G ALE technology, providing faster linking and data capabilities. Critical messages are transferred securely using link protection. Synchronised scanning provides more efficient use of existing bandwidth.

The radio's certified waveforms allow for integration and interoperability with agencies using disparate radio networks and systems.

GPS SUPPORT

The 5120-BM Unit has a connection point for an external remote GPS antenna if needed.

Position data display format is user selectable and includes UTM and UPS formats. Your distance and bearing from a remote HF station or waypoint can be displayed graphically via the handset user interface.

DIGITAL VOICE

Codan's second generation digital voice technology utilises MELPe or TWELP to provide a major improvement in High Frequency (HF) voice communications. A fully digital mode, coupled with highly optimised vocoder technology, provides clarity and connectivity when traditional methods fail.

DATA WAVEFORMS

The 5120-BM is hardware ready for data mode.

The optional 3G ALE provides fast linking and data capability is capable of exceeding the performance experienced with traditional data options. Codan 3G ALE supports all call types including digital voice message calls and SMS text.

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SOFTWARE APPLICATIONS

- TPS-M Radio Programming Software
- RTS Tracking Software
- SprintChat and SprintNet
- Virtual Control Point (VCP)

WARRANTY, SERVICE, AND SUPPORT

Codan provides proven product reliability and performance, backed up by our standard three year warranty.

TRANSCEIVER BASED OPTIONS

- Free tune transmit
- 1.5 MHz Tx

SPECIFICATIONS

GENERAL

Frequency range	Transmit: 1.6 to 30 MHz (optional: 1.5 to 30MHz) Receive: 250 kHz to 30 MHz
Power output	150 W PEP ± 1 dB (two-tone or voice), user-programmable in 1 W steps (low/medium/high)
Channels	Up to 1000 entries
Contacts	Up to 500 entries
HF networks	Up to 20 networks (simultaneous scanning)
Input voltage range	13.8 V DC nominal, negative earth Functional range: 10.8 V to 35.2 V DC
Supply current	Transmit: output power 150 W, two-tone 11 A to 20 A CW or average speech 8 A for battery life calculations Receive: no signal < 0.6 A typical, 0.9 A maximum
Frequency stability	± 0.3 ppm from -20°C to $+60^{\circ}\text{C}$
GPS	RFU - external antenna (GPS, GLONASS, and Beidou)
Programming	TPS-M Radio Programming Software, USB flash drive
Language support	English, Spanish, French, Arabic, Dari, Pashto, Portuguese, and Polish
Compliance	UKCA, CE compliance available, FCC Part 90, AS/NZS 4770, AS/NZS 4355, IC RSS-125

RF

Modes	Single Sideband USB, LSB (J3E), AM (H3E), CW (J2A), AFSK (J2B), FSK (F1B), ISB (B7D or B2B), Software Defined
Duty cycle	100% voice and data
Receiver specifications	Sensitivity: SSB: -125 dBm (0.12 μV) for 10dB SINAD Selectivity: >65 dB at -1 kHz at -1 kHz +4 kHz SCF (USB)
Transmitter specifications	Spurious and harmonic suppression: >65 dB below PEP Intermodulation products: >31 dB below PEP

ELECTRICAL AND MECHANICAL

Size	RFU: 220 mm x 66.5 mm x 190 mm 2320 Handset: 67 mm x 210 mm x 72.5 mm
Interfaces	RFU: ATU control, GP Interface, Control Point interface (includes TCP/IP Ethernet), Fan control, GPS antenna 2320 Handset: USB
Temperature range	Operational at -30°C to $+60^{\circ}\text{C}$; 95% RH maximum, non-condensing (-40°C to $+70^{\circ}\text{C}$ reduced performance)

Values noted are typical. Equipment descriptions and specifications subject to change without notice or obligation.

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