

# TECHNICAL SPECIFICATIONS

FREQUENCY RANGE	Tx	1.6 to 30MHz
	Rx	250KHz to 30MHz
POWER OUTPUT		150W PEP
CHANNELS		1000
CONTACTS		Up to 500 entries
HF NETWORKS		Up to 20 networks (simultaneously scanning)
LANGUAGE SUPPORT		English, Arabic, Dari, Pashto, Chinese, French, Portuguese, Russian, Spanish
		Digital Voice (MELPe/TWELP) Selcall
WAVEFORMS		FED-STD-1045; J1TC Certified MIL-STD-188-141B; STANAG 4538 3G ALE
		MIL-STD-188-110A/B (STANAG 4539) data ECCM
ENCRYPTION		CES-128 voice and AES-256 digital voice and data
SIZE	RFU	190 x 222 x 67 mm (D x W x H)
	Handset	67 x 73 x 210 mm (D x W x H)
WEIGHT	RFU	2.82kg
	Handset	0.28kg (no cable)
TEMPERATURE RANGE		Operational at -30 to +60°C; 95% RH maximum, non-condensing
VOLTAGE RANGE		10 to 35 V DC
CURRENT DRAW	Tx	14A
	Rx	650mA
PROTECTION		Over Voltage, Under Voltage, Over Temperature, Reverse Polarity
ENVIRONMENTAL STANDARDS		MIL-STD-810G (Immersion, Shock, Drop, Vibration, Humidity, Blowing Dust, Salt Fog, Fungus, Contamination, Altitude)

# CONFIGURATIONS

## Versatile design for mobile and base systems

Codan's Sentry-H 6120-BM base configuration delivers reliable and powerful communications over vast distances with power outputs from 150 to 1000 W. The ruggedised RF unit's versatile design makes installation into permanent and temporary bases simple, and it operates from wide ranging DC and AC power sources. The range of control options for the 6120-BM includes a robust hand-held and indoor desk console.

When space is limited, the 6120-BM's compact and highly integrated unit together with the robust handset makes mobile installation easy. It is engineered to provide 150 W of power, eliminating the need for an external power amplifier while ensuring that you get the best and most reliable communications.



# OUR PROCESS

Solving challenging requirements is what we do best



## ASSESS

Our technical consultants will conduct a detailed on-the-ground assessment of:

- Human needs
- Operational environment
- Opportunities and challenges
- Cultural context
- Scenario planning



## DESIGN

Our field service team will then design a custom solution for those challenges, using the right hardware and software from Codan or one of our technology partners.



## DEPLOY

Our specialist logistics team gets the hardware and the resources to wherever you are, getting your system up and running fast.



## TRAIN

We'll train operators and communications staff on how to use the system – which will be a short process, thanks to our easy-to-use interfaces and interoperability.



## SUPPORT

We're available to be deployed within 24 hours for any support required. And we're always on hand for any advice you require.

12-30051-EN Issue 6

HF TRANSCEIVER

# SENTRY-H 6120-BM



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## CONTACT US

[codancomms.com/6120-BM](http://codancomms.com/6120-BM) **Australia:** +61 8 8305 0528 **US:** +1 571 919 6432  
[sales@codancomms.com](mailto:sales@codancomms.com) **Canada:** +1 250 382 8268 **UAE:** +971 44 53 72 01

# CHALLENGING REQUIREMENTS? NO PROBLEM

The Sentry-H 6120-BM is the most robust and affordable high-power radio we have ever built for voice and data communications, delivered in a small form-factor. It has an advanced SDR architecture, meaning you can upgrade any time in the future to ensure sustainability in ever-changing, challenging conditions.



## ROBUST

With 60 years of experience in the field, Codan's 6120-BM radio is built with ruggedness and reliability as a focus. It has been tested to a broad range of stringent environmental standards including MIL-STD-810G – to get the job done no matter where you operate.



## EXCEPTIONAL DIGITAL AND ANALOGUE VOICE CLARITY

Codan's Digital Voice technology provides significantly reduced hiss, crackle, pops, and multipath effects typical of HF, enabling voice quality similar to modern cellular phones.



## INTELLIGENT PERFORMANCE

Codan 6120-BM's internal SDR architecture comprises the latest-generation high-performance Digital Signal Processor (DSP), Field Programmable Gate Array (FPGA), and system on chip (SoC) technology devices. It provides exceptional performance, and future upgradability via its IP / Ethernet / USB connectivity.



## SECURE COMMUNICATION

The 6120-BM ensures your information and team remains safe and secure through use of AES-256 bit encryption applied to data transfers, digital voice and 3G ALE. An option for internal frequency hopping is provided to prevent third party interference and monitoring and keep your intel safe.



## INTUITIVE OPERATION

Codan knows that when lives are on the line, operation of the radio must be second nature. The 6120-BM provides an intuitive user interface that can be switched into various languages for fast and instinctive control.



## INTEGRATED

Competing manpack-based tactical solutions require heavy components interconnected by large, unreliable, and difficult-to-install cabling. The 6120-BM eliminates this hassle and combines all key functions into a single compact unit.

# YOUR CODAN 6120-BM SOLUTION

## MOUNTING

### CRADLE MOUNT

A low profile, quick fit/release mounting cradle designed and tested to meet MIL standards. Supports the transceiver and power supply, and is fully compatible with off the shelf RAM mounting accessories.

### SHOCK MOUNT

Provides additional protection for the transceiver or power supply when installed in high vibration environments as often found in mechanised and vehicular deployments.

## GATEWAYS

### 3033 TI

Codan's Telephone Interconnect equipment can link into the telephone system enabling you to make or receive telephone calls on your HF transceiver.

### 3031 XPATCH

Codan's 3031 Crosspatch enables you to use a VHF/UHF radio and a 6120-BM Transceiver to extend a HF and VHF/UHF network.

## DATA

### EMAIL/FILE

Codan offers various solutions for email and file transfer for both HF and web based communications.

### CHAT

Codan's chat software enables users within a HF, or external network to communicate via chat.

### SMS

Send and receive SMS messages on your HF radio to/from any cellular phone.



## POWER SOLUTIONS

### 3020 POWER SUPPLY

Used to power your transceiver system from universal AC mains, with comprehensive protection against unstable power sources.

### BATTERY BACKUP

12V deep cycle battery capable of supplying the 6120-BM transceiver and antenna.

### SOLAR

Solar charging solutions are available to maintain a supply battery for the Envoy HF radio and antennas.

## HIGH POWER AMPLIFIERS

### 3061 500W

A reliable and affordable 500W high power solution for voice and data communication.

### 3062 1KW

A reliable and affordable 1KW high power solution for voice and data communication.

### 3240 1KW

An automatic antenna tuner developed to interface directly with Codan's 3061 and 3062 HF power amplifiers.

## REMOTE

### XTEND

The Codan XTEND app allows you to operate your 6120-BM HF radio via your smartphone or tablet. Using the widespread familiarity of smartphone devices, XTEND provides an exceptionally easy-to-use alternative to a dedicated radio control point.

### VIRTUAL CONTROL POINT

Control the 6120-BM radio through a PC via the Virtual Control Point, a digital replica of a Sentry-H handset that emulates similar functionality.

### INTERNET PROTOCOL

Control and communicate through your 6120-BM transceiver using remote solutions through the internet, even if the transceiver is on the other side of the world.

### BROADBAND

Full size base station antennas designed to suit a wide range of HF communications requirements and installation scenarios.

### TUNED

A range of tuned antenna solutions that are suitable for installations with limited space.

### MOBILE

Antennas designed for a wide range of vehicle types and applications.

## ANTENNAS & MASTS

### MASTS

Designed for tactical use where rapid deployment and ease of transportation is important.

## ASSET MANAGEMENT AND TRACKING

### RTS

Codan's Remote Tracking Software provides an effective means to locate, track and manage remote assets with no on-going subscription fees.

### CONVOY

Codan Convoy complete communication solution is the only communications platform that integrates HF radio, satellite and cellular communications services into the one system.

## WARRANTY AND WORLDWIDE SUPPORT

Codan products are backed by an extensive distribution and support network, and include a three year extendable warranty.

# TECHNICAL SPECIFICATIONS

		ENVOY X1	ENVOY X2
<b>FREQUENCY</b>	Tx	1.6 to 30MHz	1.6 to 30MHz
<b>RANGE</b>	Rx	250kHz to 30MHz	250kHz to 30MHz
<b>CHANNELS</b>		100	1000
<b>SCAN GROUPS</b>		10	20
<b>TEMPERATURE RANGE</b>		-30°C to +60°C	-30°C to +60°C
<b>HUMIDITY</b>		95%	95%
<b>OUTPUT POWER</b>		125W PEP	125W PEP
<b>VOLTAGE RANGE</b>		10.8 to 13.8 V DC	10.8 to 13.8 V DC
<b>CURRENT DRAW</b>	Tx	12.5A	12.5A
	Rx	500mA	500mA
<b>WAVEFORM</b>		Analogue Voice Digital Voice (MELPe/TWELP) Selcall FED-STD ALE	Analogue Voice Digital Voice (MELPe/TWELP) Selcall FED-STD ALE & MIL-STD-ALE MIL-STD-110-188A/B & STANAG 4539 Data STANAG 4538 3G ALE
<b>DIMENSIONS</b>	<b>RFU</b>	210 x 270 x 65 mm (D x W x H)	210 x 270 x 65 mm (D x W x H)
	<b>Handset</b>	75 x 32 x 151 mm (D x W x H)	75 x 32 x 151 mm (D x W x H)
	<b>Console</b>	190 x 228 x 79 mm (D x W x H)	190 x 228 x 79 mm (D x W x H)
<b>WEIGHT</b>	<b>RFU</b>	2.8kg	2.8kg
	<b>Handset</b>	0.3kg	0.3kg
	<b>Console</b>	1.1kg	1.1kg
<b>SUPPORTED ACCESSORIES</b>		Morse key, GPS Receiver	Data Modem (internal / external), 2240 Smartlink, Crosspatch, Telephone Interconnect, External Encryptor, Voice Recorder, GPS Receiver, PC, Custom
<b>SUPPORTED APPLICATIONS</b>		TPS-3250, KMS/KFS, Codan Chat (ALE only), RTS, VCP, XTEND	TPS-3250, KMS/KFS, Codan Chat, RC50-C, Sprint Chat/Net, RTS, VCP, XTEND
<b>LANGUAGES</b>		English, Arabic, Dari, Pashto, Chinese, French, Portuguese, Russian, Spanish	English, Arabic, Dari, Pashto, Chinese, French, Portuguese, Russian, Spanish
<b>PROTECTION</b>		Over Voltage, Under Voltage, Over Temperature, Reverse Polarity	Over Voltage, Under Voltage, Over Temperature, Reverse Polarity

# CONFIGURATIONS

Versatile design for mobile, base and complex systems

Envoy is designed using a modular approach, with a handset for mobile applications and a desk console for bases. The use of IP over Ethernet enables geographical separation of radio and console, without the need for expensive adaptor devices. Envoy is available in rapidly deployable cases.



HF TRANSCEIVER

ENVOY

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- Cultural context
- Scenario planning



## DESIGN

Our field service team will then design a custom solution for those challenges, using the right hardware and software from Codan or one of our technology partners.



## DEPLOY

Our specialist logistics team gets the hardware and the resources to wherever you are, getting your system up and running fast.



## TRAIN

We'll train operators and communications staff on how to use the system – which will be a short process, thanks to our easy-to-use interfaces and interoperability.



## SUPPORT

We're available to be deployed within 24 hours for any support required. And we're always on hand for any advice you require.

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## CONTACT US

[codancomms.com/envoy](http://codancomms.com/envoy)  
[sales@codancomms.com](mailto:sales@codancomms.com)  
**Australia:** +61 8 8305 0528 **US:** +1 571 919 6432  
**Canada:** +1 250 382 8268 **UAE:** +971 44 53 72 01



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## CHALLENGING REQUIREMENTS? NO PROBLEM

The Codan Envoy smart radio series are the most intuitive, reliable and advanced radios we have ever built. Envoy's clear and dependable High Frequency (HF) digital voice and data communications means you have the confidence to communicate anywhere and anytime without the need for existing infrastructure.



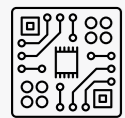
### EXCEPTIONAL DIGITAL AND ANALOGUE VOICE CLARITY

Codan's Digital Voice technology provides significantly reduced hiss, crackle, pops, and multipath effects typical of HF, making voice quality similar to modern cellular phones with continued operation in degraded and fading channels.



### UNPARALLELLED PERFORMANCE

Envoy provides superior specifications that minimise chances of interference from adjacent stations and supports connection of dual antennas for short and long-range propagation.



### SOFTWARE-DEFINED ARCHITECTURE

Envoy uses the latest-generation high-performance Digital Signal Processor (DSP), Field-Programmable Gate Array (FPGA) and system on chip (SoC) technology.

Built upon a proven SDR platform with thousands of hours of operation in the field, Envoy delivers market-leading performance and future upgradability through software updates that support evolving standards and ensure sustainability.



### GPS SUPPORT

Supporting connection to GPS via NMEA0183 compatible GPS receivers, the Envoy is capable of sending GPS position and calculating distance and bearing. When combined with Codan mapping software, this feature also enables position tracking of deployed vehicles and route planning with pre-programmed waypoints.



### INTUITIVE OPERATION

Envoy's large high-resolution, sunlight-readable colour display, and intuitive menu system makes operation similar to modern smartphones. Making calls is as simple as navigating to your contact list, locating the desired contact and pressing the "call" button.



### ENCRYPTED COMMUNICATION

Envoy has a choice of encryption options to suit the required level of communications security. Ranging from basic voice security to "top secret" classification, all voice encryption options for Envoy activate by a single hotkey and can be automatically enabled on pre-defined channels or networks.

## YOUR CODAN ENVOY SOLUTION

### GATEWAYS

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Codan's Telephone Interconnect equipment can link into the telephone system enabling you to make or receive telephone calls on your HF transceiver.

#### 2240 SMARTLINK

SmartLink provides the ability to support multiple personnel and locations from a single Envoy RF unit and provides an in-built 802.11 wireless access point and two wired Ethernet ports for connectivity.

#### 3031 XPATCH

Codan's 3031 Crosspatch enables you to carry 'HF on your belt' using a VHF/UHF radio and a Codan Envoy Transceiver to extend a HF and VHF/UHF network.

### DATA

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### ASSET MANAGEMENT AND TRACKING

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