

TRANSPORTABLE RADIO SYSTEM

SENTRY-H RADIO AND HIGH POWER AMPLIFIER SYSTEM

The Sentry-H Transportable Radio Solution comprises a primary 150 W 6120-BM Radio System component with an optional High Power Amplifier component that can boost the RF power output to 500 W and accommodate antenna tuner related equipment, when required.

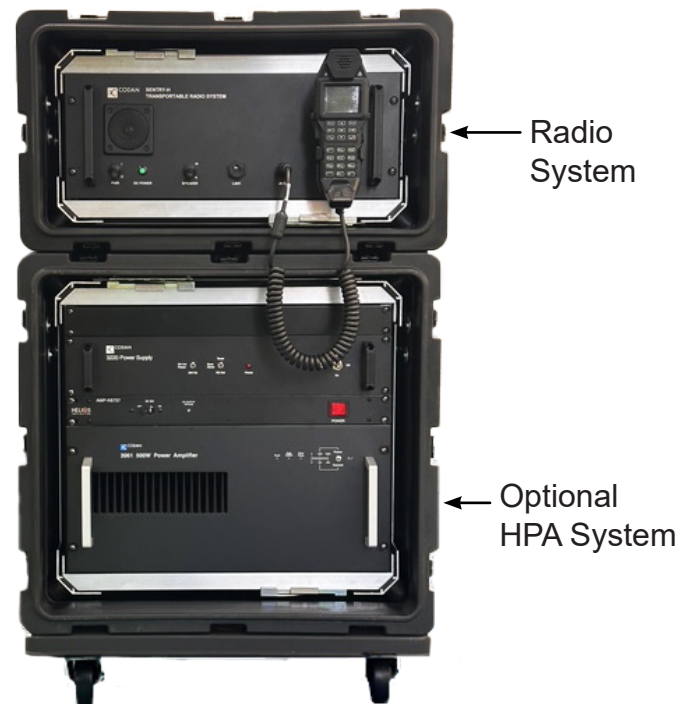
Housing Codan's Sentry-H 6120-BM Software Defined Radio, the radio system also includes the Sentry-H 3320 Power Supply, 2320 Smart Handset, rugged speaker, and an 8-port 1 Gbit/s Ethernet switch.

KEY FEATURES - RADIO SYSTEM

- Software Defined Radio
- 150 W RF output power (expandable to 500 W with the addition of the optional HPA)
- Rugged case enclosure with shock absorbers
- Multilingual user interface
- Exceptional RF performance
- IP/Ethernet/USB connectivity
 - 2 x LAN ports
 - 1 x WAN port
- 3G ALE TFTP File Transfer
- 2nd generation digital voice (TWELP) with ECCM support
- AES-256/DES-56/CES-128 COMSEC
- ECCM - up to 25 hops/sec
- Wide range of supported peripherals
- Standard 19" rack based design
- Supported standards:
 - MIL-STD-188-110A/B (STANAG 4539) Data (up to 19k2 bps)
 - MIL-STD-188-110D (Appendix C)
 - FED-STD-1045 ALE
 - MIL-STD-188-141D (Appendix A, Appendix C)
 - MIL-STD-188-141B ALE (JITC certified)
 - 3G ALE (STANAG 4538)
 - STANAG 4591 (MELPe) Digital Voice
- 3 year warranty

KEY FEATURES - OPTIONAL HPA SYSTEM

- 3061 high power amplifier, providing 500 W RF output power
- Rugged case enclosure with shock absorbers
- Continuous mode duty cycle
- High efficiency
- Operational status and fault indicators
- Supports standard rack mounting
- 3 year warranty



PROVEN SOFTWARE-DEFINED ARCHITECTURE

Codan's 6120-BM uses a 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, the 6120-BM delivers market-leading performance and future upgradability through software updates that support evolving standards and ensure sustainability.

RUGGED, TRANSPORTABLE DESIGN

The radio and optional HPA systems are delivered in rugged, stackable case enclosures. A matching rugged caster board is available to aid in transportation of the entire system. An optional Retro Fit installation kit is also available to support fitting a 150W 6120-BM Radio System rack unit into compatible customer sourced rugged case solution, if needed.

PERIPHERAL SUPPORT

The radio system supports a wide range of peripherals including antenna tuners, external GPS, data terminals, and various control points such as the 2330 Desk Console and Virtual Control Point, with the ability to support multiple connected control points.

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INTUITIVE INTERFACE AND LOCALISED LANGUAGES

The 2320 Handset is designed with ruggedness and ease of configuration and operation as primary objectives. The intuitive icon-based menu system and easy to read colour screen layout is coupled with an ability to switch between multiple native languages. Additional languages are available on request.

Operator access to radio configuration parameters can be easily locked down or made available, depending on your unique circumstances.

A 2330 Desk Console can also be easily connected to one of the LAN ports.

TRANSCEIVER INTERFACE

The radio system provides users with a simple interface to control and operate the 3061 power amplifier. Fault conditions are automatically detected and reported to the user via the transceiver interface. The 3061 power amplifier automatically switches to stand-by mode when it is not being used, or when the connected transceiver is powered off.

ANTENNA TUNER INTERFACE

The 3061 power amplifier provides an interface to control an external antenna tuner or coupler. The connected transceiver automatically performs a tune when a new transmit frequency is chosen. Tuning operates on low power, then the high power output engages after the tune is completed.

Broadband antennas can also be connected if an antenna tuner is not being used.

FRONT PANEL INDICATORS

The optional HPA system's front panel LED indicators provide a comprehensive display of fault conditions including internal fault, VSWR, and over temperature. An LED bar graph is provided to display either the PEP output power or supply current status. Some faults also latch and can be cleared via the radio system's connected control point UI.

AMPLIFIER COOLING

The 3061 power amplifier has efficient heatsinking with fan-forced airflow cooling. For increased reliability and durability, the fans thermostatically control the speed depending on the heatsink temperature.

CONTINUOUS MODE OPERATION

The 3061 power amplifier is rated for 100% continuous operation in all modes for either voice or data applications.

PROTECTION AND BACKUP

Codan's 3061 power amplifier is fully protected against all load conditions and excessive heat sink temperatures. It is capable of operating with loads of more than 3:1 VSWR with reduced output power. When excessive VSWR or over temperature occurs, the amplifier switches to by-pass mode to prevent permanent damage. In by-pass mode, the full output power of the attached transceiver is available as a backup to keep the station operational and on-air.



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GENERAL	RADIO SYSTEM	OPTIONAL HPA SYSTEM
Frequency range	Transmit: 1.6 to 30 MHz (optional 1.5 to 30 MHz) Receive: 250 kHz to 30 MHz	1.6 to 30 MHz
Power output	150 W PEP +/-1 dB (two-tone or voice), user-programmable in 1 W steps (low/medium/high)	500 W PEP +/- 1 dB, 300 W average
Channels	Up to 1000 entries	N/A
Contacts	Up to 500 entries	N/A
HF networks	Up to 20 networks (simultaneous scanning)	N/A
Presets	Up to 100 user defined presets	N/A
Input voltage range	100 to 240 V AC	100 to 240 V AC +/- 10%, 50/60 Hz single phase
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	800 VA (two-tone) 900 VA maximum
Frequency stability	+/-0.3 ppm from - 20°C to +60°C	N/A
GPS	RFU: external antenna 2320 Handset: embedded receiver/antenna (GPS, GLONASS, and Beidou)	N/A
Programming	TPS-M Radio Programming Software, USB flash drive	N/A
Language support	English, Spanish, French, Arabic, Dari, Pashto, Portuguese, and Polish	N/A
Protection	Safe under all load conditions by limiting reflected power at 10 W PEP and limiting PA FET drain voltage Thermal protection against excessive heatsink temperature	Safe under all load conditions Bypass to 125 W PEP from transceiver in the event of excess VSWR, excess heatsink temperature, or internal fault conditions
Modes	Single Sideband USB, LSB (J3E), AM (H3E), CW (J2A), AFSK (J2B), FSK (F1B), ISB (B7D or B2B), Software Defined	N/A
Duty cycle	100% voice and data	100% normal speech over full temperature range 100% all modes up to maximum ambient 45°C
Spurious & harmonic emissions	>65 dB below PEP	Better than 60 dB below PEP
Intermodulation distortion	>31 db below PEP	Better than 32 dB below PEP
Certifications	FCC Part 90 AS/NZS 4770 AS/NZS 4355 IC RSS-125 CE Compliance available (EU sales option required)*	AS/NZS 4770 CE compliance

*EU sales option will disable the WAN port and prevent any internet connectivity to the radio system.

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MECHANICAL	RADIO SYSTEM		OPTIONAL HPA SYSTEM		
Size (H x W x D)	Case with 2" lids: 34.29 x 60.96 x 80.01 cm (13.5 x 24 x 31.5 in) Rack only (4RU, excluding RAM mount): 17.8 x 48.3 x 49 cm (7.01 x 19.02 x 19.29 in)		Case with 2" front lid and 5" rear lid: 56.52 x 60.96 x 87.63 cm (22.25 x 24 x 34.5 in)		
Weight	Case: 40 kg (88.18 lb) Rack only: 18.2 kg (40.12 lb)		Case: 59 kg (130.1 lb)		
Interfaces	Front Panel: Power switch, DC power LED, speaker switch, control point interface, 2 x LAN port, 1 x WAN port*	Rear Panel: ATU control, GP interface, DC input, GPS antenna, RF antenna, 2 x Ethernet interfaces, AC input, ground stud	(Optional) 3220 ATU PSU Rear: AC input, ATU control, RF ground	HPA DC PSU Rear: AC input, DC output, Earth point	3061 HPA Rear: Transceiver control, ATU control, RF out, RF in, ground point

ENVIRONMENTAL	RADIO SYSTEM	OPTIONAL HPA SYSTEM
Temperature range	-30°C to +50°C	-10°C to +50°C
Altitude	<2000 m	<2000 m

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