CNHF Manpack

Easy, secure and reliable to operate

We have built our CNHF Manpack to serve a number of use cases, all while being simple, secure and reliable to operate. The CNHF Manpack is a portable version of the CNHF1 rack mountable radio. It utilises the same revolutionary, cognitive, adaptive CNHF waveform to provide superior performance and ease of use equivalent to the CNHF1 rack mountable version.

Game-changing software defined radio

The CNHF Manpack is a software defined radio making it possible for remote configurations and updates. Our software has multiple game-changing features not currently found elsewhere:

- cognitive spectrum usage
- extremely fast GNSS independent ALE supporting over 2500 calling channels listened to simultaneously
- wideband HF data up to 300 kbit/s
- extremely robust modes are able to operate with less than -10 dB SNR

The innovative multihop functionality ensures that a route from source to destination is always found. Lastly, as the CNHF Manpack also covers VHF up to 56 MHz, interoperability with legacy VHF FM radios can be achieved when required.

Manpack for extreme conditions

CNHF Manpack has extremely fast link establishment - less than 500ms. Built using the latest SDR technology, the Manpack has very low power consumption which in turn maximises battery life.

Manpack is designed in extreme conditions. When the temperature goes minus Celsius degrees the hardware around the battery keeps it warm and ready to use. In hot conditions the hardware cools the battery avoiding it overheating.

Being a true SDR platform, we assure our customers that new features and capabilities can be added as a software to their radio fleet.

The CNHF Manpack has a number of built-in features making easy to integrate with customers´ existing systems. With built-in Ethernet, WLAN and an LTE modem, a variety of use cases can be fulfilled with maximum efficiency.

Technical specifications

Platform	SDR platform	**Size**	115 mm (H), 210 mm (W), 275 mm (L)
Frequency range	HF: 1.5 - 30 MHz, VHF 30 - 56 MHz	**Weight**	Under 4 kg without battery
Bandwidth	Up to 96 kHz	**Battery type**	BB-2590/U
TX Power	25 W (PEP)	**Battery charger**	Built-in
RX Sensitivity	Better than -125 dBm (Bandwidth: 1.875 kHz)	**DC input**	20-32V

WAVEFORMS	
HF	CNHF Normal & Robust Mode - Bandwidth: up to 96 kHz - Modulations: BPSK - 256QAM - FEC - Data rates: up to 300 kbit/s - ALE: GNSS independent cognitive ALE with more than 2500 calling channels listened simultaneously - ARQ & Non-ARQ modes - Unicast, multicast, broadcast - Multihop Analog SSB (J3E), CW. Possible to implement legacy & future MIL-STD and STANAG HF and WBHF waveforms if required.
VHF	CNHF Normal Mode (see HF Waveforms for details) Analog FM (F3E) Possible to implement other narrow band waveforms if required.
SERVICES	
	Digital encrypted voice (unicast, multicast, broadcast), email w/attachments, instant and voice messaging, blue force tracking, file transfer, data transfer, broadcast and multicast messaging etc. Built-in web based email and instant messaging clients SMTP and IMAP interfaces for external email client and server XMPP interface for external XMPP client and server Analog SSB voice
INTERFACES	
Audio	Analogue handset
Ethernet	Built-in, 100 Mbit/s
Serial	RS-485
USB	USB-C, power and data
GNSS	Commercial. GPS, GALILEO, GLONASS, BEIDOU. Simultaneous tracking of multiple GNSS systems. Spoofing and jamming detection and reporting.
LTE	Built-in
WLAN	Built-in. AP & client modes. 2.4 GHz, IEEE 802.11b/g/n. Up to 8 clients in AP mode.
User Interface	320 x 480 color display, arrow keys.
	Browser based user interface with access control.
OTHER	
Tuner	Built-in antenna tuner
Environmental	MIL-STD-810H ground mobile, operational temperature -40 - +55 °C
Security	CNHF Normal & Robust Mode: AES256 encryption, static & changing keys Radio platform: Secure boot, signed software, tampering detection, zeroize function