

CNHF1

Long-range connectivity with unparalleled performance



The original CNHF1 radio is an example of resilience and reliability in beyond-line-of-sight communications. CNHF radios have GNSS independent cognitive ALE with more than 2500 calling channels listened simultaneously. The cognitive features of the radio allows it to select the best channel independently.

Communications with reliability

The CNHF1 radio is a cognitive and fully automatic system, making it highly adaptive and reliable even in disruptive environments. The radio builds its own understanding of the spectrum and propagation in real time, selecting the best channel automatically.

Superior network coverage

The CNHF1 allows user to establish their own independent communications network ranging up to 10,000 kilometres with wideband HF communications up to 153 kbit/s across diverse media formats. Automatic multihop functionality provides robust network coverage, ensuring continuous connectivity by eliminating skip zones. With standard interfaces (i.e. UPD/IP and XMPP) the system can also be easily integrated into tactical communications and C2 systems.

Secure software-defined radio

The system's ability to sense and adapt to its environment along with fast Automatic Link Establishment makes the radio virtually impossible to intercept or jam. Software-defined radio architecture makes remote configurations and updates possible, protecting the system from cyber and EW threats. While the CNHF1 is ultra-secure, it's also very easy to use.

- Standalone solution in SATCOM-denied environments
- Automatic spectrum management
- Seamless integration into C5ISR systems

Part number: KNL-1001

Product name: CNHF1 transceiver

NSN: 5820-58-001-8133

Commodity code: 8517 62 00 00

TECHNICAL SPECIFICATIONS

Platform	SDR platform	RX Dynamic range	140 dB
Frequency range	1.5 - 30 MHz	Dimensions	259mm (H) x 483mm (W) x 425mm (D), 19"/6U rack mountable
Bandwidth	Up to 48 kHz	Weight	30kg
TX Power	250W (PEP)	AC input	100-240 VAC ±10%, 8.9A, 50-60Hz, 600W
RX Sensitivity	Better than -125 dBm (Bandwidth: 1.875 kHz)	DC input	12-30 VDC ±5%, 50A, 600W
WAVEFORM			
HF	CNHF Normal & Robust Mode - Bandwidth: up to 24 kHz - Modulations: BPSK - 256QAM - FEC (Forward Error Correction) - Data rates: up to 153 kbit/s - ALE: GNSS independent cognitive ALE with more than 2500 calling channels listened simultaneously - ARQ & Non-ARQ modes - Unicast, multicast, broadcast - Multihop mode Possible to implement legacy & future MIL-STD and STANAG HF and WBHF waveforms if required.		
SERVICES (OPTIONAL)			
	UDP/IP over HF interface (unicast , multicast and broadcast & IPsec support) Built-in webmail client (support for attachments and coordinates) Built-in instant messaging client (support for voice messages and attachments) Digital secure voice (unicast, multicast, broadcast) SMTP/IMAP interface for external email client and server XMPP interface for external clients Blue force tracking		
INTERFACES			
HF antenna	N connector (female)		
Ethernet	2x RJ45 interface 100 Mbit/s		
I/O & Serial	RS-485		
GNSS	GPS, GALILEO, GLONASS, QZSS and SBAS (commercial)		
GNSS antenna	TNC connector (female), supply voltage for active antenna: 3.3 VDC		
Cellular	External LTE router (optional)		
User Interface	Browser based user interface with access control.		
SECURITY			
CNHF Normal & Robust Mode	AES256 encryption, static & changing keys		
Transceiver platform	Secure boot, signed software, zeroize function		
ENVIRONMENTAL & STANDARDS			
Operational temperature range	-20...+ 55 °C		
Ingress protection (IP Code)	IP 21		
Health & Safety standards	Compass safe distance test EN 60945:2002, EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013. EN 62311:2008		
EMC standards	EN 61000-6-2:2005 , EN 61000-6-3:2007 + A1:2001, EN 301 489-1 v2.2.1, EN 301 489-52 v1.1.0, EN 301 843-1 v2.2.1, EN 301 843-5 v2.1.1		
Spectrum use standards	EN 300 373-1 v1.4.1, EN 300 373-2 v1.2.1, ITU M. 1798-1, ITU-R SM 329-12, EN 300 113 v2.1.1, EN 301 511 v12.5.11, EN 301 908-1 v11.1.1, EN 301 908-2 v11.1.2, EN 303 413 v1.1.1		