

A Mobile Monitoring Receiver and Direction Finder HUGIN 304DF

HUGIN 304DF is Novator Solutions' mobile, turnkey monitoring receiver and direction finder. It provides 64 channels, enabling simultaneous monitoring and recording of analogue clear voice push-to-talk (PTT) communication using FM, AM or SSB modulation.

Highlights

- Simultaneous monitoring and recording of 64 channels
- Automatic direction finder
- Intuitive user interface and control software
- 4 individual tuners with 80 MHz instantaneous bandwidth each
- Monitoring and DF frequency coverage: 20 - 520 MHz
- Optional 150 MHz - 6 GHz coverage for monitoring
- Compact and rugged design for mobile applications



Unmatched Channel Count

HUGIN 304DF enables operators to monitor and record up to 60 clear voice interceptions and 4 digital signals simultaneously. This makes it a valued asset for applications where many commonly used communications channels must be monitored. This includes:

- Border security, where PTT radios are commonly used in illegal activities such as smuggling contraband or unauthorised crossings
- Search and rescue, where standard communications channels may be monitored alongside international distress frequencies such as 121.5 MHz and 243 MHz, beacons transmitting on Cospas-Sarsat, or sonobuoys at 136 to 174 MHz

Intuitive User Interface and Command Software

The intuitive user interface software provides operators with a 360-degree situational awareness overview, making it easy to make decisions on the spot. Operators manage the spectrum and assign the digital drop receivers (DDRs) via a single laptop screen. All recorded voice channels can be played back in near real-time.

Automatic Direction Finder

HUGIN 304DF automatically calculates and records lines of bearing (LOBs) of all assigned channels. The LOBs are, together with the position of the collection asset, presented on a map. By moving the asset, it is possible to geolocate target emitters.

Mobile Turnkey System

The DC-powered system comes in a protective case for easy transportation. It has been designed for use in any car, vessel, helicopter or light aircraft that permits temporary mounting of the collection, DF and GPS antennas.

Technical Highlights HUGIN 304DF

Collection Receiver	
Number of wideband tuners	4
Instantaneous bandwidth	4 x 80 MHz
Frequency range	20 - 520 MHz (Optional up to 6 GHz)
Receiver architecture	Two-stage superheterodyne
Max. input power	+10 dBm
IP3	+2 dBm
Residual Spurs	-95 dBm
ADC resolution	14 bit
Spurious free dynamic range	88 dB
Number of DDRs / DDCs	64
Demodulation modes	AM, FM, SSB, IQ
Direction Finder (DF)	
Frequency range	20 - 520 MHz (Ground plane needed)
Bearing accuracy	3 degree RMS maximum; 1.5 degree RMS typical (VHF); 2.5 degree RMS typical (UHF)
Bearing resolution	0.1 deg
Bearing integration time	45 - 400 ms
DF bandwidth	6/15/30/200 kHz
Environmental Specification, HUGIN 304DF Main Unit	
Size main unit	6U environmental case
Maximum operating temperature	+55 °C (130 °F)
Max. altitude	2000 m (6500 ft.)
Power supply	12 V DC (24 V DC option)
Command and Control Software	
Collection receiver displays	Real-time power spectrum highlighting assigned DDRs; Situational awareness showing all interceptions
Collection receiver controls	Tuner control; Individual channel control (parametric & graphic)
Tactical orientation displays	Map showing own location and LOBs; Polar display: orientation related to vehicle direction
Direction finder control	Automatic hand-off of all assigned active transmissions
Audio	Real-time audio, triggered recording and near real-time audio replay
Mission database	Records audio IQ interceptions incl. LOBs and own GPS position

Novator Solutions AB, part of Novator Consulting Group, is at the forefront of SIGINT and EW technology. Our highly skilled R&D team combines expertise in high-speed data processing and software defined radio (SDR) technology to develop cutting-edge monitoring receivers and RF signal recorders. Our software proficiency, combined with modular hardware designs, allows us to create customised solutions that meet specific project and mission needs.

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